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Statement of
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before the

SENATE COMMITTEE ON ECONOMIC DEVELOPMENT, GOVERNMENT OPERATIONS, AND HOUSING

HOUSE COMMITTEE ON ECONOMIC DEVELOPMENT AND BUSINESS

Wednesday, April 9, 2014
9:00 AM
State Capitol, Conference Room 211

Chairs Dela Cruz and Tsuji, Vice Chairs Slom and Ward, and Members of the Committee. Thank you for the opportunity to speak today on behalf of the Department of Business, Economic Development &Tourism.

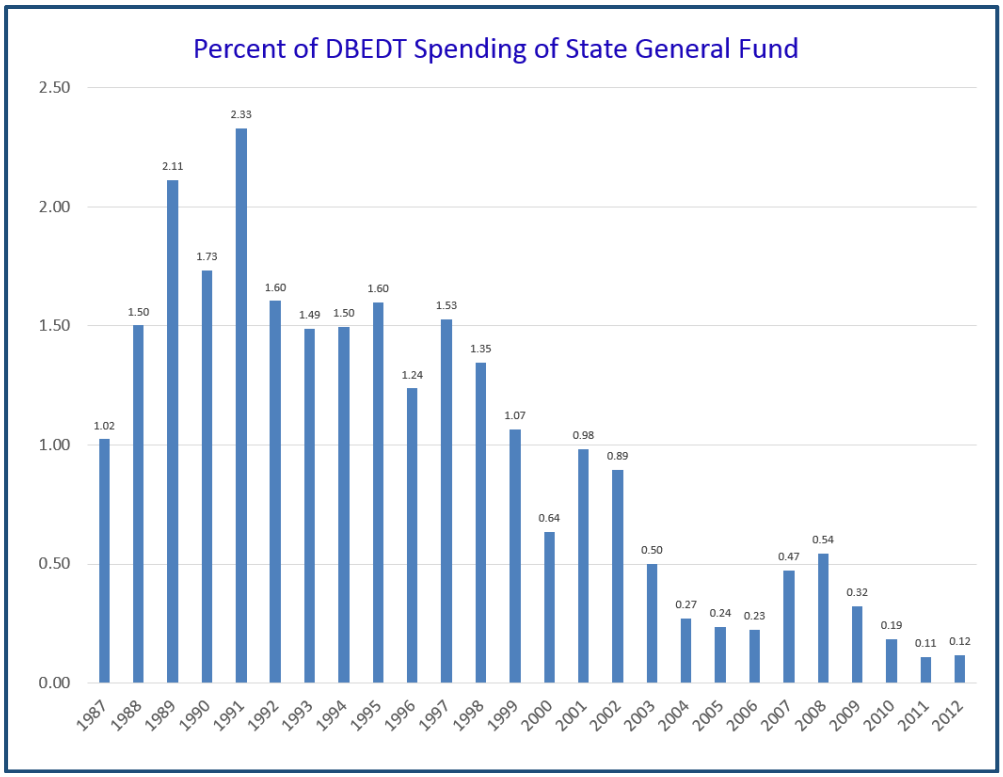
I have asked all of our relevant Division Heads and Attached Agency Directors to be present to address their programs and statutory authorities.

I have also asked our Deputy Attorney General to be here to clarify any questions regarding the powers and authorities of the Department itself.

To establish some context for your discussion today, I think it is worth giving some perspective to DBEDT.

I ask you to consider that the entire DBEDT general fund budget is just over <u>one-tenth-of-one-percent (0.127 percent) of the total State budget</u>. Ours is the second smallest budget line in the state – only two-thirds of what is allocated to the Lt. Governor's office.

DBEDT's percentage of general fund spending in 1991 was 2.3 percent of the budget.



Today, we have a Department that is understaffed and underfunded. As a result, we have tried to maximize our resources and focus our mission to a few critical areas where we believe we can make an impact, including building a 21st century infrastructure in three key areas (energy, housing and high speed broadband), as well as fostering the development of an ecosystem to support high growth companies.

Given the lack of internal DBEDT resources, we have aligned our Divisions and Agencies around our High Growth Initiative, which Karl Fooks of the Hawaii Strategic Development Corporation will elaborate on in his presentation.

I should also like to note that, while we have not been fully overlooked in the budget process this year, the legislature has decided not to fund our modest staffing requests. As a result, our staff is still at only 64 percent of the workforce we had before the Lingle Administration's Reduction in Force (RIF), and we have less than modest amounts of programmatic funding.

Despite the fiscal challenges, we have made substantial progress in a number of key areas which will be highlighted in our presentations. However, we believe our level of contribution and impact on the economy could be substantially greater if we had requisite resources.

2011-2013
Economic Development, Energy, Data and Research, Housing and Land Use

State of Hawaii
Department of Business, Economic Development & Tourism

Context:

DBEDT seeks to achieve a Hawaii economy that embraces innovation and is globally competitive, dynamic and productive, providing opportunities for all Hawaii's citizens.

In particular, DBEDT serves as an advocate for renewable energy development, a resource for analytic data, and a facilitator for export business. DBEDT also fosters planned community development, creates affordable workforce housing units in high-quality living environments, and promotes innovation sector job growth.

Our first priority is to plan for the future and establish privately managed programs that will form the foundation for supporting entrepreneurial high growth companies in Hawaii.

Hawaii needs new strategies to promote long term sustainable growth. Past experience has shown us that the role of government is not to define and target growth areas, but to be judicious and foster an environment for success where entrepreneurs can thrive and grow.

It is important to promote new growth because we cannot continue to rely on tax increases and cuts to government services as the only measures to address the resource demands of our aging population, our aging infrastructure and our large unfunded liabilities.

To give some perspective on the resources available to economic development, the entire DBEDT budget is just over one-tenth-of-one-percent (0.127 percent) of the total state budget.

Due to budget and spending reductions, our FY 2013 general fund appropriation remains at 63 percent of the department's FY 2009 general fund budget.

The department was authorized a total of 124.5 general fund positions in FY 2009, which has been reduced by 48 positions to 76.5 positions in FY 2013, reflecting a decrease of 48 percent in total positions.

Nevertheless, the department has contributed significantly to its mission of supporting the business community in Hawaii, and creating an entrepreneurial environment that embraces innovation and initiative.

The Hawaii State Energy Office

Green Infrastructure Financing Program Passes Legislation
The green infrastructure financing program (SB1087) was passed by the Hawaii State Legislature during the 2013 session. This financing program will help increase penetration of clean energy throughout Hawaii, especially in the underserved markets such as low income homeowners, renters, churches, and non-profits. This innovative financing program leverages public and private capital for the issuance of low-cost bonds with no additional liability to the state and with no use of general funds.

Energy Savings Performance Contracting
Hawaii is ranked No. 1 in the United States for investment in energy savings performance contracting (ESPC) for public buildings per capita, according to a ranking published by the Energy Services Coalition. As of October 2012, the State of Hawaii had invested $132.25 per capita, an increase from its previous figure of $117.09 per capita. The award recognized Hawaii for its outstanding commitment to energy efficiency, environmental stewardship and economic development through ESPC.

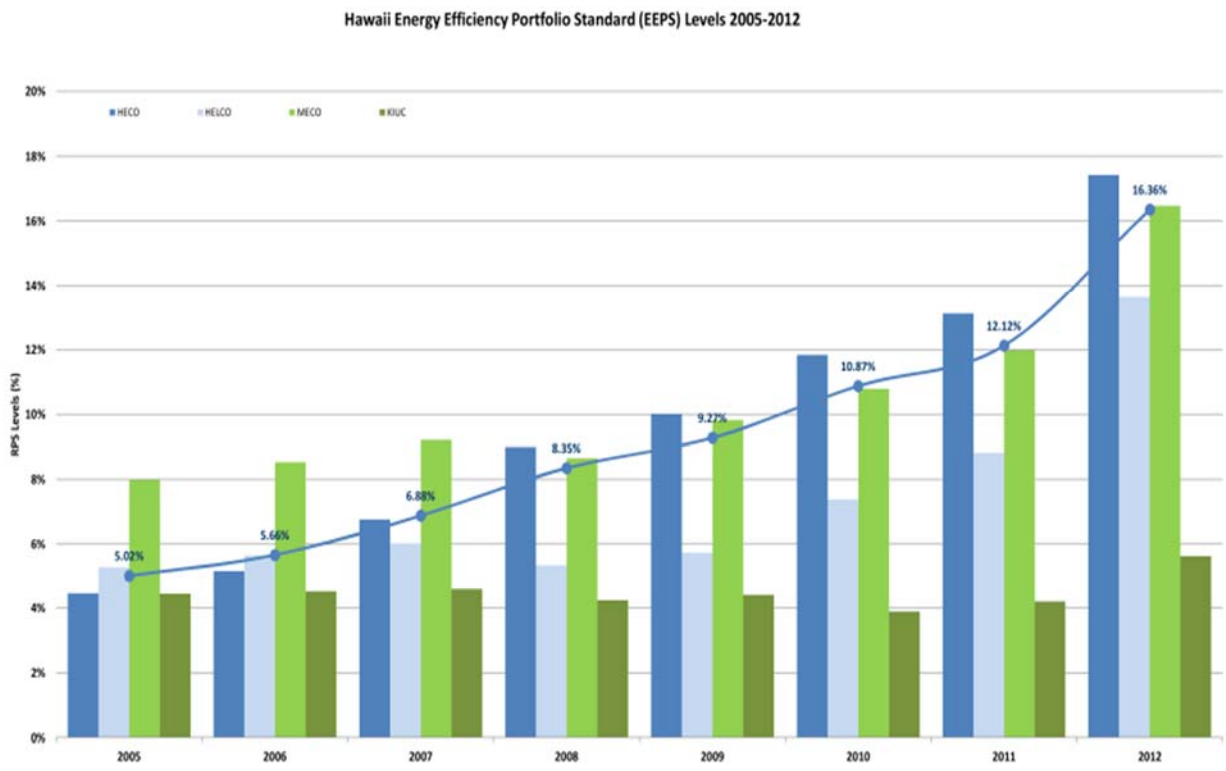
International Agreements
The State Energy Office coordinated international agreements to promote Hawaii as a test bed location for clean energy development:

- In November 2011, the State signed a Memorandum of Understanding (MOU) with Japan-based New Energy and Industrial Technology Development Organization (NEDO) to build a first-of-its-kind smart grid demonstration on the island of Maui.
- In February 2012, the State signed an LOI with the Republic of Korea Ministry of Knowledge Economy (MKE) to pursue mutual interests in smart grid development in the state.
- In August 2012, the State signed an MOU with the China Council for the Promotion of International Trade (CCPIT) to facilitate a matchmaking process between interested Chinese clean energy investors and developers with Hawaii clean energy projects in need of capital or partners.

Interisland Cable
In June 2012, Gov. Abercrombie signed into law the bill aimed to move Hawaii forward in reducing its dependence on imported oil. The measure enacted is SB 2785, known as Act 165. Senate Bill 2785 establishes a regulatory structure for the installation and implementation of an interisland high-voltage electric transmission cable system and for the construction of on-island transmission infrastructure.

Hawaii Clean Energy Programmatic Environmental Impact Statement (PEIS)
The State of Hawaii/DBEDT assisted the U.S. Department of Energy with the Hawaii Clean Energy Programmatic Environmental Impact Statement (PEIS) public hearings in September 2012. The PEIS will analyze, at a programmatic level, the potential environmental impacts of clean energy activities and technologies with the potential for near-term development or application in Hawaii. As a cooperating agency, the State

Energy Office helped facilitate public comments on the scope of the PEIS and continues to gather reports, assessments, and other resources to be included in the PEIS.



Source: *Renewable Portfolio Standards Status Reports, 2005-2012* (Hawaii Public Utilities Commission)

EV Program Concludes with 700% Rise in Registrations

The State Energy Office completed the electric vehicles (EV) rebate and grant program with a 700-percent increase EV's on island roads since the program began in 2010. Funded by the American Recovery and Reinvestment Act (ARRA), the "Hawaii EV Ready" program provided consumer rebates and assisted with the installation of hundreds of EV charging stations statewide from August 2010 through December 2012. The purpose of the program was to help accelerate EV adoption across Hawaii by providing rebates and grants to stimulate the demand of EVs and charging infrastructure.

Hawaii Clean Energy Initiative (HCEI)

The State is making strides towards reaching its HCEI goal of 70 percent clean energy by 2030 – 40 percent Renewable Portfolio Standards (RPS) and 30 percent Energy Efficiency Portfolio Standards (EEPS). With the next RPS benchmark less than two years away (15 percent RPS by 2015), the State's current RPS level is at 13.74 percent (graph above), while the current EEPS level is at 16.36 percent.

Creative Industries

Re-establish Management of Hawaii Film Office – The state film commissioner who had been laid off in 2009, re-applied for and was selected for the position of manager, Film Industry Development Branch (aka Hawaii Film Office). Reinstatement of this position brought stability back to the office and has given the state access again to the decade of expertise in management of the office and particularly tax credit program.

Increase to Hawaii Production Tax Credit in 2013 session – The Legislature voted to increase the film production tax credit and extend the sunset date to 2019 with an increase in the per production credit cap. Still, staff worked through 2012 and 2013 sessions to educate legislators and Administration about the importance of a competitive tax credit program and its economic value of it to the state. The increase now known as Act 88/89 will provide a 5 percent increase to the existing base credit, for a total of 20 percent for productions on Oahu and 25 percent for the Neighbor Islands of Maui, Molokai, Lanai, Kauai, and the Big Island. The per-production credit cap has increased from $8M to $15M; internet-only distribution is now a qualified activity, state and county location and facilities fees may be claimed as qualified expenses; and the sunset date has been extended to January 1, 2019.

CIP Projects for Hawaii Film Studio – Over the past two legislative sessions the Film Office has secured $5.1M in Capital Improvement funding for improvements at the state owned and operated Hawaii Film Studio. Monies will go toward upgrading the facility and replacing the 20 year old A/C system on the studio's 16,500 sq. ft. soundstage (the only soundstage of its kind in the state). In addition to the $5.1M CIP, the Film Office received $250,000 in CIP monies for a feasibility study to determine the best location and cost to develop a new digital media complex in Hawaii.

Film Permits – The Film Office processed more than 1,000 film permits for more than 2,000 state film locations. As a core function of the Hawaii Film Office, film permitting is a time consuming and labor intensive responsibility of film office staff that often requires the manager of the program to step in to mitigate situations either in the approval process and quite often when filming activity does not go as planned and damage control is necessary.

ePermitting – the Hawaii Film Office has established a new 24/7 online permitting system for our DLNR pre-approved sites on every island. The new system is ready to launch and will streamline the process for our "known" film companies to access these pre-approved locations. The convenience to the applicants is that they can apply for as many permits as they like, whenever they like, from wherever they have access to the internet, and receive them virtually instantly. Although currently free of charge, each ePermit will cost a $10 "convenience fee" that Hawaii Information Consortium (HIC) will charge via credit card payments through the ePermitting website. HIC will host and maintain the site as part of the cost of the contract.

Tax Credit Certification – Managed the state's tax credit program, another core function of the Hawaii Film Office, including processing more than 50 applications representing more than $200M in direct expenditures. In addition to certification of these applications, office responds to hundreds of calls and emails annually addressing every aspect of the tax credit process. Since the tax credit program was established in July 2006, it has generated more than $1.6B in economic activity for the state and on average 2,000 full-time jobs annually.

100th Anniversary of Film Production – HFO has been researching the century of film production in the Hawaiian Islands. Despite the lack of funds to host any kind of major event, the HFO has been working diligently to get the word out about this 100th anniversary milestone for film.

Industry Outreach and Filmmaker Support – CID supported major festivals including Hawaii International Film Festival and Maui Film Festival as well as the annual Locations Tradeshow in Los Angeles, the preeminent tradeshow for the film industry sponsored by the Association of Film Commissioners International (AFCI). Maintain a presence for the state at these events and use them as a springboard for supporting local filmmakers and attracting film production business to the state. The events provide the perfect avenue for the HFO to get in front of key decision makers in an effort to develop the film industry for Hawaii.

Creative Industries Metrics – In conjunction with DBEDT's Research and Economic Analysis Division (READ), prepare an annual report on the scope of Hawaii's creative clusters, including metrics that reflect the emerging, transitioning, declining and base industries that comprise Hawaii's creative economy. In FY14, CID will be issuing an RFP to develop a study on Hawaii's creative clusters, providing in depth data on the strategic directions to strengthen this important component of Hawaii's economy. The Hawai'i Arts Alliance and CID partnered with Americans for the Arts on a research study, *Arts & Economic Prosperity IV* to evaluate the impact of nonprofit arts organizations and their audiences on the State of Hawaii's economy.

Creative Lab:
In 2012, CID co-founded CREATIVE LAB @ HIFF, a series of intensive and workshops in creative/tech, music, film and writing at the Hawaii International Film Festival (HIFF). This “pop-up incubator” offers a platform to build on increasing business and export opportunities for creative entrepreneurs. By bringing together industry leaders in the creative and tech clusters, Creative Lab expands the festival format to create Hawaii’s version of the successful indie conference South X Southwest (SxSW). Creative Lab is intended to become a year round program, providing a platform to develop creative entrepreneurs in partnership with the State’s High Growth Initiative. Collaborators include HSDC, HTDC, Startup Weekend, Writers Guild of America, West, Producers Guild, SAG-AFTRA, Disney, CineGrid, Hawaii Academy of Recording Arts (HARA) and the National Academy of Recording Arts (NARAS).

Hawaii Creative Collaboration Center (HIC3)
Established a collaborative relationship with Silicon Beach based incubators and accelerators to advance a Creative Incubator/Accelerator in Hawaii. Initial visioning plan for the 10,000 square foot HIC3 center within the Manoa Innovation Center (MIC) was proposed in the 2013 session as part of an overall CIP request. Though this was not funded, discussions continue with HSDC, HTDC and the leadership of Venice and Santa Monica leading incubators including Amplify, and facility owners including ROC Centers, Hawaii Alliance of Media Artists (HAMA) and creative tech leaders in Hawaii to finalize the plan, budget and identify location to a creative/tech focused incubator/accelerator in 2014.

Hawaii Fashion Month & Governor’s Fashion Awards:
CID/ACDB, in collaboration with BDSD, facilitating the development and oversight of Hawaii Fashion Month (HFM) October 2013. Designed to support export opportunities for local designers and manufacturers, HFM provides a catalyst of events to expand the scope and branding of Hawaii’s fashion industry. CID has integrated HIFF, Hawaii State Foundation on Culture and the Arts as well as identifying film and television industry leaders in fashion, costume design and branding to participate in panels and workshops during the event.

Creative Clusters Initiatives
Pilot Projects from CID/ACDB’s RFP to support High Growth potential support entrepreneurial initiatives including: SoulSessions; online emerging artists showcase in partnership with Honolulu Star Advertiser and K5; Skills for Artist Entrepreneurs; guidance from business experts in the field broadcast and streamed on Showcase Hawaii; Volcano Arts; business development skills for artists; HiFi; workshops for Hawaii Fashion Month, Hawaii Book and Music Festival; app development for music events statewide, and Kauai Music Festival; workshops and panels on song placement in new media, film and TV.

Grammy U:
Beginning in 2009 and continuing in 2013, CID facilitated relationship building between the local Hawaii Academy of Recording Arts (HARA) and the national Recording

Academy (NARAS/The GRAMMYS) to foster collaboration to strengthen Hawaii's music industry capacity to export in new fields/markets. In partnership with the MELE Program and the GRAMMY organization, formed a local chapter of the GRAMMY University Network. The objective of GRAMMY U is to help prepare students for careers in the music industry through networking, educational programs and performance opportunities.

Grammy Sound Check Hawaii:
Established the national program GRAMMY SOUND CHECK in Hawaii, providing students in high school and college the opportunity to be immersed in the music production and performance experience at nationally acclaimed artist's performances. The one-on-one opportunity to meet the artists, sound technicians and road managers provides Hawaii students with real world experience to further their opportunities to gain employment in these fields.

Merrie Monarch Japan:
In 2012, CID, together with CineGrid.org and Disney Digital, began a dialogue to broadcast live the annual Merrie Monarch events through broadband technology and high resolution 4K in an arena in Japan. In 2013 discussions are underway with Merrie Monarch organizers, Mana Magazine, Disney Digital, CineGrid, UHM, UCSD and Nippon Telephone and Telegraph (NTT), other local digital companies and television broadcast providers to broadcast the Merrie Monarch live to Japan at an outdoor venue in 2014-15.

Advancing Music Placement in Film & TV:
ACDB has established a working collaboration with music licensing organizations to advance Hawaii as a key industry cluster in the music business. Events including American Society of Composers, Authors and Publishers (ASCAP) "I Create Music" Expo (EXPO), Kauai Music Festival KMF with Broadcast Music International (BMI), resulting in Hawaii based compositions in national television and film projects including Hawaii 5-0, Parenthood, MadMen, The Descendants, Just Go With It. ASCAP and BMI are the largest public performance licensing and royalty distribution organizations in the US.

Visual Arts:
Worked with Walt Disney Resort's PR Division and the Hawaiʻi Arts Alliance to develop the Children's Digital Image Rainbow Project showcasing over 150 photographs by students from elementary, middle and high schools across the state.

Business Development and Support

SBA Federal Grant Award: DBEDT competed for and won two years of grant funding from the U.S. Small Business Administration for the State Trade and Export Promotion (STEP) Program. The award totaled $1,189,224. Funds were used for export training programs, international trade show participation and missions.

74th and 76th Tokyo International Gift Shows: Twenty-seven (27) Hawaii companies participated in the Tokyo International Gift Show in 2012 to promote the export of Made-in-Hawaii products. Over 200,000 buyers attended the gift show which featured over 2,500 companies from around the world. The 27 companies generated an estimated $2.86 million in total sales as a direct result of participating in the show.

The 2013 Hawaii Pavilion will feature 40 Hawaii companies including a separate stage area featuring Hawaiian music, hula and craft demonstrations by Hawaiian artisans. Estimated export sales from the 2013 September show is $5 million.

JFW International Fashion Fair, 2012 and 2013: DBEDT led delegations of 18 Hawaii fashion designers and manufacturers to the largest fashion trade show in Asia--the JFW-International Fashion Fair in Tokyo, Japan. Some of the largest manufacturers (Tori Richard, Hilo Hattie, Iolani, Jams World, Surfline) participated along with up-and-coming designers through of the Hawaii Fashion Incubator. Estimated sales projected as a result of the shows for the coming year is $1.5 million.

BIO 2012, Boston, MA and BIO 2013, Chicago, IL: DBEDT, along with Economic Development Alliance of Hawaii, twice led a delegation to participate in the largest bio-tech tradeshow in the US, to promote and increase the export of Hawaii's bio-tech products and services. Participants included leading Hawaii bio-tech firms Hawaii Biotech, Nanopoint, Tissue Genesis and newer firms Noni Maui, Pono Pharma and Ala Wai Pharma. Also participating were the Cancer Research Center of Hawaii, John A. Burns

School of Medicine and the Economic Development Boards of Hawaii and Maui and Enterprise Honolulu. Export sales from the shows are estimated at $500,000.

Community-Based Economic Development (CBED): Micro-Loan Program and the Hawaii State Enterprise Zone (EZ) Program conducted 2 Small Business Forums statewide,2 Small Business Fairs on Oahu, inviting small business owners to attend free small business resource information exhibits and workshops. On Oahu, a total of forty-eight business training workshops were held during the two one-day business fairs, with three hundred and ninety-eight business owners and entrepreneurs registering for the workshops. CBED launched its Micro-Loan program in 2011. Enterprise Zone companies held steady at 260 enrolled in the program.

Invest in Hawaii Entrepreneurs' Day: Worked with Hawaii Strategic Development Corporation on Invest in Hawaii Entrepreneurs' Day with more than 90 companies participating at the State Capitol on March 6, 2013. The event was an opportunity to showcase how entrepreneurs and small businesses impact our state's economy and to support the HI Growth Initiative legislation. The Legislature provided $6 million to help support entrepreneurs during FY 2014.

"Buy Hawaii, Give Aloha!"* Campaign:** Governor Neil Abercrombie joined representatives of Hawaii small businesses and local artists to launch the state's ***"Buy Hawaii, Give Aloha!" campaign that urges residents to buy and gift locally made products during the holiday season. The Governor also announced his intention to revive the **"Governor's Fashion Awards"** next year to help stimulate the creative sectors in fashion garment and jewelry design industries in Hawaii. He will designate October 2013 as **"Hawaii Fashion Month,"** when local merchants will be encouraged to celebrate made-in-Hawaii fashions.

Korea Mission/Trade Winds Asia: As part of the Hawaii State Trade and Export Promotion (STEP) Program, and in partnership with the Economic Development Alliance of Hawaii and the four county economic development boards, DBEDT led a mission of eight Hawaii companies to Seoul, South Korea to participate in Trade Winds Asia, from May 12-16, 2013. Participants included Hawaii Kai Corp., Hawaii Biotech, Hawaii Exports International (representing various Hawaii coffees and mac nuts), Koloa Rum, Honolulu Coffee Co., Tradewinds Global (representing a line of pet products), e- Tour, and Alston Hunt Floyd & Ing. Trade Winds is organized by the U.S. Department of Commerce/U.S. Commercial Service , and includes a business development conference, meetings with Sr. Commercial Officers from 13 posts throughout the Asia Pacific region, and one-on-one business

meetings. Estimated sales as a result of this mission are projected to total $1 million over the next year.

Week of His Majesty King Mohammed VI in Hawaii: State Officials working with the Honorary Consul of Morocco and local Moroccan community planned a "Week of His Majesty King Mohammed VI in Hawai'i" from Nov. 28 to Dec. 4, which celebrated the establishment of a sister relationship between Hawaii and the Moroccan Region of Rabat, Sale, Zemmour and Zaer. Events included the signing of the sister state agreement, an exhibition of Moroccan art and handicraft, the inauguration of a traditional Moroccan fountain designed and installed by Moroccan artisans as a gift to the State of Hawaii, a Moroccan-themed Sunset on the Beach featuring the classic movie "Casablanca", a surf exhibition with professional surfers from the Kingdom of Morocco and Hawaii and the inauguration of a stone stele dedicated to His Majesty the King in the Millennium Peace Garden at Diamond Head Park.

CCPIT & All China Federation of Commerce & Industry: A 21-member delegation from China Council for the Promotion of International Trade (CCPIT) and All China Federation of Commerce & Industry led by CCPIT Secretary General Xu Hubin attended the 2012 Asia Pacific Clean Energy Summit and Expo. CCPIT and State of Hawaii signed a memorandum of understanding on renewable energy investment and deployment. CCPIT hosted a China Reception for over 50 members of Hawaii's business community.

Research and Economic Analysis

The Research and Economic Analysis Division (READ) creates the most used and most comprehensive source of data on Hawaii, the Hawaii State Data Book.

READ also issues quarterly economic forecasts and participates with the Department of Budget and Finance to represent the state at bond rating and marketing events.

READ is also responsible for updating the state's Input-Output model, a critical tool for economists and analysts seeking to determine economic impact.

READ has recently completed the Population and Economic Projections to 2040, the eighth in a series of long-range projections dating back to 1978. The 2040 Series uses the detailed population characteristics from the 2010 Decennial Census, 2010 estimates of economic variables, and input-output (I-O) tables based on the 2007 Economic Census as baseline data for the projections.

READ is the only state agency partnered with the U.S. Census Bureau in collecting, reviewing, disseminating Hawaii data and training Hawaii data users.

READ hosts the Federal partnership programs: The Hawaii State Data Center, the Federal-State Cooperative for Population Estimates (FSCPE) and Federal-State Cooperative for Population Projection (FSCPP).

The 2010 Census was a major federal initiative in which READ was a critical state partner. Since the 2010 Census, READ has prepared numerous tables and reports specific to Hawaii based on 2010 Census data.

These data account for some of the most popular information accessed on the DBEDT website.

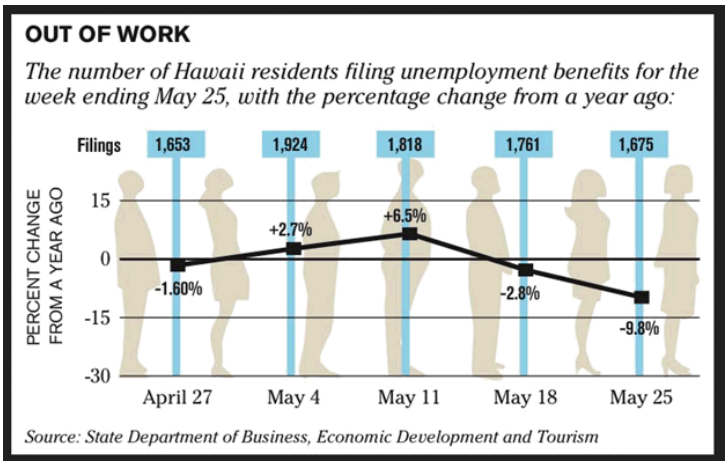
READ produced the following economic and statistical reports during the past 2.5 years:

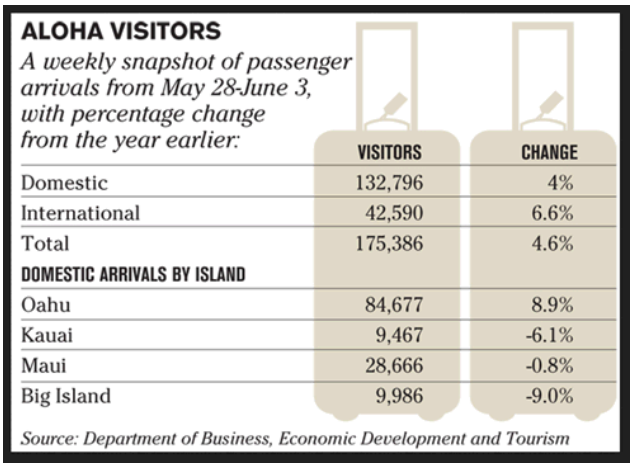
- Hawaii Targeted and Emerging Industry Report, pursuant to HRS 201-19 (b)
- Self-Sufficiency Income Standard, Estimates for Hawaii 2011, pursuant to HRS 201-3(b)
- State of Hawaii Energy Data and Trends
- The Size of Hawaii Energy Sector
- Renewable Energy in Hawaii
- Income and Price Elasticity of Hawaii Energy Demand
- The Creative Industry in Hawaii
- Hawaii's Technology Workforce - Occupations and Projections
- County Social, Business, and Economic Trends in Hawaii
- Wage and Employment Structure: Comparing Recent Trends for Hawaii vs the U.S.
- Geographic Area Statistics: Income, Employment, Education, and Housing Characteristics
- The Non-English Speaking Population in Hawaii

READ also publishes:

- The Daily Passenger Count
- The Monthly Energy Trend report
- Monthly Economic Indicators
- Weekly Unemployment Claims report
- Weekly Honolulu Photovoltaic Building Permits
- Reports as requested on specific issues of current interest
- READ annually fields more than 700 calls from the public, and receives several hundred thousand page-views of data on its website.

READ is the resource for weekly charts in the local StarAdvertiser newspaper:





ALOHA VISITORS

A weekly snapshot of passenger arrivals from May 28-June 3, with percentage change from the year earlier:

	VISITORS	CHANGE
Domestic	132,796	4%
International	42,590	6.6%
Total	175,386	4.6%
DOMESTIC ARRIVALS BY ISLAND		
Oahu	84,677	8.9%
Kauai	9,467	-6.1%
Maui	28,666	-0.8%
Big Island	9,986	-9.0%

Source: Department of Business, Economic Development and Tourism

Foreign Trade

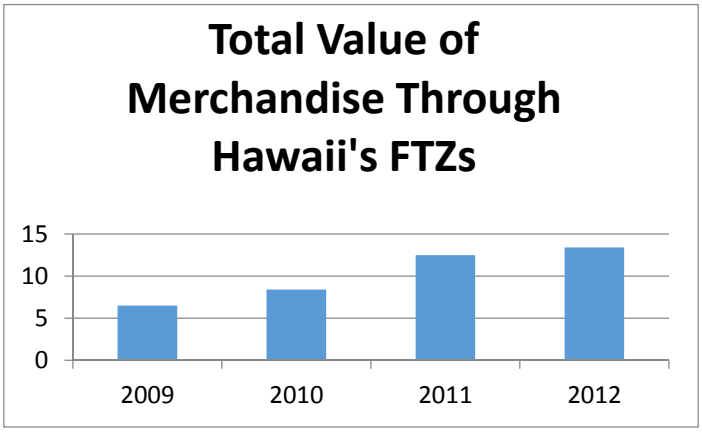
The Foreign-Trade Zone Division (FTZ9) administers the federal grant issued to the State of Hawaii in 1965 by the Foreign-Trade Zones Board in Washington, D.C. Hawaii has a large and diversified Zone program with its nine authorized general-purpose sites and five subzones. The program allows companies who operate within a Foreign-Trade Zone to defer or avoid certain duties and ad valorem taxes on imported/exported cargo. The financial benefit of cost deferral allows these companies to invest the additional capital into infrastructure, equipment, and jobs.

FTZ9's strategic Pier 2 location, excellent support facilities, and professionally experienced staff make it one of the best and most respected Trade Zones in the nation. It is important to point out that the Foreign-Trade Zone program in Hawaii is fully self-supporting as it does not rely on any of the state's general funds to operate and does so with a limited number of staff.

There are currently 13 sites on the islands of Oahu, Maui and Hawaii that have received FTZ designation. Of the 13 sites, three general-purpose zone sites and three special-purpose subzone sites are active. The Foreign-Trade Zone Division is responsible for ensuring that U.S. Customs and Foreign-Trade Zones Board regulations are followed at all of these sites.

Foreign-Trade Zone No. 9 is a service-oriented organization which engages directly with the public to promote economic growth through international trade. It assists a large number of businesses in the state and creates a multitude of various kinds of jobs. FTZ9 saw 204 businesses utilize its services in 2011 and attracted an additional 20 companies to the program. These numbers increased in 2012 to 282 businesses using our services and 30 companies new to the program.

FTZ9 sites can accept merchandise in either domestic or foreign status. In 2011, approximately 84 percent of merchandise was entered under foreign status. Specifically, domestic status merchandise valued at $1,003,608,238 entered Hawaii's FTZ sites and $5.3 billion was entered as foreign-status merchandise.

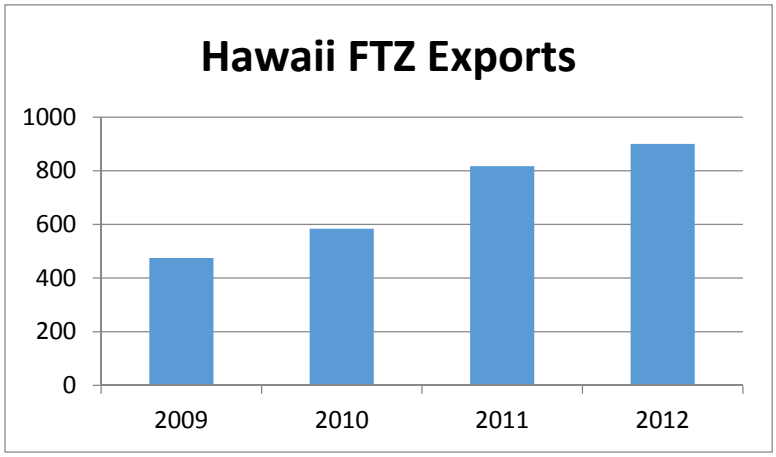


In $Billions

Over the past several years, the Hawaii Foreign-Trade Zone No. 9 has seen a steady increase activity throughout the entire Foreign-Trade Zone project. 2011 and 2012 were record years for FTZ9 with the total value of merchandise received and forwarded in all activated FTZ sites in 2011 reaching nearly $12.5 billion, and 2012 exceeded the previous year by 7.4 percent with the total value of merchandise reaching $13,381,227,987. These high figures reflect the continued importance of petroleum to Hawaii's international trade and at FTZ9 sites.

For 2012, those numbers increased significantly to $1.2 billion for domestic status merchandise and $5,505,640,027 for foreign status merchandise. In 2011, 107 different types of foreign merchandise was received from 21 countries and in 2012, 118 different types of foreign merchandise was received from 27 countries.

Exports from the state through Hawaii's Foreign-Trade Zones were up as well. Of the merchandise received, $4,752,746,089 was forwarded to the U.S. market, while merchandise exported out of the state reached $817,160,916 in 2011. For 2012, those numbers increased as merchandise forwarded to the domestic market reached $5.2 billion while exports rose nearly 9.4 percent to $895 million.



In $Millions

Capital investment is another economic indicator for Foreign-Trade Zones. Value of these investments can fluctuate greatly and have done so over the past several years due to the recovering economy. In 2011, over $25 million was spent on improvements; however, in 2012, Hawaii FTZs spent $70 million in capital improvement investments.

FTZ9 recently was noted by the National Association of Foreign-Trade Zones as being the No. 2 Foreign-Trade Zone in the nation in terms of the number of overall clients and the 15th FTZ in the nation for total exports.

Currently, the Foreign-Trade Zone office space is at 100 percent occupancy. In an effort to continue to expand the program and reach more businesses, the FTZ has begun construction on a $9.2 million renovation project which will convert current

warehouse space into 30,000 square feet of office, shared use and conference space, effectively doubling the FTZ's office space capacity. This project is slated to be completed by October, 2014 with occupancy beginning at that time.

Hawaii Strategic Development Corporation

The Hawaii Strategic Development Corporation (HSDC) is an agency of the State of Hawaii established in 1990 to promote technology based economic development and economic diversification in Hawaii through a return driven investment program in partnership with private capital.

HSDC seeks to invest in fund managers with experience in venture capital investing and that have a commitment to build a portfolio of Hawaii-based investments. Emphasis is given to investment opportunities that further technological innovation in Hawaii.

Over the past two years, HSDC has attracted over $20 million of funding for its investment programs. These programs are finding support in the private sector as institutional and angel investors are co-investing alongside HSDC in venture funds or co-investing with HSDC portfolio funds in specific companies. As a result, HSDC hopes to at least match its $20 million with $20 million of private sector investment as these funds are deployed.

Through these investment programs, HSDC is supporting the New Economy Industries by creating the infrastructure that supports entrepreneurs, new business formation and capital formation. Specific highlights of these initiatives are detailed below:

State Small Business Credit Initiative (SSBCI)
HSDC applied for and was allocated $13 million in May 2011 from the SSBCI Program specifically to fund a venture capital fund of funds investment program.

The SSBCI Program is administered by the U.S. Department of the Treasury and the purpose of the program is to provide growth capital to small businesses.
HSDC invested $3 million, matched by $3 million from the University of Hawaii Foundation. UHF manages this $6 million investment fund, UPSIDE Fund II, with the purpose of commercializing research developed at the University of Hawaii.

To date, four companies have been funded. Co-investors in these companies have been HMSA, Queens Health Systems and Kolohala Ventures. In addition, many potential projects have been reviewed and university researchers have had access to investment professionals to advise them on the commercial potential of their research.

HSDC invested $500,000 in the Blue Startups accelerator and committed $350,000 to Kinetiq Labs. An accelerator is a micro investment program that stresses the importance of mentoring and peer collaboration to help new businesses succeed.
This investment was facilitated by the LAVA Program discussed further below.
HSDC's $500,000 investment was matched by leading Hawaii business leaders led by Henk Rogers. Kinetiq Labs' matching investment will come from West Coast and Asia based angel investors.

First class of companies at Blue Startups

The purpose of these accelerator funds is to provide pre-seed investment to entrepreneurs selected by the accelerators that have the potential to scale their businesses and attract follow-on venture capital investment.
HSDC is currently working on co-investing in a $10 million software fund that will be able to provide the follow-on venture capital investment for the companies graduating from the accelerator programs.

Launch Akamai Venture Accelerator (LAVA) Program.
The 2012 Legislature appropriated $2 million for the LAVA Program, a program designed to catalyze the establishment of venture accelerators in Hawaii. HSDC has selected Blue Startups and Kinetiq Labs as the two initial recipients of LAVA funding.

This program provides $200,000 a year to support the operations of the accelerator programs. Henk Rogers has matched HSDC's commitment by providing office space in the downtown district for the Blue Startups accelerator. Kamehameha Schools is providing a great location at attractive rents for Kinetiq Labs to setup in the Kakaako district.

These accelerators are helping to anchor a community that is prepared to support the establishment and growth of innovative new companies by bringing together entrepreneurs, mentors and investors in a collaborative environment.

HI Growth Initiative
The Administration supported HSDC's HI Growth Initiative, an investment program to further the objectives of entrepreneurship, research commercialization, and venture fund formation in the State of Hawaii. The 2013 Legislature appropriated $6 million for this effort.

One of the key areas of focus of the HI Growth Initiative is to establish a proof of concept center that can commercialize technologies developed in the State. Many areas of the country have established these centers and have shown that these centers significantly contribute to the economic development of their local region.
In addition to the universities, there are many entities in Hawaii that are developing innovative solutions to global problems.

Their technology may be too early for venture investing, but no longer qualify for research grants. A proof of concept center helps to bridge this gap by providing the expertise and the capital to prove the commercial viability of these innovations and attract follow-on investment or monetization of the technology.

The Natural Energy Laboratory of Hawaii

NELHA's mission statement is: "To develop and diversify the Hawaii economy by providing resources and facilities for energy and ocean-related research, education, and commercial activities in an environmentally sound and culturally sensitive manner."

NELHA is a state agency that operates a unique and innovative ocean science and technology park in Kailua-Kona on the island of Hawaii. NELHA's assets include office and laboratory facilities, infrastructure, pristine natural resources, and leasable open land for use by tenant research, education, and commercial projects.

A dual-temperature seawater system that is the only one of its kind in the world sets NELHA apart from all other technology parks and creates a prime setting for innovation and new industry development in this island coastal setting.

NELHA aims to attract tenants of all types – research, educational, and commercial entities.

A 50-page audit covering 1990 through mid-2011 by State Auditor Marion Higa said that after 40 years, the ocean-research and commercial facility on the Big Island had "failed to live up to its potential and struggles to justify its worth."

In June 2011, DBEDT encouraged the Board of NELHA to appoint a new executive director.

The State Auditor's report said that marketing has since resumed after years of inactivity, tenant relations are improving and the NELHA was pursuing alternative revenue streams.

"Since taking up duties in mid-2011, the new executive director has made noticeable progress in a number of areas," the Auditor's report said.

In 2012, an independent economic analysis estimated the impact of NELHA in-state expenditures on the State's tax revenues to be $4.5 million dollars.

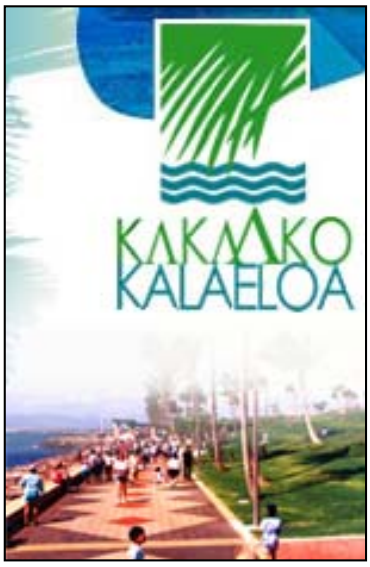
Furthermore, not only do NELHA tenants employ hundreds of people but also their expenditures contribute to over 583 jobs in the larger Hawaii economy.

NELHA receives on average about $2 million dollars per year. One way to look at the State's return on these expenditures is to consider the ratio of the total impact on output less the government's expenditures ($87.7 million - $2 million) to government expenditures ($2 million), which yields a leverage of about 42.8 per state dollar.

In other words, every dollar of state expenditures toward NELHA results in over $42.8 dollars of output generated in the Hawaii economy.

Community Development – Kakaako & Kalaeloa

Asset Management



- Year 2010 commenced $3.8 million construction improvements to hardscape, fixtures, and outdoor furniture at Waterfront, Gateway, and Kewalo Basin Parks;
- May 2011 completed park repair work (replacing concrete furniture, walkways hardscapes, sea walls, concrete boulders, electrical fixtures, upgraded comfort stations, outdoor shower stations);
- September 2010 completion of Kolowalu Park;
- Summer 2012 repair of AAFES Building exterior repairs and interior mechanical system;
- Summer 2011 Traffic signal at Queen and Kamakee Street intersection improvements complete;
- Summer 2011 Piano Lot paving to cap contaminates complete;
- April 2011 Final EIS for Kewalo Basin Harbor Improvements complete;
- Year 2011 Completion of Conceptual Master Plan for Kakaako Makai Waterfront Development;
- Year 2011 establishment of 300 bed next Step Shelter, Helping the Hungry to Have Hope (H-5);
- Year 2012 Establishment of beautification and outreach program partnership with Waikiki Health Center, Life 360, KUPU, Department of Human Services;
- July 2012 transferred to the Office of Hawaiian Affairs fee simple lands to address the Ceded Lands Settlement; and
- Ongoing management of HCDA assets.

Planning Kakaako Community Development District

- Year 2011 Established Kakaako Waterfront Park Amphitheatre as a high profile concert venue;
- Year 2011 Pacifica Condominium mixed use residential project complete;
- Year 2011 redevelopment of the John Dominis parcel;
- Year 2011 Halekauwila Place affordable rental housing project approval;
- Year 2012 Authority approval of 680 Ala Moana/Kamehameha Schools Kaiaulu O' Kakaako Master Plan;
- Year 2012 Authority approval of Symphony Honolulu Mixed Use project;
- Year 2011 Authority approval of 690 Pohukaina Mixed use Transit-Oriented Development;
- Year 2012 801 Authority approval of South Street Workforce Housing;
- September 2011 completion of Mauka Area Plan and Rules ;
- September 2011 completion of Kakaako Reserved Housing Rules;
- November 2011 completion of Kakaako Makai Conceptual Master Plan;
- Ongoing pursuit of Public-Private-Partnership for the Kakaako, Kalaeloa, and Heeia;

Planning Kalaeloa Community Development District

- Year 2011 Right of Entry granted to Kalaeloa Heritage and Legacy Foundation;
- Year 2011 Approval of 12KV Underground Enterprise Energy Corridor Project;
- Year 2012 commencement of Roosevelt Avenue and Coral Sea Road improvements;
- 2012 Legislative approval of $3.5 million for development of Kalaeloa East Energy Corridor Project;
- 2012 Adoption of Kalaeloa Community Development District Rules;
- 2012 Adoption of Kalaeloa Reserved Housing Rules;
- 2012 funding for the Kalaeloa East Energy Corridor Project;
- 2011 approval and 2012 construction Kalaeloa Solar 1 and 2 Photovoltaic Projects; and
- 2012 workshop held to discuss Kalaeloa Net-Zero Community pilot project;
- 2012 Kalaeloa Landowners Summit;
- Pursuit of the Base Realignment and Closure (BRAC) Land Conveyances, contract administration;
- August 2012 FBI Headquarters Buildings Facility completed construction;

Heeia Community Development District

- 2011 Approval of Heeia Community Development District; and
- Pursuit of a Master Plan and promulgation of Hawaii Administrative Rules.

Community Outreach

- April 2010 established Public Consultation Website;
- Year 2011 worked with Kakaako Makai Community Planning Advisory Council (CPAC);
- Ongoing Community Meetings monthly to identify proposed projects;
- Ongoing meetings with Kewalo Basin stakeholders;

- Ongoing work with Friends of Kewalos regarding Kewalo Basin Park Parking Lot
- Ongoing meetings with Honolulu Authority for Rapid Transportation (HART) to discuss guideway and station designs for Kakaako;
- Ongoing media and print relations;
- Ongoing community outreach to major stakeholders and neighborhood board members;
- Ongoing meetings with Governors PIO office; and
- Ongoing attendance at Senator Chun Oakland's Community Planning Meetings

Administrative Services

Though significantly understaffed, the Personnel, Fiscal and Information Technology support functions in DBEDT has successfully provided full administrative support for DBEDT.

The most challenging mission was to reorganize the department into a more functional and streamlined organization. This reorganization was accomplished smoothly and efficiently due to unprecedented cooperation between DBEDT, DHRD and the HGEA.

The Administrative Services group has also succeeded in installing high speed wireless broadband access to its offices in the One Capitol District Building and the State Office Tower.

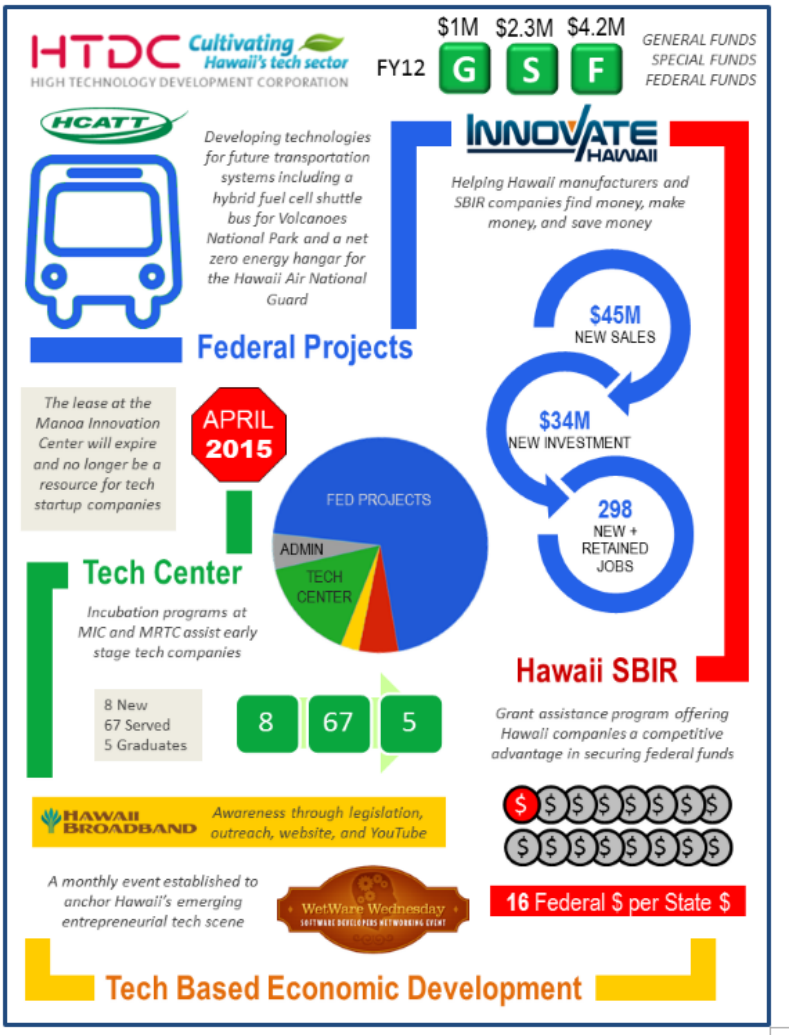
The DBEDT email system has been upgraded to full “cloud” computing, replacing old local servers.

The ASO office has also transitioned to the new OIMT-mandated uniform template for DBEDT websites, providing training and guidance to all users.

High Tech Development

HTDC's mission is to facilitate the growth and development of Hawaii's commercial high technology industry.

HTDC does this by offering a wide variety of business development programs and services and assisting the State with policy relevant to the tech industry. Its programs and services are offered statewide, providing assistance and resources to Hawaii's tech industry entrepreneurs, start-up companies, employers, jobseekers and more.



One of HTDC's top priorities has been to develop a plan to continue the tech incubation program at the Manoa Innovation Center (MIC). The current land lease with UH will end on April 30, 2015.

Attempts to extend the land lease and requests for CIP monies to construct a new site have been unsuccessful. This continues to be a distraction. MIC has a 95% average occupancy over the past 2 years, has added 7 new tech start-up companies, and graduated 5 clients to commercial office space.

On May 24, 2012 the Hawaii Broadband Initiative (HBI) website (hawaiibroadband.org/) was launched to bring awareness of the need to increase ubiquitous ultra-high-speed internet access for all of Hawaii. HTDC has been advocating at events, hosted a symposium with national experts to educate Hawaii on lessons learned and best practices, and produced a series of public service announcements clips aired on TV.

WetWare Wednesday (WWW) was born in 2011 by HTDC and Henk Rogers -serial entrepreneur, philanthropist, and graduate of the MIC as an effort to rally Hawaii's tech entrepreneurs. The monthly event is a partnership between HTDC, UH College of Engineering / ICS, and industry and has become an anchor for Hawaii's tech scene.

In FY12, HTDC's federally funded Manufacturing Extension Partnership Program (MEP) went through a re-organization and re-branding process. The program serves small to medium size manufacturing type companies. Now under INNOVATE Hawaii, both the MEP and the Hawaii SBIR assistance programs reside under this single umbrella.

In November 2011 the Hawaii Small Business Innovation Research (HiSBIR) program held its bi-annual conference. Hawaii companies had an opportunity to meet directly with program managers from 6 of the funding federal agencies. In FY11-FY12 HTDC has awarded over $780K in State matching grants to 24 companies that won 47 SBIR/STTR federal grants and contracts valued at $5.1M. For every dollar invested, Hawaii companies have attracted 16 federal dollars in return to the State, plus commercialization funding.

The Hawaii Center for Advanced Transportation Technologies (HCATT) continues to expand its impressive portfolio of renewable transportation demonstration projects to include a hybrid fuel cell shuttle bus, a green/net zero energy hangar, a hydrogen powered tug for C-17, a hydrogen powered weapons loader for the F-22, and advanced wind turbine technologies.

Housing Development

The mission of the Hawaii Housing Finance and Development Corporation is to increase and preserve the supply of workforce and affordable housing statewide by providing leadership, tools, and resources to facilitate housing development.

FY 2011

In fiscal year 2011, the HHFDC added 644 housing units to the inventory of workforce and affordable housing while managing assets in excess of $1 billion.

ECONOMY AND JOBS

Through public-private partnerships, HHFDC projects created construction jobs to help stimulate Hawaii's economy

•HHFDC's development partners completed construction of 396 newly-constructed rental & for sale units and 248 rehabilitated units statewide.

•Awarded nearly $97M in financing from the Rental Housing Trust Fund (RHTF) and Dwelling Unit Revolving Fund (DURF), and in Hula Mae Multi-Family Bonds and Low Income Housing Tax Credits (LIHTC). HHFDC Financing was used to construct 488 units in 3 rental housing projects in Kakaako, Pearl City, and East Kapolei. HHFDC also committed $2.235M in RHTF to preserve affordability for 62 senior rental units in Wailuku.

•Issued $82.3M in Hula Mae Multi-Family Bonds. HHFDC Financing resulted in 64 new rental units in Ewa Villages, Phase I and preservation of 556-unit public housing project, Kuhio Park Terrace, in Kalihi.

FY 2012

In fiscal year 2012, the HHFDC added 448 housing units to the inventory of workforce and affordable housing while managing assets in excess of $1 billion. In fiscal year 2013, there are approximately 1,073 rental and 371 for-sale units planned for completion while we stay on course toward our production plan to assist in over 7,996 units over the next five years.

ECONOMY AND JOBS

In 2012 HHFDC projects captured millions of dollars for housing projects and created construction jobs to stimulate Hawaii's economy

•HHFDC utilized $20.9 million in Neighborhood Stabilization Program grants to mitigate the impact of communities hit hardest by the economic decline.

•HHFDC's development partners completed construction of 448 newly-constructed rental & for sale units statewide.

•Assisted in obtaining State and County land use approvals under Chapter 201H for Kamakana Villages at Keahuolu and Halekauwila Place. Kamakana Villages at Keahuolu is a 2300-unit master planned community located in Kailua-Kona. Halekauwila Place, located in Kakaako, Oahu will add 204 family rental units in the urban core of Honolulu. Both projects are located on state land.

INVESTING IN HAWAII'S FAMILIES

The HHFDC's single-family programs focus on helping lower and moderate income families build financial assets by making home ownership more attainable. In FY2012, HHFDC made available $43.5M in Hula-Mae Single Family below-market rate mortgages and $12.5M in Mortgage Credit Certificate federal tax credits for eligible first-time homebuyers.

ENERGY EFFICIENCY

The HHFDC is also assisting the state's efforts to reduce our dependency on fossil fuels by encouraging energy and water efficient development as a step towards providing a cleaner, more sustainable and secure energy future. Future Master-Planned communities incorporate design concepts to encourage walking, bicycling, carpooling and mass transit options.

Land Use Commission

Statistical Summary:

1. NUMBER OF ACRES REVIEWED FOR RECLASSIFICATION. - 3355.782
   a. A94-706 Ka`ono`ulu Ranch involving 88 acres
   b. A12-796 Waiko Industrial Investment LLC involving 31.222 acres
   c. A10-787 Maui Research & Technology Parties involving 253.05 acres
   d. A11-794 State DOE-Kihei High School involving 77.2 acres
   e. A06-771 DR Horton-Schuler Homes LLC involving 1525.516acres ,(Oahu)
   f. A11-790 Kula Ridge LLC involving 34.516acres (Maui)
   g. A11-793 Koa Ridge involving 767.649 acres (Oahu)
   h. A10-789 A&B Properties-Wai`ale (Maui) involving 545.229 acres (Maui)
   i. A12-795 West Maui Land, LLC involving 16.7 acres (Maui)
   j. A09-782 Tropic Land involving 96 acres ,
   k. A87-617(reversion) involving 1060 acres
   l. A11-892 involving 73 acres
2. NUMBER OF ACRES REVIEWED FOR SPECIAL PERMIT - 150.148 acres
   a. SP70-85 De Luz (extension) involving 63.648 acres
   b. SP09-703 City and County Waimanalo Gulch Facility(status report) involving 86.5 acres
3. NUMBER OF INDIVIDUALS, BUSINESSES OR ORGANIZATIONS ASSISTED BY PROVIDING LAND USE REFERENCE RESOURCE DATA Estimated that over 1300 phone calls and department counter visits per month occur
4. NUMBER OF CONTESTED PROGRAM DECISIONS PROCESSED – 3 Civil cases disputed with LUC support provided to support the efforts of the LUC DAG to represent Commission interests
5. NUMBER OF MOTIONS PROCESSED-45 Motions or more
6. NUMBER OF DRAFT EIS RESPONSES ISSUED - 15
   - Monitoring 1 Project on Maui for Heavy Industrial Use under study with no assigned docket number yet, and
   - Ongoing monitoring of A85-595 Kuilima Project

Commission Action and Hearing Activity:

During the period, the LUC held 77 days of hearings. All Boundary Amendment Petitions and Declaratory Orders for these meetings were reviewed and processed within Administrative Rules Time Guidelines. There were two Special Permits processed and one had its status reviewed.

The hearings and decisions addressed the following:

- **District Boundary Amendments**
  - A06-771 DR Horton-Schuler Homes LLC involving 1525.516 acres,(Oahu)
  - A11-790 Kula Ridge LLC involving 34.516 acres (Maui)

- A11-793 Koa Ridge involving 767.649 acres (Oahu)
- A10-789 A&B Properties-Wai`ale (Maui) involving 545.229 acres (Maui)
- A12-795 West Maui Land, LLC involving 16.7 acres (Maui)
- A12-795 West Maui Land LLC involving 16.7 acres Ag to Urban designation change
- A94-706 Ka`ono`ulu Ranch involving 88 acres
- A12-796 Waiko Industrial Investment LLC involving 31.222 acres
- A10-787 Maui Research & Technology Parties involving 253.05 acres
- A11-794 State DOE-Kihei High School involving 77.2 acres
- A87-617 Bridge Aina Lea-7 mtg days involving 1,553.84 acres Ag to Urban designation change
- A09-782 Tropic Land LLC- 9 mtg days involving 96 acres

- **Declaratory Reviews**
  - DR12-47 State DOE (related to A11-794 DOE))
  - DR12-48 Grove Farms (IAL-Kauai) involving 11,026.2 acres
  - DR12-49 Kunia Loa Ridge Farmlands (IAL-Oahu) involving 854.23 acres
  - DR08-36 status report Ko Olina Boat Ramp
  - DR12-46 Spencer case for land use determination on Big Island
  - DR11-45 (IAL-Parker Ranch-Big Island) involving 56771.81 acres
  - DR10-39 (related to A10-788 HHFDC- Kona)
  - DR10-41 (IAL-Molokai)
  - DR11-44 (201H-Lanai)
  - DR10-42 (IAL-Oahu)
  - DR11-43 (IAL-Kauai)

There were 15 motions related to Petitions for Interventions or Motions for Reconsideration and miscellaneous matters for Dockets A06-771, A83-557 and A87-617.

Rule Revision:
During the past fiscal year the LUC has accomplished a major revamping and modernization of its rules. We are awaiting governor's approval to publish and proceed to public hearing. This revision includes new rules to handle Important Agricultural land cases and a process to handle countywide designations of important agricultural lands.

Aerospace Development

The Office of Aerospace Development (OAD) was created by the Legislature to promote the growth and diversification of Hawaii's aerospace industry. Major achievements toward this goal (from December 2010 to the present) have been as follows:

Developed an Aerospace Roadmap for Hawaii that outlines our state's strategic assets and advantages in this industry.

Expanded Hawaii's original Space Act Agreement with NASA to support the ongoing

development of analog test facilities on the Big Island (to be managed by the Pacific International Space Center for Exploration Systems, or PISCES), and the design, testing and validation of robotic systems for space exploration missions beyond low-Earth orbit.

Collaborated with the State Departments of Defense and Transportation, as well as the University of Hawaii at Hilo, to develop a tri-state (Hawaii-Alaska-Oregon) proposal for establishing an FAA Pan-Pacific Test Range for Unmanned Aerial Systems (as one of six national test sites that will integrate Unmanned Aerial Systems into the national air space).

Obtained funding from the State Legislature and a matching grant from the Federal Aviation Administration to conduct the environmental assessment and other analytical studies required for Hawaii to apply for a commercial spaceport license from the FAA.

Worked with the State Legislature and the Research Corporation of the University of Hawaii to establish the Pacific International Space Center for Exploration Systems (PISCES) as a program administratively attached to OAD, supervised by a Board of Directors appointed by the Governor, and funded through a combination of State, federal, and private sector contributions.

Obtained State seed funding to begin development of an Aerospace Research Park that will provide world-class analog facilities to test and validate new technologies.

Developed a national space exploration strategy for the Aerospace States Association for cost-effective and sustainable space missions to maintain U.S. leadership in this industry (currently being reviewed by Congress and select federal agencies).

Conducted a professional workshop at NASA Ames Research Center and Leaders Summit in Hawaii involving principals from NASA, major aerospace companies and universities to develop a conceptual model for an international research park on the Moon (to be prototyped at PISCES in Hawaii).

Inaugurated the Pacific International Space Alliance (PISA), headquartered in Hawaii, to provide a forum for government, industry and university leaders to enable multinational collaboration in robotic and human space missions.

Served as Secretariat for the State Starlight Reserve Committee to develop a statewide strategy to reduce nighttime light pollution ("skyglow") to advance astronomy, protect endangered species, improve human health, and conserve energy (launched Part 1 of this strategy through Act 287, 2012 Session, requiring fully-shielded lighting for replacement State light fixtures).

Served as Secretariat for the Governor's Aerospace Advisory Committee which has developed a Hawaii Aerospace Market Review & Analysis in collaboration with the Shidler College of Business at UH Manoa.

Represented Hawaii's aerospace industry at major professional forums (the 2010 Space Symposium of the National Space Foundation in Colorado; the 2011 National Space Society Conference in California; the 2012 Global Space Exploration Forum in Washington, D.C.).

Coordinated the annual statewide Real World Design Challenge in collaboration with the Federal Aviation Administration and the Aerospace States Association – an annual high school competition supported through public-private partnerships with the goal of sustainably increasing the Science, Technology, Engineering, and Mathematics (STEM) workforce nationwide.

State Planning

OP's enabling statutes, which can be summarized as follows:

- "To improve the planning process in this State, to increase the effectiveness of government and private actions, to improve coordination among different agencies and levels of government, to provide for wise use of Hawaii's resources and to guide the future development of the State." *See* HRS §226-1.
- To "provide for the effective management, beneficial use, protection, and development of the coastal zone." *See* L. 1977, c 188, § 1.
- To "preserve, protect and encourage the development of the lands in the State for those uses to which they are best suited for the public welfare." *See* L. 1961, c 187, § 1.
- To plan, coordinate and maintain a comprehensive, shared statewide planning and geographic information system and associated geospatial database. *See* HRS §225M-2(b)(4)(B).

In addition, the following list of accomplishments is responsive to the Governor's New Day priorities, available at http://governor.hawaii.gov/a-new-day-in-hawaii-plan.

- **Ensuring Community Benefits While Addressing Impacts to State Infrastructure and Public Trust Resources.** Coordinated with relevant county, state, and federal resource agencies and petitioners before the State Land Use Commission (LUC) to present the State's position regarding state district boundary amendment reclassifications. These cases resulted in reclassifying over 3,000 acres of land from the Agricultural to the Urban District. Notable petitions concluded during this reporting period include Hoopili (Oahu), Koa Ridge (Oahu), and A&B Waiale (Maui). These projects will provide nearly 20,000 homes, including 6,500 affordable units. The residential, commercial and industrial developments will result in 5,500 construction jobs per year and 10,500 operational jobs.

- **Conserving the State's Agricultural Land Resource Base and Assuring the Long-Term Availability of Agricultural Lands for Agricultural Use.** Provided data and information based on Hawaii's Important Agricultural Lands (IAL) criteria

under HRS § 205-50. During the reporting period, the LUC ruled on more than 70,000 acres of land on the islands of Kauai, Hawaii, and Oahu.

- **Improving Science and Community Based Decision-Making.** At the request of Governor Neil Abercrombie and the late Senator Daniel K. Inouye, OP formally began the statewide process of selecting a site in Hawaii for a National Estuarine Research Reserve (NERR). As part of the NERR system, Hawaii will attract federal monies to support science and community based stewardship of our coastal resources.

- **Providing Access to Planning Tools and Guidance for the Public and Private Sectors and Communities.** OP revised its website to make it easier for planning and land use professionals and the public to easily access guidance and information for navigating Hawaii's statewide land use and planning framework at http://planning.hawaii.gov. The site includes "Regulatory Resources," a "Planners Toolbox," and easy access to geo-spatial data and tools. Tools include the following reports and guidance completed during the reporting period: *Hawaii Watershed Guidance*, November 2010; *A Participant's Guide to the Special Management Area (SMA) Process in Hawaii*, updated 2012; *Stormwater Impact Assessment: Connecting primary, secondary and cumulative impacts to Hawaii's Environmental Review Process*, June 2013; and *Methodologies to Assess the Value of Coastal Zone Management (CZM) Special Management Area (SMA) Permit Program*, May 2013.

- **Making Hawaii Resilient to the Impacts of Climate Change.** One of Governor Neil Abercrombie's specific New Day initiatives is adapting to climate change. OP lead the effort to develop and pass Hawaii's climate change adaptation policy in 2012 (Act 283, codified as HRS §226-109). OP has been recognized nationally for its efforts in cooperation with county, state, and federal entities to integrate the policy, for example, see *Adaptation Policy Helps Prepare Hawaii for the Future*, published in Coastal Services Magazine's March/April 2013 edition at http://1.usa.gov/149GgOo. Current and future actions include identifying areas where the policy can be implemented in existing planning and permitting processes and developing tools and management practices that governmental agencies can utilize. OP setup a new web site to move this initiative forward at http://1.usa.gov/11Hu97n.

- **Increasing Hawaii's Economic Competitiveness through the Hawaii Statewide Comprehensive Economic Development Strategy (CEDS).** OP in partnership with the Economic Development Boards, county Economic Development Agencies, and the Economic Development Alliance of Hawaii prepared the 2010 Statewide CEDS to make job creation infrastructure projects eligible for federal Economic Development Administration (EDA) funds from 2010 through 2015. Accepted in March 2011 by EDA, the 2010 CEDS (Report) is an economic development strategy document for the State to increase its economic competitiveness. The Report supports key industry clusters through proposed strategies and projects for implementation. Completion and acceptance of the Report demonstrates that the

State of Hawaii has gone through a deliberative and thorough planning process to provide a framework for recommending projects for EDA funding. A CEDS is a precondition to obtain funding under most EDA grant programs. This Report is an update of the 2005 CEDS prepared by OP.

- **Enabling Increased Food Security and Food Self-Sufficiency.** OP received a $100,000 EDA grant to develop a strategic plan for increased food security and food self-sufficiency in Hawaii. OP partnered with the Department of Agriculture (DOA) to develop the plan and perform an assessment of the condition of agricultural irrigation systems in the State. The *Hawaii Increased Food Security and Food Self-Sufficiency Strategy (Strategy)* was published in October 2012. It was presented by Governor Neil Abercrombie at the Hawaii Farm Bureau Federation's annual convention, and to the DOA Board of Agriculture and the Hawaii Green Growth Initiative. The project received favorable news coverage, including a front-page article in the Honolulu Star Advertiser. Copies were distributed to State and county agencies, stakeholders, and public libraries statewide. Documents are available online athttp://hawaii.gov/dbedt/op/special_plans.htm.

- **Promoting State Transit Oriented Development (TOD).** OP was designed by the Governor to coordinate statewide planning issues related to TOD. This effort stems from OP's leadership in the coordination and development of the report entitled, *Leveraging State Agency Involvement in Transit-Oriented Development to Strengthen Hawaii's Economy*, dated December 12, 2012. The final report is available at http://planning.hawaii.gov/spb/transit-oriented-development.

- **Developing and Making Tools Available to Support Comprehensive Land Use Planning.** OP's Statewide GIS Program launched an innovative new mapping site at http://histategis.maps.arcgis.com/home/. State agencies and public users of the site can get quick access to information from a variety of agencies in the "Public Gallery" and can quickly and easily make maps of their own using data found on the site and on the web. For example, an interactive map was developed that shows state owned parcels near rail stations (http://bit.ly/14dAjRm). Currently, the Gallery contains maps and applications from OP, the DBEDT Energy Office, DBEDT Research and Economic Analysis Division, and the State Department of Health.

- **Making Land Use Tools Available to the Public and Private Sectors and Communities.** OP's GIS program, along with partners the Office of Information and Technology (OIMT) and the Pacific Disaster Center launched a new spatial data viewer at http://gis.hawaii.gov/higis/. The launch of this site and the one described above both allow those not familiar with GIS technology to easily view and manipulate State geo-spatial information. For those who want direct access to the data, the GIS Program data download site (http://planning.hawaii.gov/gis/download-gis-data/), in operation for nearly 20 years, has recently been redesigned to be more compatible with national standards for data organization and categorization.

- **Supporting Land Use Planning Tools that Enable Renewable Energy Development**. OP's GIS program, along with partners OIMT and the DBEDT

Energy Office, launched two renewable energy applications, including an application that shows sun exposure on over 10,000 buildings in the downtown Honolulu and Waikiki areas (http://bit.ly/12cr9PG).

- **Coordinating and Facilitating the Sustainable Use of Ocean and Coastal Resources**. Finalized the 5-year update of the Statewide Ocean Resources Management Plan (ORMP) in coordination with county, state, and federal agencies. This version moves the plan from the Demonstration to the Adaptation Phase, and provides greater focus on specific Management Priorities, goals and measurements of progress that state and county natural resource agencies will address in the next five years. The updated plan addresses many New Day Plan goals such as government being a good environmental steward, renewable energy, sustainable use and management of natural resources, healthy ocean economy, and long-term planning for the environment and natural resources.

- **Implementing the National Ocean Policy (NOP) to Benefit the People of Hawaii**. Hawaii's oceans and coasts fuel our economy, support our cultures, provide and create jobs, give mobility to our armed forces, enable safe movement of goods, feed our communities, and provide places for recreation. OP is the lead agency for coastal and ocean policy management and regional, national, and international planning under HRS §225M-2. The NOP is an opportunity to assert Hawaii's regional, national, and international needs. The Director of OP was recently elected by fellow members to be the Co-Chair of the Pacific Regional Planning Body and the Chair of the Pacific Regional Ocean Partnership (http://1.usa.gov/ZMhzog), organizations to which he was designated by the Governor to represent the State's interests. The purpose of these partnerships is to ensure that our resources are managed sustainably for current and future generations. Hawaii efforts are made possible by a federal grant of $250,000 from NOAA to develop a Hawaii Sub-regional Ocean Partnership in order to implement the NOP and the ORMP.

- **Providing Planning Assistance to Sister Agencies and Promoting Regulatory Efficiency**. OP provides planning assistance to various state agencies related such things as alternative energy and affordable housing projects. These projects require staff expertise in facilitation, community outreach, permitting and land use guidance, and interfacing with county planners. In addition, the CZM program has been working with the county, state, and federal agencies to streamline review of native Hawaiian fishponds, develop special management area permitting efficiencies, and address stormwater runoff issues in planning. In particular, the CZM program took advantage of three streamlining opportunities involving U.S. Army Corps of Engineers general permits: GP2011-001 Maintenance Clearing of Rivers, Streams, Storm Drains and Beach Areas; GP2011-003 Hawaii Kai Marina and Entrance Channel Maintenance Dredging; and the 2012 Nationwide Permits.

- **Ensuring Effective Management, Beneficial Use, Protection, and Development of the Coastal Zone.**

- Granted six (6) SMA Minors and four (4) SMA Use Approvals for developments within the Community Development District of Kakaako including approvals for phase II of University of Hawaii (UH) Cancer Research Center; replacement of harbor-front restaurant (John Dominis Restaurant) and multiple-purpose building with restaurant and multi-use assembly and hospitality uses, with parking and support facilities; construction and installation of modular office building for the Sheriff Division, the State Department of Public Safety; and installation of Ala Moana wastewater pump station force mains #3 and #4.

- Ninety-nine (99) federally permitted actions and federal activities were reviewed for consistency with State enforceable policies under CZM federal consistency regulations (15 C.F.R. part 930). Noteworthy federal consistency activities included Iroquois Point Beach Restoration and Stabilization, Ewa, Oahu; Waikiki Beach Maintenance Project, Honolulu, Oahu; Kaena Point Satellite Tracking Station De Minimis Activities, Waianae, Oahu; and the Ahi Open Ocean Aquaculture Project Test Phases, North Kohala, Hawaii.

- Federal Consistency Workshop held in Honolulu on March 16, 2010. The workshop was presented by NOAA's Office of Ocean and Coastal Resource Management, and attended by representatives of State and federal agencies.

- **Empowering Community Based Planning Solutions.**

  - Funded (CZM Federal Funding) the annual, *Get the Drift and Bag It!*, cleanup event. The event is part of the Ocean Conservancy's International Coastal Cleanup and is held worldwide on the third Saturday of each September.

  - Funded (CZM Federal Funding) the printing of, *My Hawaii Story Project 2010*, a collection of stories and poems written by Hawaii middle school students. The project supports ORMP Perspective 3 on promoting collaboration and stewardship by developing education and outreach programs to educate residents and visitors on natural and cultural resource values, regulations, and best practices.

  - Funded (CZM Federal Funding) the re-printing of the, *Homeowner's Handbook to Prepare for Natural Hazards*, a publication by the UH Sea Grant College Program, in preparation for the start of the hurricane season. The book has had three print runs with over 30,000 copies distributed since 2007.

  - Co-sponsored (CZM Federal Funding) a hands-on, capacity-building and networking workshop on Maui focusing on ahupuaa management and youth engagement. The *Ecosystem-Based Management Resources Guide* was also developed for workshop participants. The workshop had more than 80 participants, almost 30 of them youth, representing 22 communities from across the State.

- Funded (CZM Federal Funding) and supported the project entitled, *Building Community Capacity through Education and Outreach to Address Land-Based Pollution in Maunalua Bay (Oahu)*, a partnership between the UH Sea Grant Program and Malama Maunalua. This project implements the Hawaii Coastal Nonpoint Pollution Control Program Management Plan's Pollution Prevention Management Measure for urban areas.

- Funded (CZM Federal Funding) and supported publication of 5,000 copies of *E Malama I Na Aina Kumu Wai O Maunalua: A Watershed Handbook for the Residents of Maunalua*, a 48-page manual for residents of the Maunalua watershed. The Handbook was a project by Malama Maunalua and the UH Sea Grant Program.

- Funded (CZM Federal Funding) and supported a partnership project between the County of Hawaii and the community group Ka Ohana O Honuapo to develop an integrated habitat restoration plan for Honuapo estuary, a significant natural and cultural feature of the county's Honuapo Park.

- Updated the *Hawaii Community Stewardship Directory* for 2010. The Directory now lists 114 participating community-based organizations, which is more than double the number that participated during the first year (2008).

- **Designing Hawaii's Communities to be Resilient to Coastal Hazards.** Worked with partners on updating the State Building Code, HAR Chapter 3-180, to address Hawaii wind design standards developed using CZM and FEMA hazard mitigation grant funds.

- **Protecting Coastal Access and Use of Our Beaches.** Shepparded the passage of House Bill 1808, which became law in 2010 as Act 160. The law ensures public lateral access along the shoreline by making permanent the requirement that landowners remove human-induced, enhanced, or unmaintained vegetation interfering with such access and empowers DLNR to maintain such access. This law was made permanent by Governor Neil Abercrombie's signature of Act 120, on June 14, 2013.

- **Protecting Coastal and Estuarine Lands in Perpetuity so that they May be Enjoyed by Future Generations.** Added 17 shoreline acres to Lapakahi State Historical Park in North Kohala on the Island of Hawaii. OP is the lead for the Coastal and Estuarine Land Conservation Program, which allows the State to use federal monies for acquisitions. The Lapakahi acquisition was assisted by a diverse public-private partnership of Kohala community organizations, the Trust for Public Land (a national non-profit land conservation organization), the National Oceanic Atmospheric Administration, the State Office of Planning's CZM program, the State Legislature, and the State Legacy Land Conservation Program.

Small Business Regulatory Review Board

Since 2011, the Small Business Regulatory Review Board has undergone major changes.

Up to June 2012, the SBRRB's statute, 201M, HRS, charged the members with providing nominations to fill board member vacancies from names submitted by the review board members to the Governor for his appointment; eleven members were also required.

Effective July 2012, the following new nomination process was instituted under Section 201M-5, HRS, pursuant to Act 241, Session Laws Hawaii 2012. (See Legislative Review for further information.) "The Board shall consist of nine members, who shall be appointed by the governor pursuant to section 26-34; provided that: (1) Three members shall be appointed from a list of nominees submitted by the president of the senate; (2) Three members shall be appointed from a list of nominees submitted by the speaker of the house of representatives; (3) Two members shall be appointed by the governor; (4) The director of business, economic development, and tourism, or the director's designated representative, shall serve as an ex officio voting member of the board; (5) The appointments shall reflect representation of a variety of businesses in the State; (6) No more than two members shall be representatives from the same type of business; and (7) There shall be at least one representative from each county." Further, "nominations shall be solicited from small business organizations, state and county chambers of commerce, and other interested business organizations. Except for the ex officio member, all members of the board shall be either a current or former owner or officer of a business and shall not be an officer or employee of the federal, state, or county government."

As a result of the amended HRS, a "new" board began in December 2012. Since then, six board meetings have been held. To date, the board has been working with eight out of the nine required members. Some of the board's highlights include:

- Creating a brand new SBRRB brochure for outreach purposes to be distributed at small business organizations; i.e., chambers of commerce, etc.
- Review of the following rules:

1. DHS Med-QUEST's Affordable Care Act rules (also known as Obamacare) - the SBRRB recommended the rules proceed to public hearings.

2. DCCA's Rules relating to Professional Engineers, Architects, Surveyors and Landscape Architects - where several testifiers provided their input to encourage the SBRRB to approved and send the rules to the Governor for his approval for public hearing. Both pre-public hearing and after public-hearing statements were reviewed by the SBRRB. After public hearing, the SBRRB recommended to the governor to adopt the rules.

3. DOH rules relating to Water Quality Standards and Water Pollution Control, prior to public hearing. The SBRRB urged DOH to proceed to public hearings as soon as possible due to the expiration of (expired 10-2012) general permits for the National Pollutant Discharge Elimination System).

Richard C. Lim, Director
Department of Business, Economic Development & Tourism

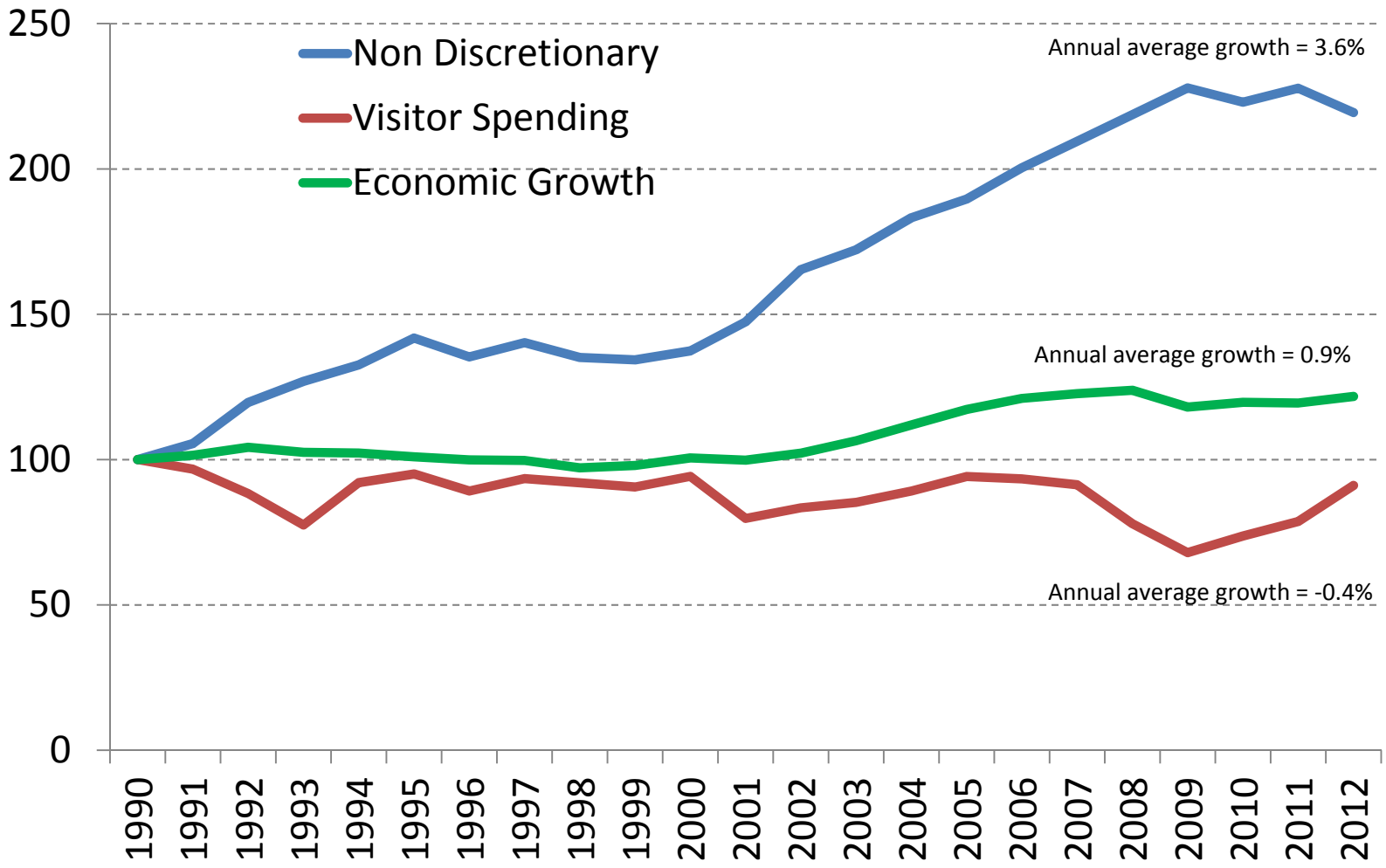
Informational Briefing –
Senate Committee on Economic Development, Government Operations and Housing
House Committee on Economic Development and Business

State Capitol, Room 229
Wednesday, April 9, 2014
9:00 a.m.

Senate Committee on Economic Development, Government Operations and Housing

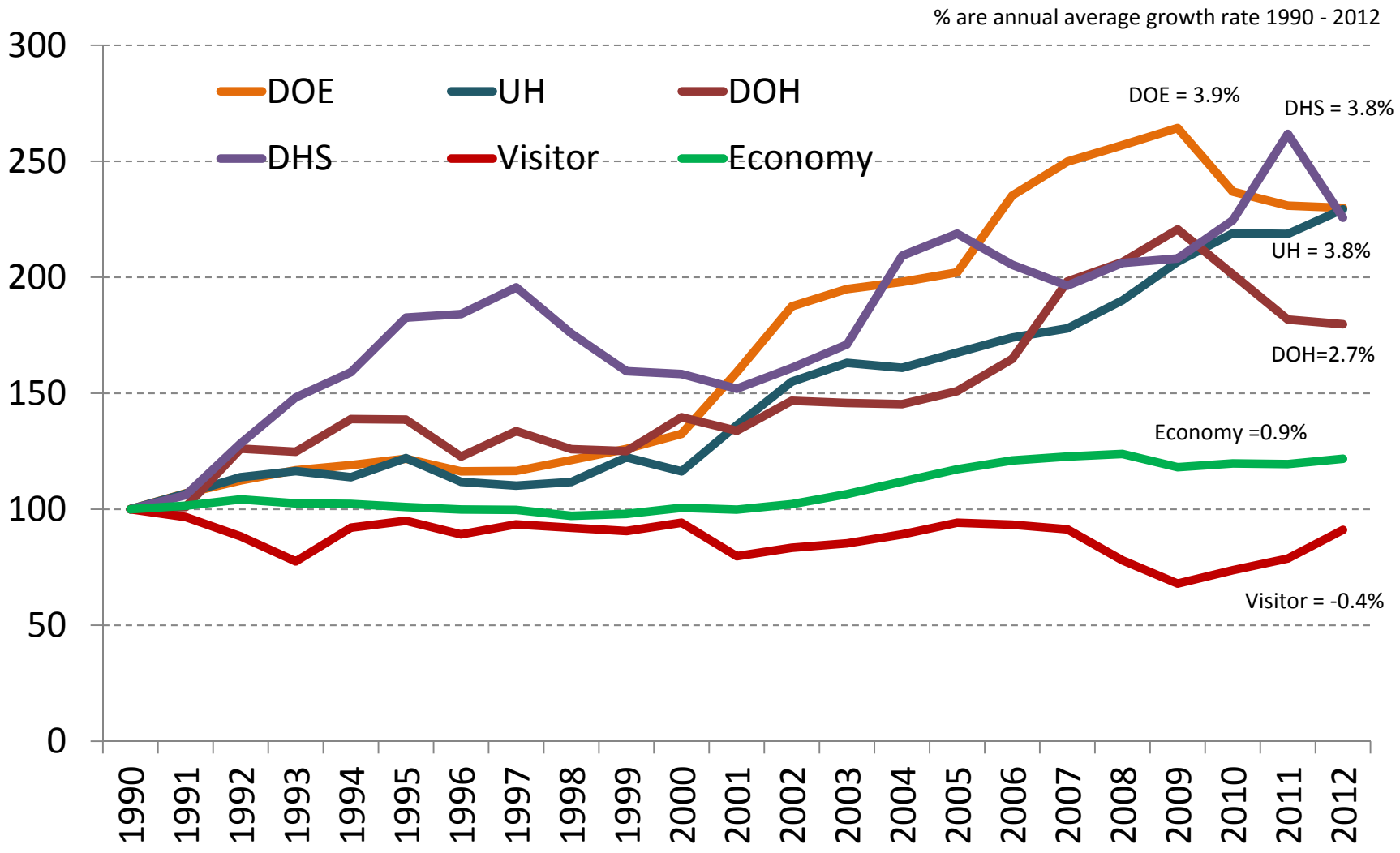
- Overview
- Agencies
  - HSDC Energy
  - HCDA OP
  - HHFDC CBED
  - HTDC HTA
  - FTZ
- Questions and Answers

Hawaii Government Non-Discretionary Spending, Visitor Spending and Economic Growth
Index: 1990 =100

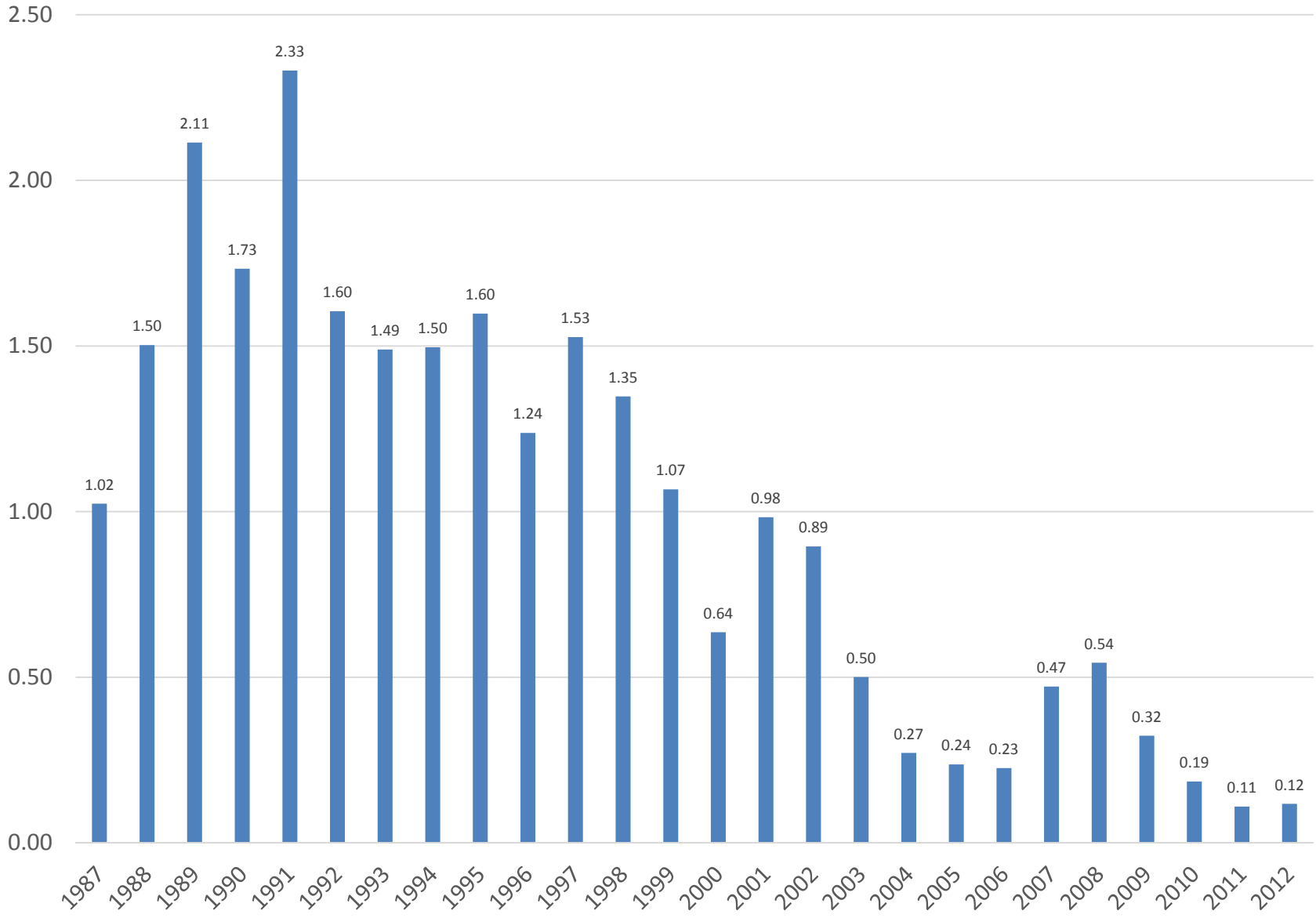


Source: B&F and DBEDT

Government Spending on Education, Health, and Human Services
Index: 1990 = 100



Percent of DBEDT Spending of State General Fund



DBEDT Powers and Duties

- Make broad policy determinations with respect to economic development
- Jurisdiction over the Land Use Commission and State Planning Office and State Planning Act
- Research and Promotional Functions
  - Development (industrial, land, credit)
  - Promotion
- Administrative responsibility for all attached agencies
- Film permitting, Office of International Affairs, Energy Office

Guiding Principles

- Organic growth versus business attraction
- High value add/export/high wages
- Support high growth companies
- Network density
- P3 – public private partnerships
- Focus, Investment, Perseverance

Functional Orientation

- DBEDT : visioning, convening, promoting
- HSDC: capital formation and business acceleration
- HCDA/NELHA: place-based development
- HHFDC: housing
- HTDC: business formation, incubation, mentoring, cluster promotion
- OP: long-range planning
- FTZ: export assistance, manufacturing incubation
- CBED: rural community assistance
- HTA: tourism
- Energy: key infrastructure, clean energy innovation

Key Priorities

- 21st Century Infrastructure
  - Airlift
  - Broadband
  - Energy
- Housing and Urban Revitalization
- High Growth Initiative
  - Innovation Sector (knowledge and creative sectors)
  - Clusters (place-based economic development)

2013

ANNUAL REPORT

State of Hawaii
Department of Business, Economic Development & Tourism

This report fulfills reporting requirements in both:

- **Section 7, Act 100-99, SLH, and**
- **Section 201-10, HRS**

Department of Business, Economic Development & Tourism
P.O. Box 2359, Honolulu, Hawaii 96804
250 S. Hotel St., 5th Floor
808-586-2355

dbedt.hawaii.gov

DIRECTOR'S STATEMENT

Richard Lim

DBEDT's mission continues to be achieving a Hawaii economy that embraces innovation and is globally competitive, dynamic and productive, providing opportunities for all Hawaii's citizens.

In particular, we serve as an advocate for renewable energy development, a resource for analytic data, and a facilitator for business development.

Through our attached agencies, we also foster planned community development, create affordable workforce housing units in high-quality living environments, and promote innovation sector job growth.

Our efforts to stimulate Hawaii's economy have been selective and effective. DBEDT has sought to focus attention on sectors where investment and development potential is highest.

In 2013, Hawaii saw continued economic growth, led by key areas such as tourism and construction. We expect to see continued moderate growth in 2014.

For the local economy, DBEDT expects most of the economic indicators will continue to grow positively.

Overall, Hawaii's economy as measured by real GDP, is projected to show a 2.4 percent increase in 2013.

Real GDP growth in 2014 is expected at 2.8 percent.

Hawaii's unemployment rate is projected to be 4.6 percent in 2013 and 4.2 percent in 2014.

Beyond 2014 the economy will continue on the expansion path with job growth expected to increase 1.7 percent in 2015 and 1.5 percent in 2016.

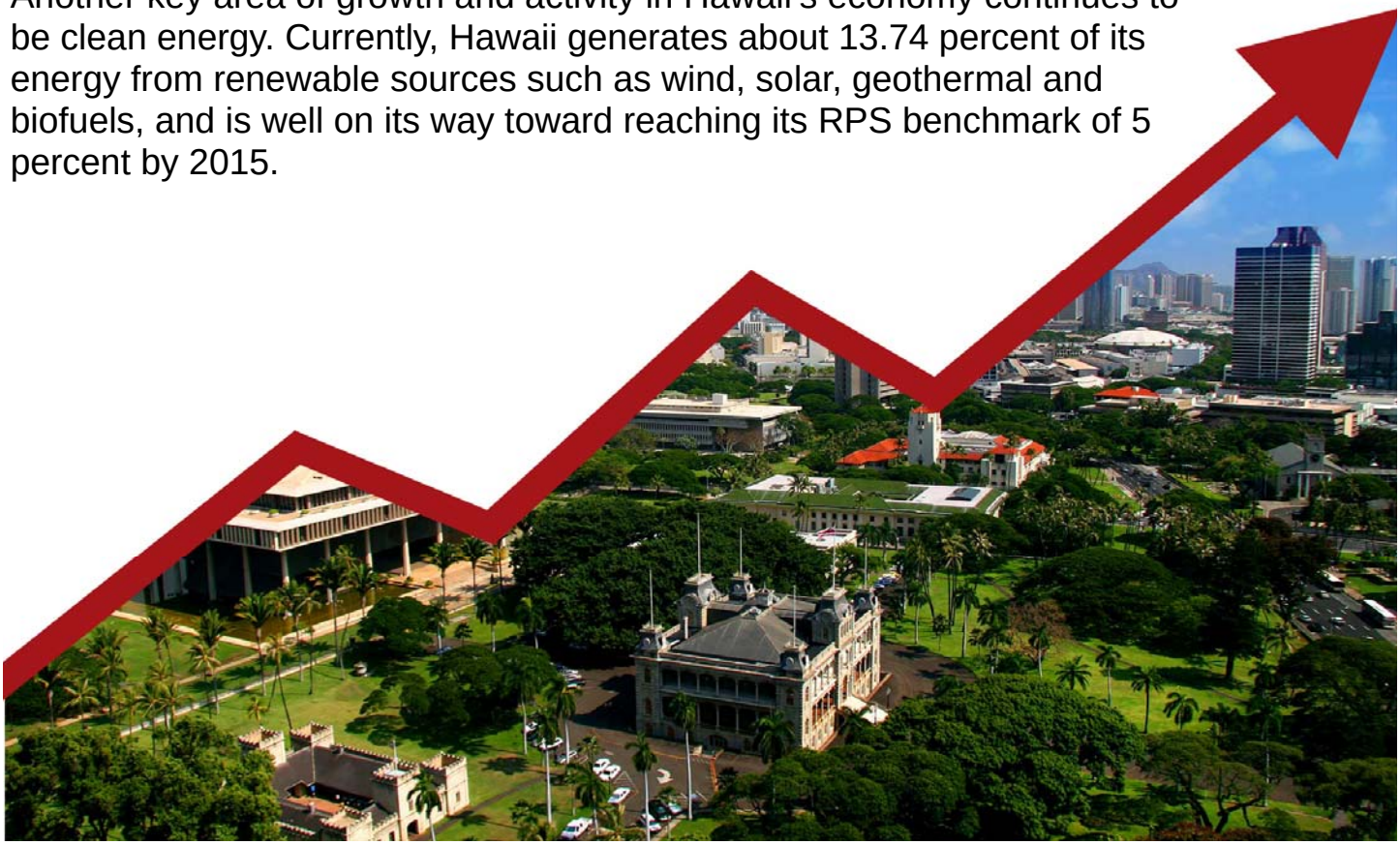
Visitor arrivals are expected to increase 2.3 percent in 2015 and 2.1percent in 2016.

Visitor expenditures are expected to increase 5.0 percent in 2015 and 4.8 percent in 2016.

Real personal income is projected to increase 2.7 percent in 2015 and 2.4 percent in 2016.

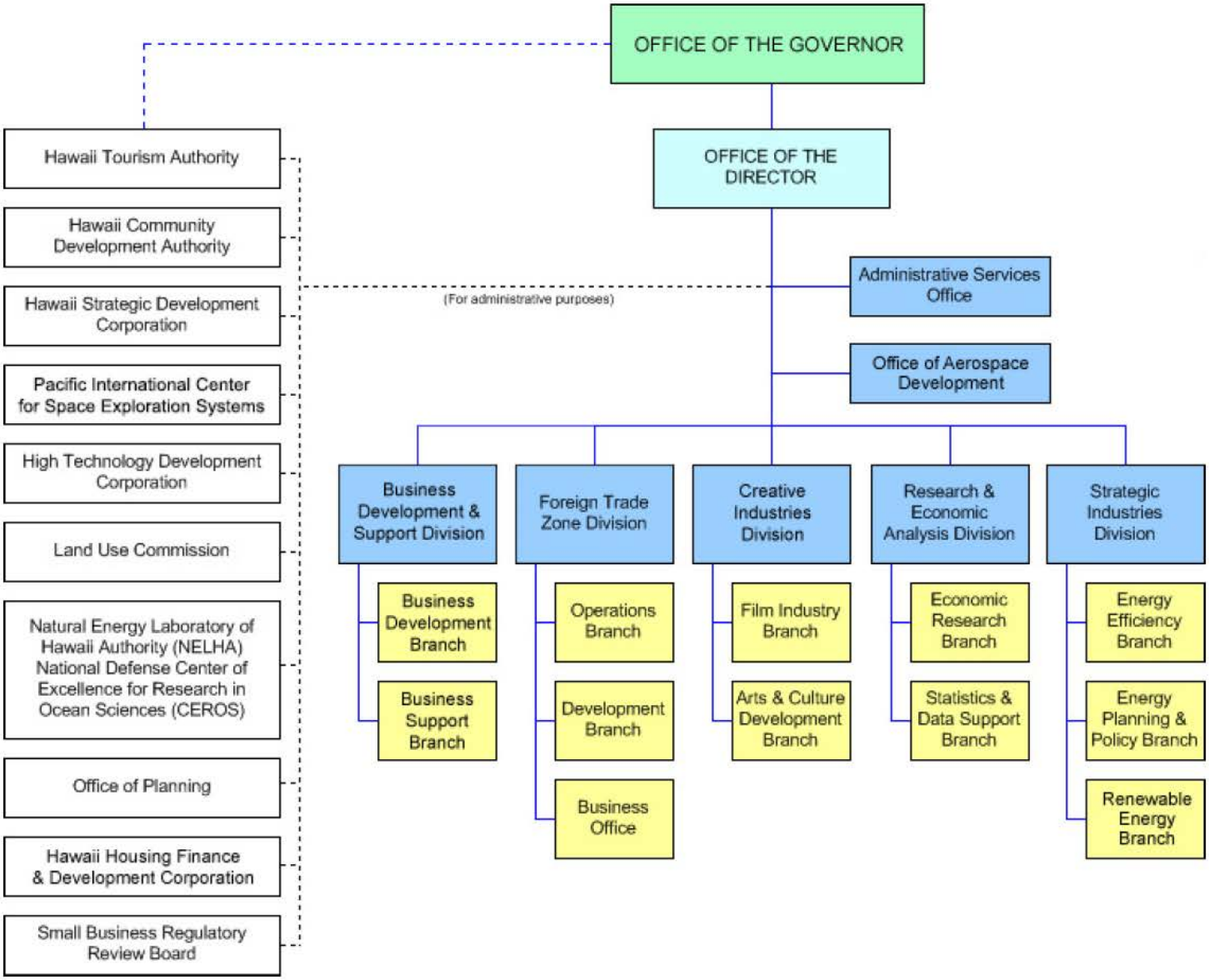
Hawaii's real GDP growth is expected to increase 2.5 percent in 2015 and 2.3 percent in 2016.

Another key area of growth and activity in Hawaii's economy continues to be clean energy. Currently, Hawaii generates about 13.74 percent of its energy from renewable sources such as wind, solar, geothermal and biofuels, and is well on its way toward reaching its RPS benchmark of 5 percent by 2015.



DBEDT

STATE OF HAWAII



DBEDT DIVISIONS AND BRANCHES

Business Development and Support Division

Strategic Marketing & Support Division
808-587-2750

Business Development Branch
808-587-2759

Business Support Branch
808-587-2772

Strategic Industries Division

Strategic Industries Division

808-587-3807

Innovations, Planning and Policy
808-587-9006

Renewable Strategy Business Development
808-587-3803

Energy Efficiency Branch
808-587-3810

Foreign-Trade Zone Division

Foreign-Trade Zone Division
808-586-2507

Creative Industries Division

Creative Industries Division

Arts and Culture Development Branch
Phone: 808-587-2717

Film Industry Branch
Phone: 808-586-2570

Research & Economic Analysis Division

Research & Economic Analysis Division
808-586-2466

Economic Research Branch
808-586-2475

Statistics and Data Support Branch
808-586-5830

Business Development & Support

http://invest.hawaii.gov/

The Business Development & Support Division (BDSD) promotes industry development and diversification in Hawaii by supporting existing and emerging industries; attracting new investment and businesses that can create more skilled, quality jobs in the State; and working to increase exports of Hawaii products and services.

After winning a $1million grant from the US Small Business Administration to increase exports by participating in overseas trade shows, 107 companies ranging from fashion, food, gift and life sciences exhibited at various DBEDT produced Hawaii Pavilions in Japan, Korea and major cities on the US mainland. The economic impact of the Division's efforts in increasing exports totaled $33 million.

The overseas offices in Taiwan and Beijing established "Hawaii Education Service Centers" at their offices to increase the number of international students enrolling in Hawaii's colleges and universities as part of an overall effort with the Study Hawaii Education Consortium of 20 public and and private schools. The goal is to attract 200 international students in the coming year with an economic impact of $11 million.

The first ever "Hawaii Fashion Month" was established in October with marquee events including a trade show with over 60 local participants attended by 2,000 trade and consumers and the "Governor's Fashion Awards".

The Tokyo International Gift Show 2013 featured a coordinated effort to feature more than 40 Hawaii companies in a unified Hawaii Display.

To date, participating companies have generated more than $4 million in contract sales.

State Energy Office

http://energy.hawaii.gov/

DBEDT is growing our clean energy economy through the Hawaii Clean Energy Initiative (HCEI), the state's blueprint for energy independence.

Established in 2008, HCEI is a groundbreaking partnership between the State of Hawaii, the US Department of Energy, the military and the private sector. Through HCEI, the state plans to transform Hawaii's economy from one that is dependent on fossil fuels to a leader in renewable energy and energy efficiency within a single generation.

By 2030, Hawaii must:

- Reduce energy consumption by 30%
- Increase electrical generation from renewable resources by 40%
- Reduce the use of petroleum for ground transportation by 70%

Under the leadership of Gov. Neil Abercrombie, DBEDT works to make sustainability a reality for Hawaii and drives energy innovation by aligning policies among government agencies and the private sector. DBEDT also provides the framework and tools for energy developers and lines up opportunities for potential investors.

Our island state's abundance of diverse, natural resources and its unique geographic location make for an ideal proving ground for clean energy solutions in the Asia Pacific region.

As of 2012, Hawaii generated 13.74% of its energy from renewable resources, putting us close to achieving the Renewable Portfolio Standards (RPS) goal of 15% in 2015 and giving us a jumpstart on reaching the 2020 RPS target of 25%. The state is looking to maximize our renewable resources to go beyond the HCEI RPS goals. Our commitment to renewable energy has put Hawaii in the national spotlight on multiple lists of top states for solar penetration and installations.

Hawaii is also a nationally recognized leader in terms of energy efficiency and conservation measures. We have ranked first in the nation in energy savings performance contracting (ESPC) two years in a row. Through this and our Lead by Example initiative, in which the state is using efficiency measures in our own buildings, we are finding much success in the efficiency sector. As of 2012, the state has achieved a 14.47% reduction in energy consumption, nearly half way to our Energy Efficiency Portfolio Standards (EEPS) goal of 30% by the year 2030. And in June 2013, DBEDT presented a bold efficiency plan to the prestigious Clinton Global Initiative America by committing a $300 million ESPC investment over the next two fiscal years.

The clean energy sector has become a significant driver in our state's economy. Entrepreneurs, driven by passion and powered by ingenuity, are helping to secure Hawaii's energy future by developing innovative technologies that can be deployed in communities statewide. This seedbed of innovation and creativity makes Hawaii a global leader in clean energy solutions for energy independence and economic growth.

Innovation is accelerating at a rapid rate, which in turns stimulates our economic growth. To help drive this energy revolution, DBEDT works as a catalyst by fostering bold policy solutions and providing a suite of self-help tools and roadmaps to assist energy developers and attract international investment.

DBEDT is also taking the lead in innovation, creating programs that will help make clean energy more accessible and affordable for Hawaii's families and businesses. The groundbreaking GEMS (Green Energy Market Securitization) program, passed by the 2013 state legislature and signed by Gov. Abercrombie, will open that door to those who might otherwise miss the benefits of clean energy improvements.

Research & Economic Analysis

http://dbedt.hawaii.gov/economic/

The Research & Economic Analysis Division (READ) works to enhance and contribute to the economic development of the State by providing analyses and policy recommendations on economic issues. READ provides economic forecasts that contribute to long-term statewide planning and infrastructure needs assessment, and also conducts and reports on basic research on the economy of the State.

READ produces an average of 50 economic and statistical reports a year, covering all aspects related to Hawaii's economy and the population. READ and the University of Hawaii are the only agencies that conduct economic studies on a regular basis.

READ also hosts the Hawaii State Data Center that partners with the U.S. Census Bureau and publishes Hawaii data, including the decennial census, the annual American Community Survey, Economic Census, and the annual population estimates. READ's website receives an average of 800,000 hits a month.

Some of the data products and reports READ produced include:

- Daily passenger count data online and the weekly unemployment claim data with analysis.
- The Quarterly Statistical and Economic Report with analysis and forecast.
- The State of Hawaii Data book.
- Hawaii's Monthly Economic Indicators.
- Monthly Energy Trend Data and Analysis.
- READ Quarterly Research Newsletter, highlighting recent READ products.
- Analytical/statistical reports on 2010 Census and American Community Survey data.
- Emerging Industry Benchmark Report 2012 Update.
- The 2007 State of Hawaii Input-Output Model.
- Self-sufficiency income standards 2009.
- A Hawaii's Creative Industries 2012 Update.
- A database for Hawaii Energy Industry Information Reporting Program (EIIRP), as established by Act 152, SLH 2010.

Foreign Trade Zone

http://ftz9.org/

DBEDT's Foreign-Trade Zone Division (FTZ) administers the federal grant, issued in 1965 to the State of Hawaii by the Foreign-Trade Zones Board in Washington, D.C. Hawaii has a large and diversified Zone program with nine authorized general-purpose sites and four subzones. Any company that imports and exports merchandise can take advantage of the benefits of the Foreign-Trade Zone program at the Pier 2 shared-use facility.

The strategic goals of the FTZ Division include: 1) participate in the economic development and planning efforts of the State; 2) continue to respond to the changing economic and community demands, adjusting services accordingly; and 3) operate without the use of the State of Hawaii General Fund.

The program's operational goals include:

1) Oversee the implementation of the FTZ program on a statewide basis to make the advantages of the FTZ program available to as many qualifying firms as possible.

2) Operate the FTZ public warehouse facility at Pier 2; provide office, exhibit, warehouse, and industrial space to qualified individual businesses.

3) Provide information to local, national, and international firms to explain the advantages of doing business in Hawaii under the auspices of the FTZ program.

4) Partner with both private and public sector entities to encourage greater participation in the FTZ program and attract new economic activity to Hawaii.

5) Continue operating the program in a self-sustaining manner without the use of general funds.

6) Implement information technology to reduce the transaction costs of complying with federal regulations.

7) Plan for the expansion of services and facilities to meet the needs of businesses that qualify for FTZ utilization.

For the Calendar year of 2012, FTZ9 surpassed all previous years with a record $13.4 billion in merchandise handled by FTZs state wide; up 7.4% from 2011. Exports from Hawaii FTZs were also up 9.4% reaching nearly $900 million. Statewide, FTZs also invested $70 million in capital improvement in 2012.

In 2012, FTZ9 was ranked as one of the top ten Foreign-Trade Zones in the nation for exports and was ranked number two in the nation for the number of firms the program services.

Creative Industries
http://cid.hawaii.gov/

Creative Industries Division (CID) is the state's lead agency focused on the development of Hawaii's creative economy. Comprised of the Hawaii Film Office (HFO) and the Arts and Culture Development Branch (ACDB), the division supports programs, initiatives and acts as a business advocate for Hawaii's entrepreneurs and artists in the arts, culture, music, design, literary, film, television, digital and new media sectors. Current initiatives are focused on increasing the state's capacity for -growth areas in the creative ecosystem including creative content development and product exports.

Hawaii's creative sectors have grown 13.8% since 2001 and represent 47,264 entrepreneurs and companies. The sectors collectively generated $3.8 billion in gross domestic product, representing 5.6% of Hawaii's total state GDP in 2011-12.

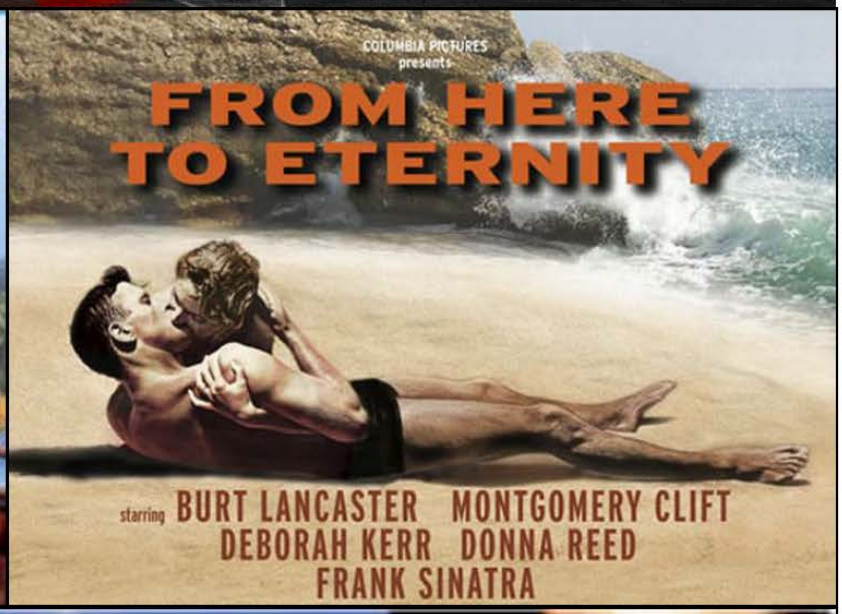
In addition to managing the statutory functions of film permitting, tax incentive and film studio management, the division established strategic partnerships with national industry organizations in music, cultural arts and film to leverage the State's investment in developing business opportunities for Hawaii's creative sectors.

2013 marked the 100th year of Hawaii's leading role as a production destination, signifying its key role as an economic driver and a key component of Hawaii's creative economy.

Estimated production revenues in 2013 reached $250M, with an economic impact of $400M, thanks to Hawaii's Production tax credit which has brought over $1.4 billion in production activity to the State since 2006, and an estimated $2.4 billion in economic impact.

A Century of Film in Hawaii
ADMIT ONE

ADAM SANDLER
DREW BARRYMORE
50 FIRST DATES


COLUMBIA PICTURES presents
FROM HERE TO ETERNITY
starring BURT LANCASTER MONTGOMERY CLIFT
DEBORAH KERR DONNA REED
FRANK SINATRA

HAWAII FIVE-O

Hawaii Five-0

DBEDT ATTACHED AGENCIES

Hawaii Tourism Authority

The Hawaii Tourism Authority (HTA) is the official agency for tourism in the State of Hawaii. Among its responsibilities, HTA is charged with setting tourism policy and direction; developing and implementing the State's tourism strategic and marketing plan; managing programs and activities to sustain a healthy visitor industry; and coordinating tourism-related research, planning, promotional and outreach activities.

One of HTA's key strategic roles is managing the promotion of Hawaii's brand, and supporting programs to help deliver on the brand promise. This work requires HTA, as the overall custodian of the Hawaii brand, to ensure the alignment of advertising and marketing programs with a true Hawaii experience.

Successful brand management is achieved by HTA coordinating with global marketing partners, visitor industry partners, including domestic and international airline carriers, travel trade members, and community stakeholders to ensure marketing and communication efforts are on target and appropriate, and aligned with Hawaii's distinctive products, activities, natural resources, Hawaiian culture and multi-cultures; in sum, the Hawaii experience.

Relating to the Hawaii experience and delivering on the Hawaii brand promise, HTA has the ability to manage, create and support the development of unique tourism experiences such as community and cultural festivals, sporting events, natural resources and community programs. The HTA also directly affects the visitor experience through its support of workforce development and visitor assistance initiatives, all the while integrating the community and residents considerations and respect for the Hawaiian host culture.

For further information call: (808) 973-2255, or visit: http://www.hawaiitourismauthority.org/
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Natural Energy Laboratory of Hawaii Authority

The mission of NELHA is to participate in the development and diversification of the economy of Hawaii by providing resources and facilities for energy and ocean-related research, education, and commercial activities in an environmentally sound and culturally sensitive manner.

The Natural Energy Laboratory of Hawaii Authority (NELHA) promotes sustainable business development and supports economic diversification by providing resources and facilities for energy and ocean-related research, development, and commercialization. This is achieved through marketing, managing and operating facilities that support sustainable utilization of available natural resources such as cold deep seawater, warm surface seawater, and high solar potential.

Facilities are located at Keahole Point in Kailua-Kona and in Puna, both on the Island of Hawaii.

NELHA's 870 acre Hawaii Ocean Science and Technology Park (HOST Park) at Keahole Point serves as a premiere site worldwide, where large volumes of both warm surface and cold deep seawater are consistently pumped ashore for use in renewable energy, aquaculture, marine biotechnology, manufacturing of potable water, and other technologies. HOST Park serves as an outdoor laboratory for research and development; as an incubator facility for developing innovative, new technologies and businesses; and as a base for commercial operations that utilize, or are otherwise related to, the use of the seawater and other resources available.

Current strategies envision growing HOST Park as a world-class test bed for potential technology commercialization using its comparative advantage as being within several hours of a diverse mixture of climatic zones as well as access to pristine deep ocean seawater. Moving aggressively into targeted areas such as applied technology development, deployment and commercialization in the fields of renewable energy, containerized technologies, fuel cells and critical infrastructure, such as secure energy storage facilities, is part of the current game plan.

HOST Park continues to be recognized as a world-class site for research on Ocean Thermal Energy Conversion (OTEC). There is currently one OTEC demonstration facility at HOST Park and current initiatives include securing an additional full-scale demonstration facility producing up to 1 MW of gross power. Additional technology demonstration will allow for partnerships with other public and private entities.

Currently more than 40 separate businesses are thriving in the park and provide for almost 600 jobs and economic impact is approaching $100 million annually. Of the 870 acres at HOST Park, approximately 250 are readily available for lease and commercialization.

For further information, call: (808) 329-7341, or visit: nelha.hawaii.gov/

High Technology Development Corporation

The High Technology Development Corporation (HTDC) works to facilitate the growth and development of the commercial high technology industry in Hawaii.

HTDC's functions include developing, managing, and assisting technology centers statewide; creating business opportunities for the growth of technology companies and industry; marketing and promoting Hawaii's technology assets; and providing support needed by Hawaii's technology industry.

HTDC assists in developing, managing, and operating technology centers statewide, including the Manoa Innovation Center, and the Maui Research & Technology Center. These sites serve as high technology company incubation facilities to ease the transition from start-up ventures to full-fledged,

independent commercial enterprises.

Despite the impact on the agency's operational funds, HTDC continues to operate at a high level, utilizing federally funded programs synergistically, leveraging partnerships with the private sector through strategic hiring, and engaging board members to assist.

HTDC activities feed each of the strategic layers of a developmental pyramid, starting with individual companies being served through incubation centers and programs; assisting and organizing sectors within the innovation industries; and having their voices and best practices filter up to affect the overall program.

At the programs and companies layer, HTDC's federally-funded Manufacturing Extension Partnership (MEP) program (rebranded as INNOVATE Hawaii Program), is expected to meet 100% of the performance metrics and quota set by the federal government.

Using the Hawaii Small Business and Innovation Research (SBIR) funding, MEP program operations have been restructured to focus on the commercialization phase of a company's product life cycle (where the economic impacts are realized as tax revenues and as high-paying jobs).

At the industry layer, HTDC worked with the Hawaii Strategic Development Corporation (HSDC) to support the Launch Akamai Venture Accelerator (LAVA) initiative. HTDC also created a software development group (WetWareWednesdays).

The Hawaii Center for Advanced Transportation Technologies (HCATT) continues to be recognized for its contributions to the Advanced Power Technology and Alternative Fuel test center at Joint Base Pearl Harbor-Hickam, resulting in an estimated double of future funding (from $6M to $12M), leveraging further federal dollars for the State to address the goals of the Hawaii Clean Energy Initiative.

For further information, call: (808) 539-3806, or visit: www.htdc.org/

HTDC Cultivating Hawaii's tech sector
HIGH TECHNOLOGY DEVELOPMENT CORPORATION

Hawaii Strategic Development Corporation

HSDC is an agency of the State of Hawaii established in 1990 to promote technology based economic development and economic diversification in the state through return driven investment programs in partnership with private capital.

HSDC is precluded by law from investing in retail businesses, housing construction and the tourism sector. HSDC co-invests via a "fund of funds" approach and does not invest directly into companies. Investment programs target three key areas which comprise the major gaps in technology based economic development:

1) Supporting the establishment of an entrepreneurial ecosystem that will provide mentoring, collaboration and funding opportunities for Hawaii entrepreneurs to establish and grow their business ventures;

2) Partnering research commercialization activities with state and private-industry programs

3) Establishing high-growth businesses; and

4) Networking Hawaii's high-growth businesses into the broader universe of mainland and international investment funds active in the sectors important to Hawaii.

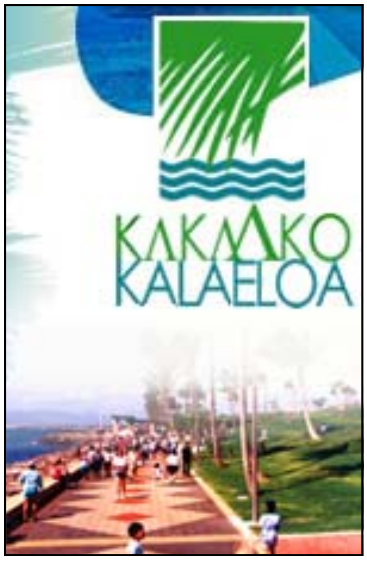
In 2013, HSDC's investment initiatives received national recognition:

The National Governors Association notes the HI Growth Initiative as an example of "Top Trends in State Economic Development".

- The UPSIDE Fund, an HSDC-sponsored investment fund at the University of Hawaii, is recognized by the National Academy of Sciences in its "Best Practices in State and Regional Innovation Initiatives" report as playing a key role in commercializing University of Hawaii research.

- CNN Money lists Hawaii as #8 on its list of the "10 most entrepreneurial states" based on the Kauffman Index of Entrepreneurial Activity, citing Blue Startups, an HSDC-sponsored venture accelerator, as an important catalyst for entrepreneurial activity in the state.

For further information, call: (808) 587-3830 or visit: hsdc.hawaii.gov.



Hawaii Community Development Authority

The Hawaii Community Development Authority oversees three community development districts on Oahu: Kakaako, Kalaeloa, and Heeia.

Five new housing developments in the Kakaako Community Development District are now under construction, with an additional seven already permitted by the Authority. A handful of other developments are also in the pipeline, creating the potential for over 5,300 new housing units in the Kakaako district alone. Over 48 percent of these new units will be made available to qualified income households, ensuring lower priced homes that working professionals and young families can afford. State analysts say 5,700 new housing units are needed in Hawaii each year, and the HCDA is doing its part to meet that demand.

The Kalaeloa Community Development District has been instrumental in helping the State of Hawaii move closer toward its Hawaii Clean Energy Initiative of achieving 70 percent clean energy by the year 2030. Two new five-megawatt solar power plants opened in 2013: the Kalaeloa Solar 2 Farm and the Kalaeloa Renewable Energy Park. Both facilities feed into the Hawaiian Electric Company ("HECO") system and generate enough energy to power an estimated 2,500 homes. The HCDA is also conducting an Environmental Assessment and Archaeological Inventory Survey for the Kalaeloa East Energy Corridor project. That project is being funded by a 2012 Hawaii State Legislature appropriation of $3.5 million.

The HCDA continues to work with the non-profit organization, Kakoo Oiwi, to restore the wetlands of Heeia. The goal is to return the land to its traditional agricultural usage and reestablish the taro fields that once dominated the area.

For further information, call: (808) 594-0300, or visit: dbedt.hawaii.gov/hcda/

Office of Planning (OP)

OP's mission is to guide the overall growth and development of the State through a statewide comprehensive planning framework.

OP prepares plans and planning studies and conducts policy analysis primarily on issues related to land, coastal, and ocean uses. OP administers the Planning Division, which includes the Special Plans Branch, Hawaii Coastal Zone Management (CZM) Program, Geographic Information System (GIS) Program, and the $2 million Brownfield Cleanup Revolving Loan Fund (HBCRLF). The CZM Program guides and determines acceptable activities and uses of resources for Hawaii's valuable land and water resources in the State's coastal zone.

OP also administers the Land Use Division (LUD). LUD prepares the State's position on quasi-judicial proceedings before the State Land Use Commission (LUC). LUD coordinates with affected State agencies and the petitioner to assure that a petitioner's project proposal (1) is consistent with State regulatory requirements, and (2) commits to mitigation that addresses reasonably foreseeable impacts of a proposed project on State resources. The LUD ensures that the LUC's decision and orders include terms and conditions that protect the State's interest in the long-term, sustainable use of limited State resources, such as land, water, and State infrastructure facilities.

For further information, call: (808) 587-2846, or visit: planning.hawaii.gov/
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Hawaii Housing Finance and Development Corporation

The mission of the Hawaii Housing Finance and Development Corporation (HHFDC) is to increase and preserve the supply of workforce and affordable housing statewide by providing leadership, tools, and resources to facilitate housing development. HHFDC currently has a production plan in place to deliver over 5,000 units over the next five years. As of June 30, 2010, HHFDC has assisted in the delivery of 3,289 affordable/workforce housing units.

To stimulate and expedite the development of workforce/affordable housing, including rental and ownership opportunities, HHFDC offers a variety of tools including financing, expedited land use approvals under Chapter 201H, and exemptions from general excise and real property taxes. The HHFDC also works to heighten awareness of housing needs for lower-income, moderate-income and gap-group households, particularly with those groups that can have an impact on the production of such housing including the Legislature and the Administration, federal, state, county and community officials, and the business community.

HHFDC enters into public-private partnerships to construct or preserve rental and for-sale housing. The provision of tools and resources such as financing, land, and assistance with land use and zoning approvals facilitate housing development and, thereby, stimulate the economy without reliance on general funds.

Since 2006, HHFDC single family programs helped 2,339 families purchase their first home. 1,076 of those families were helped during this administration.

State and County land use approvals under Chapter 201H were obtained for Kamakana Villages at Keahuolu, a 2300-unit master planned community located in Kailua-Kona on the Big Island, and Halekauwila Place, a 204 family rental unit high-rise in the urban core of Honolulu

$43.5M in Hula Mae Single Family below market rate mortgages and $12.5M in Mortgage Credit Certificate federal tax credits were made available to eligible first-time homebuyers.

For further information, call: (808) 587-0597, or visit: dbedt.hawaii.gov/hhfdc

Land Use Commission

Land Use Commission

The Land Use Commission (LUC) works with the State Legislature, County Planning Departments, interest groups and landowners to define constitutionally mandated standards and criteria for the classification of land, assisting in planned growth and protecting important agricultural lands in the State of Hawaii. The Commission also engages the county planning departments in enhancing and clarifying the special permit process in the Agricultural Land Use District.

The program objectives of the Land Use Commission are to process, review, and act on petitions for district boundary amendments which involve lands over 15 acres in the State Agricultural, Rural, and Urban Districts and all petitions seeking reclassification of lands in the Conservation District; review and act on applications for special permits in the Agricultural and Rural Districts which are over 15 acres; developing, in conjunction with the counties and the state legislature, maps and boundary designations for all of the State's Important Agricultural lands; designating the same for protected status; process of private landowner petitions for designation of their lands as important agricultural lands; process motions and boundary interpretation requests; and maintain, update, and disseminate official State land use district maps and land use information.

The LUC operates by means of a nine-member voluntary Commission, assisted and supported by the Executive Officer, clerk, GIS specialist and two planners (five employees).

For the future, the LUC will seek ways to more quickly process land use boundary change petitions consistent with its legal mandate to determine the best uses of the land in the public interest through implementation of the State Land Use Law.

For further information, call: (808) 587-3822, or visit: luc.hawaii.gov.

Small Business Regulatory Review Board

The Small Business Regulatory Review Board's mission is to provide and opportunity for small businesses to comment on proposed state and country rules which could impact their operations. Based on those comments, the board may recommend to the state legislature or relevant state agencies that they amend overly burdensome regulations. The board also evaluates State agencies' responsiveness to small business concerns and reports these findings to the legislature.

For further information, please call (808) 586-2594 or go to: dbedt.hawaii.gov/sbrrb/

Office of Aerospace Development

The Office of Aerospace Development (OAD) provides a focal point within State government to facilitate dialogue and coordination among Hawaii's government, private and academic sectors, and between State-based entities and overseas organizations, both public and private, to promote the growth and diversification of Hawaii's aerospace industry.

For further information, please call (808) 586-2388 or go to: aerospacehawaii.info/

Pacific International Space Center for Exploration Systems

The Pacific International Space Center for Exploration Systems, or PISCES, is a Hawaii State Government Aerospace Agency located in beautiful Hilo, Hawaii. The Center is part of the State Department of Business, Economic Development, and Tourism (DBEDT) and conducts environmentally safe field demonstrations on Hawaii's volcanic terrain to test and validate advanced space technologies under the jurisdiction of the Hawaii State Department of Land and Natural Resources (DLNR).

For further information, please call (808) 935-8270 or go to: pisces.hawaii.gov

Department of Business, Economic Development & Tourism

Statement of Operating Appropriations, Expenditures, and Encumbrances

For the Period July 1, 2012 - June 30, 2013

General Funds	Adjusted Appropriations	Restrictions	Expenditures & Encumbrances	Balance
BED 100 Business Development & Support				
Business Development & Support Division	935,043	50,110	871,842	13,091
BED 103 Statewide Land Use Management				
Land Use Commission	477,300	-	448,105	29,195
BED 105 Creative Industries				
Creative Industries Division	979,345	52,484	912,609	14,252
BED 128 Office of Aerospace				
Office of Aerospace	157,847	8,459	147,874	1,514
BED 130 Economic Planning & Research				
Research and Economic Analysis Division	861,411	46,164	719,985	95,262
BED 142 General Support for Econ. Development				
Office of the Director & Admin. Services Office	1,596,754	85,470	1,457,339	53,945
BED 143 High Technology Development Corp.				
High Technology Development Corporation	1,038,016	55,628	979,024	3,364
BED 144 Statewide Planning & Coordination				
Office of Planning	1,079,447	57,848	1,000,780	20,819
Total General Funds	7,125,163	356,163	6,537,558	231,442 (1)

Special & Revolving Funds	Adjusted Appropriations	Restrictions	Expenditures & Encumbrances	Balance	
BED 107 Foreign Trade					
Foreign Trade Zone Special Fund	2,066,296		1,463,536	602,760	
BED 113 Tourism					
Tourism Special Fund	87,071,017		68,152,180	18,918,837	
Convention Center Enterprise Special Fund	54,007,974	-	42,741,266	11,266,708	
BED 113 Total	141,078,991	-	110,893,446	30,185,545	
BED 120 Environmental & Energy Development					
Energy Security Special Fund	3,072,842		3,053,989	18,853	
Renewable Energy Facililty Siting Special Fund	750,000	-	-	750,000	
BED 120 Total	3,822,842	-	3,053,989	768,853	
BED 143 High Technology Development Corp.					
High Technology Special Fund	3,736,896		607,342	3,129,554	
BED 145 Hawaii Strategic Development Corporation					
Hawaii Strategic Development Revolving Fund	4,289,920		588,500	3,701,420	
Hydrogen Investment Capital Special Fund	2,608,516	-	153	2,608,363	
BED 145 Total	6,898,436	-	588,653	6,309,783	
BED 146 Natural Energy Laboratory of HI Authority					
Natural Energy Laboratory of HI Authority Special Fun	7,676,224		4,855,678	2,820,546	
BED 150 Hawaii Community Development Authority					
HI Community Development Authority Revolving Func	693,909		621,513	72,396	(2)
Kalaeloa Community Dev. District Revolving Fund	398,692	-	285,724	112,968	(2)
BED 150 Total	1,092,601	-	907,237	185,364	
Total Special & Revolving Funds	166,372,286	-	122,369,881	44,002,405	(3)
Total Funds (4)	173,497,449	356,163	128,907,439	44,233,847	

Notes:

(1) Represents the unrestricted general fund balances that lapsed at June 30.

(2) Reflects the appropriated portion of the HCDA Revolving Funds.

(3) Represents the special fund unexpended appropriation balance at June 30.

(4) Statement does not include DBEDT's loan revolving funds, the High Technology Revolving Fund, the Brownfield Cleanup Revolving Fund, and the appropriations of the Hawaii Housing Finance & Development Corporation. Also excludes federal, trust, and capital improvement appropriations.

State of Hawaii
Department of Business, Economic Development & Tourism

STATE OF HAWAII

HAWAII COMMUNITY-BASED ECONOMIC DEVELOPMENT TECHNICAL AND FINANCIAL ASSISTANCE PROGRAM

FY 2013
ANNUAL & FINANCIAL REPORTS
TO THE LEGISLATURE

The Hawai`i CBED Program and Revolving Fund

The Hawai`i Alliance for Community-Based Economic Development (HACBED) was established in 1989 by a group of community development practitioners. HACBED formulated strategies for the State government to support community-based organizations (CBOs) that wanted to create economic development initiatives. These efforts resulted in program legislation to provide financial and technical assistance to local groups. The Legislature created a CBED Program in the Department of Business, Economic Development & Tourism with Act 111, SLH 1991, codified as Chapter 210D, Hawaii Revised Statutes. The legislation created the CBED Advisory Council and the CBED Revolving Fund with an appropriation of $900,000 in 1991.

North Kohala Community members build a taro loi

Today, more than ever, Hawaii must move towards a new economy. The forces of globalization and economic transition have created great challenges in the world economy. Hawaii's isolation and dependence on tourism and fossil fuel energy has made the islands more susceptible to these effects. CBED strategies and practices can play a valuable part in the building of a new infrastructure for a more sustainable economy. The new economy is based on decentralization, networking, human resource development, innovation, soft relationships and new opportunities.

The foundation created by community-based economic development leads to long-term capacity-building for local communities and residents, and provides backward linkages to ancillary firms to sustain and expand the main sectors of the economy. Hawaii's economy is in need of true diversification. CBED is a practical way to achieve a true restructuring of Hawaii's economy. As the old economic engines

become obsolete, the state must look for new alternatives. CBED is a key strategy for not leaving behind the lower income urban and rural communities in the State of Hawaii.

CBED: A Continuing Strategy

Community Based Economic Development (CBED) is a strategy for addressing the needs of low–income communities. CBED has been implemented in the United States for more than 40 years and 20 years in Hawaii. As the dialogue about incorporating community vision and values into present day Hawai`i continues, CBED stands out as a necessary strategy to achieve those goals by bringing community empowerment, increased capacity, and conservation of local resources. CBED is a proven strategy that is different than traditional economic development because it emphasizes community reinvestment and opportunities. CBED is a complete process that not only addresses a community's economic needs, but its social needs as well. CBED strategies help maintain Hawaii's cherished *quality of life* for its residents for the long term while community-based organizations (CBOs) provide social services and ecosystem services that make a locality attractive to new and appropriate investment and economic development. Due to the budgeting shortfalls of the State, the CBED Program has focused on partnering with other State, Federal and private agencies to help build the capacity of community-based organizations through training workshops and other events.

Shrimp farming in Waialua, Oahu

The CBED Revolving Fund

The CBED Revolving Fund allows for the CBED Program to assist eligible CBOs with financial and technical assistance. Despite limited funding, the CBED Program continues to support community efforts statewide. In 2012 – 2013 one Community-Based Economic Development Revolving Fund loan in the amount of $25,000.00 was made to Mr. Ken Hirata for equipment for his diversified agricultural business in Haleiwa, Oahu. , the CBED Program's Revolving Fund partnered with the Department of Agriculture's Micro Loan Fund to provide a $50,000 loan --- $25,000 each --- to Mr. Ken Hirata to start-up a business producing a high quality Japanese liquor, "Shochu," from Hawaii-grown sweet potatoes.

CBED's Activities

In **October 2012**, the Business Development and Support Division's Community-Based Economic Development (CBED) Program partnered with the U.S. Small Business Administration, the Internal Revenue Service, Kapiolani Community College, the Hawaii Small Business Development Center, State DCCA – Business Action Center, Bank of Hawaii, Foreign Trade Zone, and Ewa Beach Community-Based Development Organization, to conduct the 2012 Small Business Fair at Kapiolani Community College. Thirty-two (32) exhibitors, including partners and others, including AARP, SCORE,

Small Business Fair Planning Committee: from the left: Jerry Hiromoto (IRS), Debbie Luning (Ewa Beach CBDO), Jayna Uyehara (DCCA-Business Action Center), Mary Dale (SBA), Joseph Burns (Small Business Development Center), Naomi Masuno (Bank of Hawaii), Wayne Thom (DBEDT), *kneeling* : Ron Umehira (Dean-LCC).

Hawaii Health Connector, BIA-Hawaii, the U.S. Postal Service, HI-PTAC, Central Pacific Bank, First Hawaiian Bank, Hawaii USA FCU, Pacific Business News and others, provided business information, , conducted twenty-four (24) technical assistance workshops.

Small Business Fair at Kapiolani Community College

Not including "walk-ins," one hundred ninety-seven (197) business owners and entrepreneurs registered to attend the event and workshops. Workshops included topics such as "Forming and Registering Your Business, State and Federal Tax Basics, Financing Options for Small Businesses, Specialty Loans and Tax Breaks, State Enterprise Zone Program, How To Start A Food Business, Social Media For Entrepreneurs, Web Design-How To's, Business Plans for Beginners and more."

In **February 2013**, the CBED Program again partnered with the U.S. Small Business Administration, the Internal Revenue Service, Leeward Community College, the Hawaii Small Business Development Center, State DCCA – Business Action Center, Bank of Hawaii, Foreign Trade Zone, and Ewa Beach Community-Based Development Organization, to conduct the 2013 Small Business Fair at Leeward Community College. Twenty-six (26) exhibitors, including partners and others, including AARP, SCORE, Hawaii Health Connector, BIA-Hawaii, the U.S. Postal Service, HI-PTAC, Central Pacific Bank, First Hawaiian Bank, Hawaii USA FCU, Pacific Business News and others, provided business information, conducted twenty-four (24) technical assistance business workshops, and sponsored a plenary session featuring Howard Dicus and Hawaii Entrepreneur, Eddie Flores, the L & L Drive-In guru. Not including "walk-ins," two hundred and one (201) business owners and entrepreneurs registered to attend the events and workshops. Workshops included topics such as "Forming and Registering Your Business, State and Federal Tax Basics, Financing Options for Small Businesses, Specialty Loans and Tax

Small Business Fair at Kapiolani Community College

Breaks, Starting a Culinary/Food Truck Business, Off the Wall Marketing, Stepping Into the Global Marketplace, Fine Tuning Your Business Plan and more."

October 2012, CBED's Micro-Loan Program and the Hawaii State Enterprise Zone (EZ) Program conducted two (2) " Small Business Forums" on Kauai and Maui. In partnership with the Federal Reserve Bank of San Francisco, the CBED Program brought together more than 60 business executives and small business owners to discuss the barriers and opportunities confronting small businesses on their respective islands.

The Community-Based Economic Development (CBED) Program completed the administration of $600,000 to eleven (11) community-based, non-profit organizations to support Supplemental Environmental Projects (SEP) for the Leeward Coast of Oahu. Remaining unspent funds have been returned to the Department of Health in the fist quarter of 2013.

The funding for this program, while not part of the CBED Revolving Fund, was administered by DBEDT/CBED, and were part of a settlement agreement between the State of Hawaii, Department of Health, and Waste Management of Hawaii, Inc. and the City & County of Honolulu over issues concerning the Waimanalo Gulch Sanitary Landfill.

Leeward Coast Supplemental Environmental Project (SEP) Fund Awardees

"A Leeward Coast Cool White Roof Paint Project (CSRP)"- **Nanakuli Elementary Schools (NES) Parent Teachers Association (PTA)** **Award: $90,000**
Final Status: Terminated
Partners: Suzuki Industries **Funds Distributed: $0**
Project Description: **Nanakuli Elementary PTA,** is painting 5 portable classrooms and cafeteria roofs white to reduce heat in the buildings. Project to involve educating teachers and students through active participation in measurement of inside building temperatures and recording.
Contact: Sandy Barrozo- President of NES PTA.
Ph: (808) 668-5813
Sandybarrozo@yahoo.com

The Nanakuli Valley Cultural & Botanical Preserve Fencing Project - **Kaala Farm, Inc.**
Award: $23,000
Funds Distributed: $17,000 **Final Status: Did Not Complete Due To Wildfire Destruction of Property**
Partners: N/A
Project Description: Kaala Farm, Inc., is erecting a hog-wire fence around the Nanakuli Valley Cultural & Botanical Preserve. This fencing project will help mitigate damage to archeological sites and the killing of new native plantings by feral pigs.

Contact: Ms. Dalani Tanahy, Executive Administrator
Ph: (808) 696-4954
Fax: (808) 696-9411
kaalafarm@gmail.com

"Environmental Education Experiences for Leeward, Oahu Children"- **The Hawaii Nature Center, Inc.**
Award: $40,000 Funds Distributed: $40,000 Final Status: Project Completed
Partners: Partners in Development, DLNR, US Fish & Wildlife Services, Leeward School Systems, Kamehameha Schools, Halau Ku Mana Charter School, Malama Aina Foundation, Foster Family Association, Family Courts, DLNR.
Project Description: **The Hawaii Nature Center, Inc.** is a 501c3 non-profit organization that is dedicated to teaching the children of Hawaii about the unique island environment, while fostering an appreciation and understanding of the environment through an experiential learning model. The Hawaii Nature Center, Inc has provided outdoor education curriculum to Hawaii students for 30 years; these outdoor science lessons greatly enhance indoor classroom experiences. However public school teachers are oftentimes unable to secure funding from the DOE to participate in HNC's programs. Therefore funds are needed to subsidize the transportation and overhead costs of field trips for Title 1 school children, specifically on the Leeward Coast of Oahu. Funds are estimated to benefit 100 groups of 60 students each (6000 students total), from the Kindergarten to the 6th grade.
Contact: Gregory Dunn-Executive Director
2131 Makiki Heights Drive, Honolulu, HI 96813
Ph: 955-0100 x 29
hnced@hawaii.rr.com

"Nani o Waianae Environmental Justice Project"- **Nani o Waianae**
Award: $73,000
Funds Distributed: $73,054.36 Final Status: Project Completed
Partners: Concerned Elders of Waianae, KAHEA, American Friends Society, Waianae Environmental Justice Working Committee, Leeward Community College-Waianae Education Opportunities.
Project Description: Illegal dumping is a problem that plagues Waianae, as rural communities are a convenient place for dumping waste. This project will organize neighborhood community watch groups to regularly patrol "hot spot" areas and to act as a deterrent for this behavior, and to report any illegal dumping to the proper authorities.
Contact: Lucy Gay President
84-370 Makaha Valley Road, Waianae, HI 96792
Ph: 696-6378
Lucy@hawaii.edu

"Hawaii Youth Conservation Corps"- KUPU
Award: $77,000

Funds Distributed: $77,000 Final Status: Project Completed
Partners: Gill-Olsen Partnership and the Waianae Mountain Watershed Partnership.
Project Description: Projects include selection and training of Leeward Coast individuals to AmeriCorps internship positions, and work by interns on the Waianae Mountain Watershed Partnership. The project will also create up to 12 positions for youth of Leeward, Oahu in the HYCC Summer Program.
Contact: Matthew Bauer- Director of Operations
3569 Harding Ave. Unit A, Honolulu, HI 96816
Ph: 735-1221 x 1007
Matthew.bauer@kupuhawaii.org

"Leeward Coast Carbon Reduction-CFL Exchange"- **Blue Planet Foundation**
Award: $42,000
Funds Distributed: $42,000 Final Status: Project Completed
Partners: Ma'o Farms, CNHA, Ka'ala Farms, Boys & Girls Club, Nanakuli High School, Wai'anae High School, Hawaii Chapter of the Sierra Club.
Project Description: Residential lighting accounts for 8% of a home's electricity consumption, therefore, the Blue Planet Foundation seeks to reduce the amount of electricity used for residential lighting, which will reduce greenhouse gases, while also providing economic benefit to residents on the Leeward Coast. The Blue Planet Foundation will distribute 50,000 CFL light bulbs to schools and community organizations; organizations will be given 25 cents for each bulb that is exchanged, which will provide approximately $12,500 in funds to various schools and community organizations. Blue Planet Foundation's objectives are aligned with Hawaii's Clean Energy Initiative, which seeks to decrease Hawaii's energy dependency and increase the use of renewable indigenous energy resources.
Contact: Becky Dunning- Director of Operations and Advancement
55 Merchant Street #1700, Honolulu, HI 96813
Ph: 954-6143
becky@blueplanetfoundation.org

"Kahumana Pollution Reduction"- **Alternative Structures International**
Award: $60,000
Funds Distributed: $60,000 Final Status: Project Completed
Project Description: Alternative Structures International is a 501c3 non-profit organization that is comprised of two transitional homeless shelters that service families on the Wai'anae Coast: Ohana Ola O' Kahumana, which provides 42 family units and Ulu Ke Kukui, which provides 78 family units. In addition, Alternative Structures International has an organic & biodynamic farm & café, which provides job training for individuals. As a response to the increased degradation of the environment, as well as increased operational costs, Alternative Structures International is seeking to improve their operational infrastructure by installing 'green' technologies, such as a state of the art solar voltaic panel system. This will allow Alternative Structures International to reduce utility costs and therefore allocate funds to better serve their clientele.

Contact: Joseph Lapilio- Chief Administrative Officer
86-660 Lualualei Homestead Rd, Waianae, HI 96792
Ph: 696-2655
Jwl3@hawaii.rr.com

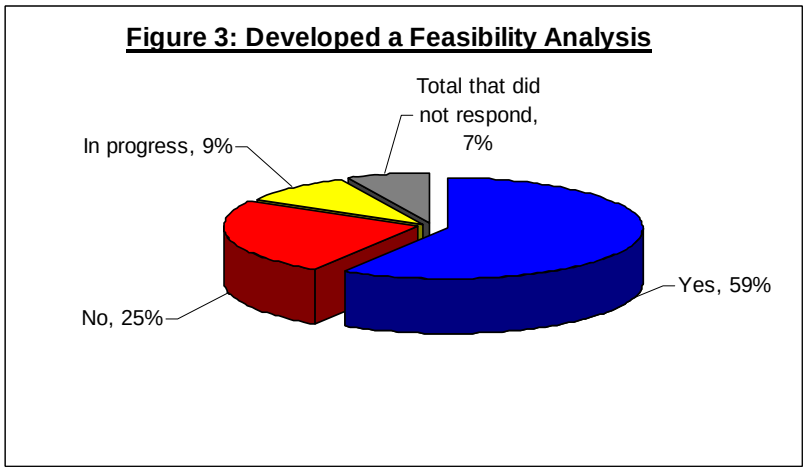
"Ka Lei Makamae O Waianae"- **Papahana Kuaola**
Award: $37,000
Funds Distributed: $37,000 Final Status: Project Completed
Partners: Nankuli Elementary School, Nanaikapono Elementary School, Malama Learning Center, Hui Ku Maoli Ola Native Plant Nursery, Parks & Recreation Department of C & C of Honolulu.
Project Description: Papahana Kuaola is a 501c3 non-profit organization that has provided cultural and environmental community education programs since 2008. Papahana Kuaola's objective is to increase the appreciation and stewardship of the water resources from Nanakuli to Ka'ena Point. The goal is to create a watershed management and sustainable ecosystem plan from a Hawaiian perspective, while providing field trip instruction and restoration projects with the involvement of 19 teachers, 400 students (in the 4th & 5th grade) and 100 community members, by May 2011. The Papahana Kuaola project aligns its goals with Hawaii 2050 Sustainability Plan, which highlights public/ private, cultural, historic, conservation education as one of the priorities.
Contact: Mahealani Merryman- Administrator
P.O. Box 6484, Kaneohe, HI 96744-9176
Merryman-hawaii@hotmail.com

"The Oahu SPCA Environmental Protection of all Species Project"- **Oahu Society for the Prevention of Cruelty to Animals (SPCA)**
Award: $20,000
Funds Distributed: $20,000 Final Status: Project Completed
Partners: DLNR, Division of Forestry and Wildlife, US Fish & Wildlife Service, Hawaii Audubon Society, Wild Bird Rehab Haven, Habitat for Humanity Leeward, Leeward School Systems, Citizens for Safe Hiking, the Hunt Development Group.
Project Description: Construct the organization's spayed and neuter clinic for residents of the Leeward Coast.
Contact: Stephanie Ryan- President, CO-founder
91-1839 Roosevelt Ave. # 1142, Kapolei, HI 96707
Ph: 349-3475
stephanie@oahuspca.org

"Launching the Hawaii Green Collar Institute (HGCI)"- **Malama Learning Center**
Award: $69,000
Funds Distributed: $66,994.55 Final Status: Project Completed
Partners: Leeward Community College- Native Hawaiian Student Support Program, Environmental Protection Agency, Ka Papa o Kakuhihewa Fund.

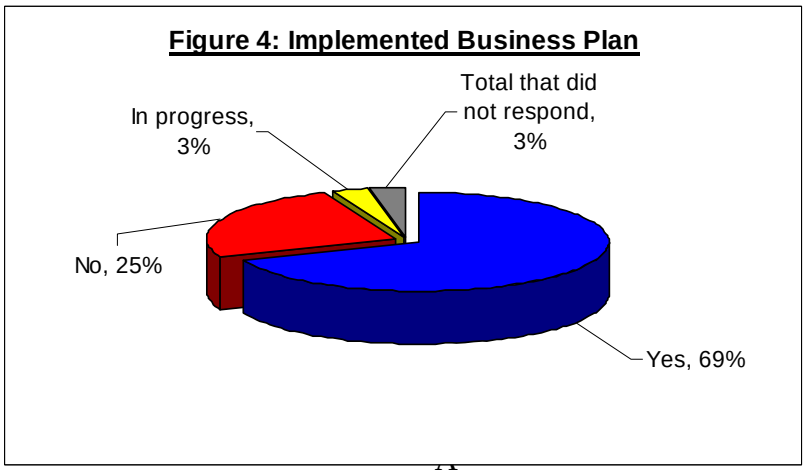
Project Description: **Malama Learning Center** plans to launch the Hawaii Green Collar Institute in the fall of 2010, which will provide Leeward Oahu's high school and college students with new career opportunities.
Funds will be used to refine two pilot programs which will mentor approximately 30 students, provide volunteer opportunities and create partnerships with local landowners and managers. In addition students will be introduced to more than 10 "green" career paths, and approximately 15 students will benefit from a college credit course, which will be implemented and evaluated based on lessons learned during those initial pilot programs.
Contact: Alvin Nagasako- President
P.O. Box 75467, Kapolei, HI 96707
Ph: 479-0233
Alvin_nagasako@yahoo.com

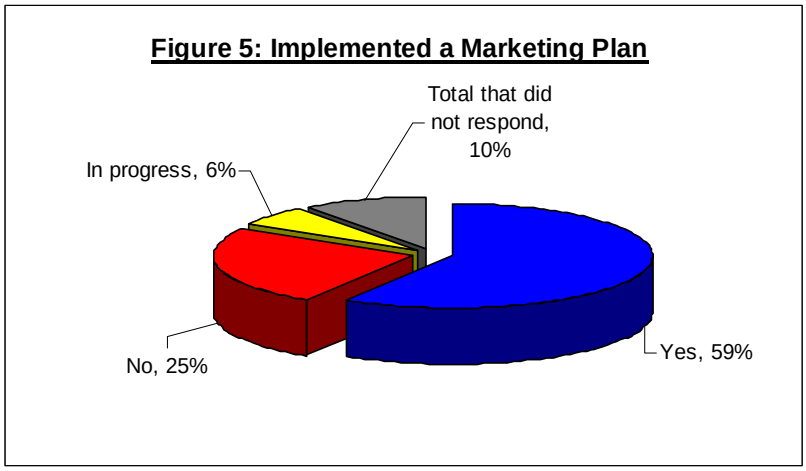
Recording the Attributes, Activities, Goals, and Success of Leeward Coast Supplemental Environmental Projects - **SeaHawaii Foundation**
Award: $69,000
Funds Distributed: $60,000 **Final Status: Project Completed**
Partners: Waianae High School Searider Productions
Project Description: SeaHawaii Foundation video-taping up to ten (10) funded environmental projects under the Leeward Coast Supplemental Environmental Projects Grant (LCSEPG). SeaHawaii, in coordination with Waianae High School's Searider Productions will produce 3-4 minute video segments to document and report the goals and attributes of each project funded by the LCSEPG. Video to be distributed via DVD/CD and online to project managers and concerned government agencies. The Contractor will also produce a 12-page website to document and report the goals and attributes of each project funded by the LCSEPG. All projects videotaped will receive a DVD/CD along with a DVD/CD to concerned government agencies.
Contact: Ms. Paula Kelly, President
1100 Alakea Street
Honolulu, HI 96813
Cell: (808) 478-8960
Fax: (808) 441-1918
www.seahawaiifoundation.org



CBED assists community-based organizations at many stages of development whether they are just starting with a feasibility analysis for a project or ready to implement a business plan.

The CBED Program provides the financial and technical assistance to help CBOs grow by developing feasibility analyses, business plans and marketing plans.





As shown in figures 3 – 5 well over half of the community-based organizations surveyed were able to implement a feasibility analysis, business plan and/ or marketing plan.

Kau Incubator Kitchen

CBED Revolving Fund :

In FY 2013, the CBED Revolving Fund started the year with a beginning balance of $182,207. Unencumbered cash available as of June 30, 2013 totaled $203,519.00.

Revenues and expenditures for the CBED Revolving Fund in FY 2013:

- Investment Pool Earnings…….$ 1,687.00
- Transfers:…….. 20,000.00
- Expenditures……. (375.00)

In FY 2013, CBED Program staff continued to work with Mr. Ken Hirata to develop his diversified agricultural business in Haleiwa, Oahu. The CBED Revolving Fund loan of $25,000 was matched by the Department of Agriculture's Loan Fund for a total loan of $50,000.00.

As the Department of Business, Economic Development and Tourism is without the services of a loan officer, DBEDT has entered into a formal agreement with the Department of Agriculture's Loan Division for the servicing of loans made through the CBED Revolving Fund. This agreement, however, temporarily limits the types of loans made through the CBED Revolving Fund to agricultural, diversified agricultural and agricultural related initiatives as identified through the statutory and administrative rules governing the Department of Agriculture's Loan Fund.

CBED's Strengths

The CBED Program creates results at the community level in the localities where they are most needed. The CBOs supported by CBED create jobs and other socio-economic benefits within their communities.

Community-Based organizations (CBOs) funded by the CBED Program support thousands of people across Hawaii with a wide range of services including training, shelter, food, micro-loans, education and health services. According a 2007 survey, the conservative total (the sum of the low ranges reported) of people assisted by the CBED Program totaled more than 111,000 Hawaii resident

CBED's Opportunities

In FY 2013, the CBED Program, with the support of the newly elected Governor, Neil

Abercrombie, and newly appointed Department of Business, Economic Development and Tourism's Director, Richard C. Lim, the CBED program will continue working to revitalize the long dormant CBED Loan Program. The entrepreneurial small businesses and community-based organizations to be funded by the CBED Loan Program is anticipated to support a broad range of agricultural-related projects such as small business enterprises, food security, and agricultural enterprises, including value-added business development. The CBED micro-loan fund, technical assistance, and capacity-building initiatives will be a crucial resource for Hawaii's entrepreneurs and community-based organizations to implement or expand their businesses.

CBED ADVISORY COUNCIL

The Hawaii Community-Based Economic Development (CBED) Advisory Council consists of 12 members. The Director of DBEDT, the Chairperson of the Board of Agriculture, and the Chairperson of the Office of Hawaiian Affairs, or their respective designees, are ex-officio members. The Governor appoints the remaining nine members, representing each major island plus one member who has specific commercial finance experience.

The Council reviews CBED financing requests and makes its recommendations on the awarding of loans and grants, subject to the final approval of the DBEDT Director. The Council also advises the Director on program implementation and members represent their island in liaison with community-based organizations.

Conclusion

Traditional economic development is focused on business and profit; but too many of Hawaii's rural communities and residents do not reap the benefits or resist economic development so that Hawaii must look at alternatives for economic development. CBED is a positive program that empowers the community, strengthens the knowledge base and provides access to the resources to expand economic and social development. CBED supplies the infrastructure for long-term self-sufficiency, entrepreneurial opportunities, jobs, and revenue for Hawaii's local communities. In the end, an expanded fund commitment to the Statewide CBED Program will serve to make Hawaii stronger by building the capacity and empowering community members, increasing self-reliance, improving stability and creating increased self-sufficiency.

2012 CBED Advisory Council Members:

 Dean M. Matsukawa **Representative for Chair Russell S. Kokubun** **Department of Agriculture**	 **Carol M. Jung** **CBED Advisory Council Member** **Term Expires 6-30-2013** **West Hawaii - Kona**	 **Sharon Y. Sakamoto** **CBED Advisory Council Member** **Term Expires 6-30-2015** **Oahu**
 Mary Ann Manahan **CBED Advisory Council Member** **Term Expires 6-30-2015** **Oahu**	 **Hans H. Chun** **CBED Advisory Council Member** **Term Expires 6-30-2013** **Oahu**	**Molokai-Vacant**
Photo Not Available **Michael J. Murakoshi** **CBED Advisory Council Member** **Term Expires 6-30-2014** **Kauai**	**Photo Not Available** **JoAnn T. Inamasu** **CBED Advisory Council Member** **Term Expires 6-30-2015** **Maui County**	**Photo Not Available** **Jennifer L. Zelko** **CBED Advisory Council Member** **Term Expires 6-30-2014** **East Hawaii – Hilo**
 Dennis T. Ling **Representative for Director Richard C. Lim** **Department of Business Economic Development & Tourism**	**Photo Not Available** **OHA Chairperson** **Colette Y. Machado** **Represented by Joda P. Derrickson**	**Lanai – Vacant**

State of Hawaii Energy Resources Coordinator's

ANNUAL REPORT 2013

State of Hawaii Department of Business, Economic Development and Tourism
Hawaii State Energy Office ● energy.hawaii.gov

Department of Business, Economic Development and Tourism
Hawaii State Energy Office
235 S. Beretania Street, No. 502
Honolulu, Hawaii 96813
808-587-3807
Email: energyoffice@dbedt.hawaii.gov

For more information on the Hawaii State Energy Office's programs and initiatives, visit energy.hawaii.gov.
Follow us: @EnergyHawaiiGov on Twitter and www.facebook.com/HawaiiStateEnergyOffice on Facebook.

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Special Message from Governor Neil Abercrombie

In Recognition of the

2013 Energy Resources Coordinator's Annual Report

December 20, 2013

On behalf of the people of Hawai'i, I am pleased to extend a warm *aloha* to all those whose dedication to our state's goal of energy independence have contributed to the 2013 Energy Resources Coordinator's Annual Report.

As we focus on reaching and exceeding our clean energy targets, I would like to commend the collective efforts of public, private, nonprofit and community stakeholders who each play a significant role in our energy independence quest. Their leadership, determination and innovation have resulted in measurable gains and improvements in the areas of renewable energy, efficiency, and economic growth. Our continued collaboration will sustain our momentum toward a clean energy future.

I'd like to congratulate the State of Hawai'i Department of Business, Economic Development and Tourism, our energy partners, and all the people of Hawai'i for the accomplishments detailed in this annual report, and I reaffirm the Aloha State's commitment to further progress.

Imua Hawai'i,

NEIL ABERCROMBIE
Governor, State of Hawai'i

INTRODUCTION

Richard C. Lim, Director
Department of Business, Economic Development and Tourism

This edition of the Energy Resources Coordinator's (ERC) Annual Report provides an overview and summary of the State of Hawaii's clean energy agenda and accomplishments achieved in 2013. The state continues to make great progress in reaching its aggressive 70% clean energy goal by 2030. Since the establishment of these goals through the landmark Hawaii Clean Energy Initiative (HCEI) agreement, we have implemented many foundational policies and projects, which have earned Hawaii global and national recognition as a clean energy leader.

The Abercrombie Administration has focused the next phase of Hawaii's energy transformation on the following five principles:

- Diversifying our energy portfolio
- Connecting the islands through integrated, modernized grids
- Balancing technical, economic, environmental, and cultural considerations
- Leveraging our international status as a clean energy test bed
- Allowing the market to pick winners

Hawaii is poised not only to meet our clean energy goals, but we are committed to maximize our resources and partnerships to exceed our clean energy goals. As this ERC report will demonstrate, the State of Hawaii is focused on stimulating the development of clean energy projects, spurring economic growth and ensuring energy security for the people of Hawaii.

EXECUTIVE SUMMARY

TRANSFORMING THE CLEAN ENERGY FUTURE FOR HAWAII

As the ERC, it is the statutory responsibility of the director of the Department of Business, Economic Development and Tourism (DBEDT) under Hawaii Revised Statutes (HRS) 196 to review proposed state actions that the ERC finds to have significant effects on the state's energy objectives and to report to the governor their effects on the energy program. The ERC has charged the State Energy Office (SEO) with planning and carrying out the state's energy agenda and with identifying the high impact solutions that make the biggest difference on fulfilling the state's energy objectives. A critical determination is that an interconnected grid system, or interisland cable, between Oahu and Maui, and ultimately to Hawaii island has such significance. Also of significance are initiatives to remove barriers to the development of renewable energy and conservation measures through its emphasis on innovative clean energy policies and deployment of high-impact solutions, including participating in regulatory proceedings and development of self-help, publicly accessible online tools and resources.

Furthermore, through HCEI, a groundbreaking partnership between the State of Hawaii, the U.S. Department of Energy, the military and the public and private sectors, we have and will continue to transform Hawaii's economy from one that is dependent on fossil fuels to a leader in renewable energy and energy efficiency within a single generation.

By 2030, Hawaii must:

- Reduce electrical energy consumption by 30%;
- Increase electrical generation from renewable resources to 40%; and
- Reduce the use of petroleum for ground transportation by 70%.

These are not only HCEI mandates but also prescribed by law (Act 95, Session Laws of Hawaii (SLH) in 2004) under Chapter 269, HRS. The following "Energy Snapshots" will show the effect that HCEI, coupled with strong state policies and the governor's guiding energy transformation principles, have had on the realization of renewable energy and energy conservation targets.

Under the leadership of Gov. Neil Abercrombie, SEO works to make sustainability, energy security, and economic growth a reality for Hawaii by aligning policies among government agencies and the private sector. SEO also works to provide the framework and tools for energy developers and investors to pursue opportunities to further Hawaii's clean energy economy.

RENEWABLE ENERGY

Our state's abundance of diverse, natural resources and unique geography and location make for an ideal proving ground for clean energy solutions in the Asia Pacific region. During the last 18 months alone, the following projects have gone live:

- Auwahi Wind Farm
- Big Island Biodiesel
- H-POWER Expansion
- Kaheawa Wind Power 2
- Kalaeloa Solar Power II
- Kapolei Sustainable Energy Park
- Kawailoa Wind
- MP2 Solar Project
- Off-Grid Agricultural Pumping Wind Project
- Pearl City Peninsula Solar Energy Facility
- Port Allen Solar Facility
- Puna Geothermal Expansion
- UOP Integrated Bio-Refinery Pilot Project

The investment is paying off:

- In 2012, Hawaii generated more than 13% of its energy from renewable resources
- We are on track to achieving our Renewable Portfolio Standard (RPS) goal of 15% in 2015, giving us a jumpstart on reaching our 2020 RPS target of 25%
- Multiple national reports rank Hawaii as one of the leading states for solar installations in 2012

ENERGY EFFICIENCY

Hawaii is a nationally recognized leader in energy efficiency and conservation measures. We have ranked first in the nation in energy savings performance contracting (ESPC) two years in a row. Through this and our Lead by Example initiative, in which the state government is implementing efficiency measures in our own buildings, we are finding much success in the efficiency sector. As of 2012, the state achieved a 14.47% reduction in energy consumption, nearly half way to our Energy Efficiency Portfolio Standard (EEPS) goal of 30% by the year 2030. And in June 2013, SEO presented a bold efficiency plan to the prestigious Clinton Global Initiative America by committing a $300 million ESPC investment over the next two fiscal years.

ENTREPRENEURSHIP AND INNOVATION

The clean energy sector has become a significant driver in our state's economy. Entrepreneurs, driven by passion and powered by ingenuity, are helping to secure Hawaii's energy future by developing innovative technologies that can be deployed in communities statewide and beyond. This seedbed of innovation and creativity makes Hawaii a global leader in clean energy solutions for energy independence and economic growth.

Innovation is accelerating at a rapid rate, which in turn stimulates our economic growth. To help drive this energy revolution, SEO works as a catalyst by fostering bold policy solutions and providing a suite of self-help tools and roadmaps to assist energy developers and attract international investment.

SEO is also taking the lead in creating innovative programs that will help make clean energy more accessible and affordable for Hawaii's families and businesses. The groundbreaking GEMS (Green Energy Market Securitization) program, passed by the 2013 state legislature and signed by Gov. Abercrombie, will open that door to those who might otherwise be unable to benefit directly from clean energy improvements.

ENERGY PROGRAM FUNDING

For 2013, SEO's fiscal intake was from its budgeted Energy Security Special Fund (ESSF) allocation, with the majority used to cover personnel costs for 32 staff members. SEO also led a major initiative during the 2013 Legislative Session to secure a reallocation of barrel tax funds currently going to general revenues and a repeal of the ESSF sunset date. This reallocation of funds would have resulted in increased funding for clean energy initiatives and would have been used to support SEO programs such as permitting assistance, energy efficiency and renewable energy development, and facilitating increased energy innovation activities and investment. Although this measure was unsuccessful, the SEO remains committed to identifying ways to ensure adequate long-term funding to ensure our state's clean energy transformation.

ENERGY SNAPSHOT

Hawaii is faced with many energy challenges – one of the highest electricity rates and gas prices in the nation, a heavy reliance on imported foreign oil for our electrical generation and transportation needs, and a location that makes us the most isolated populated landmass in the world.

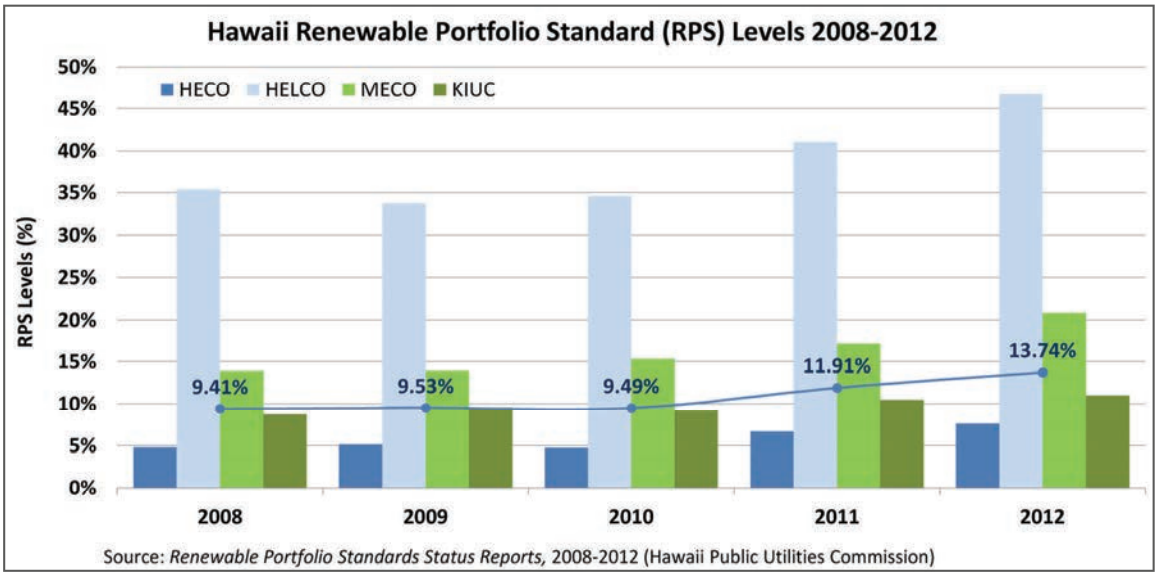
Hawaii also has many energy possibilities. Our diverse portfolio of renewable resources is already generating nearly 14% of our state's electricity and climbing, while also creating opportunities for economic growth through development and innovation opportunities. And the state's focus on energy efficiency has gained national recognition as a leader in energy savings performance contracting.

The following is a snapshot of Hawaii's current energy landscape in four key areas – Renewable Portfolio Standard, Energy Efficiency Portfolio Standard, Economic Growth, and Entrepreneurship and Innovation.

ENERGY SNAPSHOT:
RENEWABLE PORTFOLIO STANDARD (RPS)

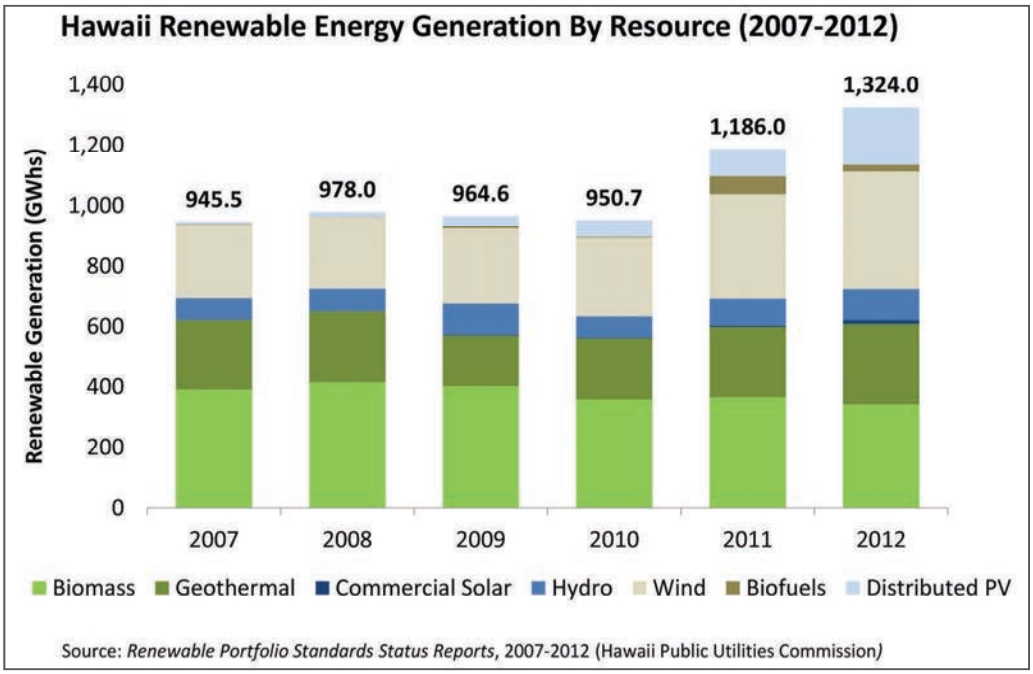
Hawaii Renewable Portfolio Standard (RPS) Levels (2008-2012)

This chart shows Hawaii's Renewable Portfolio Standard (RPS) levels from 2008 (the year the Hawaii Clean Energy Initiative was established) through 2012. In 2012, the state's RPS level was 13.74%. The state is also on track to achieve its mandated 15% RPS level by the end of 2015.



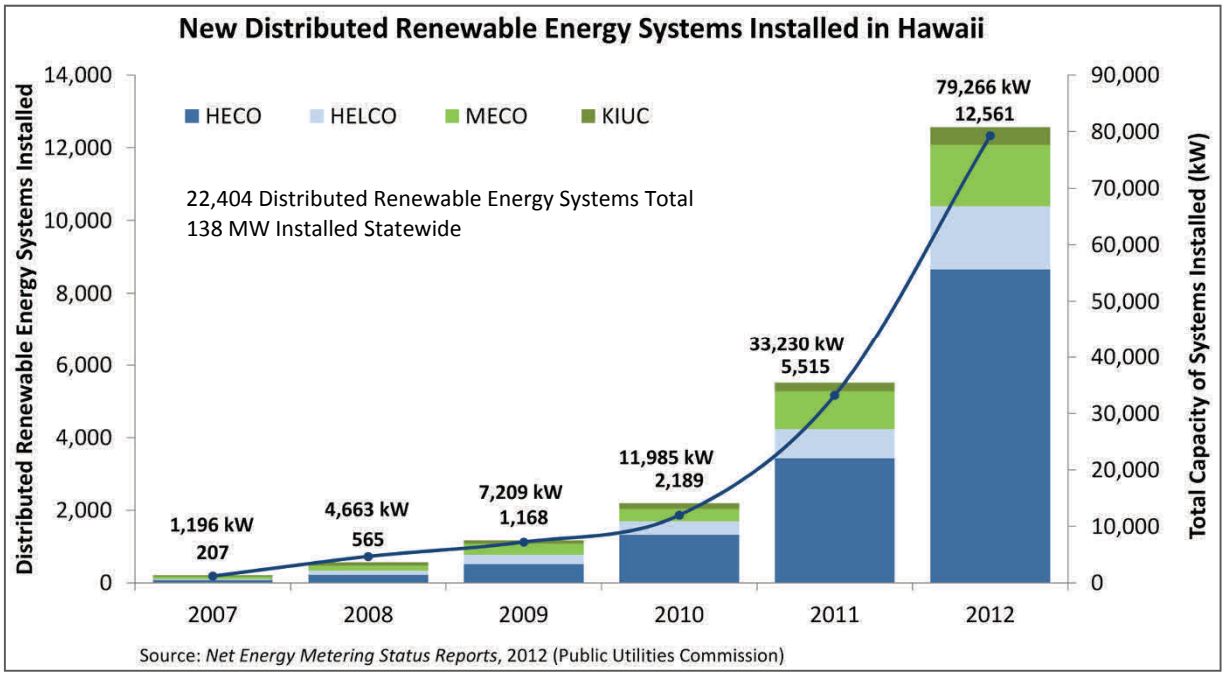
Hawaii Renewable Energy Generation by Resource (2007-2012)

Hawaii is rich with natural resources, such as the sun, wind, ocean and geothermal resources. This chart showcases the diversity of our renewable energy portfolio, with increasing contributions from wind, geothermal, biomass and, most notably in recent years, distributed photovoltaics (PV).



New Distributed Renewable Energy Systems Installed in Hawaii (2007-2012)

2012 was a banner year for distributed renewable energy systems in Hawaii with installations more than doubling from 5,515 in 2011 to 12,561 in 2012. At the end of 2012, the cumulative number of systems statewide totaled 22,404 with a total capacity of 138 MW.



RENEWABLE ENERGY PROJECT DEVELOPMENT

Since the 2012 ERC Annual Report, the following projects have come online:

- Auwahi Wind Farm (21 MW)
- Big Island Biodiesel (5 mgy)
- Kalaeloa Solar Power II (5 MW)
- Kawailoa Wind (69 MW)
- Off-Grid Agricultural Pumping Wind Project (100 kW)
- Pearl City Peninsula Solar Energy Facility (1.23 MW)
- Port Allen Solar Facility (6 MW)

NATIONAL RANKINGS

Hawaii has ranked in the top 10 on a number of national reports tracking 2012 statistics. The state's solar penetration has particularly captured the attention of multiple national reports that list Hawaii as a leader in the field. For example, an Ernst & Young index on renewable energy attractiveness notes that Hawaii jumped to #2 on its overall renewable index, stating, "Hawaii jumped from seventh to second in this edition of the all renewable index, finishing in the top seven in all individual technology indices under consideration for this study, including second in solar and third in geothermal."

Ernst & Young's United States renewable energy attractiveness indices

Hawaii ranks:

- #2 overall in the all renewable index
- #2 in long-term solar index
- #6 in long-term wind index

United State Renewable Energy Attractiveness Indices

This index provides an overall score for all renewable energy technologies

RANK	STATE	ALL RENEWABLES INDEX
1	California	75
2	**Hawaii**	**71**
3	Texas	69
3	Colorado	69
5	Nevada	68

Source: Ernst & Young LLP (USAI, August 2013)

Long-term indices: Solar

RANK	STATE	SOLAR INDEX
1	California	79
2	**Hawaii**	**75**
3	Nevada	72
4	New Mexico	69
5	Colorado	68

Source: Ernst & Young LLP (USAI, August 2013)

Long-term indices: Wind

RANK	STATE	WIND INDEX
1	Texas	74
2	Colorado	71
2	Illinois	71
2	Iowa	71
5	California	70
6	**Hawaii**	**67**

Source: Ernst & Young LLP (USAI, August 2013)

Solar Energy Industries Association's 2012 U.S. Solar Market Insight Report

Hawaii ranks #7 in annual PV installations

2012 Top States by Annual PV Installations	
RANK/STATE	INSTALLATIONS
1. California	1,033
2. Arizona	710
3. New Jersey	415
4. Nevada	198
5. North Carolina	132
6. Massachusetts	129
7. Hawaii	**109**
8. Maryland	74
9. Texas	64
10. New York	60

Source: U.S. Solar Market Insight Report (SEIA)

Interstate Renewable Energy Council's U.S. Solar Market Trends 2012

Hawaii ranks:

- #2 for grid-connected PV cumulative installed capacity per capita through 2012
- #7 for grid-connected PV capacity installed in 2012

Per Capita Top Ten State Ranked by Grid-Connected PV Cumulative Installed		
Rank/State	Cumulative through 2012 (W_{DC}/person)	2012 Installations (W_{DC}/person)
1. Arizona	173.1	110.9
2. Hawaii	**146.6**	**84.0**
3. Nevada	129.5	83.5
4. New Jersey	108.7	44.4
5. New Mexico	98.7	18.4
National Average	23.9	10.8

Source: IREC U.S. Solar Market Trends 2012

2012 Annual Top Ten States Ranked by Grid-Connected PV Capacity Installed in 2012		
2012 Rank by State	2012 (MW_{DC})	2011 (MW_{DC})
1. California	983	547
2. Arizona	709	228
3. New Jersey	391	305
4. Nevada	226	19
5. Massachusetts	123	42
6. North Carolina	122	45
7. Hawaii	**114**	**40**
8. Colorado	103	76
9. Maryland	80	24
10. New York	56	68

Source: IREC U.S. Solar Market Trends 2012

Environment America Research & Policy Center's Lighting the Way

Hawaii ranks:

- #2 for solar PV capacity installed 2012
- #3 for cumulative solar electricity capacity

Solar Photovoltaic Capacity Installed During 2012 per Capita	
RANK/STATE	SOLAR PV INSTALLED 2012 PER CAPITA (WATTS/PERSON)
1. Arizona	108
2. Hawaii	**78**
3. Nevada	72
4. New Jersey	47
5. Delaware	28
Source: Lighting the Way (Environment America Research & Policy Center)	

Cumulative Solar Electricity Capacity per Capita	
RANK/STATE	SOLAR ELECTRICITY CAPACITY PER CAPITA (WATTS/PERSON)
1. Arizona	167
2. Nevada	146
3. Hawaii	**137**
4. New Jersey	110
5. New Mexico	91
Source: Lighting the Way (Environment America Research & Policy Center)	

2013 American Council on Renewable Energy's (ACORE) Renewable Energy in the 50 States: Western Region

The American Council on Renewable Energy (ACORE) released its 2013 report ranking the renewable energy resource availability, supportive policies and supply chains in the western United States. ACORE recognized Hawaii as having "one of the most diverse renewable energy opportunities of any state" and noted that we are "a center for the deployment of distributed generation technology."

- Hawaii ranks #10 for Renewable Power (w/o hydro)
- Hawaii ranks #10 for Renewable Fuels

Western State Installed Capacity Rankings

	Renewable Power (w/hydro)	Renewable Power (w/o hydro)	Renewable Fuels
1.	**Washington***: 24,133 MW	**California***: 12,646 MW	**California**: 301 mGy
2.	**California***: 22,699 MW	**Oregon***: 3,645 MW	**Oregon**: 167 mGy
3.	**Oregon***: 11,887 MW	**Washington***: 3,231 MW	**Colorado**: 125 mGy
4.	**Arizona***: 4,107 MW	**Colorado***: 2,623 MW	**Washington**: 117 mGy
5.	**Idaho**: 3,674 MW	**Wyoming**: 1,411 MW	**Arizona**: 103 mGy
6.	**Colorado***: 3,273 MW	**Arizona***: 1,389 MW	**Idaho**: 56 mGy
7.	**Montana***: 3,250 MW	**Idaho**: 1,138 MW	**New Mexico**: 32 mGy
8.	**Nevada***: 2,139 MW	**Nevada***: 1,086 MW	**Wyoming**: 12 mGy
9.	**Wyoming**: 1,714 MW	**New Mexico***: 988 MW	**Utah**: 10 mGy
10.	**New Mexico***: 1,070 MW	**Hawaii***: 672 MW	**Hawaii**: 8 mGy
11.	**Hawaii***: 699 MW	**Montana***: 647 MW	**Nevada**: 5 mGy
12.	**Utah**: 652 MW	**Utah**: 390 MW	**Alaska**: 0.3 mGy
13.	**Alaska**: 489 MW	**Alaska**: 69 MW	**Montana**: 0.3 mGy

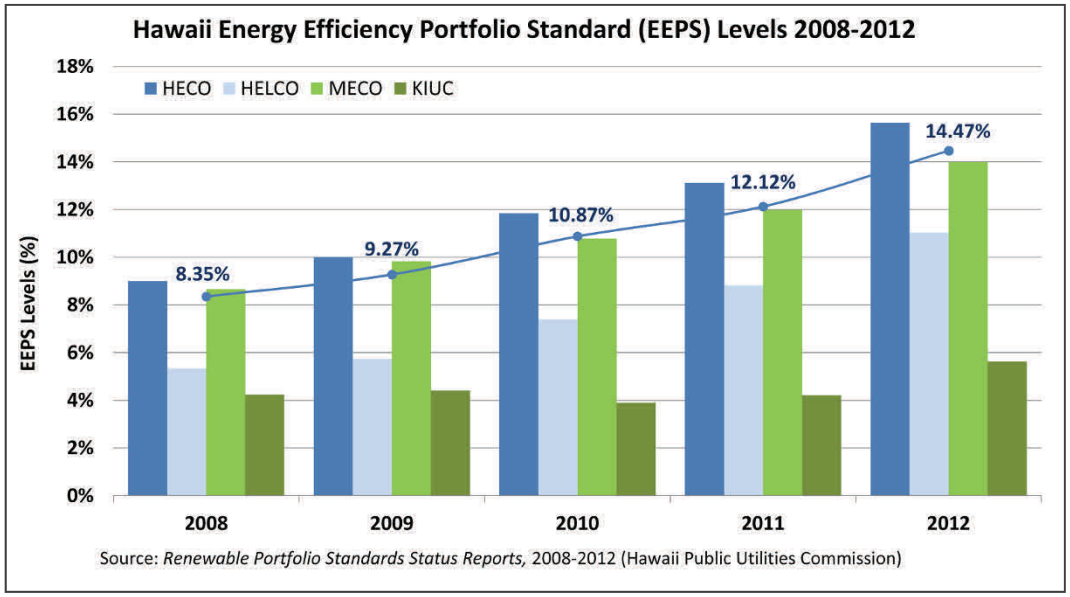
*=State has a renewable portfolio standard
MW=megawatt; mGy=million gallons per year
Sources: See User's Guide

Source: Renewable Energy in the 50 States: Western Region (ACORE)

ENERGY SNAPSHOT:
ENERGY EFFICIENCY PORTFOLIO STANDARD (EEPS)

Hawaii Energy Efficiency Portfolio Standard (EEPS) Levels (2008-2012)

This chart shows Hawaii's Energy Efficiency Portfolio Standard (EEPS) levels from 2008 (the year the Hawaii Clean Energy Initiative was established) through 2012. In 2012, the state's EEPS level was 14.47%. The state is required to reduce energy consumption through efficiency measures by 30% by the end of 2030.



Energy Savings Performance Contracting - Race to the Top

For the second year in a row, Hawaii was ranked first in energy savings performance contracting (ESPC) in the nation by the Energy Services Coalition (ESC). Hawaii's investment of $132.25 per capita earned the state a second consecutive ESC Race to the Top award in 2013. The award recognized Hawaii for its outstanding commitment to energy efficiency, environmental stewardship and economic development through ESPC.

Energy Services Coalition - Race to the Top

State	Population	Performance Contracting	Dollars per Capita	Job Years Created	Source Energy Saved	Tons Carbon Avoided
Hawaii	**1,295,178**	**$171,281,027.00**	**$132.25**	**1,862**	**1,421,290**	**24,413**
Ohio	11,536,504	$1,252,683,627.00	$108.58	13,616	10,394,769	178,551
Kansas	2,853,118	$278,951,861.00	$97.77	3,032	2,314,742	39,760
Idaho	1,567,582	$129,000,000.00	$82.29	1,402	1,070,442	18,387
Massachusetts	6,547,629	$457,696,106.00	$69.90	4,975	3,797,962	65,238

Source: Energy Services Coalition, Performance Contracting Impacts – State Comparison

State and County Performance Contracting (1996-2012)

SEO provides technical assistance to state and county agencies that are using energy savings performance contracting (ESPC). This chart illustrates the number of ESPC projects conducted by state and county agencies from 1996 through 2012.

Looking ahead, the state anticipates $300 million in investment through ESPC. SEO is working with the following agencies for additional projects:

- Department of Transportation – Airport
- University of Hawaii - Hilo
- City and County of Honolulu's wastewater treatment plants
- Department of Public Safety
- City and County of Honolulu's Board of Water Supply
- County of Kauai

These projects are expected to create 5,000 direct and indirect jobs, from engineers and building operators to equipment installers and building maintenance operators. SEO's technical assistance to these agencies is estimated to require between $300,000-$700,000, depending on the type and degree of detail.

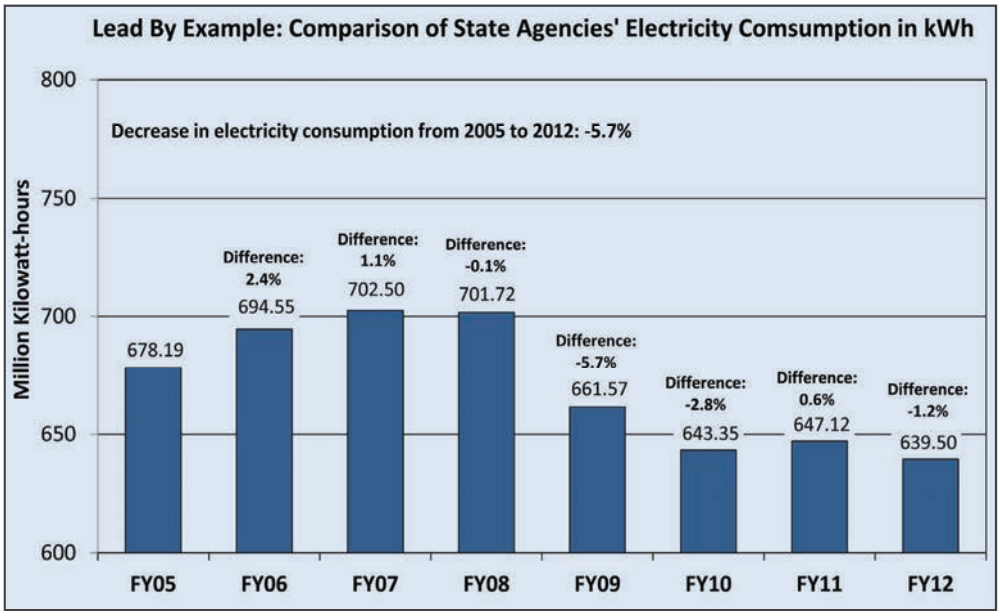
Hawaii Energy Savings Performance Contracts 1996-2012

*in 2011 dollars	$ Investment	Job Years Created	Source Energy Saved (kWh)	Tons Carbon Avoided
UH Hilo	$11,294,900	123	93,725	1,610
County of Hawaii	$2,931,756	32	24,328	418
County of Kauai	$904,102	10	7,502	129
HHSC	$32,618,201	355	270,666	4,649
City and County of Honolulu	$28,580,591	311	237,162	4,074
Hawaii State Judiciary	$2,115,702	23	17,556	302
DAGS	$34,521,672	375	286,461	4,920
PSD	$25,511,264	277	211,692	3,636
UH Community Colleges	$32,802,838	357	272,198	4,675
Totals	$171,281,027	1,862	1,421,290	24,413

Source: 1996-2012 data from the Department of Business, Economic Development, and Tourism

State Lead By Example (FY05-FY12)

This graph demonstrates the amount of electricity Hawaii state agencies have consumed from fiscal years 2005 through 2012. The state's Lead by Example (LBE) initiative began in 2006 in response to legislative and executive mandates to incorporate energy and resource efficiency and conservation in government buildings, fleets, and personal practices. With 2005 as a baseline year, electricity consumption declined in fiscal year 2008 and continued for three years. The slight increase in 2011 was attributed to new facilities coming on line. Overall, state agency electricity consumption has declined 5.7% from the baseline year.



GREENSUN HAWAII

To help Hawaii property owners (single- and multi-family, nonprofit and businesses) make energy efficiency and renewable energy retrofits to their homes, apartment complexes and facilities, the State of Hawaii created GreenSun Hawaii, a credit enhancement program funded by a $2.72 million U.S. Department of Energy grant under the American Recovery and Reinvestment Act of 2009.

Administered by the Hawaii Community Reinvestment Corporation (HCRC), the program provides local financial institutions with access to a loan loss reserve (LLR) which may cover up to 100% of actual losses, enabling participating lenders to extend loan availability to a larger pool of customers and offer more aggressive rates and terms.

GreenSun Hawaii can finance ENERGY STAR refrigerators and air conditioning systems, solar thermal hot water systems and solar electric photovoltaic (PV) systems for residential purposes. For non-residential purposes, the loan can be used to finance lighting and air conditioning retrofits and upgrades; solar thermal and PV systems; energy efficiency window, cool roof and other installations eligible for Hawaii Energy/Kauai Island Utility Corporation rebates; and loan related fees.

Since GreenSun Hawaii's inception in 2011, the program has resulted in:

- 13 Participating Lenders and 41 Authorized Contractors statewide
- 78 loans which aggregate to over $2 million
- An estimated energy savings of 556,000 kWh/year (11.1 million kWh over the life of the installations, which is equivalent to powering 1,507 homes for one year in Hawaii)
- An annual electricity bill savings of $221,000 ($4.4 million over the life of the systems)
- A $C0_2$ reduction of 837,000 lbs/year (16.7 million lbs over the life of the installations)

GREEN BUSINESS PROGRAM

The state's Hawaii Green Business Program assists and recognizes businesses that strive to operate in an environmentally, culturally and socially responsible manner. As a partnership between the state's Department of Health and the Department of Business, Economic Development and Tourism; the Board of Water Supply; and the Chamber of Commerce of Hawaii, the program recognizes businesses that are committed to going green by implementing energy and resource efficiency practices. Not only does energy efficiency keep utility costs down and create a more sustainable environment, the businesses are also collectively contributing to Hawaii's energy efficiency goal.

From 2009-2012, the program has assisted and recognized over 70 business and government entities, from the hospitality, commercial office, retail, restaurant and food services sectors, resulting in the following savings:

- 9,732 million kWh of energy (equivalent to powering 1,319 homes for one year in Hawaii)
- 45.93 million gallons of water
- $2.278 million of energy costs

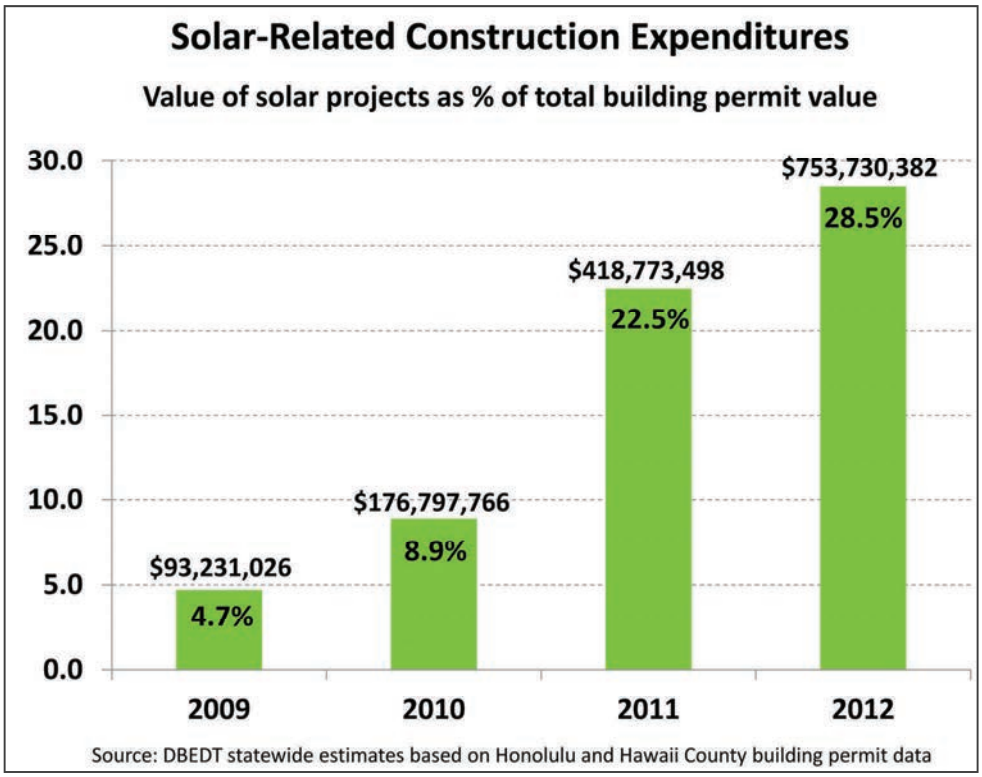
For images from the 2013 Green Business Award Ceremony, see the photo gallery at: energy.hawaii.gov/energybuzz-post1 (4/26/13 post).

ENERGY SNAPSHOT:
ECONOMIC GROWTH IN THE ENERGY SECTOR

Energy plays a significant role in spurring Hawaii's economic growth with the creation of jobs, investment opportunities and project development. The boom in the state's distributed solar sector has accounted for much of the gain.

Solar-Related Construction Expenditure (2009-2012)

Hawaii's solar industry has had a significant impact on the construction industry. As of 2012, it accounted for 28.5% of all construction expenditures in the state, providing much needed stimulus to the construction industry.



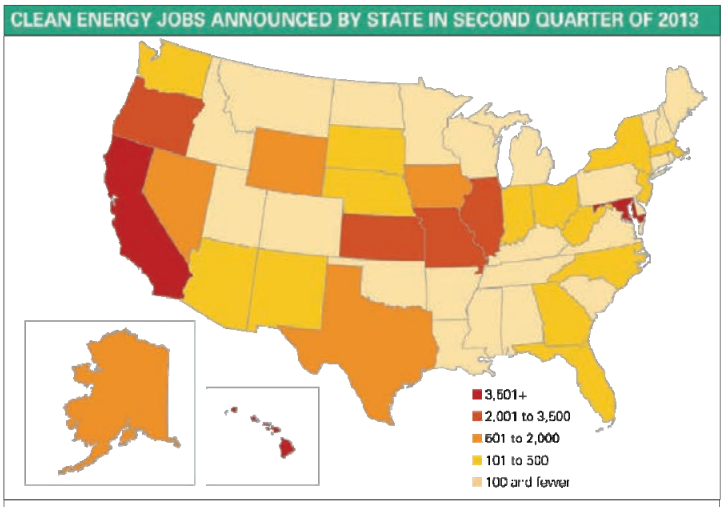
Clean Energy/Clean Transportation Jobs Report

Hawaii is ranked second in total clean energy and clean transportation jobs, according to a 2013 report by nonprofit business group Environmental Entrepreneurs (E2).

On E2's website Clean Energy Works for US (http://cleanenergyworksforus.org/), Hawaii is recognized as one of two newcomers in its list of top five states for clean energy job announcements in the second quarter, with the potential for several thousands of jobs through the state's multiple energy savings performance contracting projects over the next two years.

2013 Second Quarter Clean Energy/ Clean Transportation Jobs Report		
RANK	STATE	TOTAL CLEAN ENERGY JOBS ANNOUNCED (2ND QUARTER 2013)
1	California	9,169
2	**Hawaii**	**5,000**
3	Maryland	4,400
4	Illinois	3,400
5	Oregon	3,067

Source: Environmental Entrepreneurs



These data cover job announcements from April 2013 through June 2013 media reports, official announcements, and other sources and are not an exhaustive tally of job creation in the clean economy.
Source: Environmental Entrepreneurs

U.S. Clean Tech Market

Hawaii is named as one of the leading states in a national clean tech marketplace report. The 2013 U.S. Clean Tech Leadership Index ranks Hawaii on its 2013 State Index Top 10 list. "Led by an exceedingly strong display of technology deployment, Hawaii's 52.2 score allowed the state to break into the top 10 for the first time," the report states. "As a sunny island state, it seems logical that Hawaii leads the U.S. in solar power as a share of total peak capacity (just over seven percent) and electric vehicle charging stations per capita. With the nation's highest electricity rates, the state has been forced to focus on energy efficiency, resulting in lower electricity consumption capacity per person that any state other than California."

2013 State Index Top 10		
STATE	RANK	SCORE
California	1	91.7
Massachusetts	2	77.8
Oregon	3	72.8
New York	4	63.3
Colorado	5	63.0
Washington	6	62.3
New Mexico	7	60.8
Illinois	8	58.5
Minnesota	9	56.1
Hawaii	**10**	**52.2**

Source: Clean Edge, Inc.

ENERGY SNAPSHOT: ENTREPRENEURSHIP AND INNOVATION

2013 LEGISLATIVE MEASURES–GREEN ENERGY MARKET SECURITIZATION (GEMS)

On June 27, 2013, Gov. Neil Abercrombie signed into law Act 211, which establishes a green infrastructure financing program. Named GEMS or Green Energy Market Securitization, the innovative financing model is designed to make clean energy improvements, such as solar photovoltaic installations, affordable and accessible for Hawaii's consumers, including expanding the market to reach the underserved markets such as low- and moderate-income homeowners, renters and nonprofits. It aims to address the financial barriers of investing in and installing energy cost savings devices.

EVS ON THE MOVE

The widespread deployment of electric vehicles (EV) in Hawaii is a key approach toward the reduction of fossil fuel dependency, in particular as additional renewable electricity is added to Hawaii's grids and is used to power EVs. EVs could also be an integral component in achieving a more stable and modern electrical grid.

Already, a growing number Hawaii's drivers have adopted EVs as their mode of transportation. This chart shows the number of registered plug-in EVs in the four counties, as well as the number of publicly available charging stations statewide.

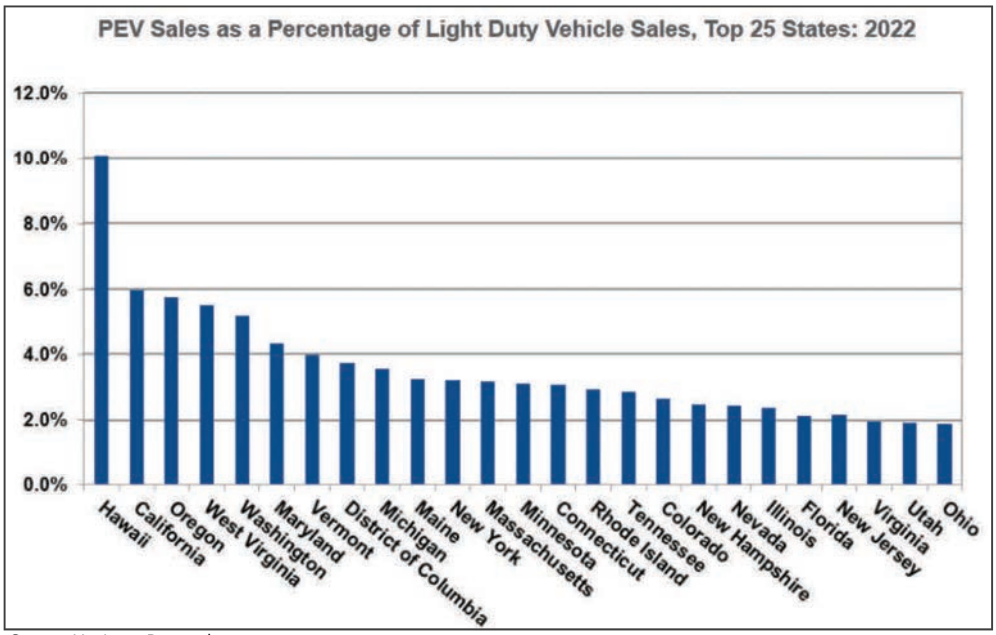
Electric Vehicles and Charging Stations in Hawaii (as of August 2013)

Island	Electric Vehicles EVs *	Charging Stations **
Oahu	1307	240
Maui	254	39
Hawaii	97	46
Kauai	49	34
Statewide	**1,707**	**359**

* Registered passenger EVs which includes Plug in Hybrid and Neighborhood Electric Vehicles

** Charging Stations reflect the number of ports or charging cords/plugs which can service one EV

As further proof of Hawaii's leadership in the EV space, a September 2013 report by Navigant Research highlighted that Hawaii has the best potential for EV sales within the next decade. In the *Electric Vehicle Geographic Forecasts* report, Navigant said that "by 2022, 10% of all new vehicle sales in Hawaii will be plug-in electric vehicles (PEVs)." The report stated that "Hawaii will be a leader in PEVs sold thanks to strong support through the state government, local EV associations, and the state's power provider, the Hawaiian Electric Company."



Source: Navigant Research

HIGH IMPACT SOLUTIONS

SEO plays a proactive role in the state's pursuit of an integrated clean energy economy. As described above, SEO's initiatives for removing barriers to the development of renewable energy are rooted in laws and policies that give SEO the authority to propose state actions that have a significant effect on the state's energy objectives. Guided by its legal authority and the Abercrombie Administration's energy transformation principles, SEO has opted to pursue the following high-impact solutions that translate into technical, economical, policy and cultural clean energy resolutions for Hawaii:

HAWAII CLEAN ENERGY PROGRAMMATIC ENVIRONMENTAL IMPACT STATEMENT (PEIS)

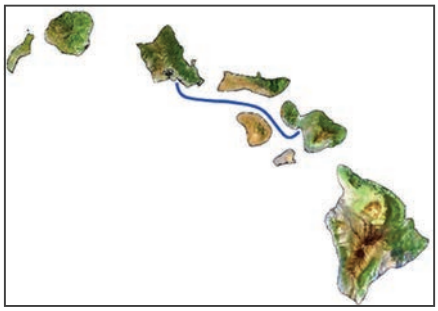
On December 14, 2010, the U.S. Department of Energy (DOE) issued a Notice of Intent (NOI) to prepare a PEIS, with the SEO as a joint lead, on the wind phase of the Hawaii Interisland Renewable Energy Program (HIREP) (75 FR 77859). That NOI referred to the PEIS as the "HIREP: Wind PEIS." HIREP narrowly considered wind and undersea transmission technologies between Oahu and Maui County. In response to public scoping comments, as well as regulatory and policy developments since the scoping meetings, the DOE and DBEDT decided to broaden the scope of the PEIS to include a wider range of clean energy activities and technologies with the potential for near -term development or application in Hawaii. Accordingly, the project was renamed as the "Hawai'i Clean Energy PEIS."

The intent of the Hawai'i Clean Energy PEIS is for the state, county, federal, and private project developers to use the PEIS as a reference document when preparing project-specific EISs. The Hawai'i Clean Energy PEIS will further serve as guidance the DOE can use in making decisions about future DOE funding and other actions to support Hawaii in achieving its HCEI objectives. In these two ways, the Hawai'i Clean Energy serves two of our Administrations principles, namely, diversifying our energy portfolio and helping to balance technical, economic, environmental and cultural considerations.

The draft PEIS is expected to be issued in 2014. At that time, a formal public comment period will commence and the public will have the opportunity to review the draft PEIS and provide comments during a series of community meetings. Those comments will then be considered for the final PEIS.

OAHU-MAUI INTERISLAND TRANSMISSION GRID TIE CABLE

Connecting the islands through integrated, modern grids is one of the state's high priority strategies. By linking us together, we will be able to utilize our best natural resources at a scale that will reduce costs and improve overall system efficiency.



In July 2013, the Hawaii Public Utilities Commission (PUC) issued a set of decisions and orders related to renewable energy generation and an interisland transmission grid-tie cable. Through these dockets, the PUC is investigating how to minimize risk, make the best use of existing infrastructure and establish the most efficient and cost effective interconnected grid in the best interest of the ratepayer.

One order, #31356 in Docket #2013-0169, opened a proceeding to investigate whether an Oahu-Maui interisland transmission system may be in the public's interest. The purpose is to investigate whether an interisland transmission system interconnecting the Oahu and Maui Island electrical grids may be in the public interest, including:

- Benefits and costs of an Oahu-Maui grid tie undersea cable
- Potential project-on-project risks that are anticipated and possible mitigations

- Operational issues of the design, construction and ownership of the cable
- Regulatory and rate making policies for a potential transmission system
- The optimal path for a solicitation, procurement and development if a transmission system is deemed beneficial to the public interest

On September 9, 2013, DBEDT submitted its initial comments to the PUC, which supports an interisland transmission cable connecting Oahu and Maui Island grids (Cable Project). DBEDT provided the following analysis into the docket record:

- The Cable Project will provide economic benefits to ratepayers on both islands, saving up to $423 million for the 2020-2050 period.
- The Cable Project's effective use of available, dispatchable capacity will increase reliability and produce ancillary services benefits for both Oahu and Maui electric systems.
- The Cable Project is projected to significantly reduce projected renewable energy curtailments, particularly on Maui.
- The development of the Cable Project will allow for lower environmental compliance costs.
- The Cable Project will help the state meet its mandated Renewable Portfolio Standard goals of 40% by 2030.
- In its comments, DBEDT urged the PUC to deem that an interisland cable connecting Oahu and Maui is in the public interest, and recommended that the PUC should proceed with commencing a competitive solicitation process in order to facilitate the development of an Oahu-Maui interisland transmission system.

INTERVENTION IN RELIABILITY STANDARDS WORKING GROUP (RSWG)

DBEDT recognizes the complexity of moving towards a modernized grid system. Hence, not only was DBEDT an active party in the Oahu-Maui interisland transmission grid tie cable PUC docket but also an intervenor in the Reliability Standards Working Group (RSWG) PUC docket. DBEDT provided the following comments in this docket:

- **Increased penetration of renewable energy in already high-penetration circuits**
  DBEDT is supportive of HECO's ProActive Approach, which will provide the Hawaiian Electric Company (HECO) with circuit penetration levels and associated potential issues. The ProActive Approach looks to address key modeling and grid integration challenges that have accompanied the exponential growth of distributed photovoltaic (PV) generation on Hawaii's island grids. Lessons learned from this initiative will be shared with other utilities in the United States encountering similar gird issues.
- **Excess energy curtailments of renewable energy**
  DBEDT is supportive of accelerated analysis and approval of the findings from the HECO Companies' consultant EPS, which revealed that measures can be taken to eliminate or substantially reduce excess energy curtailments of renewable generation.
- **Lack of standard interconnection agreement**
  Per the RSWG Independent Facilitator, the Commission should "make it clear that a standard interconnection agreement, terms and conditions, and study procedures are needed". DBEDT agrees with this and recommends a new "interconnection docket."
- **Lack of formally established electricity reliability regulatory oversight program and administrator (e.g. Hawaii Electricity Reliability Administrator, HERA)**
  DBEDT believes that the HERA should be established by the PUC as soon as possible.

INTERVENTION IN INTEGRATED RESOURCE PLANNING (IRP) DOCKET

Per HECO, "Integrated Resource Planning aims to develop comprehensive, 20-year plans for meeting energy needs under various scenarios in the Hawaiian Electric service territories, evaluating and integrating resources that supply electricity and those that reduce or better manage demand for electricity. The goal is to ensure delivery of reliable electric service for residential and business customers while striving to decrease the use of imported fossil fuel, increase efficiency and reduce electric bills." [1]

On Friday, June 28, 2013, the Hawaiian Electric Companies filed with the Hawaii Public Utilities Commission (PUC) their Integrated Resource Planning Report ("IRP Filing") covering the planning period 2014-2033 and Five-Year Action Plans detailing plans to meet future electricity needs for its service territories. Subsequently, in the September 9, 2013 Order, the Commission sought statements of position concerning IRP Filing.

As a docket intervenor, DBEDT recommended to the PUC that neither rejection nor approval is warranted with respect to the IRP Filing at this stage as it believes that the IRP Report, Action Plans, and IRP process, are not entirely compliant with the Framework. Instead, the Commission should accept the plans for filing and undertake further actions to address the major shortcomings of the process and build upon those aspects of the IRP Filing that present a sufficient starting point for further analyses to lead to reasonable roadmaps for the purpose of achieving the state's energy goals. DBEDT believes that any action taken should encourage progress rather than delay in meeting the state's clean energy goals of reducing dependence on fossil fuels and maximizing the amount of reliable renewable penetration.

DBEDT believes that specific actions should include:

- Commission should use its discretion and determine the best approach for building upon the foundation of the Action Plans, curing the deficiencies, and establishing Action Plans that constitute a concrete and reasonable roadmap for achieving energy objectives and customer energy needs in a manner that is consistent with the state's energy policies and goals. These procedures should be implemented quickly.

- DBEDT submits that it is in the best interest of the state to continue the momentum and move forward with the IRP and these other dockets and processes, such as the Oahu-Maui interisland transmission grid tie cable and RSWG dockets mentioned above. These other processes may inform the Commission on helpful modifications to the existing Action Plans and/or the next IRP.

DEVELOPER & INVESTOR CENTER

National and international developers and investors are discovering Hawaii is the ideal laboratory for the development of clean energy technologies. With an eye toward economic growth and renewable energy diversification, Hawaii has taken important steps to support high impact, clean energy solutions that remove barriers towards the development of renewable energy project development. The online Developer & Investor Center is a dynamic resource, regularly updated by SEO, to inform users of contemporary issues and potential solutions facing renewable energy development in Hawaii today.

The Center provides guidance on project permitting, local utility interconnection, Hawaii business registration, project financing and local incentives, local permitting consultants, and site acquisition in Hawaii. It hosts the *Guide to Renewable Energy Facility Permits in Hawaii* and useful information (permit packets) for over 160 federal, state, and county permits, including process steps, estimated timelines and costs, agency contacts, and relevant laws and references.

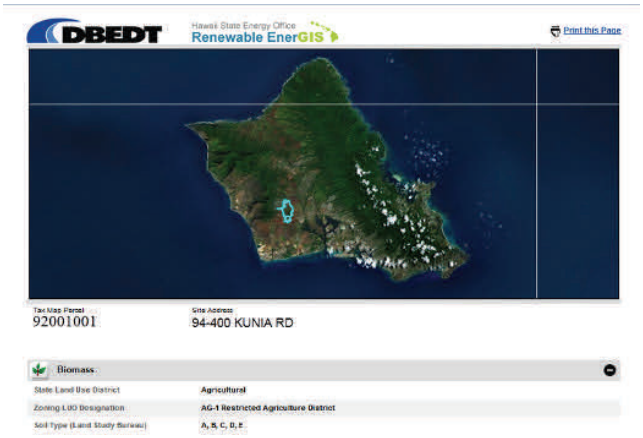
1 Reference: http://www.heco.com/heco/Clean-Energy/Integrated-Resource-Planning

The Center links to the Hawaii Department of Health (DOH) e-Permitting Portal for online processing of DOH environmental permits and approvals (air, water, ground). The Portal provides transparency into DOH permitting processes and empowers DOH to electronically manage its permitting forms and databases. e-permitting has been implemented in other states and serves as a model for other agencies considering electronic permit management.

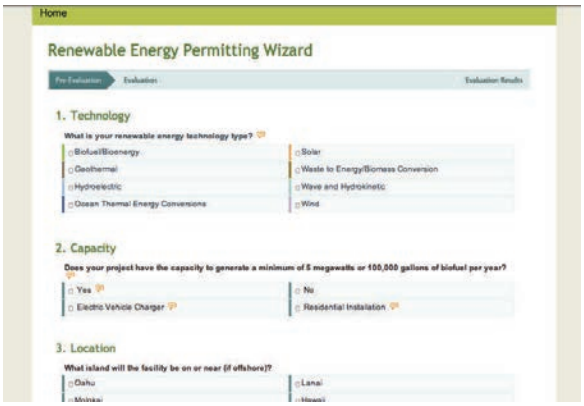
SELF-HELP ENERGY SUITE

SEO provides developers and investors with important technical assistance, permitting tools and local connections to accelerate a project's journey to the marketplace, where the rewards will be felt statewide. SEO created the Self-Help Energy Suite of tools to advance high impact, clean energy alternatives. In November 2013, SEO's Renewable EnerGIS Map and Renewable Energy Permitting Wizard programs received top honors at the 2013 Hawaii Technology Excellence Awards.

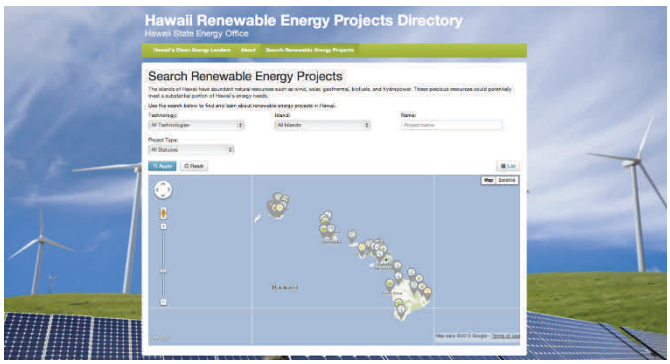
Renewable EnerGIS Map provides renewable energy resource and site information for specific Hawaii locations. It is intended to help landowners, developers, and policy makers understand the renewable energy potential of sites statewide.



Renewable Energy Permitting Wizard was developed to help those proposing renewable energy projects understand the county, state and federal permits that may be required for their individual project. This tool works for projects ranging in size from residential solar installations to large utility-scale facilities. It is currently being upgraded to reflect current permitting requirements, improve user functions, and be available in an open source software environment.



Hawaii Renewable Energy Projects Directory is an interactive directory to find and learn about renewable energy projects in Hawaii. The directory lists projects statewide, showcasing the variety of renewable energy resources that are being harnessed to move us closer to reaching our overall clean energy goal.



The Self-Help Energy Suite of tools can be found at energy.hawaii.gov

STABILIZATION OF HAWAII'S CONVENTIONAL FUEL BASE

While the state is committed to achieving a clean energy future, it also has to stabilize the current conventional fuel base and to plan for a future fuels ecosystem that best serves Hawaii.

As promised in his 2013 State of the State address, Gov. Abercrombie established by executive order the Hawaii Refinery Task Force to assess the impacts of Tesoro's announcement to close its Hawaii refinery. Composed of 35 members from federal and state agencies as well as the nonprofit and private sectors, the task force's purpose is to identify strategies and actions that the state should consider to promote a smooth and stable transition to meet Hawaii's energy needs as our fuels market evolves.

The pending Tesoro refinery sale to Par Petroleum did not impact the task force's initial report submitted to the governor in June 2013 and Interim Report submitted in November 2013, which can be found on SEO's website. It also reinforced the task force's requirement to develop specific policies and actions to provide assured energy and fuel supply to Hawaii consumers through traditional and new energy alternatives.

To provide price and supply stability to our fuel ecosystem, the state is also accessing the feasibility of using liquefied natural gas (LNG) to replace imported foreign oil in order to provide lower cost electricity options and facilitate increased levels of renewable resources as part of a diverse portfolio of energy resources.

GREEN HOUSE GAS EMISSIONS AND CLEAN AIR ACT COMPLIANCE

Climate change caused by increasing and dangerous levels of greenhouse gases (GHGs) in the atmosphere poses a significant risk to the citizens of Hawaii due to the potential harmful effects of rising temperatures and sea levels. The SEO understand the critical importance of reducing these emissions for the health, well-being and prosperity of Hawaii's citizens, and as such, is working with the Hawaii Department of Health's Clean Air Branch (CAB), the Hawaii Public Utility Commission (PUC), and the US Environmental Protection Agency (EPA) to implement state and federal greenhouse gas emissions reduction measures.

Under Hawaii Act 234, 2007 and Section 111(d) of US Clean Air Act, the state has developed proposed GHG rules to monitor and cut emissions from existing power plants to 1990 levels or below. Through this rule-making process, and other ongoing system-wide measures under the aegis of the Hawaii Clean Energy Initiative (HCEI) such as RPS, EEPS and Demand Side Management/Demand Response (DSM/DR), the state is well on its way to reaching these emissions reduction goals. Importantly, the current and proposed measures are designed to simultaneously clean up the environment, modernize Hawaii's power sector and vitalize the Hawaiian economy through innovation and green investments.

ENERGY SAVINGS PERFORMANCE CONTRACTING (ESPC)

In 2013, Hawaii retained its top national ranking for energy savings performance contracting (ESPC) per capita with an investment of $132.25/capita, resulting in a second consecutive national Race to the Top Award from Energy Services Coalition.

ESPC is an innovative approach to implementing energy and water efficiency measures using guaranteed energy savings to pay for the projects. ESPC can provide government agencies much needed updated energy efficiency improvements as well as deferred maintenance relief. By including deferred maintenance and performance period maintenance services under a single contract with guaranteed savings measures, agencies can maximize their investments.

SEO has been leading the state's award-winning ESPC efforts since 1996. SEO provides technical assistance to state and county agencies, including analysis of energy savings measures, review of financing documents, and advice on agency-specific issues. To date, SEO has provided technical assistance to:

1,000 solar PV panels on the Kalanimoku Building in the downtown Honolulu Capital District.

- University of Hawaii at Hilo
- Hawaii Health Services Corporation
- City and County of Honolulu's four city buildings and Kailua Wastewater Treatment facility
- County of Hawaii
- County of Kauai
- Department of Accounting and General Services (DAGS)-Phase I-10 large office buildings
- University of Hawaii Community Colleges
- Department of Public Safety's four large facilities
- The Judiciary

Technical assistance for ongoing or proposed projects includes the following:

- Department of Transportation-Airports
- DAGS Phase II -33 buildings
- City and County of Honolulu – Sand Island and Honouliuli Wastewater Treatment Plants
- University of Hawaii at Hilo-Phase 2
- Hawaii Health Services Corporation-Phase 2
- Department of Defense
- Department of Public Safety-Phase 2 (prisons and jails statewide)
- County of Kauai-Phase 2
- Board of Water Supply's water pumping facilities

HAWAII'S ENERGY ASSURANCE PROGRAM

SEO leads the state's efforts to ensure a robust, secure, and resilient energy infrastructure in the contemporary energy ecosystem. SEO works closely with State Civil Defense, the U.S. Department of Energy, County Civil Defense Agencies, and dozens of government and energy industry emergency management and security partners to:

- Strengthen energy emergency preparedness and response actions and capabilities;
- Educate stakeholder groups on energy sector interdependencies and challenges prior to, during, and after any disruption;
- Facilitate effective incident communication and information sharing between key government representative, energy industry representatives, and the public; and
- Develop and maintain energy assurance plans and procedures in line with existing federal, state, and local governments' frameworks, structures, and statutes.

2013 Energy Assurance Activities and Programs

SEO successfully completed the "Enhancing State Government Energy Assurance Capabilities and Planning for Smart Grid Resiliency" project designed to help Hawaii have well-developed, standardized energy assurance and response plans which can not only be relied upon during energy emergencies and supply disruptions, but can strengthen the state's resilience to all hazards affecting Hawaii's energy systems, resources, and markets. The project also focused on building regional energy assurance capability to allow Hawaii to better coordinate and communicate statewide and with other states on energy security, reliability, and emergency response issues.

LOOKING AHEAD

The following are areas SEO is examining or will be participating in for possible future action:

Renewable Portfolio Standard

Renewable Portfolio Standard (RPS) is a primary deliverable in Hawaii's mandated clean energy goals. SEO will participate in an advisory role in a Hawaii Natural Energy Institute (HNEI) study on the effectiveness of the current RPS targets to determine if the standards remain effective and achievable and whether any modifications are needed.

ProActive Approach Feeder Cluster Study

SEO is working with the Hawaiian Electric Company (HECO) on its innovative ProActive Approach project. The purpose of the study is to enhance the utilities' functions of interconnection and transmission and distribution planning in order to anticipate and plan for higher penetration levels of Distributed Generation (DG). The results could lead to faster, more efficient and cheaper evaluation of interconnection requests from renewable energy developers. The ProActive Approach was recommended by the Hawaii Reliability Standards Working Group, which was convened to develop policy and technical recommendations to the PUC that will facilitate the increased use of renewable energy in the islands without compromising the grid reliability.

Transportation Roadmap Reevaluation

The current HCEI overall goal for the transportation sector is to reduce the consumption of petroleum in ground transportation by 70%, or approximately 385 million gallons per year, by 2030. The current roadmap would implement the following strategies:

- Improving standard vehicle efficiency of fleet
- Reducing vehicle miles traveled (VMT)
- Incorporating renewable fuels into the transportation sector
- Accelerating the deployment of electric vehicles and related infrastructure

In collaboration with the U.S. Environmental Protection Agency and the Hawaii Energy Policy Forum (HEPF), SEO is looking to reevaluate HCEI's transportation goals and possibly revise the transportation roadmap. While a timeline is still to be determined, the reevaluation would assess HCEI's strategy for transportation and fuels, while also framing actionable plans to meet Hawaii's clean transportation objectives.

HAWAII STATE ENERGY OFFICE ENERGY INNOVATION

Achieving our clean energy goal of 70% by 2030 will require innovative solutions and policies that make sense. Along with reaching our RPS and EEPS goals, Hawaii must attract groundbreaking "test bed" investments and be a pioneer in the industry.

GEMS (GREEN ENERGY MARKET SECURITIZATION)

On June 27, 2013, Gov. Neil Abercrombie signed into law Act 211, which establishes a green infrastructure financing program, named GEMS or Green Energy Market Securitization. This novel financing framework is designed to make clean energy improvements, such as photovoltaic panels, affordable and accessible for Hawaii's consumers.

GEMS levels the playing field for everyone and expands the market, especially for underserved markets including low- and moderate-income homeowners, renters and nonprofits. The program will address the financial challenges many Hawaii consumers face when making a decision to invest in energy saving devices.

GEMS will take a proven rate-reduction bond structure and use it in a way to provide low-cost financing to enable consumers to invest in clean energy installations. Payment for the devices would be made over time through one's electricity bill and paid for through the energy savings. DBEDT is creating and coordinating the development of the GEMS program and upon approval from the Hawaii Public Utilities Commission, GEMS is expected to launch in 2014.

TEST BED AND INNOVATION INITIATIVES

Hawaii's unique location and abundant resources comprise the ideal proving ground for clean energy innovation, making us an international test bed for promising clean and reliable technologies. Entrepreneurs, driven by passion and powered by ingenuity, are helping to secure Hawaii's energy future by developing innovative technologies that can be deployed in communities statewide.

Current test bed and innovation projects happening in Hawaii include:

- The **Natural Energy Laboratory of Hawaii Authority (NELHA)** is a state agency that operates a unique and innovative ocean science and technology park in Kailua-Kona on the island of Hawaii. Strategically located at Keahole Point next to the Kona International Airport and adjacent to one of the steepest bathymetric offshore slopes in the Hawaiian Islands, NELHA offers an incredible combination of assets in one location.

Natural Energy Laboratory of Hawaii Authority (NELHA) Gateway Energy Center

- The **Hawaii Strategic Development Corporation (HSDC)** is an agency of the State of Hawaii established in 1990 to promote technology based economic development and economic diversification in Hawaii through a return driven investment program in partnership with private capital.
- The **Hawaii Center for Advanced Transportation Technologies (HCATT)** has organized public/private partnerships between the federal government and private industry to develop advanced low emission and zero emission vehicles centered on electric drive technologies.
- **JUMPSmartMaui** is a collaborative demonstration project between Japan and Hawaii that will incorporate smart grid, renewable energy and EV solutions on Maui, funded through a $30 million investment by Japan's largest public research and development management organization, New Energy and Industrial Technology Development Organization (NEDO).
- The **Energy Excelerator** is a project of the Pacific International Center for High Technology Research (PICHTR) and is focused on building an infrastructure to support startups in bringing technology to market starting in Hawaii and going from here to other places like California, Japan, and islands. It supports clean energy innovation companies that contribute to Hawaii's overall energy goals and enables Hawaii to continue to lead in clean energy deployment by funding clean energy companies that are developing and demonstrating new technologies in Hawaii, and providing training and support services.

FIRST EV MOBILE APP OF ITS KIND

EV Stations Hawaii Mobile App is designed to help EV drivers locate publically available charging stations statewide, giving them the confidence that they can recharge while on the road. Launched in 2013, the free app is available for Apple and Android smartphones and mobile devices. In November of the same year, the EV Stations Hawaii app won MobileWebAwards' Best Energy Mobile Application, recognized as a premier industry based Website Award program. Best websites are selected by judging the entered websites using seven criteria - design, ease of use, copywriting, interactivity, use of technology, innovation and content.

INNOVATIVE EV RATES

In July 2013, the PUC approved two groundbreaking electric vehicle (EV) pilot time of use charging rates for the Hawaiian Electric Company (HECO) with assistance from SEO. The rates are designed to encourage ownership of plug-in EVs in Hawaii by easing "range anxiety" and making direct current (DC) fast charging more readily available.

A DC fast charging station can bring an "empty" EV battery to an 80 percent charge in about 30 minutes. The rates are a positive step in meeting the state's clean energy transportation objectives and in proving Hawaii as a leader of EV deployment in the Asia-Pacific region.

- Schedule EV-F – This rate will make it financially attractive for business customers to open new public EV DC charging facilities by eliminating demand charges which are typically associated with DC Fast Charging and assessed to commercial customers.
- Schedule EV-U – This rate allows HECO to operate up to 25 publicly accessible DC fast charging facilities across Oahu, Maui County and Hawaii County, where drivers can quickly recharge their vehicles for a per session fee. It will also allow the HECO utilities to work with the EV industry to manage EV charging more efficiently and do research on load control and demand response.

LOOKING AHEAD

This is an exciting, vital period in Hawaii's energy and economic landscape. The plans, decisions and partnerships that will be forged in the next 12 months for infrastructure, transportation and grid improvements and investments will set the course for Hawaii's economic transformation for the rest of this generation.

Clinton Global Initiative

The state is fostering a relationship with the prestigious Clinton Global Initiative (CGI), led by President Bill Clinton. In June 2013, Hawaii committed to increase the energy efficiency of state and county buildings and facilities by expanding its use of energy savings performance contracting in two years. SEO presented the state's commitment at the annual CGI America meeting in Chicago, IL, attended by President Clinton and other dignitaries. Hawaii's CGI Commitment to Action raises the state's visibility as a clean energy leader on a global scale.

ENERGY PROGRAM FUNDING

ENERGY PROGRAM FUNDING

In the fiscal biennium 2012-2013, SEO was primarily supported by federal funds; however, the State Energy Program (SEP) American Recovery and Reinvestment Act (ARRA) funding expired in September 2013. SEO is currently managing the impactful loss of $37 million in federal funding and is now primarily dependent upon the Energy Security Special Fund (ESSF) for retaining program capacity, staff resources, and project funding to continue critical initiatives. This progressive reliance on ESSF funds is documented on the comprehensive State Energy Office Budget below. The large disparity in the loss of ARRA funds and the funds received from ESSF has caused difficult choices in the budgeting of energy program initiatives and in the decision to fill vacancies.

In the 2013 Legislature, the sum of $145,000 was appropriated from the Energy Security Special Fund for an emergency appropriation for fiscal year 2012-2013 to staff and support the Hawaii Refinery Task Force. SEO was unable to secure a barrel tax reallocation that would have put 60-cents of the Environmental Response, Energy, and Food Security Tax back to its original purpose, which was to build self-sufficiency in the area of energy, food and environmental response. In the measure, an additional 27.5 cents, out of the $1.05 barrel tax, would have gone to support SEO programs, such as permitting assistance, energy efficiency and renewable energy development. The measure also called for the removal of sunset dates so the barrel tax would be able to continue funding these initiatives in the future.

STATE ENERGY OFFICE BUDGET						
	FY2013			FY2014		
	ENERGY SECURITY SPECIAL FUND	FEDERAL FUNDS	TOTAL	ENERGY SECURITY SPECIAL FUND	FEDERAL FUNDS	TOTAL
PERSONAL SERVICES	2,585,630	772,749	3,358,379	3,697,990	101,535	3,799,525
OTHER CURRENT EXPENSES	821,665	4,772,388	5,594,053	1,996,315	3,345,000	5,341,315

ENERGY PROGRAM FUNDING

SEO revenue and expenses for FY2013 utilizing currently available ESSF and federal funds is outlined below:

STATE ENERGY OFFICE: REVENUE AND EXPENSES			
SOURCE	REVENUES	EXPENDITURES	
		PERSONNEL	OPERATING EXPENSES (e.g., Travel, Equipment, Supplies, Contracts)
Energy Security Special Fund *	$ 3,998,323.71	$ 2,585,630.14	$ 821,664.58
USDOE State Energy Program Formula Grant	$ 99,595.79	$ -	$ 254,667.35
USDOE State Energy Program Recovery Act Grant	$ 3,641,800.90	$ 547,365.43	$ 3,210,290.19
USDOE Energy Efficiency Recovery Act Grant	$ 204,814.58	$ 163,150.49	$ 44,593.19
USDOE Energy Assurance Planning Recovery Act Grant	$ 96,388.43	$ -	$ 96,388.43
USEPA Cooperative Agreement	$ 21,975.94	$ -	$ 21,975.94
USDOE HI Renewable Energy Grid Project Grant	$ 202,897.65	$ 62,233.17	$ 140,663.33
USDOE Hydrogen Power Park Grant	$ 770,000.00	$ -	$ 770,000.00
USDOE Hawaii's Clean Energy Transformation and Grid Connection Grant	$ 212,989.99	$ -	$ 212,989.99
USDOE Advancing Energy Efficiency in Hawaii Public Buildings Grant	$ 9,050.22	$ -	$ 9,050.22
USDOE Clean Cities Grant	$ 4,226.63	$ -	$ 4,226.63
PVE - Stripper Well Funds	$ 43.24	$ -	$ -
PVE - Exxon Funds	$ 1,310.75	$ -	$ -
PVE - Chevron Funds	$ 589.91	$ -	$ -
NGA Clean Energy States Grant	$ -	$ -	$ 1,185.91
General Fund Aerospace	$ -	$ -	$ 20,000.00
TOTAL	**$ 9,264,007.74**	**$ 3,358,379.23**	**$ 5,614,052.76**

* ESSF revenue from Environmental Response, Energy, and Food Security Tax: $3,884,268

ENERGY PROGRAM FUNDING

The current portfolio of federal grants supporting the state's energy program is detailed in the chart below:

State Energy Office - Federal Grants				
Funding Agency	**Award Title**	**Award Amount**	**Grant Objective**	**Partners**
USDOE - NETL	Recovery Act: Energy Assurance Planning - State of Hawaii	$ 318,196.00	To strengthen and expand State and local government energy assurance planning and resilience efforts by incorporating response actions for new energy portfolios and Smart Grid applications; to create jobs; and to build in-house State and local government energy assurance expertise. Term: Aug 2009 - Mar 2013.	Science Applications International Corp
USEPA	Hawaii Green Intern Development and Pollution Prevention Project	$ 74,000.00	To train and deploy student interns to promote Pollution Prevention, Resource Conservation, Waste Minimization by enrolling businesses, hotels and governmental office in the Green Business Program and Green Government Challenge and providing them with technical assistance. Term: Oct 2010 - Jun 2013.	Hawaiian Electric Company Hawaii Pacific University Chamber of Commerce of Hawaii Hawaii Dept. of Health City & County of Honolulu Rebuild Hawaii
USDOE (subaward)	Clean Cities Community Readiness & Planning for Evs and Charging Infrastructure	$ 16,000.00	To create a sustainable implementation plan for EV deployment and charging infrastructure in Maui County with applications to other neighbor islands and the State of Hawaii. Term: Oct 2011 - Jun 2013.	University of Hawaii Maui College
USDOE - NETL	Recovery Act: State Energy Program for State of Hawaii	$ 25,930,000.00	To design and carry out the Hawaii State Energy Office's energy efficiency and renewable energy programs, including administration, community outreach, high performance buildings, loan loss reserve program, renewable energy, and transportation energy transformation. Term: Apr 2009 - Sep 2013.	Various
Ongoing				
USDOE - EERE	State Energy Program Special Projects - Hydrogen Power Park	$ 1,650,000.00	To conduct engineering and economic validation of pre-commercial hydrogen technologies. Term: Oct 2002 - Dec 2014.	University of Hawaii - Hawaii Natural Energy Institute
USDOE - NETL	Hawaii Renewable Energy Grid Project	$ 500,000.00	To establish a regulatory and policy framework that will enable and accelerate the integration of utility scale renewable energy using innovative demand side management, storage, smart grid, plus transmission and delivery technologies for the grid infratructure of Hawaii. Term: Oct 2008 - Mar 2014.	University of Hawaii - Hawaii Natural Energy Institute
USDOE - EERE	Recovery Act: State of Hawaii Energy Efficiency & Conservation Block Grant	$ 9,593,500.00	To implement the Hawaii State Energy Office's Energy Efficiency & Conservation Strategy in order to reduce fossil fuel emissions; reduce total energy use of the eligible entities; and improve energy efficiency in the building sector, the transportation sector, and other appropriate sectors, along with creating jobs. Term: Sep 2009 - Nov 2014.	Various
USDOE - EERE	State Energy Program (SEP) Formula (2010, 2011, 2012, 2013)	$ 929,849.00	To design and carry out the Hawaii State Energy Office's energy efficiency and renewable energy programs. Term: Jul 2010 - Jun 2014.	Various
USDOE - EERE	Hawaii's Clean Energy Transformation and Grid Connection	$ 705,000.00	To reduce market barriers and costs of greater renewable energy penetration under HCEI by providing technical assistance on regulatory, financial, and utility solutions, particularly focused on adoption of a variety of grid reliability and interconnection standards and by developing streamlined permitting processes and online tools. Term: Sep 2011 - Aug 2014.	Duncan, Weinberg, Genzer & Pembroke Hawaii Information Consortium Hawaiian Electric Company
USDA - Rural Development	Hawaii Energy Audit Program for Eligible Rural Small Businesses and Farmers in Oahu, Maui, and Hawaii	$ 100,000.00	To prepare Investment Grade Energy Audits (IGA) for rural small businesses and farmers. Term: Feb 2012 - Feb 2014.	GDS Associates Hawaii Energy County of Maui County of Hawaii
USDOE - EERE	Advancing Energy Efficiency in Hawaii Public Facilities	$ 350,000.00	To strengthen , enhance, and expand the State's existing energy efficiency program by using Energy Star Portfolio Manager (PM) to benchmark appropriate State Executive Branch facilities and use the results to encourage state agencies to bundle facilities to pursue energy efficiency through energy savings performance contracts or other financing mechanisms. Term: Sep 2012 - Sep 2015.	Hawaii Public Benefits Fee Administrator (SAIC/RW Beck) Hawaii Dept. of Accounting & General Services - Public Works Division Hawaii Energy
USEPA	Hawaii Growing Green Intern Development and Pollution Prevention Project	$ 50,000.00	To establish an intern program that leverages the support and expertise of partners across the state with the purpose of expanding the Hawaii Green Business Program and Lead By Example Resource Efficiency Checklist Program, which focus on waste reduction, pollution prevention, and resource conservation. Term: Oct 2013 - Sep 2015.	Hawaii Dept. of Health City and County of Honolulu - Honolulu Board of Water Supply City and County of Honolulu - Refuse Division The Chamber of Commerce of Hawaii

FINAL MESSAGE

Mark Glick, State Energy Administrator
Hawaii State Energy Office

While Hawaii is faced with the nation's highest energy prices and a strong dependency on foreign oil, we also have the most to gain by being energy independent. That's why these are exciting times.

As the State Energy Administrator, I am fortunate to be on the front lines of Hawaii's clean energy transformation. I have the privilege of working closely with the industry's movers and shakers, both outside and within the State Energy Office. It is my role to recognize both the challenges we face and secure potential solutions.

Hawaii is doing a lot of things now that will take us to the next level. As outlined in this 2013 Energy Resources Coordinator's Annual Report, Hawaii is on track to meet our next set of 2015 benchmarks, which puts us on a good track to reach our 2020 goals. All of this is aligned with the Abercrombie Administration's committed focus on reducing our dependence on imported oil and stabilizing energy costs, both of which are essential to establishing a sustainable economy for the people of Hawaii.

While there's still a lot of work to do, Hawaii has enormous potential for achieving and exceeding the state's 2030 clean energy goals.

STATE OF HAWAII ENERGY POLICY DIRECTIVES

Our state energy policy is rooted in one principle: a commitment to maximize the deployment of cost effective investments in clean energy production and management for the purpose of promoting Hawaii's energy security.

1. **Diversifying our energy portfolio:** Diversity has always been one of Hawaii's greatest assets. Our energy resources are no exception; we are blessed with diverse resources such as solar, wind, hydro, bioenergy, geothermal, and energy efficiency. Among these resources, geothermal holds particular promise as a clean and firm energy source that is also low-cost. Biofuels, another important resource, should be targeted primarily for jet fuel, and used in electric generation only as a transitional use. Liquefied natural gas holds promise as a transitional fuel on a limited scale, if it can be deployed at a true cost savings.

2. **Connecting the islands through integrated, modernized grids:** Hawaii is connected in many ways that make us stronger. Linking the islands enables us to utilize our islands' best resources, at a scale that will reduce costs. Levelizing electricity rates across connected islands will not only lower rates on neighbor islands, but may also improve overall system efficiency. Since existing technical analyses show that Oahu lacks resources and sites to economically move beyond 25-30% renewable energy on its own, investing in undersea cable infrastructure is the pathway to an energy future that breaks our addiction to fossil fuels. Our RPS and EEPS standards of 40% renewable energy and 30% energy efficiency by 2030 are important benchmarks, but we should not stop there. Maximizing affordable clean energy is a core strategic goal, and provides the most secure foundation for our economy and way of life.

3. **Balancing technical, economic, environmental, and cultural considerations:** Most renewable energy sources are less expensive than oil, but to integrate these resources we often need to blaze new pathways both in technology and policy. Not all clean energy projects are created equal. In order to find the most beneficial long-term solutions, we must focus on projects that make the best use of land and resources. We are collaborating with partners in the public and private sectors to focus on the most beneficial projects, ensuring that challenges are met with a spirit of collaborative problem solving, not inaction.

4. **Leveraging our position as a test bed to launch an energy innovation cluster:** Hawaii should not only demonstrate the future of clean energy, but should also help invent it. Our isolated, islanded grids, high energy costs, and connections to the Asia Pacific region make Hawaii an ideal test bed for new energy solutions. We're working to create an environment where our communities support innovative companies that are solving the world's toughest energy challenges – and creating new jobs and opportunities for investment for a knowledge-based economy right here in Hawaii. Innovation is the cornerstone of our economic diversification strategy.

5. **Allowing the market to pick winners:** The private sector must make the investments needed to transition us away from oil. At the same time, solutions must be inclusive, lifting all of us. For this reason we have been developing programs and financing mechanisms that allow everyone to participate in our clean energy future.

2013 ANNUAL REPORT

HAWAI`I HOUSING FINANCE & DEVELOPMENT CORPORATION

HHFDC

Hawaii Housing Finance & Development Corporation

The Hawaii Housing Finance and Development Corporation is administratively attached to the Department of Business, Economic Development and Tourism and is the primary agency charged with overseeing affordable housing finance and development in Hawaii by working with the state's residents, housing developers, and financiers.

The mission of the Hawai`i Housing Finance and Development Corporation is to increase and preserve the supply of workforce and affordable housing statewide by providing leadership, tools, and resources to facilitate housing development.

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THE HONORABLE NEIL ABERCROMBIE, GOVERNOR, STATE OF HAWAII

Dear Governor Abercrombie,

In fiscal year 2013, the HHFDC added 1,135 housing units to the inventory of workforce and affordable housing while managing assets in excess of $1 billion. In 2014, there are 1,223 units planned while we stay on course toward our production goal to assist in delivering approximately 6,000 units over the next five years.

ECONOMY AND JOBS

In 2013 HHFDC neared full expenditure of $24.25 million in federal Neighborhood Stabilization Program (NSP) grants to mitigate the impacts of the economic decline and the housing market collapse by stabilizing and revitalizing those communities hit the hardest. As of June 30, 2013, NSP funds were used for the construction of Sea Winds Apartments in Waianae, Oahu, Na Kahua Hale O Ulu Wini in Kailua-Kona, Hawai'i, four single family homes in Waimea, Kauai, and the Villages of Moa'e Ku in Ewa Beach, Oahu. NSP funds were also used for the acquisition and rehabilitation of foreclosed homes in Kauai and Maui for sale to lower- and moderate-income home-buyers.

GREEN WORKFORCE HOUSING THROUGH PUBLIC-PRIVATE PARTNERSHIPS

HHFDC is providing public lands and working with private developers to build environmentally-friendly housing quicker and of highest quality.

- Through an RFP process, we are providing approximately 308 acres of state land in Kapolei, Oahu, and Kailua-Kona, Hawai'i, for the private development of approximately 2,900 affordable and workforce housing units.

- We also are planning to partner with private developers to build green workforce housing to complete development in the Villages of Kapolei and a new livable community in the Villages of Leiali'i in Lahaina, Maui.

DEVELOP ASSET BUILDING PROGRAMS AND GROW THE MIDDLE CLASS

The HHFDC's single-family programs helped lower and moderate income families build financial assets to be create more economic opportunities for themselves and leave a legacy for their children. In FY 2013, HHFDC made available $44M in Hula-Mae Single Family below-market rate mortgages and $12.5M in Mortgage Credit Certificate federal tax credits to help 334 first-time homebuyers.

ENERGY EFFICIENCY

The HHFDC is also assisting the state's efforts to reduce our dependency on imported oil by encouraging energy efficient development and support workforce development of "green" jobs. We are looking at how we design future communities to encourage alternative modes of transportation such as walking, biking and mass transit.

- The master planned communities of Kamakana Villages at Keahuolu (in West Hawai'i) and Villages of Leiali'i (in West Maui) incorporate design concepts that encourage walking, bicycling, and transit. We also encourage energy-efficiency and water conservation in smaller, in-fill developments.

- We participate with the City and County of Honolulu, Department of Planning and Permitting on a Sustainable Community Challenge Planning Grant for transit-oriented development.

Looking forward, HHFDC remains focused on our mission of improving lives and strengthening communities by expanding housing opportunities, and committed to our vision of seeking long-term sustainable solutions to help rebuild and transform our economy for the benefit of future generations in Hawaii.

CRAIG K. HIRAI

Executive Director

LEGISLATIVE HISTORY

The Hawai`i Housing Finance and Development Corporation was created to focus on the financing and development of affordable housing.

In 1997, the Legislature established the Housing and Community Development Corporation of Hawai`i (HCDCH) by consolidating the the Hawai`i Housing Authority, the Housing Finance and Development Corporation and Rental Housing Trust Fund Commission. The HCDCH administered the state's public housing, homeless assistance, housing finance and housing development programs.

In 2005, the Legislature found that "the burden of administering the public housing projects in the State has overshadowed the ability of the corporation to pay sufficient attention to the financing and development of affordable housing." Therefore, Act 196 of 2005, as amended by Act 180 of 2006, separated the housing financing and development functions from the HCDCH to create the Hawai`i Housing Finance and Development Corporation.

ORGANIZATIONAL STRUCTURE

The HHFDC is administratively attached to the Department of Business, Economic Development and Tourism. It is governed by a nine-member Board of Directors which establishes policies and executive direction for the Corporation.

Six members are appointed by the Governor from each of the counties of Honolulu, Hawai`i, Maui and Kauai. At least four of which must have knowledge and expertise in public or private financing and development of affordable housing, and one of which is a representative for a low-income private nonprofit organization. The three ex-officio members are the Director of Business, Economic Development and Tourism, the Director of Finance, and a representative of the Governor's office.

FIVE-YEAR PRODUCTION PLAN

The HHFDC has a production plan in place to assist in the finance and development of approximately 6,000 affordable units over the next five years.

Fiscal Years	Rental	For Sale	Total
2014	1,043	180	1,223
2015	1,006	17	1,023
2016	1,393	315	1,708
2017	537	513	1,050
2018	536	438	974
Total	4,515	1,463	5,978

Halekauwila Place

Stanford Carr Development, LLC

The 204-unit affordable family rental project being built on state land, is a public-private partnership between the state and Stanford Carr Development, LLC. Units are targeted towards families earning 60% of area median income.

The project, located on state land, will consist of 204 studio, 1-bedroom, 2-bedroom, and 3-bedroom units configured in a 19-floor tower structure and a separate parking building/townhouse structure.

The units will range in size from 395 to 424 square feet (studio); 535 to 597 square feet (one-bedroom); 684 to 782 square feet (two-bedrooms); and 1,093 to 1,511 square feet (three-bedrooms). The units will generally be located from floors 2 through 19 of the residential tower with 5 three-bedroom units located on the ground level of the parking structure.

The parking structure building will also feature two retail units as well as a laundry and community room. The five levels of parking will contain 282 parking stalls.

ECONOMIC IMPACT				
Units	Project Value	Direct Jobs	Indirect Jobs	Income Generated
204	$70,800,000	141	92	$46,020,000

Based on DBEDT 2012 Economic Model

Senior Residence at Iwilei

Pacific Housing Assistance Corporation

The State of Hawai'i and Pacific Housing Assistance Corporation, a private non-profit developer, broke ground on a new 160-unit senior rental project. The Senior Residence at Iwilei is the result of a public-private partnership between the state's Hawai'i Housing Finance and Development Corporation (HHFDC), the City and County of Honolulu, and Pacific Housing Assistance Corporation.

For the project, the HHFDC is leasing 1.825 acres of state land to Pacific Housing Assistance Corporation and providing financing through its Dwelling Unit Revolving Fund, Hula Mae Multifamily bond, and low income housing tax credit programs. The Hawai'i State Legislature also appropriated capital improvement project funds for the project in 2011. The City and County of Honolulu approved 201H land use exemptions for the project and awarded Community Development Block Grant funds as well.

The project will assist senior residents with incomes at or below 50 percent and 60 percent the area median income, which for a single person is about $36,000 and $41,000, respectively. Rents will range from $800 for a one-bedroom unit to $1,180 for a two-bedroom unit.

ECONOMIC IMPACT

Units	Project Value	Direct Jobs	Indirect Jobs	Income Generated
160	$69,440,000	138	90	$45,136,000

Based on DBEDT 2012 Economic Model

DEVELOPMENT RESOURCES

The HHFDC has a toolbox of resources to facilitate the development of affordable rental or for-sale housing including financing, expedited land use approvals under Chapter 201H, Hawaii Revised Statutes, exemptions from general excise taxes, and real property.

FINANCING TOOLS FOR DEVELOPMENT

Low Income Housing Tax Credits (LIHTC)

The LIHTC program is a major financing tool for non-profit and for-profit developers to construct or rehabilitate affordable rental housing. Under the program, HHFDC awards federal and state tax credits that may be used to obtain a dollar-for-dollar offset (tax credit) in income tax liability for 10 years or may be syndicated to generate substantial project equity. There are two types of federal tax credits: 9% competitive tax credits, which are applied against the State of Hawaii's annual LIHTC allocation and 4% non–competitive, which are awarded with tax-exempt bond financing. Approximately $3.133 million in federal and $1.566 million in state tax credits was available for award in FY2013.

Rental Housing Trust Fund (RHTF)

The RHTF provides equity gap low-interest loans or grants to qualified owners and developers for the development, pre-development, construction, acquisition or preservation of affordable rental housing. Preference is given to projects that meet certain statutory criteria. Included is a preference for projects that provide at least 5 percent of the total number of units for persons and families with incomes at or below 30 percent of the median family income. Another preference is projects that provide the maximum number of units for persons or families with incomes at or below 80 percent of the median family income. As of June 30, 2013, RHTF commitments totaled $245.9 million to assist 4,567 rental units.

Rental Assistance Revolving Fund (RARF)

The RARF Interim Construction Loan Program provides below market interest rate interim construction loans for affordable rental housing projects (currently 4-5%), as well as a limited amount of project-based rental assistance subsidies to qualified owners of rental projects. The RARF interim construction program is authorized to loan up to an aggregate of $11.5 million. As of June 30, 2013, the RARF financed the construction of 846 units. Additionally, 13 projects comprised of 1,602 rental units have Rental Assistance Program commitments totaling $47,789,034.

Hawaii Rental Housing System Revenue Bond (HRHSR)

This program was developed to alleviate the shortage of available rental housing opportunities through the development and acquisition of affordable rental housing projects throughout the State. The HRHSR provides tax-exempt bond financing for HHFDC-owned affordable rental projects that provide at least 60 percent of the rental units for tenants earning 80 percent and below the median family income (40 percent of the units may be rented at market rents). There are currently 6 projects consisting of 1,220 units on Oahu, Hawaii and Maui. Bond authority under the program is $375 million. As of June 30, 2013, the available authority is $97,720,000.

Hula Mae Multi-Family Revenue Bond Program

The Hula Mae Multi-Family program provides low interest rate financing through the issuance of tax-exempt revenue bonds for the construction and/or acquisition and rehabilitation of rental housing projects. Developers are able to secure 4% noncompetitive low income housing tax credits in conjunction with the Hula Mae multifamily financing. The HHFDC, with the approval of the Governor, is authorized to issue up to $750 million in revenue bonds. As of June 30, 2013, the program has issued 20 series of bonds, including one refunding series, totaling $418,244,699.

Dwelling Unit Revolving Fund (DURF)

DURF was established pursuant to Act 105, SLH 1970 which authorized the issuance of $125,000,000 of general obligation bonds to carry out the purposes of the Housing Development Program. Funds may be used for the acquisition of real property; development and construction of residential, commercial and industrial properties; interim and permanent loans to developers; and any and all things necessary to carry out the purposes of the Housing Development Program, including administrative expenses. As of June 30, 2013, DURF has outstanding commitments of $74.698 million.

FEDERAL FUNDS

Home Investment Partnerships Program (HOME)

The HHFDC administers the federal HOME program which is intended to expand the supply of decent, safe, affordable and sanitary housing. HOME funds may be used for a variety of activities including tenant-based rental assistance, down payment loans for first-time homebuyers, rehabilitation loans for existing homeowners, property acquisition, new construction, reconstruction, moderate or substantial rehabilitation, site improvements, demolition, relocation expenses, loan guarantees, and other reasonable and necessary expenses related to development of affordable housing. The HHFDC receives approximately $3 million in HOME funds from HUD each year. Funds allocated on an annual rotating basis to the Counties of Hawaii, Kauai and Maui.

Neighborhood Stabilization Program (NSP)

The NSP was established for the purpose of stabilizing communities that have suffered from foreclosures and abandonment. Through the purchase and redevelopment of foreclosed and abandoned homes and residential properties, the goal of the program is being realized.

HHFDC received two awards of NSP funds. In 2009, the HHFDC received an award of $19.6 million from NSP Round 1, authorized under Division B, Title III of the Housing and Economic Recovery Act of 2008 (HERA). In 2011, HHFDC received a subsequent award of $5 million from NSP Round 3 authorized by the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010. NSP funds were allocated to all four counties to create affordable rental and homeownership opportunities for households whose incomes do not exceed 120% of the area median income.

Hale Mohalu II Senior

Coalition for Specialized Housing

Hale Mohalu II, an affordable senior rental in Pearl City, Oahu will add 332 units to the inventory of affordable housing.

The Coalition for Specialized Housing will develop four seven-story buildings on 4.7 acres of state land in lower Pearl City for low-income seniors and families. Five percent of the units will be designated for families or individuals earning up to 30 percent of area median income with the remaining 95 percent designated for families and individuals earning up to 60 percent of the area median income. Proposed rents range from $585 to $1,200 for family units and $401 to $668 for senior units.

The project is funded by a combination of Low-Income Housing Tax Credits, Hula Mae Multi Family Bonds, Rental Housing Trust Fund loans and grants administered by the HHFDC and HOME funds administered by the City and County of Honolulu.

Phase 1 consists of 164 senior rentals. Future phases will add 168 family rentals with a 4,925 square foot community building.

ECONOMIC IMPACT

Units	Project Value	Direct Jobs	Indirect Jobs	Income Generated
164	$41,378,000	155	308	$26,895,700

Based on DBEDT 2012 Economic Model

DEVELOPMENT TOOLS

Real Property

A portfolio of property acquired by negotiation, exchange, or purchase, is made available to developers through the Request for Proposals (RFP) process. Each real property parcel is evaluated for "highest and best use" in relation to the HHFDC working mission and strategies and then an RFP is framed for flexibility to assure that different developer specialties and concentrations can be accommodated.

For the developer, the RFP process starts when an advertisement is placed in the newspaper with information that a certain real property is available for development. The actual RFP with relevant criteria is made available for review or purchase at the HHFDC. When the completed proposals are received on the given date in the RFP, a selection committee reviews the proposals for compliance with the RFP and a developer is preliminarily selected, subject to approval by the HHFDC Board of Directors. Developer approval is followed with negotiation of development and loan agreements.

Chapter 201H Expedited Processing

Pursuant to Chapter 201H, Hawaii Revised Statutes, the HHFDC may develop, on behalf of the State or with an eligible developer, or may assist under a government assistance program in the development of housing projects which are exempt from all statutes, ordinances, charter provisions, and rules of any governmental agency relating to planning, zoning, construction standards for subdivisions, development and improvement of land, and the construction of units thereon.

Chapter 201H also provides for greater flexibility in the design of housing projects. The particular exemptions requested through the 201H process are reviewed by the appropriate county agencies. All 201H projects must comply with the County building permit process, HRS Chapter 104 (Wages and Hours of Employees on Public Works), and HRS Chapter 343 (Environmental Impact Statements).

Developers are encouraged to begin the 201H process by first contacting the appropriate county. If the county government does not accept the developer's 201H application, the HHFDC will consider the developer's application. The HHFDC requires that the developer conduct at least one public meeting to solicit community input on the proposed project.

General Excise Tax Exemptions

The HHFDC may approve and certify for exemption from GET any qualified person or firm involved with an "eligible project" developed under 1) Chapter 201H, 2) a government assistance program approved by the HHFDC, 3) the sponsorship of a private nonprofit corporation providing homes for qualified families in need of decent, low-cost housing, or 4) by a qualified person or firm providing affordable rental housing where at least 50 percent of the available units are for households with incomes at or below 80 percent of the area median income, as determined by HUD, of which at least 20 percent of the available units are for households with incomes at or below 60 percent of the area median income.

Villages at Moa`e Ku Phase II

EAH Housing

Ms. Rey Pin was living in a homeless shelter on West Oahu with her three children, the eldest with special needs, when she first heard of Moa'e Ku.

She applied but because of her language barrier, misunderstood and denied a request to speak to a former landlord. Eventually she was assisted by a case worker from the Hawaii State Department of Health and was qualified to move into her three bedroom apartment in fall 2012.

Funding for Moa`e Ku was provided by Hawaii Housing Finance and Development Corporation's Rental Housing Trust Fund and Neighborhood Stabilization Program (NSP), along with HOME funds from the U.S. Department of Housing and Urban Development.

The Villages of Moa`e Ku, a Public Private Partnership between the Hawaii Housing Finance & Development Corporation, the City & County of Honolulu and EAH Housing, will provide 192 rental apartments for families at or below 60% of the area median income. The project is conveniently located next to the Ewa Elementary School, Ewa Beach parks and shopping centers.

The HHFDC provided Low-Income Housing Tax Credits, Hula Mae Multi-Family Bonds and Rental Housing Trust Fund financing for the project.

The apartments will be built in three phases and will consist of twelve two-story buildings. Phase I, which contains 64 units, opened in April 2013. The one-, two- and three-bedroom units feature entrances directly accessible from the outside of the building and facing a central lawn and open landscaping. Phase II, which consists of 76 units is under contruction.

The development includes a community room with a kitchen, computer learning facility and meeting space for residents along with a fenced-in tot lot for the protection of the keikis.

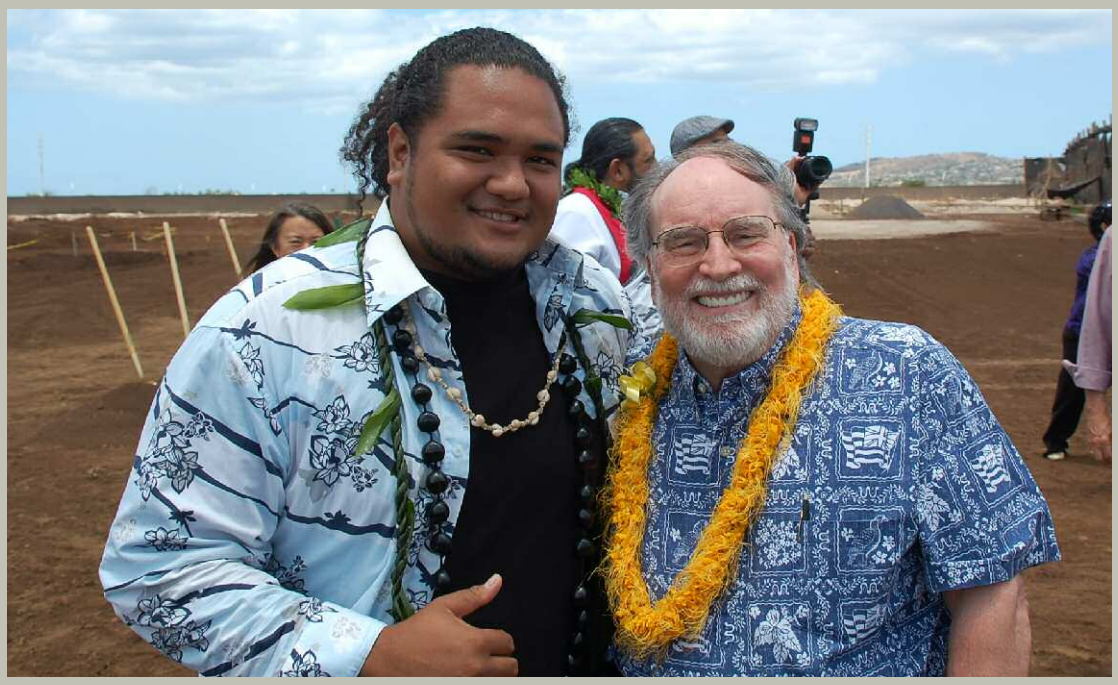
ECONOMIC IMPACT

Units	Project Value	Direct Jobs	Indirect Jobs	Income Generated
76	$30,257,742	76	46	$18,154,645

Based on DBEDT 2012 Economic Model

Ko`oloa`ula

Mutual Housing Association of Hawaii



The Public Private Partnership between HHFDC, the City and County of Honolulu, HUD and Mutual Housing Assistance of Hawaii completed its first phase of 120 affordable rental units at Ko`oloa ula in East Kapolei in April 2013. A total of 308 units are planned to be built over the next five years in the Ko`oloa ula community.

Ko‘oloa‘ula will give renters a choice between 11 different floorplans for apartments with up to four bedrooms. Rents will be targeted for families earning 30%, 50% and 60% of the HUD median incomes for the area.

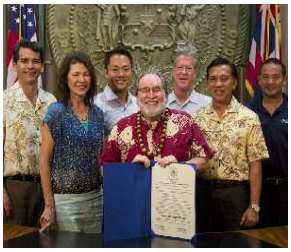
The HHFDC provided Low-Income Housing Tax Credits, Hula Mae Multi-Family Bonds and Rental Housing Trust Fund financing for the project. In exchange for affordability, HHFDC is leasing the land to Mutual Housing Assistance of Hawaii for 65 years.

ECONOMIC IMPACT				
Units	Project Value	Direct Jobs	Indirect Jobs	Income Generated
120	$35,400,000	89	54	$21,240,800

Based on DBEDT 2012 Economic Model

FINANCING RESOURCES FOR FIRST-TIME HOMEBUYERS

The HHFDC's single-family programs are consumer oriented, providing below-market rate mortgage financing, tax credits, and down payment loans to assist eligible first-time homebuyers.



Homeownership Month
Governor Neil Abercrombie and Lt. Governor Shan S. Tsutsui signed a proclamation in recognition of June 2013 as Homeownership Month to promote and preserve homeownership opportunities for the people of Hawaii.

Hula Mae Single Family Program

This program offers eligible first-time homebuyers with mortgage financing at very competitive interest rates. Since 1979, the Program issued over $1.948 billion of Hawaii Single Family Mortgage Purchase Revenue Bonds. Borrowers apply directly with participating lending institutions and must meet federal eligibility requirements including income and purchase price limitations, as well as the three year no prior ownership interest in a principal residence requirement. As of June 30, 2013, Hula Mae helped 10,074 families purchase their first homes.

On December 1, 2011, the HHFDC issued $50 million in tax-exempt revenue bonds, which provided approximately $44 million for eligible first-time homebuyers for its current Hula Mae Single Family program. The HHFDC participated in the New Issue Bond (NIB) Program, established by the Housing and Economic Recovery Act of 2008, providing for the federal government to purchase up to 60% of a housing finance agency bond issue at below market rates through its Government Sponsored Entities, Fannie Mae and Freddie Mac. The 2011 Hula Mae Single Family program features an optional downpayment assistance program providing up to 3% of the principal amount of their Hula Mae loan at closing. Borrowers also have the option of using federal mortgage insurance programs provided through FHA, USDA or VA with their Hula Mae loan.

Mortgage Credit Certificate (MCC) Program

The MCC program provides eligible first-time homebuyers with a direct tax credit against their federal income tax liability to make more income available to qualify for a mortgage loan and make monthly payments. The amount of credit is equivalent to 20% of the annual interest paid on a mortgage loan. MCCs are offered through participating lenders. As of June 30, 2013, the HHFDC has traded in approximately $631million of mortgage revenue bond authority for just over $157 million of MCC authority and to date, has assisted 2,780 families in purchasing their first homes. During FY 2013, the program has assisted 257 families in purchasing their first homes.

HOMEBUYER/HOMEOWNER COUNSELING

National Foreclosure Mitigation Counseling Program (NFMC)

NFMC was established to provide counseling and limited legal assistance to families and individuals facing the threat of foreclosure. HHFDC received five awards of NFMC funds (NFMC Rounds 2 through 7), totaling $852,500. As of June 30, 2013, through partnerships with nonprofit counseling agencies, approximately 3,900 homeowners have received foreclosure mitigation counseling under the NFMC program.

The Making Home Affordable Program (MHA)

MHA helps families avoid foreclosure and strengthen the housing market recovery. HHFDC was awarded up to $27,100 to provide free mortgage modification counseling to homeowners with difficulty making their mortgage payments or facing threat of foreclosure. HHFDC is partnering with the Hawaii Foreclosure Information Center and local HUD-approved agencies to provide free counseling services. The counseling agencies can also help homeowners at risk with loan modifications and alternative plans of action.

Emergency Homeowners' Loan Program (EHLP)

EHLP, authorized by the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010, provides loan funds to eligible homeowners who have become unemployed or underemployed due to the economic downturn or a medical condition to avert foreclosure. Loans of up to $50,000 assist homeowners with payments of arrearages, including delinquent taxes and insurance plus up to 24 months of monthly payment on their mortgage principal, interest, mortgage insurance premiums, taxes and hazard insurance. HHFDC, again in partnership with nonprofit housing counseling agencies, was awarded up to $79,089.05 under the EHLP to provide 35 homeowners with housing counseling services for the loan period.

HUD Comprehensive Housing Counseling (CHC)

CHC provides funds for counseling services to current and potential homeowners and tenants to assist them in improving their housing conditions and in meeting the responsibilities of homeownership or tenancy. HHFDC was awarded up to $21,460 under CHC, and in partnership with the Department of Hawaiian Home Lands and subgrantee, Hale Mahaolu, will provide these services in the County of Maui

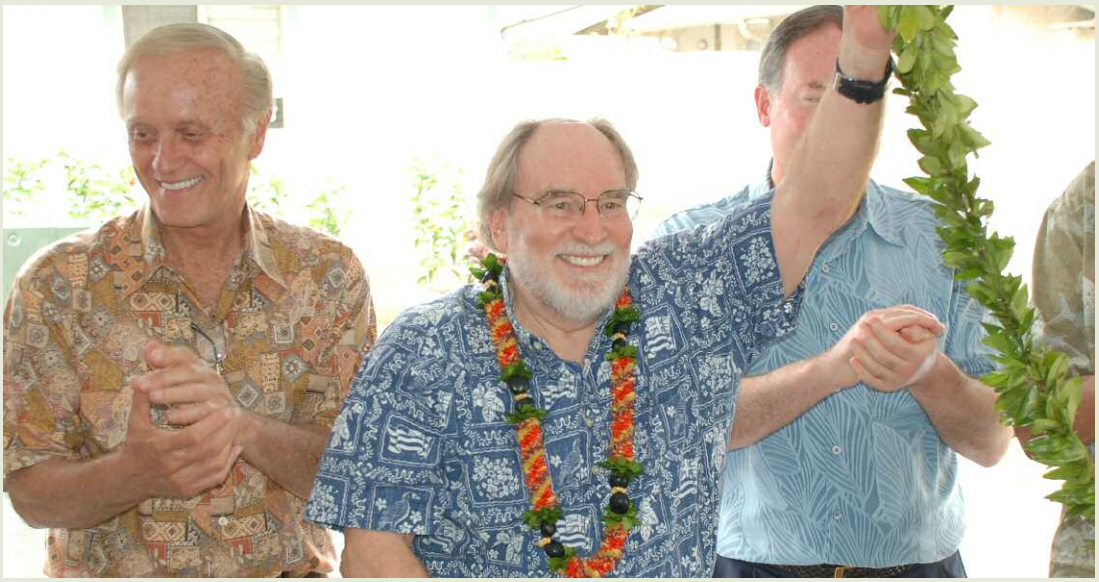
ANCILLARY RESPONSIBILITIES

Maintaining Waiahole Valley Subdivision

The HHFDC owns approximately 750 acres in Waiahole Valley and a 1.0 million gallon water system that services the residents and Waiahole Elementary School. There are 159 total lots for residential, agricultural and commercial use, open space, water lots, stream lots, and roadways. Approximately $21.5 million has been spent to acquire the property and for capital improvements as of June 30, 2013. In addition, a total of $11.4 million has been charged to the project for General Obligation Bond interest through June 30, 2003, when the bonds were retired.

Seawinds Apartments

Housing Solutions, Inc.



A Grand Opening/Blessing ceremony was held for Seawinds Apartments, a new construction 50 unit affordable rental in Wai`anae.

The Public Private Partnership between HHFDC, the City and County of Honolulu, HUD and Housing Solutions, Inc. is comprised of 20 studio units and 30 2-bedroom units. The HHFDC provided administered $4.9 million in federal Neighborhood Stabilization Program (NSP) financing for the project.

The 30 long-term townhouses and 20 transitional studios are designed for low-income residents who earn less than 60 percent of Honolulu's $81,600 median income. For a family of four, households that earn less than $59,520 qualify. For a couple, those that earn less than $47,640 qualify.

Average resident annual income is $28,689, resulting in average monthly rents of $749 for town homes and $549 for studios. Utilities are included in the rents. ABOUT 20 percent of the units will be reserved for those who make less than 50 percent of the median income.

ECONOMIC IMPACT				
Units	Project Value	Direct Jobs	Indirect Jobs	Income Generated
50	$14,770,945	37	22	$8,862,567

Based on DBEDT 2012 Economic Model

Ma`ili III Self-Help Housing

Self-Help Housing Corporation of Hawaii

A groundbreaking ceremony was held for Ma`ili Self-Help Housing Project III, an affordable subdivision of 72, 5,000 square-foot lots on a 9.5 acre parcel of vacant land in Ma`ili. It is the result of a public-private partnership between the State of Hawai‘i’s Hawai‘i Housing Finance and Development Corporation (HHFDC), the City and County of Honolulu, U.S.D.A. Rural Development and Self Help Housing Corporation of Hawaii (SHHCH).

“The Ma‘ili Self-Help Housing Project provides an example of how the public and private sectors can work together to deliver quality, affordable workforce housing in Hawai‘i,” said Governor Abercrombie. Most importantly, this project empowers families by asking them to become equal partners, requiring investments of personal time, effort and commitment that result in their becoming not just occupants but homeowners who are truly vested in the long-term future of their homes and neighborhoods.”

Low-income families will all build their own houses presently being developed by the SHHCH. Developing the project as a 201H project with special exemptions through the City and County of Honolulu, and with loans from the State’s HHFDC, Rural Community Assistance Corporation, Housing Assistance Council, and a grant from U.S. Department of Housing and Urban Development, SHHCH will be able to offer fee simple house and lot packages from $256,000 - $276,000.

ECONOMIC IMPACT				
Units	Project Value	Direct Jobs	Indirect Jobs	Income Generated
72	$11,281,746	28	17	$6,769,048

Based on DBEDT 2012 Economic Model

Maintaining Infrastructure in the Villages of Kapolei

The City and County of Honolulu has not yet accepted dedication of infrastructure in the Villages of Kapolei. Therefore, the HHFDC maintains the infrastructure and is in the process of engaging a consultant to assist with the dedication. The time frame for dedication cannot be readily estimated as the dedication process involves many different agencies, entities, consultants and contractors.

The current infrastructure budget is approximately $195 million, of which $128.5 million has been expended as of June 30, 2013. This includes $116.2 million in infrastructure development costs and $12.3 million in interim maintenance costs. There has been no interest charge to the project because it was initially funded by the Homes Revolving Fund, which was repealed in 2003.

The Villages of Kapolei was developed pursuant to Act 15, SLH 1988. The Act provided the Housing Finance and Development Corporation (HFDC) (predecessor to the HCDCH and HHFDC) with temporary powers to expedite the development of affordable housing. It authorized the HFDC to develop housing projects that were exempt from all statutes, ordinances, charter provisions, and rules of any governmental agency relating to planning, zoning, construction standards for subdivisions, development and improvement of land, and the construction of units thereon; provided that the project met minimum requirements of health and safety; did not contravene any safety standards or tariffs approved by the Public Utilities Commission for public utilities; and the HFDC first conducted a public hearing after reasonable notice in the county in which project was situated conducted a public hearing after reasonable notice in the county in which project was situated

Land Programs – Chapters 516 and 519, HRS

The purpose of the Land Reform Act of 1967 was to encourage widespread ownership of fee simple lands among Hawaii's people. Pursuant to Chapter 516, HRS, the HHFDC assists lessees of single family homes to purchase the leased fee interest in their houselots by petitioning the state to facilitate a lease-to-fee conversion through its use of eminent domain powers. Since inception of the Land Reform Program, over 14,600 lessees have been assisted. The HHFDC continues to provide assistance and information on the lease to fee conversion process, as well as promote negotiated settlements to reduce conversion costs.

Chapter 519, HRS provides the framework for the fair arbitration of renegotiated ground lease rents for one- or two-family residential leasehold lots and cooperative housing corporations. The Lease Rent Renegotiation Program is used when lessees and lessors are unable to agree on the amount of the new lease rent upon expiration of the fixed term of the lease.

Assistance to Displaced Persons - Chapter 111, HRS

Chapter 111, HRS establishes a uniform policy for the fair and equitable treatment of owners, tenants, other persons, and business concerns lawfully residing on or lawfully occupying real property and displaced by the acquisition of real property for public or other purposes in the public interest and by building, zoning, and housing code enforcement activities. The HHFDC must assure that relocation payments are fair, reasonable, and promptly paid.

2014 PUBLIC-PRIVATE PARTNERSHIPS

Villages of Moa`e Ku, Phase II – 76-unit, one-to-three bedroom rental project targeted at households earning 30% - 60% of AMGI located in Ewa Beach. Estimated completion date of third quarter of 2014. *Developer - Hui Kauhale, Inc.*

Green Homes at Lualualei – 25-unit affordable, for-sale homes located in Waianae, Oahu. In an effort to combine a sustainable approach to building and living affordably, Green Homes at Lualualei will conserve energy through its design, energy-efficient appliances and utilize solar technology. *Developer - Green Homes at Lualualei, LLC*

Halawa View Apartments – Rehabilitation of approximately 121 rental units in a 14-story and two 3-story building in Aiea. HHFDC assisting with LIHTC and HMMF financing. *Developer - Hawaii Pacific, LLC*

Halekauwila Place – 204-unit affordable family rental housing project in Kakaako. Units are targeted to families earning 60% of AMGI. Project is estimated to be completed in first quarter of 2014. *Developer - Stanford Carr Development, LLC*

Hale Makana `O Nanakuli – 72 one-, two- and three-bedroom family rentals in Nanakuli. HHFDC has financing commitments for tax-exempt revenue bonds, federal and state Low Income Housing Tax Credits and a Rental Housing Trust Fund loan. *Developer - Hawaiian Community Development Board*

Hale Mohalu II Family – 84 rental units in Pearl City. When completed, the master planned project will consist of a 164-unit senior project and a future 168-unit family rental housing project on approximately 4.7 acres of state land. *Developer - Coalition for Specialized Housing*

Hale Uhiwai Nalu Addition – 50-unit new construction addition to the Hale Uhiwai Nalu in Kapolei. Units are targeted at Veterans earning 80% and below of AMGI. Estimated project completion date is 2014. *Developer - Cloudbreak Hawaii, LLC*

Imi Ikena Apartments - 28-unit rental housing project located in Wailuku, Maui. HHFDC provided financing assistance with Low-Income Housing Tax Credits. *Developer - Imi Ikena Housing Partners LLC*

Kamakana Villages at Keahuolu

Nohona III at Kapolei

Kamakana at Keahuolu – Master-planned community on 272 acres of non-ceded land in Keahuolu, Kailua-Kona, Hawai`i. Approximately 1,169 units of the total projected 2,330 homes will be workforce and affordable. *Developer - Forest City Hawaii Kona, LLC*

Kewalo Apartments - 38-unit Acquisition/Rehabilitation located in the urban core of Honolulu. *Developer - Hawaii Pacific LLC*

Ko`oloa`ula Phase II – 188-unit rental project in East Kapolei, Oahu. The ten three-story townhome rental is targeted at families earning 30% to 60% of AMGI and will remain affordable for 63 years. *Developer - Mutual Housing Association of Hawaii, Inc.*

Ma`ili III Self-Help Housing - HHFDC provided interim DURF loans, for predevelopment and infrastructure costs for the 72-unit fee simple housing project located on the Waianae Coast of Oahu. *Developer - Self Help Housing Corporation of Hawaii*

Mohouli Heights Senior Neighborhood Phase I – 60-unit affordable senior rental. The new construction located in Hilo, Hawaii is targeted to seniors earning 50% and below AMGI. HHFDC provided financing assistance in Low-Income Housing Tax Credits and Rental Housing trust Fund and Rental Assistance Revolving Fund loans. *Developer - Mohouli Senior Phase 1 LLP*

Senior Residence at Iwilei – 160-unit affordable senior rental. The new construction located in the urban core of Honolulu includes partial HHFDC financing in the form of Low-Income Housing Tax Credits, Hula Mae-Multi Family Bonds and a Dwelling Unit Revolving Fund Loan. *Developer - Senior Residence at Iwilei Limited Partnership*

Villages of Leiali'i – Master planned community located on 1,128 acres of State land in Lahaina, Maui. In May 7, 2007, the HHFDC approved a DURF budget of $1 million to update the master plan and EIS for the project.

Nohona at Kapolei III - 83 fee-simple townhomes with prices starting in the low $300,000s. Nohona III at Kapolei consists of 4 new two-story buildings with 2- or 3-bedroom floor plans with up to 1,184 square feet of living space. *Developer - Castle & Cooke Homes Hawaii, Inc.*

Imi Ikena Apartments

Part of the Governor's legislative package, SB1025 (enacted as Act 135) updates the Hula Mae Single Family Mortgage Loan Program to allow broader program participation by potential single family homeowners, especially for eligible borrowers' principal residences. It also adds down payment, closing cost and other assistance as a program feature and makes various housekeeping and conforming amendments.

HOUSING-RELATED LEGISLATION PASSED IN 2013

Act 135, Session Laws of Hawai'i 2013 (Senate Bill 1025, H.D. 3, C.D. 1)

Relating to the Housing Loan and Mortgage Program.

This Act allows more households to qualify for this housing mortgage loan program by broadening statutory eligibility criteria for Hula Mae mortgage loans, authorizing HHFDC to offer downpayment assistance as an optional feature of Hula Mae Single Family program loans, and deletes references to two inactive programs, the Loans to Lenders and Purchase of Existing Loans Programs.

Act 202, Session Laws of Hawai'i 2013 (House Bill 560, H.D. 1, S.D. 1, C.D. 1)

Relating to Affordable Housing Urban Gardening.

This Act authorizes HHFDC and the Hawaii Community Development Authority to provide incentives to housing project proposals that incorporate urban gardening as amenities for project residents. The Act requires consultation with the University of Hawaii College of Tropical Agriculture and Human Resources regarding urban gardening best practices.

The following resolutions approving the fee simple sale of HHFDC lands were adopted:

Senate Concurrent Resolution 11

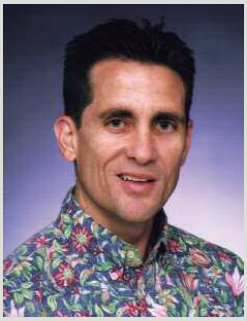
Approving the Sale of the Leased Fee Interest in 643 Papahehi Street, Honolulu, Hawaii.

Senate Concurrent Resolution 12

Approving the Sale of the Leased Fee Interest in 95-011 Kuahelani Avenue, No. 111, Mililani, Hawaii.

BOARD OF DIRECTORS

Craig K. Hirai
Executive Director



Ralph Mesick
Chairman (At-Large)

Paul Kyno
Vice-Chairman (Kauai)

Leilani Pulmano
Secretary (Maui)

Allan Los Banos
Director (Honolulu)

Betty Lou Larson
Director (Private Non-Profit)

Richard C. Lim
Ex-Officio Member, Director Department of Business, Economic Development and Tourism

Michael Ng
Ex-Officio Member, Office of the Governor

Kalbert Young
Ex-Officio Member, Director Department of Budget and Finance

Additional information is provided in the Audited Financial Statements available online at: www.hawaii.gov/dbedt/hhfdc

HHFDC

Hawaii Housing Finance &
Development Corporation

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Ph: (808) 587-0620 • Fax: (808) 587-0600
www.hawaii.gov/dbedt/hhfdc

ACcuity LLP

CERTIFIED PUBLIC ACCOUNTANTS

State of Hawai‘i
Hawaii Housing Finance and Development Corporation

Financial and Compliance Audit

June 30, 2013

Submitted by
The Auditor
State of Hawai‘i

Quality *Integrity* *Insight*

State of Hawai‘i
Hawaii Housing Finance and Development Corporation
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June 30, 2013

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PART I
Financial Statements

ACcuity LLP
CERTIFIED PUBLIC ACCOUNTANTS

Report of Independent Auditors

The Auditor
State of Hawai‘i

The Board of Directors
State of Hawai‘i, Hawaii Housing Finance and Development Corporation

Report on the Financial Statements
We have audited the accompanying financial statements of the governmental activities, the business-type activities, each major fund and the aggregate remaining fund information of the State of Hawai‘i, Hawaii Housing Finance and Development Corporation (the “Corporation”), as of and for the year ended June 30, 2013, which collectively comprise the Corporation’s basic financial statements as listed in the index.

Management’s Responsibility for the Financial Statements
Management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditors’ Responsibility
Our responsibility is to express opinions on these financial statements based on our audit. We conducted our audit in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards,* issued by the Comptroller General of the United States. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditors’ judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity’s preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity’s internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinions.

Opinions
In our opinion, the financial statements referred to above present fairly, in all material respects, the respective financial position of the governmental activities, the business-type activities, each major fund and the aggregate remaining fund information of the Corporation as of June 30, 2013, and the respective changes in financial position and, where applicable, cash flows thereof and the respective budgetary comparison for the Neighborhood Stabilization Program Fund for the year then ended in accordance with accounting principles generally accepted in the United States of America.

an independent member of
BAKER TILLY
INTERNATIONAL

999 Bishop Street, Suite 1900
Honolulu, Hawaii 96813
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Emphasis of Matter
As discussed in Note 1, the financial statements of the Corporation include only the governmental activities, business-type activities, each major fund and the aggregate remaining fund information of the Corporation, and are not intended to present fairly the financial position of the State of Hawai‘i as of June 30, 2013, and the changes in its financial position and its cash flows for the year then ended in conformity with accounting principles generally accepted in the United States of America. Our opinion is not modified with respect to this matter.

Other Matters
Required Supplementary Information
Accounting principles generally accepted in the United States of America require that the management's discussion and analysis and budgetary comparison information on pages 3 through 11 and page 19 be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board, who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Other Information
Our audit was conducted for the purpose of forming opinions on the financial statements that collectively comprise the Corporation's basic financial statements. The combining non-major fund financial statements and reconciliation of cash and short-term investments are presented for purposes of additional analysis and are not a required part of the basic financial statements. The schedule of expenditures of federal awards is presented for purposes of additional analysis as required by U.S. Office of Management and Budget Circular A-133, *Audits of States, Local Governments, and Non-Profit Organizations*, and is not a required part of the basic financial statements.

The combining non-major fund financial statements, reconciliation of cash and short-term investments and schedule of expenditures of federal awards are the responsibility of management, and were derived from and relate directly to the underlying accounting and other records used to prepare the basic financial statements. Such information has been subjected to the auditing procedures applied in the audit of the basic financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the basic financial statements or to the basic financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the combining non-major fund financial statements, reconciliation of cash and short-term investments and schedule of expenditures of federal awards are fairly stated, in all material respects, in relation to the basic financial statements as a whole.

Other Reporting Required by Government Auditing Standards
In accordance with *Government Auditing Standards*, we have also issued our report dated November 13, 2013 on our consideration of the Corporation's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements and other matters. The purpose of that report is to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on the internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the Corporation's internal control over financial reporting and compliance.

Accuity LLP

Honolulu, Hawai‘i
November 13, 2013

The management of the State of Hawai‘i, Hawaii Housing Finance and Development Corporation (the “Corporation”) offers readers of the Corporation’s financial statements this narrative overview and analysis of their financial activities for the fiscal year ended (“FYE”) June 30, 2013. This document should be read in conjunction with the audited financial statements. All amounts presented in tables, unless otherwise indicated, are expressed in thousands of dollars.

Introduction

The Corporation was established by the State Legislature effective July 1, 2006 in accordance with Act 196, SLH 2005, as amended by Act 180, SLH 2006.

The Corporation’s mission is to increase the supply of workforce and affordable homes by providing tools and resources to facilitate housing development. Tools and resources include housing tax credits, low interest construction loans, equity gap loans, developable land and expedited land use approvals.

The Corporation is administratively attached to the State Department of Business, Economic Development and Tourism. The Corporation’s Board of Directors consists of nine members, six of whom are public members appointed by the Governor, and confirmed by the State Senate. Public members are appointed from each of the counties of Honolulu, Hawai‘i, Maui and Kaua‘i. At least four of the public members must have knowledge and expertise in public or private financing and development of affordable housing. At least one public member represents community advocates for low-income housing affiliated with private nonprofit organizations that serve the residents of low-income housing. The Director of Business, Economic Development and Tourism; the Director of Finance; and a representative of the Governor’s Office are ex-officio voting members. All Corporation action is taken by the affirmative vote of at least five members.

Overview of the Financial Statements

This discussion and analysis is intended to serve as an introduction to the financial statements of the Corporation for the period ended June 30, 2013. The financial statements consist of Management’s Discussion and Analysis, the basic financial statements, related notes to the financial statements and other required supplementary information. These components are described below:

Basic Financial Statements
The basic financial statements include two kinds of statements that present different views of the Corporation:

- The first two statements are Corporation-wide financial statements that provide information about the Corporation’s overall financial position and results of operations. These statements are presented on an accrual basis of accounting and consist of the Statement of Net Position and the Statement of Activities.

- The remaining statements are the fund financial statements of the Corporation’s governmental funds, for which activities are funded primarily from appropriations from the State, the Corporation’s major and non-major proprietary funds, which operate similar to business-type activities. The governmental funds are presented on a modified accrual basis of accounting while the proprietary funds are presented on an accrual basis of accounting.

- The basic financial statements also present budgetary comparison statements, which are required.

- The basic financial statements also include a “Notes to Financial Statements” section that explains some of the information in the government-wide and fund financial statements and provides more detailed data.

- The “Notes to Financial Statements” are followed by a “Supplementary Information” section, which presents combining information on non-major funds, which is not required.

Government-wide Financial Statements
The government-wide statements report information about the Corporation as a whole using accounting methods similar to those used by private sector companies. The statement of net position provides both short-term and long-term information about the Corporation’s financial position, which assists in assessing the Corporation’s economic condition at the end of the fiscal year. All of the current year revenues and expenses are accounted for in the statement of activities regardless of when cash is received or paid. Most of the Corporation’s activities are business-type activities and are reported in its proprietary funds. The government-wide financial statements include two statements:

- The *statement of net position* presents all of the Corporation’s assets and liabilities, with the difference between the two reported as “net position.” Over time, increases and decreases in the Corporation’s net position may serve as a useful indicator of the health of the financial position of the Corporation.

- The *statement of activities* presents information indicating how the Corporation’s net position changed during the most recent fiscal year.

The government-wide financial statements of the Corporation are divided into two categories:

- *Governmental activities* – The activities in this section are primarily supported by State or Federal appropriations or by Federal contributions.

- *Business-type activities* – These functions normally are intended to recover all or a significant portion of their costs through user fees and charges to external users.

Fund Financial Statements
The fund financial statements provide more detailed information about the Corporation’s most significant funds and not the Corporation as a whole. The financial activities of the Corporation are recorded in individual funds, each of which is deemed to be a separate accounting entity. Funds are either reported as a major fund or a non-major fund. The Governmental Accounting Standards Board (GASB) issued Statement No. 34, *Basic Financial Statements – Management’s Discussion and Analysis – for State and Local Governments*, which sets forth the minimum criteria for the determination of major funds. The non-major funds are combined in a column in the fund financial statements and are detailed in the combining section of the financial statements.

The Corporation has two types of funds:

- *Governmental Funds*
  - Governmental funds are used to account for essentially the same functions reported as governmental activities in the government-wide financial statements.
  - Governmental fund financial statements help determine whether there are more or fewer financial resources that can be spent in the near future to finance the Corporation's programs.
  - The focus of the governmental funds is narrower than that of the government-wide financial statements; therefore, it is useful to compare the information presented for governmental funds with similar information presented for governmental activities in the government-wide financial statements. By doing so, readers may better understand the long-term impact of the government's near-term financing decision.
  - Both the governmental fund balance sheet and the governmental fund statement of revenues, expenditures and change in fund balances provide a reconciliation to facilitate this comparison between governmental funds and governmental activities.
- *Proprietary Funds* – The Corporation's only type of proprietary funds are its enterprise funds, which are used to account for those activities for which the intent of management is to recover, primarily through user charges, the cost of providing services to customers.

Notes to Financial Statements
The notes provide additional information that is essential to a full understanding of the data provided in the government-wide and fund financial statements. The notes to the financial statements follow the basic financial statements.

Supplementary Information
In addition to the basic financial statements and accompanying notes, this report also presents certain supplementary information. The combining financial statements of the non-major funds and reconciliation of cash and short term investments are presented as supplementary information.

Supplementary information also includes the Schedule of Expenditures of Federal Awards ("SEFA"). The SEFA reports federal awards to the Corporation on an accrual basis of accounting for the year ended June 30, 2013.

Government-wide Financial Analysis

As noted earlier, the *statement of net position* presents all of the Corporation’s assets and liabilities, with the difference between the two reported as net position. Over time, changes in net position may serve as a useful indicator of the Corporation’s financial statements. As indicated below, as of June 30, 2013, the Corporation’s total net position was approximately $559,279,000, an increase of $15,988,000 (or 2.9%) from the previous year.

Government-Wide Condensed Statements of Net Position
June 30, 2013 and 2012
(in thousands of dollars)

	Governmental Activities		Business-Type Activities		Total		Percent
	2013	2012	2013	2012	2013	2012	Change
Current assets	$ 7,056	$ 33,032	$ 297,035	$ 213,132	$ 304,091	$ 246,164	23.5%
Assets held by trustee	-	-	179,917	259,351	179,917	259,351	-30.6%
Capital assets	69	139	91,672	96,850	91,741	96,989	-5.4%
Other assets	9,861	9,862	445,263	461,331	455,124	471,193	-3.4%
Total assets	$ 16,986	$ 43,033	$ 1,013,887	$ 1,030,664	$ 1,030,873	$ 1,073,697	-4.0%
Current liabilities	$ 56	$ 32	$ 140,389	$ 80,686	$ 140,445	$ 80,718	74.0%
Long-term liabilities	-	-	331,149	449,688	331,149	449,688	-26.4%
Total liabilities	56	32	471,538	530,374	471,594	530,406	-11.1%
Net position							
Invested in capital assets, net of related debt	69	139	24,966	27,584	25,035	27,723	-9.7%
Restricted	9,861	9,862	153,853	233,151	163,714	243,013	-32.6%
Unrestricted	7,000	33,000	363,530	239,555	370,530	272,555	35.9%
Total net position	16,930	43,001	542,349	500,290	559,279	543,291	2.9%
Total liabilities and net position	$ 16,986	$ 43,033	$ 1,013,887	$ 1,030,664	$ 1,030,873	$ 1,073,697	-4.0%

Current assets increased by approximately $57,927,000 (or 23.5%) during 2013 primarily related to increases in cash and cash equivalents and investments in State Treasury of approximately $17,302,000, an increase in current receivables of $66,661,000 and a decrease in the due from State of Hawai‘i of $26,000,000. The increase in receivables comprised of increases in mortgage loans of approximately $58,198,000, increases in notes and loans receivable of approximately $6,665,000, and an increase in accrued interest of approximately $1,810,000.

Assets held by trustee result from the trust indentures of the revenue bond funds requiring cash and investments to be held by a trustee. These assets decreased by approximately $79,434,000 (or 30.6%) during 2013 due primarily to a net increase in the bonds payable of approximately $46,971,000 in the Multifamily Housing Revenue Bond Fund and a net decrease of approximately $100,738,000 in the Single Family Mortgage Purchase Revenue Bond Fund due to either repayments or defeasance. Restrictions on net position, which represent resources that are subject to external restrictions on how they may be used, primarily include the assets held by trustee and decreased by approximately $79,299,000 (or 32.6%) during 2013.

Capital assets decreased by approximately $5,248,000 (or 5.4%) during 2013 primarily due to depreciation expense of $5,599,000.

Other assets decreased by approximately $16,069,000 (or 3.4%) during 2013 primarily due to a net increase of approximately $18,898,000 in new mortgage loans issued by the Rental Housing Trust Fund and a decrease of approximately $39,826,000 in mortgage loans in the Multifamily Housing Revenue Bond Fund (primarily due to a repayment of mortgage loans in fiscal year 2013).

Current liabilities increased by approximately $59,727,000 (or 74.0%) during 2013 primarily due to an increase in the current portion of revenue bonds payable of approximately $63,559,000.

Long-term liabilities decreased by approximately $118,539,000 (or 26.4%) primarily due to a paydown of revenue bonds and classification of revenue bonds to current liabilities.

Net position invested in capital assets consist of all capital assets, reduced by the outstanding balances of any bonds, mortgages, notes, or other borrowings that are attributable to the acquisition, construction, or improvement of those assets.

Unrestricted net position consist of net position that does not meet the definition of “restricted” or “net position invested in capital assets, net of related debt.”

The statement of activities below presents information indicating how the Corporation’s net position changed during the most recent fiscal year:

Government-Wide Statements of Activities
Years Ended June 30, 2013 and 2012
(in thousands of dollars)

	Governmental Activities		Business-Type Activities		Total		Percent
	2013	2012	2013	2012	2013	2012	Change
Revenues							
Program revenues							
Charges for services	$ -	$ -	$ 49,984	$ 41,829	$ 49,984	$ 41,829	19.5%
Operating grants and contributions	6,381	17,989	6,190	7,315	12,571	25,304	-50.3%
General revenues							
State allotted appropriations, net of lapses	5,000	36,500	-	-	5,000	36,500	-86.3%
Net change in fair value of equity in cash and cash equivalents and investments in State Treasury	-	-	1,199	(444)	1,199	(444)	-370.0%
Total revenues	11,381	54,489	57,373	48,700	68,754	103,189	-33.4%
Expenses							
Governmental activities							
Expenditures	6,452	18,087	-	-	6,452	18,087	-64.3%
Business-type activities							
Rental assistance program	-	-	1,889	1,765	1,889	1,765	7.0%
Housing development program	-	-	6,391	5,784	6,391	5,784	10.5%
Multi-family mortgage loan programs	-	-	5,723	5,096	5,723	5,096	12.3%
Single-family mortgage loan program	-	-	10,066	6,278	10,066	6,278	60.3%
Rental housing program	-	-	20,344	18,951	20,344	18,951	7.4%
Others	-	-	1,901	1,895	1,901	1,895	0.3%
Total expenses	6,452	18,087	46,314	39,769	52,766	57,856	-8.8%
Net change before transfers	4,929	36,402	11,059	8,931	15,988	45,333	-64.7%
Transfers	(31,000)	(10,000)	31,000	10,000	-	-	0.0%
Change in net position	(26,071)	26,402	42,059	18,931	15,988	45,333	-64.7%
Net position							
Beginning of year	43,001	16,599	500,290	481,359	543,291	497,958	9.1%
End of year	$ 16,930	$ 43,001	$ 542,349	$ 500,290	$ 559,279	$ 543,291	2.9%

Governmental Activities

For the fiscal year ended June 30, 2013, total net position of the governmental activities decreased by approximately $26,071,000, from $43,001,000 in 2012 to $16,930,000 in 2013. The decrease is primarily due to the State appropriated Capital Improvements Program (“CIP”) of $31,000,000 received in fiscal year 2013, of which $26,000,000 was transferred to other funds for the Senior Residence at Iwilei, and $5,000,000 was infused into the Rental Housing Trust Fund.

Business-type Activities

Revenues of the Corporation’s business-type activities were primarily from charges for services, program investment income and federal assistance program funds. Charges for services consist primarily of rental income and interest income of loans related to the Corporation’s lending programs. The majority of the program investment income is from income earned within the Corporation’s bond funds and is restricted to those funds.

For the fiscal year ending June 30, 2013, business-type activities increased the Corporation’s net position by approximately $42,059,000 after transfers of $31,000,000. Key elements of this increase are as follows:

- Total revenues of $57,373,000 exceeded total expenses by $11,059,000. Revenues primarily consisted of $49,984,000 in charges for services for 2013, while the $46,314,000 in expenses primarily consisted of operating expenses for the Corporation’s various business-type functions.

- Net transfers increased net position by the $5,000,000 General Obligation Bond Fund infusion into the Rental Housing Trust Fund and the $26,000,000 General Obligation Bond Fund transfer to the Dwelling Unit Revolving Fund as previously noted in Governmental Activities.

Financial Analysis of the Fund Financial Statements

A fund is a grouping of related accounts that is used to maintain control over resources that have been segregated for specific activities or objectives. The Corporation, like other state and local governments, uses fund accounting to ensure and demonstrate compliance with finance-related legal requirement.

Governmental Funds
At June 30, 2013, the Corporation’s governmental funds reported total fund balances of $16,862,000.

The governmental funds consist of two major funds and several non-major funds. The two major funds are the (1) Neighborhood Stabilization Program (“NSP”) Fund and (2) General Obligation Bond Fund.

- The *Neighborhood Stabilization Program Fund* was established for the purpose of stabilizing communities that have suffered from foreclosures and abandonment through the purchase and redevelopment of foreclosed and abandoned homes and residential properties. The fund had no ending fund balance at June 30, 2013 as all revenues recognized were expended.

- The *General Obligation Bond Fund* is used to transfer proceeds from the State’s issuance of general obligation bonds to the Corporation for subsequent use by the Corporation’s other funds. As previously mentioned under Governmental Activities, the fund transferred a total of $31,000,000 to the Rental Housing Trust Fund and the Dwelling Unit Revolving Fund during the fiscal year and had a fund balance of $7,000,000 as of June 30, 2013.

Proprietary Funds
The proprietary funds consist of five major and several non-major funds. The five major funds are the: (1) Rental Housing Trust Fund, (2) Dwelling Unit Revolving Fund, (3) Hawaii Rental Housing System Revenue Bond Fund, (4) Single Family Mortgage Purchase Revenue Bond Fund, and (5) Multifamily Housing Revenue Bond Fund.

- The *Rental Housing Trust Fund* provides developers of qualified rental housing projects with loans and/or grants for the development, predevelopment, construction, acquisition, preservation and rehabilitation of rental housing units. The fund recognized an increase in net position of approximately $23,729,000 in 2013, compared to an increase of $21,864,000 in 2012. The 2013 increase in net position consisted of conveyance tax collections of approximately $16,409,000, loan interest income of $1,715,000, and $682,000 of interest on investments, less operating expenses of approximately $190,000. As previously mentioned, a $5,000,000 infusion was also made into the Rental Housing Trust Fund.

  Conveyance taxes increased by approximately $5,869,000 (or 55.7%) to $16,409,000 in 2013 from $10,540,000 in 2012, due to an increase in real estate activity compared to last year. Interest income on cash balances increased due to higher interest yields.

- The *Dwelling Unit Revolving Fund* accounts for State funds used for acquiring, developing, selling, leasing and renting residential, commercial and industrial properties, providing interim financing, which generates rents, sales proceeds and interest earnings from the financing and investment of such funds. The fund had an increase in net position of $27,015,000 in 2013, which was due primarily to a $26,000,000 transfer into the Dwelling Unit Revolving Fund, interest income of $2,233,000, offset by operating expenses of $6,391,000 exceeding operating revenues of $5,174,000.

- The *Hawaii Rental Housing System Revenue Bond Fund* accounts for special funds for housing projects or systems of housing projects financed from proceeds of bonds secured under the same trust indenture. The fund accounts for six multifamily rental housing projects located throughout the State. The fund had a loss of approximately $1,805,000 in 2013, which was a decrease of approximately $59,000 (or 3.2%) from the loss of $1,864,000 in 2012. The decrease in the loss is due to an increase in rental revenues.

- The *Single Family Mortgage Purchase Revenue Bond Fund* accounts for the proceeds from the issuance of bonds used to make below-market interest rate mortgage loans and the repayment, interest and earnings from such loans and investment of such funds. Net position in the fund decreased by approximately $5,053,000, as a result of an operating loss of $6,869,000 and nonoperating expenses of $666,000, offset by nonoperating revenues of $2,482,000.

- The *Multifamily Housing Revenue Bond Fund* accounts for the proceeds from the issuance of bonds to provide interim construction loans and/or permanent financing at below market interest rates to facilitate the construction or rehabilitation of affordable housing projects. Net position in the fund increased by approximately $445,000 primarily as a result of operating revenues which is comprised mostly of interest income on mortgage loans exceeding operating expenses, which is comprised mostly of interest expense.

Capital Assets and Debt Administration

Capital Assets

As of June 30, 2013, the Corporation had invested approximately $91,741,000 (net of accumulated depreciation of $110,073,000) in a broad range of capital assets. This amount represents a decrease of approximately $5,248,000 (or 5.4%) over the prior year, primarily due to depreciation expense of $5,599,000.

Corporation’s Capital Assets
June 30, 2013 and 2012
(in thousands of dollars)

	Governmental Activities		Business-Type Activities		Total		Percent
	2013	2012	2013	2012	2013	2012	Change
Land	$ -	$ -	$ 43,290	$ 43,355	$ 43,290	$ 43,355	-0.1%
Buildings and improvements	-	-	155,459	155,122	155,459	155,122	0.2%
Equipment	568	568	2,497	2,418	3,065	2,986	2.6%
Total	568	568	201,246	200,895	201,814	201,463	0.2%
Accumulated depreciation	(499)	(429)	(109,574)	(104,045)	(110,073)	(104,474)	5.4%
Total capital assets, net	$ 69	$ 139	$ 91,672	$ 96,850	$ 91,741	$ 96,989	-5.4%

Debt Administration

Through June 30, 2013, approximately $2.7 billion of revenue bonds have been issued. The revenue bonds are payable solely from the revenues and other monies and assets of the Revenue Bond Funds and other assets of the Corporation pledged under the various bond indentures. Revenue bonds payable, net of premiums and deferred charges, decreased by approximately $55,897,000 to approximately $390,647,000 at June 30, 2013 from $446,544,000 at June 30, 2012. During the year ended June 30, 2013, the Corporation issued $26,309,000 in new bonds for the Single Family Mortgage Purchase Revenue Bond System and $104,331,000 in new bonds for the Multifamily Housing System. Bond redemptions were approximately $127,047,000, $2,585,000 and $57,360,000 for the Single Family Mortgage Purchase, Hawaii Rental Housing System and Multifamily Housing Revenue Bond Funds, respectively.

As of June 30, 2013, Moody’s Investors Service’s rating of the Corporation continued to be A2 with a negative outlook. The Corporation’s bond ratings for the Single Family Mortgage Purchase Revenue Bond program were as follows:

- Standard & Poor’s Rating Services: AA+
- Moody’s Investors Service: Aaa
- Fitch Ratings: AAA

Currently Known Facts, Decisions or Conditions

- The Corporation is currently exploring options to expand the use of Public-Private Partnerships (“PPP”) to operate its affordable rental housing projects. A PPP is a contractual arrangement between public and private sector entities that pools together and shares the skills and resources, as well as the risks and rewards, of each sector to achieve the common goal of delivering a public service. Through PPPs, the Corporation expects to achieve a more cost-efficient and effective means of not just developing, but also managing, maintaining, and operating affordable rental housing projects.

Requests for Information

This report is designed to provide an overview of the Corporation’s finances. Questions concerning any of the information found in this report or requests for additional information should be directed to the Chief Financial Officer, Hawaii Housing Finance and Development Corporation, 677 Queen Street, Suite 300, Honolulu, Hawaii 96813.

State of Hawai‘i
Hawaii Housing Finance and Development Corporation
Statement of Net Position
June 30, 2013

	Governmental Activities	Business-Type Activities	Total
Assets			
Current assets			
Equity in cash and cash equivalents and investments in State Treasury	$ 49,909	$ 177,309,360	$ 177,359,269
Cash in banks	4,640	2,484,932	2,489,572
Receivables			
Mortgage loans	-	59,450,632	59,450,632
Notes and loans	-	14,378,234	14,378,234
Accrued interest	-	16,110,417	16,110,417
Tenant receivables, less allowance for doubtful accounts of $685,286	-	84,160	84,160
Other receivables, less allowance for doubtful accounts of $1,758	-	2,542,893	2,542,893
	-	92,566,336	92,566,336
Due from State	7,000,000	-	7,000,000
Due from other governments	25,370	-	25,370
Internal balances	(24,191)	24,191	-
Inventories – development in progress and dwelling units	-	24,174,414	24,174,414
Prepaid expenses and other assets	-	416,660	416,660
Deposits held in trust	-	5,717	5,717
Deferred bond issuance costs	-	53,485	53,485
Total current assets	7,055,728	297,035,095	304,090,823
Assets held by Trustees under revenue bond programs			
Cash and cash equivalents	-	68,492,419	68,492,419
Investments	-	111,424,901	111,424,901
	-	179,917,320	179,917,320
Other receivables	-	1,023,834	1,023,834
Due from other State departments	-	10,151,454	10,151,454
Investments	-	6,709,494	6,709,494
Mortgage loans, net of allowance for loan losses of $271,702	-	323,078,339	323,078,339
Notes and loans	9,861,610	102,423,172	112,284,782
Restricted deposits and funded reserves	-	532,852	532,852
Deferred bond issuance costs	-	1,343,155	1,343,155
Capital assets, net	68,962	91,671,805	91,740,767
Total assets	$ 16,986,300	$ 1,013,886,520	$ 1,030,872,820

The accompanying notes are an integral part of these financial statements.

State of Hawai‘i
Hawaii Housing Finance and Development Corporation
Statement of Net Position
June 30, 2013

	Governmental Activities	Business-Type Activities	Total
Liabilities and Net Position			
Current liabilities			
Accounts payable	$ 55,728	$ 845,337	$ 901,065
Accrued expenses			
Interest	-	4,272,323	4,272,323
Other	-	989,620	989,620
Due to other State departments, net	-	3,239,168	3,239,168
Security deposits	-	2,316,296	2,316,296
Note payable	-	13,743	13,743
Mortgages payable	-	48,500	48,500
Revenue bonds payable, net	-	68,540,542	68,540,542
Deferred income	-	22,870,523	22,870,523
Deferred gain on sale of units and land	-	1,905,724	1,905,724
Estimated future costs of development	-	35,346,842	35,346,842
Total current liabilities	55,728	140,388,618	140,444,346
Noncurrent liabilities			
Deferred fees	-	135,940	135,940
Arbitrage rebate payable	-	154,962	154,962
Note payable	-	182,469	182,469
Mortgages payable	-	5,334,899	5,334,899
Revenue bonds payable, net	-	322,106,936	322,106,936
Postemployment liability	-	3,233,717	3,233,717
Total noncurrent liabilities	-	331,148,923	331,148,923
Total liabilities	55,728	471,537,541	471,593,269
Commitments and contingencies			
Net position			
Invested in capital assets, net of related debt	68,962	24,966,065	25,035,027
Restricted by legislation and contractual agreements	9,861,610	153,852,724	163,714,334
Unrestricted	7,000,000	363,530,190	370,530,190
Total net position	16,930,572	542,348,979	559,279,551
Total liabilities and net position	$ 16,986,300	$ 1,013,886,520	$ 1,030,872,820

The accompanying notes are an integral part of these financial statements.

State of Hawai‘i
Hawaii Housing Finance and Development Corporation
Statement of Activities
Year Ended June 30, 2013

		Program Revenues		Net (Expense) Revenue and Changes in Net Position		
	Expenses	Charges for Services	Operating Grants and Contributions	Governmental Activities	Business-type Activities	Total
Functions/Programs						
Governmental activities						
Low income housing service and assistance program	$ 6,450,703	$ -	$ 6,381,006	$ (69,697)	$ -	$ (69,697)
Total governmental activities	6,450,703	-	6,381,006	(69,697)	-	(69,697)
Business-type activities						
Rental assistance program	1,889,421	68,509	5,484	-	(1,815,428)	(1,815,428)
Housing development program	6,391,001	3,456,622	3,448,589	-	514,210	514,210
Multi-family mortgage loan program	5,723,045	24,205,161	168,162	-	18,650,278	18,650,278
Single-family mortgage loan program	10,066,164	2,742,029	2,269,843	-	(5,054,292)	(5,054,292)
Rental housing program	20,343,940	18,231,657	296,308	-	(1,815,975)	(1,815,975)
Others	1,900,576	1,279,814	1,477	-	(619,285)	(619,285)
Total business-type activities	46,314,147	49,983,792	6,189,863	-	9,859,508	9,859,508
Total	$ 52,764,850	$ 49,983,792	$ 12,570,869	(69,697)	9,859,508	9,789,811
General revenues						
State allotted appropriations, net of lapses				5,000,000	-	5,000,000
Net transfers				(31,000,000)	31,000,000	-
Net increase in fair value of equity in cash and cash equivalents and investments in State Treasury				-	1,199,137	1,199,137
Total general revenues and transfers				(26,000,000)	32,199,137	6,199,137
Change in net position				(26,069,697)	42,058,645	15,988,948
Net position						
Beginning of year				43,000,269	500,290,334	543,290,603
End of year				$ 16,930,572	$ 542,348,979	$ 559,279,551

The accompanying notes are an integral part of these financial statements.

State of Hawai‘i
Hawaii Housing Finance and Development Corporation
Governmental Funds
Balance Sheet
June 30, 2013

	Neighborhood Stabilization Program Fund	General Obligation Bond Fund	Other Governmental Funds	Total Governmental Funds
Assets				
Equity in cash and cash equivalents and investments in State Treasury	$ -	$ -	$ 49,909	$ 49,909
Cash in banks	252	-	4,388	4,640
Notes and loans receivable	-	-	9,861,610	9,861,610
Due from State	-	7,000,000	-	7,000,000
Due from other governments	14,076	-	11,294	25,370
Total assets	$ 14,328	$ 7,000,000	$ 9,927,201	$ 16,941,529
Liabilities and Fund Balances				
Liabilities				
Accounts payable	$ -	$ -	$ 55,728	$ 55,728
Due to other funds	14,328	-	9,863	24,191
Total liabilities	14,328	-	65,591	79,919
Fund balances				
Restricted	-	-	9,861,610	9,861,610
Committed	-	7,000,000	-	7,000,000
Total fund balances	-	7,000,000	9,861,610	16,861,610
Total liabilities and fund balances	$ 14,328	$ 7,000,000	$ 9,927,201	$ 16,941,529

The accompanying notes are an integral part of these financial statements.

State of Hawai‘i
Hawaii Housing Finance and Development Corporation
Governmental Funds
Reconciliation of the Governmental Funds Balance Sheet to the Statement of Net Position
June 30, 2013

Total fund balances – governmental funds		$ 16,861,610
Amounts reported for governmental activities in the statement of net position are different because		
Capital assets used in governmental activities are not current financial resources and therefore not reported in the funds. These assets consist of the following		
Equipment	$ 567,704	
Accumulated depreciation	(498,742)	
Total capital assets		68,962
Net position of governmental activities		$ 16,930,572

The accompanying notes are an integral part of these financial statements.

State of Hawai‘i
Hawaii Housing Finance and Development Corporation
Governmental Funds
Statement of Revenues, Expenditures and Change in Fund Balances
Year Ended June 30, 2013

	Neighborhood Stabilization Program Fund	General Obligation Bond Fund	Other Governmental Funds	Total Governmental Funds
Revenues				
State allotted appropriations, net of lapses	$ -	$ 5,000,000	$ -	$ 5,000,000
Intergovernmental revenue	3,798,899	-	2,582,107	6,381,006
Total revenue	3,798,899	5,000,000	2,582,107	11,381,006
Expenditures				
Programs	3,725,400	-	2,504,236	6,229,636
Personnel services	64,197	-	52,255	116,452
Administration	6,656	-	15,520	22,176
Professional services	2,646	-	10,096	12,742
Total expenditures	3,798,899	-	2,582,107	6,381,006
Other financing uses				
Transfers out	-	(31,000,000)	-	(31,000,000)
Change in fund balances	-	(26,000,000)	-	(26,000,000)
Fund balances				
Beginning of year	-	33,000,000	9,861,610	42,861,610
End of year	$ -	$ 7,000,000	$ 9,861,610	$ 16,861,610

The accompanying notes are an integral part of these financial statements.

State of Hawai‘i
Hawaii Housing Finance and Development Corporation
Governmental Funds
Reconciliation of the Governmental Funds Statement of Revenues, Expenditures and Change in Fund Balances to the Statement of Activities
Year Ended June 30, 2013

Net change in fund balances – total governmental funds		$ (26,000,000)
Amounts reported for governmental activities in the statement of activities are different because		
Governmental funds report capital outlays as expenditures. In the statement of activities, the cost of those assets is allocated over their estimated useful lives and reported as depreciation expense. This is the amount by which depreciation expense exceeded capital outlays during the year.		
Depreciation expense	$ (69,697)	
		(69,697)
Change in fund balances – governmental activities		$ (26,069,697)

The accompanying notes are an integral part of these financial statements.

State of Hawai‘i
Hawaii Housing Finance and Development Corporation
Budgetary Comparison Statement – Neighborhood Stabilization Program Fund
Year Ended June 30, 2013

	Original and Final Budgets	Budgetary Actual
Revenues		
Intergovernmental revenue	$ 3,798,899	$ 3,798,899
Expenditures		
Programs	3,725,400	3,725,400
Personnel services	64,197	64,197
Administration	6,656	6,656
Professional services	2,646	2,646
Total expenditures	3,798,899	3,798,899
Excess of revenues over expenditures	$ -	-
Fund balances		
Beginning of year		-
End of year		$ -

The accompanying notes are an integral part of these financial statements.

State of Hawai‘i
Hawaii Housing Finance and Development Corporation
Proprietary Funds
Statement of Net Position
June 30, 2013

	Rental Housing Trust Fund	Dwelling Unit Revolving Fund	Hawaii Rental Housing System Revenue Bond Fund	Single Family Mortgage Purchase Revenue Bond Fund	Multifamily Housing Revenue Bond Fund	Other Enterprise Funds	Total Enterprise Funds
Assets							
Current assets							
Equity in cash and cash equivalents and investments in State Treasury	$ 62,530,808	$ 87,343,772	$ -	$ -	$ -	$ 27,434,780	$ 177,309,360
Cash in banks	-	264,108	2,174,998	-	-	45,826	2,484,932
Receivables							
Mortgage loans	406,496	-	-	341,107	58,703,029	-	59,450,632
Notes and loans	-	14,378,234	-	-	-	-	14,378,234
Accrued interest	4,678,107	8,786,398	-	535,971	1,167,660	942,281	16,110,417
Tenant receivables, less allowance for doubtful accounts of $685,286	-	50,480	-	-	-	33,680	84,160
Other receivables, less allowance for doubtful accounts of $1,758	-	2,314,109	-	-	187,978	40,806	2,542,893
Total receivables	5,084,603	25,529,221	-	877,078	60,058,667	1,016,767	92,566,336
Due from other funds	51	615,000	-	-	1,476,223	1,717,576	3,808,850
Due from other State departments	-	2,344,436	-	-	-	-	2,344,436
Inventories – development in progress and dwelling units	-	24,174,414	-	-	-	-	24,174,414
Prepaid expenses and other assets	-	218,400	54,270	5,476	-	138,514	416,660
Deposits held in trust	-	-	-	-	-	5,717	5,717
Deferred bond issuance costs	-	-	53,485	-	-	-	53,485
Total current assets	67,615,462	140,489,351	2,282,753	882,554	61,534,890	30,359,180	303,164,190
Assets held by Trustees under revenue bond programs							
Cash and cash equivalents	-	-	26,597,448	38,719,600	3,175,371	-	68,492,419
Investments	-	-	-	86,040,908	25,383,993	-	111,424,901
	-	-	26,597,448	124,760,508	28,559,364	-	179,917,320
Other receivables	-	-	1,023,834	-	-	-	1,023,834
Due from other State departments	-	10,151,454	-	-	-	-	10,151,454
Investments	-	-	-	-	-	6,709,494	6,709,494
Mortgage loans, net of allowance for loan losses of $271,702	191,277,035	461,846	-	1,308,422	126,986,275	3,044,761	323,078,339
Notes and loans	-	102,423,172	-	-	-	-	102,423,172
Restricted deposits and funded reserves	-	-	-	-	-	532,852	532,852
Deferred bond issuance costs	-	-	586,595	756,560	-	-	1,343,155
Capital assets, net	-	27,245,025	60,352,170	-	-	4,074,610	91,671,805
Total assets	$ 258,892,497	$ 280,770,848	$ 90,842,800	$ 127,708,044	$ 217,080,529	$ 44,720,897	$ 1,020,015,615

The accompanying notes are an integral part of these financial statements.

State of Hawai‘i
Hawaii Housing Finance and Development Corporation
Proprietary Funds
Statement of Net Position
June 30, 2013

	Rental Housing Trust Fund	Dwelling Unit Revolving Fund	Hawaii Rental Housing System Revenue Bond Fund	Single Family Mortgage Purchase Revenue Bond Fund	Multifamily Housing Revenue Bond Fund	Other Enterprise Funds	Total Enterprise Funds
Liabilities and Net Position							
Current liabilities							
Accounts payable	$ -	$ 33,230	$ 388,564	$ 27,294	$ -	$ 396,249	$ 845,337
Accrued expenses							
Interest	-	-	2,074,708	1,014,906	1,182,709	-	4,272,323
Other	26,842	589,741	63,538	144,595	15,841	149,063	989,620
Due to other funds	-	-	595,600	489,683	-	2,699,376	3,784,659
Due to other State departments	-	5,573,604	-	-	-	10,000	5,583,604
Security deposits	-	77,819	1,160,005	-	-	1,078,472	2,316,296
Note payable	-	13,743	-	-	-	-	13,743
Mortgages payable	-	-	-	-	-	48,500	48,500
Revenue bonds payable, net	-	-	2,685,000	7,152,513	58,703,029	-	68,540,542
Deferred income	-	22,870,523	-	-	-	-	22,870,523
Deferred gain on sale of units and land	-	1,905,724	-	-	-	-	1,905,724
Estimated future costs of development	-	35,346,842	-	-	-	-	35,346,842
Total current liabilities	26,842	66,411,226	6,967,415	8,828,991	59,901,579	4,381,660	146,517,713
Noncurrent liabilities							
Deferred fees	-	-	-	135,940	-	-	135,940
Arbitrage rebate payable	-	-	-	154,962	-	-	154,962
Note payable	-	182,469	-	-	-	-	182,469
Mortgages payable	-	-	-	-	-	5,334,899	5,334,899
Revenue bonds payable, net	-	-	85,038,577	81,532,084	155,536,275	-	322,106,936
Postemployment liability	69,902	1,985,813	165,904	521,822	89,766	400,510	3,233,717
Total noncurrent liabilities	69,902	2,168,282	85,204,481	82,344,808	155,626,041	5,735,409	331,148,923
Total liabilities	96,744	68,579,508	92,171,896	91,173,799	215,527,620	10,117,069	477,666,636
Commitments and contingencies							
Net position							
Invested in capital assets, net of related debt	-	27,048,813	(773,959)	-	-	(1,308,789)	24,966,065
Restricted by legislation and contractual agreements	-	-	-	124,760,508	28,559,364	532,852	153,852,724
Unrestricted	258,795,753	185,142,527	(555,137)	(88,226,263)	(27,006,455)	35,379,765	363,530,190
Total net position	258,795,753	212,191,340	(1,329,096)	36,534,245	1,552,909	34,603,828	542,348,979
Total liabilities and net position	$ 258,892,497	$ 280,770,848	$ 90,842,800	$ 127,708,044	$ 217,080,529	$ 44,720,897	$ 1,020,015,615

The accompanying notes are an integral part of these financial statements.

State of Hawai‘i
Hawaii Housing Finance and Development Corporation
Proprietary Funds
Statement of Revenues, Expenses and Change in Net Position
Year Ended June 30, 2013

	Rental Housing Trust Fund	Dwelling Unit Revolving Fund	Hawaii Rental Housing System Revenue Bond Fund	Single Family Mortgage Purchase Revenue Bond Fund	Multifamily Housing Revenue Bond Fund	Other Enterprise Funds	Total Enterprise Funds
Operating revenues							
Rental	$ -	$ 1,855,677	$ 16,886,881	$ -	$ -	$ 597,657	$ 19,340,215
Conveyance tax	16,409,446	-	-	-	-	-	16,409,446
Interest on mortgages, notes, loans and mortgage-backed securities	1,714,607	1,716,927	-	2,731,567	5,300,814	111,462	11,575,377
Net decrease in fair value of mortgage-backed securities	-	-	-	(3,096,884)	-	-	(3,096,884)
Gain on sale of land, net	-	882,136	-	-	-	-	882,136
Other	112,910	718,809	742,201	10,462	667,384	1,241,779	3,493,545
Total operating revenues	18,236,963	5,173,549	17,629,082	(354,855)	5,968,198	1,950,898	48,603,835
Operating expenses							
Interest expense	-	-	4,163,578	4,632,476	5,306,500	-	14,102,554
Programs	-	1,830,738	8,595,877	-	-	-	10,426,615
Personnel services	118,423	2,819,937	203,423	818,261	139,406	1,574,398	5,673,848
Depreciation	-	177,110	5,194,065	-	-	158,497	5,529,672
Administration	41,945	984,788	357,938	600,155	15,912	354,807	2,355,545
Housing assistance payments	-	-	-	376,500	-	1,735,795	2,112,295
Professional services	28,979	268,959	60,265	43,995	23,668	97,854	523,720
Insurance	-	12,276	203,591	6,295	-	136,963	359,125
Capital expenses	-	6,532	325,186	-	-	-	331,718
Repairs and maintenance	632	213,313	56,941	-	-	14,083	284,969
Provision for losses	-	75,068	103,391	-	-	1,254	179,713
Utilities	-	-	-	1,532	-	88,976	90,508
Other	-	2,280	72,435	34,608	37,311	137,767	284,401
Total operating expenses	189,979	6,391,001	19,336,690	6,513,822	5,522,797	4,300,394	42,254,683
Operating income (loss) carried forward	18,046,984	(1,217,452)	(1,707,608)	(6,868,677)	445,401	(2,349,496)	6,349,152

The accompanying notes are an integral part of these financial statements.

State of Hawai‘i
Hawaii Housing Finance and Development Corporation
Proprietary Funds
Statement of Revenues, Expenses and Change in Net Position
Year Ended June 30, 2013

	Rental Housing Trust Fund	Dwelling Unit Revolving Fund	Hawaii Rental Housing System Revenue Bond Fund	Single Family Mortgage Purchase Revenue Bond Fund	Multifamily Housing Revenue Bond Fund	Other Enterprise Funds	Total Enterprise Funds
Operating income (loss) brought forward	18,046,984	(1,217,452)	(1,707,608)	$ (6,868,677)	445,401	(2,349,496)	6,349,152
Nonoperating revenues (expenses)							
Interest income	168,162	1,731,662	40,507	2,269,843	-	702,518	4,912,692
Net increase in the fair value of equity in cash and cash equivalents and investments in State Treasury	514,275	501,261	-	-	-	183,601	1,199,137
Net decrease in fair value of other investments	-	-	-	-	-	(439,756)	(439,756)
Interest expense	-	-	-	-	-	(360,167)	(360,167)
Amortization of deferred bond insurance costs	-	-	(104,396)	(666,184)	-	-	(770,580)
Arbitrage rebate	-	-	-	211,980	-	-	211,980
Other expense	-	-	(33,600)	-	-	(10,213)	(43,813)
Total nonoperating revenues (expenses)	682,437	2,232,923	(97,489)	1,815,639	-	75,983	4,709,493
Income (loss) before transfers	18,729,421	1,015,471	(1,805,097)	(5,053,038)	445,401	(2,273,513)	11,058,645
Transfers in	5,000,000	26,000,000	-	-	-	-	31,000,000
Change in net position	23,729,421	27,015,471	(1,805,097)	(5,053,038)	445,401	(2,273,513)	42,058,645
Net position							
Beginning of year	235,066,332	185,175,869	476,001	41,587,283	1,107,508	36,877,341	500,290,334
End of year	$ 258,795,753	$ 212,191,340	$ (1,329,096)	$ 36,534,245	$ 1,552,909	$ 34,603,828	$ 542,348,979

The accompanying notes are an integral part of these financial statements.

State of Hawai‘i
Hawaii Housing Finance and Development Corporation
Proprietary Funds
Statement of Cash Flows
Year Ended June 30, 2013

	Rental Housing Trust Fund	Dwelling Unit Revolving Fund	Hawaii Rental Housing System Revenue Bond Fund	Single Family Mortgage Purchase Revenue Bond Fund	Multifamily Housing Revenue Bond Fund	Other Enterprise Funds	Total Enterprise Funds
Cash flows from operating activities							
Cash received from tenants	$ -	$ 1,396,349	$ 16,724,984	$ -	$ -	$ 350,423	$ 18,471,756
Cash received from borrowers							
Principal repayments	2,040,609	4,324,358	-	526,094	3,023,976	95,829	10,010,866
Interest income	1,191,199	40,552	-	3,402,186	5,078,946	51,099	9,763,982
Cash received from sale of units and land	-	1,004,832	-	-	-	-	1,004,832
Cash received from conveyance taxes	16,409,446	-	-	-	-	-	16,409,446
Cash received for payments on mortgage-backed securities, net	-	-	-	85,720	-	-	85,720
Cash payments for issuance of loans receivable	(20,956,224)	(18,505,958)	-	(619,355)	(21,444,491)	-	(61,526,028)
Interest payments	-	-	(4,211,685)	(6,021,050)	(5,069,583)	-	(15,302,318)
Payments to employees	(82,420)	(2,819,937)	(203,423)	(818,261)	(139,406)	(1,574,398)	(5,637,845)
Payments to suppliers	(71,556)	(2,530,448)	(9,629,852)	(481,783)	(5,853)	(2,379,956)	(15,099,448)
Cash receipts from (payments to) other funds	(237)	1,780,262	(141,856)	(275,527)	(406,182)	755,170	1,711,630
Other cash receipts (payments)	112,910	850,629	536,387	(376,500)	551,442	1,242,673	2,917,541
Net cash provided by (used in) operating activities	(1,356,273)	(14,459,361)	3,074,555	(4,578,476)	(18,411,151)	(1,459,160)	(37,189,866)
Cash flows from noncapital financing activities							
Principal paid on revenue bond maturities and redemptions	-	-	-	(126,766,707)	-	-	(126,766,707)
Proceeds from new bond issuance	-	-	-	26,309,000	-	-	26,309,000
Arbitrage rebate paid	-	-	-	(1,976,524)	-	-	(1,976,524)
Transfers in	5,000,000	26,000,000	-	-	-	-	31,000,000
Net cash provided by (used in) noncapital financing activities	5,000,000	26,000,000	-	(102,434,231)	-	-	(71,434,231)
Subtotal carried forward	3,643,727	11,540,639	3,074,555	(107,012,707)	(18,411,151)	(1,459,160)	(108,624,097)

The accompanying notes are an integral part of these financial statements.

State of Hawai‘i
Hawaii Housing Finance and Development Corporation
Proprietary Funds
Statement of Cash Flows
Year Ended June 30, 2013

	Rental Housing Trust Fund	Dwelling Unit Revolving Fund	Hawaii Rental Housing System Revenue Bond Fund	Single Family Mortgage Purchase Revenue Bond Fund	Multifamily Housing Revenue Bond Fund	Other Enterprise Funds	Total Enterprise Funds
Subtotal brought forward	3,643,727	11,540,639	3,074,555	(107,012,707)	(18,411,151)	(1,459,160)	(108,624,097)
Cash flows from capital and related financing activities							
Principal paid on revenue bond maturities and redemptions	-	-	(2,580,983)	-	(97,360,306)	-	(99,941,289)
Proceeds from new bond issuance	-	-	-	-	144,330,821	-	144,330,821
Principal paid on mortgage loans and notes payable	-	(13,743)	-	-	-	(42,664)	(56,407)
Interest payments	-	-	-	-	-	(103,328)	(103,328)
Purchase of capital assets	-	-	(399,270)	-	-	(17,693)	(416,963)
Net cash provided by (used in) capital and related financing activities	-	(13,743)	(2,980,253)	-	46,970,515	(163,685)	43,812,834
Cash flows from investing activities							
Purchase of investments	-	-	-	(392,676,604)	(25,383,993)	-	(418,060,597)
Proceeds from maturities of investments	-	-	-	486,529,767	-	-	486,529,767
Interest received	168,162	1,731,662	-	2,269,843	-	445,263	4,614,930
Change in fair value of equity in cash and cash equivalents and investments in State Treasury	514,275	501,261	-	-	-	183,601	1,199,137
Other payments	-	-	-	-	-	(8,759)	(8,759)
Net cash provided by (used in) investing activities	682,437	2,232,923	-	96,123,006	(25,383,993)	620,105	74,274,478
Net increase (decrease) in cash and cash equivalents	4,326,164	13,759,819	94,302	(10,889,701)	3,175,371	(1,002,740)	9,463,215
Cash and cash equivalents							
Beginning of year	58,204,644	73,848,061	28,678,144	49,609,301	-	29,021,915	239,362,065
End of year	$ 62,530,808	$ 87,607,880	$ 28,772,446	$ 38,719,600	$ 3,175,371	$ 28,019,175	$ 248,825,280
Components of cash and cash equivalents							
Equity in cash and cash equivalents and investments in State Treasury	$ 62,530,808	$ 87,343,772	$ -	$ -	$ -	$ 27,434,780	$ 177,309,360
Cash in banks	-	264,108	2,174,998	-	-	45,826	2,484,932
Deposits held in trust	-	-	-	-	-	5,717	5,717
Cash and cash equivalents held by Trustee	-	-	26,597,448	38,719,600	3,175,371	-	68,492,419
Restricted deposits and funded reserves	-	-	-	-	-	532,852	532,852
Cash and cash equivalents	$ 62,530,808	$ 87,607,880	$ 28,772,446	$ 38,719,600	$ 3,175,371	$ 28,019,175	$ 248,825,280

The accompanying notes are an integral part of these financial statements.

State of Hawai‘i
Hawaii Housing Finance and Development Corporation
Proprietary Funds
Statement of Cash Flows
Year Ended June 30, 2013

	Rental Housing Trust Fund	Dwelling Unit Revolving Fund	Hawaii Rental Housing System Revenue Bond Fund	Single Family Mortgage Purchase Revenue Bond Fund	Multifamily Housing Revenue Bond Fund	Other Enterprise Funds	Total Enterprise Funds
Cash flows from operating activities							
Reconciliation of operating income (loss) to net cash provided by (used in) operating activities							
Operating income (loss)	$ 18,046,984	$ (1,217,452)	$ (1,707,608)	$ (6,868,677)	$ 445,401	$ (2,349,496)	$ 6,349,152
Adjustments to reconcile operating income (loss) to net cash provided by (used in) operating activities							
Net decrease in fair value of mortgage-backed securities	-	-	-	3,096,884	-	-	3,096,884
Depreciation	-	177,110	5,194,065	-	-	158,497	5,529,672
Provision for losses	-	75,068	103,391	-	-	1,254	179,713
Gain on sale of assets	-	65,464	-	-	-	-	65,464
Changes in assets and liabilities							
Mortgage loans receivable	(18,915,615)	(29,586)	-	526,094	(18,420,515)	95,829	(36,743,793)
Notes and loans receivable	-	(14,152,014)	-	-	-	-	(14,152,014)
Accrued interest receivable	(523,408)	(1,676,375)	-	670,619	(221,868)	(60,363)	(1,811,395)
Tenant receivables	-	(82,461)	(218,484)	-	-	(25,382)	(326,327)
Other receivables	-	133,034	(93,335)	-	(78,631)	(7,577)	(46,509)
Due from other funds	-	-	-	-	(406,182)	473,540	67,358
Due from other State departments	-	1,780,262	-	-	-	-	1,780,262
Inventories – development in progress and dwelling units	-	(74,994)	-	-	-	-	(74,994)
Prepaid expenses and other assets	-	(18,200)	(44,473)	838	-	(1,029)	(62,864)
Investments	-	-	-	85,721	-	-	85,721
Accounts payable	-	12,231	47,149	(6,801)	-	(13,075)	39,504
Accrued interest payable	18,993	-	(48,107)	(1,481,541)	236,917	-	(1,273,738)
Other accrued expenses	17,010	447,036	(72,774)	200,302	33,727	61,207	686,508
Due to other funds	(237)	-	(141,856)	(275,527)	-	418,977	1,357
Security deposits	-	3,940	56,587	-	-	(211,542)	(151,015)
Deferred income	-	(380,807)	-	-	-	-	(380,807)
Deferred refunding costs	-	-	-	162,899	-	-	162,899
Deferred fees	-	-	-	(689,287)	-	-	(689,287)
Deferred gain on sale of units and land	-	57,231	-	-	-	-	57,231
Estimated future costs of development	-	421,152	-	-	-	-	421,152
Net cash provided by (used in) operating activities	$ (1,356,273)	$ (14,459,361)	$ 3,074,555	$ (4,578,476)	$ (18,411,151)	$ (1,459,160)	$ (37,189,866)

The accompanying notes are an integral part of these financial statements.

1. Organization and Summary of Significant Accounting Policies

Financial Reporting Entity

Chapter 201E, Hawaii Revised Statutes and Act 337, Session Laws of Hawaii (“SLH”) 1987, created the Housing Finance and Development Corporation (“HFDC”). The HFDC was created to perform housing finance, housing development and residential leasehold functions. The Hawaii Housing Authority, State of Hawai‘i (“Authority”) was organized pursuant to the provisions of Chapter 356, Hawaii Revised Statutes. The Authority was created to provide safe and sanitary dwelling accommodations for low and moderate-income residents of Hawai‘i.

In accordance with Act 350, SLH 1997, effective July 1, 1998, the functions and employees of HFDC as well as those of the Authority and the Rental Housing Trust Fund Commission were transferred to the newly created Housing and Community Development Corporation of Hawaii (“HCDCH”). The purpose of Act 350, SLH 1997, was to consolidate all state housing functions previously administered by the Authority, HFDC and the Rental Housing Trust Fund Commission. HCDCH was a public body, both corporate and politic, and was for administrative purposes considered to be a part of the State Department of Business, Economic Development and Tourism. In accordance with Act 92, SLH 2003, effective July 1, 2003, the functions and employees of HCDCH were transferred to the State Department of Human Services for administrative purposes.

In accordance with Act 196, SLH 2005, as amended by Act 180, SLH 2006, HCDCH was split into two organizations to more effectively concentrate on the development of affordable housing. Effective July 1, 2006, HCDCH was bifurcated into (1) the Hawaii Public Housing Authority (“HPHA”) and (2) the Hawaii Housing Finance and Development Corporation (the “Corporation”).

For financial reporting purposes, the Corporation includes all funds that are controlled by or dependent on the Corporation’s Board of Directors. Control by or dependence on the Corporation was determined on the basis of statutory authority and monies flowing through the Corporation to each fund.

The financial statements of the Corporation include only the governmental activities, business-type activities, each major fund and the aggregate remaining fund information of the Corporation, and are not intended to present fairly the financial position of the State of Hawai‘i (the “State”) as of June 30, 2013, and the changes in its financial position and its cash flows for the year then ended in conformity with accounting principles generally accepted in the United States of America. The State Comptroller maintains the central accounts for all State funds and publishes financial statements for the State annually, which include the Corporation’s financial activities.

Government-Wide and Fund Financial Statements

The government-wide financial statements, the statement of net position and the statement of activities, report information of the non-fiduciary activities of the Corporation. Governmental activities, which normally are supported by State allotments and intergovernmental revenues, are reported separately from business-type activities, which rely to a significant extent on fees and charges for support.

The statement of activities demonstrates the degree to which the direct expenses of a given function are offset by program revenues. Direct expenses are those that are clearly identifiable with a specific function. Program revenues include charges to customers who purchase, use, or directly benefit from goods or services provided by a given function. Program revenues also include grants and contributions that are restricted to meeting the operational or capital requirements of a particular function. State allotments and other items not properly included among program revenues are reported instead as general revenues. Resources that are dedicated

internally are reported as general revenues rather than program revenues. The Corporation employs an indirect cost allocation system. The Corporation provides certain administrative services to its various funds. The cost of these services is allocated to the funds based on estimates of benefits provided to the funds.

Net position is restricted when constraints placed on it are either externally imposed or imposed by constitutional provisions or enabling legislation. Internally imposed designations of resources are not presented as restrictions of net position. When both restricted and unrestricted resources are available for use, generally it is the Corporation’s policy to use restricted resources first, then unrestricted resources as they are needed.

The fund financial statements are provided for governmental and proprietary funds. Major individual governmental fund and major individual enterprise funds are reported as separate columns in the fund financial statements. Non-major funds are summarized into a single column.

Measurement Focus and Basis of Accounting

Government-Wide Financial Statements

The government-wide financial statements are reported using the economic resources measurement focus and the accrual basis of accounting. Revenues are recorded when earned and expenses are recorded when a liability is incurred, regardless of the timing of the related cash flows. Grants and similar items are recognized as revenue as soon as all eligibility requirements imposed by the provider have been met.

Governmental Fund Financial Statements

Governmental fund financial statements are reported using the current financial resources measurement focus and the modified accrual basis of accounting. Revenues are recognized as soon as they are both measurable and available. Revenues are considered to be available when they are collectible within the current period or soon enough thereafter to pay liabilities for the current period. For this purpose, the Corporation considers revenues to be available if they are collected within 60 days of the end of the current fiscal year end. In applying the susceptible to accrual concept to intergovernmental revenues, the provider should recognize liabilities and expenses and the recipient should recognize receivables and revenues when applicable requirements, including timing requirements, are met.

Principal revenue sources considered susceptible to accrual include federal grants and interest on investments. Some revenue items that are considered measurable and available to finance operations during the year from an accounting perspective are not available for expenditure due to the State’s present appropriation system. These revenues have been accrued in accordance with generally accepted accounting principles since they have been earned and are expected to be collected within 60 days of the end of the period. Other revenues are considered to be measurable and available only when cash is received by the Corporation.

Expenditures generally are recorded when a liability is incurred. Modifications to the accrual basis of accounting include employees’ vested vacation, which is recorded as an expenditure when utilized or paid. The amount of unmatured long-term indebtedness related to accumulated vacation at June 30, 2013 has been reported in the government-wide financial statements.

Proprietary Funds

The financial statements of proprietary funds are reported using the economic resources measurement focus and the accrual basis of accounting, similar to the government-wide statements described above.

The Corporation applies all applicable Governmental Accounting Standards Board (“GASB”) pronouncements, including the adoption of GASB Statement No. 62, *Codification of Accounting and Financial Reporting Guidance Contained in Pre-November 30, 1989 Financial Accounting Standards Board and American Institute of Certified Public Accountants Pronouncements*, in the year ended June 30, 2013.

Proprietary funds distinguish operating revenues and expenses from nonoperating items. Operating revenues and expenses generally result from providing services or goods in connection with a proprietary fund’s principal ongoing operations. Revenues and expenses not meeting this definition are reported as nonoperating revenues and expenses. The principal operating revenues of the Corporation’s enterprise funds are interest income, rental income, land sales and conveyance tax revenues. Interest income from investments is reported as nonoperating income.

Fund Accounting
The financial activities of the Corporation are recorded in individual funds, each of which is deemed to be a separate accounting entity. The Corporation uses fund accounting to report on its financial position and results of operations. Fund accounting is designed to demonstrate the legal compliance and to aid financial management by segregating transactions related to certain government functions or activities. A fund is a separate accounting entity with a self-balancing set of accounts.

GASB Statement No. 34, *Basic Financial Statements – and Management’s Discussion and Analysis – for State and Local Governments*, sets forth minimum criteria for the determination of major funds. The non-major funds are combined in a column in the fund financial statements and detailed in the combining section.

Governmental Funds

- **Home Program Fund** – The Home Program Fund is used to account for all financial activities that are funded by the related federal grants. Substantially all of the fund’s activity relates to providing affordable housing to residents of the State of Hawai‘i.

- **National Foreclosure Mitigation Counseling Program Fund** – The National Foreclosure Mitigation Counseling Program Fund is used to account for all financial activities funded by the related federal grant. Substantially all of the fund’s activity relates to providing foreclosure intervention counseling and legal assistance.

- **General Obligation Bond Fund** – The General Obligation Bond Fund is used to account for the transfers of the proceeds of the State’s general obligation bonds allotted to the Corporation for subsequent use by the Corporation’s other funds.

- **Neighborhood Stabilization Program Fund** – The Neighborhood Stabilization Program (“NSP”) Fund is used to account for all financial activities funded by the related federal grant. Substantially all of the fund’s activity relates to providing targeted emergency assistance to acquire and redevelop foreclosed properties that might otherwise become sources of abandonment and blight.

- **Tax Credit Assistance Program Fund** – The Tax Credit Assistance Program (“TCAP”) Fund is used to account for all financial activities funded by the related federal grant. Substantially all of the fund’s activities relate to providing funds directly to designated state housing credit agencies for award to affordable rental housing developments that have been allocated low income housing tax credits and are in need of additional gap equity funding.

- **Emergency Homeowners’ Loan Program** – The Emergency Homeowners’ Loan Program (“EHLP”) Fund is used to account for all financial activities funded by the related federal grant. Substantially all of the fund’s activities relate to providing emergency loans to homeowners who have suffered a loss of income that places them in jeopardy of foreclosure of their homes.

Proprietary Funds

- **Enterprise Funds** – These funds account for those activities for which the intent of management is to recover, primarily through user charges, the cost of providing goods or services to customers, or where sound financial management dictates that periodic determinations of results of operations are appropriate. Enterprise funds include the Rental Housing Trust Fund, the Dwelling Unit Revolving Fund, revenue bond funds and other funds.

  Under the revenue bond funds, proceeds from bond issues are used to make below-market interest rate mortgage loans to persons and families of low to moderate income for the purchase of owner-occupied single-family and condominium dwellings; provide interim construction loans and permanent financing of affordable rental housing projects; and to finance multifamily housing projects. These funds include the Hawai‘i Rental Housing System Revenue Bond Fund, the Single Family Mortgage Purchase Revenue Bond Fund, the Multifamily Housing Revenue Bond Fund, and the University of Hawai‘i Faculty Housing Program Revenue Bond Fund.

  The other funds include the Fee Simple Residential Revolving Fund, Rental Assistance Revolving Fund, Housing Finance Revolving Fund, Kekuilani Gardens Project Fund, Disbursing Fund, Grant-In-Aid Fund, Hamakua Fund and Waialua Fund.

  The Corporation reports the following as major proprietary funds:

  - Rental Housing Trust Fund provides developers of qualified rental housing projects with loans and/or grants for the development, predevelopment, construction, acquisition, preservation and rehabilitation of rental housing units.

  - Dwelling Unit Revolving Fund accounts for state funds used for acquiring, developing, selling, leasing and renting residential, commercial and industrial properties, providing mortgage and interim financing, rental income, sales proceeds and interest earnings from the financing and investment of such funds.

  - Hawaii Rental Housing System Revenue Bond Fund accounts for special funds to account for housing projects or systems of housing projects financed from the proceeds of bonds secured under the same trust indenture. The fund accounts for six multifamily rental housing projects located throughout the State of Hawai‘i.

  - Single Family Mortgage Purchase Revenue Bond Fund accounts for the proceeds from the issuance of bonds used to make below-market interest rate mortgage loans and the repayment, interest, and earnings from such loans and investment of such funds.

- Multifamily Housing Revenue Bond Fund accounts for the proceeds from the issuance of bonds to provide interim construction loans and/or permanent financing to facilitate the construction or rehabilitation of affordable rental housing projects.

Equity in Cash and Cash Equivalents and Investments in State Treasury
The State Director of Finance is responsible for the safekeeping of cash and investments in the State Treasury in accordance with State laws. The Director of Finance may invest any monies of the State, which in the Director's judgment, are in excess of the amounts necessary for meeting the immediate requirements of the State. Cash is pooled with funds from other State agencies and departments and deposited into approved financial institutions or in the State Treasury Investment Pool System. Funds in the investment pool accrue interest based on the average weighted cash balances of each account.

The State requires that depository banks pledge as collateral, government securities held in the name of the State for deposits not covered by federal deposit insurance.

GASB Statement No. 40, *Deposit and Investment Risk Disclosures*, requires disclosures over common deposit and investment risks related to credit risk, interest rate risk, and foreign currency risk. Investments can be categorized by type, maturity and custodian to determine the level of interest rate, credit and custodial risk assumed by the Corporation. However, as these funds are held in the State cash pool, the Corporation does not manage these investments and the types of investments and related interest rate, credit and custodial risks are not determinable at the Corporation's level. The risk disclosures of the State's cash pool are included in the State's Comprehensive Annual Financial Report ("CAFR") which may be obtained from the Department of Accounting and General Services' ("DAGS") website: http://hawaii.gov/dags/rpts.

Cash and short-term investments held outside of the State Treasury are primarily held in a financial institution outside of the State of Hawai‘i.

During fiscal 2013, the State sold the balance of its investment in auction rate securities at cost and DAGS informed state agencies participating in the State Treasury Investment Pool to adjust their investment in auction rate securities to reflect the sale. Since DAGS had allocated the write-down of these investments to the participating state agencies in prior years, the Corporation recorded a gain of approximately $1,199,000 in fiscal 2013.

Cash and cash equivalents for the purpose of the statement of cash flows include all cash and investments with original purchased maturities of three months or less. Cash and cash equivalents also include the Corporation's equity in cash and cash equivalents and investments held in the State Treasury.

Investments
Investments in U.S. government securities and certificates of deposit with maturities of one year or less when purchased are stated at cost, which approximates fair market value. Non-participating investment contracts, generally repurchase agreements, are reported at cost, which approximates fair market value. All other investments are reported at fair market value.

Inventories
Inventories consist of developments in progress and units available for sale. Developments in progress include construction in progress and land held for future development related to the remaining portions of three master planned community projects – Kapolei (Oahu), La‘i‘opua (Hawai‘i), and Leiali‘i (Maui). Costs included in developments in progress relate to the infrastructure construction for these master planned communities. Units available for sale include constructed units, developed lots and repurchased units available for sale.

Inventories are stated at the lower of cost or estimated net realizable value. All estimated development, holding and disposition costs to the anticipated date of disposition are considered in the determination of estimated net realizable value. Estimated net realizable value represents management's estimates, based on management's plans and intentions, of sales price less development, holding and disposition costs, assuming that the development and disposition occurs in the normal course of business. Write-downs for estimated losses on inventories are recorded to the extent total estimated costs exceed total estimated revenues for a project.

The recognition of gain from the sale of units is dependent on a number of factors relating to the nature of the property sold, the terms of the sale and the future involvement of the Corporation in the property sold. If a real estate transaction does not meet established financial criteria, profit recognition is deferred and recognized under the installment or cost recovery method until such time as the criteria are met.

Receivables
Receivable balances are composed of mortgage loans receivable and tenant receivables from the various projects and funds within the Corporation. Mortgage loans receivable are primarily second mortgages from nonprofit organizations and for-profit developers for the development, pre-development, construction, acquisition, preservation and substantial rehabilitation of rental housing units. Receivable amounts from tenants are related to rental arrangements. Allowances on receivables are typically established for any accounts over 90 days outstanding. For the year ended June 30, 2013, there were allowances for mortgage loan receivables and total tenant receivables of $272,000 and $685,000, respectively.

Interfund Receivables and Payables
During the course of operations, transactions occur between funds that may result in amounts owed between funds. Those related to transactions for goods and services are classified as “due to and from other funds.” Interfund receivables and payables between funds (noncurrent portion) are reported as “advances from and to other funds.” See Note 16 for details of interfund transactions, including receivables and payables at year end.

Capital Assets
Capital assets, which include property and equipment, are reported in the applicable governmental or business-type activities in the government-wide financial statements and proprietary funds financial statements. The capitalization thresholds are $5,000 for equipment, and $100,000 for land improvements, building and building improvements.

Purchased and constructed capital assets are valued at cost. Donated assets are recorded at their fair value at the date of donation.

Capital assets utilized in the governmental funds are recorded as expenditures in the governmental fund financial statements.

Depreciation expense is recorded in the government-wide and proprietary funds financial statements utilizing the straight-line method over the assets' estimated useful lives. No depreciation is recorded for land and land improvements. Generally, the useful lives are as follows:

	Governmental Activities	Proprietary Funds and Business Type Activities
Building and building improvements	25 years	10–40 years
Equipment	7 years	1–10 years

Deferred Revenues
Deferred revenues at the fund level and government-wide level arise when the Corporation receives resources before it has a legal claim to them. In subsequent periods, when the revenue recognition criteria is met, or when the Corporation has a legal claim to the resources, the liability for deferred revenue is removed from the statement of net position and revenue is recognized.

Amortization
Issuance costs of revenue bonds are deferred and amortized ratably over the term of the bond principal outstanding.

Accrued Vacation
Employees are credited with vacation at a rate of 168 hours per calendar year. Accumulation of such vacation credits is limited to 720 hours at calendar year end and is convertible to pay upon termination of employment. Liabilities for accumulated unpaid vacation are accrued at the end of each accounting period utilizing current salary rates. Such vacation credits are recorded as accrued wages and employee benefits payable in the government-wide and the proprietary funds financial statements at the balance sheet date. Accumulated unpaid vacation estimated to be used or paid during the next year is approximately $350,000. Accrued vacation, which is included in other accrued expenses in the statement of net position, changed during 2013 as follows:

Balance July 1, 2012	$ 778,127
Additions	486,583
Reductions	(556,833)
Balance at June 30, 2013	$ 707,877

Accumulated Sick Leave Pay
Sick leave accumulates at the rate of one and three-quarters working days for each month of service without limitation. It may be taken only in the event of illness and is not convertible to pay upon termination of employment. However, a State employee who retires or leaves government service in good standing with 60 days or more of unused sick leave is entitled to additional service credit in the Employees' Retirement System of the State of Hawai‘i ("ERS"). Accumulated sick leave at June 30, 2013 amounted to approximately $1,914,000.

Post Retirement Health Care and Life Insurance Benefits
The Corporation accounts for its post-retirement health care and life insurance benefits in accordance with GASB Statement No. 45, *Accounting and Financial Reporting by Employers for Postemployment Benefits Other Than Pensions*, which establishes standards of accounting and financial reporting for other postemployment benefit ("OPEB") expenses, liabilities or assets.

Risk Management
Liabilities related to certain types of losses (including torts, theft of, damage to, or destruction of assets, errors or omissions, natural disasters and injuries to employees) are reported when it is probable that the losses have occurred and the amount of those losses can be reasonably estimated.

Governmental Fund Balances
The Corporation accounts for governmental fund balances in accordance with GASB Statement No. 54 (“GASB 54”), *Fund Balance Reporting and Governmental Fund Type Definitions*. The GASB 54 hierarchical fund balance classification structure is based primarily on the extent to which a government is bound to follow constraints on how resources can be spent. Classifications include:

- **Restricted** – Balances that are restricted for specific purposes by external parties such as creditors, grantors or other governments.

- **Committed** – Balances that can only be used for specific purposes pursuant to constraints imposed by formal action of the State legislature and the Corporation’s Board of Directors.

- **Assigned** – Balances that are constrained by management to be used for specific purposes, but are neither restricted nor committed.

- **Unassigned** – Residual balances that are not contained in the other classifications.

The fund balance of the TCAP fund was restricted for use in the construction of qualified low-income buildings for which a housing credit agency has made an allocation of low-income housing credits under Section 42 of the Internal Revenue Code.

The fund balance of the General Obligation Bond fund was committed to purchase land for the development of an affordable rental housing complex.

Deficit Balances
The Hawaii Rental Housing System Revenue Bond Fund, Kekuilani Gardens Project Fund and Waialua Fund have a net deficit as of June 30, 2013. Planned rental increases at all properties within the Hawai‘i Rental Housing System are expected to aid the fund in eliminating the deficit. Rental increases at the Kekuilani Gardens Project, effective July 1, 2011, are expected to assist the project in eliminating the deficit. It is anticipated that subsidies from the State are necessary to liquidate the Waialua Fund’s deficit.

Use of Estimates
In preparing financial statements in conformity with accounting principles generally accepted in the United States of America, management is required to make estimates and assumptions that affect the reported amounts of assets and liabilities, the disclosure of contingent assets and liabilities at the date of the financial statements, and the reported amounts of revenue and expenses during the reporting period. Actual results could differ from those estimates.

New Accounting Pronouncements

In June 2011, the GASB issued Statement No. 63, *Financial Reporting of Deferred Outflows of Resources, Deferred Inflows of Resources, and Net Position*. The Statement is intended to improve financial reporting by standardizing the presentation of deferred outflows of resources and deferred inflows of resources and their effects on a government's net position. The Corporation implemented Statement No. 63 in the fiscal year ended June 30, 2013. There was no material effect on the Corporation's financial statements.

In April 2012, the GASB issued Statement No. 65, *Items Previously Reported as Assets and Liabilities.* The Statement reclassifies certain items currently being reported as assets and liabilities as deferred outflows of resources and deferred inflows of resources and provides financial reporting guidance related to the impact of the financial statement elements of deferred outflows of resources and deferred inflows of resources. The provisions of this Statement are effective for reporting periods beginning after December 15, 2012. The Corporation has not yet determined the effect this Statement will have on the Corporation's financial statements.

In April 2012, the GASB issued Statement No. 66, *Technical Corrections – 2012*. The objective of this Statement is to enhance usefulness of financial reports by resolving conflicting accounting and financial reporting guidance that could diminish the consistency of financial reporting. The requirements of this Statement are effective for reporting periods beginning after December 15, 2012. Management does not expect that this Statement will have a material effect on the Corporation's financial statements.

In June 2012, the GASB issued Statement No. 68, *Accounting and Financial Reporting for Pensions.* The Statement revises and established new financial reporting requirements for most governments that provide their employees with pension benefits. The requirements of this statement are effective for reporting periods beginning after June 15, 2014. Management has not yet determined the effect this statement will have on the Corporation's financial statements.

In April 2013, the GASB issued Statement No. 70, *Accounting and Financial Reporting for Nonexchange Financial Guarantees*. This Statement establishes accounting and financial reporting standards for financial guarantees that are nonexchange transactions (nonexchange financial guarantees) extended or received by a state or local government. The provisions of this Statement are effective for reporting periods beginning after June 15, 2013. Management does not expect that this Statement will have a material effect on the Corporation's financial statements.

2. Budgeting and Budgetary Control

Revenue estimates are provided to the State Legislature at the time of budget consideration and are revised and updated periodically during the fiscal year. Amounts reflected as budgeted revenues in the budgetary comparison statements are those estimates as compiled and reviewed by the State of Hawai‘i, Department of Budget and Finance.

Budgeted expenditures are derived primarily from the General Appropriations Act of 2005 (Act 178, Session Laws of Hawaii ("SLH") 2005), and from other authorizations contained in the State Constitution, Hawaii Revised Statutes, and other specific appropriation acts in various SLH.

All expenditures of these appropriated funds are made pursuant to the appropriations in the fiscal 2013 – 2014 biennial budget. The Neighborhood Stabilization Program fund has a legally appropriated annual budget.

The final legally adopted budget in the accompanying budgetary comparison statements represents the original appropriation, transfers, and other legally authorized legislative and executive changes.

The legal level of budgetary control is maintained at the appropriation line item level by department, program, and source of funds as established in the appropriations act. The Governor is authorized to transfer appropriations between programs within the same department and source of funds; however, transfers of appropriations between departments generally require legislative authorization. Records and reports reflecting the detail level of control are maintained by and are available at the Corporation. During the fiscal year ended June 30, 2013, there were no expenditures in excess of available appropriations at the legal level of budgetary control.

To the extent not expended or encumbered, general fund appropriations generally lapse at the end of the fiscal year for which the appropriations are made. The State Legislature specifies the lapse date and any other contingencies which may terminate the authorizations for other appropriations.

The Corporation’s annual budget is prepared on the budgetary basis of accounting with several differences from the preparation of the statement of revenues, expenditures and change in fund balances under generally accepted accounting principles (“GAAP”), principally related to (1) encumbrance of purchase orders and contract obligations, (2) accrued revenues and expenditures, and (3) unbudgeted programs (federal award programs). However, for the year ended June 30, 2013, there were no differences between the budgetary amounts and the amounts presented in accordance with GAAP.

3. Deposits

At June 30, 2013, total cash and cash equivalents reported in the statement of net position consisted of the following:

	Governmental Activities	Business-Type Activities	Total
Equity in cash and cash equivalents and investments in State Treasury	$ 49,909	$ 177,309,360	$ 177,359,269
Cash in banks (book balance)	4,640	2,484,932	2,489,572
Deposits held in trust	-	5,717	5,717
Cash and cash equivalents held by Trustee	-	68,492,419	68,492,419
Restricted deposits and funded reserves	-	532,852	532,852
Total cash	$ 54,549	$ 248,825,280	$ 248,879,829

The bank balance of cash in bank was approximately $2,548,000, of which $422,000 was covered by federal depositary insurance and $2,126,000 was not covered.

4. Investments

Investments at June 30, 2013 are summarized by maturity (in years) as follows:

	Less than 1	Greater than 1 and up to 5	Greater than 5 and up to 10	Greater than 10 and up to 20	Greater than 20	Fair Value
Mortgage-backed securities	$ -	$ 7,021,759	$ 2,985,887	$ 34,013,637	$ 38,892,871	$ 82,914,154
Repurchase agreements	-	-	7,808,160	2,028,088	-	9,836,248
Municipal bonds	-	25,383,993	-	-	-	25,383,993
Total investments	$ -	$ 32,405,752	$ 10,794,047	$ 36,041,725	$ 38,892,871	$ 118,134,395

Investments summarized in the table above are reflected in the statement of net position as follows:

Investments held by trustees under revenue bond programs	$ 111,424,901
Investments – noncurrent	6,709,494
Total investments	$ 118,134,395

- **Interest Rate Risk** – The Corporation does not have a formal investment policy that limits investment maturities as a means of managing its exposure to fair value losses arising from increasing interest rates.

- **Credit Risk** – The revenue bond funds' trust indentures authorize the trustees to invest in certificates of deposit, money market funds, U.S. government or agency obligations, and repurchase agreements. The Corporation has no investment policy that would further limit its investment decisions. As of June 30, 2013, Federal National Mortgage Association ("FNMA") mortgage-backed securities were rated Aaa, AAA, and AA+ by Moody's, Fitch, and Standard & Poor's, respectively. The Fund's investments in repurchase agreements and money market funds are not rated. U.S. Treasury securities and securities of the Government National Mortgage Association are not considered to have credit risk exposure.

- **Concentration of Credit Risk** – The Corporation has no limit on the amount the Corporation may invest in any one issuer. As of June 30, 2013, the Corporation's investments were primarily with the Federal National Mortgage Association and Societe Generale. These investments are 89% and 11%, respectively, of the Corporation's total investments.

- **Custodial Risk** – For an investment, custodial risk is the risk that, in the event of the failure of the counterparty, the Corporation will not be able to recover the value of its investments or collateral securities that are in the possession of an outside party. The Corporation's investments that are uninsured and unregistered are held by the Corporation's trust agent in the Corporation's name. The repurchase agreements are collateralized with securities held by the pledging financial institution's collateral agent but not in the Corporation's name. The underlying securities for repurchase agreements are required to be U.S. government or agency obligations of an equal or greater market value. The Corporation monitors the market value of these securities and obtains additional collateral when appropriate.

5. Mortgage Loans and Notes and Loans Receivable

Mortgage loans and notes and loans receivable at June 30, 2013 comprised the following:

	Mortgage Loans	Notes and Loans
Mortgage loans bearing interest up to 11%, maturing at various dates through 2070	$ 382,800,673	$ -
Promissory notes bearing interest up to 4.72%, maturing in 2066	-	102,423,172
Promissory notes bearing interest up to 6%, maturing in fiscal 2014	-	14,378,234
Non-interest bearing promissory notes, maturing at various dates through 2056	-	9,861,610
Allowance for loan losses	(271,702)	-
	382,528,971	126,663,016
Less: Current portion	(59,450,632)	(14,378,234)
Noncurrent portion	$ 323,078,339	$ 112,284,782

Mortgage and development loans are collateralized by real property. The revenue bond funds' mortgage loans are also subject to primary mortgage and mortgage pool insurance coverage that, subject to aggregate loss limitations, reimburses the Corporation for all losses incurred, if any, from the disposition of real property acquired through foreclosure.

The promissory notes are collateralized by a second mortgage on the improvements of Kukui Gardens (see Note 13). The non-interest bearing notes are collateralized by real property.

6. Capital Assets

Capital asset activity for the year ended June 30, 2013 was as follows:

	Balance at July 1, 2012	Additions	Disposals	Balance at June 30, 2013
Governmental activities				
Depreciable assets				
Equipment	$ 567,704	$ -	$ -	$ 567,704
Accumulated depreciation				
Equipment	(429,045)	(69,697)	-	(498,742)
Governmental activities capital assets, net	$ 138,659	$ (69,697)	$ -	$ 68,962
Business-type activities				
Depreciable assets				
Building and improvements	$ 155,122,260	$ 337,194	$ -	$ 155,459,454
Equipment	2,417,402	79,769	-	2,497,171
	157,539,662	416,963	-	157,956,625
Accumulated depreciation				
Building and improvements	(102,028,984)	(5,458,334)	-	(107,487,318)
Equipment	(2,015,710)	(71,338)	-	(2,087,048)
	(104,044,694)	(5,529,672)	-	(109,574,366)
	53,494,968	(5,112,709)	-	48,382,259
Land	43,355,010	-	(65,464)	43,289,546
Business-type activities capital assets, net	$ 96,849,978	$ (5,112,709)	$ (65,464)	$ 91,671,805

Depreciation expense for the year ended June 30, 2013 was charged to functions as follows:

Governmental activities	
Low income housing service and assistance	$ 69,697
Business-type activities	
Housing development program	$ 335,607
Rental housing program	5,194,065
Total depreciation expense – business-type activities	$ 5,529,672

At June 30, 2013, capital assets for the proprietary funds consisted of the following:

	Revenue Bond Funds	Dwelling Unit Revolving Fund	Other Funds	Total
Buildings and improvements	$ 142,547,524	$ 7,489,178	$ 5,422,752	$ 155,459,454
Equipment	2,194,297	204,257	98,617	2,497,171
	144,741,821	7,693,435	5,521,369	157,956,625
Less: Accumulated depreciation	(100,576,500)	(6,478,604)	(2,519,262)	(109,574,366)
	44,165,321	1,214,831	3,002,107	48,382,259
Land	16,186,849	26,030,194	1,072,503	43,289,546
Net capital assets	$ 60,352,170	$ 27,245,025	$ 4,074,610	$ 91,671,805

7. Revenue Bond Funds – Reserve Requirements

Under the trust indentures between the Corporation and the trustees for the Single Family Mortgage Purchase Revenue Bonds, investment assets and cash are required to be held by the trustees in various accounts and funds, including debt service reserve accounts, loan funds and mortgage loan reserve funds. The uses of these assets are restricted by the terms of the indentures.

At June 30, 2013, the following debt service reserves and mortgage loan reserves were required by the indentures under Revenue Bond Programs in the Single Family Mortgage Purchase Revenue Bond Fund.

Debt service reserve requirements	$	8,885,000
Mortgage loan reserve requirements		743,000
	$	9,628,000

At June 30, 2013, approximately $8,885,000 and $743,000 of investment securities, at cost, were being held in the debt service reserve funds and mortgage loan reserve funds, respectively, and are included in assets held by trustees in the statement of net position.

Under the trust indenture agreement between the Corporation and the trustee for the Hawaii Rental Housing System Revenue Bond Fund, the Corporation is required to provide net revenues (as defined in the trust indenture agreement) together with lawfully available funds of at least 1.25 times the aggregate debt service on outstanding bonds during the bond year. Additionally, the Corporation is to provide net revenues (as defined in the trust indenture agreement) of at least 1.10 times the aggregate debt service on outstanding bonds during the bond year. At June 30, 2013, the Hawaii Rental Housing System Revenue Bond Fund provided net revenues (as defined in the trust indenture agreement) together with lawfully available funds of 4.26 times the aggregate debt service on outstanding bonds during the year and net revenues (as defined in the trust indenture agreement) of 1.13 times the aggregate debt service on outstanding bonds during the year.

The trust indenture agreement also requires that the mortgage loan reserves for these Revenue Bond Funds be funded from other than bond proceeds and, accordingly, the reserves have been funded by commitment fees at June 30, 2013.

8. Mortgage and Note Payable

The Kekuilani Gardens Project (“Kekuilani”) entered into a mortgage agreement in December 1996 in the amount of $5,213,614 with the U.S. Department of Agriculture (“USDA”) Farmers Home Administration, now known as the USDA – Rural Development (“RD”). The mortgage loan bears annual interest at 7.25% and is collateralized by the Kekuilani Gardens Project. Principal and interest are payable in monthly installments of $11,059 and matures on December 1, 2046. At June 30, 2013, the balance outstanding on the mortgage loan was $4,882,997.

Kekuilani also entered into an interest credit and rental assistance agreement in December 1996 with the USDA – RD, which reduces Kekuilani’s principal and interest payments. During the period, Kekuilani realized approximately $256,000 of interest credit reducing the interest expense from approximately $360,000 to $104,000.

In addition, Kekuilani entered into a mortgage agreement in December 1996 in the amount of $696,267 with the Rental Housing Trust Fund. The mortgage loan bears annual interest at 1% and is collateralized by the Kekuilani Gardens Project. Principal and interest are payable in monthly installments of $1,475 and matures on December 5, 2046. At June 30, 2013, the balance outstanding on the mortgage loan was $500,402.

The Dwelling Unit Revolving Fund ("DURF") also has one mortgage note payable to the USDA – RD. The note was originated in October 1994, and is payable in monthly installments of $1,315, including annual interest at 1%, due in October 2026. The note is collateralized by property and rental receipts. At June 30, 2013, the balance outstanding on the mortgage note was $196,212.

Mortgage and note payable activity during the year was as follows:

	Balance at July 1, 2012	Addition	Reductions	Balance at June 30, 2013	Less Current Portion
Mortgage payable	$ 5,426,063	$ -	$ (42,664)	$ 5,383,399	$ 48,500
Note payable	209,955	-	(13,743)	196,212	13,743
Total	$ 5,636,018	$ -	$ (56,407)	$ 5,579,611	$ 62,243

The approximate debt service requirement of the mortgage and note payable is as follows:

	Principal	Interest	Total
Year ending June 30,			
2014	$ 62,000	$ 360,000	$ 422,000
2015	65,000	357,000	422,000
2016	68,000	354,000	422,000
2017	72,000	350,000	422,000
2018	75,000	347,000	422,000
2019 – 2023	440,000	1,670,000	2,110,000
2024 – 2028	550,000	1,533,000	2,083,000
2029 – 2033	688,000	1,343,000	2,031,000
2034 – 2038	959,000	1,072,000	2,031,000
2039 – 2043	1,346,000	685,000	2,031,000
2044 – 2047	1,255,000	163,000	1,418,000
	$ 5,580,000	$ 8,234,000	$ 13,814,000

9. Revenue Bonds Payable

Through June 30, 2013, approximately $2.7 billion of revenue bonds have been issued. The revenue bonds are payable from and collateralized by the revenues and other monies and assets of the revenue bond funds and other assets of the Corporation pledged under the indentures.

Revenue bonds payable at June 30, 2013 consist of the following issuances:

Hawaii Rental Housing System revenue bonds	
2004 Series A	
Serial bonds maturing annually through 2014 (3.45% to 3.70%)	$ 1,055,000
Term bonds maturing in 2015 through 2034 (3.80% to 4.75%)	67,455,000
	68,510,000
2004 Series B	
Serial bonds maturing annually through 2030 (4.00% to 6.00%)	13,755,000
Term bonds maturing in 2031 through 2034 (6.50%)	5,590,000
	19,345,000
Total Hawaii Rental Housing System revenue bonds	$ 87,855,000
Single Family Mortgage Purchase revenue bonds	
2005 Series A	
Term bonds maturing in 2027 through 2037 (5.00%)	$ 1,855,000
2005 Series B	
Serial bonds maturing annually through 2016 (3.65% to 3.90%)	1,390,000
Term bonds maturing in 2016 through 2021 (4.125%)	4,135,000
Planned Amortization Class bonds maturing through 2027 (3.70% to 4.30%)	6,800,000
	12,325,000
2009 Series A-1	
Term bonds maturing in 2026 through 2042 (2.40%)	29,370,000
2011 Series A	
Serial bonds maturing in 2019 (0.06% to 2.90%)	6,855,000
2011 Series B	
Serial bonds maturing in 2020 through 2023 (2.95% to 3.45%)	4,320,000
Term bonds maturing in 2023 through 2026 (3.875%)	4,145,000
Planned Amortization Class bonds maturing in 2015 through 2026 (4.50%)	4,205,000
	12,670,000
2013 Series A	
Term bonds maturing in 2037 (2.60%)	25,772,000
Total Single Family Mortgage Purchase revenue bonds	$ 88,847,000

Multifamily Housing revenue bonds	
2002 Series (Hale Hoaloha Project)	
Mortgage installment bonds maturing annually through 2018 (6.75% until 2012 and 7.75% thereafter)	$ 1,363,613
2005 Series (Kauhale Olu Project)	
Mortgage installment bonds maturing annually through 2026 (6.375%)	5,074,685
2007 Series A (Kukui Gardens Project)	
Mortgage installment bonds maturing annually through 2042 (3.92%)	10,287,860
Mortgage installment bonds maturing in 2042 (6.25%)	3,270,000
2008 Series (Kahului Town Terrace Project)	
Mortgage installment bonds maturing annually through 2026 (4.25%)	1,852,777
2009 Series (Lokahi Kau Project)	
Mortgage installment bonds maturing in 2042 (5.52%)	19,830,000
2011 Series A (Kuhio Park Terrace Project)	
Mortgage installment bonds maturing in 2014 through 2029 (1.25% to 3.95%)	3,180,000
Term bonds maturing in 2028 through 2029 (4.75% to 4.95%)	29,170,000
2011 Series B (Kuhio Park Terrace Project)	
Term bonds maturing in 2014 (1.25%)	33,650,000
2011 Series A (Ewa Villages Apartments)	
Term bonds maturing in 2021 through 2029 (3.95% to 5.10%)	3,630,000
2011 Series B (Ewa Villages Apartments)	
Term bonds maturing in 2016 (3.25%)	12,670,000
2012 Series (Hale Mohalu)	
Term bonds maturing in 2014 (3.63%)	21,534,699
2012 Series A (Ko‘oloa‘ula Apartments)	
Serial bonds maturing in 2023 through 2034 (3.13% to 4.00%)	5,900,000
2012 Series B (Ko‘oloa‘ula Apartments)	
Serial bonds maturing in 2018 (0.18%)	11,800,000
2012 Series A (Wilikina Apartments)	
Serial bonds maturing in 2022 through 2047 (4.25% to 6.75%)	9,250,000
2012 Series B (Wilikina Apartments)	
Serial bonds maturing in 2014 (1.00%)	2,750,000
2012 Series A (Iwilei Apartments)	
Serial bonds maturing in 2017 through 2031 (1.625% to 3.75%)	11,500,000
2012 Series B (Iwilei Apartments)	
Serial bonds maturing in 2015 (7.50%)	55,000
2012 Series (Hale Makana Apartments)	
Serial bonds maturing in 2015 (7.50%)	1,258,037
2012 Series A (Halekauwila Place)	
Serial bonds maturing in 2015 (0.70%)	25,800,000
2012 Series B (Halekauwila Place)	
Serial bonds maturing in 2015 (7.50%)	134,342
2013 Series (Ewa Villages Apartments II)	
Term bonds maturing in 2015 (2.75%)	278,291
Total Multifamily Housing revenue bonds	$ 214,239,304

Interest on the fixed-rate Single Family Mortgage Purchase, Hawaii Rental Housing System, and Multifamily Housing revenue bonds is payable semi-annually.

The Hawaii Rental Housing System revenue bonds with designated maturity dates and the Multifamily Housing revenue bonds may be redeemed at the option of the Corporation commencing in 2005 for the Hawaii Rental Housing System 2004 Series; 2010 for the Multifamily Housing 1999 Series; 2021 for both the Multifamily Housing Ewa Villages Apartments and Kuhio Park Terrace Project 2011 Series A; 2013 for the Multifamily Housing Kuhio Park Terrace Project 2011 Series B; 2022 for the Multifamily Housing Koo‘loa‘ula Apartments Phase I 2012 Series A, Wilikina Apartments 2012 Series A, Iwilei Apartments 2012 Series A; and 2014 for the Multifamily Housing Halekauwila Place 2012 Series A. The revenue bonds may also be redeemed without premium prior to maturity, at the option of the Corporation, as funds become available from undisbursed bond proceeds, principal payments and prepayments of mortgages, excess amounts in the debt service reserve account or excess revenues (as defined in the bond indentures).

During the year ended June 30, 2013, early redemptions totaled $80,055,000.

Revenue bonds activity during the year was as follows:

	Balance at July 1, 2012	Additions	Reductions	Balance at June 30, 2013
Single Family Mortgage Purchase	$ 189,585,000	$ 26,309,000	$ (127,047,000)	$ 88,847,000
Hawaii Rental Housing System	90,440,000	-	(2,585,000)	87,855,000
Multifamily Housing	167,268,789	104,330,821	(57,360,306)	214,239,304
	447,293,789	130,639,821	(186,992,306)	390,941,304
Add: Unamortized premium	469,428	-	(35,994)	433,434
Less: Deferred refunding amount	(1,219,220)	-	491,960	(727,260)
Total	$ 446,543,997	$ 130,639,821	$ (186,536,340)	390,647,478
Less: Current portion				(68,540,542)
Total				$ 322,106,936

The approximate annual debt service requirements through 2018 and in five-year increments thereafter to maturity for revenue bonds are as follows:

	Principal	Interest	Total
Year ending June 30,			
2014	$ 68,541,000	$ 17,649,000	$ 86,190,000
2015	6,091,000	17,131,000	23,222,000
2016	46,352,000	16,216,000	62,568,000
2017	6,357,000	15,906,000	22,263,000
2018	19,383,000	15,699,000	35,082,000
2019 – 2023	40,418,000	74,324,000	114,742,000
2024 – 2028	52,700,000	62,576,000	115,276,000
2029 – 2033	87,503,000	42,718,000	130,221,000
2034 – 2038	33,703,000	25,660,000	59,363,000
2039 – 2043	27,590,000	12,734,000	40,324,000
2044 – 2047	2,303,000	333,000	2,636,000
	$ 390,941,000	$ 300,946,000	$ 691,887,000

In order to ensure the exclusion of interest on the Corporation’s Hawaii Rental Housing System revenue bonds and Single Family Mortgage Purchase 2009 Series A revenue bonds from gross income for federal income tax purposes, the Corporation calculates rebates due to the U.S. Treasury annually. The rebates are calculated by bond series based on the amount by which

the cumulative amount of investment income exceeds the amount that would have been earned had funds been invested at the bond yield. At June 30, 2013, the Corporation determined that approximately $155,000 of rebates was due to the U.S. Treasury.

Interest expense of approximately $14,463,000 was included as direct function expenses in the government-wide statement of activities during the year ended June 30, 2013.

10. Conduit Debt Obligations

From time to time, the Corporation has issued revenue bonds to provide financial assistance to private sector entities for the acquisition and rehabilitation of multifamily rental housing developments. These bonds are special limited obligations of the Corporation, payable solely from and collateralized by a pledge of payments on the mortgage-backed securities. Neither the Corporation, the State, nor any political subdivision thereof is obligated in any manner for repayment of the bonds. The bonds and related assets are reported in the accompanying financial statements.

As of June 30, 2013, there were fourteen series of Conduit Revenue Bonds outstanding, with an aggregate principal amount payable of approximately $214,239,000 reported as Multifamily Housing Revenue bonds.

11. Leases

Lessee
The Corporation leases land, buildings and improvements under various noncancelable operating leases expiring at various dates through 2056. The leases have scheduled rent increases at various times throughout their terms.

The minimum rental commitments under operating leases are as follows:

Year ending June 30,	
2014	$ 923,000
2015	938,000
2016	953,000
2017	968,000
2018	984,000
2019 – 2023	5,138,000
2024 – 2028	5,338,000
2029 – 2033	5,823,000
2034 – 2038	3,784,000
2039 – 2043	4,367,000
2044 – 2048	4,541,000
2049 – 2053	4,541,000
2054 – 2057	3,144,000
	$ 41,442,000

Rent expense for the year ended June 30, 2013 totaled approximately $896,000.

Lessor
The Corporation leases land with a carrying value of approximately $25,784,000 to various developers and home buyers. The leases expire at various dates through 2085. Lease rental income for the year ended June 30, 2013 was approximately $950,000.

As discussed in Note 13, the Corporation's lease related to Kukui Gardens was prepaid with a promissory note. The promissory note does not have fixed repayment terms. Accordingly, the minimum amounts to be received are excluded from the following table.

The future minimum lease rent from these operating leases at June 30, 2013 is as follows:

Year ending June 30,	
2014	$ 453,000
2015	471,000
2016	505,000
2017	516,000
2018	477,000
2019 – 2023	2,394,000
2024 – 2028	2,115,000
2029 – 2033	1,180,000
2034 – 2038	178,000
2039 – 2043	88,000
2044 – 2046	14,000
	$ 8,391,000

12. Commitments and Contingencies

Construction Contracts
At June 30, 2013, the Dwelling Unit Revolving Fund and Housing Finance Revolving Fund had outstanding commitments to expend approximately $29,512,000 for land development and the construction and renovation of housing projects.

Loan Commitments
At June 30, 2013, the Rental Housing Trust Fund had aggregate outstanding loan commitments of approximately $6,442,000.

Development Costs
The Kapolei development project primarily consists of eight residential villages and certain commercial parcels spread over approximately 888 acres of land. As of June 30, 2013, all but remnant residential parcels and 35 acres of business mixed-use land have been developed and sold. The estimated future cost of development is recorded as a liability on the accompanying statement of net position and relates primarily to the completion of certain infrastructure improvements at this project. This liability represents estimated amounts charged to the cost of land sold in excess of costs incurred. Management believes that the future revenues from this project will meet or exceed the net amount of this liability and the remaining costs to be incurred on the project.

Additionally, the Corporation has been in the process of developing two master planned communities on the neighbor islands. The Villages of Leiali‘i is in West Maui and is located on public trust (ceded) land owned by the State of Hawai‘i. Development of Leiali‘i has been delayed due to lawsuits seeking to prevent the Corporation’s sale or transfer of this land. As of June 30, 2013, the Corporation has remaining development rights for most of the Leiali‘i project. Development costs related to Leiali‘i were approximately $24.2 million at June 30, 2013. Management believes that the future revenues from these projects will meet or exceed the development costs at June 30, 2013 and the remaining costs to be incurred on the project.

Development of the Villages of La‘i‘opua master planned community in West Hawai‘i was also delayed due to the ceded land lawsuits. The Corporation subsequently transferred to the Department of Hawaiian Home Lands, all of its master developer rights, title and interest in La‘i‘opua except for approximately 200 acres, of which approximately 57 acres of land is ceded. The Corporation has embarked on the development of another master planned community on non-ceded land in West Hawai‘i, named the Kamakana Villages at Keahuolu.

Also, the Corporation has other development costs and dwelling units of approximately $2.6 million at June 30, 2013.

Torts and Litigation
The Corporation is involved in various actions, the outcome of which, in the opinion of management, will not have a material adverse effect on the Corporation’s financial position. Losses, if any, are either covered by insurance or will be paid from legislative appropriations of the State of Hawai‘i’s general fund.

Insurance
The State maintains certain insurance coverage to satisfy the bond indenture agreements as well as for other purposes, but is substantially self-insured for all other perils including workers’ compensation. The State records a liability for risk financing and insurance related losses, including incurred but not reported, if it is determined that a loss has been incurred and the amount can be reasonably estimated. The State retains various risks and insures certain excess layers with commercial insurance companies. At June 30, 2013, the State recorded an estimated loss for workers’ compensation, automobile and general liability claims as long-term liabilities as the losses will not be liquidated with currently expendable available financial resources. The estimated losses will be paid from legislative appropriations of the State’s General Fund. The Corporation’s portion of the State’s workers’ compensation liability was not material at June 30, 2013.

13. Kukui Gardens

On December 18, 2007, the Corporation purchased a portion of Kukui Gardens (the “Project”), an affordable housing project in Honolulu, Hawai‘i, for approximately $59,569,000. Concurrent with DURF’s purchase of the Project, DURF sold the Project’s improvements (including apartment units) and operating cash of approximately $38,527,000 to Kukui EAH/DGI Associates, L.P. (“EAH”) (an unrelated third party) for no gain or loss, and leased the underlying land of approximately $21,042,000 to EAH pursuant to the terms of a 65-year land lease that expires on December 18, 2072.

To assist in financing the acquisition and redevelopment of the Project, the State contributed $25 million to DURF during December 2007. Additionally, the Multifamily Housing Revenue Bond Fund issued $45 million of revenue bonds to provide conduit financing to EAH for their acquisition of the Project’s improvements and operating cash, as well as to provide capital for rental operations and the planned renovation of the apartment units. Upon completion of the renovations,

$34,605,000 of the bonds were scheduled to be redeemed leaving $10,395,000 of permanent bonds outstanding to their stated maturity. In 2010, due to unfavorable global economic conditions, EAH requested and Citicorp Municipal Mortgage Inc., bondholder, agreed to increase the permanent bonds by $3,270,000 to $13,665,000, which decreased the redemption at conversion to $31,335,000 from $34,605,000. In May 2012, the Project was completed and a payment of $31,335,000 was received. Accordingly, the Multifamily Housing Revenue Bond Fund has both notes receivable and revenue bonds payable of approximately $13,558,000 related to the Project on the accompanying statement of net position as of June 30, 2013. Currently, $3,270,000 of the note bears interest at a fixed rate of 6.25% and matures through January 2042, while the remaining $10,288,000 bears interest at a rate of 3.92% and matures annually through January 2042. The note includes monthly payments of principal and interest with principal payments that range from approximately $2,000 to $41,000. Any unpaid principal and accrued interest, together with any other expenses are due upon maturity.

Additionally, EAH executed three promissory notes to DURF in an aggregate amount of $29,055,000, including approximately $4,055,000 related to cash advanced from DURF to EAH and $25 million related to the terms of the land lease. Additionally, DURF recorded $25 million of deferred income on the accompanying statement of net position related to this transaction. The deferred income will be amortized to rental income on a straight-line basis and the notes receivable will be reduced as cash is collected. Deferred income at June 30, 2013 related to the Project was approximately $22,866,000. The notes bear interest at 4.72% and are for a term of 58 years, with a final maturity date of December 17, 2065. Repayment of the notes is distributed into three periods as follows: (1) December 18, 2007 to December 31, 2012, no payments due; (2) January 1, 2013 to December 31, 2042, beginning April 1, 2013, 85% of the residual cash flow generated by the rental operations of the Project after expenses, as defined; and (3) January 1, 2043 to December 17, 2065, beginning April 1, 2043, 90% of the residual cash flow generated by the rental operations of the Project after expenses, as defined, with any unpaid principal sum and accrued interest together with any other costs, expenses and other charges due to be paid at maturity.

EAH also executed a promissory note to DURF for $26 million in September 2009 to assist EAH in rehabilitating the property. The note bears no interest and is for a term of 56 years, with a final maturity date of December 17, 2065. Repayment of the note is distributed into three periods as follows: (1) September 1, 2009 to December 31, 2012, no payments due; (2) January 1, 2013 to December 31, 2042, beginning April 1, 2013, 85% of the residual cash flow generated by the rental operations of the Project after expenses, as defined; and (3) January 1, 2043 to December 17, 2065, beginning April 1, 2043, 90% of the residual cash flow generated by the rental operations of the Project after expenses, as defined, with any unpaid principal sum and accrued interest together with any other costs, expenses and other charges due to be paid at maturity.

During the year ended June 30, 2013, DURF recognized approximately $1.7 million of interest income related to the outstanding promissory notes. As of June 30, 2013, DURF has recorded approximately $8.5 million of interest income receivable related to the outstanding promissory notes.

14. Benefit Plans

Substantially all employees of the Corporation participate in the State’s various employee benefit plans, including the State ERS, post-employment healthcare and life insurance plan, and a deferred compensation plan. For more information on the State’s benefit plans, refer to the State of Hawai‘i and ERS CAFRs. The State’s CAFR can be found at the DAGS website. The ERS CAFR can be found at the ERS website: http://ers.ehawaii.gov/resources/financials.

Employees' Retirement System
The ERS is a cost-sharing, multiple-employer public employee retirement plan. The ERS provides retirement benefits as well as death and disability benefits. All contributions, benefits and eligibility requirement are established by Chapter 88, HRS, and can be amended by legislative action.

The Corporation's contributions for fiscal years 2013, 2012 and 2011 of approximately $450,000, $445,000 and $417,000, respectively, were equal to the required contributions for each year.

Post-Retirement Health Care and Life Insurance Benefits
The State contributes to the Hawaii Employer-Union Health Benefits Trust Fund ("EUTF"), an agent multiple-employer defined benefit plan. The EUTF was established to provide a single delivery system of health benefits for state and county workers, retirees, and their dependents. The eligibility requirements for retiree health benefits are based on date of hire. Act 88 established the EUTF during the 2001 legislative session and is codified in Chapter 87A, HRS.

The Corporation contributed approximately $299,000, $236,000 and $201,000, respectively for fiscal years 2013, 2012 and 2011.

Required Supplementary information and Disclosures
The State's CAFR includes the required footnote disclosures and supplementary information on the State's other postemployment benefit plan.

State Policy
The actuarial valuation of the EUTF does not provide other postemployment benefits ("OPEB") information by department or agency. Accordingly, the State's policy on the accounting and reporting for OPEB is to allocate a portion of the State's Annual Required Contribution ("ARC"), interest, and any adjustment to the ARC, to component units and proprietary funds that are reported separately in stand-alone departmental financial statements or in the State's CAFR. The basis for the allocation is the proportionate share of contributions made by each component unit and proprietary fund for retiree health benefits.

Allocated OPEB Cost
The following table shows the components of the annual OPEB cost that has been allocated to the Corporation for the year ended June 30, 2013:

Balance at July 1, 2012	$	2,450,748
Additions		1,077,578
Reductions		(294,609)
Balance at June 30, 2013	$	3,233,717

Deferred Compensation Plan
The State offers its employees a deferred compensation plan created in accordance with Internal Revenue Code Section 457. The plan, available to all State employees, permits employees to defer a portion of their salary until future years. The deferred compensation is not available to employees until termination, retirement, death or unforeseeable emergency.

All plan assets are held in a trust fund to protect them from claims of general creditors. The State has no responsibility for loss due to the investment or failure of investment of funds and assets in the plan, but does have the duty of due care that would be required of an ordinary prudent investor.

15. Related Party Transactions

Amounts due from other State of Hawai‘i departments include approximately $505,000 of miscellaneous advances previously made to other departments and approximately $11,991,000 of amounts due from the Department of Hawaiian Home Lands (“DHHL”) related to a previous agreement to transfer certain land development rights to DHHL. Pursuant to this agreement, DHHL was required to commence 15 annual $2.2 million payments to the Corporation in December 2004. Effective at that time, the Corporation recorded the sale of the land and development rights at the net present value of the estimated future cash flow from DHHL using an imputed interest rate of approximately 3.3%. As of June 30, 2013, amounts due from DHHL include approximately $11,991,000 of principal, net of approximately $1,419,000 of imputed interest, and approximately $210,000 of accrued interest receivable. Interest income related to imputed interest on payments due from DHHL was approximately $420,000 during the year ended June 30, 2013.

The Rental Assistance Revolving Fund provides rent subsidies to certain lessees of the Corporation’s various projects. Total rent subsidies provided to lessees of the Corporation’s various projects approximated $1,332,000 during the year ended June 30, 2013. These amounts have been recorded by the Corporation as rental income in the Hawaii Rental Housing System Revenue Bond Fund. In addition, the Corporation relocated its offices to the Pohulani building in September 1992. During the year ended June 30, 2013, the Hawaii Rental Housing System Revenue Bond Fund recorded rental income of approximately $1,137,000, which was allocated as office rental expense to various funds of the Corporation. In addition, DAGS incurred approximately $1,016,000 in rent to the Hawaii Rental Housing System Revenue Bond Fund for leased space in the Pohulani building. The term of the lease with DAGS matures in August 2022 and the minimum annual rental is determined annually by negotiation within a range of 97% to 103% of the previous year’s minimum rent.

16. Interfund Receivables and Payables

The composition of interfund balances as of June 30, 2013 is as follows:

Receivable Fund	Payable Fund	Amount
Multifamily Housing Revenue Bond Fund	Other Non-major Enterprise Funds	$ 1,476,223
Other Non-major Enterprise Funds	Other Non-major Enterprise Funds	632,293
Dwelling Unit Revolving Fund	Other Non-major Enterprise Funds	615,000
Other Non-major Enterprise Funds	Hawaii Rental Housing System Revenue Bond Fund	595,600
Other Non-major Enterprise Funds	Single Family Mortgage Purchase Revenue Bond Fund	489,683
Rental Housing Trust Fund	Other Non-major Enterprise Funds	51
	Total Proprietary interfund balances	$ 3,808,850
Other Non-major Enterprise Funds	Neighborhood Stabilization Program Fund	$ 14,328
Other Non-major Enterprise Funds	Other Non-major Governmental Funds	9,863
	Total Governmental interfund balances	$ 24,191

These balances are due to interfund goods or services provided or reimbursable expenditures and payments between funds.

Supplementary Information

State of Hawai‘i
Hawaii Housing Finance and Development Corporation
Non-major Governmental Funds
Combining Balance Sheet
June 30, 2013

	Home Program Fund	Tax Credit Assistance Program Fund	National Foreclosure Mitigation Counseling Program Fund	Emergency Homeowners' Loan Program Fund	Total Non-major Governmental Funds
Assets					
Equity in cash and cash equivalents and investments in State Treasury	$ -	$ -	$ 49,909	$ -	$ 49,909
Cash in banks	-	128	-	4,260	4,388
Notes and loans receivable	-	9,861,610	-	-	9,861,610
Due from other governments	5,493	-	4,840	961	11,294
Total assets	$ 5,493	$ 9,861,738	$ 54,749	$ 5,221	$ 9,927,201
Liabilities and Fund Balances					
Liabilities					
Accounts payable	$ -	$ -	$ 51,468	$ 4,260	$ 55,728
Due to other funds	5,493	128	3,281	961	9,863
Total liabilities	5,493	128	54,749	5,221	65,591
Fund balances – restricted	-	9,861,610	-	-	9,861,610
Total liabilities and fund balances	$ 5,493	$ 9,861,738	$ 54,749	$ 5,221	$ 9,927,201

See accompanying independent auditors' report.

State of Hawai‘i
Hawaii Housing Finance and Development Corporation
Non-major Governmental Funds
Combining Statement of Revenues, Expenditures and Change in Fund Balances
Year Ended June 30, 2013

	Home Program Fund	Tax Credit Assistance Program Fund	National Foreclosure Mitigation Counseling Program Fund	Emergency Homeowners' Loan Program Fund	Total Non-major Governmental Funds
Revenues					
Intergovernmental	$ 2,523,636	$ -	$ 37,209	$ 21,262	$ 2,582,107
Expenditures					
Programs	2,448,936	-	36,065	19,235	2,504,236
Personnel services	52,255	-	-	-	52,255
Administration	13,493	-	-	2,027	15,520
Professional services	8,952	-	1,144	-	10,096
Total expenditures	2,523,636	-	37,209	21,262	2,582,107
Change in fund balances	-	-	-	-	-
Fund balances					
Beginning of year	-	9,861,610	-	-	9,861,610
End of year	$ -	$ 9,861,610	$ -	$ -	$ 9,861,610

See accompanying independent auditors’ report.

State of Hawai‘i
Hawaii Housing Finance and Development Corporation
Non-major Enterprise Funds
Combining Statement of Net Position
June 30, 2013

	University of Hawai‘i Faculty Housing Program Revenue Bond Fund	Fee Simple Residential Revolving Fund	Rental Assistance Revolving Fund	Housing Finance Revolving Fund	Kekuilani Gardens Project Fund	Disbursing Fund	Grant-In-Aid Fund	Hamakua Fund	Waialua Fund	Total
Assets										
Current assets										
Equity in cash and cash equivalents and investments in State Treasury	$ 1,003	$ 60,682	$ 22,245,573	$ 4,248,769	$ -	$ 877,965	$ -	$ -	$ 788	$ 27,434,780
Cash in banks	-	-	-	-	36,732	9,094	-	-	-	45,826
Receivables										
Mortgage loans	-	-	-	-	-	-	-	-	-	-
Accrued interest	-	12	926,932	13,486	-	-	-	1,851	-	942,281
Tenant receivables, less allowance for doubtful accounts of $190,947	-	-	-	-	33,680	-	-	-	-	33,680
Other	-	4,004	-	-	36,802	-	-	-	-	40,806
	-	4,016	926,932	13,486	70,482	-	-	1,851	-	1,016,767
Due from other funds	-	-	3,644	1,689,514	-	24,418	-	-	-	1,717,576
Prepaid expenses and other assets	-	-	138,514	-	-		-	-	-	138,514
Deposits held in trust	-	5,717	-	-	-	-	-	-	-	5,717
Total current assets	1,003	70,415	23,314,663	5,951,769	107,214	911,477	-	1,851	788	30,359,180
Investments	-	-	6,709,494	-	-	-	-	-	-	6,709,494
Mortgage loans, net of allowance for loan losses of $188,822	-	-	2,249,985	794,776	-	-	-	-	-	3,044,761
Restricted deposits and funded reserves	-	-	-	-	532,852	-	-	-	-	532,852
Capital assets, net	-	-	-	-	3,990,941	83,669	-	-	-	4,074,610
Total assets	$ 1,003	$ 70,415	$ 32,274,142	$ 6,746,545	$ 4,631,007	$ 995,146	$ -	$ 1,851	$ 788	$ 44,720,897
Liabilities and Net Position										
Current liabilities										
Accounts payable	$ -	$ 4,992	$ -	$ 825	$ 255,286	$ 135,146	$ -	$ -	$ -	$ 396,249
Other accrued expenses	-	-	26,618	112,597	9,848	-	-	-	-	149,063
Due to other funds, net	-	-	-	1,845,489	-	850,000	-	1,851	2,036	2,699,376
Due to other State departments	-	-	-	-	-	10,000	-	-	-	10,000
Security deposits	-	5,717	-	1,028,111	44,644	-	-	-	-	1,078,472
Mortgages payable	-	-	-	-	48,500	-	-	-	-	48,500
Total current liabilities	-	10,709	26,618	2,987,022	358,278	995,146	-	1,851	2,036	4,381,660
Mortgages payable	-	-	-	-	5,334,899	-	-	-	-	5,334,899
Postemployment liability	-	-	47,905	352,605	-	-	-	-	-	400,510
Total liabilities	-	10,709	74,523	3,339,627	5,693,177	995,146	-	1,851	2,036	10,117,069
Commitments and contingencies										
Net position										
Invested in capital assets, net of related debt	-	-	-	-	(1,392,458)	83,669	-	-	-	(1,308,789)
Restricted by legislation and contractual agreements	-	-	-	-	532,852	-	-	-	-	532,852
Unrestricted	1,003	59,706	32,199,619	3,406,918	(202,564)	(83,669)	-	-	(1,248)	35,379,765
Total net position	1,003	59,706	32,199,619	3,406,918	(1,062,170)	-	-	-	(1,248)	34,603,828
Total liabilities and net position	$ 1,003	$ 70,415	$ 32,274,142	$ 6,746,545	$ 4,631,007	$ 995,146	$ -	$ 1,851	$ 788	$ 44,720,897

See accompanying independent auditors’ report.

State of Hawai‘i
Hawaii Housing Finance and Development Corporation
Non-major Enterprise Funds
Combining Statement of Revenues, Expenses and Change in Net Position
Year Ended June 30, 2013

	University of Hawai‘i Faculty Housing Program Revenue Bond Fund	Fee Simple Residential Revolving Fund	Rental Assistance Revolving Fund	Housing Finance Revolving Fund	Kekuilani Gardens Project Fund	Disbursing Fund	Grant-In-Aid Fund	Hamakua Fund	Waialua Fund	Total
Operating revenues										
Rental	$ -	$ -	$ -	$ 21,010	$ 576,647	$ -	$ -	$ -	$ -	$ 597,657
Interest on mortgages, notes, loans and mortgage-backed securities	-	-	68,437	43,025	-	-	-	-	-	111,462
Other	-	-	72	1,215,779	25,928	-	-	-	-	1,241,779
Total operating revenues	-	-	68,509	1,279,814	602,575	-	-	-	-	1,950,898
Operating expenses										
Personnel services	-	-	69,898	1,383,627	120,873	-	-	-	-	1,574,398
Depreciation	-	-	-	-	158,497	-	-	-	-	158,497
Administration	-	-	67,939	208,830	78,038	-	-	-	-	354,807
Housing assistance payments	-	-	1,735,795	-	-	-	-	-	-	1,735,795
Professional services	1,510	2,479	14,342	79,523	-	-	-	-	-	97,854
Insurance	-	-	-	83,705	53,258	-	-	-	-	136,963
Repairs and maintenance	-	-	1,447	3,191	9,445	-	-	-	-	14,083
Provision for losses	-	-	-	-	-	-	-	-	1,254	1,254
Utilities	-	-	-	-	88,976	-	-	-	-	88,976
Other	-	-	-	420	-	-	137,347	-	-	137,767
Total operating expenses	1,510	2,479	1,889,421	1,759,296	509,087	-	137,347	-	1,254	4,300,394
Operating income (loss)	(1,510)	(2,479)	(1,820,912)	(479,482)	93,488	-	(137,347)	-	(1,254)	(2,349,496)
Nonoperating revenues (expenses)										
Interest income	-	1,439	445,240	-	255,801	-	38	-	-	702,518
Net increase in fair value of equity in cash and cash equivalents and investments in State Treasury	3,038	372	163,702	16,489	-	-	-	-	-	183,601
Net decrease in fair value of other investments	-	-	(439,756)	-	-	-	-	-	-	(439,756)
Interest expense	-	-	-	-	(360,167)	-	-	-	-	(360,167)
Other expense	(8,759)	-	-	(1,454)	-	-	-	-	-	(10,213)
Total nonoperating revenues (expenses)	(5,721)	1,811	169,186	15,035	(104,366)	-	38	-	-	75,983
Change in net position	(7,231)	(668)	(1,651,726)	(464,447)	(10,878)	-	(137,309)	-	(1,254)	(2,273,513)
Net position										
Beginning of year	8,234	60,374	33,851,345	3,871,365	(1,051,292)	-	137,309	-	6	36,877,341
End of year	$ 1,003	$ 59,706	$ 32,199,619	$ 3,406,918	$ (1,062,170)	$ -	$ -	$ -	$ (1,248)	$ 34,603,828

See accompanying independent auditors’ report.

State of Hawai‘i
Hawaii Housing Finance and Development Corporation
Non-major Enterprise Funds
Combining Statement of Cash Flows
Year Ended June 30, 2013

	University of Hawai‘i Faculty Housing Program Revenue Bond Fund	Fee Simple Residential Revolving Fund	Rental Assistance Revolving Fund	Housing Finance Revolving Fund	Kekuilani Gardens Project Fund	Disbursing Fund	Grant-In-Aid Fund	Hamakua Fund	Waialua Fund	Total
Cash flows from operating activities										
Cash received from (paid to) tenants	$ -	$ -	$ -	$ (192,631)	$ 544,308	$ -	$ -	$ -	$ (1,254)	$ 350,423
Cash received from borrowers										
Principal repayments	-	-	-	94,575	-	-	-	-	1,254	95,829
Interest income	-	20	8,054	43,025	-	-	-	-	-	51,099
Payments to employees	-	-	(69,898)	(1,383,627)	(120,873)	-	-	-	-	(1,574,398)
Payments to suppliers	(1,510)	(2,485)	(1,808,877)	(325,711)	(241,373)	-	-	-	-	(2,379,956)
Cash receipts from (payments to) other funds	-	-	(3,644)	888,292	-	7,869	(137,347)	-	-	755,170
Other cash receipts (payments)	-	2,733	72	1,215,359	25,928	(1,419)	-	-	-	1,242,673
Net cash provided by (used in) operating activities	(1,510)	268	(1,874,293)	339,282	207,990	6,450	(137,347)	-	-	(1,459,160)
Cash flows from capital and related financing activities										
Principal paid on mortgage loans	-	-	-	-	(42,664)	-	-	-	-	(42,664)
Purchase of capital assets	-	-	-	-	-	(17,693)	-	-	-	(17,693)
Interest payments	-	-	-	-	(103,328)	-	-	-	-	(103,328)
Net cash used in capital and related financing activities	-	-	-	-	(145,992)	(17,693)	-	-	-	(163,685)
Cash flows from investing activities										
Interest received (paid)	-	1,439	445,240	(1,454)	-	-	38	-	-	445,263
Change in fair value of equity in cash and cash equivalents and investments in State Treasury	3,038	372	163,702	16,489	-	-	-	-	-	183,601
Other payments	(8,759)	-	-	-	-	-	-	-	-	(8,759)
Net cash provided by (used in) investing activities	(5,721)	1,811	608,942	15,035	-	-	38	-	-	620,105
Net increase (decrease) in cash and cash equivalents	(7,231)	2,079	(1,265,351)	354,317	61,998	(11,243)	(137,309)	-	-	(1,002,740)
Cash and cash equivalents										
Beginning of year	8,234	64,320	23,510,924	3,894,452	507,586	898,302	137,309	-	788	29,021,915
End of year	$ 1,003	$ 66,399	$ 22,245,573	$ 4,248,769	$ 569,584	$ 887,059	$ -	$ -	$ 788	$ 28,019,175

See accompanying independent auditors’ report.

State of Hawai‘i
Hawaii Housing Finance and Development Corporation
Non-major Enterprise Funds
Combining Statement of Cash Flows
Year Ended June 30, 2013

	University of Hawai‘i Faculty Housing Program Revenue Bond Fund	Fee Simple Residential Revolving Fund	Rental Assistance Revolving Fund	Housing Finance Revolving Fund	Kekuilani Gardens Project Fund	Disbursing Fund	Grant-In-Aid Fund	Hamakua Fund	Waialua Fund	Total
Components of cash and cash equivalents										
Equity in cash and cash equivalents and investments in State Treasury	$ 1,003	$ 60,682	$ 22,245,573	$ 4,248,769	$ -	$ 877,965	$ -	$ -	$ 788	$ 27,434,780
Cash in banks	-	-	-	-	36,732	9,094	-	-	-	45,826
Deposits held in trust	-	5,717	-	-	-	-	-	-	-	5,717
Restricted deposits and funded reserves	-	-	-	-	532,852	-	-	-	-	532,852
Cash and cash equivalents	$ 1,003	$ 66,399	$ 22,245,573	$ 4,248,769	$ 569,584	$ 887,059	$ -	$ -	$ 788	$ 28,019,175
Cash flows from operating activities										
Reconciliation of operating income (loss) to net cash provided by (used in) operating activities										
Operating income (loss)	$ (1,510)	$ (2,479)	$ (1,820,912)	$ (479,482)	$ 93,488	$ -	$ (137,347)	$ -	$ (1,254)	$ (2,349,496)
Adjustments to reconcile operating income (loss) to net cash provided by (used in) operating activities										
Depreciation	-	-	-	-	158,497	-	-	-	-	158,497
Provision for losses	-	-	-	-	-	-	-	-	1,254	1,254
Changes in assets and liabilities										
Mortgage loans receivable	-	-	-	94,575	-	-	-	-	1,254	95,829
Accrued interest receivable	-	20	(60,383)	-	-	-	-	-	-	(60,363)
Tenant receivables	-	-	-	-	(24,128)	-	-	-	(1,254)	(25,382)
Other receivables	-	2,733	-	-	(10,310)	-	-	-	-	(7,577)
Due from other funds	-	-	-	465,671	-	7,869	-	-	-	473,540
Prepaid expenses and other assets	-	-	(1,029)	-	-	-	-	-	-	(1,029)
Accounts payable	-	-	-	-	(11,656)	(1,419)	-	-	-	(13,075)
Other accrued expenses	-	(6)	11,675	49,538	-	-	-	-	-	61,207
Due to other funds	-	-	(3,644)	422,621	-	-	-	-	-	418,977
Security deposits	-	-	-	(213,641)	2,099	-	-	-	-	(211,542)
Net cash provided by (used in) operating activities	$ (1,510)	$ 268	$ (1,874,293)	$ 339,282	$ 207,990	$ 6,450	$ (137,347)	$ -	$ -	$ (1,459,160)

See accompanying independent auditors’ report.

State of Hawai‘i
Hawaii Housing Finance and Development Corporation
Reconciliation of Cash and Short-Term Investments
June 30, 2013

The Corporation’s cash and short-term investments consist of the following as of June 30, 2013:

Equity in State Treasury investment pool – Government-wide	$ 177,359,269
Cash in banks	2,489,572
Cash and cash equivalents held by trustees	68,492,419
Deposits held in trust	5,717
Restricted deposits and funded reserves	532,852
	$ 248,879,829

Total cash and short-term investments are in agreement with the State Comptroller’s central accounting records as of June 30, 2013, as reconciled below:

	Appropriation Symbol	Balance at June 30, 2013
Cash in State Treasury		
Special Funds	S-13-375-B	$ 86,312,932
	S-13-378-B	22,243,484
	S-13-376-B	3,949,990
	S-11-375-B	705,609
	S-13-314-B	500,389
	S-12-375-B	354,317
	S-12-376-B	239,250
	S-08-375-B	126,362
	S-13-320-B	104,672
	S-09-375-B	84,797
	S-13-374-B	60,682
	S-13-213-B	49,409
	S-13-321-B	41,108
	S-07-375-B	21,920
	S-10-375-B	14,246
	S-09-376-B	7,000
	S-11-376-B	4,000
	S-13-377-B	1,003
	S-13-325-B	788
Trust Funds	T-13-930-B	62,535,492
Total cash held in State Treasury, as reported by State Comptroller's accounting records		177,357,450

See accompanying independent auditors’ report.

State of Hawai‘i
Hawaii Housing Finance and Development Corporation
Reconciliation of Cash and Short-Term Investments
June 30, 2013

	Balance at June 30, 2013
Reconciling items	
Journal vouchers not recorded by DAGS	(3,507)
Other	5,326
	1,819
Cash and short-term investments held outside State Treasury	
Cash in bank	2,489,572
Cash held by trustees	68,492,419
Deposits held in trust	5,717
Restricted deposits and funded reserves	532,852
	71,520,560
Cash and short-term investments on Statement of Net Assets	$ 248,879,829

See accompanying independent auditors’ report.

State of Hawai‘i
Hawaii Housing Finance and Development Corporation
Schedule of Expenditures of Federal Awards
Year Ended June 30, 2013

Federal Grantor/Program or Cluster Title	Federal CFDA Number	Federal Expenditures
U.S. Department of Housing and Urban Development		
Community Development Block Grants/State's Program and Non-Entitlement Grants in Hawaii – Neighborhood Stabilization Program	14.228	$ 3,798,899 *
HOME Investment Partnership Program	14.239	2,523,636
Emergency Homeowners' Loan Program	14.323	21,262
U.S. Department of Treasury		
Passed through The Neighborhood Reinvestment Corporation – National Foreclosure Mitigation Counseling	21.000	37,209
Total federal expenditures		$ 6,381,006

*Denotes major federal program.

See accompanying independent auditors' report and notes to the schedule of expenditures of federal awards.

1. Basis of Presentation

The accompanying schedule of expenditures of federal awards includes the federal grant activity of the Corporation and is presented on the accrual basis of accounting. The information in this schedule is presented in accordance with the requirements of OMB Circular A-133, *Audits of States, Local Governments, and Non-Profit Organizations*. Therefore, some amounts presented in this schedule may differ from amounts presented in, or used in the preparation of, the basic financial statements.

2. Subrecipients

Of the federal expenditures presented in the schedule of expenditures of federal awards, the Corporation provided federal awards to subrecipients as follows:

Program Title	CFDA Number	Amount Provided to Subrecipients
U.S. Department of Housing and Urban Development		
Community Development Block Grants/State's Program and Non-Entitlement Grants in Hawaii – Neighborhood Stabilization Program	14.228	$ 3,725,401
HOME Investment Partnership Program	14.239	2,434,798
Emergency Homeowners' Loan Program	14.323	21,262
U.S. Department of Treasury		
National Foreclosure Mitigation Counseling	21.000	35,918
Total federal expenditures		$ 6,217,379

3. Loans Outstanding

The Corporation had $9,861,610 of loan balances outstanding and advances awarded as of and for the year ended June 30, 2013.

See accompanying independent auditors' report.

PART II
Compliance and Internal Control

ACcuity LLP
CERTIFIED PUBLIC ACCOUNTANTS

Report of Independent Auditors on Internal Control Over Financial Reporting and on Compliance and Other Matters Based on an Audit of Financial Statements Performed in Accordance With *Government Auditing Standards*

The Auditor
State of Hawai‘i

The Board of Directors
Hawaii Housing Finance and Development Corporation

We have audited, in accordance with the auditing standards generally accepted in the United States of America and the standards applicable to the financial audits contained in *Government Auditing Standards* issued by the Comptroller General of the United States, the financial statements of the governmental activities, the business-type activities, each major fund and the aggregate remaining fund information of the State of Hawai‘i, Hawaii Housing Finance and Development Corporation (the “Corporation”) as of and for the year ended June 30, 2013, and the related notes to the financial statements, which collectively comprise the Corporation’s basic financial statements, and have issued our report thereon dated November 13, 2013.

Internal Control Over Financial Reporting
In planning and performing our audit of the financial statements, we considered the Corporation’s internal control over financial reporting (“internal control”) to determine the audit procedures that are appropriate in the circumstances for the purpose of expressing our opinion on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of the Corporation’s internal control. Accordingly, we do not express an opinion on the effectiveness of the Corporation’s internal control.

A deficiency in internal control exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, misstatements on a timely basis. A material weakness is a deficiency, or a combination of deficiencies, in internal control, such that there is a reasonable possibility that a material misstatement of the entity’s financial statements will not be prevented, or detected and corrected on a timely basis. A significant deficiency is a deficiency, or a combination of deficiencies, in internal control that is less severe than a material weakness, yet important enough to merit attention by those charged with governance.

Our consideration of internal control was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control that might be material weaknesses or significant deficiencies and therefore, material weaknesses or significant deficiencies may exist that were not identified. Given these limitations, during our audit, we did not identify any deficiencies in internal control that we consider to be material weaknesses. However, material weaknesses may exist that have not been identified. However, we did identify certain deficiencies in internal control, described in Finding Nos. 2010-01 and 2009-01 in the accompanying schedule of findings and questioned costs, which we consider to be significant deficiencies.

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Compliance and Other Matters
As part of obtaining reasonable assurance about whether the Corporation's financial statements are free from material misstatement, we performed tests of its compliance with certain provisions of laws, regulations, contracts and grant agreements, noncompliance with which could have a direct and material effect on the determination of financial statement amounts. However, providing an opinion on compliance with those provisions was not an objective of our audit, and accordingly, we do not express such an opinion. The results of our tests disclosed no instances of noncompliance or other matters that are required to be reported under *Government Auditing Standards*.

The Corporation's Response to Findings
The Corporation's response to the findings identified in our audit is described in the accompanying schedule of findings and questioned costs. The Corporation's response was not subject to the auditing procedures applied in the audit of the financial statements, and accordingly, we express no opinion on it.

Purpose of this Report
The purpose of this report is solely to describe the scope of our testing of internal control and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the entity's internal control or on compliance. This report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the entity's internal control and compliance. Accordingly, this communication is not suitable for any other purpose.

Accuity LLP

Honolulu, Hawai'i
November 13, 2013

Report of Independent Auditors on Compliance for Each Major Program and on Internal Control Over Compliance Required by OMB Circular A-133

The Auditor
State of Hawai‘i

The Board of Directors
Hawaii Housing Finance and Development Corporation

Report on Compliance for Each Major Federal Program
We have audited the State of Hawai‘i, Hawaii Housing Finance and Development Corporation's (the "Corporation") compliance with the types of compliance requirements described in the *OMB Circular A-133 Compliance Supplement* that could have a direct and material effect on each of the Corporation's major federal programs for the year ended June 30, 2013. The Corporation's major federal programs are identified in the summary of auditors' results section of the accompanying schedule of findings and questioned costs.

Management's Responsibility
Management is responsible for compliance with the requirements of laws, regulations, contracts and grants applicable to its federal programs.

Auditors' Responsibility
Our responsibility is to express an opinion on compliance for each of the Corporation's major federal programs based on our audit of the types of compliance requirements referred to above. We conducted our audit of compliance in accordance with auditing standards generally accepted in the United States of America; the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States; and OMB Circular A-133, *Audits of States, Local Governments, and Non-Profit Organizations*. Those standards and OMB Circular A-133 require that we plan and perform the audit to obtain reasonable assurance about whether noncompliance with the types of compliance requirements referred to above that could have a direct and material effect on a major federal program occurred. An audit includes examining, on a test basis, evidence about the Corporation's compliance with those requirements and performing such other procedures as we considered necessary in the circumstances.

We believe that our audit provides a reasonable basis for our opinion on compliance for each major federal program. However, our audit does not provide a legal determination of the Corporation's compliance.

Opinion on Each Major Federal Program
In our opinion, the Corporation complied, in all material respects, with the types of compliance requirements referred to above that could have a direct and material effect on each of its major federal programs for the year ended June 30, 2013.

Report on Internal Control over Compliance
Management of the Corporation is responsible for establishing and maintaining effective internal control over compliance with the types of compliance requirements referred to above. In planning and performing our audit of compliance, we considered the Corporation's internal control over compliance

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with the types of requirements that could have a direct and material effect on each major federal program to determine the auditing procedures that are appropriate in the circumstances for the purpose of expressing an opinion on compliance for each major federal program and to test and report on internal control over compliance in accordance with OMB Circular A-133, but not for the purpose of expressing an opinion on the effectiveness of internal control over compliance. Accordingly, we do not express an opinion on the effectiveness of the Corporation's internal control over compliance.

A deficiency in internal control over compliance exists when the design or operation of a control over compliance does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, noncompliance with a type of compliance requirement of a federal program on a timely basis. A material weakness in internal control over compliance is a deficiency, or combination of deficiencies, in internal control over compliance, such that there is a reasonable possibility that material noncompliance with a type of compliance requirement of a federal program will not be prevented, or detected and corrected, on a timely basis. A significant deficiency in internal control over compliance is a deficiency, or a combination of deficiencies, in internal control over compliance with a type of compliance requirement of a federal program that is less severe than a material weakness in internal control over compliance, yet important enough to merit attention by those charged with governance.

Our consideration of internal control was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control over compliance that might be material weaknesses or significant deficiencies. We did not identify any deficiencies in internal control over compliance that we consider to be material weaknesses. However, material weaknesses may exist that have not been identified.

The purpose of this report on internal control over compliance is solely to describe the scope of our testing of internal control over compliance and the results of that testing based on the requirements of OMB Circular A-133. Accordingly, this report is not suitable for any other purpose.

Accuity LLP

Honolulu, Hawai'i
November 13, 2013

Section I – Summary of Auditors' Results

Financial Statements		
Type of auditors' report issued:	Unmodified	
Internal control over financial reporting:		
• Material weakness(es) identified?	__ Yes	√ No
• Significant deficiency(ies) identified?	√ Yes	__ None reported
Noncompliance material to financial statements noted?	__ Yes	√ No
Federal Awards		
Internal control over major programs:		
• Material weakness(es) identified?	__ Yes	√ No
• Significant deficiency(ies) identified?	__ Yes	√ None reported
Type of auditors' report issued on compliance for major programs:	Unmodified	
Any audit findings disclosed that are required to be reported in accordance with section 510(a) of OMB Circular A-133?	__ Yes	√ No
Identification of major programs:		

CFDA Number	Name of Federal Program
14.228	CDBG - Neighborhood Stabilization Program

Dollar threshold used to distinguish between type A and type B programs:	$300,000	
Auditee qualified as low-risk auditee?	√ Yes	__ No

Section II – Financial Statement Findings

No current year financial statement findings.

Section III – Federal Award Findings and Questioned Costs

No current year federal award findings and questioned costs.

The following is the status of the prior year findings.

Section IV – Summary Schedule of Prior Audit Findings

Financial Statement Finding

Finding Nos. 2010-01 and 2009-01: Financial Reporting (Significant Deficiency)

As of June 30, 2010, the Corporation reported a liability for estimated future costs of development of $35.5 million. This liability represented the Corporation’s estimate of the costs to complete its development projects, primarily consisting of the Kapolei master development. As of June 30, 2010, the Corporation also reported a $23.2 million balance for inventories of development in progress, $19.9 million of which related to its Leiali‘i development on Maui. The estimates were material to the Corporation’s and Dwelling Unit Revolving Fund’s (“DURF”) financial statements, and therefore, represented significant estimates. However, although an analysis was performed by management to determine the estimated future costs of development as of June 30, 2010, we noted the analysis used stale-dated information, such as a February 2007 appraisal for various lots in the Kapolei project, and could not be presented in an easily understandable manner. We also noted management did not perform an analysis of the realizability of the Leiali‘i project inventory balance as of June 30, 2010.

Management indicated stale-dated information was used in the analysis performed for the estimated future costs of development and an updated analysis was not performed of the realizability of the Leiali‘i inventory balance because final decisions have not been made on how the Kapolei and Leiali‘i developments will proceed. Consequently, management was unable to utilize solid assumptions in determining the estimated balances, and management believed the cost of obtaining updated appraisals of the value of the land being developed outweighed the benefit of having current appraisals.

As the Corporation hired a fiscal manager at the end of fiscal year 2010 with the ability to perform analyses of significant estimates reported in the Corporation’s financial statements, we recommended that the Corporation’s management perform a complete and current analyses as of each year end to support significant estimates reported, including the estimated future costs of development liability and realizability of the Leiali‘i development project. The documentation of the analyses should include management’s assumptions of the expected future development plans for the projects, conclusions or best available estimates, ranges of estimation and all relevant supporting information.

Status
Unresolved. A formal valuation analysis was not performed as of June 30, 2013.

Management Response
The Corporation does not agree with this finding, as management firmly believes that the Villages of Kapolei analysis is sufficient for the time being and warrants no adjustment in the estimated future costs from the prior year given that there is no modification to the development concept or the build-out strategy.

With regard to the Villages of Leiali‘i, this master planned project is still in the planning phase, so the scope of the project has not been determined and the final development plan will not be available until a developer proposal is selected through the Request for Proposal process. Therefore, a meaningful analysis is not feasible for this reporting period.

The Corporation would like to point out that Accuity’s audit testing and procedures did not result in any adjustments to the financial statements related to this finding.

2013 Annual Report

HSDC

HAWAII
STRATEGIC
DEVELOPMENT
CORPORATION

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This report was prepared in accordance with Hawaii Revised Statutes §211F-15, Act 170 SLH 2012 §2(e) and Act 274 SLH 2013 §2.

> HRS Section §211F-15 requires HSDC to submit a complete and detailed report of its activities to the legislature on an annual basis.
>
> Act 170 SLH 2012 §2(e) requires HSDC to submit a report on the specific annual outcome achieved through the activities and expenditures of the venture accelerator funding program (LAVA).
>
> Act 274 SLH 2013 §2 requires HSDC to submit a report on the specific annual outcome achieved through the activities and expenditures of the HI Growth Initiative.

The annual report required by each of these statutes have been combined into this single, comprehensive report.

Message from the Chairman

I am pleased to report that HSDC has been entrusted with over $21 million in investment capital from Federal and State sources over the past two years. In 2011, HSDC was allocated $13 million from the U.S. Dept. of the Treasury's State Small Business Credit Initiative (SSBCI). In 2012, the State of Hawaii appropriated $2 million to HSDC for the Launch Akamai Venture Accelerator (LAVA) Program. In 2013, $6 million was appropriated by the State of Hawaii for HSDC to implement the HI Growth Initiative.

With the resources provided by the HI Growth Initiative, HSDC is now able to blend the Federal and State funding sources to implement a comprehensive investment program designed to address the gaps in Hawaii's funding continuum. HSDC's investment strategy will focus on entrepreneurial development, research commercialization and the creation of Hawaii based investment funds that can partner with the global investment community.

At the earliest stage of new business formation, this effort will allow HSDC to leverage the significant research activities in Hawaii to identify promising commercialization opportunities. At the growth and expansion stage of company development, HSDC will be able to develop linkages to the Hawaii Targeted Investment (HiTIP) programs of Hawaii's key institutional investors, the Employees' Retirement System and Kamehameha Schools, and partner with sources of follow-on funding.

These linkages, or network density, in Hawaii's entrepreneurial ecosystem have clearly improved due to HSDC's investment activity. Private sector investors are investing alongside HSDC in the funds and accelerators HSDC has invested its capital. HSDC partnered with Hawaii angel investors to help launch Blue Startups, Hawaii's first venture accelerator founded by Henk Rogers. HSDC is now working to complete the funding for a seed stage technology fund based on Maui founded by Arben Kryeziu and Nick Bicanic.

Private investors are also investing in the portfolio companies of these investment vehicles: Hawaii Angels, Ulupono Initiative and a HiTIP fund have invested in accelerator graduates, while HMSA and Queens Medical Systems have invested in portfolio companies of the UPSIDE Fund.

Entrepreneurs are responding to the opportunities to launch new businesses. Grassroots efforts supporting entrepreneurial development including business plan competitions, Startup Weekends, pitch events and the Founders Institute program are attracting enthusiastic participants.

The HI Growth Initiative will continue to support the development of an innovation ecosystem by working with Hawaii's entrepreneurs and investors to identify promising new sectors for investment.

I would like to thank my fellow board members for their efforts over the past year to develop this new investment strategy and for taking the time to meet with and evaluate proposals from fund managers. HSDC also welcomes a new Director to HSDC's Board of Directors, Jeffery Torres, an independent consultant.

The Board would also like to acknowledge HSDC President, Karl Fooks, and his efforts over the past several years to mobilize HSDC's investment capital. We are also pleased to welcome Lauren Primiano, Associate, as a new member of our staff. As we look ahead to 2014, HSDC is now well positioned to implement its mission of promoting economic development and diversification through a return driven investment program.

H. Brian Moore
Chairman
Board of Directors

HI Growth Initiative

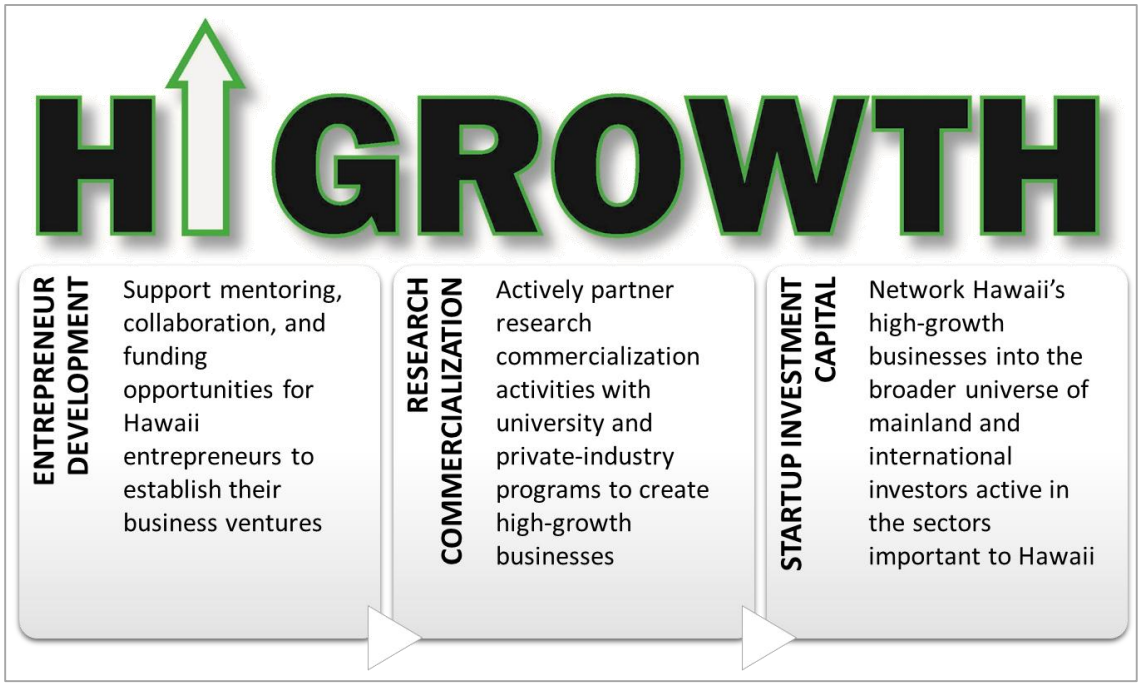
The HI Growth Initiative, Act 274 SLH 2013, was signed into law by Lieutenant Governor Shan Tsutsui on July 9, 2013. The HI Growth Initiative appropriated $6 million to HSDC to launch a new State investment program, the HI Growth Investment Program, focused on building an innovation ecosystem that supports entrepreneurial high growth businesses and creates high wage jobs for the citizens of Hawaii.

Strong community backing for the HI Growth Initiative was responsible for the support the initiative received from the State Legislature. This was evidenced by the broad participation of many entrepreneurial businesses at the "Entrepreneurs Day at the State Capitol" in March 2013. Over 90 companies from the technology, media, food and fashion industries showcased their businesses.

HI Growth Investment Program

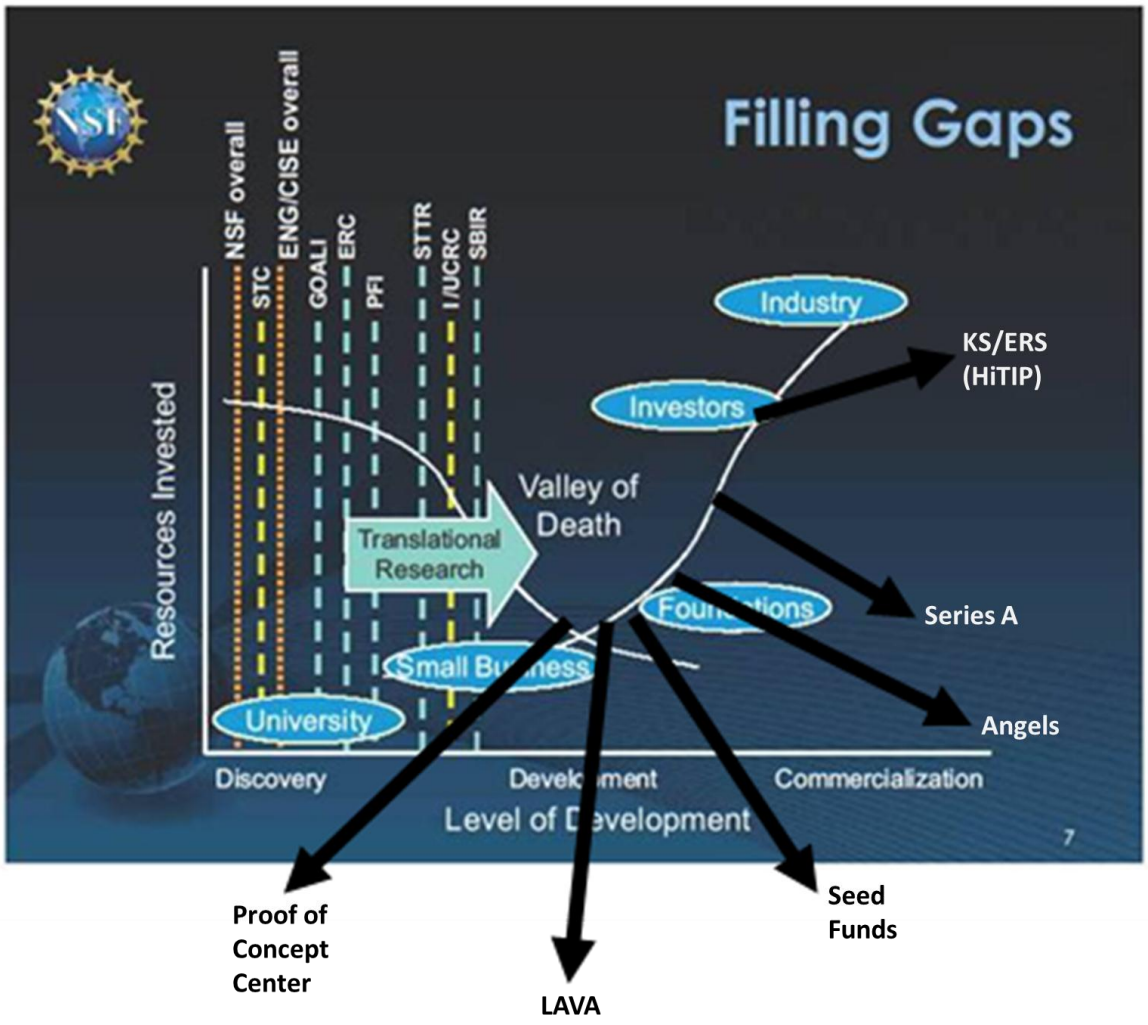
The HI Growth Investment Program blends funding from State (Launch Akamai Venture Accelerator, HI Growth Initiative) and Federal (State Small Business Credit Initiative) sources to provide over $21 million of investment capital focused on the critical building blocks of an innovation ecosystem: **entrepreneur development**, **research commercialization** and the mobilization of **startup investment capital**.

Figure 1: HI Growth Investment Program Key Areas of Focus



The graphic below is borrowed from the National Science Foundation and illustrates the gaps in the funding continuum that HSDC is addressing with the HI Growth Investment Program.

Figure 2: Startup Funding Continuum



There are significant resources for the Discovery Stage provided by Federal agencies with large grant programs. However, these grants can only be used for research and cannot be used to commercialize the technology or start a business.

On the opposite end of the spectrum at the Commercialization Stage, there are investors with significant resources for companies. However, these are later stage investors who focus on companies with experienced management teams and proven revenues.

As research approaches development potential, grant funds dry up, while investor capital is sparse because of the higher-risk nature of investing in the early stages of young companies. This stage, referred to as the "Valley of Death", represents a critical juncture in a startup company's life where many fail to bridge the funding gap to continue on to become a successful company.

The HI Growth Investment Program aims to build investment capacity for Hawaii startup companies along the entire financing continuum – from Discovery, through the Valley of Death, to Commercialization and Business Growth – by focusing on three key areas: **entrepreneur development**, r**esearch commercialization** and the creation of Hawaii based **startup investment capital** that can partner with the global investment community. This comprehensive and integrated approach will allow Hawaii to leverage the research funds invested in Hawaii through the University and the Dual-Use Industry, and the funds invested by our key institutional investors: the Employees' Retirement System (ERS) and Kamehameha Schools (KS) through their respective Hawaii Targeted Investment Programs (HiTIP).

Entrepreneur Development:

The HI Growth Connect and Network (CAN) program is an important outreach effort to strengthen the connective links of the innovation ecosystem and increase the network density, or critical mass, of the ecosystem. Network density is the key success factor for a sustainable entrepreneurial high growth ecosystem.

The HI Growth CAN program will sponsor events that network entrepreneurs and investors, such as Startup Weekends and pitch competitions, that will enable network density and build a vibrant entrepreneurial ecosystem.

To catalyze a pipeline of investable companies for investors, HSDC established the Launch Akamai Venture Accelerator (LAVA) Program to provide pre-seed capital and mentors to startup entrepreneurs. The LAVA Program invested in the Blue Startups accelerator founded by Henk Rogers and HSDC is currently seeking to use LAVA funding to support an accelerator in the digital content sector as well as the research commercialization sector. Further detail on the LAVA Program is provided on page 10.

Research Commercialization:

Historically, Hawaii has been able to compete for grant funding for research activities, both via the University of Hawaii and the Dual-Use Industry. However, very little commercialization of these research efforts has materialized, and this continues to be a significant area of opportunity in Hawaii's startup continuum.

Proof of Concept Centers are mentoring/investment programs that have proven to be effective at accelerating the commercialization of research. Research

commercialization is a key source of proprietary deal flow for Hawaii and creates opportunities for entrepreneurs and innovators to capitalize on new inventions. Most vibrant startup ecosystems have research commercialization activities as a key catalyst of their ecosystem. HSDC will prioritize the establishment of a Proof of Concept Center in the implementation of the HI Growth Investment Program.

Startup Investment Capital:

HSDC's initial efforts are focused on establishing seed funds: UPSIDE Fund and mbloom Fund I. HSDC recently provided a commitment to the Startup Capital Ventures Fund II investment opportunity that will establish a Series A investor presence in Hawaii. This will create a strong Hawaii investor community that will be able to keep many Hawaii startups based in Hawaii. This approach will allow Hawaii startup companies to grow and mature into investable companies that will be attractive investment targets for the HiTIP venture capital funds that the Employees' Retirement System and Kamehameha Schools have mobilized.

The table below summarizes the initiatives being established by HSDC under the HI Growth Investment Program.

Figure 3: HI Growth Investment Program Initiatives

ENTREPRENEUR DEVELOPMENT

Support mentoring, collaboration, and funding opportunities for Hawaii entrepreneurs to establish their business ventures

Initiative	Description
Connect and Network (CAN)	Sponsorship for events that connect and network entrepreneurs with investors
Innovation Report	Inventory of Hawaii's innovation assets
Designer-In-Residence	Fashion business accelerator
Blue Startups	Software business accelerator
Transmedia Accelerator	Creative and digital media content accelerator

RESEARCH COMMERCIALIZATION

Actively partner research commercialization activities with university and private-industry programs to create high-growth businesses

Initiative	Description
Proof of Concept Center	Seed capital to validate commercial potential of research

STARTUP INVESTMENT CAPITAL

Network Hawaii's high-growth businesses into the broader universe of mainland and international investors active in the sectors important to Hawaii

Initiative	Description
UPSIDE	Seed University of Hawaii tech
mbloom	Seed software
Startup Capital Ventures	Series A tech
New Fund	Healthcare or Energy

The table below provides a breakdown of the existing and planned allocations for the HI Growth Investment Program.

Figure 4: HI Growth Investment Program Allocations as of 6/30/2013

		STATE		FEDERAL			
		LAVA	**HI Growth**	**SSBCI**	**Total HSDC Investment**	**Total Fund Size**	**Leverage on State Funds**
Beginning Balance		**$ 2,000,000**	**$ 6,000,000**	**$ 13,168,350**	**$ 21,168,350**		
Existing Allocations:							
Blue Startups/Blue Ventures		$ 600,000		$ 500,000	$ 1,100,000	$ 1,030,000[a]	1.06 : 1
UPSIDE Fund				$ 3,000,000	$ 3,000,000	$ 6,000,000	
mbloom Fund I			$ 2,000,000*	$ 3,000,000*	$ 5,000,000*	$ 10,000,000[b]	4 : 1
Startup Capital Ventures Fund II			$ 500,000*	$ 3,000,000*	$ 3,500,000*	$ 20,000,000[b]	39 : 1
Innovation Report			$ 150,000*		$ 150,000*		12.5 : 1[c]
Connect and Network program			$ 100,000*		$ 100,000*		1 : 1[d]
Current Investment Initiatives:							
Proof of Concept Center		$ 600,000	$ 1,000,000		$ 1,600,000		
Designer-in-Residence program			$ 50,000		$ 50,000		
New Investment Initiatives:							
New Fund			$ 2,000,000	$ 3,000,000	$ 5,000,000		
New Accelerator		$ 600,000		$ 500,000	$ 1,100,000		
Admin/Legal expenses	Expended			$ 2,206	$ 2,206		
	Reserved	$ 200,000	$ 200,000	$ 166,144	$ 566,144		
Ending Balance		**$ 0**	**$ 0**	**$ 0**	**$ 0**		

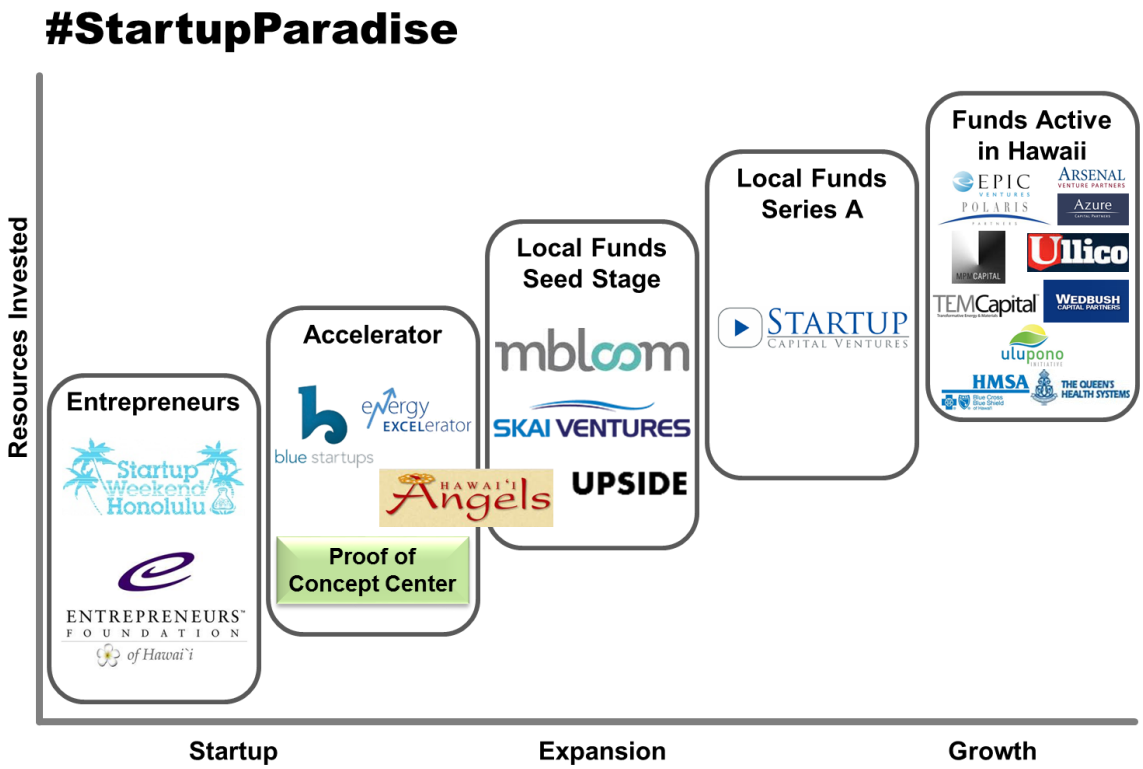
* Committed after 6/30/2013
a. Excludes LAVA funds
b. Committed amount – fund has not yet closed
c. $10,000 (out of $135,000) committed by HSDC to Hawaii Business Roundtable Innovation Report
d. Estimated leverage

Network density in Hawaii's entrepreneurial ecosystem has clearly improved due to HSDC's recent investment activity. Private sector investors are prepared to invest alongside HSDC in the funds and accelerators to which HSDC is committing. Private investors are also investing in the portfolio companies of these investment vehicles: Hawaii Angels, Ulupono Initiative and a HiTIP fund have invested in accelerator graduates, while HMSA and Queens have invested in portfolio companies of the UPSIDE Fund.

Private co-working spaces have been established and private sector incubators are planned. Grassroots efforts supporting entrepreneurial development are taking place including UH business plan competitions, Startup Weekends, pitch events and the Founders Institute program.

To capture the vibrancy of Hawaii's startup activity, the community has adopted "Startup Paradise" to brand Hawaii as an innovation hub. The graphic below illustrates how some of the different entities in the Startup Paradise community are networked and working collaboratively to support one another's efforts.

Figure 5: Startup Paradise



Startup Weekend events and pitch events like the Pupus and Pitches events sponsored by the Entrepreneurs Foundation of Hawaii help to bring entrepreneurs out into the community to find collaborators for their projects, form a business venture and seek investor capital.

If a business is formed, the founders will be able to enter an accelerator program like the Blue Startups or the Energy Excelerator to gain access to mentors, collaborators and starter funding to get their business launched. The Hawaii Angels have been key partners for this effort.

Successful companies graduating from these accelerator programs will be able to attract seed investment from angel investors and seed funds like the mbloom Fund or the UPSIDE Fund.

The availability of professional investors at this early stage is a critical component of the entrepreneurial ecosystem that will allow these companies to choose to stay in Hawaii to grow their businesses as they are not forced to move to regions where this financing is available.

HI Growth Financial Statement

Figure 6: HI Growth Financial Statement

FY Ending (thousands)	9/30/2013*
Beginning Balance	$0
General Fund Transfer In	$6,000
Ending Balance	$6,000

*The General Fund transfer of HI Growth funds was effective post-FY 13, so the amounts in this table are reported as of the first quarter of FY 14. These funds have been deposited into HSDC's Revolving Fund.

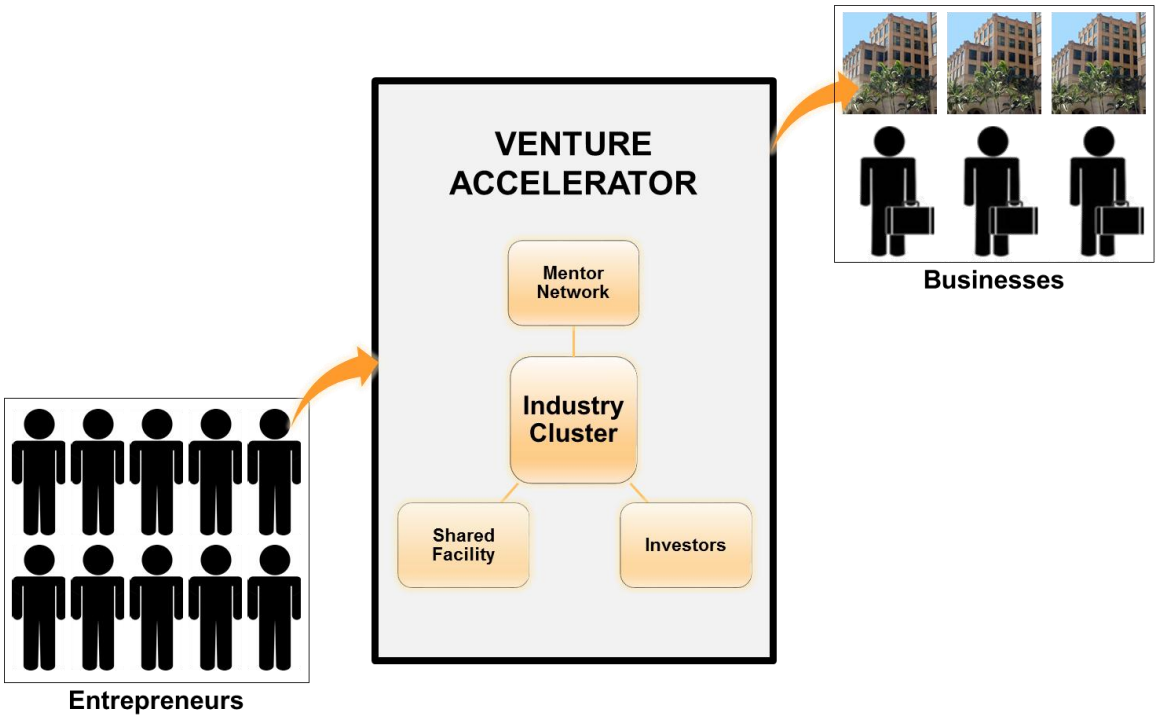
LAVA Program

On June 27, 2012 Governor Abercrombie signed into law Act 170 SLH 2012, passed by the Hawaii State Legislature as HB 2319. Act 170 SLH 2012 enabled the creation of the Launch Akamai Venture Accelerator (LAVA) Program.

LAVA is a $2 million venture accelerator program with the purpose of promoting the establishment of venture accelerators in Hawaii. Venture accelerators provide entrepreneurs with a structured framework to build and launch their businesses by providing promising entrepreneurs with mentors, seed capital, supporting resources and exposure to follow-on investment capital for future growth and expansion.

Venture accelerators promote collaboration and community building by providing a facility for up to ten companies at a time to work side-by-side building their businesses. By supporting the infrastructure that provides entrepreneurs with the necessary tools to build businesses able to compete for venture capital financing, venture accelerators will enhance the ability of Hawaii's entrepreneurs to create sustainable businesses and quality jobs in our community.

Figure 7: Venture Accelerator Model



On July 2, 2012 the LAVA Program information was released and information sessions were held on Oahu, the Big Island and Maui. HSDC also sponsored an Accelerator Workshop to present information on accelerator best practices conducted by some of the leading accelerator managers in the country. At the September 15, 2012 proposal deadline, seven proposals were received.

At its board meeting on November 7, 2012, the HSDC Board of Directors selected three applicants for funding under the LAVA Program. The LAVA funding allocations were contingent upon final due diligence, documentation and the commitment of private matching funds. Blue Startups successfully raised their matching funds and received funding from the LAVA Program. Nalukai Foundation and Kinetiq Labs did not meet the deadlines for raising their match and did not receive funding from the LAVA Program.

LAVA provided $200,000 of funding to the Blue Startups venture accelerator, founded by Henk Rogers, one of Hawaii's successful entrepreneurs. In addition, $500,000 from SSBCI funds was allocated to Blue Ventures LLLP, the venture fund established to invest exclusively in Blue Startups cohort companies. Both the $200,000 and the $500,000 investments were matched by private sources. Please see page 15 for more information on the SSBCI program.

Blue Startups successfully graduated its first cohort of eight companies in May 2013 and held investor Demo Days in Honolulu and Silicon Valley. A summary of Blue Startups' first cohort is provided below.

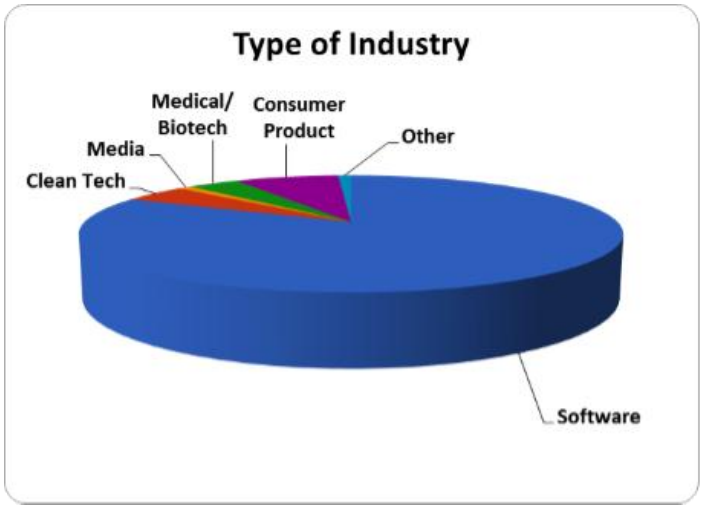
Blue Startups

First Cohort Applicants:

Blue Startups received 107 applications: 40 Hawaii applicants and 67 Non-Hawaii applicants. Eight applicants were selected and enrolled in Blue Startups' inaugural class: six Hawaii applicants and two Non-Hawaii applicants.

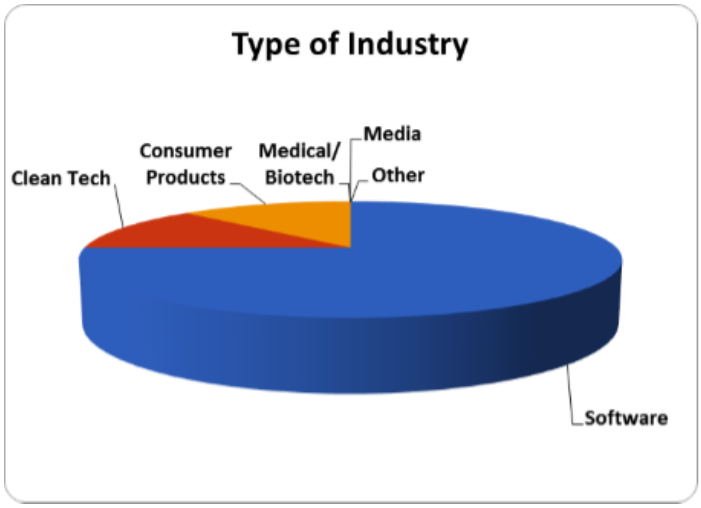
The graphs below illustrate the industry breakdown of the applicant pool and the accepted applicants. Applications from entrepreneurs in the software sector dominated the applicant pool.

Figure 8: Applicant Pool for Blue Startups' First Cohort by Industry



Software	88
Clean Tech	5
Consumer Products	8
Medical/Biotech	4
Media	1
Other	1

Figure 9: Blue Startups' First Cohort by Industry



Software	6
Clean Tech	1
Consumer Products	1
Medical/Biotech	0
Media	0
Other	0

Name and Company Description of First Cohort:

SURROUNDS ME automates social media marketing, turning loyal customers into advocates and content creators for businesses.

TEALET is a direct-from-grower retail and wholesale marketplace that connects tea lovers with teas from around the world.

MINDED is an app that alleviates the stress of gift giving by pairing reminders for special occasions with tailored gift suggestions.

TOW CHOICE is a mobile instant bidding platform to eliminate the costs and inefficiencies of roadside assistance dispatch centers for the $5 billion U.S. towing industry.

VOLTA provides electric vehicle charging stations to major metropolitan areas and commercial sites.

WICKED LOOT is a game development studio that is leading the charge for user generated content.

PHARMLY focuses on combating drug shortages within the pharmaceutical industry through a reverse bidding platform.

FLO WATER provides advanced reusable water bottle refill stations to major educational institutions and retail locations.

Demo Day Statistics:

A key feature of the venture accelerator model is the Demo Day, or the investor pitch event that allows graduates of the accelerator program to meet with prospective investors. Blue Startups held two Demo Days, one in Honolulu and one in Mountain View, CA at the 500 Startups facility.

Figure 10: Blue Startups' Inaugural Demo Day Statistics

	Honolulu 5/31/2013	**Mountain View 6/11/2013**
Non-Hawaii Investors	6	25
Hawaii-Based Investors	17	2
Mentors	23	8
Community Members (i.e., Entrepreneurs, Business Community)	153	54
Total Attending	**199**	**89**

Follow-On Funding:

VOLTA and FLO WATER each raised around $1 million of follow-on investment since graduating from Blue Startups. VOLTA received $175,000 from Ulupono Initiative. FLO WATER's major investors include investors from Tech Coast Angels and Hawaii Angels.

LAVA Financial Statement

Figure 11: LAVA Financial Statement

FY Ending (thousands)	6/30/2013
Beginning Balance	$0
General Fund Transfer In	$2,000
Blue Startups Investment	($200)
Ending Balance	$1,800
Remaining Funds Obligated to Blue Startups	($400)
Ending Balance Less Remaining Funds Obligated	$1,400

State Small Business Credit Initiative

In May 2011, HSDC was awarded a $13 million allocation from the U.S. Department of Treasury's State Small Business Credit Initiative (SSBCI) for a venture capital fund of funds investment program. HSDC uses these funds in conjunction with its funding from the State for the HI Growth Investment Program.

The SSBCI program disburses funds in three tranches. HSDC received its first tranche of $4.3 million in June 2011. HSDC applied and was approved for its second tranche of $4.3 million, and received the funds in November 2013.

In 2011, HSDC committed $3 million of SSBCI funding to the UPSIDE Fund, a seed-stage investment fund that invests in business commercializing technology developed at the University of Hawaii. This investment was matched by $3 million from the University of Hawaii Foundation. UPSIDE has so far invested in two companies which have raised $550,000 in matching private capital.

In March 2013, HSDC committed $500,000 of SSBCI funding to Blue Ventures, a seed investment fund that invests exclusively in Blue Startups portfolio companies, which was matched with $530,000 in private capital. Additional follow-on capital of over $2 million was raised by portfolio companies after graduating from Blue Startups. Further detail on the LAVA Program and Blue Startups is provided on page 10.

SSBCI Financial Statement

Figure 12: SSBCI Financial Statement

FY Ending (thousands)	6/30/2011	6/30/2012	6/30/2013
Beginning Balance	$0	$4,346	$4,083
Transfer In	$4,346	$0	$0
Interest Income	$0	$0	$2
Admin/Legal Expenses	$0	($2)	$0
Capital Call for UPSIDE Fund	$0	($260)	($165)
Capital Call for Kinetiq	$0	$0	($150)*
Capital Call for Blue Ventures	$0	$0	($150)
Ending Balance	$4,346	$4,083	$3,621
Remaining Funds Obligated to UPSIDE	$0	($2,740)	($2,575)
Remaining Funds Obligated to Blue Ventures	$0	$0	($350)
Ending Balance Less Remaining Funds Obligated	$4,346	$1,344	$696

*Investment was returned due to the anticipated investment not being consummated. Funds were re-deposited in the subsequent fiscal year (FY 14).

HSDC's Investment Portfolio

As of June 30, 2013, HSDC's investment portfolio totaled $12.2 million in invested capital. The portfolio has returned $4.5 million as of June 30, 2013 and the current carrying value of the investments is $4.6 million, which includes $1.4 million of cash awaiting investments held at HSDC Capital Fund, LLC, a fund of funds that is the legal entity through which HSDC holds most of its investments in venture partnerships. HSDC also administered DBEDT's $8.7 million Hydrogen Fund program.

Figure 13: HSDC Investment Portfolio FY 13

HSDC Investment Portfolio
June 30, 2013

Active Funds	Pro Rata Interest	Mgt. Fee	Vintage Year	Capital Commitment	Capital Contributed	Cash and Securities Distributed	Reported Value [2]	Distributions + Reported Value	Investment Multiple	Date of Latest Report
HMS Investments HMS Hawaii Management III, LLC (Bill Richardson)	80.00%	3.50%	1995/ 2003	$ 2,625,000	$ 2,662,968	$ 3,242,685	$ 498,354	$ 3,741,039	1.4	6/30/2012
International Venture Fund I, L.P. International Venture Fund I, LLC (Debra R. Guerin-Bereshi)	27.01%	2.50%	2000	$ 4,500,000	$ 4,500,000	$ -	$ 1,441,649	$ 1,441,649	0.3	6/30/2013
PacifiCap Hawaii, L.P. PacifiCap Group, LLC (Jeffrey K.D. Au)	99.00%	2.50%	2000	$ 3,000,000	$ 3,000,000	$ 547,113	$ 257,195	$ 804,308	0.3	6/30/2013
Three Arch Associates III, L.P. Three Arch Management III, L.L.C. (Wilfred E. Jaeger, Mark A. Wan, William T. Harrington, Richard Y. Lin)	1.58%	1.50%	2000	$ 160,000	$ 111,223	$ 203,784	$ 71,786	$ 275,570	2.5	6/30/2013
HMS Hawaii III, LP HMS Hawaii Management III, LLC (Bill Richardson)	12.10%	2.50%	2004	$ 360,612	$ 349,794	$ 162,581	$ 143,332	$ 305,913	0.9	6/30/2012
UPSIDE I University of Hawai'i Foundation (Elizabeth Hokada, Jim Lally, Scott Wo)	18.75% 23.84%	1.50%	2004	$ 117,693	$ 117,693	$ -	$ 87,914	$ 87,914	0.7	6/30/2013
Heaven Fund I, LLC Kolohala Holdings LLP (Robert Robinson)	100.00%	3.00%	2007	$ 75,000	$ 75,000	$ -	$ 62,191	$ 62,191	0.8	6/30/2013
TAC Associates, L.P. TAC Management, L.L.C. (Wilfred E. Jaeger, William T. Harrington, Mark A. Wan, Richard Y. Lin)	0.87%	1.50%	2008	$ 120,000	$ 76,107	$ 46,554	$ 31,687	$ 78,241	1.0	6/30/2013
UPSIDE II University of Hawai'i Foundation (Elizabeth Hokada, Jim Lally, Scott Wo)	50.00%	2.00%	2011	$ 3,000,000	$ 425,000	$ -	$ 326,573	$ 326,573	0.8	6/30/2013
Blue Ventures, LLLP Blue Startups, LLC (Chenoa Farnsworth)	48.54%	0.00%	2013	$ 700,000	$ 350,000	$ -	$ 329,858	$ 329,858	0.9	6/30/2013
TOTAL ACTIVE FUNDS				**$14,658,305**	**$11,667,786**	**$4,202,718**	**$3,250,538**	**$7,453,256**		

Active Equity Holdings	Pro Rata Interest	Mng. Fee	Vintage Year	Capital Commitment	Capital Contributed	Cash and Securities Distributed	Reported Value [2]	Distributions + Reported Value	Investment Multiple	Date of Latest Report
Cardax Pharmaceuticals	N/A	N/A	N/A	$ 250,000	$ 250,000	$ 287,252	$ -	$ 287,252		6/30/2013
BYTC Corp. (fka Neugenesis[3])	0.25%	N/A	N/A	$ 128,401	$ 128,401	$ -	$ -	$ -		4/26/2011
Atlantis Cyberspace[3]	0.93%	N/A	N/A	$ 117,096	$ 117,096	$ -	$ -	$ -		5/31/2012
Nellix (dba Endologix Corp.)[4]						$ 12,294	$ -	$ 12,294		3/31/2010
SERIES B PREFERRED STOCK	0.23%			$ 40,000	$ 40,000	$ -	$ -	$ -		
TOTAL ACTIVE EQUITY				**$ 535,497**	**$ 535,497**	**$ 299,546**	**$ -**	**$ 299,546**		

TOTAL ACTIVE PORTFOLIO				**$ 15,193,802**	**$ 12,203,283**	**$ 4,502,264**	**$ 3,250,538**	**$ 7,752,802**		

2/ Valuations are as of the most recent data available from General Partners.
3/ Distribution from the dissolution of Keo Kea Hawaii, LP
4/ Distribution from the dissolution of Lava Ventures IV, LLC

Below are descriptions of HSDC's active investment portfolio with the amount of capital HSDC has invested in each fund as of June 30, 2013:

Hawaii-Based Venture Capital Funds

HMS Investments; $2.66 million capital contributed:

Initial investment in September 1995. HSDC holds an 80% limited partner interest in this Hawaii based venture capital investment partnership. The investment portfolio consists of private equity investments in Firetide and Hawaii Biotech.

PacifiCap Hawaii, L.P.; $3.0 million capital contributed:

Initial investment in June 2000. HSDC holds a 99% limited partner interest in this Hawaii based venture capital partnership. The investment portfolio consists of private equity investments in Fresh Direct Holdings Inc., 4Charity.com, Iris Wireless, Bivision Systems and Trex-Cross Fiber VIPP Note.

HMS Hawaii III; $0.35 million capital contributed:

Initial investment in March 2004. HSDC holds a 12.1% limited partner interest in this Hawaii based venture capital partnership. The investment portfolio consists of private equity investments in AGIS Network, InMobi, and Firetide.

Regional Venture Capital Funds

International Venture Fund I; $4.5 million capital contributed:

Initial investment in April 2000. HSDC holds a 27.01% limited partner interest in this California based venture capital partnership. The investment portfolio consists of private equity investments in Lumidigm, Napo Pharma, AssistGuide, Hawaii Biotech, and Cardax Pharmaceuticals.

Three Arch Associates III; $ 0.11 million capital contributed:

Received a 1.58% limited partner interest in this California based venture capital partnership as a distribution from the dissolution of Lava Ventures IV.

TAC Associates; $ 0.08 million capital contributed:

Received a 0.87% limited partner interest in this California based venture capital partnership as a distribution from the dissolution of Lava Ventures IV.

Funds to Support Hawaii Angels

Heaven Fund I; $0.08 million capital contributed:

Initial investment in November 2007. HSDC holds a 3.0% limited partner interest in the Series B and Series C of this Hawaii based venture capital partnership. This investment partnership supports investments made by the Hawaii Angels, a Hawaii based Angel investing network.

Blue Ventures LLLP; $0.35 million capital contributed:

Initial investment in March 2013. HSDC holds a 49% limited partner interest in this Hawaii based venture capital partnership. Co-investors in the fund are Hawaii angel investors. The fund invests exclusively in the portfolio companies of the Blue Startups venture accelerator.

Funds to Support Technology Transfer from the University of Hawaii

UPSIDE I; $0.12 million:

Initial investment June 2003. HSDC holds a 23.84% interest in this pooled capital fund. The balance is held by the Research Corporation of the University of Hawaii. The capital fund is tasked with investing in promising start-up companies using UH developed intellectual property. The investment portfolio consists of private equity investments in Protekai Inc. and Kuehnle Agrosystems Inc.

UPSIDE II; $0.43 million:

Initial investment November 2011. HSDC holds a 50% interest in this pooled capital fund. The balance is held by the the University of Hawaii Foundation. The capital fund is tasked with investing in promising start-up companies using UH developed intellectual property. The investment portfolio consists of private equity investments in Ala Wai Pharma Inc. and Kineticor Inc.

Direct Equity Holdings

HSDC directly holds equity interests, due largely to the liquidation of previous investment partnerships, in the following companies: BYTC Corp. (Neugenesis) and Atlantis Cyberspace Inc.

Administrative Agent State Investment Programs

The Hydrogen Investment Capital Special Fund; $4.9 million equity program:

Despite its authorization in 2006, the investment program did not begin until December 2008. HSDC was the administrative agent for this DBEDT managed $8.7 million program, which is divided between an investment program and a cost match grant program, both contracted out to Kolohala Ventures to implement. To date, the equity investment program has invested in a portfolio of Hawaii based clean energy companies consisting of: Clearfuels Technology, Kuehnle Agrosystems, Big Island Biodiesel, Real Green Power and Phycal LLC. These investments have been instrumental in mobilizing resources for these companies to export their clean energy technologies and leverage Hawaii's commitment to a clean energy future.

Financial Report

Revolving Fund ($1,681,054):

HSDC funds its operations and investments through the HSDC Revolving Fund and from returns on investment generated through the HSDC Capital Fund, LLC.

Figure 14: Revolving Fund Financial Report

FY Ending (thousands)	6/30/2011	6/30/2012	6/30/2013
Beginning Balance	$313	$407	$269
Interest Income/Partnership Distributions	$207	$2	$1
Investments	$0	$0	($400)*
Operating Expenditures	($113)	($141)	($189)
General Fund Transfer In	$0	$0	$2,000
HSDC Revolving Fund Balance	$407	$269	$1,681
HSDC Capital Fund, LLC			
Cash awaiting investment	$832	$614	$1,370

*$200,000 was returned due to an anticipated investment not being consummated. Funds were re-deposited in the subsequent fiscal year.

Special Funds ($159,052):

Act 240, SLH 2006 established the Hydrogen Investment Capital Special Fund within HSDC, with expenditures to be overseen by the Department of Business, Economic Development and Tourism. The fund was capitalized with $10,000,000 in October 2006. In June 2009, Act 79, SLH 2009, Sect. 12, transferred $2,000,000 out of the fund and back to the general fund. In July 2012, Act 240, SLH 2012 transferred expenditure authority of the Hydrogen Investment Capital Special Fund to HSDC.

HSDC was allocated $13,168,350 from the U.S. Department of Treasury's Small Business Credit Initiative (SSBCI). The first tranche of $4,345,556 was received in June 2011.

Figure 15: Special Fund Financial Report

FY Ending (thousands)	6/30/2011	6/30/2012	6/30/2013
Hydrogen Investment Capital Special Fund	$2,309	$1,098	$159
SSBCI Venture Capital Investment Program	$4,346	$4,083	$3,621

HSDC's Board of Directors

June 30, 2012

H. Brian Moore, Chairman
Senior Vice President, Real Estate Investment
Pacific Guardian Life Insurance Co.

Danton S. Wong, Vice Chairman
Partner
Chun Kerr LLP

Jon Wallenstrom
President
Forest City Hawaii

Philip Bossert
Co-Founder
Orientech

Jeff Torres (as of 7/1/2013)
Independent Consultant

John DeLong
President
Hawaiian Cement

Alan Hayashi
Director, Public Relations & Policy Advocacy
BAE Systems Support Solutions

Keiki-Pua Dancil
Director, Business Strategy Development
Hawaiian Electric Company

Eric B. Yee, Vice Chairman
Vice President, Private Banking
First Hawaiian Bank

James Moonier
Managing Member
Alpha Capital Research

Assumpta Siu Rapoza
Director, Enterprise Risk Mgt.
Hawaii Medical Service Association

Richard Lim
Director
Department of Business, Economic Development & Tourism

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Lauren Primiano
Associate
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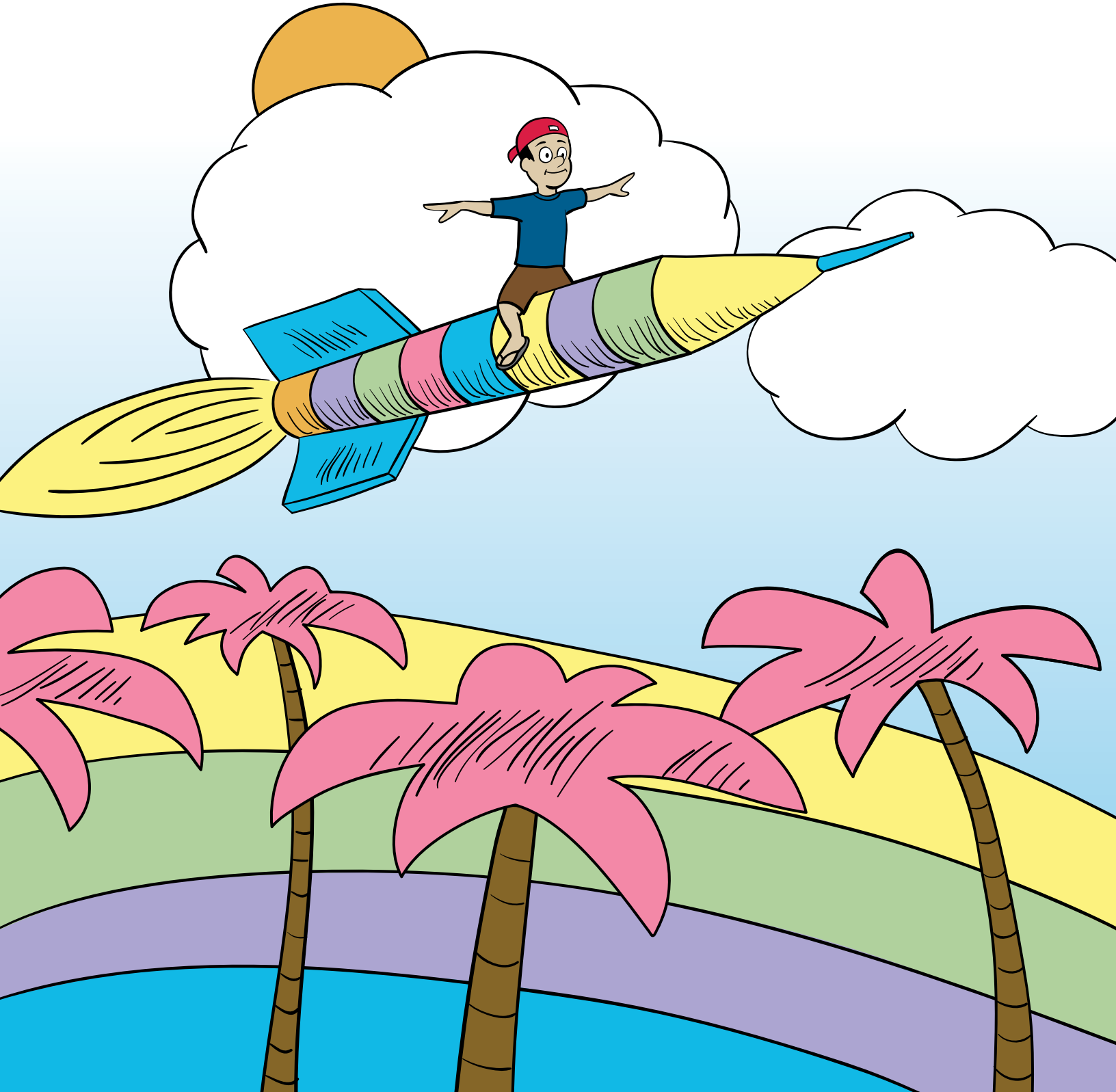
Tel: (808) 587-3832

Up to New Heights!

HTDC Cultivating Hawaii's tech sector
HIGH TECHNOLOGY DEVELOPMENT CORPORATION

High Technology Development Corporation 2013 Annual Report



HTDC Cultivating Hawaii's tech sector
HIGH TECHNOLOGY DEVELOPMENT CORPORATION

Manoa Innovation Center
2800 Woodlawn Drive, Suite 100
Honolulu, Hawaii 96822

Telephone: (808) 539-3806
Fax: (808) 539-3611
info@htdc.org
www.htdc.org

The High Technology Development Corporation is an agency of the State of Hawaii whose purpose is to facilitate the growth and development of the commercial high technology industry in Hawaii.

Message from Board Chair Assumpta Rapoza, Executive Director Yuka Nagashima and Acting Executive Director Len Higashi

The evolving landscape of tech

As represented by the cover, Hawaii's high tech landscape continues to evolve, expanding and exploring possibilities previously unimagined. **Network density** and grassroots activities matched with public policy (e.g. HI Growth) have increased resulting in a stronger self-identification as an innovation community - one that is more **inclusive** in the context of the overall Hawaii and global economy. The landscape has broadened through new paradigms in a world connected online where **technology and creativity** are **inseparable**. Innovation today is collaborative, aggressive, and does not observe traditional boundaries. Across the country, innovation is thriving in districts with dense populations of startup businesses, mixed-use residential, retail, and amenities - the **infrastructure** required to **live, work, and play**.

Our role at HTDC

At HTDC our priorities have evolved accordingly. We are creating density by bringing together a growing community of entrepreneurs and innovators whose shared belief is that by working together, we will build **world-class** businesses. In 2013, we have hosted 14 business workshops streamed throughout the state, 11 networking events, 2 conferences, and partnered on dozens more while operating an incubation program on Oahu and Maui, and 2 federal programs supporting manufacturers and alternative fuel transportation. We are doing all of this to **build a rhythm** and cadence for a **community** that needs to **stay connected**.

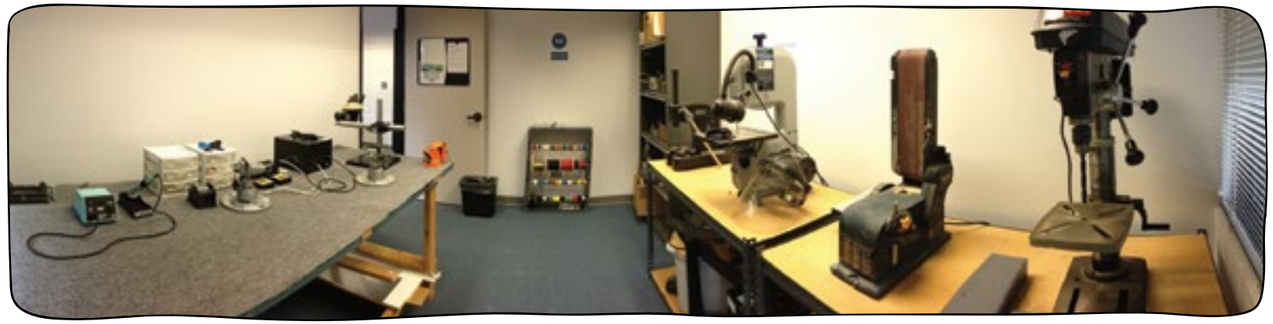
In these changing times, we opted to draw our **inspiration** for this year's annual report from a **timeless classic**, Dr. Seuss's "Oh, the Places You'll Go!".
Like the story, the narrative of this report is intended to be **youthful and fun** while the insights offered reflect a more **serious message**:

For the innovation economy to thrive and achieve the economic growth Hawaii desires, we need to establish an environment rich with opportunities and resources.

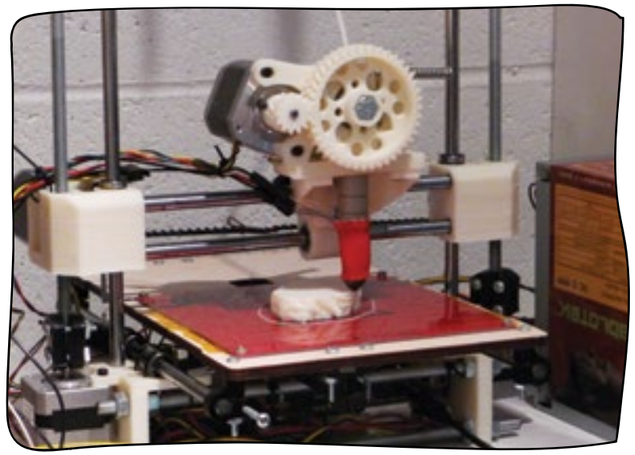
The colorful graphic format also reflects **changes** in the community we represent including a surge from a **new generation** of young tech entrepreneurs. Finally, it provides context to the current landscape of the **startup ecosystem** and highlights our research **commercialization** efforts - both central to HTDC's economic development strategy. We hope you enjoy this recap of the past year and invite you to consider the promise it projects for Hawaii's future.

When innovation flows, Hawaii's economy grows

INNOVATE HAWAII



HTDC opened the Innovation Lab at the MIC providing startup companies training and shared equipment for prototype product development



HICAPACITY

HTDC partners with HiCapacity, a growing community of local hardware and software talent

HTDC teams with Design Thinking Hawaii bringing to industry a proven process for creative problem solving

DESIGNTHINKING HAWAII

Obstacles in the way? Technology saves the day

HEALTHCARE

ENERGY

GOVERNMENT

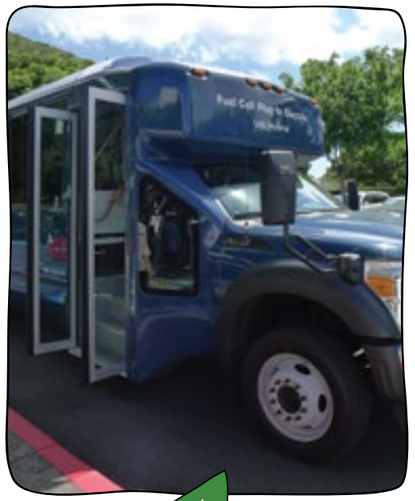
DEFENSE

MIC tenant Autism Training Solutions created a better method to train staff for over 400 organizations using established autism interventions.

Spectrum Photonics has partnered with FLIR Systems to develop an underwater explosives detection system.

HREDV

The HTDC partner HREDV secured $30 million from the U.S. Department of Defense's Office of Naval Research to help Hawaii meet its clean energy goals.



HCATT

HTDC program the Hawaii Center for Advanced Transportation Technologies continues to pioneer world class hydrogen demonstration projects through a $19 million federal contract with Air Force Research Laboratory.

HAWAII OPEN DATA

Through events like hackathons, Hawaii Open Data is increasing civic engagement and creating solutions like traffic maps and apps for TheBus.

Entrepreneurs are a must
Ideas alone collect dust

It takes entrepreneurs to turn innovation into businesses that make $ and provide jobs

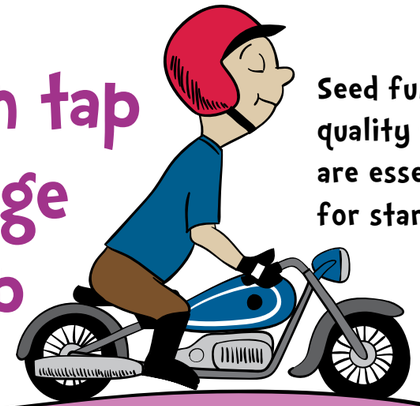
HTDC hosts the annual Holiday Tech Fair showcasing tech job opportunities to kama'aina home for the holidays.

There are a growing number of resources available promoting entrepreneurial activity. Startup Weekend Honolulu, Blue Startups, HREDV Energy Excelerator, Hawaii Founders Institute, the NEXT Program and more.

#startupparadise

HTDC supports the startup community, also known as #StartupParadise, through sponsorships, partnerships, and promotion.

Help on tap to bridge the gap



Seed funding & quality talent are essential for startups

HTDC internships offer students the training and experience of working for a tech startup. The companies get assistance they need without the training overhead and the learning curve.

HTDC's Innovate Hawaii SBIR program helps companies go from concept to commercialization.

FY13 SBIR Awards

Hawaii Match	- $520k
18 Phase1 awards	- $2.2M
8 Phase2 awards	- $5.4M

We are bridging the learning gap for students interested in pursuing software and engineering jobs in Hawaii with our neighbors at Roosevelt High School.

Hawaii companies connect with mainland investors at Pupus and Pitches hosted by HTDC partner Entrepreneur's Foundation of Hawaii.

Support goes a long way
Allowing talent to stay

WetWare Wednesday
SOFTWARE DEVELOPERS NETWORKING EVENT

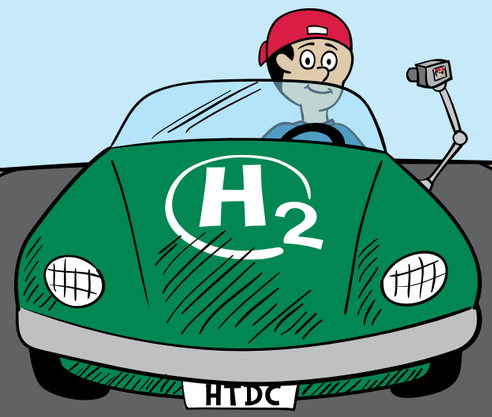
HTDC hosts its monthly Wetware Wednesday networking event for the 2nd year connecting the software industry – students, UH professors, and tech companies.

INNOVATE HAWAII

Innovate Hawaii helped small businesses earn $15.7M in new sales last year.

HTDC hosts and partners with over a dozen innovation and entrepreneurial meetup groups creating a community of support.

Share our stories online & let Hawaii startups shine



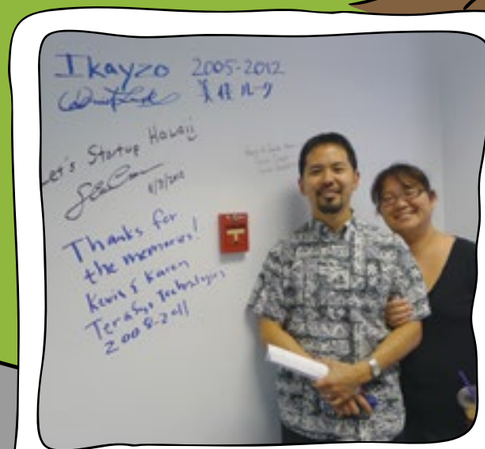
Engaging digital content amplifies the reach for tech companies. HTDC hosted a series of workshops with experts on PR, social media, email marketing, blogging, and digital content generation.

HTDC partnered with ThinkTech, Bytemarks, and Social Media Club Hawaii to get Hawaii tech news and events covered online. HTDC also launched the HTDC Live YouTube channel to stream all of our workshops online for broader impact throughout the state.

When tech startups succeed, they create jobs we need

MIC
32 tenants
26 virtual
6 graduates
8 new
89% occupied

MRTC
9 tenants
4 virtual
4 graduates
3 new
65% occupied



2013 - Ten companies graduated from the MIC and MRTC incubation programs into commercial offices, contributing millions of dollars and dozens of high-wage jobs to the Hawaii economy.

Financial Information

	FY 2013	%	FY 2012	%
REVENUES AND OTHER FUNDING				
State General Fund	979,023	10.7%	1,034,564	13.6%
HTDC Special Fund	2,520,311	27.6%	2,385,342	31.3%
Federal Funds	5,647,268	61.7%	4,193,144	55.1%
Total Revenues & Other Funding	**$9,146,602**	**100%**	**$7,613,050**	**100%**
EXPENDITURES BY PROGRAM				
Federal Projects	10,482,630	78.7%	6,038,773	68.8%
Federal Project Support	69,006	.5%	147,813	1.7%
HSBIR Grants	520,000	3.9%	520,000	5.9%
Technology Centers	1,470,747	11.0%	1,352,680	15.4%
Administration	511,376	3.8%	477,463	5.4%
Technology-based Economic Development	268,965	2.1%	246,047	2.8%
Total Expenditures	**$13,322,724**	**100%**	**$8,782,776**	**100%**
Excess (deficiency) of revenues and other funding sources over expenditures	**$(4,176,122)**		**$(1,169,726)**	

NOTES TO FINANCIAL INFORMATION

The financial information is being reported on the modified accrual basis. Modified accrual accounting recognizes revenues when they become available and recognizes expenditures when liabilities are incurred. The deficits for both years are primarily due to the timing difference of the recognition of encumbered contracts for the federally funded cooperative agreements and the receipt of the funds in future years to pay for the deliverables as they are completed.

The State's general fund appropriation was stable during the two years. The appropriation funds payroll, HSBIR grants and contracted services.

Special fund revenues were primarily generated from rental income from its two technology centers, consultant services from the INNOVATE Hawaii program and a contract with the Department of Commerce and Consumer Affairs to collaborate on the Hawaii broadband initiative. The revenues fund costs associated with these activities as well as payroll, and other program and administrative costs.

Federal funding was received and expended for the cooperative agreements with the Air Force for projects at Joint Base Pearl Harbor Hickam and the National Institute of Standards and Technology (NIST) for the INNOVATE Hawaii program.

HTDC Board and Staff

Board of Directors

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(term expires 6/30/14)
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Hawaii Medical Service Association

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Rush Moore LLP

Second Vice Chair

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Hawaiian Cement

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(Representative for HSDC)
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Private Banking Division
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Vice President for Community Colleges
University of Hawaii System

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Director
Department of Business, Economic Development and Tourism

KALBERT K. YOUNG
(Ex-Officio)
Director
Department of Budget and Finance
State of Hawaii

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(term expires 6/30/15)
President and Principal Broker
Real Estate Specialists, LLC.

MICHAEL SCHMICKER
(until 4/30/13)
Vice President of Marketing and Corporate Communications
Navatek, Ltd.

RACE RANDLE
(term expires 6/30/15)
Director, Development
Howard Hughes Development Corp

HTDC Staff

YUKA NAGASHIMA, Executive Director & CEO (ending 8/2013)
YVONNE HARUE, Executive Secretary
LEN HIGASHI, Acting Executive Director & CEO (beginning 8/2013)
STEVE SAKUDA, Controller
GAIL YAMASAKI, Account Clerk
SANDI KANEMORI, Program Specialist, Business Development
SANDRA PARK, Program Specialist, Workshops & Seminars
CYNTHIA MATSUKI, Program Specialist (beginning 5/2013)
KEVIN CHAK, IT Network & Web Specialist
WAYNE INOUYE, Acting MEP Center Director (beginning 8/2013)
MARK ASUBECK, Senior Project Manager, MEP
ERIN FURUICHI, Project Coordinator, MEP
STANLEY OSSERMAN, Director, HCATT (beginning 7/2013)
ED RUSSELL, Program Manager, HCATT
KRISTY CARPIO, Contracts Administrator, HCATT
ROSANNE CHAN, Secretary, HCATT

In past years, we spent days writing descriptive paragraphs for the annual report without any response. Believing the format was outdated, last year we overhauled the report to a magazine format with simplified narrative and emphasis on headlines, photos, and stats. Many stakeholders took notice and suggested this was a more effective method of communication. This year, we add another dimension through creative graphics and colorful narrative designed to spur curiosity and engage a broader audience. High tech today is a blend of many things: creative ideas, taking risks, youthful energy, and more. We aim with this report to capture the spirit of high tech and encourage all of Hawaii to join us.

Aloha,

Len Higashi and the HTDC Staff

HTDC Cultivating Hawaii's tech sector
HIGH TECHNOLOGY DEVELOPMENT CORPORATION

Manoa Innovation Center
2800 Woodlawn Drive, Suite 100
Honolulu, Hawaii 96822

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Fax: (808) 539-3611
info@htdc.org
www.htdc.org

Published pursuant to HRS Chapter 206M-3.5

SPECIAL THANK YOU

Deputy Director Luis Salaveria, Rep. for B&F Director Kalbert Young
Deputy Director Mary Alice Evans, Rep. for DBEDT Director Richard Lim
Margaret Ahn, Deputy Attorney General, Dept. of Attorney General
Gail Fujita, U.S. Dept. of Commerce, Economic Development Administration

MAHALO TO OUR RESOURCE PARTNERS

ASSOCIATIONS
Armed Forces Communications and Electronics Association - Hawaii Chapter
Hawaii TeleCommunications Association
Friends of Natural Energy Laboratory of Hawaii Authority
Hawaii Venture Capital Association

ECONOMIC DEVELOPMENT PARTNERS
Chamber of Commerce of Hawaii
Enterprise Honolulu
Hawaii Business Entrepreneur Acceleration Mentors (HiBEAM)
Hawaii Island Chamber of Commerce
Hawaii Island Economic Development Board
Hawaii Small Business Development Center Network, UH-Hilo
Kauai Chamber of Commerce
Kauai Economic Development Board
Maui Chamber of Commerce
Maui Economic Development Board
Pacific International Center for High Technology Research (PICHTR): Hawaii Technology Development Venture (HTDV) and Hawaii Renewable Energy Development Venture (HREDV)

FEDERAL PARTNERS
U.S. Dept. of Commerce, National Institute of Standards and Technology (NIST) Technology Innovation Program
U.S. Dept. of Commerce, NIST - National Oceanic and Atmospheric Administration
U.S. Dept. of Commerce - Economic Development Administration
U.S. Dept. of Defense
U.S. Small Business Administration
National Science Foundation

HIGHER EDUCATION
Chaminade University
Hawaii Pacific University
UH Dept. of Information and Computer Science
UH College of Engineering
UH Dept. of Electrical Engineering
UH School of Law - Small Business Clinic
UH Pacific Asian Center for Entrepreneurship & E-Business (PACE)

MEDIA PARTNERS
Bytemarks Café
Pacific Business News
Technology News Bytes
ThinkTech Hawaii

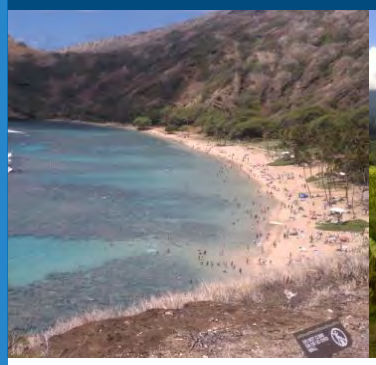
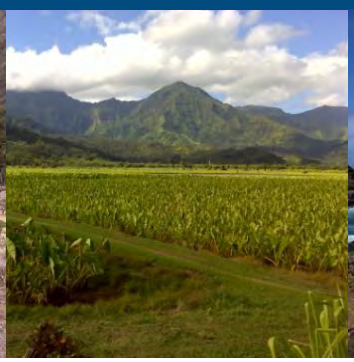
STATE DEPTS & AGENCIES
Dept. of Business, Economic Development and Tourism (DBEDT)
Dept. of Commerce and Consumer Affairs
Dept. of Taxation
Hawaii Foreign Trade Zone No.9
Hawaii Strategic Development Corporation
Natural Energy Laboratory of Hawaii Authority (NELHA)

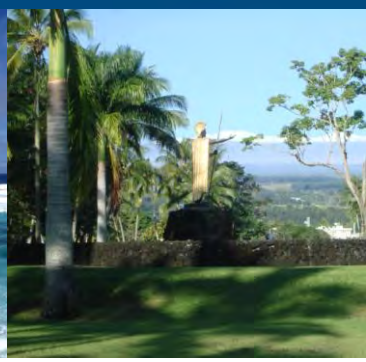
VENTURE CAPITAL FIRMS & INVESTORS
Hawaii Angels
Hawaii Employees' Retirement System
Invencor, Inc.
Kamehameha Schools
Kolohala Ventures
Macquarie
Startup Capital Ventures
Sennet Capital

OTHER INDUSTRY PARTNERS
Bishop & Associates
Blue Planet Software
Blue Startups
The Box Jelly
Entrepreneurs Foundation of Hawaii
Hawaii Computer Training Solutions
Hawaii Food Manufacturers Association
HiBEAM
HiCapacity
HMSA
Orrick Herrington & Sutcliffe LLP
StartUp Hawaii
Startup Weekend
TechHui

Hawai'i Ocean Resources Management Plan

July 2013



Hawaii CZM Program
Coastal Zone Management
HAWAII STATE OFFICE OF PLANNING

NOAA
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
U.S. DEPARTMENT OF COMMERCE

A publication of the Hawaii Office of Planning, Coastal Zone Management Program, pursuant to National Oceanic and Atmospheric Administration Award Nos. NA09NOS4190120, NA11NOS4190095 and NA12NOS4190097, funded in part by the Coastal Zone Management Act of 1972, as amended, administered by the Office of Ocean and Coastal Resource Management, National Ocean Service, National Oceanic and Atmospheric Administration, United States Department of Commerce. The views expressed herein are those of the author(s) and do not necessarily reflect the views of NOAA or any of its sub-agencies.

ORMP POLICY GROUP ENDORSEMENT

We, the undersigned, having participated in the update of the *2006 ORMP,* commit *to* continued coordination of state, county, and federal jurisdictions, pursuant to HRS section 205A-62, and to strive to ensure and support the perspectives, management priorities, and goals of the *2013 ORMP*. By signing below, we recognize the importance of coordination and cooperation to ensure the vision for Hawaii's ocean resources as a healthy, productive, and sustainable ocean ecosystem that fosters economic growth while preserving and protecting Hawaii's values and needs.

Office of Planning*

Department of Agriculture**

Department of Business, Economic Development, and Tourism**

State Civil Defense**

Department of Health **

Department of Land and Natural Resources**

Department of Transportation**

University of Hawai'i, School of Ocean and Earth Science and Technology**

University of Hawai'i, Sea Grant**

Office of Hawaiian Affairs

County of Maui, Planning Department

County of Kaua'i, Planning Department

City & County of Honolulu, Department of Planning and Permitting

County of Hawai'i, Planning Department

Marine and Coastal Zone Advocacy Council

Honolulu Board of Water Supply

* Lead Agency for Coastal Zone Management (CZM) as defined by HRS §205A-1.

** State agencies with responsibilities relating to marine and coastal zone management identified under HRS §205A-62(3).

FEDERAL AGENCY ACKNOWLEDGEMENTS

The following federal agencies participated in the development of the *ORMP* and through their participation acknowledge and recognize the importance of ocean resource management in Hawai‘i.

- NOAA Pacific Services Center
- NOAA Office of National Marine Sanctuaries, Pacific Islands Regional Office
- NOAA Office of Ocean and Coastal Resource Management

United States Army Corps of Engineers, Honolulu District, Civil and Public Works Branch

United States Navy, Hawai‘i Region

United States Coast Guard, 14th District

United States Environmental Protection Agency, Pacific Island Contact Office

EXECUTIVE CHAMBERS

HONOLULU

NEIL ABERCROMBIE
GOVERNOR

Governor's Message

Aloha,

Where there is water, there is life. From rainfall in Hawai'i's mountains, through streams, rivers, and underground geological networks, to the ocean surrounding Hawai'i, water influences all aspects of our lives.

The *Hawai'i Ocean Resources Management Plan* (ORMP) is a comprehensive state plan that provides a framework for ocean and coastal resource management in Hawai'i. It strives to achieve the delicate balance between economic, ecological, and cultural needs. The ORMP coordinates the actions of various county, state, and federal agencies and the input from interested communities to achieve the sustainable use of Hawai'i's ocean and coastal resources for current and future generations.

I am pleased to see the endorsement of a wide range of government entities with resources and authority to implement the ORMP. I support their efforts, and the goals and objectives they have identified for action.

Imua Hawai'i!

Neil Abercrombie

NEIL ABERCROMBIE
Governor, State of Hawai'i

OFFICE OF PLANNING
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July 2013

Aloha,

Hawaii's unique coastal and marine resources enable industry and commerce, support cultural traditions that connect us to our past and future, and provide sustenance to Hawaii's families. Ensuring that our coastal and marine resources are available for current and future generations requires a multi-jurisdictional, multi-disciplined approach. The 2013 Ocean Resources Management Plan (ORMP) identifies a collective vision of Hawaii's preferred future and State actions that will get us there. More importantly, it identifies public, private, and community partners that are needed to execute short-term and long-term actions.

This ORMP update is the fourth in a series dating back to 1985, and the Office of Planning (OP) is the designated lead for its update and tracking implementation. This planning effort would not have been possible without the support and participation of county, state, and federal agencies with resource responsibilities and the communities that benefit from resource management that is efficient, effective, and accountable. With the help of these participants, we were able to produce a plan that includes meaningful benchmarks, targets, and metrics that will ensure implementation.

The overarching framework for implementing the ORMP is Hawaii's Coastal Zone Management (CZM) Act of 1977. The purpose of the Act is to "provide for the effective management, beneficial use, protection, and development of the coastal zone [which includes the entire State and its territorial waters]." The ORMP is a primary means for achieving these objectives across jurisdictions, disciplines, and communities. The ORMP identifies eleven management priorities for the next 5-years. It addresses the challenges of our time and the future, such as increasing land use and ocean resource development, competing human uses, the impacts from climate change, and the health of our natural environments.

Hawaii is not alone in these efforts. In 2010, President Obama announced the National Ocean Policy (NOP). Like the vision of the NOP, the ORMP seeks to achieve a Hawaii where "…stewardship ensures that the ocean [and] our coasts…are healthy and resilient, safe and productive, and understood and treasured so as to promote the well-being, prosperity, and security of present and future generations."

The ORMP brings us closer to realizing this larger vision for the greater good of the people of Hawaii.

Mahalo,

Jesse K. Souki, Director

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Acronyms

AIS	Aquatic Invasive Species
AIST	Aquatic Invasive Species Response Team
BLNR	Board of Land and Natural Resources
BMP	Best Management Practices
BVR	Beach Vulnerability Rating Project
BWS	Honolulu Board of Water Supply
CBSFA	Community-Based Subsistence Fishing Area
CEC	Commission on Environmental Cooperation
CEQ	Council on Environmental Quality
C-MORE	Center for Microbial Oceanography: Research and Education
CMSP	Coastal and Marine Spatial Planning
CNMI	Commonwealth of the Northern Mariana Islands
CNPCP	Coastal Nonpoint Pollution Control Program
COEMAP	DLNR *Coastal Erosion Management Plan*
CRest	NOAA Coastal Resilience Networks
CRCP	NOAA Coral Reef Conservation Program
CRP	NOAA Community-based Restoration Program
CSP	NOAA Coastal Storms Program
CWRM	DLNR Commission on Water Resource Management
CZARA	Coastal Zone Act Reauthorization Amendments
CZM	Coastal Zone Management
CZMA	Coastal Zone Management Act
DAR	DLNR Division of Aquatic Resources
DBEDT	Department of Business, Economic Development & Tourism
DLNR	Department of Land and Natural Resources
DOA	Department of Agriculture
DOBOR	DLNR Division of Boating and Ocean Recreation
DOCARE	DLNR Division of Conservation and Resource Enforcement
DOFAW	DLNR Division of Forestry and Wildlife
DOH	Department of Health
DOI	U.S. Department of Interior
DOT	Department of Transportation
DP	Development Plan
DPP	City & County of Honolulu Department of Planning and Permitting
EEZ	Exclusive Economic Zone
ENSO	El Niño/La Niña – Southern Oscillation
EPA	U.S. Environmental Protection Agency
EPICS	Climate Extremes in the Pacific Integrated Case Studies
ESA	Endangered Species Act
FAO	Food and Agriculture Organization of the United Nations
FDA	U.S. Food and Drug Administration
FEMA	Federal Emergency Management Agency
FMA	Fishery Management Areas
GIS	Geographic Information System
GMO	Genetically Modified Organism
GPS	Global Positioning Satellite

HANO	Hawai‘i Alliance of Non-Profit Organizations
HCA	Hawai‘i Conservation Alliance
HCDA	Hawai‘i Community Development Authority
HCEI	Hawai‘i Clean Energy Initiative
HCRS	*Hawai‘i Coral Reef Strategy*
HIMB	Hawai‘i Institute of Marine Biology
HI-MDAP	*Hawai‘i Marine Debris Action Plan*
HRS	Hawaii Revised Statutes
HTA	Hawai‘i Tourism Authority
ICAP	University of Hawai‘i Sea Grant College Program, Center for Island Climate Adaptation and Policy
IOOS	U.S. Integrated Ocean Observing System
IOPTF	Interagency Ocean Policy Task Force
IPCC	Intergovernmental Panel on Climate Change
ISC	Invasive Species Committee
JTMD	Japan Tsunami Marine Debris
KIRC	Kaho‘olawe Island Reserve Commission
LAMA	UH Loli Aniau, Maka‘ala Aniau (Climate Change, Climate Alert)
MACZAC	Marine and Coastal Zone Advocacy Council
MACZMAG	Marine and Coastal Zone Management Advisory Group
MLCD	Marine Life Conservation District
MMA	Marine Managed Area
MMB	PMNM Monument Management Board
MOA	Memorandum of Agreement
MPR	Management Plan Review
NAR	Natural Area Reserve
NCRS	U.S. Department of Agriculture, Natural Resources Conservation Service
NELHA	National Energy Laboratory of Hawai‘i Authority
NERRS	National Estuarine Research Reserve System
NFIP	National Flood Insurance Program
NFWF	National Fish and Wildlife Foundation
NGO	Non-Governmental Organization
NMFS	NOAA National Marine Fisheries Service
NMSA	National Marine Sanctuaries Act
NOAA	National Oceanic and Atmospheric Administration
NOC	National Ocean Council
NOP	National Ocean Policy
NPDES	National Pollutant Discharge Elimination System
NPS	NOAA National Performance Standards
OCCL	DLNR Office of Conservation and Coastal Lands
OCRM	NOAA Office of Ocean and Coastal Resource Management
OCS	Outer Continental Shelf
OHA	Office of Hawaiian Affairs
ONMS	Office of National Marine Sanctuaries
OP	Office of Planning
OP-CZM	State of Hawai‘i, Office of Planning, Coastal Zone Management Program
ORMP	*Hawai‘i Ocean Resources Management Plan*
OTEC	Ocean Thermal Energy Conversion
PacIOOS	Pacific Islands Ocean Observing System
PaCIS	Pacific Climate Information System
Pacific RISA	Pacific Regional Integrated Sciences and Assessments

PASH	Public Access Shoreline Hawai‘i
PIFSC	NOAA Pacific Islands Fisheries Science Center
PIRCA	Pacific Islands Regional Climate Assessment
PIRO	NOAA Pacific Islands Regional Office
PIRPB	Pacific Islands Regional Planning Body
PLS	Public Listening Sessions
PMNM	Papahānaumokuākea Marine National Monument
PRCP	DOH Polluted Runoff Control Program
PRiMO	Pacific Risk Management ‘Ohana
PROP	Pacific Regional Ocean Partnership
PSC	NOAA Pacific Services Center
ROMS	Regional Ocean Modeling System
ROH	Revised Ordinances of Honolulu
RPB	Regional Planning Body
RPS	Renewable Portfolio Standards
SAM	Shoreline Assessment Model
SAMP	Special Area Management Plan
SCD	Hawai‘i State Civil Defense
SEB	PMNM Senior Executive Board
SLH	Session Laws of Hawaii
SLR	Sea Level Rise
SMA	Special Management Area
Sub-ROP	Hawai‘i Sub-Regional Ocean Partnership
SSBN	OCCL Small Scale Beach Nourishment Program
SWAN	Simulating Waves Nearshore
TNC	The Nature Conservancy
UH	University of Hawai‘i
UH CTAHR	University of Hawai‘i College of Tropical Agriculture and Human Resources
UHERO	University of Hawai‘i Economic Research Organization
UH SOEST	University of Hawai‘i School of Ocean and Earth Science and Technology
UNESCO	United Nations Educational, Scientific and Cultural Organization
U.S.	United States
USACE	U.S. Army Corps of Engineers
USCG	U.S. Coast Guard
USCOP	U.S. Commission on Ocean Policy
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
USMC	U. S. Marine Corps
WHRFMA	West Hawai‘i Regional Fisheries Management Area
WMMWP	West Maui Mountains Watershed Partnership
WMS	Web Mapping Service
WPRFMC	Western Pacific Regional Fishery Management Council
WRF	Weather Research and Forecasting Model
WW III	WaveWatch III

I. Introduction and Vision

The Hawaiian Archipelago sits in the Pacific Ocean, 2,000 miles from the nearest land mass. The Hawaiian chain includes the eight inhabited islands of the State of Hawai‘i and the Northwestern Hawaiian Islands. Completely surrounded by ocean water, all land mass is classified as within the coastal zone; Hawai‘i is the only state with this characteristic. It makes ocean resource protection an acute and life-sustaining necessity for people, for marine species, and for their habitat.

When Hawaiians speak of water, they are referring to a life source. Aia ke ola i ka wai: With water, there is life. Rainfall water falls onto the top of the mountains, feeds the waterfalls, the streams and rivers, and ultimately runs into the ocean that surrounds Hawai‘i. Therefore, resource management includes both ocean and coastal resources, and the water that feeds the ocean surrounding the islands.

The *Ocean Resources Management Plan* (*ORMP*) is a comprehensive plan mandated by Hawaii Revised Statutes (HRS) Chapters 205A and 225M. The *ORMP* is prepared to address activities by agencies and entities in the State of Hawai‘i. As a state plan, the first audience is state agencies with responsibilities for the land, coast, and ocean. But since jurisdiction for these activities also includes federal and local entities, they are considered partners in state activities. Furthermore, as citizen stewards of the land and the ocean, every person present in Hawai‘i, resident and visitor alike, plays an important role in the protection and preservation of ocean and coastal resources.

The purpose of the *ORMP* as required in HRS Section 205A-4 is to provide a framework and implementation strategy for state agencies and others working with state agencies. The framework considers ecological, cultural, historic, aesthetic, recreational, scenic, and open space values. The framework considers coastal hazards and it balances protection with economic development in marine and coastal areas.

The *ORMP* is updated every five years through a process that includes extensive government feedback and statewide public input as required by HRS Section 205A-62. This is the fourth Hawai‘i *ORMP* since the first plan was written in 1985.

Addressing pressures on Hawaii’s ocean and coastal ecosystems, competing uses and overuse, sustainability, and preserving these assets for future generations are all critical in this plan, just as they are in the *Hawai‘i 2050 Sustainability Plan*.

Vision

The vision for Hawaii’s ocean resources is for a healthy, productive, and sustainable ocean ecosystem that fosters economic growth while preserving and protecting Hawaii’s values and needs.

This vision is adapted from the statutory language for ocean resource management found in HRS Chapter 205A. Public and private interests acknowledge the interconnection between land practices and the ocean, and seek to practice sustainable living. Agriculture, development, military, and visitor industry activities cooperate and coordinate with each other to resolve conflicts in a manner which is pono or fair to all parties, a central theme in management. Each person carries a kuleana or responsibility for using

sustainable practices on the land and the ocean, and for supporting the health and well-being of the ocean by all users, enhancing the quality of life for all who live, work, and visit Hawai‘i.

In this vision, cooperation and collaboration are important among agencies at all levels: state, county, and federal. In this vision, government agencies interact with the community and with non-profit organizations to further the vision, perspectives, and goals of ocean protection.

Importance of Ocean Resource Management to the Economy

A vibrant and healthy ocean environment is essential to the quality of life in Hawai‘i. The ocean is Hawaii’s greatest natural resource, providing both economic vitality and spiritual renewal to residents and visitors alike. The State of Hawaii's 1,052 miles of coastline includes world famous sandy beaches, remote sea cliffs, estuaries, and newly formed lava (*The State of Hawai‘i Data Book 2011*, Department of Economic Development & Tourism (DBEDT)).

Hawaii’s landscape is being transformed from working agricultural lands to suburban and urban areas. According to Population and Economic Projections for the State of Hawai‘i by DBEDT (2012), the population in Hawai‘i is expected to increase 17.5% in the next 20 years from 1.36 million in 2010 to 1.60 million in 2030. In addition, with nearly 8 million visitors per year (DBEDT 2012), there will be increased pressure on marine and coastal resources, existing infrastructure, and water and land use.

Direct marine-related industries including fishing, aquaculture, tourism, recreation, and shipping provide approximately 15% of Hawaii’s 649,150 civilian jobs. According to the National Oceanic Atmospheric Administration (NOAA) *Report on the Ocean and Great Lakes Economy of the United States* (2012) prepared by Booz Allen Hamilton for NOAA’s Coastal Services Center, Hawaii’s ocean economy accounted for 92,160 jobs and over $2.5 billion in wages. Nearly 98% of the imported goods come through the state’s harbor system as their point of entry. The value of aquaculture shellfish and finfish is $2,000,000 annually, and is expected to increase. The microalgae industry, used mainly in nutritional supplements, contributed $25 million in sales to Hawaii’s economy (*Hawai‘i Farm Facts*, October 2012).

Seafood is critically important to Hawaii’s food security and economy. A 2012 University of Hawai‘i College of Tropical Agriculture and Human Resources (UH CTAHR) study stated that Hawai‘i residents spend more on seafood per capita than the rest of the United States. In 2010, Hawai‘i residents spent $330.68 per capita or 11.4% of their total food consumption at home and in restaurants. This is over twice as much as the U.S. per capita of $143.68. These figures do not take into account all of the seafood consumed from subsistence fishing some communities call “ohana fishing,” or fishing to feed one’s family.

DBEDT statistics show that visitor expenditures were $11.2 billion in 2010, which was approximately 17% of the state’s Gross Domestic Product. In 2010, nearly 7 million visitors arrived by air; approximately 70% from the U.S. and 30% from other countries. (DBEDT, 2011) The recreational value of the state’s oceans and waterways to the tourism industry and to those that live in Hawai‘i has not been formally measured, however, the University of Hawai‘i Economic Research Organization (UHERO) will complete a study in 2013 and provide some economic data. One study on just the economic importance of Hawaii’s coral reefs, when considering recreational, amenity, fishery, and biodiversity values, estimated the value at $360 million per year of direct economic benefits (Cesar, et.al, 2002).

In order to enjoy the economic benefits described here, the State must commit to preserve and to enhance Hawaii’s ocean resources. There must be regular, meaningful, and significant investments of financial and human capital dedicated to the ORMP management priorities. By giving serious attention, and

investing now in effective ocean management, there is an opportunity to protect the public health, promote public recreation, respect traditional practices, advance food security, enhance tourist activity, and grow Hawaii's economy as a whole.

ORMP Three Perspectives

The *2006 ORMP* charted a new course of action. The pinnacle of the approach was the Three Perspectives. The Three Perspectives are a way to integrate ocean resource management and to provide guidance for all of the actions that the ORMP agencies and partners do to manage Hawaii's ocean resources. The ORMP Three Perspectives are neither priorities nor goals, but they provide an overall statement of broad outcomes.

***ORMP* Three Perspectives**

Perspective 1: Connecting Land and Sea
Careful and appropriate use of the land is required to maintain the diverse array of ecological, social, cultural, and economic benefits we derive from the sea.

Perspective 2: Preserving our Ocean Heritage
A vibrant and healthy ocean environment is the foundation for the quality of life valued in Hawaii and the well-being of its people, now and for generations to come.

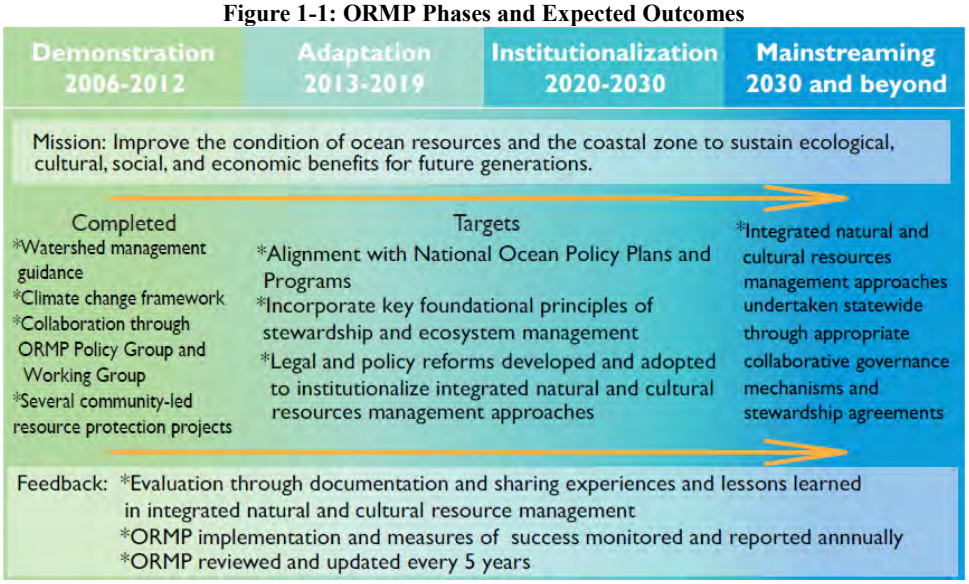
Perspective 3: Promoting Collaboration and Stewardship
Working together and sharing knowledge, experience, and resources will improve and sustain our efforts to care for the land and the sea.

ORMP Phasing Approach

The *2006 ORMP* moved from a sector-based approach implemented by jurisdictional entities to a place-based approach implemented by a broad base of stakeholders. Realizing that resource protection would take many years, a phased approach was initiated as shown in Figure 1-1. Experiences and lessons learned from each phase were to be documented to inform the next phase. A review of accomplishments from the Demonstration Phase is contained in Appendix B.

The second phase, termed *Adaptation*, is when Demonstration Phase strategies start being applied more broadly. This *2013 ORMP* addresses priorities for the Adaptation Phase. The third phase, termed *Institutionalization*, will more firmly implant the perspectives in agency work plans. The final phase, termed *Mainstreaming*, comes when the perspectives are practiced as standard, without the need to consider them for priority attention. Each phase will build upon lessons learned from the previous phase while recognizing and addressing new threats and forces.

Figure 1-1: ORMP Phases and Expected Outcomes

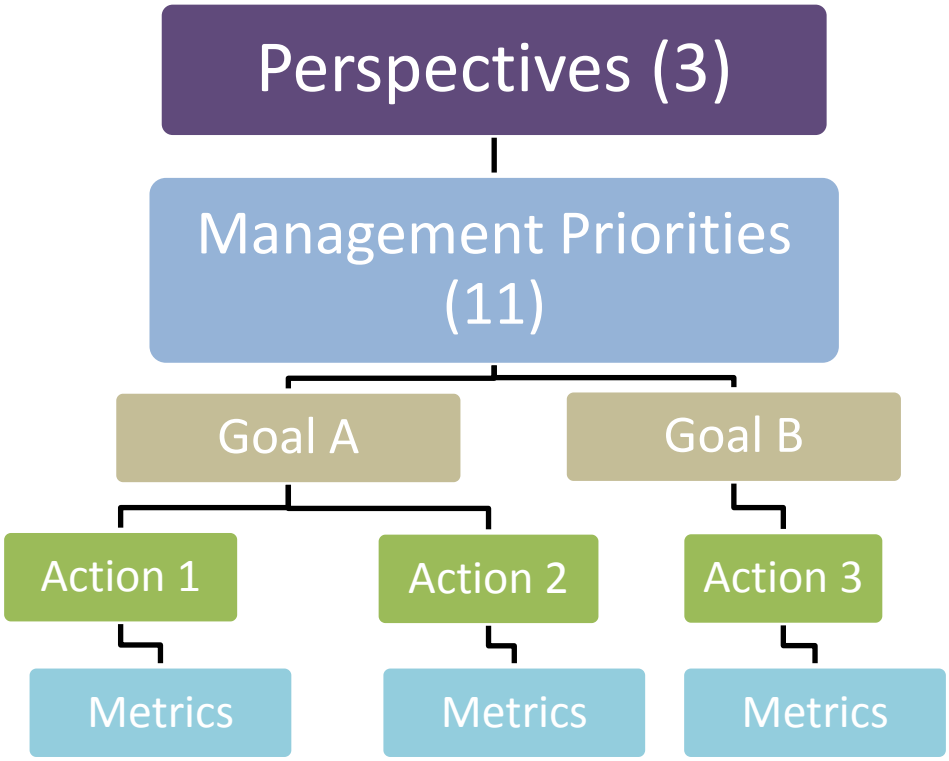


Source: Adapted from 2006 ORMP and Updated

Approach for Adaptation Phase

The high-level structure of the Adaptation Phase plan is shown in Figure 1-2. The plan identifies eleven Management Priorities for ocean resource management. Each management priority has at least two goals, actions to address these goals, and metrics for measuring where we are, where we would like to be, and indicates what will be measured and reported.

Figure 1-2: Management Priorities Hierarchy



The *ORMP* works by identifying eleven Management Priorities for the next five-year planning period, by identifying responsible agencies and resources, and by providing a method for performance measures and reporting. This responsibility can be found in HRS Section 205A-62.

This plan seeks to advance the area of measurement in the plan's goals, management priorities, actions, and metrics. Implementation of this plan will set baseline and benchmark measures, monitor progress, and address the results. This will create a continuous feedback loop, inform decision making, and help to adjust priorities for staffing and funding in ocean resource management.

These *2013 ORMP* Management Priorities replace the *2006 ORMP* Management Goals and Strategic Actions. The 2008 *ORMP Consolidated Work Plan* recognized that not all of the *2006 ORMP* Management Goals and Strategic Actions were being implemented. It was determined that the full list of activities and strategic actions, while important, were too numerous for effective and meaningful monitoring. Many activities were simply reported as "Ongoing" or "In Progress." While these activities are no longer being used or tracked, a list of the *2006 ORMP* activities (updated and amended) is shown in Appendix B.

While all activities are important to get a complete picture of ocean resource management, the activities in *2006 ORMP* Appendix B will no longer be monitored by the Office of Planning (OP). Actions that will be monitored are those that are listed as Management Priorities for the Adaptation Phase and shown in Chapter III.

Management Priorities and Perspectives

The ORMP Management Priorities are the goals and actions which agencies of the State of Hawai'i have committed to address and to make substantial and measurable progress during the period of 2013 to 2018. They are not listed in order of importance. Collectively they contribute to resource protection.

Perspective 1: Connecting Land and Sea

Management Priority #1	Appropriate Coastal Development
Management Priority #2	Management of Coastal Hazards
Management Priority #3	Watershed Management

Perspective 2: Preserving our Ocean Heritage

Management Priority #4	Marine Resources
Management Priority #5	Coral Reef
Management Priority #6	Ocean Economy
Management Priority #7	Cultural Heritage of the Ocean

Perspective 3: Promoting Collaboration and Stewardship

Management Priority #8	Training, Education, and Awareness
Management Priority #9	Collaboration and Conflict Resolution
Management Priority #10	Community and Place-Based Ocean Management Projects
Management Priority #11	National Ocean Policy and Pacific Regional Ocean Initiatives

How This Plan Was Prepared

Work towards preparation of an updated *ORMP* began in 2011, when the OP received a grant from NOAA to begin the update process. After contracting with a consultant, work began in earnest during 2012 with a series of in-depth interviews with state and county agency participants in the ORMP Policy Group, comprised of cabinet-level directors of agencies that manage the ocean, and the ORMP Working Group, consisting of ocean and coastal resource planners from state, county and federal agencies. Previous documents and related plans prepared by the participating agencies were reviewed to identify coordination and integration issues.

A series of eight statewide Public Listening Sessions (PLS) were held from April to June 2012. These were attended by over three hundred individuals who described issues and problems on their island. Summaries of both the interviews and the PLS were prepared and discussed with the ORMP Working Group as part of working meetings to determine the appropriate areas of emphasis and priority for the ORMP Update.

A *Public Review Draft 2013 ORMP* was made available in October 2012. It was widely circulated and became the basis for a second round of nine statewide PLS held from October to November 2012. A comment period was held open until the end of January 2013.

Comments from individuals, government agencies, businesses, and community groups were solicited at both rounds of the PLS, through the *ORMP* website, and on public access television. These comments are incorporated in the *ORMP*. Meetings with state agency directors were conducted to ensure they were willing and able to make commitments to the Management Priorities.

What Has Changed in the 2013 Ocean Resources Management Plan

This *2013 Ocean Resources Management Plan* is considered an update of the *2006 ORMP*. It continues the new direction and course of action. It is the fourth *ORMP* for Hawai‘i.

The *2013 ORMP* uses new terms that more closely mirror the way terms are used in other state plans such as the *Hawai‘i 2050 Sustainability Plan* and the *New Day Plan*. New graphics have been added and editing has been done to make the plan more reader- and user-friendly.

Issues and drivers are identified, explained, and incorporated in Chapter II and Appendix C.

ORMP Terminology

Three Perspectives = Broad Outcomes

Management Priorities = Eleven areas of focus which involve one or more state agencies, working with county, federal, non-governmental organizations, or private multiple parties, and those comprising actions which will be closely tracked and monitored during the Adaptation Period.

Goals = Each of the eleven Management Priorities has at least one or more goals. These goals are linked to metrics.

Actions (formerly Strategic Actions) = projects and activities to achieve the Management Priorities

Metrics = Indicators or measures of performance and progress

The Management Priorities for the upcoming Adaptation Phase of the ORMP are detailed in Chapter III. They are new or newly characterized. Each Management Priority has one or more goals. The goals are accomplished by actions. Management Priorities are linked to the policies and objectives in HRS Chapter 205A. The Management Priorities are also linked to the National Ocean Policy (NOP), which is explained later in this chapter.

Also new in the *2013 ORMP* are measures of implementation of the *ORMP*. Benchmarks ("Where we are now"), targets ("Where we want to be"), and quantifiable indicators or metrics are provided for monitoring and reporting progress.

Because this is the first effort to include measurements, emphasis was made to find metrics that are already collected by agencies and reported elsewhere. By consolidating ocean resource metrics, a picture begins to emerge regarding status and, later, progress.

This is a first attempt at performance measurement. It is expected to change and evolve, and by the time of the next ORMP Update, it is expected to improve as a useful and meaningful tool for decision-makers.

National Priority Objectives

The National Ocean Council (NOC) and the NOP were established in July 2010 by the President's Executive Order 12547 and are discussed in more detail in Chapter IV. The Executive Order was established based on the *Final Recommendations of the Interagency Ocean Policy Task Force* (2010). This groundbreaking policy provides the framework for federal agencies to work together to pursue the NOP's Vision.

The *Final Recommendations* contain nine National Priority Objectives that describe various approaches to ocean and coastal resource management as shown in Table 1-1 along with how they relate to the Three ORMP Perspectives.

Table 1-1: National Priority Objectives and ORMP Perspectives

ORMP Perspective	National Priority Objective
Perspective 1: Connecting Land and Sea • *ORMP* adopts place-based management as a foundational principal, which applies to nearshore fisheries, coral reefs, sea grasses, and other resources. • This goal addresses soil erosion and pollutant loads.	Ecosystem-Based Management Regional Ecosystem Protection and Restoration
Perspective 2: Preserving Our Ocean Heritage • *ORMP* recognizes marine resources, coral reefs, the ocean economy, and the cultural heritage of the ocean as ways to promote a sustainable Hawai'i	Changing Conditions in the Arctic Water Quality and Sustainable Practices on Land
Perspective 3: Promoting Collaboration and Stewardship • *ORMP* aims to build capacity for community participation in resource management through education and outreach • *ORMP* includes Pacific Regional Ocean Partnership (PROP) and Hawai'i Sub-Regional Ocean Partnership (Sub-ROP) • Climate change adaptation is included	Coastal and Marine Spatial Planning Inform Decisions and Improve Understanding Coordinate and Support Resiliency and Adaptation to Climate Change and Ocean Acidification Ocean, Coastal, and Great Lakes Observations, Mapping and Infrastructure

All of the NOP National Priority Objectives are important to Hawaii's ocean resources. Even the National Priority Objective of "Changing Conditions in the Arctic," while geographically distant, is important. Changing conditions in the Arctic are linked to climate change and the warming of the oceans, which in turn contributes to ocean acidification, coral bleaching, and the degradation and habitat loss of

entire reefs. The changing conditions in the Arctic are being monitored by the U.S. Integrated Ocean Observing System (IOOS) in collaboration with the Pacific Islands Ocean Observing System (PacIOOS).

The critical ocean resources management issues described in the next chapter track closely to the National Priority Objectives. During the Adaptation Phase, new institutional frameworks for Pacific region collaboration will be put into effect. New tools will be developed for coastal and marine spatial planning (CMSP). These are part of the Management Priorities addressed in Chapter III.

II. Pressures On The Ocean and Critical Issues That Need To Be Addressed

This chapter examines pressures on the ocean and coastal resources and associated issues that need to be addressed. This chapter references other statewide plans and policies that discuss these critical, ocean-related issues. This chapter was informed by feedback that the State of Hawai‘i, Office of Planning, Coastal Zone Management Program (OP-CZM) received at two rounds of Public Listening Sessions (PLS) during 2012, which were held on the islands of Kaua‘i; east, west, and central parts of O‘ahu; west and central parts of Maui; Moloka‘i; Lāna‘i; and the east and west sides of Hawai‘i Island.

A longer version of this Chapter, with additional information such as key ocean-related plans from other state and federal agencies, can be found in Appendix C, Ocean Resource Management Issues and Related Plans.

Future economic growth and activities of the population are expected to place great demands on Hawaii's ocean and coastal resources. Increased urbanization, tourism, recreation, and commercial uses utilize the ocean resources in different ways. While economic growth is vital to Hawai‘i, its impacts must be properly managed to preserve our natural resources and reduce conflicts among resource users.

This chapter discusses several issues that affect ocean and coastal resource management:

- Urbanization
- Impacts from Tourism
- Military Use of Lands
- Commercial and Recreational Ocean Uses
- Shoreline Access and Conflicting Uses
- Coastal Hazards, Sea Level Rise, and Coastal Erosion
- Climate Change Adaptation: Disaster Preparedness and Community Resilience
- Marine Debris
- Watershed Management: Water Quality and Water Quantity
- Agricultural Lands
- Damage to Coral Reefs
- Endangered Species
- Aquatic Invasive Species
- Terrestrial Invasive Species
- Food Security
- Alternative Energy

Urbanization

The 2010 U.S. Census shows the State of Hawaii's total population at 1,360,301 people, with 455,338 households. According to the Department of Business, Economic Development, and Tourism (DBEDT) forecasts, the state's population is expected to increase by 140,000 persons every ten years. Future population growth and accompanying growth in urbanization need to be properly managed to preserve the state's natural resources while allowing necessary economic growth. The updated management priorities in this *ORMP* outline actions to minimize impacts to the coastal environment through support of appropriate coastal development.

Figure 2-1 illustrates a balance between social, economic, and environmental needs, showing how they are all interdependent. This is a diagram based on the definition of sustainability in Hawai'i from the *Hawai'i 2050 Sustainability Plan*:

(1) Respect of the culture, character, beauty, and history of the state's island communities;
(2) Striking a balance between economic, social, community, and environmental priorities; and
(3) Meeting the needs of the present without compromising the ability of future generations to meet their own needs.

Balancing the need to protect the environment can be done while driving the economy and providing social benefits to society. In other words, acquiring balance in one sector does not need to be at the expense of another.

Figure 2-1: Striking a Balance

Impacts from Tourism

The UH Economic Research Organization (UHERO) reports that Hawaii's tourism industry is the largest sector of the state's economy, providing 22% of Hawaii's gross domestic product in 2010 (UHERO, 2011). While most tourists arrive via plane, the ocean plays an important entry point for some. The number of visitors arriving to Hawai'i aboard cruise ships increased 23% to 124,650 visitors between 2010 and 2011, and even more visitors boarded cruise ships in Hawai'i after flying to the islands, bringing total cruise visitors to 246,236 (Hawai'i Tourism Authority, 2012). The cruise ship industry is just one facet of tourism that impacts the ocean. Fishing tours, ecotourism, water sports and recreation, and the shipping of supplies to support nearly 8 million annual visitors all impact the ocean.

Aside from the economic impact of tourism on the ocean resources, additional impacts such as environmental and social are also considered. While the recreational value of the ocean for both tourism and residents has not been formally measured, UHERO will complete a study sometime in 2013 that will provide data for policy makers.

New visitor destinations and activities such as increased international visitors, the cruise ship industry, coastal-dependent resort development, increased marketing of the neighbor islands, and ecotourism alternatives can all be made aware of how to exist while protecting Hawaii's most sensitive and unique natural resources.

Military Use of Lands

The military is an integral part of Hawaii's past and present, as well as a major driver of the state's economy. National and homeland security requires that access to certain shorelines be off limits to the general public, such as at Pearl Harbor. On occasion, the military will allow access to certain beaches, such as at Bellows Air Force Station Beach in Waimānalo. The military often supports the community by participating in beach clean-ups. Further collaboration between the State and the military may help to open up more shorelines, even on a limited basis, for recreation and fishing.

Ordnance left from World War II and training exercises in the ocean and along the coastline is a concern in some areas of Hawaiʻi. The most extreme example of this would be the uninhabited island of Kahoʻolawe, which was used as a U.S. Navy practice bomb target area for several decades. Military ordnance has also been reported by community members off the Waiʻanae Coast on Oʻahu and north of Kailua-Kona on Hawaiʻi Island. Continued collaboration between the State of Hawaiʻi and assigned military liaisons can assist in removal of ordnance.

Commercial and Recreational Ocean Uses

Hawaii's oceans are used for commerce, recreation, cultural practices, and transportation. Approximately 80% of all goods consumed in Hawaiʻi are imported from out of state, and of those, 98% arrive by sea. With approximately 8 million visitors arriving in the islands annually and projected to rise, the recreation sector of jobs has also increased by nearly 2% year over year (DBEDT, 2013). Because the islands are surrounded by the Pacific Ocean, many of the recreational jobs are centered on ocean uses, which may include a variety of uses from kayak rentals to recreational fishing tours to whale watching. All of these uses of ocean and coastal resources need to co-exist.

Shoreline Access and Conflicting Uses

The State has long recognized a policy of supporting public use of the shoreline area. The landmark 1995 Hawaiʻi State Supreme Court case, referred to as PASH or Public Access Shoreline Hawaiʻi, reaffirmed these rights. Hawaiʻi courts have consistently held that nearly all State submerged lands, including shoreline areas, are considered public lands held in trust for the benefit of its people. Accordingly, the State may not dispose of these lands, or encumber these lands to the detriment of public access and other public interests. In terms of shoreline areas, except for very specific circumstances, submerged lands extend to the highest wash of the waves during the season when the waves are highest. For example, HRS Section 46-6.5 states that the counties, in the subdivision process, must ensure public access to land below the high-water mark. Shoreline setback areas, Coastal Zone Management Act (CZMA) statutes and rules, and other state and county land use laws further recognize the importance of public access to the shoreline and coastal areas.

Access to the shoreline for Native Hawaiian traditional and customary gathering practices is guaranteed in the Hawaiʻi State Constitution, statutes, and case law. As such, agency decisions affecting the shoreline must make specific findings relating to potential impacts to traditional and customary practices and cultural, historical, or natural resources, and take feasible actions to reasonably protect cultural rights. Cultural impacts of applicable projects in or affecting the shoreline area must also be assessed via the environmental review process embodied in HRS Chapter 343, as well as through federal and state laws which may also require consultation with Native Hawaiian Organizations and practitioners.

HRS Chapter 6E Relating to Historic Preservation recognizes the "value of conserving and developing the historic and cultural property within the State for the public good." It is similar to Section 106 of the National Historic Preservation Act (1966), which includes a federal requirement for consultation with Native Hawaiian Organizations whenever federal agencies determine that there is an undertaking that

could affect historic properties. State and federal laws recognize that there could be historic and cultural properties in submerged lands as well as at the coastline and that government agencies must consider the Native Hawaiian perspective in order to preserve these historic and cultural properties.

Despite having laws in place, many people expressed during the statewide ORMP PLS that access is sometimes limited, either through restricted parking, non-availability of public access in areas that are land locked, or other restrictions of protected Native Hawaiian gathering places. New resorts constructed on undeveloped shorelines may reduce public access to ocean resources and may degrade scenic views. Increased marine-related tourist attractions, including whale and dolphin watching, shark feeding, charter fishing, parasailing, jet skiing, swimming, snorkeling and diving, can result in resource use conflicts and threaten the condition of ocean and coastal resources. How shorelines are developed and the way coastal water quality, beaches, and coral reefs are managed are fundamental to the growth and sustainability of Hawaiʻi.

Coastal Hazards, Sea Level Rise, and Coastal Erosion

Coastal hazards that affect ocean resources include beach erosion, inundation of land, increased flood and storm damage, saltwater intrusion into the freshwater lens aquifer, the rising of the water table, and more frequent or more powerful weather events. Proper coastal development, watershed management, and disaster preparedness in coastal regions are necessary tools to deal with the effects of sea level rise and coastal hazards.

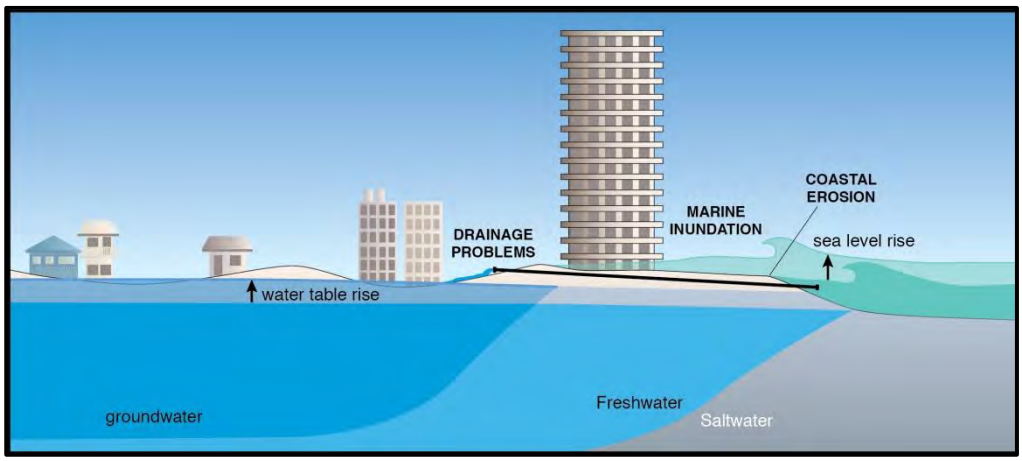
According to the 2012 U.S. Geological Survey *National Assessment of Shoreline Change: Historical Shoreline Change in the Hawaiian Islands,* 70% of beaches on Kauaʻi, Oʻahu, and Maui are eroding with an average long-term rate of -0.11 meters per year. Twenty-two kilometers or 9% of beaches on the three islands were completely lost to erosion over the past century—in nearly all of these locations, the shoreline is now characterized by coastal armoring such as seawalls.

Seawalls and other hardened shoreline structures to protect coastal properties exacerbate coastal erosion and beach loss (Fletcher, et. al., 1997). Currently, only the islands of Oʻahu, Kauaʻi, and Maui have documented erosion rates, and the University of Hawaiʻi School of Ocean and Earth Science and Technology (UH SOEST) plans to document erosion rates for the other islands in the near future.

Sea level rise is defined as when the mean high tide level increases year after year. Figure 2-2 on the following page illustrates the coastal hazards that can develop from sea level rise.

When the sea level rises, coastal erosion increases. Storm surges can increase the height of storm waves and cause marine inundation. In some locations, the saltwater can impact the level of the water table, causing a water table rise and inland flooding. The water table rise can cause drainage problems in interior areas, because there is nowhere for stormwater or rainwater to drain.

Figure 2-2: How Sea Level Rise and Other Coastal Hazards Interact with Coastal Development



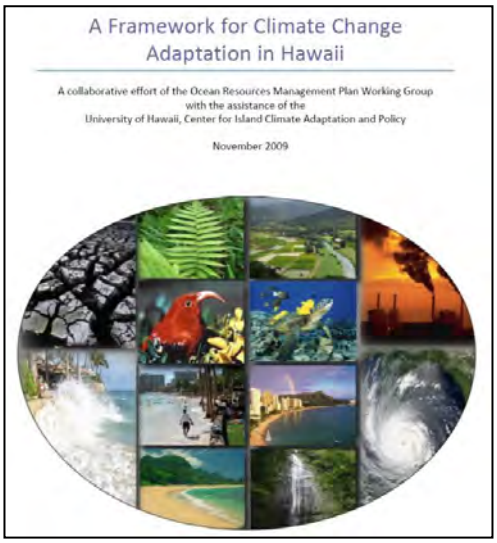
Source: Chip Fletcher, Ph.D., University of Hawai'i, SOEST

Climate Change Adaptation: Disaster Preparedness and Community Resilience

Climate change has been documented to have impacts on the atmosphere, coasts, and marine resources. Mitigation and adaptation to climate change and coastal hazards need to be addressed in order to combat the pressures that exist today, as well as prepare Hawai'i for future impacts. Because of the cumulative impacts of climate change, the State has put a focus on adaptation.

Global warming is predicted to cause an increase in frequency and power of both storm surge and hurricanes.

Figure 2-3: A Framework for Climate Change Adaptation in Hawai'i



Global Trends in Wind Speed and Wave Height by Young, et. al. (2011) suggests that wind velocity will increase by as much as 25 percent by the end of the 21st century, partially in response to the warming oceans. The Intergovernmental Panel on Climate Change (IPCC) states that a one-meter rise in sea level would enable a 15-year storm to flood areas that today are only flooded by a 100-year storm (IPCC, 1998). Changes in precipitation, with heavier rainfalls, are also expected, which impact the amount of runoff from Hawaii's watersheds.

According to the University of Hawai'i Sea Grant College Program, Center for Island Climate Adaptation and Policy (ICAP) *Hawaii's Changing Climate Briefing Sheet* (2010), rainfall and stream flow has decreased, while the intensity of rainstorms has increased.Hawai'i is getting warmer, with an even greater warming trend at higher elevations, decreasing rainfall. Rising air temperatures, decreased rainfall, and decreased stream discharge all tie in to the sources of water to the ecosystem, which can affect agriculture, water quantity, and water quality.

In 2009, the ORMP Working Group and ICAP prepared *A Framework for Climate Change Adaptation in Hawaii.* Topics included building a climate change adaptation team, developing and adopting a long-term

vision, identifying planning areas and opportunities relevant to climate change, scoping climate change impacts to major planning sectors, conducting a vulnerability assessment, and conducting a risk assessment. Such planning efforts aid in disaster preparedness and build resilient communities. A core group of ORMP partners drafted climate change policy legislation that became part of the Governor's 2012 Legislative Packet as Senate Bill 2745. This climate change adaptation bill passed the 2012 Legislature and was signed by Governor Neil Abercrombie as Act 286 (2012).

Marine Debris

Marine debris is defined as any solid material that is manufactured or processed and directly or indirectly disposed of or abandoned into the marine environment. Debris may enter directly from a ship, or indirectly when washed out to sea from rivers, streams, or storm drains. Marine debris includes a wide variety of items, including plastic bags, glass bottles, rubber slippers, derelict fishing gear, and abandoned or derelict vessels. Activities that create marine debris occur both on land and in the ocean.

Marine debris can be categorized as chronic such as derelict fishing gear or episodic such as the Japan Tsunami Marine Debris (JTMD). The debris ranges in size from microscopic, such as broken pieces of plastic, to items weighing many tons, such as abandoned fishing vessels.

According to the *Hawai'i Marine Debris Action Plan* (HI-MDAP) (NOAA, 2013), there is a role for everyone, including federal, state, and county agencies, as well as community members and academia, in preventing and dealing with marine debris. Beach clean ups are just one way of addressing marine debris, as pictured in Figure 2-4.

Figure 2-4: Marine Debris Removed from Kanapou, Kaho'olawe, Before and After Photos

Source: Kaho'olawe Island Reserve Commission, Kanapou Cleanup

Watershed Management: Water Quality and Water Quantity

There are over 500 watersheds in the State of Hawai'i, according to the *Hawai'i Watershed Guidance* (Office of Planning 2010). The Department of Land and Natural Resources (DLNR), the Department of Health (DOH), the Office of Planning (OP), and the various county water supply agencies manage most of the state's watersheds. However, many of the watersheds are private property. Because of their vast

size and limited accessibility, many stakeholders need to partner in order to manage and improve functionality of the watersheds. Watershed management must take into account the quality as well as quantity of water within a given watershed. Freshwater from streams, estuaries, and anchialine ponds flows into nearshore waters. Irrigation ditches, many left over from the sugar cane plantations, were constructed over one hundred years ago to provide millions of gallons of water per day for irrigation across the state. Many of these irrigation ditches remain and are also a source of fresh water flowing into the ocean, increasing water quantity as well as runoff from former agricultural lands. The amount of water flow (quantity) is as important as water quality.

Polluted surface water runoff, combined with an aging sewage system incapable of handling system overloads, is threatening coastal water quality. According to the U.S. Environmental Protection Agency (EPA), 64% of Hawaii's streams are considered "impaired" by pollutants. As population density increases along shoreline areas, landscape hardening to protect property continues as a serious coastal issue. Channelized streambeds for floodwater control exacerbate water quality problems and contribute to stream and estuarine habitat loss.

Urban and agricultural lands are major sources of nonpoint source pollution. Pharmaceutical contamination, injection wells, and cesspools were raised at the ORMP PLS as anecdotal examples of pollution that is occurring. Stream diversions such as the irrigation ditches and wells that affect surface waters have changed the water flow to wetlands, streams, estuaries and nearshore waters. Careful and appropriate use of the land and freshwater is required to maintain the diverse array of ecological, social, cultural, and economic benefits we derive from the sea.

Agricultural Lands

While much of Hawaii's agriculture is beyond the shoreline, agricultural lands throughout the state directly impact the coast and the ocean. Much of Hawaii's agricultural lands at the turn of the 20th century were used for sugar cane and pineapple production. As these uses cease, diversified agriculture has been planted on some of the former plantation lands. Other lands have been converted to urban use. As discussed in the previous section on Watershed Management, runoff from agricultural lands is seen to affect the coast and ocean.

The designation of important agricultural lands as called for in Act 233 of 2008, Act 183 of 2005, and Article XI, Section 3 of the Hawai'i State Constitution has been taking place over the past several years. The Hawai'i Department of Agriculture (DOA), working with the Department of Taxation and various stakeholders as well as the OP, has been trying to identify incentives for agricultural lands to stay in agricultural use. The 2007 *DOA Final Report to the State Legislature* lists permits, tax credits, administrative rules, and transfers of land as steps in this process. The designation of lands as important agricultural lands provides an opportunity for agencies to make the connections between land and sea.

Damage to Coral Reefs

Coral reefs are called the "rainforests of the sea" due to their complex and rich biodiversity. According to the *2050 Sustainability Plan*, there are 7,000 known species of coral represented in 410,000 acres of living reef in the main Hawaiian Islands. More than one quarter of these species are only found in Hawai'i. Threats to coral include urban and agricultural runoff, over-fishing, damaging recreational use, coral disease, acidification of ocean water, aquatic invasive species, and bleaching caused by increasing sea water temperature.

The depletion of coral reefs decreases biodiversity, which impacts not only the island population's ability to recreate and subsist, but is a loss to the state's chief income producer, tourism.

The Makai Watch Program was developed to enhance the management of nearshore marine resources by providing community members opportunities for direct involvement in management activities. This program builds community awareness and encourages compliance through observation, identification, and reporting of illegal activities to the DLNR Division of Conservation and Resources Enforcement (DLNR-DOCARE).

Figure 2-5: Hawai'i Coral Reef

S*ource: The Nature Conservancy*

Climate change is a threat to coral. Increased levels of carbon dioxide emissions, a greenhouse gas, are changing the ocean's chemistry. The added carbon dioxide causes a decrease in the pH of the water; in turn, the ocean becomes more acidic, which decreases the rate of calcium carbonate production by coral polyps. Additionally, increasing sea water temperature causes coral bleaching. While corals can recover from bleaching if other conditions are good and the high temperatures do not persist over many weeks, climate scientists agree that bleaching conditions will be widespread and regular by the end of the century.

Coral cover throughout the Pacific is expected to decline 15% to 35% by 2035. (Britt Parker, NOAA Coral Reef Conservation Program (CRCP), *Case Studies from the 2012 Pacific Islands Regional Climate Assessment (PIRCA)*, 2012). Without healthy coral reefs, entire ecosystems are at risk.

Endangered Species

One-third of all endangered species in the United States are found in Hawai'i. Examples of endangered species in the ocean and coastline areas are the Humpback Whale, the Green Sea Turtle, the False Killer Whale, and the Hawaiian Monk Seal. With increasing frequency, other marine species found in Hawai'i are also being considered for listing. There are critical estuaries where fresh and salt water mix and serve as habitat for endangered birds such as the Hawaiian Moorhen, Hawaiian Stilt, Hawaiian Coot, and Kōloa Duck. Balancing protection of endangered species with other priorities of ocean resource management is critical.

The Hawaiian Islands Humpback Whale National Marine Sanctuary (National Marine Sanctuary) is managed as a partnership between NOAA and the State of Hawai'i. The National Marine Sanctuary is discussed in Chapter IV as an example of a coordinated approach to the management of ocean resources.

Aquatic Invasive Species

Aquatic invasive species (AIS) are plants or animals introduced into a water body that have the potential to harm the ecosystem, people, and/or the economy. The Hawaiian Archipelago is home to 85% of the country's coral reefs, and these ecosystems include a variety of corals, fish, seaweed, and other marine

life, some seen nowhere else in the world. Protecting the fragile ecosystems as well as keeping waterways clear and preserving the environment that commerce and tourism are both dependent upon are all important to the State of Hawai‘i. Prevention and early detection are essential in the control of aquatic invasive species.

AIS can be introduced accidentally by sea faring vessels. Ballast water discharges from vessels and biofouling of submerged areas are the major means by which vessels act as a pathway for introduction of marine invasive species. The National Invasive Species Act of 1996 amended the Nonindigenous Aquatic Nuisance Prevention and Control Act of 1990. The U.S. Coast Guard (USCG) Ballast Water Management program addresses AIS introduction from ballast water.

Terrestrial Invasive Species

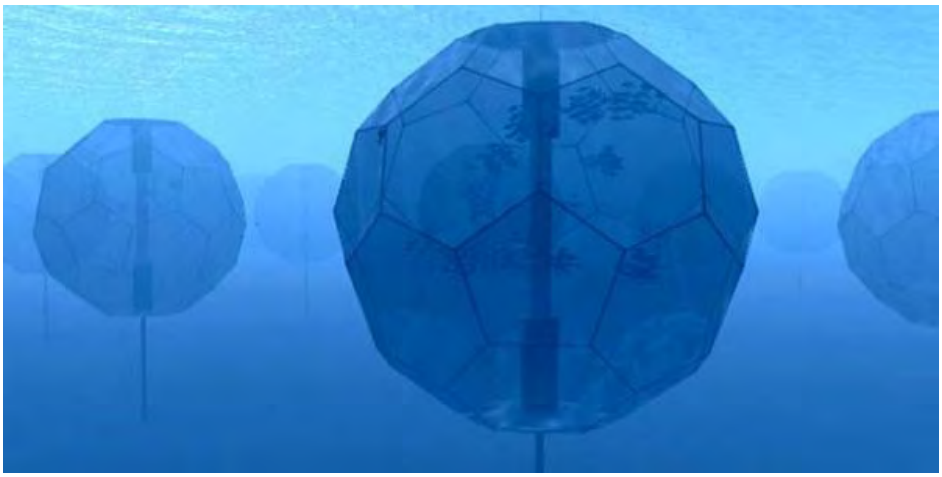
Terrestrial invasive species are non-native plants or animals introduced on land. The introduction of a non-native species can interrupt and damage the land ecosystem. This is important to ocean and coast resource management, because what happens at the top of the ridge can affect water quantity and the ocean’s water quality.

An example is damage that hoofed animals cause to the watershed through erosion and by promoting the spread of invasive plant species. Ungulate barriers such as fencing have been used in forests and watersheds to conserve the ecosystems. Other terrestrial invasive species such as the brown tree snake are important to keep out of the islands because their introduction could wipe out native bird populations, and affect the biodiversity of the forests. Invasive Species Committees (ISCs) on O‘ahu, Maui, Moloka‘i, Kaua‘i, and Hawai‘i Island seek to identify and implement appropriate management strategies.

Food Security

Approximately 85-90% of Hawaii’s food is imported into the state, mostly on ships. This makes Hawaii’s food security vulnerable to natural disasters and global events that could disrupt the food supply. In 2012, the OP in cooperation with the DOA prepared the *Increased Food Security and Food Self-Sufficiency Strategy*.

Figure 2-6: Open Ocean Fish Cage



Source: Hawaii Oceanic Technology, Inc.

The three objectives of the strategy are to: increase demand for and access to locally grown foods; increase production of locally grown foods; and provide policy and organizational support to meet food self-sufficiency needs.

Supporting restoration of fishponds, providing access to the coastline for gathering, proactively managing near shore fishing, and sustainable aquaculture are all ways to increase food security. Collaboration among agencies and community groups to increase access to the shoreline and improve ocean water

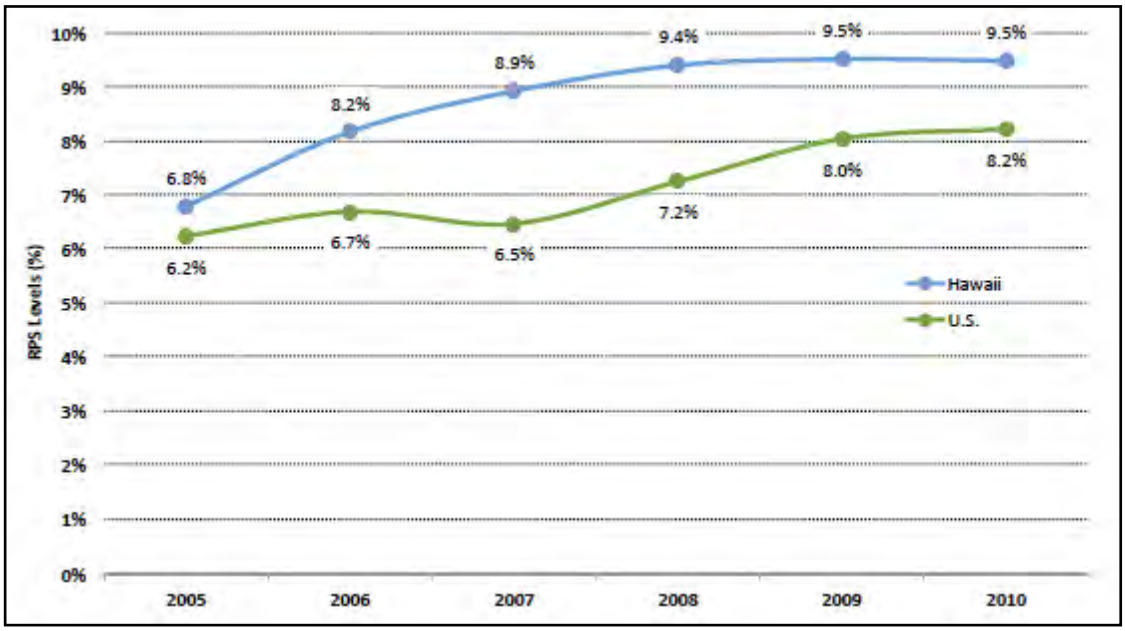
quality for subsistence or "'ohana fishing" helps support the state's goal. Working with commercial fishers, open ocean aquaculture businesses, and agencies in a cooperative manner will assist in this effort.

Alternative Energy

The Hawai'i Clean Energy Initiative (HCEI) set ambitious but critical goals for increased energy self-sufficiency and for increased use of clean technologies. The near term goal is to produce at least 15% of the electricity sold from clean energy technologies by 2015. With the projects currently under development or planning, Hawai'i is on target to meet this goal. However, the goals of 25% renewable generation by 2020 and 40% renewable generation by 2030 leave much work to be done.

Hawaii's renewable electricity generation as a percentage of total generation is approximately 13.9%, according to annual Renewable Portfolio Standards (RPS) reports submitted by the electric utilities to the Hawai'i Public Utilities Commission in 2013. In 2010, Hawai'i was at 9.5% of renewable electricity generation, which at the time was approximately 1.8% higher than the rest of the United States as shown in Figure 2-7.

Figure 2-7: Hawai'i Renewable Energy Generation 2005-2010



Source: State of Hawai'i Energy Resource Coordinator's Annual Report 2011

According to Governor Abercrombie's *A New Day in Hawai'i Plan (2010)*, Hawaii's most important economic enterprise is to pursue energy independence. Alternate energy for Hawai'i includes wind, solar, hydro, ocean thermal, marine hydrokinetic, biomass, and geothermal sources. To increase the state's RPS percentage and lower the state's dependence on foreign oil imports, over 40 renewable energy projects have been constructed and another 40 utility-scale projects are currently proposed throughout Hawai'i. Many of these projects will impact the ocean and coastal resources in various ways, including but not limited to: ecologic impacts from marine infrastructure, effluent discharges (tempered and/or processed),

visual impacts, and recreational and commercial impacts. Coupled with the newly formed Hawai‘i Outer Continental Shelf (OCS) Renewable Energy Task Force, the sustainable development of Hawaii's marine resources is a major component of HCEI.

Proper siting and cumulative impact mitigation of renewable energy projects are critical to the sustainable use of the state's ocean resources. The Hawai‘i State Energy Office within DBEDT works with stakeholders and regulatory agencies to help ensure individual projects are developed with consideration of local and statewide impacts, both short term and long. Some renewable energy power plants, such as wave energy devices, interisland cables, or offshore wind, could directly impact marine resources because of their location. Even land-based renewable projects, such as geothermal and bioenergy, could affect the ocean if they produce effluent or run-off into the nearby ocean. If the Hawaiian Islands' electricity grids are linked by an undersea cable, other impacts to the ocean need to be considered. Hawaii's present reliance on shipped fossil fuels such as oil and coal have the potential to significantly impact the ocean through spills or other accidents.

The Pacific Ocean is an integral part of Hawaii's environment, culture, and economy, and has vast potential to support the production of renewable energy. Sustainable management of Hawaii's energy resources will help to protect our unique ocean resources.

III. Management Priorities for the Adaptation Phase

With this ORMP Update, the ORMP moves into the Adaptation Phase, and this is scheduled to run approximately from 2013 to 2018. This phase will implement and track actions to measure progress on eleven Management Priorities that were identified through the ORMP Update process.

This chapter outlines and discusses the Management Priorities along with their goals, benchmarks, targets, actions, and metrics, which will be the focus of the Adaptation Phase. Each Management Priority has a lead state agency or agencies, names other state and county agencies involved, and names partners from federal, university, and non-profit or community organizations.

Management Priorities and Perspectives

Perspective 1: Connecting Land and Sea

Management Priority #1	Appropriate Coastal Development
Management Priority #2	Management of Coastal Hazards
Management Priority #3	Watershed Management

Perspective 2: Preserving our Ocean Heritage

Management Priority #4	Marine Resources
Management Priority #5	Coral Reef
Management Priority #6	Ocean Economy
Management Priority #7	Cultural Heritage of the Ocean

Perspective 3: Promoting Collaboration and Stewardship

Management Priority #8	Training, Education, and Awareness
Management Priority #9	Collaboration and Conflict Resolution
Management Priority #10	Community and Place-Based Ocean Management Projects
Management Priority #11	National Ocean Policy and Pacific Regional Ocean Initiatives

The ORMP Management Priorities are not listed in order of importance. They do identify issues which agencies of the State of Hawai‘i have committed to address and to make substantial and measurable progress during the period from 2013 to 2018.

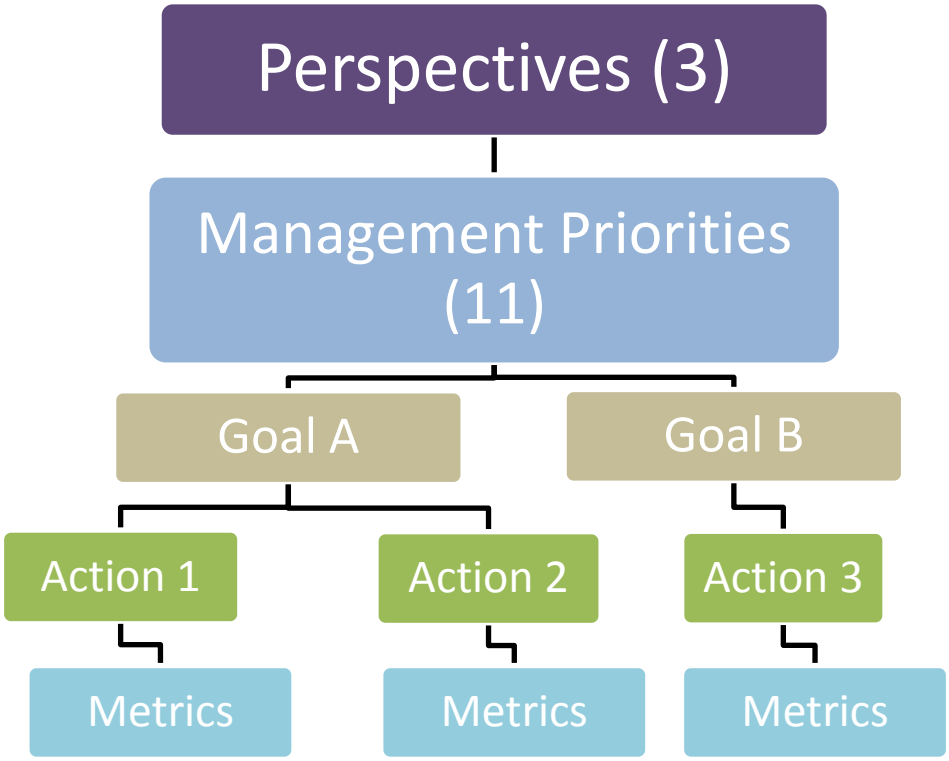
Criteria

The Management Priorities for ocean resource management were selected because they met one or more of the following criteria:

- Present an immediate and urgent threat
- Present a long term threat, which can lead to irretrievable harm if not addressed sooner
- Work has been initiated by a government agency that requires several years of effort
- Work has been initiated by a community group and place-based progress has been demonstrated
- The work could be completed during the Adaptation Phase
- The Management Priority fits within HRS Chapter 205A
- The Management Priority fits within one of the nine objectives in the National Ocean Policy

The Management Priorities Hierarchy is shown below. Each Management Priority falls under one of the guiding principles, also known as the Three Perspectives. For each Management Priority, there are one or more ORMP goals, and under these there are several Management Priority actions. These goals and actions are assigned to ORMP agencies and partners. Measuring performance of achieving these goals is done through metrics. The lead agency for each Management Priority is responsible for tracking their performance, and assisting OP-CZM in collection of metric data.

Management Priorities Hierarchy



Implementation

Some Management Priority actions are associated with or conform to other statewide plans that have been prepared by other state agencies. This was done on purpose and is envisioned in HRS Chapter 205A. When work has already been initiated by a government agency through their departmental plans, achievement of the Management Priority is considered realistic and possible.

Under HRS Section 205A-62, OP-CZM Program is to be the lead agency to oversee the overall implementation of the ORMP. It is not possible for OP-CZM to directly conduct or fund each of the Management Priority actions. Rather, overseeing ORMP implementation will require coordination of various government agencies, stakeholders, non-profits, and community groups. Much of this coordination can be achieved at the ORMP Working Group and Policy Group meetings.

References and Background

Each Management Priority references at least one ORMP Perspective, applicable sections of the Hawaii Revised Statutes (HRS), the National Ocean Policy (NOP) objectives referenced in the *Final Recommendations of the Interagency Ocean Policy Task Force (IOPTF)* (2010), and any other applicable federal, state, or county laws, including Hawaii Administrative Rules and the state constitution. The NOP Objectives can be found in Chapter IV.

Background information on each Management Priority came from different sections of this ORMP as well as input from ORMP coordinating agencies.

Measurement

Each Management Priority contains information on what is being measured. This starts with "Where we are now" to present a snapshot of current conditions. This is followed by "Where we want to be," which explains targets for improving ocean and coastal resources in this Management Priority. The initial measure will become the ORMP baseline, and future measures will be compared to that point.

Tracking and Reporting on Progress

Responsible lead agencies will report to the Office of Planning, Coastal Zone Management Program (OP-CZM) on a twice yearly basis using the metrics described. On an annual basis, OP-CZM will consolidate the performance metrics and report to both the Legislature and the public on progress made. Written reports are expected, but may also be posted on the OP-CZM website. Statewide meetings are encouraged as resources permit.

Management Priorities Summary Matrix Explanation

A Management Priorities Summary Matrix listing the goals, lead agencies, partner agencies, and metrics is included at the end of this Chapter.

Management Priority # 1 Appropriate Coastal Development

Appropriate Coastal Development Goals:

Goal A: *Adoption of county plans which specify guidance on coastal development.*
Goal B*: Strengthen and integrate data management to ensure appropriate coastal development.*
Goal C: *Expand options to protect existing developments from further coastal erosion.*

References

Perspective 1: Connecting Land and Sea
HRS Sections 205A-2(b) [Objectives]: (3), (5), (6), (7), and (9); and 205A-2(c) [Policies]: (3)(D), (5)(A), (5)(C), (6)(A through D), (7) (A), (7)(B), (9)(A), and (9)(C)
HRS Section 226-109, *Climate change adaptation priority guidelines*
HRS Chapters 321 (partial), 322 (partial), 340E, 340F, 342D, 342E,
Hawaii Administrative Rules (HAR) Title 11
National Ocean Policy Objectives 3 & 5

Background

One of the goals of the CZM Program is to ensure that appropriate setbacks and protections are put into place to ensure appropriate development and structures along the coastal areas. Appropriate coastal development addresses the issues identified under the CZM Act, including coastal hazards (including sea-level rise), historic resources, coastal ecosystems, and Hawaii's economy for current and future generations. The most difficult issues to address are coastal development issues that stem from development that already exists. While great strides have been made, there are many structures "grandfathered" under old codes, and continued pressure from landowners for legislative exemptions from regulatory review. This pressure can be very contentious and stressful for county and state permitting agencies.

Benchmark – Where we are now

- The County of Kaua'i is considering amendments to its Comprehensive Zoning Ordinance, based on new sea level rise mapping.
- There are unsettled legal issues regarding permits for shoreline armoring or other protections for existing threatened structures.
- PacIOOS has upgraded its Ocean Observation System, incorporating data layers that could assist in appropriate coastal development.
- OP manages the Geographical Information System (GIS) layers for the State of Hawai'i, which can also assist in appropriate coastal development

Target – Where we want to be

- Manage Retreat. Develop long-term planning and strategies to support managed retreat, which would include location-specific adaptation strategies such as retreat zones, prohibition of shoreline armoring, and assessment of impacts on underground infrastructure and utilities. Public and private property owners may be encouraged to relocate structures inland, with incentives that may include tax-based incentives and third-party acquisition of threatened parcels in fee or by easement.
- Site Appropriately. Proposed projects/actions are evaluated during the land use entitlement process to determine the sufficiency of proposed adaptation measures and infrastructure durability over the lifetime of the project, taking into account individual and public economic impacts. This includes considering additional shoreline access, where appropriate.
- Plan for Passive Survivability. Communities should be resilient to extended power outages, interruptions of fuel supply, or loss of water and sewer services.

- Enhance Natural Infrastructure to Build Coastal Resilience. Cost-effective beach nourishment is implemented and streamlined for offshore permitting.
- Allow Flexibility in Retrofitting Existing Structures. Allow for retrofitting of existing structures that also accounts for long-term conservation of coastal resources and shoreline ecosystems, including beaches and reefs.

Example Actions to Accomplish the Appropriate Coastal Development Goals

- OP continues to review projects during land use entitlement process to determine the sufficiency of proposed adaptation measures and infrastructure durability over the lifetime of the project, taking into account individual and public economic impacts.
- OP to support additional shoreline access in its land use reviews.
- ORMP Working Group collaborates on supporting legislation for appropriate coastal development.
- ORMP Working Group collaborates on ways to work with state and county agencies and departments on appropriate coastal development.
- County planning departments incorporate coastal impacts into their General Plans, Development Plans, Sustainable Community Plans, and land use regulations.
- Department of Land and Natural Resources Office of Coastal and Conservation Lands (DLNR-OCCL) works on ways to support appropriate coastal development on public and private projects.
- Hawai‘i Department of Transportation (DOT) works on ways to support appropriate coastal development of their Capital Improvement Program projects for highways, harbors, and airports.
- PacIOOS continues to work on strengthening and integrating data management to ensure appropriate coastal development.
- UH SOEST continues to work on strengthening and integrating data management to ensure appropriate coastal development.
- DBEDT continues to work on strengthening and integrating data management to ensure appropriate coastal development.
- Hawai‘i Department of Health (DOH) to continue to review and comment on Environmental Assessments and Environmental Impact Statements from environment and health perspectives.

Metrics – Indicator Measures

GOAL A:

- Increase in number of additional shoreline access (OP-CZM)
- Increase in number of counties implementing planning practices that include adaptation strategies when planning for coastal areas (OP-CZM)
- Increase in number of state agencies implementing capital improvement plan projects that include adaptation strategies for coastal areas (OP-CZM)

GOAL B:

- Layers added to the statewide GIS that address coastal measures (OP GIS)

GOAL C:

- Number of projects reviewed by OP during land use entitlement process that include coastal impact risk assessments (OP-CZM)
- Number of projects reviewed by DOH during land use entitlement process that include coastal impact risk assessments (DOH)

Agencies

Lead Agency: OP-CZM

Other State and County Agencies: County planning departments, DLNR-OCCL, DOT (Harbors, Airports, and Highways), DOH,

Partners: Federal Emergency Management Agency (FEMA)/National Flood Insurance Program (NFIP), UH Sea Grant College Program, PacIOOS, UH SOEST Coastal Geology Group, NOAA Office of Ocean and Coastal Resource Management (OCRM) and Pacific Services Center (PSC)

Management Priority # 2 Management of Coastal Hazards

Management of Coastal Hazards Goals:

Goal A: *Support adoption of county laws for Best Management Practices to reduce risks from coastal hazards, including the impacts from climate change.*
Goal B: *Complete coastal mapping of the Main Hawaiian Islands to assist with management of coastal hazards such as coastal erosion and sea level rise.*
Goal C: *Collaborate and support county and state efforts to develop climate change risk analysis and adaptation strategies for public facilities.*

References

Perspective 1: Connecting Land and Sea
HRS Sections 205A-2(b) [Objectives]: (2), (4), (6), (7), (8), and (9); and 205A-2(c) [Policies]: (3) (C), (3) (D), (6) (A through D), and (9) (A through C)
HRS Section 226-109, *Climate change adaptation priority guidelines*
National Ocean Policy Objectives 5 & 6
Framework for Climate Change Adaptation in Hawai'i (2009)

Background

One of the key objectives of The National Ocean Policy is to "strengthen resiliency of ocean communities and marine environments…and their abilities to adapt to climate change impacts and ocean acidification." Disaster avoidance measures would include institutional and governmental measures to reduce risks from coastal hazards.

Benchmark – Where we are now

Sea Level Rise Map for Honolulu Harbor Shows one meter Sea Level Rise by 2100

Source: UH SOEST

- The importance of managing coastal hazards is magnified as more is learned about the effects of climate change, and in particular sea level rise. Sea level rise will affect all the islands and will impact areas already developed. While the immediacy of this occurrence is not within the next five years, some effect can already be seen and measured. The challenge of identifying and implementing adaptation measures indicates that work needs to begin now.
- The ORMP Working Group in collaboration with the UH Center for Island Climate Adaptation and Policy (ICAP) prepared the *Framework for Climate Change Adaptation in Hawai'i (2009).*
- Shoreline erosion studies have been completed for Kaua'i, Maui, and O'ahu but need to be updated as new information becomes available.
- OP, in consultation with the ORMP Policy Group, Working Group, and other stakeholders, successfully passed Act 286 (2012), Hawaii's climate change adaptation priority guidelines. The Act is codified as HRS Section 226-109, so that it is integrated into Hawaii's statewide planning and land use system.

Target – Where we want to be

- Build Capacity. Develop best management practices and guidance that integrate HRS Section 226-109, *Climate Change Adaptation Priority Guidelines*, into county and state decision-making.
- Additional information on the science and mapping of sea level rise exists and complete sea level rise maps, shoreline erosion studies, and erosion risk maps are completed for every island.
- A comprehensive and integrated shoreline policy is adopted that addresses the impacts of chronic and episodic coastal hazards. This may or may not involve new or amended state law.
- Adaptation strategies are identified, which may include retreat zones, prohibition of shoreline armoring, and assessment of impacts on underground infrastructure and utilities.

Example Actions to Accomplish the Management of Coastal Hazards Goals

- Adoption of land use regulations with climate change adaptation elements.
- Completion of shoreline erosion studies and preparation of erosion risk maps for Hawaiʻi Island, Lānaʻi and Molokaʻi.
- Calculation of shoreline change at the parcel-level scale in maps for Kauaʻi, Oʻahu, and Maui.
- Preparation of mapping of shoreline hazards including wave inundation, storm surge, and beach erosion due to sea level rise and climate change.
- Seek funding for further studies, research, and mapping.
- Conduct annual training at fundamental and advanced levels for state and county planners on climate change risk assessment and adaptation.
- DLNR-OCCL works on ways to mitigate coastal hazards.

Metrics – Indicator Measures

GOAL A:

- Develop guidance on how to integrate climate change policy into County Development Plans/Sustainable Community Plans and regulatory permits (OP-CZM)
- Increase in number of state departments completing coastal hazards risk analysis for their facilities (OP-CZM)
- Increase in number of county general and community/development plans that include a climate change adaptation component (County planning departments)
- Creation of greenhouse gas emissions rules (DOH)

GOAL B:

- Shoreline erosion studies and maps completed for Hawaiʻi Island, Lānaʻi, and Molokaʻi (UH-SOEST)
- Review and update shoreline erosion maps for Kauaʻi, Maui, and Oʻahu (UH-SOEST)

GOAL C:

- Increase in number of climate change adaptation training sessions held (OP-CZM)
- Increase in number of state departments adopting climate change adaptation strategies in their maintenance plans and capital improvement program plans (OP-CZM)

Agencies

Lead Agency: OP-CZM

Other State and County Agencies: County planning departments, DLNR-OCCL, County and State Civil Defense (SCD), DOT, DOH

Partners: FEMA/NFIP, UH Sea Grant College Program, PacIOOS, UH SOEST Coastal Geology Group, NOAA OCRM, NOAA PSC, Papahānaumokuākea Marine National Monument (PMNM,co-managed by NOAA, USFWS, OHA, and the State of Hawaiʻi)

Management Priority # 3 Watershed Management

Watershed Management Goals:

Goal A: *Increase the amount of protected watershed priority areas based on climatic conditions (elevation and moisture zones) and land cover types that provide higher recharge and fog capture as stated in the "Rain Follows the Forest Plan" (2011).*
Goal B: *Improve coastal and stream water quality.*

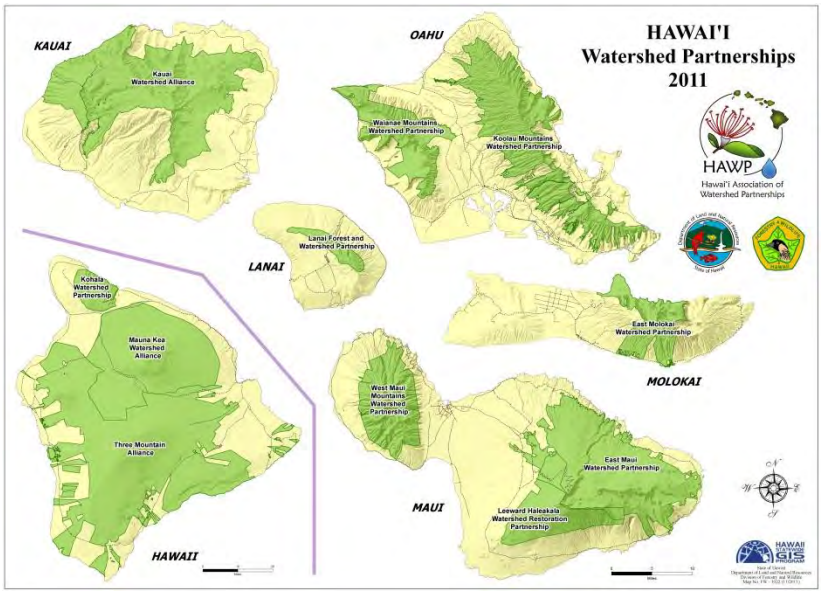
References

Perspective 1: Connecting Land and Sea
HRS Section 205A-2(b) [Objectives]: (1), (5), and (7); and 205A-2(c) [Policies]: (4) (A through C & E)
HRS Section 183-31, Watershed areas and HRS Chapter 174C, State Water Code
National Ocean Policy Objectives 1, 5, & 7
The Rain Follows the Forest: A Plan to Replenish Hawaii's Source of Water (2011)
Hawai'i Watershed Guidance (2010)

Background

The State of Hawai'i has approximately 580 watersheds as listed in the *Hawai'i Watershed Guidance* (2010).

Watershed Partnerships in Hawai'i are shown in green



Source: DLNR-DOFAW

The DLNR Division of Forestry and Wildlife (DLNR-DOFAW) defines Watershed Partnerships statewide, which include both public and private land. There are currently eleven Watershed Partnerships as shown in the figure at right.

The ORMP addresses watersheds from two different viewpoints, the mauka watersheds that provide the water quantity and the watersheds moving makai that affect the ocean water quality. Ensuring the health of the water supply, allowing for water recharge, and preserving good water quantity entails taking care of the watersheds. Water flows from mauka to makai and ends in the ocean, filling the streams, providing species habitat, and improving coastal and nearshore water quality. Good quality and sufficient quantity of water is needed to feed the island's reef systems.

Benchmark – Where we are now

- DLNR-DOFAW works with the eleven established Watershed Partnerships made up of large public and private land owners. These partnerships work closely with managers and the five island-based Invasive Species Committees, which are made up of private, public, and nonprofit partners.
- The Polluted Runoff Control Program (PRCP), also known as the Section 319 Program and administered by DOH, provides funding to reduce nonpoint source pollution in priority watersheds. The purpose of the DOH-PRCP is to address water quality problems (impairments) through the development and implementation of watershed plans.
- Coastal Zone Act Reauthorization Amendments (CZARA) Section 6217 requires Hawai‘i to develop a Coastal Nonpoint Pollution Control Plan (CNPCP). The CNPCP is the responsibility of the State DOH and OP-CZM Program, and it is jointly administered by the Environmental Protection Agency (EPA) and NOAA. The *Hawai‘i Watershed Guidance* (2010) is a streamlined version of *EPA's Handbook for Developing Watershed Plans to Restore and Protect our Waters* (2008). Hawai‘i is working towards submittal of final draft management measures to EPA and NOAA.
- There are 840,000 acres of the Priority I and II Watersheds statewide, which contain native forests. Currently only 10% of the priority watershed areas are protected and this level of management has taken 40 years to achieve.
- DLNR's *The Rain Follows the Forest* plan outlines seven watershed protection and restoration actions, which are listed below as targets for the Management Priority.

Target – Where we would like to be

- Remove all invasive hooved animals from Priority I and II areas.
- Remove or contain damaging invasive weeds that threaten Priority I and II areas.
- Monitor and control other forest threats including fires, predators, and plant diseases.
- Restore and plant native species in priority areas and buffer areas.
- Establish benchmarks and monitor success of the on-the-ground actions.
- Educate Hawaii's residents and visitors about the cultural, economic, and environmental importance of conserving native forests.
- Promote consistent and informed land use decision-making that protects watersheds.
- EPA and NOAA approval of CNPCP.

Example Actions to Accomplish the Watershed Management Goals

- Develop collaborative arrangements among stakeholders, such as the voluntary Watershed Partnerships and Invasive Species Committees (ISCs) which include large landowners and other partners, to protect forest lands, water recharge, and conservation, and habitat.
- Work with EPA and NOAA to resolve issues and obtain final acceptance of CNPCP.
- Pursue funding to support continued community stewardship in partnership with government agencies. As recommended in DLNR's *Rain Follows the Forest Plan (2011)*, there is a continuing need for a stable funding source of $11 million per year for the next ten years. This funding would support native forest restoration and protective fencing installation.
- DOH will continue outreach to wastewater treatment plant operators to increase wastewater recycling. This includes outreach to the Department of Defense.

Metrics – Indicator Measures

GOAL A:

- Increase in acreage of land protected from invasive plant and animal species as well as wildfires through invasive species removal, fencing, integrated pest management, or other strategies (DLNR-DOFAW)

GOAL B:

- Decrease in the number of impaired streams (DOH)
- Increase in percentage of wastewater recycled annually (DOH)
- Implementation of Section 319 Projects (DOH)
- Increase in number of outreach activities conducted for wastewater recycling (DOH)
- EPA and NOAA approval of CNPCP

Agencies

Lead Agency: DLNR-DOFAW

Other State and County Agencies: OP-CZM, DLNR Commission on Water Resource Management (CWRM), County water departments, County planning departments, DOH PRCP, DOH Wastewater Branch, DLNR Division of Aquatic Resources (DLNR-DAR)

Partners: Watershed Partnerships, ISCs, The Nature Conservancy (TNC), EPA, NOAA

Management Priority # 4 Marine Resources

Marine Resources Goals:

Goal A: *Promote protection and sustainable use of marine resources.*
Goal B: *Reduce and remove accumulated marine debris on all islands and shores.*
Goal C: *Minimize the spread of aquatic invasive species from bays where there is coral or water quality degradation.*
Goal D: *Minimize the likelihood of aquatic invasive species introductions and spread into and within Hawai'i from sources associated with vessels.*
Goal E*: Promote fishing practices that increase fish stocks.*

References

Perspective 2: Preserving our Ocean Heritage
HRS Sections 205A-2(b) [Objectives]: (9) and (10); and 205A-2(c) [Policies]: (10) (A through E)
National Ocean Policy Objectives 2 & 3
Hawai'i Marine Debris Action Plan (2013)
Hawai'i Aquatic Invasive Species Plan (2003)

Background

Marine debris is defined as any solid material disposed of or abandoned in the marine environment. It is a chronic problem for Hawai'i that can be introduced by ships, arrive as wash from rivers, streams, and storm drains, or reach Hawaii's shores from ocean currents. Depending on its origin, marine debris also has the potential to introduce invasive species. Examples vary greatly, but include plastic bags, bottles, rubber slippers, derelict fishing gear, equipment, and nets, and abandoned or derelict vessels. Causes may be accidental, natural disaster, illegal dumping, or abandonment of vessels. Land activities that can end up in the ocean include littering, dumping, improper waste management, and industrial losses. Also included are stormwater runoff, materials washed down storm drains, or trash deposited during storms, high winds, or waves.

A special case of marine debris is the materials adrift in the ocean or washing ashore that originated in the Japanese earthquake and tsunami of March 2011. These are referred to as Japan Tsunami Marine Debris (JTMD).

Aquatic invasive species (AIS) may be introduced in other ways through shipping activity, typically arriving through biofouling (previously referred to as hull fouling) or ballast water, or through purposeful introduction such as dumping. The majority of non-indigenous aquatic species seen in Hawai'i today arrived on vessels as biofouling or in their ballasts. Many of these species cause negative impacts to important ecosystems.

Aquatic invasive species pose significant threat to Hawaii's native plants, animals, ecosystems, economy as well as the human population. While most island ecosystems in the world are highly vulnerable, Hawaii's isolation makes its ecosystems even more vulnerable than others.

Hawai'i contains 40% of the threatened and endangered species in the U.S. But as a major transportation hub and tourist destination, the threat of invasion can never be completely eradicated and requires constant vigilance.

According to the National Marine Fisheries Service (NMFS), Hawai‘i has the highest per capita non-commercial fisheries catch in the nation at 1.4 million fishing trips for a total near 2.7 million fish in 2011. For commercial fishing, the port of Honolulu ranks among the top ten fishing ports in the nation with $83 million dollars of fish landed in Honolulu Harbor in 2011.

Benchmark – Where we are now

- Hawaii's position in the North Pacific Gyre makes it a hotspot for the aggregation of marine debris. Large floating debris impacts marine life such as seabirds, Hawaiian monk seals, green sea turtles, and other species which ingest the debris or become entangled.
- Concern over marine debris has received heightened attention recently as the world tracks JTMD. The Governor appointed DLNR as the lead agency for JTMD, and they are preparing a response plan. The DOH assesses and tests all JTMD for radiation.
- The *Hawai‘i Marine Debris Action Plan (HI-MDAP)* (2013) preparation was facilitated by NOAA and U.S. EPA with the active participation of the marine debris community, government agencies, non-governmental organizations, academic, and private interests.
- DOH Compliance Assistance Office works with businesses to ensure compliance with DOH rules, regulations, and permits. This office held 24 workshops with businesses and other permit holders in 2012.
- DOH Solid and Hazardous Waste Branch enforces illegal dumping in state waters and issues fines.
- *Fisheries* – Both commercial and non-commercial fishing contribute to Hawaii's food security. Commercial fishing contributes directly to food security as well as to jobs in ways such as through fish auction, fish dealers, and grocers. Commercial fishers include bottomfish and pelagic fisheries, deepwater coral and coral reef fisheries, and crustacean fishing. Charter fishers are included in this category.
- *Recreational fishing* is motivated by sport or pleasure. Fishermen often sell their catch through informal networks. Sport fishermen participate in several dozen fishing tournaments across the State of Hawai‘i annually. A 2006 UH SOEST report estimates the economic impact of direct fishing tournament spending at $6.2 million annually, with non-tournament expenses such as airfare and hotel accounting for an additional $5.1 million annually. Others fish for reasons beyond sport or pleasure, such as for subsistence, sustenance, and tradition. Some call this "ohana fishing."

Target – Where we would like to be

- Through implementation of strategic actions in the 2013 HI-MDAP , the State reduces and prevents the impacts of marine debris.
- Through implementation of strategic actions in the *Hawai‘i Aquatic Invasive Species Plan* (2003) there is reduction of existing invasive species and further introductions can be avoided or eliminated shortly after they are discovered.
- A permanent statewide AIS Coordinator is hired.
- Education and awareness are increased as a major management strategy to more effectively control and prevent degradation of the ocean and coastal resources.
- Research and development of new, innovative technologies for exploring, using, or protecting marine and coastal resources exists.

Example Actions to Accomplish the Marine Resources Goals

- Actions as contained in the 2013 HI-MDAP. The four goals of the HI-MDAP are to:
    - Reduce the backlog of accumulated marine debris;
    - Decrease the introduction of solid waste and fishing gear at sea and coastal areas;
    - Decrease the number of abandoned and derelict vessels; and
    - Reduce land-based debris in waterways.

- Actions as contained in the *Hawai'i Aquatic Invasive Species Plan (2003)*. The objectives are coordination and collaboration; prevention; monitoring and early detection; response, control, and eradication; education and outreach; research; and policy.
- Ongoing funding for the Ballast Water and Hull Fouling Prevention Program in DLNR Division of Boating and Ocean Recreation (DLNR-DOBOR).
- Establish and fund a permanent state position for an AIS Coordinator.
- PacIOOS provides mapping and data management services.
- A Marine and Coastal Zone Advocacy Council (MACZAC) fishing industry working group is created to analyze the fishing industry's impact on Hawai'i.

Metrics – Indicator Measures

GOAL A:

- Increase in number of educational workshops and programs conducted on marine debris for state and county agencies (OP-CZM)
- Increase in number of Makai Watch Training provided to community groups (DLNR-DAR)

GOAL B:

- Increase in number of community marine debris clean ups (Hawai'i Interagency Marine Debris Group, including DLNR and DOH)
- Decrease in number of abandoned and derelict vessels (DLNR-DOBOR)
- Number of enforcement actions taken by DOH Solid and Hazardous Waste Branch for illegal dumping in state waters (DOH)
- Increase in number of educational workshops held by DOH Compliance Assistance Office (DOH) for public
- Number of JTMD items tracked, assessed for contamination, and disposed (NOAA)

GOAL C:

- Increase number of urchins introduced to control invasive algae (DLNR-DAR)
- Increase in number of pounds of invasive algae removed (DLNR-DAR)
- A permanent state position for the AIS Program is established, funded, and filled (DLNR-DAR)

GOAL D:

- Increase in number of ballast water reports processed (DLNR-DAR)
- Rules for managing biofouling on vessels are developed and adopted (DLNR-DAR)
- Ongoing funding is created for the Ballast Water and Hull Fouling Prevention Program (DLNR)

GOAL E:

- Increase in percent compliance with commercial fisheries reporting requirements (DLNR-DAR)
- Increase in number of enforcement officers assigned exclusively to enforce fishing rules (DLNR Division of Conservation and Resources Enforcement (DLNR-DOCARE))
- Increase in number of targeted reef fish species that show an increase in size and/or abundance on at least one island (DLNR-DAR)

Agencies

Lead Agency: DLNR-DAR

Other State and County Agencies: DOH, DOT-Harbors, Kaho'olawe Island Reserve Commission, DLNR-DOCARE, DLNR-DOBOR, County Public Works and Environmental Services Departments

Partners: U.S. Coast Guard (USCG), U.S. Fish & Wildlife Service (USFWS), U.S. EPA, NOAA, Bishop Museum, TNC, UH, PacIOOS, Hawaiian Islands Humpback Whale National Marine Sanctuary (National Marine Sanctuary, co-managed by NOAA and the State of Hawai'i), PMNM, Western Pacific Regional Fishery Management Council (WPRFMC), MACZAC Agency members of the Hawai'i Interagency Marine Debris Working Group (includes federal, state, and county agencies), Community Work Day Program on Maui, and Trilogy, which operates on Maui, Lāna'i, and Moloka'i.

Management Priority # 5 Coral Reef

Coral Reef Goals:

Goal A: *Improve the health and productivity of coral reef ecosystems at priority sites identified by the Hawaii Coral Reef Program.*
Goal B: *Implement place-based projects that demonstrate effective stewardship practices that can be applied to other areas.*
Goal C: *Implement an effective day-use moorings program that minimizes impacts to coral reef ecosystems and user conflicts.*

References

Perspective 2: Preserving our Ocean Heritage
HRS Sections 205A-2(b) [Objectives]: (4); and 205A-2(c) [Policies]: (4) (A through D)
National Ocean Policy Objective 6
Hawai'i Coral Reef Strategy: 2010-2020 (2010)

Background

Many of the greatest threats to the reefs come from land-based sources of pollution, including sediment, nutrients, cesspools, sewer treatment plant overflow, and road run-off. Excess nutrients promote the growth of algae that compete for space on the benthic reef surfaces and affect the ability of coral to establish and grow. Another threat to the health of reefs is grounded vessels.

Climate change impacts on coral include effects from ocean warming, coral bleaching, and ocean acidification. Coral bleaching is becoming more frequent as the oceans warm, with predictions that by 2050 many of the reefs of the Pacific will bleach annually. Increased acidification of the ocean is caused by rising levels of carbon dioxide absorbed by sea water. With ocean acidification, less carbonate is available for coral reefs to build their calcium carbonate skeletons, causing coral loss. Coral cover throughout the Pacific is expected to decline 15% to 35% by 2035.

Benchmark – Where we are now

- DLNR-DAR finalized the *Hawai'i Coral Reef Strategy: 2010-2020* (2010) and has begun implementing place-based management in two selected priority sites:
    - in South Kohala on the Island of Hawai'i, utilizing *The South Kohala Conservation Action Plan* (2012) that was developed by local experts and stakeholders to address impacts to coastal resources; and
    - on the Island of Maui, using both the West Maui Ridge to Reef Initiative to begin watershed planning in 2012 and the *Kahekili Conservation Action Plan* (2013).
- DLNR-DAR, with support from partners, is developing and expanding community-based stewardship and co-management efforts.
- DOT-Harbors Division is working with federal agencies to improve and streamline mitigation efforts for planned impacts, such as harbor improvements, necessary for the state's economy.

Target – Where we would like to be

- As pilot projects are implemented, they are evaluated so that the most effective ones can be applied, as appropriate, in additional areas.
- Education is a key strategy to address coral threats as residents and visitors are aware of the significance of the coral reefs and how easily they can be damaged.
- An effective day use mooring program is in place, which reduces boating impacts to reef ecosystems, improves public access to resources, and helps to reduce user conflicts.

Example Actions to Accomplish the Coral Reef Goals

- Implement *Hawai'i Coral Reef Strategy 2010-2020* (2010) prepared by DLNR-DAR.
- NOAA CRCP Plan to leverage additional funding.
- DOH to improve water quality metrics that affect coral reefs and nearshore waters.
- Coral Reef Alliance installation of additional reef etiquette signs through partnership with industry, community groups, counties, and DLNR-DAR.
- DLNR-DOBOR and DLNR-DAR work with commercial and recreational vessels as well as other stakeholders to identify appropriate locations for new Day Use Moorings. This program will be improved by increased collaboration between DLNR-DAR, DLNR-DOBOR, and users along with implementation of strategic management and reliable funding for maintenance.

Metrics – Indicator Measures

GOAL A:

- Decrease in number of impaired coastal waters listed (DOH)
- Decrease in number of shoreline postings due to sewage or other water pollution (DOH)

GOAL B:

- Increase in number of projects or Best Management Practices (BMPs) implemented and evaluated at priority coral reef sites (DLNR-DAR)

GOAL C:

- Day use mooring program funded and implemented in consultation with communities (DLNR-DOBOR)
- Increase in percent of day use moorings maintained and managed by the state (DLNR-DOBOR)
- Increase in number of classes/educational efforts completed to educate boaters on day use moorings and the importance of mooring maintenance (DLNR-DOBOR)

Agencies

Lead Agency: DLNR-DAR
Other State and County Agencies: DLNR -DOCARE, DLNR-DOBOR, DOT-Harbors, DOH
Partners: U.S. Army Corps of Engineers (USACE), Hawai'i Coral Reef Working Group, National Marine Sanctuary, PMNM, TNC, NOAA CRCP, U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS), Hawai'i Tourism Authority (HTA), Coral Reef Alliance

Management Priority # 6 Ocean Economy

Ocean Economy Goals:

Goal A: *Develop aquaculture standards, based on current scientific data, to support culturally, environmentally, and economically sustainable operations which increase production for local consumption.*
Goal B: *Encourage use of ocean-based energy to contribute towards achieving Hawai'i Clean Energy Initiative while balancing the need to protect ocean resources.*
Goal C: *Ensure a healthy shipping industry that uses ocean and coastal resources sustainably.*
Goal D: *Ensure a healthy tourism industry that uses ocean and coastal resources sustainably.*

References

Perspective 2: Preserving our Ocean Heritage
HRS Sections 205A-2(b) [Objectives]: (5); and 205A-2(c) [Policies]: (7) (B)
HAR Title 11, Chapter 35, Shellfish Sanitation
2009 National Shellfish Sanitation Program Model Ordinance
National Ocean Policy Objectives 1 & 8
Permits and Regulatory Requirements for Aquaculture in Hawai'i (2011)

Background

Hawaii's economy is dependent on the health of the ocean. The marine-related industries of fishing, aquaculture, tourism, recreation, and shipping provide approximately 15% of Hawaii's civilian jobs. According to the National Ocean Economics Program (NOEP), in 2010 Hawaii's ocean economy accounted for 100,215 jobs and over $3.1 billion in wages.

According to UH College of Tropical Agriculture and Human Resources (UH CTAHR), Hawai'i residents eat more seafood per capita than the rest of the United States. In 2010, Hawai'i residents spent $330.68 per capita or 11.4% of their total food consumption at home and in restaurants. This is over twice as much as the U.S. per capita of $143.68. Hawaii's aquaculture value of shellfish and finfish is $2,000,000 annually, and expected to increase.

Shellfish rules were created in the early 1980s to accommodate a fledgling shellfish industry, and because the industry did not survive, the DOH lab lost its U.S. Food and Drug Administration (FDA) certification to analyze shellfish growing waters and shellfish meat samples. In recent years, there has been a concerted effort to create a viable shellfish industry, and the DOH Food Safety Program and DOH lab have revived the shellfish sanitation program.

Benchmark – Where we are now

- *Aquaculture* – Many believe that aquaculture is one of the major potential sources for achieving food security and sustainability in the State of Hawai'i. A single commercial fish farm exists off the Kona coast, producing over ten thousand pounds of kampachi every week.
- The Hawai'i Department of Agriculture (DOA) has prepared an Aquaculture Guidebook, *Permits and Regulatory Requirements for Aquaculture in Hawai'i* (2011).
- The DOH labs on O'ahu and Hawai'i Island are now FDA certified to analyze shellfish waters and shellfish samples. Three applications were received by the DOH Food Safety Program to classify shellfish growing waters, and DOH Environmental Health & Safety Division has completed their assessments for two areas on O'ahu (Moli'i and He'eia Kea ponds) and one artificial growing area on Kaua'i. Growing water sampling has commenced for permit approvals.

- NOAA Pacific Islands Regional Office (PIRO) has facilitated development of an aquaculture permitting process with DLNR-OCCL and USACE. NOAA Pacific Islands Fisheries Science Center (PIFSC) has developed a mapping portal to aid in siting open ocean aquaculture.
- *Shipping* – The state's economy is completely dependent on the state's harbors. Hawai'i imports 80% of its required goods, and nearly 99% of these come through the harbor system as their point of entry. With ten commercial harbors on six islands, the health of this state asset is important to the overall economy.
- *Energy* – The Hawai'i Clean Energy Initiative (HCEI) goal is to achieve 70% clean energy by 2030. This includes 30% from energy efficiency measures and 40% from locally generated renewable sources. Several companies are looking at harnessing ocean-based energy such as Ocean Thermal Energy Conversion (OTEC), deep seawater air conditioning, and electricity from wave and wind to achieve this goal. In addition, the interconnection of separate island electrical grids via undersea cable has been identified as one of the keys to achieving Hawaii's energy goals.

Target – Where we would like to be

- Suitable aquaculture standards are developed and implemented, based on current scientific data, to support culturally, environmentally, and economically sustainable operations, with the goal to increase local food production.
- Aquaculture standards are integrated into the existing permitting process to facilitate new aquaculture development and improve ongoing industry oversight.
- Development of the permitting process for aquaculture is completed.
- DOH completes its environmental assessments and classification of all three proposed shellfish growing areas.
- Interstate (export) of shellfish.
- Tons of cargo arriving at Hawai'i ports is increased.
- Clean energy goals of the HCEI are met while balancing the need to protect the ocean and coastal resources.

Example Actions to Accomplish the Ocean Economy Goals

- Work with DOA Aquaculture Development Program to develop an operational plan for aquaculture standards.
- DOH Environmental Health Sanitation Branch completes environmental assessments of all three proposed shellfish growing areas.
- DOH labs complete sampling frequency and classification of all three shellfish growing areas.
- DOH approves depuration facilities needed to process shellfish.
- DOH continues collaboration with FDA and the Interstate Shellfish Sanitation Conference to allow for future exports of shellfish to the rest of the U.S.
- Continued funding for the Environmental Health & Safety Division and O'ahu and Hilo laboratories to maintain the Shellfish Program.
- Investment in small boat harbors, for example, a dry dock facility on Maui.
- DOT-Harbors Division to improve capacity and efficiency at Hawai'i ports.
- DBEDT Energy Office to increase percentage of alternate energy coming from ocean sources while balancing the need to preserve our ocean heritage.

Metrics – Indicator Measures

GOAL A:

- Increase in pounds of commercially raised fish sold (DOA)
- Increase in dollar value of commercially raised fish (DOA)
- Increase in number of viable classified shellfish growing waters (DOH)
- Increase in number of permitted commercial shellfish operators (DOH)

- Increase in number of pounds of shellfish sold to local markets/restaurants in Hawai‘i (DOH)
- Increase in number of pounds of shellfish exported out of state (DOH)

GOAL B:

- Increase in percentage of alternate energy coming from ocean sources, as measured in megawatt-hours (DBEDT Energy Office)

GOAL C:

- Increase in tons of cargo arriving at Hawai‘i ports, until ports reach full capacity (DOT-Harbors)

GOAL D:

- Improved beach water quality monitoring data (DOH)
- Increase in number of hotels with recognized sustainability certifications or program affiliations (DBEDT-Energy Office-Hawai‘i Green Business Program)
- Increase in number of tour operators who are recognized as Dolphin SMART (DLNR)

Agencies

Lead Agencies: Department of Agriculture (DOA) Aquaculture Development Program, DOH, OP-CZM, DOT-Harbors, DBEDT-Energy Office
Other State and County Agencies: DLNR-DAR, DLNR-DOBOR, OHA
Partners: National Energy Laboratory of Hawaii Authority (NELHA), NOAA NMFS, National Marine Sanctuary, WPRFMC, Coral Reef Alliance, Hawai‘i Ecotourism Association, HTA

Management Priority # 7 Cultural Heritage of the Ocean

Cultural Heritage of the Ocean Goals:

Goal A: *Preserve cultural heritage of the ocean and protect Native Hawaiian rights for access and gathering in ocean and on coastline, and protect ocean and coastal resources upon which Native Hawaiian cultural practices depend.*
Goal B: *Support restoration of Hawaiian fishponds through permitting, community projects, and technical assistance.*

References

Perspective 2: Preserving our Ocean Heritage
HRS Sections 205A-2(b) [Objectives]: (2) and 10; and 205A-2(c) [Policies]: (2) (A through C)
National Ocean Policy Objective 1
HRS Chapter 1-1
HRS Chapter 7-1
HRS Section 46-6.5
HRS Section 115-2
Hawai‘i State Constitution, Article XII, Section 7

Background

Limu

Native Hawaiian access and gathering rights are protected by state laws and by the State of Hawai‘i constitution. These laws also require all state and county agencies to affirmatively protect and enforce these rights. The Constitution of the State of Hawai‘i, Article XII, Section 7, “Traditional and Customary Rights,” protects certain rights to shoreline access. HRS Chapters 1-1 and 7-1 protect public access that has been fixed by Hawaiian judicial precedent or established by Hawaiian usage, including Native Hawaiian gathering rights. HRS Section 46-6.5 states that the counties, in the subdivision process, must ensure public access to land below the high-water mark on any coastal shoreline. When this statute is not applicable, HRS Section 115-2 requires counties to acquire public rights-of way.
Food is still traditionally gathered on the shoreline and in the water. The shoreline contains pa‘akai (salt) and limu (seaweed). In addition, the shoreline and ocean are used for religious and spiritual ceremonies.

Keawanui Fishpond, Moloka‘i, part of EPA Project Loko I‘a

Hawaiians built rock-walled enclosures in near shore waters to raise fish, an integral part of the ahupua‘a. Fish entered through a wooden gate or sluice in the stone wall on the seaward side and as they grew, they became too large to return to the open ocean. In ancient Hawai‘i, it was estimated that there were 488 fishponds statewide, and more than 75 fishponds were in production on Moloka‘i alone. Yet the fishponds went out of use, became contaminated, and most disappeared.

Benchmark – Where we are now

- *Fishponds* –A revival of fishponds has occurred in recent years, and thirteen have been restored to some level. Six are in use, including three on Moloka‘i, one on Maui (Ao‘ao Na Loko I‘a o Maui at Ko‘ie‘ie Fishpond), one on Hawai‘i Island, and one on O‘ahu (He‘eia). Project Loko I‘a at the

Keawanui fishpond on Molokaʻi provides learning and demonstration lessons. Restoration is very labor intensive and difficult work.

- In 2012, the State Legislature passed Senate Resolution No. 86, urging DLNR, DOH, and OP to streamline the permitting process for the restoration of Hawaiian fishponds.
- OP, through its CZM Program, developed a General Concurrence for fishpond restoration activities under Coastal Zone Management Act (CZMA) federal consistency regulations. The federal approval process through NOAA has been approved.
- The *Koʻolauloa Watershed Management Plan* estimates a restoration cost of $100,000 and annual management costs of $30,000-40,000 for each fishpond within the Koʻolauloa district of Oʻahu.
- NOAA PIRO is coordinating an effort to streamline permitting of fishpond restoration through a State Programmatic General Permit working with DLNR-OCCL, USACE, and the National Marine Sanctuary.
- On the island of Lānaʻi, a group of community members has begun the Lānaʻi Limu Restoration Project with support of NOAA.

Target – Where we would like to be

- Involved agencies work to support restoration of fishponds with an eye towards increasing fish stocks and opportunities for gathering.
- Community groups and Non-Governmental Organizations (NGOs) collaborate to restore fishponds by streamlining the permitting process, providing technical assistance, and providing guidance on best practices.
- The streamlined permitting process for fish pond restoration is complete.
- Shoreline and coastal access for Native Hawaiian gathering is protected.

Example Actions to Accomplish the Cultural Heritage of the Ocean Goals

- OP and OHA to provide technical assistance to community groups for assistance with fishpond restoration and restoration of traditional gathering areas.
- OP to support additional shoreline access in its land use reviews.
- Collaboration with USACE on fishpond restoration permitting issues.
- DOA Aquaculture Development Program to continue to provide technical support for permitting and fishpond activities.
- DLNR to work with ʻAha Moku Council on recommendations for improving Native Hawaiian access, gathering rights, and the resources upon which these rights depend.

Metrics – Indicator Measures

GOAL A:

- Increase in number of moorings for Native Hawaiian canoes that are operated exclusively for educational purposes (DLNR-DOBOR)

GOAL B:

- Decrease in average number of months to obtain all permits necessary for fishpond restoration (DLNR-OCCL and DOH)
- Increase in number of fishpond restoration projects given technical assistance and support for permitting processes (OP-CZM)

Agencies

Lead Agency: DLNR-OCCL
Other State and County Agencies: OP, DOA Aquaculture Development Program, DOH, DLNR, OHA
Partners: USACE, NOAA, National Marine Sanctuary, PMNM, Community groups

Management Priority # 8 Training, Education, and Awareness

Training, Education, and Awareness Goals:

Goal A: *Develop training curriculum, at the fundamental and advanced levels, for state and county agency staff as well as boards and commissions working on ocean and coastal protection and begin annual training.*
Goal B: *Partner to expand existing citizen stewardship awareness and active engagement curriculum for widespread dissemination through various community outlets.*

References

Perspective 3: Promoting Collaboration and Stewardship
HRS Sections 205A-2(b) [Objectives]: (8); and 205A-2(c) [Policies]: (8) (B), and (8) (C)
National Ocean Policy Objectives 2, 3, & 4

Background

The science and information on the ocean ecosystems and climate change are rapidly changing. Data collection and monitoring both yield new information. Institutional responsibilities, rules, and regulations need to be understood by state and county agency staff so that they can make informed decisions. While networking such as in the ORMP Working Group provides a valuable exchange of knowledge, there is a need for a more systematic way for staff to receive basic and advanced training.

Benchmark – Where we are now

- There are strong community partnerships in place, for example with the Hawai‘i Conservation Alliance, Mālama Maunalua, Koke‘e Resource Conservation Program, Hanalei Bay Watershed Alliance, Coral Reef Alliance, and others form an excellent foundation for citizen stewardship. Many of these have public awareness and education as a core function.
- There is no organized systematic program for in-service training in the sciences of ocean resource management and climate change. State and county planners and officials ask for training in the science, law, and good management practices for climate change and other topics.
- Community groups on all islands have expressed a desire to involve youth in both ocean resources management and in preserving the ocean’s cultural heritage.

Target – Where we would like to be

- State and county agency staff are offered classes in environmental literacy and in advanced environmental science. A regulatory and science-based curriculum, that provides knowledge for increasingly technical duties of the staff agencies, enhances communication between government and the public. This curriculum may be developed through public-private-non-profit partnerships.
- As government agency personnel are trained, public education and outreach materials and programs are developed and implemented. These outreach materials reduce the number of requests that have to be denied while propagating a wider understanding and appreciation for new regulations.
- Community outreach includes spreading awareness of PacIOOS and their app-based system for ocean water quality monitoring and alert system.
- There is expanded awareness of DLNR-DAR and Coral Reef Alliance web database for Herbivore Enhancement Area Surveys.
- Youth are involved in ocean resource management including at the school level.

Example Actions to Accomplish the Training, Education, and Awareness Goals

- OP-CZM to coordinate training of agency staff based on curricula developed with partners.
- A regulatory and science-based curricula informs staff agencies on their technical duties. Develop curriculum for staff training through public-private-non-profit partnerships.
- Include training on applicable laws in the curricula.
- MACZAC to work on community outreach on ocean resource management and provide educational opportunities with the public.
- The ORMP Policy Group to assist with networking between non-governmental organizations, private schools, the Department of Education and UH system.
- ORMP Working Group to add the Department of Education as a partner for cooperation and collaboration on training.
- OP-CZM to work with HTA for visitor training on ocean resources.
- Coral Reef Alliance installs additional reef etiquette signs through partnership with industry, community groups, counties, and DLNR-DAR.
- PacIOOS provides informational tools and services.

Metrics – Indicator Measures

GOAL A:

- Curricula on fundamentals of ocean resource management and on advanced environmental science is developed (OP-CZM)
- Increase in number of agency employees attending environmental science training (OP-CZM)

GOAL B:

- Increase in number of community outreach and awareness events held and/or participants reached (OP-CZM, DLNR-DAR, and National Marine Sanctuary)
- Inclusion of Hawai‘i marine resource module as part of required boater education certification requirement (DLNR-DOBOR)

Agencies

Lead Agency: Office of Planning, CZM Program
Other State and County Agencies: DLNR, DOH
Partners: MACZAC, PacIOOS, UH Sea Grant College Program, National Marine Sanctuary, PMNM, HTA, Coral Reef Alliance, TNC

Management Priority # 9 Collaboration and Conflict Resolution

Collaboration and Conflict Resolution Goal:

Fully utilize the ORMP Policy Group as a forum to discuss State ocean resource management, and to raise and resolve issues, and to resolve conflicts when appropriate.

References

Perspective 3: Promoting Collaboration and Stewardship
HRS Sections 205A-2(b) [Objectives]: (10); and 205A-2(c) [Policies]; (8) (B) and (8) (C)
National Ocean Policy Objectives 2, 4 & 9

Background

The ORMP Policy and Working Groups were established in 2007 and have been meeting regularly since then. Both groups work on implementation of the ORMP. They provide a forum for state agencies and county and federal partners to share information, improve coordination, and prevent duplication. They offer an opportunity to increase partnerships and collaborations for effective and efficient conservation efforts in the Hawaiian Islands.

Benchmark – Where we are now

- Coordinated efforts have the potential to yield better results than would have resulted from a single agency approach. The ORMP groups and committees provide a network for agencies and professionals engaged in similar efforts. Knowledge sharing, capacity-building and interfacing through participation in the Policy and Working Groups enable regular communication and cooperation on mutual interests. While coordination is difficult to measure in a quantitative manner, success in this regard has been noteworthy, as remarked during participant interviews.
- Participants note the following benefits they have received from collaboration through the ORMP Groups: creation of a network that they are able to use collectively and in their own work; expanded knowledge of the operations of state and county governments as well as federal activities that may affect State waters; discovering the programs operated by various agencies and learning about the challenges they face and how they are dealing with them; and sharing different perspectives on issues that might not have been otherwise heard.
- While collaborative implementation of the ORMP has occurred and is significant, challenges remain that cannot be fully overcome just by collaboration. Budget restrictions and staffing shortages demonstrate that collaborative governance is essential to carrying out the goals and objectives of the ORMP.
- The State of Hawai‘i Office of Information Management & Technology has formulated a transformation plan that includes a framework for implementing and tracking performance measures.

Target – Where we would like to be

- A guiding framework is created that continues to address collaboration while adding methods for raising complex and overlapping issues, as well as conflict resolution.
- Resources assigned to the Policy and Working Groups are increased, which are currently provided by a single OP planner.
- The Hawai‘i Sub-Regional Ocean Partnership (Hawai‘i Sub-ROP) is established to advance the framework for collaboration.

Example Actions to Accomplish the Collaboration and Conflict Resolution Goal

- Following completion of the *2013 ORMP*, the Policy Group meets more regularly, bi-monthly or quarterly, to work toward implementation of the Adaptation Phase Management Priorities.
- Policy Group and Working Group develop baseline for metrics and track progress on the Management Priorities and ORMP implementation.
- Move the ORMP Policy and Working Groups towards a formalized Hawai‘i Sub-ROP.
- Through meetings of the Policy Group, examine various governance models with the goal of developing a collaborative governance framework for the Policy Group, and eventually of the Hawai‘i Sub-ROP.

Metrics – Indicator Measures

- Work with the State of Hawai‘i Office of Information Management & Technology to create a state performance measures website for the ORMP metrics (OP-CZM)
- Increase in number and range of issues handled by ORMP Policy Group and/or Hawai‘i Sub-ROP (OP-CZM)
- Increase in number of Management Priority issues that receive state funding and where needed, legislative attention (OP-CZM)
- Increase in number of obstacles to ORMP implementation identified and resolved by Sub-ROP (OP-CZM)

Agencies

Lead Agency: OP-CZM

Other State and County Agencies: DLNR, DOH, DOA, DOT, SCD, OHA, County planning departments, Board of Water Supply (BWS)

Partners: MACZAC, PacIOOS, UH Sea Grant College Program, UH SOEST, UH ICAP, National Marine Sanctuary, PMNM, USACE, U.S. Navy, USCG, NOAA, EPA, TNC

Management Priority #10 Community and Place-Based Ocean Management Projects

Community and Place-Based Ocean Management Projects Goals:

Goal A: *Advance community level eco-based, place-based ocean management projects currently in place.*
Goal B: *When funding becomes available, assist in the creation of additional community level eco-based, place-based ocean management projects.*
Goal C*: Partner with communities to better manage Hawaii's marine resources.*

References

Perspective 3: Promoting Collaboration and Stewardship
HRS Sections 205A-2(b) [Objectives]: (8); and 205A-2(c) [Policies]: (8) (A)
HRS Sections 188-22.6-22.9
National Ocean Policy Objective 6

Background

During the Demonstration Phase a variety of place-based initiatives and models for integrated government and community emerged. Many projects involve active involvement of community members who worked to restore part of an ecosystem and began to monitor and watch that ecosystem. As projects continue forward and results are seen, they attract additional interest and resources.

Benchmark – Where we are now

- The Demonstration Phase yielded over a dozen examples of place-based community projects and stewardship: OP-CZM financially supported and provided technical assistance to the following projects that are outlined in Appendix E: He‘eia Kea (O‘ahu), Ala Wai Watershed Project (O‘ahu), Hanalei (Kaua‘i), Honu‘apo Estuary (Hawai‘i Island), Hilo Bay (Hawai‘i Island), Pu‘u O Umi Natural Reserve and Kohala Natural Reserve (Hawai‘i Island), Maunalua Bay (O‘ahu), West Maui Ridge to Reef Initiative, and West Maui Watershed (Maui). Lessons learned from communities could be posted as references for others.
- The agencies recognize that in areas where people still use traditional practices, there are frequent conflicts, especially over access.
- Modern day application of ahupua‘a management is no longer strictly practiced, although there are attempts at restoring this practice in several locations. Conversations about restoring this practice began in earnest with the WPRFMC puwalu series, which was initiated statewide in August 2006. These workshops focused on engaging the Native Hawaiian community in a dialogue to inform the WPRFMC Fisheries Ecosystem Management Plans for Hawai‘i.

Target – Where we would like to be

- Established place-based projects are supported to continue their work in ocean resource management. Where applicable, they are assisted in navigating the permit process associated with their restoration efforts, and in developing BMPs for restoration work through information and expertise sharing.
- Additional projects are identified by working with the community and supported in their efforts.

Example Actions to Accomplish the Community and Place-Based Ocean Management Projects Goals

- OP Annual Reports are sent to the Legislature and posted on OP website.
- OP updates its website with community-based efforts and outcomes, including funding opportunities for community groups.

- OP updates Community Stewardship Directory, places it online, and makes it more interactive for community group use.
- National Estuarine Research Reserve Site (NERRS) is designated through NOAA.
- Hawai‘i annual report on NOAA National Performance Standards (NPS) is posted on the OP-CZM webpage.
- OP provides an annual public “Report Card” describing progress on the ORMP Management Priorities and community and place-based ocean management projects.
- DLNR-DAR works on Community-Based Subsistence Fishing Area (CBSFA) rule packages to be submitted for adoption by the Board of Land and Natural Resources (BLNR).

Metrics – Indicator Measures

GOAL A:

- Increase in number of community projects underway which are given technical or financial assistance (OP-CZM)

GOAL B:

- Increase in number of new community projects started using technical or financial assistance from an ORMP agency (OP-CZM)

GOAL C:

- Increase in number of CBSFA rule packages adopted by the BLNR (DLNR-DAR)
- Establish and fund a permanent state position for a CBSFA Coordinator (DLNR-DAR)
- Establish and fund a permanent state position for a Makai Watch Coordinator (DLNR-DOCARE)

Agencies

Lead Agency: OP-CZM, DLNR-DAR

Other State and County Agencies: DLNR, DOH, DOA, DOT, SCD, OHA, County planning departments, BWS

Partners: NOAA, USACE, PMNM, National Marine Sanctuary, WPRFMC, Makai Watch, West Maui Ridge to Reef Initiative, TNC

Management Priority # 11 National Ocean Policy and Pacific Regional Ocean Initiatives

National Ocean Policy and Pacific Regional Ocean Initiatives Goals:

Goal A: *Contribute to the Pacific Regional Priorities for Pacific Regional Ocean Partnership, which include, but are not limited to, climate change adaptation and the support of Coastal and Marine Spatial Planning.*
Goal B: *Formalize Hawai'i Sub-Regional Ocean Partnership using existing partnerships and focus on ORMP implementation.*
Goal C: *Through the Regional Planning Body, establish a coastal and marine spatial plan to be used throughout the Pacific Region.*

References

Perspective 3: Promoting Collaboration and Stewardship
HRS Sections 205A-2(b) [Objectives]: (1), (2), (4), (7), (8), and (9); and 205A-2(c) [Policies]: (9) (D), (9) (E), and 10 (E)
National Ocean Policy Objectives 1, 2, 4, 5 & 9

Background

The National Ocean Policy (NOP) was created in 2010 by President's Executive Order 13547, which was based on the Final Recommendations of the Interagency Ocean Policy Task Force (IOPTF). The NOP creates a framework for collaboration to enhance the country's ability to maintain healthy, resilient, and sustainable oceans, coast and Great Lakes resources. The framework developed calls for nine regional planning bodies (RPB). Hawai'i is a member of the Pacific Island Regional Planning Body (PIRPB). The framework also supports regional ocean partnership initiatives. The State is a member of the Pacific Regional Ocean Partnership (PROP) and is recognized as a sub-region of the Pacific Islands Region. The ORMP is the sub-region's resource management plan.

One objective of the NOP is to improve spatial information on the condition of the oceans. This information is meant to aid the development of public policy and decision making. The goal of the PIRPB is to complete a coastal and marine spatial plan for the Pacific Islands Region. The state also desires to develop a coastal and marine spatial tool, a mapping tool that is GIS based and tied to the state's GIS system. In the long term, the State will develop a coastal and marine plan for Hawai'i.

Benchmark – Where we are now

- PROP was formed in 2012 and a Memorandum of Agreement (MOA) to formalize working relationships was signed in August 2012. Members include: State of Hawai'i, Commonwealth of the Northern Mariana Islands (CNMI), Guam, and American Samoa. The PROP highlights the importance of gathering rights, cultural sensitivities, and unique island geographies in the management of ocean resources.
- The State of Hawai'i currently convenes two inter-agency (federal, state, and county) groups for the purposes of coordinating ocean resource management. These groups formed in 2007 and are referred to as the ORMP Policy and Working Groups. These groups have been meeting regularly (Policy Group, twice a year; Working Group, monthly) since their creation. Both groups have partnered to accomplish a number of items, most recently developing a framework for climate change adaptation, which led to the passage of Act 286 in 2012 - the State's Climate Change Adaptation Policy. This

policy adds climate change adaptation as a priority guideline to Part III of the Hawaii State Planning Act, HRS Chapter 226.

- DOH is working on developing Administrative Rules for the greenhouse gas bill.
- The State of Hawai‘i has initiated a project to establish the Hawai‘i Sub-ROP. Once formalized, the Hawai‘i Sub-ROP will strengthen the partnerships created by the ORMP Policy and Working Groups. The group will also examine possible collaborative governance structures that the Hawai‘i Sub-ROP will adopt. It is anticipated that the Hawai‘i Sub-ROP will be established by June 2014.
- The PIRPB, along with the other eight regional planning bodies nationwide, was formed to address coastal and marine spatial planning at a regional level. The State of Hawai‘i, represented by OP and DLNR, is a member of the PIRPB, which was officially established in April 2013.

Target – Where we would like to be

- Regional priorities are coordinated with and contribute to PROP objectives.
- Hawai‘i Sub-ROP formalizes and provides structure to existing partnerships.
- A coastal and marine spatial tool within the State of Hawai‘i, for use by state and county agencies and the public, is operational.
- A coastal and marine plan for the State of Hawai‘i (similar to Oregon's Territorial Sea Plan or Rhode Island's Special Area Management Plan (SAMP)) is developed.

Example Actions to Accomplish the National Ocean Policy and Pacific Regional Ocean Initiatives Goals

- Hawai‘i contributes to the development of a PROP Action Plan to advance PROP initiatives.
- Schedule Hawai‘i Sub-ROP meetings and prepare agendas for 2013.
- Establish Hawai‘i Sub-ROP as a mechanism for ORMP implementation.
- Hawai‘i contributes to the PIRPB draft charter, work plan, and actions.
- Hawai‘i collaborates with PIRPB and PROP development of a coastal and marine spatial planning tool for the Pacific Islands Region.
- Hawai‘i develops a state coastal and marine GIS tool.
- Hawai‘i develops a coastal and marine plan utilizing the state coastal and marine GIS tool.
- PacIOOS provides data services.

Metrics – Indicator Measures (OP-CZM)

GOAL A:

- Increase in number of issues raised and information exchanged at PROP meetings
- Completion of a PROP Action Plan that contains regional priorities relevant to Hawai‘i
- Increase in number of collaborative initiatives undertaken by the PROP that are coordinated with Hawai‘i
- Hawai‘i participation in the implementation of PROP regional priorities

GOAL B:

- High attendance rates of state agencies at meetings of the Hawai‘i Sub-ROP each year
- Increase in number of ORMP implementation projects sanctioned and initiated by Sub-ROP
- Increase in number of work plans developed for the eleven management priorities
- Increase in number of collaborative initiatives undertaken at Sub-ROP
- Increase in number of meetings of the RPB attended by Hawai‘i representation
- Drafting of the RPB charter and work plan

GOAL C:

- Hawai‘i coastal and marine spatial GIS tool developed
- Number of times Hawai‘i coastal and marine spatial GIS tool used for decision making by state and county agencies

Agencies

Agencies Involved in the PIRPB	Agencies Involved in the PROP	Agencies Involved in ORMP Policy and Working Groups
Federal: U.S. Dept. of Commerce/NOAA Joint Chiefs of Staff (U.S. Navy) U.S. Dept. of Defense/USMC U.S. Dept. of Agriculture/NRCS U.S. Dept. of Homeland Security/USCG U.S. Environmental Protection Agency U.S. Dept. of Transportation/Maritime Administration U.S. Dept. of Interior/USFWS Non-Federal: Territory of American Samoa Commonwealth of the Northern Mariana Islands Territory of Guam State of Hawai‘i (represented by OP and DLNR) WPRFMC	State of Hawai‘i (represented by OP and DLNR) Territory of American Samoa Commonwealth of the Northern Mariana Islands Territory of Guam	OP-CZM DLNR DOH DOA DOE DOT DPS SCD OHA County planning departments BWS MACZAC PacIOOS UH Sea Grant College Program UH SOEST UH ICAP National Marine Sanctuary PMNM USACE U.S. Navy USCG NOAA EPA TNC

Management Priorities Summary Matrix

The following matrix of Management Priorities, Goals, Involved Agencies, and Metrics may be used as a guide for the eleven ORMP Management Priorities.

	Management Priority Goal(s)	Lead State Agency	Other State and County Agencies	Partners	Metrics
1	Appropriate Coastal Development ***Goal A:*** *Adoption of county plans which specify guidance on coastal development.* ***Goal B****: Strengthen and integrate data management to ensure appropriate coastal development.* ***Goal C:*** *Expand options to protect existing developments from further coastal erosion.*	OP-CZM	County planning departments, DLNR-OCCL, DOT (Harbors, Airports, and Highways), DOH	FEMA/NFIP, UH Sea Grant College Program, PacIOOS, UH SOEST Coastal Geology Group, NOAA OCRM, NOAA PSC	GOAL A: • Increase in number of additional shoreline access (OP-CZM) • Increase in number of counties implementing planning practices that include adaptation strategies when planning for coastal areas (OP-CZM) • Increase in number of state agencies implementing capital improvement plan projects that include adaptation strategies for coastal areas (OP-CZM) GOAL B: • Layers added to the statewide GIS that address coastal measures (OP GIS) GOAL C: • Number of projects reviewed by OP during land use entitlement process that include coastal impact risk assessments(OP-CZM) • Number of projects reviewed by DOH during land use entitlement process that include coastal impact risk assessments (DOH)

	Management Priority Goal(s)	Lead State Agency	Other State and County Agencies	Partners	Metrics
2	Management of Coastal Hazards ***Goal A:*** *Support adoption of county laws for Best Management Practices to reduce risks from coastal hazards, including the impacts from climate change.* ***Goal B:*** *Complete coastal mapping of the Main Hawaiian Islands to assist with management of coastal hazards such as coastal erosion and sea level rise.* ***Goal C:*** *Collaborate and support county and state efforts to develop climate change risk analysis and adaptation strategies for public facilities.*	OP-CZM	County planning departments, DLNR-OCCL, County and State Civil Defense, DOT, DOH	FEMA/NFIP, UH Sea Grant College Program, PacIOOS, UH SOEST Coastal Geology Group, NOAA OCRM, NOAA PSC, PMNM	GOAL A: • Develop guidance on how to integrate climate change policy into County Development Plans/Sustainable Community Plans and regulatory permits (OP-CZM) • Increase in number of state departments completing coastal hazards risk analysis for their facilities (OP-CZM) • Increase in number of County General and Community/Development Plans that include a climate change adaptation component (County planning departments) • Creation of greenhouse gas emissions rules (DOH) GOAL B: • Shoreline erosion studies and maps completed for Hawai‘i Island, Lāna‘i, and Moloka‘i (UH-SOEST) • Review and update shoreline erosion maps for Kaua‘i, Maui, and O‘ahu (UH-SOEST) GOAL C: • Increase in number of climate change adaptation training sessions held (OP-CZM) • Increase in number of state departments adopting climate change adaptation strategies in their maintenance plans and capital improvement program plans (OP-CZM)

	Management Priority Goal(s)	Lead State Agency	Other State and County Agencies	Partners	Metrics
3	Watershed Management ***Goal A:*** *Increase the amount of protected watershed priority areas based on climatic conditions (elevation and moisture zones) and land cover types that provide higher recharge and fog capture as stated in the "Rain Follows the Forest Plan" (2011).* ***Goal B:*** *Improve coastal and stream water quality.*	DLNR-DOFAW	OP-CZM, DLNR-CWRM, County water departments, County planning departments, DOH PRCP, DOH Wastewater Branch, DLNR-DAR	Watershed Partnerships, ISCs, TNC, EPA, NOAA.	GOAL A: • Increase in acreage of land protected from invasive plant and animal species as well as wildfires through invasive species removal, fencing, integrated pest management, or other strategies (DLNR-DOFAW) • Increase in acreage of native watershed forest fenced (DLNR-DOFAW) • Increase in acreage of pig-free fence enclosures (DLNR Watershed Partnership Program) • Increase in miles of fence line checked (DLNR Watershed Partnership Program) GOAL B: • Decrease in the number of impaired streams (DOH) • Increase in percentage of wastewater recycled annually (DOH) • Implementation of Section 319 Projects (DOH) • Increase in number of outreach activities conducted for wastewater recycling (DOH) • EPA and NOAA approval of CNPCP

	Management Priority Goal(s)	Lead State Agency	Other State and County Agencies	Partners	Metrics
4	Marine Resources ***Goal A:*** *Promote protection, and sustainable use of marine resources.* ***Goal B:*** *Reduce and remove accumulated marine debris on all islands and shores.* ***Goal C:*** *Minimize the spread of aquatic invasive species from bays where there is coral or water quality degradation.* ***Goal D:*** *Minimize the likelihood of aquatic invasive species introductions and spread into and within Hawai'i from sources associated with vessels.* ***Goal E:*** *Promote fishing practices that increase fish stocks.*	DLNR-DAR	DOH, DOT-Harbors, Kaho'olawe Island Reserve Commission, DLNR-DOCARE, DLNR-DOBOR, County Public Works and Environmental Services Departments	USCG, USFWS, EPA, NOAA, Bishop Museum, TNC, UH, PacIOOS, National Marine Sanctuary, PMNM, WPRFMC, MACZAC, Agency members of the Hawai'i Interagency Marine Debris Working Group , Community Work Day Program on Maui, and Trilogy, which operates on Maui, Lāna'i, and Moloka'i	GOAL A: • Increase in number of educational workshops and programs conducted on marine debris for state and county agencies (OP-CZM) • Increase in number of Makai Watch Trainings provided to community groups (DLNR-DAR) GOAL B: • Increase in number of community marine debris clean ups (Hawai'i Interagency Marine Debris Group, including DLNR and DOH) • Decrease in number of abandoned and derelict vessels (DLNR-DOBOR) • Number of enforcement actions taken by DOH Solid and Hazardous Waste Branch for illegal dumping in state waters (DOH) • Increase in number of educational workshops held by DOH Compliance Assistance Office for public (DOH) • Number of JTMD items tracked, assessed for contamination, and disposed (NOAA) GOAL C: • Increase number of urchins introduced to control invasive algae (DLNR-DAR) • Increase in number of pounds of invasive algae removed (DLNR-DAR) • A permanent state position for the AIS Program is established, funded, and filled (DLNR-DAR) GOAL D: • Increase in number of ballast water reports processed (DLNR-DAR) • Rules for managing biofouling on vessels are developed and adopted (DLNR-DAR) • Ongoing funding is created for the Ballast Water and Hull Fouling Prevention Program (DLNR) GOAL E: • Increase in percent compliance with commercial fisheries reporting requirements (DLNR-DAR) • Increase in number of enforcement officers assigned exclusively to enforce fishing rules (DLNR-DOCARE) • Increase in number of targeted reef fish species that show an increase in size and/or abundance on at least one island (DLNR-DAR)

	Management Priority Goal(s)	Lead State Agency	Other State and County Agencies	Partners	Metrics
5	Coral Reef ***Goal A:*** *Improve the health and productivity of coral reef ecosystems at priority sites identified by the Hawaii Coral Reef Program.* ***Goal B:*** *Implement place-based projects that demonstrate effective stewardship practices that can be applied to other areas.* ***Goal C:*** *Implement an effective day-use moorings program that minimizes impacts to coral reef ecosystems and user conflicts.*	DLNR-DAR	DLNR-DOCARE, DLNR-DOBOR, DOT-Harbors, DOH	USACE, Hawai'i Coral Reef Working Group, National Marine Sanctuary, PMNM, TNC, NOAA CRCP, USDA/NRCS, HTA, Coral Reef Alliance	GOAL A: • Decrease in number of impaired coastal waters listed (DOH) • Decrease in number of shoreline postings due to sewage or other water pollution (DOH) GOAL B: • Increase in number of projects or BMPs implemented and evaluated at priority coral reef sites (DLNR-DAR) GOAL C: • Day use mooring program funded and implemented in consultation with communities (DLNR-DOBOR) • Increase in percent of day use moorings maintained and managed by the State (DLNR-DOBOR) • Increase in number of classes/educational efforts completed to educate boaters on day use moorings and the importance of mooring maintenance (DLNR-DOBOR)

	Management Priority Goal(s)	Lead State Agencies	Other State and County Agencies	Partners	Metrics
6	Ocean Economy ***Goal A:*** *Develop aquaculture standards, based on current scientific data, to support culturally, environmentally, and economically sustainable operations which increase production for local consumption.* ***Goal B:*** *Encourage use of ocean-based energy to contribute towards achieving Hawai'i Clean Energy Initiative while balancing the need to protect ocean resources.* ***Goal C:*** *Ensure a healthy shipping industry that uses ocean and coastal resources sustainably.* ***Goal D:*** *Ensure a healthy tourism industry that uses ocean and coastal resources sustainably.*	DOA Aquaculture Development Program, DOH, OP-CZM, DOT-Harbors, DBEDT-Energy Office	OP, DLNR, OHA	NELHA, NMFS, National Marine Sanctuary, WPRFMC, Coral Reef Alliance, Hawai'i Ecotourism Association, HTA	GOAL A: • Increase in pounds of commercially raised fish sold (DOA) • Increase in dollar value of commercially raised fish (DOA) • Increase in number of viable classified shellfish growing waters (DOH) • Increase in number of permitted commercial shellfish operators (DOH) • Increase in number of pounds of shellfish sold to local markets/restaurants in Hawai'i (DOH) • Increase in number of pounds of shellfish exported out of state (DOH) GOAL B: • Increase in percentage of alternate energy coming from ocean sources, as measured in megawatt-hours (DBEDT-Energy Office) GOAL C: • Increase in tons of cargo arriving at Hawai'i ports, until ports reach full capacity (DOT-Harbors) GOAL D: • Improved beach water quality monitoring data (DOH) • Increase in number of hotels with recognized sustainability certifications or program affiliations (DBEDT-Energy Office-Hawai'i Green Business Program) • Increase in number of tour operators who are recognized as Dolphin SMART (DLNR)

	Management Priority Goal(s)	Lead State Agency	Other State and County Agencies	Partners	Metrics
7	Cultural Heritage of the Ocean ***Goal A:*** *Preserve cultural heritage of the ocean and protect Native Hawaiian rights for access and gathering in ocean and on coastline, and protect ocean and coastal resources upon which Native Hawaiian cultural practices depend.* ***Goal B:*** *Support restoration of Hawaiian fishponds through permitting, community projects, and technical assistance.*	DLNR-OCCL	OP, DOA Aquaculture Development Program, DOH, DLNR, OHA	USACE, NOAA, National Marine Sanctuary, PMNM, Community Groups	GOAL A: • Increase in number of moorings for Native Hawaiian canoes that are operated exclusively for educational purposes (DLNR-DOBOR) GOAL B: • Decrease in average number of months to obtain all permits necessary for fishpond restoration (DLNR-OCCL and DOH) • Increase in number of fishpond restoration projects given technical assistance and support for permitting processes (OP-CZM)

	Management Priority Goal(s)	Lead State Agency	Other State and County Agencies	Partners	Metrics
8	Training, Education, and Awareness ***Goal A:*** *Develop training curriculum, at the fundamental and advanced levels, for state and county agency staff as well as boards and commissions working on ocean and coastal protection and begin annual training.* ***Goal B:*** *Partner to expand existing citizen stewardship awareness and active engagement curriculum for widespread dissemination through various community outlets.*	OP-CZM	DLNR, DOH	MACZAC, PacIOOS, UH Sea Grant College Program, National Marine Sanctuary, PMNM, HTA, Coral Reef Alliance, TNC	GOAL A: • Curricula on fundamentals of ocean resource management on advanced environmental science is developed (OP-CZM) • Increase in number of agency employees attending environmental science training (OP-CZM) GOAL B: • Increase in number of community outreach and awareness events held and/or participants reached (OP-CZM, DLNR-DAR, and National Marine Sanctuary) • Inclusion of Hawai‘i marine resource module as part of required boater education certification requirement (DLNR-DOBOR)

	Management Priority Goal(s)	Lead State Agency	Other State and County Agencies	Partners	Metrics
9	Collaboration and Conflict Resolution ***Goal***: *Fully utilize the ORMP Policy Group as a forum to discuss State ocean resource management, and to raise and resolve issues, and to resolve conflicts when appropriate.*	OP-CZM	DLNR, DOH, DOA, DOT, SCD, OHA, County planning departments, BWS	MACZAC, PacIOOS, UH Sea Grant College Program, UH SOEST, UH ICAP, National Marine Sanctuary, PMNM, USACE, U.S. Navy, USCG, NOAA, EPA, TNC	• Work with the State of Hawai'i Office of Information Management & Technology to create a state performance measures website for the ORMP metrics (OP-CZM) • Increase in number and range of issues handled by ORMP Policy Group and/or Hawai'i Sub-ROP (OP-CZM) • Increase in number of Management Priority issues that receive state funding and where needed, legislative attention (OP-CZM) • Increase in number of obstacles to ORMP implementation identified and resolved by Sub-ROP (OP-CZM)
	Management Priority Goal(s)	**Lead State Agency**	**Other State and County Agencies**	**Partners**	**Metrics**
10	Community and Place-Based Ocean Management Projects ***Goal A:*** *Advance community level eco-based, place-based ocean management projects currently in place.* ***Goal B:*** *When funding becomes available, assist in the creation of additional community level eco-based, place-based ocean management projects.* ***Goal C***: *Partner with communities to better manage Hawaii's marine resources.*	OP-CZM, DLNR-DAR	DLNR, DOH, DOA, DOT, SCD, OHA, County planning departments, BWS	NOAA, USACE, PMNM, National Marine Sanctuary WPRFMC, Makai Watch, West Maui Ridge to Reef Initiative, TNC	<u>GOAL A:</u> • Increase in number of community projects underway which are given technical or financial assistance (OP-CZM) <u>GOAL B:</u> • Increase in number of new community projects started using technical or financial assistance from an ORMP agency (OP-CZM) <u>GOAL C:</u> • Increase in number of Community-Based Subsistence Fishing Area (CBSFA) rule packages adopted by the BLNR (DLNR-DAR) • Establish and fund a permanent state position for a CBSFA Coordinator (DLNR-DAR) • Establish and fund a permanent state position for a Makai Watch Coordinator (DLNR-DOCARE)

	Management Priority Goal(s)	Lead State Agency	Other State and County Agencies	Partners	Metrics
11	National Ocean Policy and Pacific Regional Objectives ***Goal A:*** *Contribute to the Pacific Regional Priorities for Pacific Regional Ocean Partnership, which include, but are not limited to, climate change adaptation and the support of coastal and marine spatial planning.* ***Goal B:*** *Formalize Hawai'i Sub-Regional Ocean Partnership using existing partnerships and focus on ORMP implementation.* ***Goal C:*** *Through the Regional Planning Body, establish a coastal and marine spatial plan to be used throughout the Pacific Region.*	OP-CZM	Agencies Involved in the PIRPB Agencies involved in the PROP Agencies Involved in ORMP Policy and Working Groups		GOAL A: • Increase in number of issues raised and information exchanged at PROP meetings • Completion of a PROP Action Plan that contains regional priorities relevant to Hawai'i • Increase in number of collaborative initiatives undertaken by the PROP that are coordinated with Hawai'i • Hawai'i participation in the implementation of PROP regional priorities GOAL B: • High attendance rates of state agencies at meetings of the Hawai'i Sub-ROP each year • Increase in number of ORMP implementation projects sanctioned and initiated by Sub-ROP • Increase in number of work plans developed for the eleven management priorities • Increase in number of collaborative initiatives undertaken at Sub-ROP • Increase in number of meetings of the RPB attended by Hawai'i representation • Drafting of the RPB charter and work plan GOAL C: • Hawai'i coastal and marine spatial GIS tool developed • Number of times Hawai'i coastal and marine GIS tool used for decision making by state and county agencies

IV. Integrated and Coordinated Approach to Management of Ocean Resources

Introduction

This chapter discusses multiple approaches to the management of ocean resources, underscoring the importance of integration and coordination. Management approaches covered include:

- ORMP Governance Framework
- The National Ocean Policy Framework
- Current Framework for Traditional Resource Management
- Marine Management Areas and Sanctuaries
- Community Place-Based Management

In Hawai‘i, many government agencies and authorities participate in the management of ocean and coastal resources. While there are overlaps in interest, each governmental agency has its own roles and responsibilities. The Office of Planning, Coastal Zone Management Program (OP-CZM) recently issued *Sustainable Management of the Islands* (December 2011), which describes the network of resource agencies for coastal zone management and ocean resource protection. Agencies involved in ocean resource and coastal zone management are shown in Appendix D at the end of this plan. State agency and partner coordination is achieved through the ORMP Policy Group and Working Group and with an advisory group, Marine & Coastal Zone Advocacy Council (MACZAC). MACZAC is composed of twelve advisory members who are recruited statewide and who have diverse backgrounds in business, environment, Native Hawaiian practices, terrestrial and marine commerce, recreation, research, and tourism.

The National Ocean Policy (NOP) is new since the *2006 ORMP*. The National Priority Objectives can be found in Chapter I and later in this chapter. The NOP calls for a framework for implementation including the Pacific Regional Ocean Partnership (PROP) and the Hawai‘i Sub-Regional Ocean Partnership (Hawai‘i Sub-ROP). These are both in the initial stages of formation, and the value of this new framework is just starting to be explored.

Ocean Resource Management includes entities conducting science and research. Several schools and divisions within the University of Hawai‘i system are involved with scientific and research activities in a number of fields. These schools and their science and research are listed in Appendix E.

Place-based management involves government and the community working in alliance. Appendix F lists several recent community and place-based ocean management projects. Appendix G provides selective resources and references for community organizations seeking funding and further involvement as stewards of the ocean.

ORMP Governance Framework

Office of Planning, Coastal Zone Management Program

HRS Chapter 205A is Hawaii's CZM Law, and HRS Section 205A-3 designates OP-CZM as the lead agency for coastal zone management. The ORMP section of Hawaii's CZM Act, HRS Section 205A-63, provides that the unifying policy for all agencies managing marine and coastal resources is that they actively work toward the goals, objectives, and policies established by the CZM Act. OP-CZM is funded with State General Funds and through grants from NOAA's Office of Coastal Resource Management (OCRM). The CZM Act was enacted as the state's umbrella policy for facilitating and assuring interrelated and comprehensive coastal resource management.

Policy Group and Working Group

The ORMP Working Group and Policy Group have become major coordination bodies for the different interagency collaborations needed to manage ocean resources. Both groups were formed in July 2007, after the *2006 ORMP* was completed. The Policy Group meets twice a year, and its 20 members consist of the directors of state and county resource management agencies, the University of Hawai‘i (UH), federal partners, and MACZAC. The Working Group meets monthly and consists of managers and staff of the same offices that are tasked with coordinating their respective agency's *ORMP* implementation efforts.

Additional people are invited to the ORMP Working Group meetings from various divisions within state agencies as well as resource people from federal agencies, environmental non-profit groups that have worked on ORMP Demonstration Projects, and UH.

Figure 4-1: Office of Planning Director Addresses ORMP Policy Group, June 2012

Figure 4-2: ORMP Working Group Discussion, July 2012

The full list of agencies and groups represented and participating in the ORMP groups to date are:

Federal Partners include NOAA Office of National Marine Sanctuaries, Pacific Islands Region (ONMS); NOAA Office of Ocean & Coastal Resource Management (OCRM); NOAA Pacific Services Center (PSC); United States Army Corps of Engineers (USACE); United States Coast Guard (USCG); United States Navy, and United States Environmental Protection Agency (EPA).

State Partners include State of Hawai‘i Departments of Agriculture (DOA), Civil Defense (SCD), Health (DOH), Land & Natural Resources (DLNR), Transportation (DOT), and Office of Hawaiian Affairs (OHA).

University Partners include University of Hawai‘i, School of Ocean & Earth Science & Technology (SOEST); University of Hawai‘i, Sea Grant College Program (UH Sea Grant); University of Hawai‘i Sea Grant College Program, Center for Island Climate Adaptation & Policy (ICAP); and Pacific Islands Ocean Observing System (PacIOOS).

County Partners include City and County of Honolulu, Department of Planning and Permitting (DPP); County of Hawai‘i, Planning Department; County of Kaua‘i, Department of Planning; County of Maui, Department of Planning; and Honolulu Board of Water Supply (BWS).

Community Partners include the Marine & Coastal Zone Advocacy Council (MACZAC).

Marine & Coastal Zone Advocacy Council

In 2001, the State Legislature passed Act 169, which became HRS Section 205A-3.5. This law clarifies OP’s responsibility to maintain a public advisory body, named the Marine & Coastal Zone Advocacy Council (MACZAC), and defines its membership. The twelve MACZAC members are advisory to OP, are recruited from the islands of Kaua‘i, O‘ahu, Maui, Moloka‘i, Lāna‘i, and Hawai‘i, and have diverse professional and community backgrounds.

MACZAC’s mission statement is, “Advocate for a comprehensive management system which restores, preserves, and protects Hawaii’s marine and coastal environment.” The MACZAC meets quarterly. They have worked on mapping coastal parking access; provided recommendations regarding shoreline certification, commercial boating regulations, and harbor facilities; discussed integrated ocean resource management, cultural resources management, coastal water quality, coastal carrying capacity, and marine managed areas; and have provided advice to OP on regulatory review, legislative advocacy, public

education and outreach. MACZAC has reached out to community and user groups including the Ocean Tourism Coalition, Maui Visitors and Convention Bureau, and the Maui Hotel and Lodging Association.

National Ocean Policy Framework

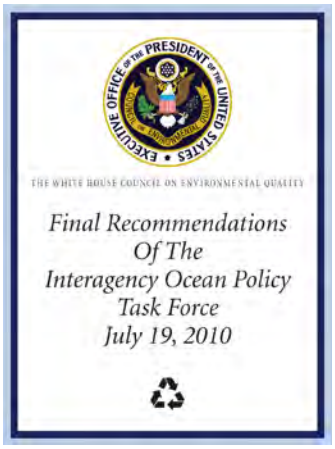
National Ocean Policy Vision

"To achieve an America whose stewardship ensures that the ocean, our coasts, and the Great Lakes are healthy and resilient, safe and productive, and understood and treasured so as to promote the well-being, prosperity, and security of present and future generations."

The U.S. Commission on Ocean Policy (USCOP) published *An Ocean Blueprint for the 21st Century* in 2004, identifying needed actions for coastal and ocean areas. A key recommendation was to create a strong role for states in the management of their coasts and oceans and provide opportunities for them to contribute to an integrated national policy. Towards that end, the USCOP recommended creation of regional ocean councils "to help coordinate federal, state, tribal, and local planning and action." Another key recommendation was to create a National Ocean Council (NOC), which would be a multiagency body to create an integrated national ocean policy. The NOC should "provide high-level attention to ocean and coastal issues, develop appropriate national policies, and coordinate their implementation by the many federal departments and agencies with ocean and coastal responsibilities."

The Interagency Ocean Policy Task Force (IOPTF) was established in 2009, and it is comprised of senior-level officials from 24 executive departments, agencies, and offices across the federal government. The IOPTF is led by the Chair of the Council on Environmental Quality (CEQ). The mission of the IOPTF is to develop recommendations to enhance national stewardship of the ocean, coasts, and Great Lakes, and promote their long-term conservation and use.

Six years after the USCOP recommendation, the NOC and the National Ocean Policy (NOP) were established in July 2010 by the President's Executive Order 12547 "to ensure the protection, maintenance, and restoration of the health of ocean, coastal, and Great Lakes ecosystems and resources, enhance the sustainability of ocean and coastal economies, preserve our maritime heritage, support sustainable uses and access, provide for adaptive management to enhance our understanding of and capacity to respond to climate change and ocean acidification, and coordinate with our national security and foreign policy interests."



The NOP was established based on the *Final Recommendations of the Interagency Ocean Policy Task Force* (2010). This groundbreaking policy provides the framework for federal agencies to work together to pursue the NOP's Vision while engaging the states, native people, local authorities, regional governance structures, non-governmental organizations, the public, and the private sector. Such a broad framework for federal ocean resources policy collaboration has never been done before.

The *Final Recommendations* contain nine National Priority Objectives that call for adoption of ecosystem-based management; implementation of coastal and marine spatial planning (CMSP); inform decisions and improve understanding; and increased coordination and support to address resiliency and adaptation to climate change and ocean acidification, regional ecosystem protection and restoration, water quality and sustainability on land, and ocean and coastal observations, mapping, and infrastructure. The eleven ORMP Management Priorities are closely related to these objectives.

National Priority Objectives

HOW WE DO BUSINESS

1. **Ecosystem-Based Management**: Adopt ecosystem-based management as a foundational principle for the comprehensive management of the ocean, our coasts, and the Great Lakes.

2. **Coastal and Marine Spatial Planning**: Implement comprehensive, integrated, ecosystem-based coastal and marine spatial planning and management in the United States.

3. **Inform Decisions and Improve Understanding**: Increase knowledge to continually inform and improve management and policy decisions and the capacity to respond to change and challenges. Better educate the public through formal and informal programs about the ocean, our coasts, and the Great Lakes.

4. **Coordinate and Support**: Better coordinate and support federal, state, tribal, local, and regional management of the ocean, our coasts, and the Great Lakes. Improve coordination and integration across the Federal Government and, as appropriate, engage with the international community.

AREAS OF SPECIAL EMPHASIS

5. **Resiliency and Adaptation to Climate Change and Ocean Acidification**: Strengthen resiliency of coastal communities and marine and Great Lakes environments and their abilities to adapt to climate change impacts and ocean acidification.

6. **Regional Ecosystem Protection and Restoration**: Establish and implement an integrated ecosystem protection and restoration strategy that is science-based and aligns conservation and restoration goals at the federal, state, tribal, local, and regional levels.

7. **Water Quality and Sustainable Practices on Land**: Enhance water quality in the ocean, along our coasts, and in the Great Lakes by promoting and implementing sustainable practices on land.

8. **Changing Conditions in the Arctic**: Address environmental stewardship needs in the Arctic Ocean and adjacent coastal areas in the face of climate-induced and other environmental changes.

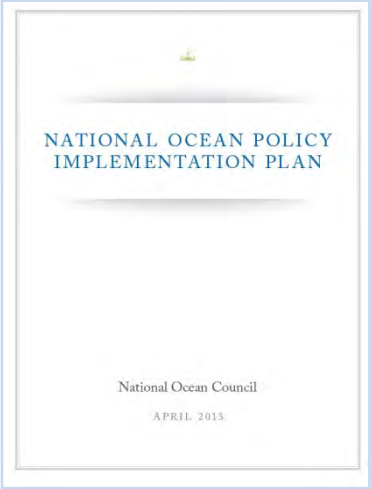
9. **Ocean, Coastal, and Great Lakes Observations**, Mapping and Infrastructure: Strengthen and integrate federal and non-federal ocean observing systems, sensors, data collection platforms, data management, and mapping capabilities into a national system and integrate that system into international observation efforts.

***Source: Final Recommendations of the Interagency Ocean Policy Task Force* (2010)**

The *Final Recommendations* include developing coastal and marine spatial planning (CMSP) as a comprehensive, integrated, and regionally-based tool for planning and managing coastal and marine uses. It established nine regional planning bodies to develop the coastal and marine spatial plans. The Pacific Islands Regional Planning Body (PIRPB) was officially established in April 2013. The intent of the

PIRPB is to develop a coastal and marine spatial plan that includes sub-plans for Hawaii and the territories of the Pacific Islands region. Regional Planning Body (RPB) membership consists of authorities relevant to CMSP for that area. Hawai‘i has two representatives to the PIRPB: OP and DLNR.

The National Ocean Council's *National Ocean Policy Implementation Plan* (*Implementation Plan*) (April 2013) describes the actions the Federal Government will take to improve ocean and coastal ecosystem health. The recommendations of the *Implementation Plan* are viewed as opportunities for the ORMP to contribute toward and build upon at a state level.



The *Implementation Plan* includes federal actions to strengthen existing regional ocean governance partnerships and establish new partnerships. These partnerships share regional priorities and often include non-governmental agencies. The existing ORMP Policy and Working Group will serve as a sub-regional ocean governance partnership. The Hawai‘i Sub-Regional Ocean Partnership (Hawai‘i Sub-ROP) encompasses all islands in the Hawaiian chain and is discussed later in this chapter. In addition, Hawai‘i, American Samoa, Guam, and the Commonwealth of the Northern Mariana Islands (CNMI) have formed a larger Pacific Regional Ocean Partnership (PROP), formalized in August 2012. The Hawai‘i representative to the PROP is the Governor's office, who has delegated authority to the OP and the DLNR Chair.

Pacific Regional Ocean Partnership

The Pacific Regional Ocean Partnership (PROP) is a voluntary partnership between the Governors of the U.S. Pacific Islands Region, and consists of the State of Hawai‘i, and the Territories of the CNMI and Guam, and American Samoa. Unlike most of the other regional ocean partnerships, this region does not share physical boundaries.

A Governor's Agreement to formalize the working relationships between the four jurisdictions in the PROP was signed on August 22, 2012 by Governor Neil Abercrombie and the governors of American Samoa, CNMI, and Guam. The mission of the PROP is to "assist the U.S. Pacific Islands Region Governors of American Samoa, CNMI, Guam, and Hawai‘i to identify coastal and ocean management priorities that require a coordinated regional response and increased collaboration to effectively address these issues."

The actions of the PROP will complement, and take advantage of, other ongoing regional efforts while respecting individual state policy making requirements. While just formed in the summer of 2012, the structure will include an Executive Group, a Steering Group, Action Coordination Teams, and Supporting Partners.

The PROP will help to implement the NOP, using the *National Ocean Policy Implementation Plan* (April 2013) as a resource for action, being mindful of the traditional gathering rights, cultural sensitivities, and unique geographic considerations. The *Implementation Plan* is guided by four themes: 1) adopt ecosystem-based management; 2) obtain, use, and share the best science and data; (3) promote efficiency and collaboration; and 4) strengthen regional efforts.

Hawai‘i Sub-Regional Ocean Partnership

The Office of Planning received funding from NOAA to support the existing ORMP partnerships. In November 2012, the OP hired a coordinator to formalize the Hawai‘i Sub-Regional Ocean Partnership

(Hawai‘i Sub-ROP). The Hawai‘i Sub-ROP is intended to support the implementation of the ORMP in the State of Hawai‘i and organize state resources behind shared management objectives. The OP anticipates that the formalized partnership will include many, if not all, of the ORMP partners. The ORMP partners met in January 2013 in a joint Policy and Working Group to discuss the progress of the updated *ORMP* and development of the Hawai‘i Sub-ROP.

The Hawai‘i Sub-ROP encompasses the Main Hawaiian Islands as well as the Northwestern Hawaiian Islands, a span of 1,523 miles. This area includes the 12 nautical mile Territorial Sea and the 200 nautical mile Exclusive Economic Zone (EEZ).

The ocean area covered by the Hawai‘i Sub-ROP includes waters under the jurisdiction of state and federal agencies. The State of Hawai‘i waters are defined as any shores or water between the three nautical mile limit and the mean high tide mark on the shores of the islands of the State of Hawai‘i, and enforcement in this area is the responsibility of the DLNR-DOCARE. Federal waters under the jurisdiction of the United States are patrolled by the USCG up to the U.S. EEZ, which is any water within 200 nautical miles of shore.

The Hawai‘i Sub-ROP is meant to ensure meaningful engagement and coordination of partners and the public through natural and cultural resource management processes in Hawai‘i, with the goals and objectives of the *ORMP* forming the basis. It will also ensure consistency with federal objectives.

While many engaged stakeholders and informal partnerships have formed as a result of implementing the *ORMP*, a major objective of the Hawai‘i Sub-ROP is to formalize these partnerships. ORMPstakeholders who manage and protect Hawaii’s coastal and ocean resources are members of the ORMP Policy and Working Groups. Additional stakeholder groups such as coastal communities, recreational users, Native Hawaiian cultural practitioners, tourists and commercial interests will also have opportunities to participate in the Hawai‘i Sub-ROP.

Coastal and Marine Spatial Planning

Coastal and marine spatial planning (CMSP) is one of the National Priority Objectives. CMSP is defined as “a comprehensive adaptive, integrated, ecosystem-based, and transparent planning process, based on sound science, for analyzing current and anticipated uses of the ocean and coastal…areas.” CMSP for the Pacific Islands Region is expected to help inform policies and guide management decisions from the various agencies involved in the coastal and marine environment, including but not limited to the Office of Planning, DLNR, and the U.S. Department of Interior, U.S. Department of Defense, and NOAA (for purposes of the *ORMP*, Territorial agencies were excluded from this list). For example, CMSP can help guide permitting for offshore renewable energy and offshore aquaculture, as well as identify which areas should or should not be closed to certain uses such as fishing, shipping, or recreation. CMSP provides an avenue by which agencies can coordinate to help mitigate conflict in the coastal and ocean areas. CMSP provides “a public policy process for society to better determine how the ocean and coasts…are sustainably used and protected – now and in future generations” (*Final Recommendations of the Interagency Ocean Policy Task Force*).

In Hawai‘i, CMSP will be an important part of collaborative management. The CMSP plan that will be developed by PIRPB will be built on the extensive and widely used GIS, as well as best scientific data available (some of which will not be spatially-based in a GIS format). Best scientific data will include current oceanographic conditions, habitat data, human use data, and jurisdictional boundaries, as well as predicted future conditions due to sea level rise, ocean acidification, and other climate variables. The OP houses the metadata for GIS for the State of Hawai‘i, and adding the metadata for the state’s coastlines and up to 3 miles out into the ocean is a natural expansion of its GIS capabilities. Other GIS mapping

platforms also exist, such as PacIOOS Voyager, which also includes data to 200 nautical miles and current ocean observations. An integral part of CMSP will be a robust online information management system that allows easy access to and transparency of data and information necessary for planning, and mechanisms for frequent stakeholder and public input.

CMSP is a useful public policy tool that can be used to coordinate across multiple sectors and jurisdictions. Examples might include enhancing public beach access; improving ocean user compatibility and reducing user conflicts; reducing environmental impacts to the ocean; supporting sustainable, safe, secure, efficient and productive uses of the ocean; and enhancing collaboration. An example of CMSP is the Rhode Island Special Area Management Plan (SAMP) that helps agencies coordinate actions in their ocean and coastal zones by providing biophysical information as well as human use information, and detailing agencies involved in the multiple activities. The impetus for designing the Rhode Island SAMP was offshore renewable energy development. CMSP enabled fishermen to define important areas for their fishing, utility companies to detail where cables were laid, and the U.S. Department of Defense to delineate their shipping lanes. Now renewable energy companies have an idea about where renewable energy can be sited without creating user conflict.

Current Framework for Traditional Resource Management

Natural resources were managed traditionally in Hawai‘i using kuleana (responsibility) principles, assigned at the ahupua‘a and moku levels. An ahupua‘a is a unit of land, which contains a mostly self-sufficient amount of natural resources necessary for all of its tenants to survive and thrive. Native Hawaiians marked these land divisions, which normally follow existing contours of land and begin in the mountains, mauka, and end in the ocean, makai. Several ahupua‘a adjoining one another were delineated as a moku. Like the ahupua‘a, the moku varied in size.

The kapu system governed codes of conduct, social rules, and resource management, making certain actions kapu or forbidden. Hawaiian fishing was regulated through this kapu system in order to maintain its long-term viability. Certain fish were kapu during times of spawning or low fish counts. Designated fishing areas were also kapu during certain times when overfishing could damage the ecosystem. A konohiki, or manager, would be the enforcer of the kapu system.

‘Aha Moku Resource Management

Modern day application of ahupua‘a management is no longer strictly practiced, although there are attempts at restoring this practice in several locations. Conversations about restoring this practice began in earnest with the WPRFMC puwalu series, which was initiated statewide in August 2006. These workshops focused on engaging the Native Hawaiian community in a dialogue to inform the WPRFMC Fisheries Ecosystem Management Plans for Hawai‘i.

Ahupua‘a management was practiced by ‘Aha Councils**,** which were composed of a diverse group of practitioners and acknowledged experts in agriculture, fishing, water resources, and cultural skills who lived within each ahupua‘a and served together as the governing board.

Act 288, Session Laws of Hawai‘i (SLH) 2012, sets forth an ‘Aha Moku Advisory Committee within the DLNR. The ‘Aha Moku Advisory Committee will consist of eight members appointed by the governor and confirmed by the State Senate from a list of nominations submitted by the ‘Aha Moku Councils on each of the eight Main Hawaiian Islands. Ni‘ihau, Kaua‘i, O‘ahu, Moloka‘i, Lāna‘i, Kaho‘olawe, Maui, and Hawai‘i Island are each represented by one committee member.

Act 288 states that the ‘Aha Moku Advisory Committee may provide advice to the chairperson of the Board of Land and Natural Resources (BLNR) on issues related to land and natural resources management such as:

- Integration of indigenous resource management practices with western practices in each moku;
- Identification of a comprehensive set of indigenous practices for natural resource management;
- Foster understanding of Native Hawaiian resource knowledge;
- Sustain the state’s marine, land, cultural, agricultural, and natural resources;
- Provide community education and foster cultural awareness on benefits of the ‘Aha Moku system;

Key Hawaiian Terms

Sources: (1) HRS Section 226-2
(2) *Pukui/Elbert Dictionary*, 2003, University of Hawai‘i Press
(3) Act 288, SLH 2012
(4) HRS Section 5-7.5

‘Aha Moku Council—Diverse group of practitioners from a moku serving as an advisory board. (4)

Ahupua‘a—in Hawai‘i, a subdivision of the land. Normally, it extends like a slice of the island from the mountains to the ocean so that resources from both the uplands and the sea are available to the inhabitants. Ahupua‘a boundaries often divide along natural features such as mountain lines or streams. Ahupua‘a management is Hawaiian culture embracing both resource protection and behavioral management, which ensures respect for the air, land, water, and other scarce natural resources that make life sustainable from the mountains to the sea. Adapted from (1)

Kai—sea, sea water; area near the sea, seaside, lowlands; tide, current in the sea. (2)

Kanaka Maoli—means Native Hawaiians. The indigenous people of the Hawaiian Islands or their descendants, which may be pure or part Native Hawaiian. (1)

Kapu—taboo, prohibited, forbidden, sacred, holy, consecrated; no trespassing, keep out. (2)

Keiki—child, offspring, descendant, progeny, youngster. (2)

Ko‘a—fishing grounds, usually identified by lining up with marks on shore. (2)

Konohiki—headman of an ahupua‘a land division under the chief, land or fishing rights under control of the konohiki. (2)

Kumu wai—source of a stream, spring, could also be source of wealth. (2)

Lo‘i—irrigated terrace, especially for taro. (2)

Kuleana—A right or privilege, which entails responsibility. May also mean title, business, property, jurisdiction, authority, liability, interest, claim, ownership, tenure, affair, or province. (2)

Lokahi—meaning unity, to be expressed in harmony. (2)

Makai—towards the sea; in the direction of the sea; seaward; of the lowland. (2)

Mālama —to take care of, tend, care for, preserve, protect, maintain. (2)

Mauka— towards the mountain; inland; upland; shoreward (if at sea); shore, uplands. (2)

Moku—district, island, islet, section, fragment. (2) (3)

‘Ohana Fishing—fishing for consumption by family; ‘ohana is defined as family. (2)

Pa‘akai—salt harvested from the ocean. (2)

Pono—proper, righteous, upright, just, doing the right thing. (2)

Wai—fresh water. (2)

- Foster protection and conservation of the state's natural resources; and
- Develop an administrative structure to oversee the ʻAha Moku system.

Act 288 recognizes 43 moku around the state. Prior to the formation of the ʻAha Moku Advisory Committee within DLNR, the ʻAha Kiole Advisory Committee held several statewide meetings and submitted reports to the State Legislature on their findings on best practices and structure for the management of natural and cultural resources in Hawaiʻi. The ʻAha Kiole had one representative from each of the eight Main Hawaiian Islands, but they are not necessarily the same eight people to be appointed by the Governor to the newly formed ʻAha Moku Advisory Committee in DLNR.

During the Public Listening Sessions (PLS) for this ORMP Update, community members gave input on what modern day ahupuaʻa management means to them. An ahupuaʻa encompasses a "slice" of land from the mountains to the sea, and the Native Hawaiian view is that the entire land division is integrated. People spoke of kumuwai, which means both the source of wealth as well as the source of a stream, and in this instance the source comes from the rain above to the tip of the mountain, traveling through the ahupuaʻa as a stream to the ocean. There is a reverence and acknowledgement that all is connected and that it is a higher power's will that brings all water from its starting point in the heavens above to the ocean that surrounds the islands. Managing an ahupuaʻa, while similar to the term conservation, incorporates sustainability principles. The loʻi that feeds poi to the people of an ahupuaʻa also functions as a place where non-point source sedimentation occurs, slowing down the flow of water so that it can recharge the water table below the soil.

Community members expressed a need to feed their community, especially the kupuna (elders) and keiki (children) who were unable to catch or grow food for themselves. They saw traditional ahupuaʻa land management as a way to ensure food for now and sustain it for the future. A community working together can plant and maintain loʻi, reconstruct their shoreline Native Hawaiian fishponds, gather their own paʻakai (salt), and keep their stream inflows to ensure a recharging of water in the entire water cycle. Many felt that they could do this without waiting for government assistance and without a statewide plan to tell them how to manage their own land. Others were organized for their entire island's natural resources, such as on Molokaʻi, and wanted the ʻAha Moku system to be mandatory.

Framework for Marine Managed Areas

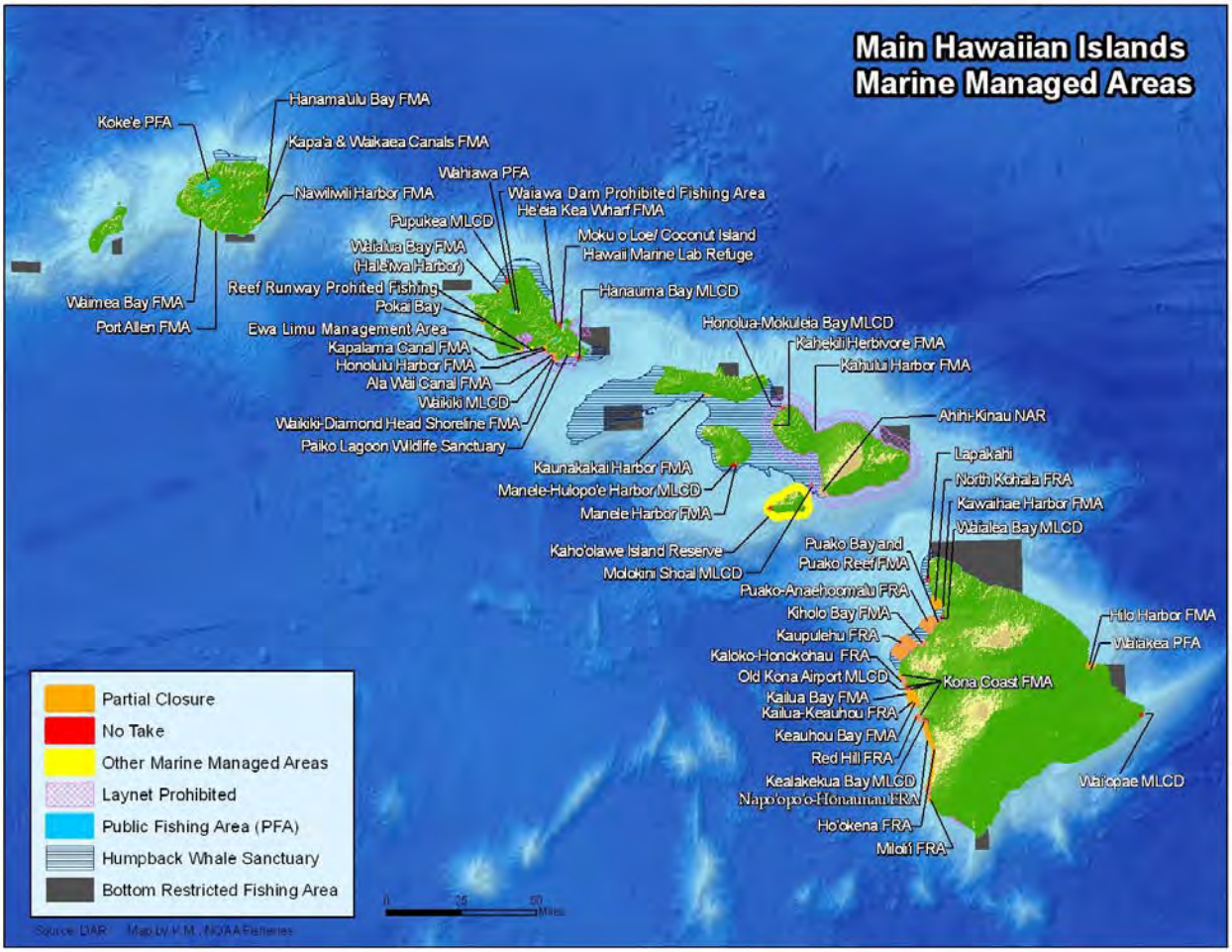
Since Statehood in 1959, the Hawaiʻi State Government has assumed most of the functions once performed by the konohiki. Place-based management refers to designating appropriate uses for a particular geographic area to reduce user conflicts and protect the area from some or all preventable harm. Place-based management of ocean areas can take many forms. Marine Managed Areas (MMA) are one form of place-based management. There are also other forms of this type of resource management. This will take different forms on each island, and even in each community.

There are seven types of MMAs. These are the responsibility of DLNR, alone or in partnership.

1) Marine Life Conservation Districts
2) Fishery Management Areas
3) Bottomfish Restricted Fishing Areas
4) Wildlife Sanctuaries/Research Refuges
5) Natural Area Reserves
6) Hawaiian Islands Humpback Whale National Marine Sanctuary (co-managed with NOAA)
7) Papahānaumokuākea Marine National Monument (co-managed with NOAA, U.S. Fish and Wildlife Service (USFWS), and OHA)

A map of Marine Managed Areas is shown below as Figure 4-3.

Figure 4-3: Marine Managed Areas in the State of Hawai‘i



Source: DLNR-DAR, Map by K.M., NOAA Fisheries

Marine Life Conservation Districts

Marine Life Conservation Districts (MLCD) are designed to conserve and replenish marine resources, with limited fishing and other consumptive uses. This gives a protected area for fish and other aquatic life to grow and reproduce. There are 11 MLCD throughout the state as listed in the text box at right. The first MLCD designated in the state was Hanauma Bay in east O‘ahu.

MLCD in Hawai‘i

O‘ahu
Hanauma Bay
Pupukea
Waikīkī

Hawai‘i Island
Kealakekua Bay
Lapakahi
Old Kona Airport
Waialea Bay
Waiopae Tidepools

Maui County
Honolua-Mokule‘ia Bay
Manele Hulopo‘e
Molokini Shoal

Source: DLNR-DAR

Fishery Management Areas

There are 21 Fishery Management Areas (FMAs) on the islands of Kaua‘i, O‘ahu, Moloka‘i, Lāna‘i, Maui, and Hawai‘i and an additional nine FMAs in west Hawai‘i. Each FMA has different permitted and prohibited activities with different “takes” and different fishing methodologies.

In June 2013, the BLNR approved Hawaii Administrative Rules (HAR) for the West Hawai‘i Regional Fisheries Management Area (WHRFMA). Ten years of community discussions and several public hearings resulted in the implementation of these new rules. The DLNR Division of Aquatic Resources (DLNR-DAR) has posted the latest HAR on their website, which includes a spearfishing ban and a 40 species “white list.”

Bottomfish Restricted Fishing Areas

Bottomfish Restricted Fishing Areas are defined by latitude and longitudes in twelve places throughout the state. There are seven fish covered, otherwise referred to as the “Deep 7,” and these include onaga, ehu, kalekale, ‘ōpakapaka, ukikiki, hapu‘upu‘u, and lehi. There are regulations for fishing, gear restrictions, commercial fisher reporting, minimum size, and non-commercial bag limits. The commercial fisheries for the Deep 7 open and close with a Western Pacific Regional Fishery Management Council (WPRFMC) established Annual Catch Limit, based on a fishing year from September to August of the following year. This management regime is a coordinated state and federal effort, where the state conducts the commercial trip reporting and the National Marine Fisheries Service (NMFS) conducts the non-commercial trip reporting.

Wildlife Sanctuaries/Research Refuges

The Coconut Island Hawai‘i Marine Laboratory Refuge in Kāne‘ohe Bay and the Paiko Lagoon Wildlife Sanctuary in east Honolulu are both off the island of O‘ahu. UH uses the Hawai‘i Marine Laboratory Refuge for scientific studies, and it is illegal for anyone else to take any aquatic life from within the boundaries of the refuge. The Paiko Lagoon Wildlife Sanctuary does not allow taking of any aquatic life.

Natural Area Reserves for Oceans

The Kaho‘olawe Island Reserve is managed by the Kaho‘olawe Island Reserve Commission (KIRC), which was placed within DLNR for administrative purposes. This includes the island of Kaho‘olawe and the marine waters two miles from its shore. The KIRC is responsible for the restoration of Kaho‘olawe, which was transferred to the State of Hawai‘i by the U.S. Navy after its use as a bombing range. There are no residents on Kaho‘olawe, and anyone visiting the island must be cleared by the KIRC.

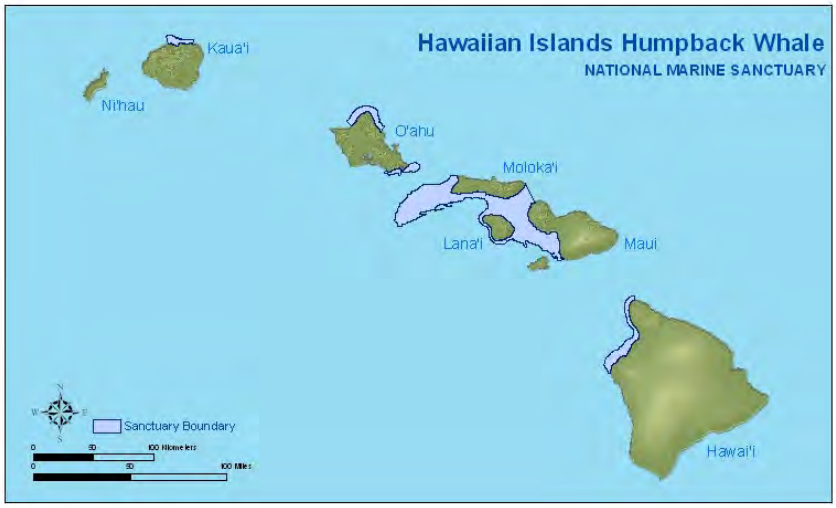
The ‘Āhihi-Kīna‘u Natural Area Reserve (NAR) on the south shore of Maui is managed by DLNR Division of Forestry and Wildlife Natural Area Reserve System and was the first reserve in the State Natural Area Reserve System. This NAR is part of Makai Watch, which is a Community-Based Resource Management project. The Hawai‘i Wildlife Foundation partnered with DLNR through the Makai Watch program to restore and sustain this resource. It includes a marine protected area, which is home to a rich coral reef ecosystem and many protected species. Portions of the ‘Āhihi-Kīna‘u NAR are closed until July 31, 2014, and access to the northern and most visited portions is allowed only during the daytime.

Hawaiian Islands Humpback Whale National Marine Sanctuary

The Hawaiian Islands Humpback Whale National Marine Sanctuary (National Marine Sanctuary) is jointly managed in a cooperative partnership between NOAA and DLNR. The National Marine Sanctuary surrounds the waters around the island of Lāna‘i, parts of Moloka‘i, and Maui as one contiguous area. Non-contiguous areas include waters off the north shore of Kaua‘i, the southeast and

north shores of O‘ahu, and the west shore of Hawai‘i Island. A map showing these areas is shown in Figure 4-4. Through education, research, and resource protection, the National Marine Sanctuary strives to protect humpback whales, as shown in Figure 4-5, and their habitat.

Figure 4-4: Hawaiian Islands Humpback Whale National Marine Sanctuary Map



Source: NOAA

Figure 4-5: Humpback Whales in Hawai‘i

Source: NOAA, National Marine Fisheries Service

Papahānaumokuākea Marine National Monument & World Heritage Site

On June 15, 2006, the Northwestern Hawaiian Islands National Marine Monument was established by Presidential Proclamation 8031 under the authority of the U.S. Antiquities Act (16 U.S.C. 431-433). In 2007, the Monument was re-named with its Hawaiian name Papahānaumokuākea, and the following year it was designated as a Particularly Sensitive Sea Area by the Marine Environmental Protection Committee of the International Maritime Organization. In 2010, Papahānaumokuākea was inscribed as a mixed (natural and cultural) World Heritage Site by the delegates to the 34th United Nations Educational, Scientific and Cultural Organization (UNESCO) World Heritage Convention in Brasilia, Brazil.

The Secretary of Commerce, through NOAA, has primary responsibility regarding the management of the marine areas of the Monument, in consultation with the Secretary of the Interior. The Secretary of the

Interior, through the United States Fish and Wildlife Service (USFWS), has sole responsibility for the areas of the Monument that overlay the Midway Atoll National Wildlife Refuge, the Battle of Midway National Memorial, and the Hawaiian Islands National Wildlife Refuge, in consultation with the Secretary of Commerce. Nothing in the Proclamation diminishes or enlarges the jurisdiction of the State of Hawaiʻi. The State of Hawaiʻi has primary responsibility for managing the State waters of the Monument. The State of Hawai'i through DLNR has primary responsibility for the Kure Atoll portion of the Hawaiʻi State Seabird Sanctuary. The State of Hawaiʻi holds the State submerged and ceded lands of the Northwestern Hawaiian Islands in trust. DLNR will collaborate with OHA in the perpetuation of Hawaiian cultural resources in the Monument, including the customary and traditional rights and practices of Native Hawaiians exercised for subsistence, cultural, and religious purposes under the Constitution of the State of Hawaiʻi, Article XII, Section 7.

The 2006 Memorandum of Agreement (MOA 2006) establishing the PMNM was signed by three agency Co-Trustees agreeing to share responsibility for managing PMNM resources. These three agencies are the State of Hawaiʻi, USFWS, and NOAA. Their senior representatives provide policy guidance to agency staff assigned to carry out Monument management activities. They also review and amend their joint MOA at least annually. The MOA 2006 establishes the Senior Executive Board (SEB) to provide policy guidance to their respective agency staff assigned to carry out Monument management activities. SEB members are senior level designees appointed by the Co-Trustees. The DLNR Chairperson represents the State of Hawaiʻi on the SEB.

The Monument Management Board (MMB) was established by MOA 2006 to coordinate management of the Monument at the field level. The seven members of the MMB are representatives from:

- Division of Aquatic Resources (DAR), DLNR
- Division of Forestry & Wildlife (DOFAW), DLNR
- National Wildlife Refuge System – Honolulu, USFWS
- Pacific Islands Fish & Wildlife Office – Honolulu, USFWS
- National Marine Sanctuary Program (ONMS) – Honolulu, NOAA
- National Marine Fisheries Service (NMFS) – Honolulu, NOAA
- Office of Hawaiian Affairs (OHA), State of Hawaiʻi

Major MMB responsibilities include management planning; regular review of implementation; adjustments to management framework; shared enforcement; coordinated research and monitoring; information management; identification and protocols for sensitive, significant sites; manage public use; facilitate multi-sector partnerships; collaborative educational projects; resource sharing; monitoring Monument activities; coordinated response to threats; joint permitting; and US Coast Guard coordination.

The Monument agencies together produced a *Papahānaumokuākea Marine National Monument Management Plan* (2008). This plan covers a 15 year horizon while meeting the planning requirements for USFWS, NOAA & State of Hawaiʻi. The plan identifies six priority needs, which are addressed with 22 Action Plans for this geographic region.

There are several established conservation areas that are included within the PMNM, and each of these areas has a different agency managing it as shown in Table 4-1 below.

Table 4-1: PMNM Established Conservation Areas

State of Hawai‘i	NOAA	USFWS
Kure State Wildlife Sanctuary	NWHI Coral Reef Ecosystem Reserve	Hawaiian Islands National Wildlife Refuge
NWHI State Marine Refuge		Midway Atoll National Wildlife Refuge/ Battle of Midway National Memorial

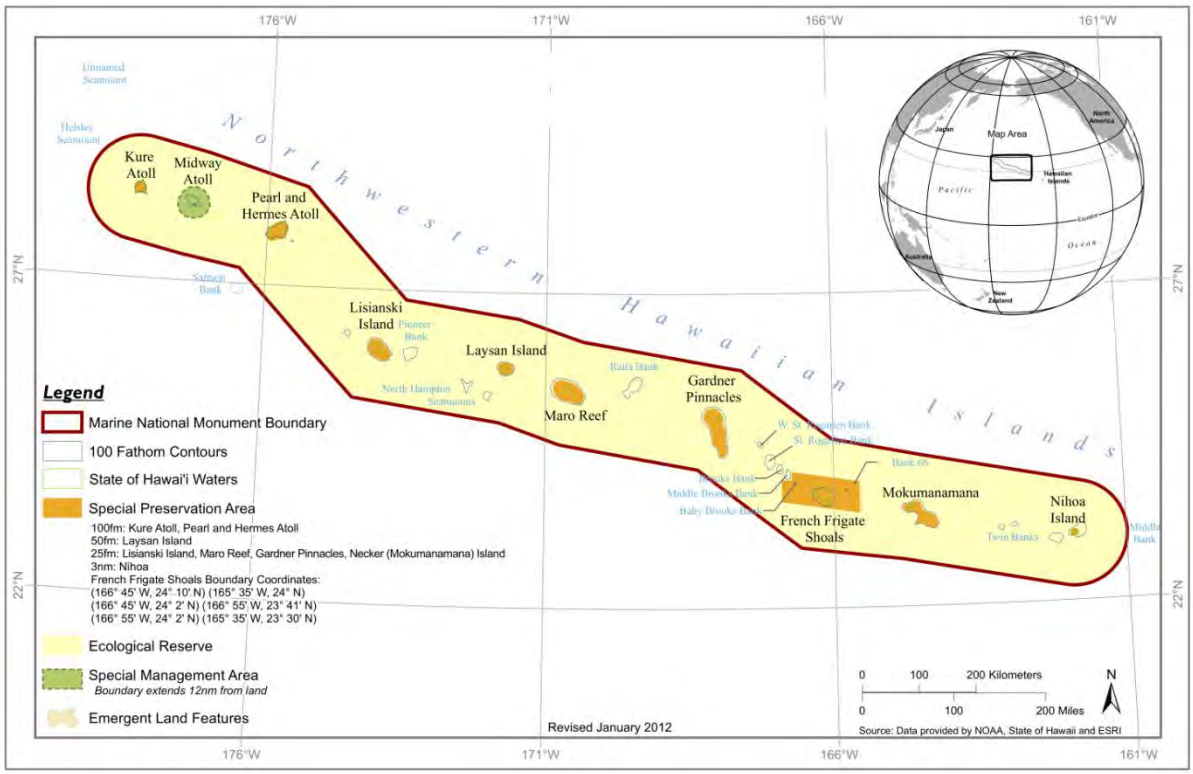
Numerous archaeological artifacts can be found on the islands of Nihoa and Mokumanamana, both of which are on the National and State Historical Register for Historic Places. Figure 4-6 at right is a photo from the Monument website, showing upright rock formations on the island of Mokumanamana, also known as Necker Island.

Figure 4-6: Mokumanamana within Papahānaumokuākea

Source: NOAA

A map of PMNM is shown in Figure 4-7. The map shows the Marine National Monument Boundary as well as State of Hawai‘i Waters, Special Preservation Areas, Ecological Reserves, and Special Management Areas.

Figure 4-7: Papahānaumokuākea Marine National Monument



Source: NOAA

Western Pacific Regional Fishery Management Council

The Western Pacific Regional Fishery Management Council (WPRFMC) is one of eight regional councils established under the Magnuson-Stevens Fishery Conservation and Management Act in 1976. The WPRFMC's jurisdiction includes the U.S. EEZ waters (3-200 nautical miles) around the State of Hawai'i. The Council is comprised of 13 voting members, including the Chair of the BLNR.

Since the 1980s, the WPRFMC has managed fisheries throughout the Western Pacific Region, which includes Hawai'i, through separate species-based fishery management plans. The WPRFMC is moving towards an ecosystem-based approach to fisheries management, restructuring its framework from species-based to place-based fishery ecosystem plans.

The WPRFMC manages fisheries coral reef, bottomfish, crustaceans, and precious corals fisheries in Hawai'i through its *Fishery Ecosystem Plan for the Hawaii Archipelago*. This fishery management plan is consistent with the Magnuson-Stevens Fishery Conservation and Management Act. Fisheries targeting pelagic species such as ahi, mahimahi, ono, and marlin are managed by the WPRFMC through its *Fishery Ecosystem Plan for Pacific Pelagic Fisheries of the Western Pacific Region*. Coordination with the State of Hawai'i on the management of these fisheries is a key component of an ecosystem-based management approach. Furthermore, as fishery regulations are developed under the Magnuson-Stevens Fishery Conservation Management Act, they undergo a determination review by OP-CZM for consistency with the CZM Act along with potential effects on the coastal resources of the state.

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Appendix A: Background and Previous Ocean Resource Management Plans

Background and Previous Ocean Resource Management Plans

The State of Hawai‘i has been formally addressing ocean management for nearly three decades. The first *Ocean Management Plan for Hawai‘i* was completed in April 1985, prepared under a grant from the NOAA Office of Ocean and Coastal Resource Management (OCRM). That version of the plan set forth policies to guide the direction and coordination of state agencies responsible for the conservation of marine resources. Topics of concern at the time included nearshore recreation, marine conservation and preservation, ocean waste disposal and accidental spills, beach erosion, fisheries, harbor development, coastal energy facilities, mariculture, ocean thermal energy conversion, and manganese nodules. Most of these sector topics remain important today.

In the period from 1989-1991, Hawai‘i embarked on its first statewide planning effort ever, which became known as the *Hawaii State Plan.* It was adopted in June 1989 and codified as HRS Chapter 226. Part I of the State Plan listed overall themes and goals; Part II established a statewide planning system to coordinate implementation; and Part III established priority guidelines in five major areas: economic development, population growth and land resource management, affordable housing, crime and criminal justice, and quality education. The twelve State Functional Plans fell under Part II. While ocean resource management was not one of the twelve Functional Plans, elements concerning ocean protection and conservation can be found in the Functional Plans for Agriculture, Conservation Land, Recreation, and Tourism, which were all adopted in 1991.

At the same time as Functional Plans were being prepared, the State prepared the *199l Hawai‘i Ocean Resources Management Plan* as required under HRS Chapter 228. The Hawai‘i Ocean and Marine Resources Council, which was a multi-agency cabinet level council, evaluated published materials and expertise from government, industry, and research to review sector-based management issues in: ocean research and education, ocean recreation, harbors, fisheries, marine ecosystem protection, beaches and coastal erosion, waste management, aquaculture, energy, and marine minerals. The *1991 ORMP* called for a central authority for planning and policy making, inter-agency coordination, communications facilitation, and conflict resolution. The central office was never established; instead, the coordination function has been carried out by the Office of Planning and the Coastal Zone Management Program (OP-CZM).

After much discussion on governance and the role of an advisory group, the *1991 ORMP* was adopted by the State Legislature in 1994. The following year, the State Legislature named OP-CZM as the lead for implementing the *ORMP* and established the Marine and Coastal Zone Management Advisory Group (MACZMAG). The group’s membership of twenty was comprised of representatives from the four County Planning Departments, eight from the Governor’s cabinet, the Dean of UH SOEST, a member of the Kaho‘olawe Reserve Commission, and six non-governmental members. MACZMAG would serve as a forum to facilitate implementation and to discuss coastal zone and ocean issues.

In 2001, the State Legislature passed Act 169, clarifying OP-CZM’s responsibility to maintain a public advisory body, now named the Marine & Coastal Zone Advocacy Council (MACZAC), and providing for its membership. The twelve MACZAC members must represent statewide geographic distribution in the

areas of business, environment, practitioners of Native Hawaiian culture, terrestrial and marine commerce, recreation, research, and tourism.

A review of the *1991 ORMP* was conducted in 1998. The review examined the sector-specific activities and recommended actions for improvement. The review also identified management issues that seemed to hamper implementation:

- lack of strategic planning;
- inadequate enforcement;
- lack of recognition of the ecological and economic importance of ocean and coastal issues;
- inadequate access to information;
- outdated management regimes for ocean and coastal management;
- inadequate management capabilities;
- lack of administrative efficiency; and
- inadequate administrative flexibility for resource managers.

In the 1998 review, the most common criticism of the *1991 ORMP* was that it no longer reflected current political and economic realities. Declining government resources, changes in government priorities and programs, and declining support for resource management had undermined specific actions in the plan. Because the context for management had changed so dramatically, some argued, what was needed was a more strategic approach to ocean resource management, with a focus on a few key issues and priorities.

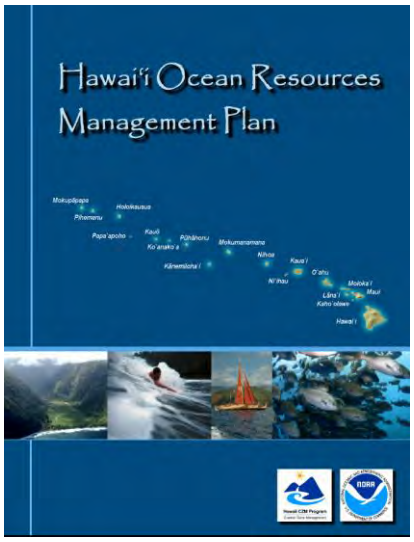
The *2006 Ocean Resources Management Plan* charted a new course of action. The pinnacle of this new approach was the Three Guiding Perspectives. The Three Guiding Perspectives are a way to integrate ocean resource management and to provide guidance for all of the actions that the ORMP agencies and partners do to manage Hawaii's ocean resources. The ORMP Three Perspectives are neither priorities nor goals, but provide an overall statement of broad outcomes.

***ORMP* New Course of Action**

Perspective 1: Connecting Land and Sea
Careful and appropriate use of the land is required to maintain the diverse array of ecological, social, cultural, and economic benefits we derive from the sea.

Perspective 2: Preserving our Ocean Heritage
A vibrant and healthy ocean environment is the foundation for the quality of life valued in Hawaii and the well-being of its people, now and for generations to come.

Perspective 3: Promoting Collaboration and Stewardship
Working together and sharing knowledge, experience, and resources will improve and sustain our efforts to care for the land and the sea.



The foundation for an integrated approach to natural resource management looked to communities to help assess the health and vulnerability of their surrounding environment and to formulate best management practices for sustainable, long-term land and natural resource management alternatives. The integrated concepts bore similarities to the traditional Hawaiian practice of ahupua‘a management.

The *2006 ORMP* laid out a phased implementation approach, describing expected outcomes for each of the phases defined through the year 2030. Because change takes time, four phases of implementation were recognized in the *2006 ORMP*. The first phase, termed Demonstration, looks at how the guiding perspectives can be adopted in select communities in the State. The *2006 ORMP* is the plan for the Demonstration Phase.

The *2013 ORMP* is the plan to guide state agency activities during the Adaptation Phase. This *2013 ORMP* identifies eleven Management Priorities and corresponding metrics to measure performance.

Appendix B: Accomplishments during the First Phase: Demonstration

What Was Accomplished In the First Phase – The Demonstration Phase

The Demonstration Phase went from 2006-2012. Much was learned during the initial phase of the ORMP. This Appendix describes management goals and strategic actions completed. It is organized under the ORMP Three Perspectives to provide a policy framework for the actions taken. Working within these three perspectives required collaboration among jurisdictional authorities as well as greater involvement by communities. Collaboration and cooperation were a main theme for the Demonstration Phase. Selected accomplishments from each perspective are discussed in following sections.

Accomplishments under Perspective 1: Connecting Land and Sea

Connecting the land and the sea relates not only to land uses adjacent to the ocean but also to reducing land-based sources of pollution throughout the entire watershed, reducing coastal erosion, and preserving beaches.

2006 ORMP Management Goals Addressed

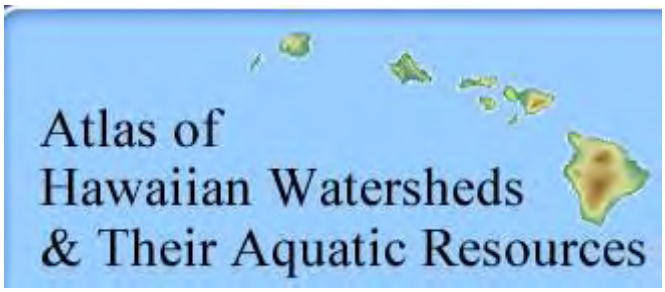
Management Goal 1.1 Improve coastal water quality by reducing land-based sources of pollution and restoring natural habitats.
Management Goal 2.2: Improve the health of coastal and ocean resources for sustainable traditional, subsistence, recreational, and commercial uses.

Strategic Actions that addressed this goal included: identification of priority watersheds, creation of a watershed guidance document, hosting a Watershed Summit, identification of channelized streams, improvement of water quality monitoring and improved interagency coordination.

Watershed Atlas

The *Atlas of Hawaiian Watersheds & Their Aquatic Resources* was prepared in partnership by the DLNR Division of Aquatic Resources (DLNR-DAR) and Bishop Museum.

Using a methodology similar to the *Hawai'i Watershed Management Plan*, this resource defines over 500 watersheds in the State of Hawai'i. Data for 430 of these watersheds is included in the *Atlas*. The 4,500+ page *Atlas* is divided by the islands that have been mapped: Kaua'i, O'ahu, Moloka'i, Maui and Hawai'i. The *Atlas* is linked to the DLNR-DAR Aquatic Surveys Database so that it can be updated dynamically as new information becomes available.



The full *Atlas* may be viewed online. This reference lists land management status, areas of watersheds that are developed, percentages of various flora planted in that watershed, stream ratings, and specific scientific references for each unique area.

2009 Watershed Summit

The State of Hawai‘i is required under the Federal Coastal Zone Management Act (CZMA) of 1990 to develop and submit to the EPA and NOAA a Coastal Nonpoint Pollution Control Program (CNPCP). DOH and OP-CZM are responsible for developing the state’s CNPCP.

Hawai‘i submitted its first CNPCP for federal approval in 1996, covering 70 management measures and administrative elements. In 1998, the State received conditional approval of its program, subject to conditions on 46 of the management measures and administrative elements that must be met for Hawai‘i to receive final approval of its CNPCP.

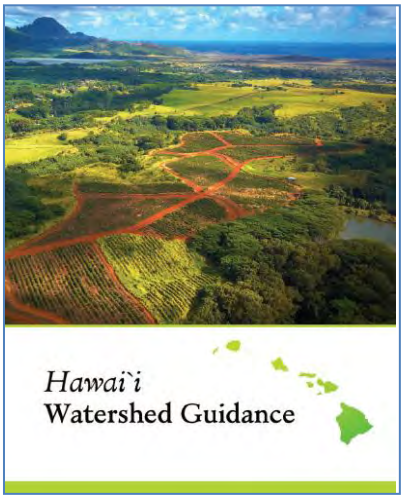
The 70 Management Measures for the CNPCP are defined for six main sources of pollutants:

- Agriculture
- Forestry
- Urban Areas
- Marinas and Recreational Boating
- Hydromodifications (for example, impacts as a result of stream channelization)
- Wetlands, Riparian Areas, and vegetated Treatment Systems

As of 2009, there were 14 management measures or administrative elements that have not received approval from EPA and NOAA. These include management measures for:

- Roads (Urban)
- Highways (Urban)
- Bridges (Urban)
- Multiple other urban measures (Urban)
- Watershed Protection (Forestry)
- Hydromodifications
- Protection of wetlands and riparian areas

In June 2009, OP hosted a Watershed Summit to discuss the State of Hawaii’s CNPCP. The workshop took each of the management measures that needed to be addressed and discussed them. Following this summit came the *Hawai‘i Watershed Guidance* (August 2010). This guidance report is intended to help those who are involved in managing watersheds in the state and it is a streamlined version of EPA’s *Handbook for Developing Watershed Plans to Restore and Protect Our Waters* (March 2008).



Since the 2009 Watershed Summit and publication of the *Hawai‘i Watershed Guidance*, OP and DOH have continued to work towards obtaining NOAA and EPA approval of the remaining 14 management measures. On March 27, 2012, NOAA and EPA approved management measures for Urban (Watershed Protection and Existing Development, Site Development); Hydromodifications; and Wetlands, Riparian Areas, and Vegetated Treatment Systems.

The remaining management measures that require approval are all in the Urban Management Area: (New Development, New and Operating Onsite Disposal Systems, and Roads, Highways and Bridges); and Monitoring and Tracking.

Many members of the ORMP Working Group participated in the Watershed Summit. The interagency and intergovernmental cooperation and collaborations were assisted by the partnerships and relationships that have been formed under the ORMP Working Group and Policy Group.

Accomplishments under Perspective 2: Preserving Our Ocean Heritage

The accomplishments under this perspective addressed priority actions at sea to improve the quality of the marine environment of Hawai‘i. This perspective acknowledges that preservation of the ocean is linked to our heritage.

2006 ORMP Management Goals Addressed
Management Goal 2.5 Encourage cutting edge and appropriate ocean science and technology with safeguards for ocean resource protection.

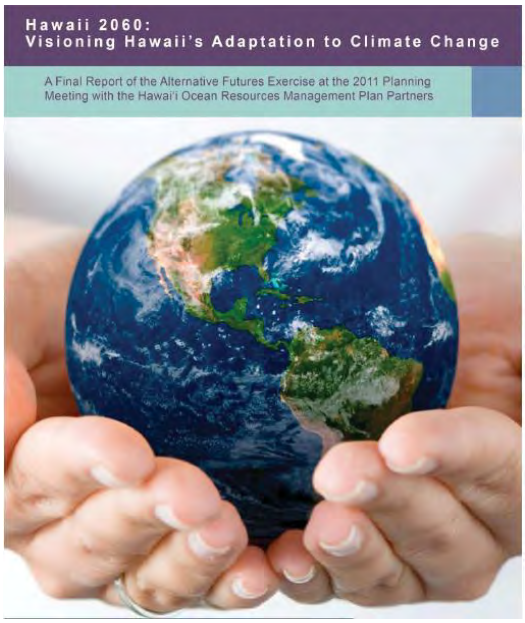
This Management Goal included Strategic Actions to expand ocean science and technology as well as to conduct public education and outreach campaigns, which includes climate change.

2011 Climate Change Workshop

Climate change adaptation grew in attention and relevance during the Demonstration Phase. When the *2006 ORMP* was written, climate change science was an emerging issue, just gaining international attention with scientists gathering and aggregating data.

Climate change is critically important to Hawaii’s coastal and ocean resources due to the potential for rising sea levels, increased storm surge, erosion of the shoreline, increased temperature of oceans, and increased salinity of oceans. According to Chip Fletcher, Ph.D. at the University of Hawai‘i School of Ocean, Earth, and Science Technology (UH SOEST), Hawaii’s sea level is expected to rise approximately one foot by 2050 with an acceleration to three feet by 2100. Storm surges and their accompanying erosion are expected to increase up to 60% by the year 2100. And increase in salinity affects coral reefs, causing “coral bleaching.”

In August 2011, the OP-CZM Program, in partnership with the U.S. Army Corps of Engineers (USACE), held a two-day workshop titled, “Visioning Hawaii’s Adaptation to Climate Change.” The list of participants included many of the ORMP Policy Group and Working Group members as well as other partners. The workshop was facilitated and recorded by Jim Dator, PhD, of the University of Hawaii’s Hawai‘i Research Center for Futures Studies and by Donna Ching, PhD, of the Department of Family and Consumer Sciences of the College of Tropical Agriculture and Human Resources (UH CTAHR).



The purpose of the workshop was to help identify which laws, plans, policies, and actions were needed to address potential impacts of climate change, including sea level rise. The workshop results are documented in a report, *Hawai‘i 2060: Visioning Hawaii’s Adaptation to Climate Change.* As a follow up, a core group of participants volunteered to work with OP to draft climate change policy legislation.

2012 Climate Change Adaptation Law

The ORMP Climate Change Working Group briefed legislators on the climate change adaptation bill prior to the 2012 Legislative Session.

The climate change adaptation bill, Senate Bill 2745, passed the 2012 Legislature and was signed by Governor Neil Abercrombie to become Act 286.

This was a management priority success. The program identified an issue, formed a partnership with a federal agency and various stakeholders, held a workshop, developed an approach, and then was able to affect change to public policy by getting the State Legislature to adopt a bill.

Accomplishments under Perspective 3: Promoting Collaboration and Stewardship

The interagency and intergovernmental collaboration achieved in the first five years not only represented a new approach to ocean resources management in Hawai‘i, but it is a collaboration that has led to achievement of many of the management priorities and strategic actions and has helped to strengthen ongoing efforts to manage ocean resources.

2006 ORMP Management Goals Addressed
Management Goal 3.1 Apply integrated and place-based approaches to the management of natural and cultural resources.
Management Goal 3.2 Institutionalize integrated natural and cultural resources management.

Strategic Actions included the development of integrated planning processes and legislative proposals to improve the management of natural resources as well as monitoring ORMP implementation.

Formation of the ORMP Policy Group and ORMP Working Group for Agency Coordination

The OP-CZM Program formed the ORMP Policy Group and ORMP Working Group in 2007 just after completion of the *2006 ORMP*. The Policy Group consists of the directors of state and county resource management agencies, the University of Hawai‘i, federal partners, and the Marine and Coastal Zone Advocacy Council (MACZAC). The Working Group consists of managers and staff of the same offices that are tasked with coordinating their respective agency’s implementation efforts.

Coordination lessons learned during the Demonstration Phase were that the ORMP Policy and Working Groups are an integral part to implementation of the ORMP. The *2006 ORMP* had already been written at the time of the Working Group’s formation, however, the group still needed to go through the process of finding the group’s common goals and working styles in order to perform as a group.

The Policy Group met approximately twice a year to sanction staff time and resources for the Working Group. The Working Group met nearly every month. Agency status reports were given and special topical presentations were scheduled as needed. The Working Group typically had a professional facilitator. Several of its monthly meetings in 2012 were dedicated to input and feedback on the ORMP Update.

There was a substantial amount turnover of members in the Policy Group due to change in administrations. Therefore, an orientation package was developed to assist members in their duties and roles. The Orientation Packet included key reference materials:

- Background of the CZM Program;
- Summary of the National CZMA of 1972;
- Summary of Hawaii's CZM law (HRS Chapter 205A);
- Summary of the *2006 ORMP*;
- Listing of federal, state, university, county, and community partners;
- Coordination/communication process showing CZM Staff, Policy Group, and Working Group roles and responsibilities; and
- ORMP implementation projects underway.

2010 Joint ORMP Policy & Working Group Appreciative Inquiry Strategic Planning Session

Mission Statement of the Policy and Working Groups

"In support of a healthy and thriving ocean for today and future generations, we are committed to adopting integrated approaches to manage our ocean's resources by: connecting land and sea; preserving our ocean heritage; and promoting collaboration and stewardship."

July 2010

ORMP Policy and Working Group members both requested that the Policy Group meet more frequently and increase their engagement with the Working Group. As a result, the OP-CZM Program developed a two-day strategic planning session for the Policy Group and the Working Group.

The Joint ORMP Policy & Working Group Appreciative Inquiry Strategic Planning Meeting was held at the Waikiki Beach Marriott in July 2010. A written record was kept of discussions at the meeting. A group memory was taken; aspirations or visions for the future and strategic issues were listed for each breakout group.

Visions for the future included more collaboration, education, and sustainability. Changes or transformations to the process identified as necessary to achieve the vision included: education of participants, buy-in, and political will. Root causes of success included: communication, resources, and leadership. Core values included: malama (stewardship), leadership, and unity expressed with lokahi (harmony).

With a mission statement in place, the ORMP Groups brainstormed and prioritized their strengths, identified and prioritized opportunities, imagined a future to work toward, and developed action plans on how to achieve success. This exercise was called SOAR: Strengths, Opportunities, Aspirations, and Results.

- Strengths included: partnerships and collaboration, resources, framework/plan itself, people capacity.
- Opportunities included: ocean planning and governance (opportunity for ORMP Policy Group) and purposeful collaboration (opportunity for ORMP Working Group).
- Aspirations included: all members of ORMP work together efficiently, the ORMP has become a living document, and adequate funding exists to implement the plan.

- Results included: Action plans to achieve the vision, such as educating the next generation on the ocean through influencing change in standards-based curriculum and developing a Succession Strategy/Plan for the upcoming transition in membership within the ORMP Group.

ORMP Consolidated Work Plan

The ORMP Working Group developed a two-year 2008 *ORMP Consolidated Work Plan*, which contained 137 activities associated with ten management goals and 28 strategic actions.

The 2008 *ORMP Consolidated Work Plan* recognized that not all of the *2006 ORMP* management goals and strategic actions were being implemented in 2008. The 2008 *Work Plan* identified that 69 of the *ORMP* strategic actions, or 61%, were in some stage of implementation by agency Working Group members. The 2008 *ORMP Consolidated Work Plan* provided a summary listing of the management goals and strategic actions being implemented through 2009 by the following agencies: County planning departments (Hawai‘i, Kaua‘i, and Maui), Department of Agriculture Aquaculture Development Program, Department of Health, Department of Land and Natural Resources, Department of Transportation Harbors Division, OP, UH SOEST, and U.S. Coast Guard.

Since agencies could not be expected to implement all strategic actions all at once, Working Group members with responsibility to implement these actions went through the ORMP Strategic Action Matrix and identified which actions their respective agency were actively implementing or intending to implement between July 2007 and June 2009. They also identified which actions were deferred, and which should be dropped or modified. The intent was for the 2008 *ORMP Consolidated Work Plan* to be updated as needed.

Lessons learned from the activity of the 2008 *ORMP Consolidated Work Plan* were that it needed to be simplified, and the number of strategic actions reduced to a manageable and measurable number.

In 2012, the Working Group reviewed the 2008 *ORMP Consolidated Work Plan* as part of this ORMP Update. This review further found that while some of the activities were accomplished, many other activities were under the purview of agencies that were not involved in the Working Group or Policy Group, such as the Department of Education. The 2012 review also found that there needed to be a lead agency associated with each action, or there would not be any leadership or accountability to measure performance. Finally, the review again found that there were too many strategic actions and activities, and that the perspectives, management goals, strategic actions, and activities needed to be simplified.

2012 Status of Strategic Actions from *2006 ORMP* and *2008 ORMP Consolidated Work Plan*

The *2006 ORMP* contained 10 Management Goals and 28 Strategic Actions. In order to accomplish each of these goals, a list of 113 sub-actions was developed. Tables 1, 2, and 3 show each of the Strategies, Actions, Sub-Actions, and Agencies, which are organized by the ORMP Three Perspectives.

Progress was measured twice: in 2009 through the *ORMP Work Plan* as an interim review and again in 2012. The 2012 status of the *2006 ORMP* Strategic Actions is shown in the following tables, and it will cease to be updated beginning in 2013.

This list of Management Goals, Strategic Actions, and sub-actions is only a tool to look back on the ORMP Demonstration Phase.

With the adoption of this *2013 ORMP*, the Office of Planning and the ORMP Working Group are no longer using this list of Strategic Actions from the 2006 *ORMP* as a way to evaluate ORMP implementation.

Going forward, the ORMP's success will be measured by the Management Priorities discussed earlier in Chapter III of this 2013 *ORMP*.

PERSPECTIVE ONE: CONNECTING LAND AND SEA: ***Careful and appropriate use of the land is required to maintain the diverse array of ecological, social, cultural, and economic benefits we derive from the sea.***		
Strategies, Actions, and Sub-Actions	**Lead**	**Status**
Strategy 1.1: Improve coastal water quality by reducing land-based sources of pollution and restoring natural habitats, and protecting beaches, shorelines, and coasts.		
Action 1: Reduce soil erosion from upland forest ecosystems and conservation lands		
• Implement and monitor best management practices to reduce upland soil erosion caused by feral animals, loss of native forest species, and other anthropogenic factors	DLNR	Ongoing
• Expand watershed partnerships and similar public-private partnerships to improve management of upland forest ecosystems and conservation lands	DLNR, Landowners	Ongoing
• Leverage State, federal, and private sector funding to implement best management practices	DLNR	Ongoing
Action 2: Reduce pollutant loads from residential, agricultural, and commercial land uses in priority watersheds		
• Identify priority watersheds, major land covers, land uses, and polluting activities	DOH	Ongoing
• Characterize pollutant loads from surface runoff, point sources, and groundwater discharge	DOH	Ongoing
• Implement watershed implementation plans, total maximum daily load implementation plans, and local action strategies to address land-based pollution threats	DOH	Ongoing
• Implement best practices to reduce pollutant loads	Landowners	Ongoing
• Increase water quality monitoring in identified areas of concern	DOH	Ongoing
Action 3: Restore and protect wetlands, streams and estuaries		
• Develop an education program for land owners, land managers, farmers, and others on the importance of incorporating best management practices to preserve riparian and wetland habitats	OP, DOH	New in 2006
• Improve interagency coordination, effectiveness and efficiency in wetlands management through the creation of a watershed coordinating committee to ensure ecological function is maintained to the greatest extent practicable	OP, DOH, Counties	New in 2006
• Identify channelized streams in priority watersheds for restoration and revitalization of wetland and estuarine habitats, prioritize streams for restoration and initiate restoration planning and implementation	DLNR-CWRM, Counties	New in 2006

PERSPECTIVE ONE: CONNECTING LAND AND SEA: ***Careful and appropriate use of the land is required to maintain the diverse array of ecological, social, cultural, and economic benefits we derive from the sea.***		
Strategies, Actions, and Sub-Actions	**Lead**	**Status**
Strategy 1.2: Improve conservation and management of beaches, dunes, and wetlands to protect communities from shoreline erosion and other coastal hazards		
Action 4: Develop and implement a comprehensive and integrated shoreline management plan to address coastal development and the reduction of coastal erosion and other chronic and episodic coastal hazards		
• Establish a consensus on policies, management strategies and remedial actions to address shoreline erosion, beach loss, and mitigation of other coastal hazards	DLNR, OP, SOEST	Ongoing
• Develop comprehensive policies adopted through interagency agreements that treat shoreline management as a single integrated administrative unit and provide agencies with practical tools and skills necessary to improve management, minimize shoreline erosion and protect communities from coastal hazards	DLNR, OP, Counties	Ongoing
• Develop and implement policy and management strategies that account for projected sea level rise of 1 meter by 2050	Counties	NEW
• Establish adaptation strategies such as retreat zones, prohibiting shoreline armoring, and develop incentives to relocate structures inland	Counties	NEW
• Encourage permitting authorities to analyze coastal hazards, risks, and threats to beach protection prior to any zoning changes, Special Management Area/Shoreline setback variance permits or building permits	OP	Ongoing
• Conduct training programs utilizing practical tools to build capacity of government agencies and private sector to plan for and implement integrated shoreline management	DLNR, OP, Counties, SOEST	Ongoing
• Conduct statewide beach and shoreline assessment to identify high risk/erosion prone areas based on risk of coastal erosion, hazards, vulnerability of coastal communities, threats to beach protection, and presence of coastal resources and recreational areas	SOEST, DLNR, Counties	Ongoing
• Develop and implement coastal erosion and hazard mitigation management measures in priority areas	DLNR, OP Counties	Ongoing
• Identify and implement innovative mechanisms for coastal land acquisition and funding as an effective measure to preserve beaches and other coastal assets	DLNR, Counties	Ongoing
• Prepare an integrated management plan to prioritize areas for active management	DLNR	New
• Conduct coastal hazard and resource assessment and risk analysis for any proposed coastal development	SOEST, Counties	Ongoing
• Require all new coastal development projects and plans as part of permit process to identify specific measures to mitigate risks associated with coastal hazards, protect sensitive coastal and cultural resources, and ensure public access	OP, DLNR, Counties	Ongoing
• Develop an on-line statewide shoreline information management system on coastal hazards and risks, and beach protection in coastal areas	DLNR, SOEST	Ongoing

PERSPECTIVE ONE: CONNECTING LAND AND SEA: ***Careful and appropriate use of the land is required to maintain the diverse array of ecological, social, cultural, and economic benefits we derive from the sea.***		
Strategies, Actions, and Sub-Actions	**Lead**	**Status**
• Research, develop and institutionalize a methodology for assessing what proportion of a region's surface water runoff and erosion impacts are generated by any given development project	OP	New in 2006
Strategy 1.3: Improve and ensure maintenance and appropriate use of environmental infrastructure		
Action 5: Reduce the number of individual wastewater systems and illegal stormwater discharges to the wastewater system while inspecting and maintaining sewer collections systems, especially in the coastal environment.		
• Repair leaking sewers in priority watersheds	Counties	Ongoing
• Develop appropriate incentive system to ensure funding for sewer upgrades are prioritized in County budgets	Counties	Ongoing
• Develop long-term infrastructure plan to ensure complete hookup to and adequate capacity and maintenance of wastewater systems	Counties	Ongoing
• Conduct an inventory of individual wastewater disposal systems in coastal areas	DOH, Counties	Ongoing
• Encourage the elimination of cesspools by providing incentives for private upgrades	DOH	Ongoing
• Develop appropriately scaled wastewater treatment systems in coastal areas with planned growth	Counties	Ongoing
• Conduct public education campaign explaining the impacts of illegal storm-water discharges to public sewers on coastal water quality	DOH	Ongoing
• Conduct neighborhood reconnaissance to remind and warn residents about impacts of illegal storm-water hookups	DOH	Ongoing
• Develop new rules establishing penalties for noncompliance	DOH	Ongoing
Action 6: Through integrated policies and plans, ensure fresh water quantity is maintained in aquifers and streams to assist with restoration of flows to wetlands, streams, estuaries, and near shore waters.		
• Establish inflow stream standards	DLNR-CWRM, County Water Agencies	New and Ongoing
Strategy 1.4: Resiliency and Adaptation to Climate Change and Ocean Acidification		

PERSPECTIVE TWO: PRESERVING OUR OCEAN HERITAGE: ***A vibrant and healthy ocean environment is the foundation for the quality of life in Hawai'i and the well-being of its people, now and for generations to come.***		
Strategies, Actions, and Sub-Actions	**Lead**	**Status**
Strategy 2.1: Improve coastal water quality by reducing marine sources of pollution		
Action 7: To preserve the economic drivers of agriculture and tourism, minimize the introduction and spread of marine alien and invasive species into and throughout archipelagic waters, promote sustainable ocean-based tourism, and improve enforcement capacity of all rules and laws relating to ocean resource protection.		
• Develop a risk-based approach to identify species and areas with the highest potential for introduction and spread of marine AIS and ecological and economic damage	DLNR, SOEST	Ongoing
• Organize technical, financial, and management resources for effective prevention; monitoring and early detection; and response, eradication, and control for high-risk species and areas	DLNR, DOA, PacIOOS	Ongoing
• Organize and train local action teams for the monitoring and control of marine AIS	DLNR, USCG	Ongoing
• Review existing State laws and regulations to increase effectiveness of marine AIS prevention and control	DLNR	New in 2006
• Establish a technical committee to redefine wastewater-discharge restricted zones for commercial vessels in archipelagic waters based on currents, depths, and weather conditions	USGS	New in 2006
• Enforce existing federal and State regulations on wastewater-discharge restricted zones in archipelagic waters with a monitoring and enforcement plan	USCG	Ongoing
Action 8: Provide appropriate waste management infrastructure to support commercial and recreational marine facilities		
• Improve filtration systems for stormwater runoff	Counties	New
• Provide incentives to reduce nutrient inputs and to convert cesspools to septic tanks	Counties	New
• Provide temporary pump-out facilities, such as pump trucks and encourage boaters to use them while permanent pump-out facilities are constructed for recreational boat and commercial harbors	DLNR, DOT, HCDA	Ongoing
• Provide adequate solid waste management facilities for recreational boat harbors	DLNR	Ongoing
• Increase the frequency of inspection of marine sanitation devices for commercial and recreational vessels	USCG	Ongoing
• Increase user fees for recreational marine facilities to pay for environmental management systems	DLNR	New in 2006
• Increase user fees for infrastructure improvements and maintenance	DOT/DLNR	New in 2006
• Ensure the State's commercial harbor system meets existing and future needs for maritime commerce in an environmentally and economically sustainable manner	DOT	Ongoing

PERSPECTIVE TWO: PRESERVING OUR OCEAN HERITAGE: *A vibrant and healthy ocean environment is the foundation for the quality of life in Hawai'i and the well-being of its people, now and for generations to come.*		
Strategies, Actions, and Sub-Actions	**Lead**	**Status**
Strategy 2.2: Improve the health of coastal and ocean resources for sustainable traditional, subsistence, recreational, and commercial uses		
Action 9: Strengthen and expand marine protected area management and conservation, develop ecosystem-based approaches for nearshore fisheries management, and establish and institutionalize approaches for restoration of ancient Hawaiian coastal fishponds and salt ponds.		
• Develop and implement a marine protected area policy framework that allows for management by agencies, communities, and appropriate nonprofit organizations	DLNR	Ongoing
• Conduct a public process, including public meetings, to seek additional input into the marine protected area management framework, with significant stakeholder participation	DLNR	Ongoing
• Conduct carrying-capacity analyses for priority marine protected areas and identify limits of acceptable change with local stakeholder involvement	DLNR	New in 2006
• Develop place-based marine protected area plans for priority areas	DLNR	New in 2006
• Identify and implement priority management measures to minimize recreational and commercial overfishing and habitat destruction, including restriction on harmful fishing gear and practices	DLNR	Ongoing
• Identify, protect, and restore essential fish habitat for nearshore fish stocks, including marine and estuarine habitats	DLNR	New in 2006
• Develop and promote public- and private-sector hatchery culture and release programs to increase standing stock biomass of economically important reef and ocean species	DOA, DLNR	Ongoing
• Develop and implement a strategic research and monitoring agenda to improve management decision-making	DLNR	Ongoing
• Develop a streamlined permitting process that allows individuals and coastal communities the opportunity to restore and operate ancient Hawaiian coastal fishponds	DLNR, DOA, OHA, DOH, SOEST, NGOs	Ongoing
• Develop and implement a cultural education curriculum constructed around the ancient Hawaiian fishponds and respect for traditional practices	SOEST, DOE, OHA, NGOs	Ongoing
• Establish and institutionalize approaches for restoring, operating, and preserving ancient Hawaiian coastal fishponds and salt ponds for the benefit of coastal communities	OHA, DLNR	Ongoing
• Conduct education and outreach campaigns on underlying rationale for existing rules and regulations related to ocean resource use	DLNR	Ongoing
• Increase the presence of conservation and resources enforcement officers and natural resource rangers to increase educational opportunities, deter infractions, and improve compliance	DLNR	Ongoing
• Employ community-based partnership programs, including the Mauka-Makai Watch Program	DLNR, Community Volunteers	Ongoing
• Improve enforcement capabilities through the use of administrative and civil penalties	DLNR	New in 2006
• Develop public outreach, education materials and interpreter training for appropriate interaction with protected species	DLNR	Ongoing

PERSPECTIVE TWO: PRESERVING OUR OCEAN HERITAGE: ***A vibrant and healthy ocean environment is the foundation for the quality of life in Hawai'i and the well-being of its people, now and for generations to come.***		
Strategies, Actions, and Sub-Actions	**Lead**	**Status**
• Develop recreational management areas for waters with high tour vessel activity to limit overall impacts to protected species	DLNR	Ongoing
• Develop a framework to manage and protect anchialine ponds; Incorporate information on location of anchialine ponds into parcel information and integrate protection measures into SMA permits	DLNR	New
• Amend interim stream flow standards to ensure protection and enhancement of stream environments as they effect coastal communities.	DLNR	New
Strategy 2.3: Establish sustainable commercial aquaculture in coastal areas and ocean waters to diversify and expand Hawaii's economy and to provide locally produced sources of seafood.		
• Promote ecosystem-based fisheries management	DLNR,	Ongoing
Strategy 2.4: Enhance public access and appropriate coastal dependent uses of the shoreline		
Action 10: Establish, enhance, and restore public access to the shoreline and scenic vistas		
• Develop enhancement and restoration plans to increase public access and restore priority beaches and scenic vistas	DLNR, Counties	Ongoing
• Establish funding priorities for priority beach restoration projects.	DLNR, Counties	Ongoing
• Develop interagency agreements and public-private partnerships to implement enhancement plans	DLNR, Counties	New in 2006
• Implement shoreline enhancement and restoration plans in priority areas	DLNR, Counties, Landowners	New in 2006
• Develop public education programs to build stewardship ethic toward the coastline and ocean	DLNR, OP, MACZAC	Ongoing
• Identify and implement innovative mechanisms for coastal land acquisition and funding as an effective measure to preserve beaches and other coastal assets	DLNR, Counties	New in 2006
• Conduct an inventory of beaches, shoreline areas and scenic vistas requiring protection as open space	DLNR, Counties, SOEST	Ongoing
• Develop interagency agreements and public-private partnerships to acquire, preserve, and restore priority watershed areas	DLNR, Counties	New in 2006
• Establish criteria for identifying priority coastal areas for public acquisition and appropriate coastal dependent uses	DLNR, Counties, SOEST	New in 2006
• Establish new beach and shoreline areas, and scenic vistas as open space for public access	DLNR, Counties	Expansion

PERSPECTIVE TWO: PRESERVING OUR OCEAN HERITAGE: *A vibrant and healthy ocean environment is the foundation for the quality of life in Hawai'i and the well-being of its people, now and for generations to come.*		
Strategies, Actions, and Sub-Actions	**Lead**	**Status**
Strategy 2.5: Promote appropriate and responsible ocean recreation and tourism that provide culturally informed and environmentally sustainable uses for visitors and residents		
Action 11: Develop community-based frameworks and practices for identifying and mitigating ocean recreational use conflicts		
• Conduct a baseline study of ocean recreation and tourism, building on existing information and data, that focuses on user conflict and potential impacts from threats to the ocean environment	DLNR, OP, Industry, Community	New in 2006
• Work with existing groups or form new advisory groups to develop tools for resource protection and conflict management	DLNR, Community	Ongoing
• Work with active stakeholder involvement in targeted areas to mitigate cultural, environmental, and resource use conflict	DLNR, Community	New in 2006
• Encourage community-based, culturally informed environmental education and outreach programs promoting responsible ocean recreation	DLNR, Community	New in 2006
• Develop and amend Ocean Recreation Management Area rules as tools to avoid and/or mitigate ocean recreation user conflicts and to address capacity issues	DLNR	Ongoing
• Establish performance standards to ensure responsible commercial ocean-based tourism	DLNR, DBEDT, Industry	New in 2006
• Establish and enforce ecotourism-related permit systems to protect the resources and visitor experience	DLNR, DBEDT	New in 2006
• Encourage the integration of best management practices and cultural values and experiences into commercial ocean-based tourism business plans	DLNR, Industry	New in 2006
• Establish an appropriate growth policy on ocean tourism considering the carrying capacity and levels of acceptable change of the resource, quality of the experience, and visitor satisfaction, and ensuring access to the marine environment by residents is not compromised	DLNR, DBEDT, Industry	New in 2006
• Use concession agreements as a management tool to mitigate ocean recreation user conflicts on priority issues such as surf instruction, kayaking, snorkel and diving, and related operations in areas where conflicts are occurring or could occur	DLNR	Ongoing
Strategy 2.6: Encourage cutting edge and appropriate ocean science and technology with safeguards for ocean resource protection		
Action 12: Promote alternative ocean energy sources and expand ocean science and technology		
• Conduct a feasibility study for demonstration and scale-up of appropriate ocean energy technologies for Hawai'i	DBEDT, Universities, Industry	Ongoing
• Conduct analyses of the impacts of ocean and non-ocean-related energy alternatives on ocean health	DBEDT, UH, Industry	Ongoing

PERSPECTIVE TWO: PRESERVING OUR OCEAN HERITAGE: ***A vibrant and healthy ocean environment is the foundation for the quality of life in Hawai'i and the well-being of its people, now and for generations to come.***		
Strategies, Actions, and Sub-Actions	**Lead**	**Status**
• Develop a streamlined, one-stop approach to permitting coastal and ocean aquaculture projects that includes guidelines for sustainable operations that ensures the conservation of ocean and coastal ecosystems	DBEDT, DOA, DLNR	New
• Establish a Geographic Information System (GIS)-based site identification database to locate coastal and ocean aquaculture projects in environmentally suitable sites	DBEDT, DOA, DLNR	New
• Provide State financial incentives to landowners and investors to encourage their participation in commercial aquaculture development	DBEDT, DOA	New
• Provide a supportive business and cost environment for sustainable commercial aquaculture through the establishment of public and private-public land-based and ocean aquaculture parks	DLNR, DOA, DBEDT	New
• Facilitate appropriate research and innovation in energy, ocean leasing, and other marine technologies and ocean uses	DBEDT, SOEST	Ongoing
• Develop and promote Hawai'i as a learning destination for ocean science, technology, and management applications in the Pacific and globally	DBEDT, SOEST	Ongoing

PERSPECTIVE THREE: PROMOTING COLLABORATIVE GOVERNANCE AND STEWARDSHIP: ***Working together and sharing knowledge, experience, and resources will improve and sustain our efforts to care for the land and sea.***		
Strategies, Actions, and Sub-Actions	**Lead**	**Status**
Strategy 3.1: Apply integrated and place-based approaches to the management of natural and cultural resources		
Action 13: Support community-based natural resource restoration, including, where appropriate, ahupua'a management		
Action 14: Develop integrated natural and cultural resource planning processes and tools while building capacity for community participation in natural and cultural resources management		
• Facilitate integrated natural resource management in demonstration ahupua'a and moku through 'Aha Moku Council	DLNR	Revised wording
• Where appropriate, establish a moku support network to increase community dialogue, develop a framework for education, and build partnerships among various stakeholders	DLNR,	Revised wording
• Develop an integrated geographic information system for priority watersheds and coastal areas	OP	Ongoing
• Develop education and outreach programs through interagency agreements and in partnership with community groups and relevant nonprofit organizations to educate residents and visitors on natural and cultural resource values, regulations, and best practices	OP, DLNR, MACZAC	New in 2006
• Identify existing networks, community groups and organizations to work with to establish responsible management entities to implement the ORMP	OP, Counties, Community Groups	Revised wording

PERSPECTIVE THREE: PROMOTING COLLABORATIVE GOVERNANCE AND STEWARDSHIP: *Working together and sharing knowledge, experience, and resources will improve and sustain our efforts to care for the land and sea.*		
Strategies, Actions, and Sub-Actions	**Lead**	**Status**
• Develop mechanisms and streamlined permitting processes to support community-based natural resource restoration and other activities designed to benefit ecosystem management	TBD	Revised wording
• Undertake and coordinate outreach and educational efforts, with community input, to raise awareness of program efforts to develop integrated planning approach	OP, MACZAC	Revised wording
• Expand the Mauka-Makai Watch program and provide standardized training programs and guidelines for participating community volunteers and organizations	DLNR	Ongoing
Strategy 3.2: Implementation, evaluation, and reporting		
Action 15: Integrate with National Ocean Policy		
• Assist in the formation of the Pacific Regional Ocean Partnership	OP	New
• Develop capacity for coastal and marine spatial planning	OP	New
Action 16: Develop legislative and administrative proposals to improve management of natural resources		
• Work with the ʻAha Moku Advisory Committee on a framework for wider implementation of ahupuaʻa principles	DLNR	New in 2006
• Where needed, propose legislation for statutory changes to the Hawaiʻi CZM program network, including SMA permits and possibly other regulatory programs	OP-CZM	Revised wording
• Advocate for changes to State statutes, State and county rules, or administrative policies to support within the CZM program to support ecosystem management within	OP-CZM, MACZAC	Revised wording
Action 17: Monitor and evaluate Ocean Resource Management Plan implementation		
• Identify benchmarks and milestones	OP	New
• Prepare an annual report	OP	Ongoing
• Establish multi-sectoral ORMP implementation and monitoring group	OP	New
• Develop environmental health curriculum for State Agency staff	OP	New
• Conduct ORMP monitoring and evaluation Policy Group and Working Group	OP	Revised wording
• Adjust strategic actions as needed based on monitoring and evaluation	OP	New in 2006
• Conduct biennial ORMP strategic planning session	OP	Revised wording
• Conduct 5-year review and update of the ORMP	OP	Ongoing
• Incorporate experiences and lessons learned into legal and administrative reforms	OP	Ongoing

Appendix C: Ocean Resource Management Issues and Related Plans

This Appendix looks further at pressures on the ocean and coastal resources and critical issues. Community groups play an important role in protecting ocean and coastal resources. This Appendix was informed by feedback that OP-CZM received at two rounds of Public Listening Sessions (PLS) during 2012, which were held on the islands of Kaua‘i; east, west , and central parts of O‘ahu; west and central parts of Maui; Moloka‘i; Lāna‘i; and the east and west sides of Hawai‘i Island. This Appendix also describes key ocean resource related plans from state and federal agencies.

Future economic growth and activities of the population are expected to place great demands on Hawaii's ocean and coastal resources. Increased urbanization, tourism, recreation, and commercial uses utilize the ocean resources in different ways. While economic growth is vital to Hawai‘i, its impacts must be properly managed to preserve our natural resources and reduce conflicts among resource users.

According to *Population and Economic Projections for the State of Hawai‘i* (DBEDT, 2013), the population in Hawai‘i is expected to increase 17.5% in the next 20 years from 1.36 million in 2010 to 1.60 million in 2030. Even though the population increase is down from a projected 30% increase predicted in the *2006 ORMP*, there will still be increased pressure on marine and coastal resources, existing infrastructure, and water and land use.

Academia, agencies, and communities have looked at ways to address these issues, and they remain of critical concern in all parts of the state. Lack of enforcement, insufficient funding, lack of resources to address the issues, and lack of political will have all slowed progress.

This Appendix discusses several issues that affect ocean and coastal resource management:

- Urbanization
- Impacts from Tourism
- Military Use of Lands
- Commercial and Recreational Ocean Uses
- Shoreline Access and Conflicting Uses
- Coastal Hazards, Sea Level Rise, and Coastal Erosion
- Climate Change Adaptation: Disaster Preparedness and Community Resilience
- Marine Debris
- Watershed Management: Water Quality and Water Quantity
- Agricultural Lands
- Damage to Coral Reefs
- Endangered Species
- Aquatic Invasive Species
- Terrestrial Invasive Species
- Food Security
- Alternative Energy

Abbreviated descriptions of these issues are discussed in Chapter II.

Urbanization

The 2010 U.S. Census shows the State of Hawaii's total population is 1,360,301 people, with 455,338 households. According to DBEDT forecasts, the population is expected to increase 140,000 persons every ten years. With this population increase will come an increasing need for additional housing, services, and urbanization.

Future population growth and accompanying growth in urbanization can be properly managed to preserve the state's natural resources while allowing necessary economic growth. The updated management priorities in this *ORMP* outline actions to minimize impacts to the coastal environment through support of appropriate coastal development.

Figure C-1: Striking a Balance

Figure C-1 shows how a balance between social needs, economic needs, and needs of the environment are interdependent. This is a diagram based on the definition of sustainability in Hawai'i as defined in the *Hawai'i 2050 Sustainability Plan.* Balancing the need to protect the environment can be done while driving the economy and providing social benefits to society. In other words, acquiring balance in one sector does not need to be at the expense of another.

Impacts from Tourism

Hawaii's tourism industry is the largest sector of the state's economy, providing 22% of Hawaii's gross domestic product in 2010 (UHERO, 2011). New visitor destinations and activities such as increased international visitors, the cruise ship industry, coastal-dependent resort development, increased marketing of the neighbor islands, and ecotourism alternatives can be made aware of how to exist while protecting Hawaii's most sensitive and unique natural resources.

The *Hawai'i 2050 Sustainability Plan* notes that tourism generates a quarter of the state's tax revenue. The *Sustainability Plan* also notes that the State must provide incentives for industries to operate in more sustainable ways, recognizing that the visitor industry is a strong component of the state's economy. Nearly 8 million visitors arrive in Hawai'i annually. The number of visitor arrivals is projected to grow as shown in Table C-1, magnifying impacts to Hawaii's natural resources.

Table C-1: Visitor Forecasts to 2015

DBEDT Forecasts (4Q 2012): Visitor Arrival

	Air only		Total	
	person	annual growth (%)	person	annual growth (%)
2005	7,416,574	7.3%	7,494,236	7.2%
2006	7,528,105	1.5%	7,628,117	1.8%
2007	7,496,820	-0.4%	7,627,819	0.0%
2008	6,713,436	-10.4%	6,822,912	-10.6%
2009	6,420,448	-4.4%	6,517,054	-4.5%
2010	6,916,894	7.7%	7,018,133	7.7%
2011	7,174,398	3.7%	7,299,048	4.0%
2012	7,818,000	9.0%	7,982,000	9.4%
2013	8,128,000	4.0%	8,291,000	3.9%
2014	8,354,000	2.8%	8,518,000	2.7%
2015	8,574,000	2.6%	8,737,000	2.6%

Source: DBEDT (February 2013)

While most tourists arrive via plane, the ocean plays an important entry point for some. The number of visitors arriving to Hawai‘i aboard cruise ships increased 23% to 124,650 visitors between 2010 and 2011, and even more visitors boarded cruise ships in Hawai‘i after flying to the islands, bringing total cruise visitors to 246,236 (Hawai‘i Tourism Authority, 2012). The cruise ship industry is just one facet of tourism that impacts the ocean.

During the ORMP PLS and outreach conducted for this plan, community members voiced concerns about what they saw as negative impacts from tourism including damage to coral reefs, harassment of endangered species, and increase in recreational user conflicts. The key to turning these into a positive and balanced visitor experience is through education and outreach, which is a Management Priority #8, Training, Education, and Awareness in this *ORMP*.

UH Sea Grant College Program administers the Hanauma Bay Education Program, which educates more than 800,000 visitors annually on the value of marine resources and reef etiquette. Each visitor to Hanauma Bay in east O‘ahu is required to watch an educational film about preserving the reef by not walking on it, preserving the abundant marine life by not feeding it, and keeping trash and litter off the beaches and out of the water. There are many other non-profit, community, research, and government groups on all islands that provide education and outreach to visitors and residents alike on Hawaii’s coastal and ocean resources.

Military Use of Lands

The military presence is an integral part of Hawaii's past and present as well as a major driver of the state's economy. National and homeland security requires that access to certain shorelines be off limits to the general public while pre-empting state laws, such as at Pearl Harbor. On occasion, the military will allow access to certain beaches, such as at Bellows Air Force Station Beach in Waimānalo. Further collaboration between the State and the military may help to open up more shoreline, even on a limited basis, for recreation and fishing.

On Marine Corps Base Hawaiʻi in Kāneʻohe, the U.S. Marines care for the Nuʻupia Ponds Wildlife Management Area. These eight interconnected ponds and wetlands cover 517 acres, and are home to the endangered Hawaiian Black-necked Stilt, the Hawaiian Coot, Hawaiian Moorhen, and the Kōloa Duck. Each year, the Marines prepare this site for the endangered Hawaiian Stilt breeding season between March and September by breaking up invasive pickleweed so that the Hawaiian Stilt can nest.

Ordnance left from WWII and training exercises in the ocean and along the coastline is a concern in some areas of Hawaiʻi. The most extreme example of this would be the uninhabited island of Kahoʻolawe, which was used as a U.S. Navy practice bomb target area for several decades. Military ordnance has also been reported by community members off the Waiʻanae Coast on Oʻahu and north of Kailua-Kona on Hawaiʻi Island. Continued collaboration between the State of Hawaiʻi and assigned military liaisons can assist in removal of ordnance. The Kahoʻolawe Island Reserve Council's work to restore Kahoʻolawe should also continue.

Commercial and Recreational Ocean Uses

Hawaii's oceans are used for commerce, recreation, cultural practices, and transportation. Approximately 80% of all goods consumed in Hawaiʻi are imported from out of state, and of those, 98% arrive by sea. The recreational value of the state's oceans and waterways to the tourism industry and to those that live here has not been formally measured, however a study on Sustainable Coastal Tourism undertaken by the University of Hawaiʻi Economic Research Organization (UHERO) in conjunction with UH Sea Grant will be completed in the next year.

Because Hawaiʻi is completely surrounded by the Pacific Ocean, everyone in Hawaiʻi has some way to value the ocean commercially or recreationally, whether it is stand up paddling, fishing, or simply picnicking beside the ocean. Cultural practices, such as limu (seaweed) gathering, salt farming, and fishponds are all connected to the ocean and water.

All of these uses of ocean and coastal resources can and do co-exist. Management Priority #9, Collaboration and Conflict Resolution encourages addressing conflicting uses through non-judicial means. Management Priority #11, National Ocean Policy and Pacific Regional Ocean Initiatives contains a goal to create a coastal and marine spatial planning program which can identify and map uses of coastal and marine resources.

Shoreline Access & Conflicting Uses

The state has long recognized a policy of supporting public use of the shoreline area. The landmark 1995 Hawaiʻi State Supreme Court case, referred to as PASH or Public Access Shoreline Hawaiʻi, reaffirmed these rights. Hawaiʻi courts have consistently held that nearly all state submerged lands, including shoreline areas, are considered public lands held in trust for the benefit of its people. Accordingly, the State may not dispose of these lands, or encumber these lands to the detriment of public access and other public interests. In terms of shoreline areas, except for very specific circumstances, submerged lands extend to the highest wash of the waves during the season when the waves are highest. For example,

HRS Section 46-6.5 states that the counties, in the subdivision process, must ensure public access to land below the high-water mark. Shoreline setback areas, Coastal Zone Management Act statutes and rules, and other state and county land use laws further recognize the importance of public access to the shoreline and coastal areas.

Access to the shoreline for Native Hawaiian traditional and customary gathering practices is guaranteed in the Hawai‘i State Constitution, statutes, and case law. As such, agency decisions affecting the shoreline must make specific findings relating to potential impacts to traditional and customary practices and cultural, historical, or natural resources, and take feasible actions to reasonably protect cultural rights. Cultural impacts of applicable projects in or affecting the shoreline area must also be assessed via the environmental review process embodied in HRS Chapter 343, as well as through federal and state laws which may also require consultation with Native Hawaiian Organizations and practitioners.

HRS Chapter 6E Relating to Historic Preservation recognizes the “value of conserving and developing the historic and cultural property within the State for the public good.” It is similar to Section 106 of the National Historic Preservation Act (1966), which includes a federal requirement for consultation with Native Hawaiian Organizations whenever federal agencies determine that there is an undertaking that could affect historic properties. State and federal laws recognize that there could be historic and cultural properties in submerged lands or the coastline and government agencies must consider the Native Hawaiian perspective in order to preserve these historic and cultural properties.

Despite having laws in place, many people expressed during the statewide ORMP PLS that access is sometimes limited, either through restriction of parking, unavailability of public access in areas that are land locked, or the restriction of protected Native Hawaiian gathering places. New resorts constructed on undeveloped shorelines may reduce public access to ocean resources and degrade scenic vistas. Increased marine-related tourist attractions, including whale and dolphin watching, shark feeding, charter fishing, parasailing, jet skiing, swimming, snorkeling and diving, can result in resource use conflicts and threaten the condition of ocean and coastal resources. How shorelines are developed and the way coastal water quality, beaches, and coral reefs are managed are fundamental to the growth and sustainability of Hawai‘i.

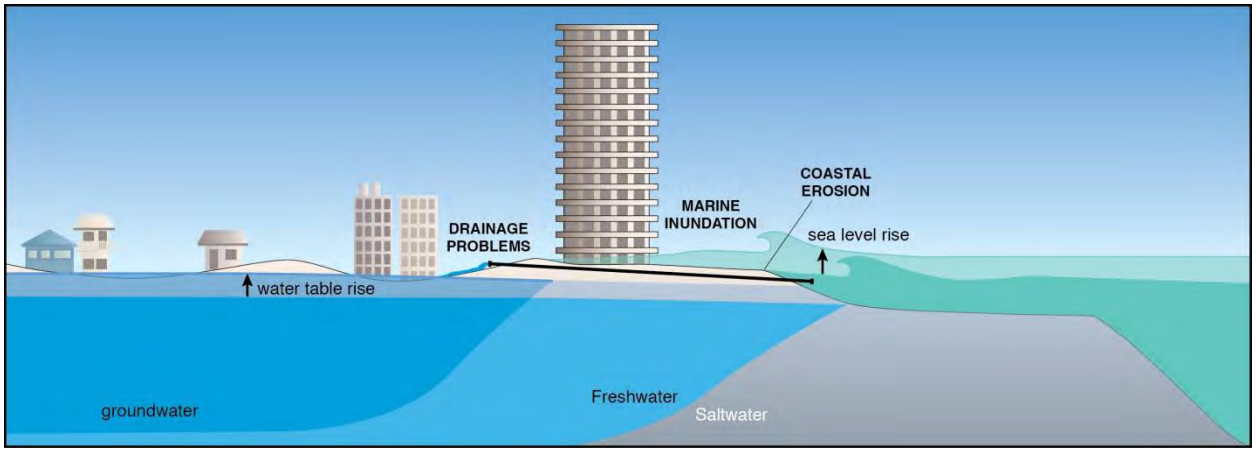
Figure C-2: Recreation at Hanalei Bay, Kaua‘i

Source: Office of Planning

Coastal Hazards, Sea Level Rise, and Coastal Erosion

Since the publication of the *2006 ORMP*, much scientific research and attention has been given to global climate change, including sea level rise. Sea level rise is defined as when the mean high tide level increases year after year. While many acknowledge that the sea level is rising, how much it rises is different in Hawai‘i than in other areas of the world. Factors such as the El Niño/La Niña-Southern Oscillation (ENSO), which is an occasional shift in winds and ocean currents centered in the South Pacific region, add to the variability of how much sea level rise one coastal location will see in comparison to another. Figure C-3 from UH SOEST, illustrates the coastal hazards that can develop from sea level rise.

Figure C-3: How Sea Level Rise and Other Coastal Hazards Interact with Coastal Development



Source: Chip Fletcher, Ph.D., University of Hawai‘i, SOEST

When the sea level rises, coastal erosion increases. When there are storm surges, this can increase the height of storm waves and cause marine inundation. In some locations, the saltwater can impact the level of the water table, causing a water table rise and inland flooding. The water table rise can cause drainage problems in interior areas, because there isn’t anywhere for stormwater or rainwater to drain.

Coastal hazards such as beach erosion, inundation of land, increased flood and storm damage, saltwater intrusion into the freshwater lens aquifer, the rising of the water table, and more frequent or more powerful weather events all affect ocean resources. Proper coastal development, watershed management, and disaster preparedness in coastal regions are all tools to deal with the effects of sea level rise and coastal hazards.

Climate Change Adaptation: Disaster Preparedness & Community Resilience

Climate change has been documented to have impacts on the atmosphere, coasts, and marine resources. Mitigation and adaptation to climate change and coastal hazards need to be addressed in order to combat the pressure that exist today, as well as prepare Hawai‘i for future impacts. Because of the cumulative impacts of climate change, the State has put a focus on adaptation. Public awareness of this issue has grown since the *2006 ORMP* making climate change adaptation a primary issue.

Global warming is predicted to cause an increase in frequency and power of both storm surge and hurricanes. One study suggests that peak hurricane wind speeds will increase by 5 to 10 percent by the end of the 21st century. A 1-meter rise in sea level would enable a 15-year storm to flood areas that today

are only flooded by a 100-year storm (IPCC, 1998). Changes in precipitation are also expected which impacts the amount of fresh water in Hawaii's watersheds.

While the prevention of global climate change is largely beyond State control, proactive planning to mitigate impacts is vital to the state's economy and the health and safety of Hawaii's residents and visitors. The temperature of the Earth is predicted to increase between 2.0 to 6.3°F (1.1 to 3.5°C) by the end of the century (Meehl, 2005), causing a wide range of increased threats to the coastal area and marine ecosystems. Global warming has increased the ocean's temperature over the past few decades, which will likely increase the frequency and severity of coral bleaching (Barnett 2005).

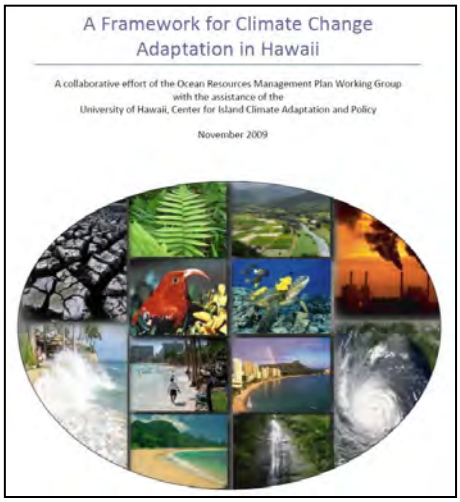
An added threat to coral is the increased levels of carbon dioxide emissions, a greenhouse gas, which is changing the ocean's chemistry. The added carbon dioxide causes a decrease in the pH of the water; in turn, the ocean becomes more acidic, which decreases the rate of calcium carbonate production by coral polyps. Without healthy coral reefs, entire ecosystems are at risk.

The Intergovernmental Panel on Climate Change (IPCC) predicts that the worldwide sea level will rise 1.5 feet over the next 100 years, and has outlined numerous impacts from this rise on coastal communities including: beach erosion, inundation of land, increased flood and storm damage, saltwater intrusion into the freshwater lens aquifer, changes in precipitation, increased levels of land-based pollutants to coastal waters including sediments, nutrients and contaminants, and more frequent, longer, and more powerful El Niño and La Niña events.

The threat of sea level rise has triggered counties to reassess current shoreline setback requirements due to coastal erosion. As coastal development expands, so does the risk to communities and their infrastructure. According to the 2012 U.S. Geological Survey *National Assessment of Shoreline Change: Historical Shoreline Change in the Hawaiian Islands,* the beaches of Kaua'i, O'ahu, and Maui are eroding at an average long-term rate of -0.11 meters per year. O'ahu lost the greatest total length of beach to erosion (8.7 km), while Maui had the highest percentage of beach loss at 11 percent. Beach management plans have been prepared to combat sea level rise, because the retreat of Hawaii's beaches will impact the residents' quality of life and the visitor industry.

Seawalls and other hardened shoreline structures to protect coastal properties exacerbate coastal erosion and beach loss (Fletcher, e.t al., 1997). Currently, only the Islands of O'ahu, Kaua'i, and Maui have documented erosion rates, and UH SOEST plans to document erosion rates for the other islands in the near future. Management Priority #2 Management of Coastal Hazards contains a goal to complete this erosion rate documentation for the remaining islands.

Figure C-4: Framework for Climate Change Adaptation in Hawai'i



All of these impacts will contribute to a greater vulnerability of communities living in coastal areas, endangering life and property. Existing development and present coastal planning do not always take this changing environment into account.

According to the University of Hawai'i Sea Grant College Program, Center for Island Climate Adaptation and Policy (ICAP) *Hawaii's Changing Climate Briefing Sheet* (2010), while they are heavier rainfalls, there is an overall reduction in rainfall feeding the groundwater, and this is likely tied to decreased rainfall. Hawai'i is getting warmer, with an even greater warming trend at higher elevations, decreasing rainfall.

Rising air temperatures, decreased rainfall, and decreased stream discharge all tie in to the sources of water to the ecosystem, which can affect agriculture, water quantity, and water quality.

In 2009, the ORMP Working Group and ICAP prepared *A Framework for Climate Change Adaptation in Hawaii.* Topics included building a climate change adaptation team, developing and adopting a long-term vision, identifying planning areas and opportunities relevant to climate change, scoping climate change impacts to major planning sectors, conducting a vulnerability assessment, and conducting a risk assessment. Such planning efforts aid in disaster preparedness and build resilient communities.

A core group of ORMP partners drafted climate change policy legislation that became part of the Governor's 2012 Legislative Packet as Senate Bill 2745. This climate change adaptation bill passed the 2012 Legislature and was signed by Governor Neil Abercrombie as Act 286.

Marine Debris

Marine debris is defined as any solid material that is manufactured or processed and directly or indirectly disposed of or abandoned into the marine environment. Debris may enter directly from a ship, or indirectly when washed out to sea from rivers, streams, or storm drains. Marine debris includes a wide variety of items, including plastic bags, glass bottles, rubber slippers, derelict fishing gear, and abandoned or derelict vessels. Activities that create marine debris occur both on land and on the ocean. Marine debris can be categorized as chronic such as derelict fishing gear or episodic such as the Japan Tsunami Marine Debris. The debris ranges in size from microscopic, such as broken pieces of plastic, to items weighing many tons, such as abandoned fishing vessels.

Marine debris is an ongoing problem worldwide, and Hawaii's position in the Pacific Ocean makes it no stranger to the multitude of marine debris washing up on the island's shores, much of it generated from distant shores. Because Hawai'i is at the center of the North Pacific Gyre, the islands become a hotspot for the aggregation of marine debris from across the Pacific.

Marine debris causes habitat damage such as to coral reefs, can transport invasive species, and can cause harm to seabirds and other wildlife that accidentally digest it or become entangled in it. Marine debris can also lower the quality of life for residents and the satisfaction of visitors, as well as impose an economic cost.

According to the National Oceanic and Atmospheric Administration (NOAA), many efforts are underway to prevent, reduce, and research marine debris. NOAA and other federal agencies are working with states and counties to develop protocols for a variety of scenarios to address marine debris hazards to navigation, threat of pollution, and adverse impacts to public safety and health." Invasive species are also a concern, as they can be transported from other areas of the world to Hawai'i by attaching themselves to floating debris or as part of lost cargo. Another threat to the ocean is illegal dumping of solid waste at sea.

According to the *Hawai'i Marine Debris Action Plan* (HI-MDAP) (NOAA, 2013), there is a role for everyone, including federal, state, and county agencies, as well as community members and academia, in preventing and dealing with marine debris. Beach clean ups are just one way of addressing marine debris, as pictured in Figure C-5.

Figure C-5: Marine Debris Removed from Kanapou, Kaho‘olawe, Before and After Photos

Source: Kaho‘olawe Island Reserve Commission, Kanapou Cleanup

Watershed Management: Water Quality and Water Quantity

There are over 500 watersheds in the State of Hawai‘i, according to the *Hawai‘i Watershed Guidance* (Office of Planning 2010). The Department of Land and Natural Resources (DLNR), the Department of Health (DOH), the Office of Planning (OP), and the various county Boards of Water Supply (BWS) manage most of the state’s watersheds; however, many of the watersheds are also in private property. In addition, because of their vast size and limited accessibility, a variety of stakeholders partner in order to manage and improve functionality of the watersheds. Watershed management takes into account the quality as well as quantity of water within a given watershed; furthermore, freshwater flow into streams, estuaries, anchialine ponds, and nearshore waters is as important as the quality of the water.

Sedimentation from rivers, streams, and other runoff can cause changes in water depth and water quality in Hawaii’s coastal areas. Large sediment load in some of Hawaii’s bays such as Hanalei Bay, Kaua`i has been attributed to removal of ground cover and surface disturbances by animals and humans in watersheds, which accelerate erosion rates and sediment generation. The Hanalei Watershed Hui has worked to improve the watershed through various partnerships, education, and stakeholder involvement.

The *Hawai‘i Watershed Guidance* defines impaired waterbodies as those which do not meet Hawaii’s water quality standards that support the designated use. Watersheds of particular concern are high-quality waters threatened by changing land uses. Threats to healthy watersheds may be local (new development or change in land use), regional (spread of invasive species), and global (drought or flooding caused by climate change). While there is always going to be a naturally deposited element of high islands in torrential tropic environments eroding to low islands, the human impacts are the greatest (with construction and agriculture as the main culprits). Part of the answer for addressing watershed issues is education.

While land-based pollution from agricultural runoff may be declining, urban storm-water runoff from construction activities and increased impervious surface cover has taken its place. Polluted surface water runoff, combined with an aging sewage system incapable of handling system overloads, is threatening coastal water quality. According to the U.S. Environmental Protection Agency (EPA), 64% of Hawaii's streams are considered "impaired" by pollutants. Furthermore, as population density increases along shoreline areas, landscape hardening to protect property has become a serious coastal issue. Channelized streambeds for floodwater control exacerbate water quality problems and contribute to stream and estuarine habitat loss.

Urban and agricultural lands are major sources of nonpoint source pollution. Genetically modified organism (GMO) crops, pharmaceutical contamination, injection wells, and cesspools were raised at the ORMP PLS as anecdotal examples of pollution that is occurring. Stream diversions such as irrigation ditches and wells that affect surface waters have changed the water flow to wetlands, streams, estuaries and nearshore waters. Careful and appropriate use of the land and freshwater is required to maintain the diverse array of ecological, social, cultural, and economic benefits we derive from the sea.

Agricultural Lands

While much of Hawaii's agriculture is beyond the shoreline, agricultural lands throughout the state directly impact the coast and the ocean. Much of Hawaii's agricultural lands at the turn of the 20th century were used for sugar cane and pineapple production. As these uses cease, diversified agriculture has been planted in some of the former plantations. Other lands have been converted to urban use. And much of the public discussion has been centered around GMO crops and their effects on the environment, from possible cross-contamination of nearby crops to labeling of food that has been modified through biotechnology. As discussed in the previous section on Watershed Management, runoff from agricultural lands is seen to affect the coast and ocean.

Irrigation ditches, many left over from the sugar cane plantations, were constructed over one hundred years ago to provide millions of gallons of water per day for irrigation across the state. Many of these irrigation ditches remain and are also a source of fresh water flowing into the ocean, increasing water quantity as well as runoff from former agricultural lands.

The designation of important agricultural lands could slow the conversion of agricultural lands into urban uses. Act 233 of 2008, Act 183 of 2005, and Article XI, Section 3 of the Hawai'i State Constitution allow such definitions. The Hawai'i Department of Agriculture (DOA), working with the Department of Taxation and various stakeholders as well as OP has been trying to identify incentives for agricultural lands to stay in agricultural use. The 2007 *DOA Final Report to the State Legislature* lists permits, tax credits, administrative rules, and transfers of land as steps in this process. The designation of lands as important agricultural lands provides an opportunity for agencies to make the connections between land and sea.

Damage to Coral Reefs

Coral reefs are many times called the "rainforests of the sea" due to their complex and rich biodiversity. According to the *2050 Sustainability Plan*, there are 7,000 known species of coral represented in 410,000 acres of living reef in the main Hawaiian Islands. More than one quarter of these species are only found in Hawai'i. Threats to coral include urban and agricultural runoff, over-fishing, damaging recreational use, coral disease, acidification of ocean water, aquatic invasive species, and bleaching caused by increasing sea water temperature.

Figure C-6: Hawai'i Coral Reef

Source: The Nature Conservancy

Climate change is a threat to coral. Increased levels of carbon dioxide emissions, a greenhouse gas, are changing the ocean's chemistry. The added carbon dioxide causes a decrease in the pH of the water; in turn, the ocean becomes more acidic, which decreases the rate of calcium carbonate production by coral polyps. Additionally, increasing sea water temperature causes coral bleaching. While corals can recover from bleaching if other conditions are good and the high temperatures do not persist over may weeks, climate scientists agree that bleaching conditions will be widespread and regular by the end of the century.

Management Priority #5 Coral Reef addresses ways to improve the sustainability of Hawaii's corals. The depletion of coral reefs decreases biodiversity, which impacts not only the island population's ability to recreate and subsist, but is a loss to the state's chief income producer, tourism.

The Aquatic Invasive Species Response Team (AIST) is working on a method to eliminate snowflake coral from the pier at Kauai's Port Allen. Snowflake coral is an invasive soft coral that can overgrow and smother black coral. The Nature Conservancy of Hawai'i and UH developed a large underwater sea vacuum to suction clumps of seaweed from the reef in Kāne'ohe Bay. The sea vacuum, called the "Supersucker" can remove up to 750 pounds of invasive seaweed per hour, removing the large pieces. The smaller particles remain, can re-attach themselves to the reef, and continue growing. DLNR is experimenting with native sea urchins to naturally control re-growth.

The Makai Watch Program was developed to enhance the management of nearshore marine resources by providing community members opportunities for direct involvement in management activities. This program builds community awareness, and encourages compliance though observation, identification, and reporting of illegal activities to DLNR-DOCARE.

The DLNR is completing a Strategy for the State of Hawaii's Makai Watch Program (2013-2016) to establish statewide standards, formally recognize sites, and improve the overall effectiveness of the program. There are currently eight active Makai Watch Groups throughout the state: Puakō/Kaupulehu and Kukio, on the island of Hawai'i; Ka'anapali/Kahekili on the island of Maui; Pupukea-Waimea, Maunalua Bay, and Waikīkī, on the island of O'ahu; and Hanalei and Hā'ena on the island of Kaua'i.

Endangered Species

One-third of all endangered species in the United States are found in Hawai‘i. Examples of endangered species in the ocean and coastline areas are the Humpback Whale, the Green Sea Turtle, the False Killer Whale, and the Hawaiian Monk Seal. With increasing frequency, other marine species found in Hawai‘i are also being considered for listing. There are also critical estuaries, where fresh and salt water mix together and serve as habitat for endangered birds such as the Hawaiian Moorhen, Hawaiian Stilt, Hawaiian Coot, and Kōloa Duck. Balancing protection of endangered species with other aspects of ocean resource management is critical.

The Hawaiian Islands Humpback Whale National Marine Sanctuary (National Marine Sanctuary) is managed as a partnership between NOAA and the State of Hawai‘i. The National Marine Sanctuary is discussed in Chapter IV as an example of a coordinated approach to the management of ocean resources.

Aquatic Invasive Species

Aquatic invasive species (AIS) are plants and animals introduced into a water body that have the potential to harm the ecosystem, people, and/or the economy. The Hawaiian Archipelago is home to 85% of the country’s coral reefs, and these ecosystems include a multitude of corals, fish, seaweeds, and other marine life, some found nowhere else in the world. Protecting the fragile ecosystems as well as keeping waterways clear and preserving the environment that commerce and tourism are both dependent upon are all important to the State of Hawai‘i. Prevention and early detection are essential in the control of aquatic invasive species.

Aquatic invasive species can be introduced accidentally by sea faring vessels. Ballast water discharges from vessels and biofouling of submerged areas are the major means by which vessels act as a pathway for introduction of marine invasive species.

In response to national concerns, the National Invasive Species Act of 1996 amended the Nonindigenous Aquatic Nuisance Prevention and Control Act of 1990. The U.S. Coast Guard (USCG) has established both regulations and guidelines to prevent the introduction and spread of AIS.

Other ways of introduction of AIS are people dumping their non-native aquarium fish or plants into a neighborhood stream or river or AIS could be hitchhikers on marine debris. Not all non-native or introduced species become invasive species as some do not reproduce quickly, spread, or cause harm. An example of an invasive species that clogged a waterway is the floating water fern *Salvinia molesta*, pictured in Figure C-7, which covered Lake Wilson and other waterways on O‘ahu in 2003 and cost over $1 million dollars to eradicate.

Figure C-7: *Salvinia molesta*

Source: Department of Land and Natural Resources

The AIST was established in 2005 as part of the *2003 State of Hawai‘i Aquatic Invasive Species Management Plan*. The AIST participates in certain cleanup events such as the “Habitattitude Campaign,” which asks the public to turn in unwanted aquarium pets and pond plants to participating pet stores and other drop off locations statewide. This helps to prevent the introduction of non-native species into the state’s waterways.

The AIST also had to respond to the apple snail, which is an international invasive species that first originated in South America and pictured at right. It was first documented on the island of Maui in 1989, and there is now an international alert for apple snails. Apple snails present a serious threat to food security for anywhere there is a water-based food producing economy, such as taro cultivation in Hawai‘i. In some lo‘i (taro fields), crop loss can be as high as 20%, and if not controlled, these snails can consume an entire crop including corms, stems, and leaves in just one day. Outreach education to a broad sector of the state's population, in multiple languages and approaches, is key to limiting further spread of this invasive species.

Figure C-8: Apple Snail

Source: Department of Agriculture

Terrestrial Invasive Species

Terrestrial invasive species are similar to AIS, except they occur on land. The introduction of a non-native species can interrupt and damage the land ecosystem. This is important to ocean and coast resource management because what happens at the top of the ridge can affect water quantity and the ocean's water quality.

Management Priority #3 Watershed Management looks at the damage that hoofed animals can do to the watershed. Hoofed animals are also referred to as ungulates and include pigs, goats, deer, and sheep. Some were introduced the islands in the late 1700s, and many became feral. The wild populations graze and root around the native forests, destroying ground cover and causing large swaths of land to erode. These feral ungulates may also promote the spread of invasive plant species while foraging. Ungulate barriers such as fencing have been used in forests and watersheds to conserve the ecosystems. Other terrestrial invasive species such as the brown tree snake are important to keep out of the islands because their introduction would wipe out native bird populations, and affect the biodiversity of the forests.

There are Invasive Species Committees (ISCs) on O‘ahu, Maui, Moloka‘i, Kaua‘i, and Hawai‘i Island that seek to identify and implement appropriate management strategies.

Food Security: Subsistence Fishing, Fisheries, Aquaculture, and Fishpond Restoration

Close to 85-90% of Hawaii's food is imported into the state, mostly as ship cargo. This makes Hawaii's food security particularly vulnerable to natural disasters and global events that could disrupt the food supply. In 2012, OP, in cooperation with DOA, prepared the, *Increased Food Security and Food Self-Sufficiency Strategy*. The three objectives of the strategy are: to increase demand for and access to locally grown foods; increase production of locally grown foods; and provide policy and organizational support to meet food self-sufficiency needs.

The *ORMP* supports the state's goal of increased food security with goals, actions, and metrics for food that comes from the ocean. Supporting restoration of fishponds, providing access to the coastline for gathering and near shore fishing, and working with agencies to increase responsible and sustainable aquaculture are all ways to increase food security. Collaborating with agencies and community groups to increase access to the shoreline and improve ocean water quality for subsistence or "‘ohana" fishing also

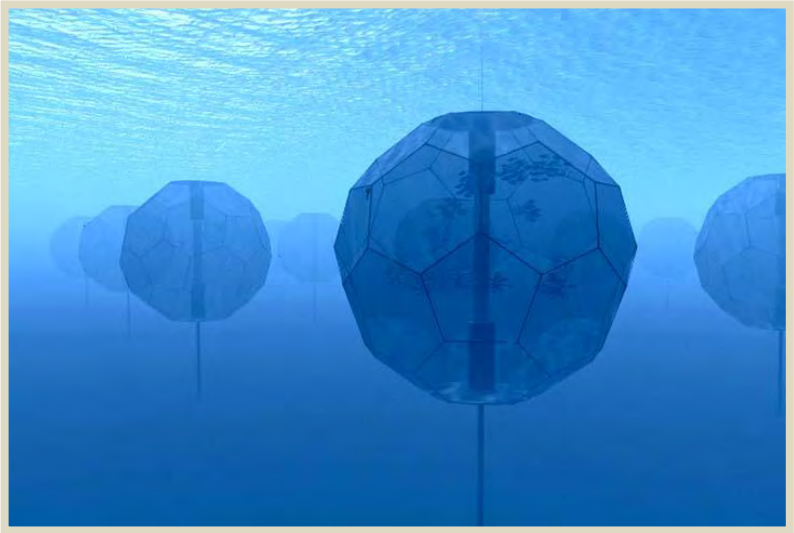
helps support the state's goal. Working with commercial fishermen and agencies in a cooperative manner will also assist in this effort.

Challenges for food security were expressed by residents during two rounds of ORMP Public Listening Sessions held across the State of Hawai‘i in 2012. People on all islands expressed frustration about depleting fishstocks and the inability to access fishing areas due to pollution, runoff, national security, or land development. Some commercial fishers attributed the increase in the invasive species ta'ape to declines in their bottomfish catch, and some residents who rely on coral reef species perceived declines in certain species. Those involved in the aquaculture industry would like to see an increase in aquaculture as a way to provide food security to Hawai‘i. Their projects in coastal and offshore areas have a 2011 industry value of $40 million annually. Since Hawai‘i imports 70% of its seafood, this could be reduced through the expansion of commercial aquaculture.

Open ocean fish farming, or offshore aquaculture, is an emerging approach to raising fish in open ocean waters by utilizing submersible cages or net pens (see Figure C-9). Hawai‘i is the first state to have a successfully operating commercial open ocean aquaculture cage in the U.S. The Hawai‘i Department of Agriculture believes that this type of aquaculture is sustainable and lowers the risk of disease, provides a more humane and natural growing environment for fish, and greatly reduces environmental impacts due to strong ocean currents that can sweep away feed residues. Open ocean aquaculture technologies will continue to evolve, providing more opportunities for farmers to farm the sea.

One method to diversify food production is to restore Native Hawaiian fishponds. Ongoing efforts to restore existing fishponds are occurring, such as in He‘eia, on the island of O‘ahu and Project Loko I‘a on the island of Moloka‘i. These efforts are perceived as an opportunity to address food security, as well as to practice the Native Hawaiian culture for generations to come. The sentiment expressed at the ORMP Public Listening Sessions is that Native Hawaiians thrived using such methods, so carrying on the approach to food production would be a sustainable way of living.

Figure C-9: Open Ocean Fish Cage

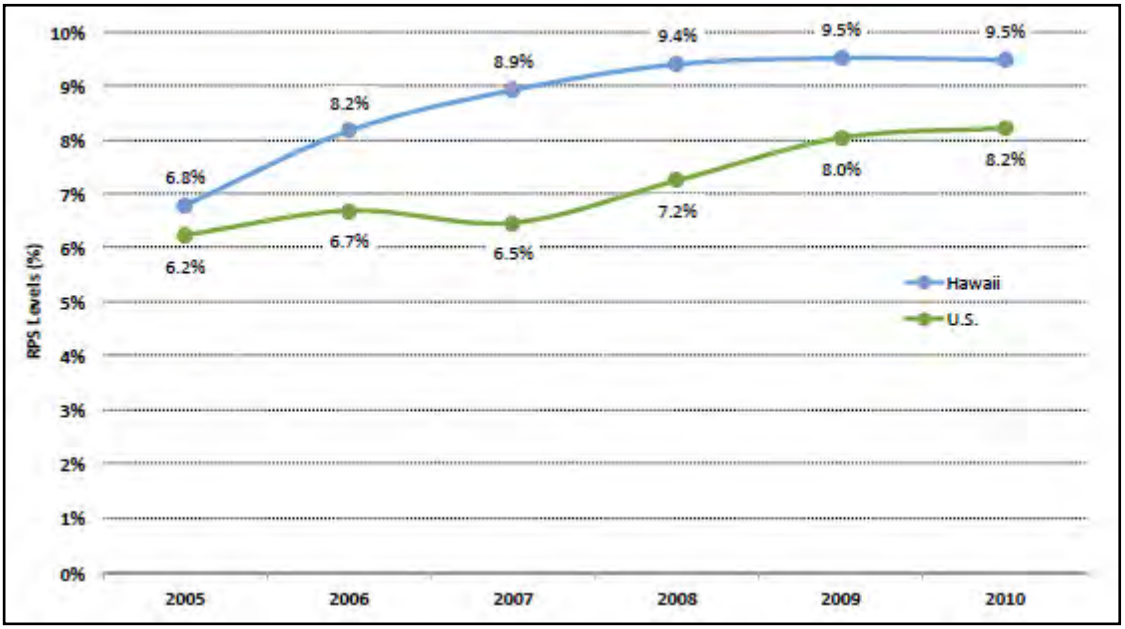


Source: Hawaii Oceanic Technology, Inc.

Alternative Energy

Under the Hawai'i Clean Energy Initiative (HCEI) and subsequent Renewable Portfolio Standards (RPS) mandates, Hawai'i electric utilities must produce at least 15% of the electricity sold by clean energy technologies by 2015. With the projects currently under development or planning, Hawai'i is on target to meet this goal. However, the goals of 25% renewable generation by 2020 and 40% renewable generation by 2030 leave much work to be done. Hawaii's renewable electricity generation as a percentage of total generation is approximately 13.9%, according to annual RPS reports submitted by the electric utilities to the Hawai'i Public Utilities Commission in 2013. In 2010, Hawai'i was at 9.5% of renewable electricity generation, which at the time was approximately 1.8% higher than the rest of the United States as shown in Figure C-10.

Figure C-10: Hawai'i Renewable Energy Generation 2005-2010



Source: State of Hawai'i Energy Resource Coordinator's Annual Report 2011

The *Hawai'i 2050 Sustainability Plan* reported that transportation accounts for nearly half (48%) of Hawaii's energy consumption, compared with industrial (25%), commercial (14%), and residential (13%) uses. The transportation component includes both ground and aviation fuel consumption. According to Governor Abercrombie's *A New Day in Hawai'i Plan (2010)*, Hawaii's most important economic enterprise is to pursue energy independence. This could include wind, solar, hydro, ocean thermal, marine hydrokinetic, biomass and geothermal sources.

To increase the state's RPS percentage and lower the state's dependence on foreign oil imports, over 40 renewable energy projects have been constructed, and another 40 utility-scale projects are currently proposed throughout Hawai'i. Many of these projects will impact the ocean and coastal resources in various ways, including but not limited to: ecologic impacts from marine infrastructure, effluent discharges (tempered and/or processed), visual impacts, and recreational and commercial impacts.

Coupled with the newly formed Hawai‘i Outer Continental Shelf (OCS) Renewable Energy Task Force, the sustainable development of Hawaii’s marine resources is a major component of HCEI.

Proper siting and cumulative planning of renewable energy projects are critical to the sustainable use of our indigenous ocean resources. The Hawai‘i State Energy Office within DBEDT works with impacted stakeholders and regulatory agencies to help ensure individual projects are developed in consideration of local and statewide impacts, both short term and long. Some renewable energy power plants—such as wave energy devices, interisland cables, or offshore wind—would directly impact marine resources because of their location. Even land-based renewable projects, such as geothermal and bioenergy, could affect the ocean through effluent or run-off discharges or if the Hawaiian Islands’ electricity grids are linked by an undersea cable. Hawaii’s present reliance on imported fossil fuels—oil and coal—also can significantly impact the ocean since these fuels are shipped overseas, making the ocean and coasts susceptible to spills and other accidents. The Pacific Ocean is an integral part of Hawaii’s environment, culture, and economy, and has vast potential to support the production of renewable energy. Managing our energy resources sustainably will, at the same time, help to protect our unique ocean resources.

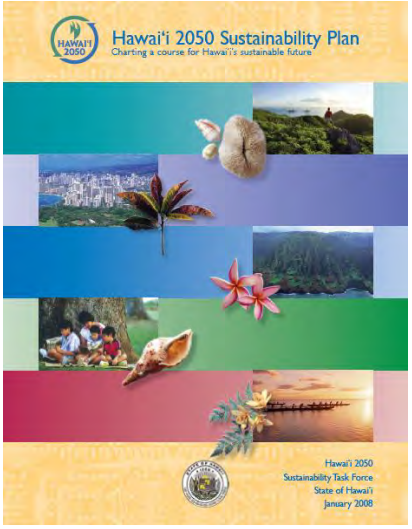
Policy Plans from Other State and Federal Agencies that Impact Ocean Resource Management

There is an interwoven web of plans that create layers of policy in Hawai‘i. Collectively, they play a major role in identifying and addressing pressures and important issues. Many of the Management Priorities in Chapter III use the goals and objectives of these other plans as the ORMP performance measures. In this way, work already being done by an agency can be used to implement the ORMP.

Hawai‘i 2050 Sustainability Plan, 2008

The State Legislature mandated the preparation of a State Sustainability Plan, and it was completed in 2008. One of the significant contributions of the *Hawai‘i 2050 Sustainability Plan* is that it provides the State’s first definition of sustainability, a Hawai‘i that achieves the following:

- Respects the culture, character, beauty, and history of our state’s island communities
- Strikes a balance among economic, social and community, and environmental priorities
- Meets the needs of the present without compromising the ability of future generations to meet their own needs



The *Hawai‘i 2050 Sustainability Plan* has five goals:

- A Way of Life – Living sustainably is part of our daily practice in Hawai‘i;
- The Economy – Our diversified and globally competitive economy enables us to meaningfully live, work , and play in Hawai‘i;
- Environment and Natural resources – Our natural resources are responsibly and respectfully used, replenished, and preserved for our future generations;
- Community and Social Well-Being – Our Community is strong, healthy, vibrant, and nurturing, providing safety nets for those in need;
- Kanaka Maoli and Island Values – Our Kanaka Maoli and island cultures and values are thriving and perpetuated.

A New Day in Hawai‘i, 2010

The *New Day Plan* is a policy document serves as the public policy roadmap for the current State Administration.

The New Day Plan is a policy document that guides actions on: Economy, Education, Energy, Environment and Natural Resources, Food and Agriculture, and Technology and Innovation. Ocean resources management crosses several if not all of these activity areas.

The *New Day Plan* stresses making improvements through collaboration and cooperation. This parallels the ORMP's *Perspective 3: Promoting Collaborative Governance and Stewardship*. The State Office of Planning participates in and assists with implementation of the *New Day Plan* in the areas of Climate Change, Agricultural Renaissance, Energy Independent Hawai‘i, and Sustainability. These responsibilities connect with the Management Priorities in the *2013 ORMP* that involve improving coastal water quality, ocean sustainability, ocean resource protection, and addressing invasive species.

2014-2017 University of Hawai‘i Sea Grant Strategic Plan, 2013

The University of Hawai‘i Sea Grant College Program (Sea Grant) supports and conducts an innovative program of research, education, and extension services toward the improved understanding of coastal and marine resources of the state, region, and nation.

UH Sea Grant College Program is one of 33 Sea Grant programs nationwide that comprise a functional network within our nation's universities and colleges promoting enhanced understanding, conservation, and use of coastal and marine resources. Sea Grant was designated as one of five founding Sea Grant College Programs in 1972. As part of the University of Hawaii's School of Ocean and Earth Science and Technology (UH SOEST), UH Sea Grant College Program partners with NOAA to provide links among academia, federal, state, and local government, industry, and the community.

Sea Grant strategies will concentrate on:

- Healthy coastal ecosystems
- Sustainable coastal development
- Safe and sustainable seafood supply
- Hazard resilience in coastal communities
- Sustainable coastal tourism

Figure C-11: Instilling Principles of Coastal Tourism at Hanauma Bay Education Center

Source: UH Sea Grant College Program Center for Sustainable Coastal Tourism

Hawai‘i Marine Debris Action Plan, 2013

The *Hawai‘i Marine Debris Action Plan* (HI-MDAP) was prepared in 2010 by the NOAA Office of Response and Restoration, Marine Debris Program in 2010 and updated in 2013. This is the nation's first State Marine Debris Action Plan. While published by a federal agency, it is not a Federal plan. Rather, it is a cooperative effort for agencies in Hawai‘i, encompassing Hawaii's marine debris community, which

includes federal, state and county government agencies, nongovernmental organizations, academic institutions, private businesses, and industry.

The overall goal of the HI-MDAP is to reduce ecological, health and safety, and economic impacts of marine debris in Hawai‘i by 2020. The HI-MDAP four goals to reduce marine debris address:

- Goal 1 – Backlog of Marine Debris at Sea Reduced;
- Goal 2 – Introduction of Solid Waste and Fishing Gear at Sea Decreased;
- Goal 3 – Number of Abandoned and Derelict Vessels Decreased; and
- Goal 4 – Land-based Debris in Waterways Reduced

Figure C-12: Marine Life Entanglement and Marine Debris

Source: Hawai‘i Marine Debris Action Plan

Since the *Marine Debris Plan* was written more than two years before the Sendai Earthquake and Japanese Tsunami (March 2011), it was updated in 2013 to reflect Japanese Tsunami Marine Debris (JTMD) and other recent issues. Tsunami debris was just beginning to wash up on the northwestern tip of the U.S. and Alaska in 2012. It is predicted that 1.5 million tons of debris remained afloat soon after the tsunami from what was washed into the ocean, including everything from ghost ships, pieces of buildings, personal belongings, to smaller pieces of flotsam and jetsam. NOAA computer models predicted the high-floating debris would reach waters off of the Pacific Northwest Coast as early as winter 2011-2012 and that Hawai‘i might see the debris starting in mid-2012. Federal, state, and local agencies are coordinating to effectively address the tsunami debris from Japan for Hawai‘i.

Hawai‘i Coral Reef Strategy (2010)

The *Hawaii Coral Reef Strategy* (HCRS) includes priorities from Hawaii’s six Local Action Strategies and other program priorities. It was created after multiple interviews and workshops with resource managers, biologists, advisory groups, reviews of plans, and studies of comments from public meetings held around the state. The HCRS is the guiding document used by the DLNR Division of Aquatic Resources (DAR) for coral reef stewardship activities, many supported by NOAA's Coral Reef Conservation Program (CRCP). Strategy implementation projects include critical planning efforts, community action, awareness-raising activities, and scientific research with direct management applications. Key outcomes of this work include greater capacity to enforce coral reef protections, increased understanding of the key threats to reef ecosystems at priority sites, and substantial progress towards implementing objectives of the HCRS including the Local Action Strategies. The goals for the HCRS are:

- Coral reefs undamaged by pollution, invasive species, marine construction, and marine debris
- Productive and sustainable coral reef fisheries and habitat
- Coral reef ecosystems resilient to climate change, invasive species, and marine debris
- Increased public stewardship of coral reef ecosystems

Hawaiian Islands Humpback Whale National Marine Sanctuary Management Plan

The Hawaiian Islands Humpback Whale National Marine Sanctuary (National Marine Sanctuary) was designated by Congress in 1992 for the following purposes:

1) protect humpback whales and their habitat in the area described in section 2305(b) of the Act;
2) educate and interpret for the public the relationship of humpback whales to the Hawaiian Islands marine environment;
3) manage such human uses of the Sanctuary consistent with this subtitle and title III of the Marine Protection, Research, and Sanctuaries Act of 1972, as amended by this Act; and
4) provide for the identification of marine resources and ecosystems of national significance for possible inclusion in the Sanctuary designated in section 2305(a).

As stipulated in a compact agreement (1998), NOAA and the State of Hawai'i "shall manage the Sanctuary through a cooperative partnership and consult on all management activities throughout the Sanctuary."

In accordance with the agreement, the Governor designated a State Co-Manager to work in consultation with the Sanctuary Superintendent as an equal partner in the oversight of National Marine Sanctuary operations. NOAA and the State of Hawai'i determined that co-managing a National Marine Sanctuary would provide additional resources and expertise to enhance the protection of humpback whales and their habitat. The National Marine Sanctuary is the only state-federal partnership that co-manages areas of the marine environment in the main Hawaiian Islands with twenty three percent of state waters being included within the National Marine Sanctuary. National Marine Sanctuary staff work to improve upon existing marine conservation and management efforts of state and federal agencies by providing inter-agency coordination and comprehensive protection through education, science, and outreach support.

The National Marine Sanctuaries Act requires periodic updating of sanctuary management plans to reevaluate site-specific goals and to develop management activities to ensure that the National Marine Sanctuary properly conserves Hawaii's natural, cultural, and historic resources. At the time of publication, the National Marine Sanctuary was in the process of updating the 2002 *Management Plan* to address priority issues raised during the 2010 public comment period.

OP-CZM coordinated with the National Marine Sanctuary during the public scoping meetings to ensure that the comments received could also be used to inform the update of the *ORMP*.

Priority issues that were raised during the 2010 comment period include:

- Climate Change
- Ecosystem Protections – Species and Habitats
- Enforcement
- Humpback Whale Protections
- Management Effectiveness
- Marine Animal Assessment and Response
- Maritime Heritage
- Native Hawaiian Culture
- Ocean Literacy
- Offshore Development
- Water Quality

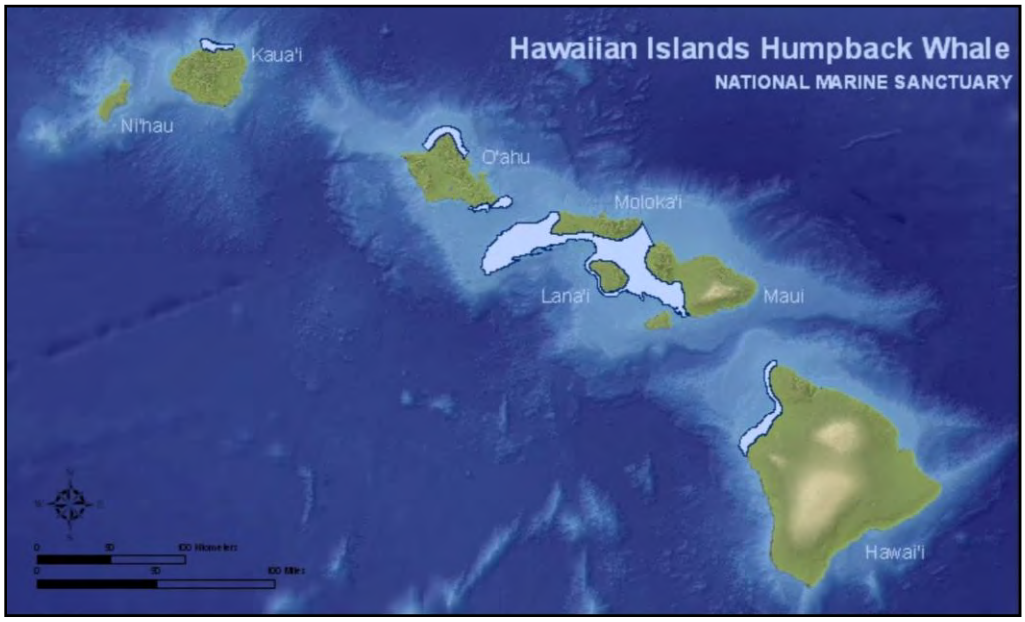
Working groups were formed by the community-based Sanctuary Advisory Council to address the priority issues. As part of this process, working group participants also took into account several

overarching considerations identified during the public scoping period as fundamental to marine resource conservation and management in Hawai‘i. These include:

- Community Engagement
- Environmental Impacts
- Native Hawaiian Traditional Perspectives
- Socioeconomic-Fishing-Ocean Uses-Livelihoods-Access

The National Marine Sanctuary continues to engage with the public, as well as agency and non-governmental partners, as they write the new management plan. A draft management plan, as well as an Environmental Impact Statement that meets the requirements of both state and federal laws, is expected to be available for public review and comment by 2014.

Figure C-13: Hawaiian Island Humpback Whale National Marine Sanctuary Boundaries



Source: Hawaiian Islands Humpback Whale National Marine Sanctuary

Honolulu Board of Water Supply Watershed Management Plans

The State of Hawai‘i Water Code (HRS Chapter 174C) and City and County of Honolulu Revised Ordinances of Honolulu (ROH Chapter 30) both require preparation of county water use and water management plans. O‘ahu has eight watershed regions designated as Development Plan (DP) areas under the City and County of Honolulu planning system. Watershed management plans are being completed for each DP area by the Honolulu Board of Water Supply (BWS). The goal of these plans is to provide short-, mid-, and long-range guidance for the watershed in keeping with the BWS’s mission statement “Water for life – Ka Wai Ola.”

The *Atlas of Hawaiian Watersheds and their Aquatic Resources* (2008) was prepared as joint effort between DLNR-DAR and Bishop Museum, providing place-based information useful for watershed plans. This resource is available online and is a helpful tool to understand watersheds in general. The Atlas is linked to the DAR Aquatic Surveys Database so that it can be updated as new information becomes available. The complete Atlas is over 4,500 pages and represents massive data sets that can be quickly available to decision-makers, scientists, students, and anyone seeking for information on watersheds and streams in Hawai‘i.

2005-2015 Hawai‘i Tourism Strategic Plan, 2003

Figure C-14: Cruise Ship at Honolulu Harbor

Source: 2005-2015 Hawai‘i Tourism Strategic Plan

Hawaii's economy is dependent on tourism, which in turn depends on the state's ocean resources. The *Hawai‘i Tourism Strategic Plan* vision is to move towards a sustainable and responsible tourism industry for the State.

The implementation framework for tourism includes the overall management plan, development of action plans, implementation of action plans, and county tourism strategic plans. Measures of success are based on resident sentiments, state and county tax receipts, visitor spending, and visitor satisfaction.

Appendix D: Agency Roles

State, Local and Federal Agencies: Who Does What?

Many government agencies and authorities participate in the management of ocean and coastal resources. While there are overlaps in interest, each governmental agency has its own roles and responsibilities. The OP-CZM Program recently published *Sustainable Management of the Islands* (December 2011), which describes the network of resource agencies for coastal zone management and ocean resource protection. Agencies involved in ocean resource and coastal zone management are shown in Table D-1 for State government, Table D-2 for local agencies, and Table D-3 for Federal agencies.

Table D-1: State Agencies involved in ocean resource and coastal zone management

State Agency	Responsibilities for Ocean Resource and Coastal Zone Management
Office of Planning, Coastal Zone Management Program (OP-CZM)	• CZM Program • Build capacity for community participation in natural and cultural resources management • Develop community-based frameworks and practices for identifying and mitigating ocean recreational use conflicts • Develop legislative and administrative proposals to improve management of natural resources • Monitor and evaluate Ocean Resource Management Plan implementation • Conduct a baseline study of ocean recreation and tourism • Coastal Nonpoint Pollution Control Program (CNPCP) in partnership with DOH • Coastal Access • Development of a territorial sea plan • Identify channelized streams within DLNR Watershed Partnerships for restoration and revitalization of wetland and estuarine habitats • Training on CZM and Special Management Area (SMA) laws and regulations for County Planning Department Staff and Planning Commissions
Department of Health (DOH), Environmental Health, Clean Water Branch	• Improve coastal water quality • Reduce pollutant loads from resident, agricultural, and commercial land uses • National Pollutant Discharge Elimination System (NPDES) permits • Implement watershed implementation plans, total maximum daily load implementation plans
Department of Agriculture (DOA), Aquaculture Development Program	• Minimize the spread of marine alien and invasive species into and throughout archipelagic waters through inspection and enforcement • Develop ecosystem-based approaches for nearshore fisheries management • Establish and institutionalize approaches for restoring, operating, and preserving ancient Hawaiian coastal fishponds and salt ponds • Plan and develop sustainable commercial aquaculture • Enhance the conservation of Hawaii's marine protected species, unique habitats and biological diversity
Department of Transportation (DOT), Harbors Division	• Improve coastal water quality by reducing marine sources of pollution • Provide appropriate waste management infrastructure to support commercial marine facilities • Minimize introduction and spread of alien species

State Agency	Responsibilities for Ocean Resource and Coastal Zone Management
Office of Hawaiian Affairs (OHA)	• Assess the policies and practices of other agencies impacting native Hawaiians and Hawaiians, including impacts on traditional and customary practices as well as on natural and cultural resources as they relate to the ocean and shoreline area • Conduct advocacy efforts for native Hawaiians and Hawaiians, including their interests in the natural and cultural resources of the ocean and shoreline area • Facilitate the performance, development, and coordination of programs and activities relating to native Hawaiians and Hawaiians, such as fishpond restoration and maintenance activities
Hawaii Department of Land and Natural Resources (DLNR)	• Jointly manage the Hawaiian Islands Humpback Whale National Marine Sanctuary with National Oceanic and Atmospheric Administration (NOAA) • Jointly manage the Papahānaumokuākea Marine National Monument with NOAA, U.S. Fish and Wildlife Service (FWS), and the Office of Hawaiian Affairs (OHA) in the Northwestern Hawaiian Islands
DLNR, Division of Aquatic Resources (DAR)	• Manage the marine, estuarine or anchialine resources in Marine Managed Areas that have been established by statute or administrative rule • Protect coral reefs through implementation of the Coral Reef Strategy through work with the Coral Reef Working Group • Regulate certain marine and freshwater fishing areas of the state through state laws and Hawaii Administrative Rules, and work with DOCARE on enforcement • Issue various licenses and permits for fishing, selling aquatic life, and other activities involving aquatic resources • Protect the state from the impacts of aquatic invasive species, which includes prevention, ongoing management and control, and emergency response activities.
DLNR, Division of Ocean Boating and Ocean Recreation (DOBOR)	• Perform facility development, management, operation, and repair of small boat harbors, ramps, moorings, landings, public shorelines, wharves, and deep draft harbors • Regulate and enforce state legislation and administrative rules regarding boating facilities and recreational use of waters of the state • Provide appropriate waste management infrastructure to support recreational marine facilities • Issue permits for commercial and recreational use of DOBOR facilities • Manage vessel registration for 15,000 recreation and small commercial vessels in the State • Perform boating accident investigation and reporting • Provide boating safety education
DLNR, Commission on Water Resource Management (CWRM)	• Administer State Water Code (HRS Chapter 174C, 1987) through the Commission on Water Resource Management • Implement and enforce CWRM policies, procedures, and rules on water development and usage established in conformance with the State Water Code. • Designate water management areas • Permit water uses • Establish criteria to determine water availability and sustainable yield analyses for aquifers and watersheds • Develop comprehensive and long-range plans for the protection, conservation, and management of the state's water resources • Develop and adopt drought management plans • Implement Commission policies, procedures, and rules on stream protection and instream flow standards, water development, and usage established in conformance with the State Water Code

State Agency	Responsibilities for Ocean Resource and Coastal Zone Management
DLNR, Division of Conservation and Resources Enforcement (DOCARE)	• Improve enforcement capacity and voluntary compliance with existing rules and regulations for ocean resource protection • Develop community-based frameworks and practices for identifying ocean recreational use conflicts
DLNR, Division of Forestry and Wildlife (DOFAW)	• Reduce soil erosion from upland forest ecosystems and conservation lands • Perpetuate programs that enhance the conservation of Hawaii's marine protected species, unique habitats and biological diversity • Support the Natural Area Reserves System • Formalize Watershed Partnerships
DLNR, Office of Conservation and Coastal Lands (OCCL)	• Oversee approximately 2 million acres of private and public lands that lie within the State Land Use Conservation District • Oversee beach and marine lands within State's jurisdiction • Develop public education programs and distribute information and guidelines on the best management, erosion control, and construction practices for Hawaii's coastal areas • Develop programs for beach nourishment • Streamline the beach nourishment regulatory process • Beach Access • Public-private partnerships for beach restoration Hawaiian fishpond reconstruction and fishpond repair programmatic permit • OCCL aquaculture permitting, including management guidelines • Administer Conservation District Use Applications • *Hawai'i Shoreline Management Plan* • DLNR *Coastal Erosion Management Plan* (COEMAP) • OCCL Small Scale Beach Nourishment Program (SSBN) • DLNR Comprehensive Coastal Policy • *Coastal Hazard Mitigation Guidebook* • *Beach Vulnerability Rating Project (BVR)* • *Historical Shoreline Erosion Studies (Kaua'i, O'ahu, Maui)* • Enforce removal of unauthorized coastal structures • Enforce Act 160 (encroaching vegetation)

University of Hawai'i
• UH Economic Research Organization (UHERO)
• School of Ocean and Earth Science and Technology (SOEST)
• Pacific Islands Ocean Observation System (PacIOOS)
• Sea Grant
  • Sea Grant College Program, Center for Island Climate Adaptation & Policy (ICAP)/Loli Aniau, Makaala Aniau (Climate Change, Climate Alert) (LAMA)
  • Richardson School of Law, Coastal Resilience Networks Project (CRest)
  • East-West Center, Pacific Regional Integrated Sciences and Assessments (Pacific RISA)
	• Work with OP-CZM on economic studies
	• Work with OP-CZM on water quality monitoring, climate change, shoreline erosion, beach loss mitigation, marine invasive species, educational curriculum on coastal and ocean resources
	• *Coastal Hazard Mitigation Guidebook*
	• *Historical Shoreline Erosion Studies (Kaua'i, O'ahu, Maui)*
	• Implement National ocean observation network
	• Data management, data archive, and data visualization
	• Provide decision-making support tools
	• Support Pacific island and coastal communities to mitigate and adapt to the impacts of climate variability and climate change.

Table D-2: County Agencies involved in ocean resource and coastal zone management

County Agency	Responsibilities for Ocean Resource and Coastal Zone Management
Department of Planning and Permitting, City & County of Honolulu (O'ahu) Department of Planning (Maui, Kaua'i, Hawai'i)	• Enforcement of building codes (DPP, C&C of Honolulu only) • Issuance of building permits (DPP, C&C of Honolulu only) • Issuance of Special Management Area (SMA) permits • Best Management Practices (BMPs) • Land Use or Zoning Ordinances as tool for land-ocean connection, includes SMA and subdivision ordinances • Coastal erosion studies • Enforcement of public beach/shoreline access • Partnerships for beach restoration projects
Board of Water Supply (BWS)	• Watershed management plans • Watershed partnerships/watershed protection and restoration projects and programs
Environmental Services Department, O'ahu Department of Environmental Management, Wastewater Division, Maui Wastewater Department or Public Works Departments (Kaua'i, Hawai'i)	• Water quality monitoring (On Maui, only during sewer discharges into ocean or a storm drain or ditch that reaches the ocean) • Oversight of county-owned sewer system, including repair, maintenance and construction • Replacement of cesspools (O'ahu only) • Inventory of individual wastewater disposal systems in coastal areas (O'ahu only) • Develop appropriately scaled wastewater treatment systems in coastal areas with planned growth (does not include Maui) • Review/Comment and/or Approve as appropriate properly sized wastewater treatment/disposal systems (Maui only) • Enforcement of storm-water discharges (does not include Maui)
County of Maui, Department of Public Works, Development Services Administration	• Regulate storm-water discharges • Enforcement of storm-water discharges • Enforcement of Building Codes • Issuance of Building Permits

Table D-3: Federal Agencies involved in ocean resource and coastal zone management

Federal Agency	Responsibilities for Ocean Resource and Coastal Zone Management
Office of The White House	• National Ocean Council • National Ocean Policy
Department of Homeland Security, U.S. Coast Guard (USCG)	• Lighthouses • Protection of US Exclusive Economic Zone from foreign encroachment (200 nautical miles from shore) • Enforcing domestic fisheries law • Works in collaboration with Fisheries Management Councils and NOAA Fisheries • Marine Protected Species, Endangered Species Act
U.S. Department of Agriculture, Natural Resources Conservation Service (USDA, NRCS)	• Conservation Innovation Grants • Conservation technical assistance • Healthy Forests Reserve Program • Healthy Watersheds Initiative • Watershed Protection and Flood Prevention Program • Agricultural Water Enhancement Program • Wetlands Reserve Program • Water management
USDA, Cooperative Extension Service	• Partners with UH Cooperative Extension Service, College of Tropical Agriculture and Human Resources (UH CTAHR) • Soil Management Collaborative Research Support Program • Invasive species and pest control • Aquaculture
USDA, U.S. Forest Service	• Healthy Forest Initiative • Wildland Fire Management
U.S. Army Corps of Engineers (USACE) Civil and Public Works Branch Regulatory Branch	• Development and management of the nation's water resources • Supporting marine transportation systems (channels, harbors, and waterways) for movement of commerce, national security needs, and recreation • Protection and management of the natural environment through the evaluation of permit applications for essentially all construction activities that occur in the nations' waters, including streams, wetlands, estuaries, and all coastal waters • Restoration of aquatic ecosystems • Flood risk and emergency management including coastal storm damage reduction • Engineering and technical services in an environmentally sustainable, economic, and technically sound manner with a focus on public safety and collaborative partnerships.
U.S. Department of Commerce, National Oceanic and Atmospheric Administration (NOAA), National Ocean Service	• Ocean partnerships • Coastal and marine spatial planning funding for ROPs • National Marine Sanctuaries

Federal Agency	Responsibilities for Ocean Resource and Coastal Zone Management
NOAA Office of National Marine Sanctuaries	• Jointly manage the Papahānaumokuākea Marine National Monument with DLNR, U.S. FWS, and OHA in the Northwestern Hawaiian Islands • Jointly manage the Hawaiian Islands Humpback Whale National Marine Sanctuary with DLNR
NOAA Office of Ocean & Coastal Resource Management (OCRM)	• Coastal Zone Management • National Estuarine Research Reserve System (NERRS) • Coastal and Estuarine Land Conservation Program • National Marine Protected Areas Center • Coastal Nonpoint Pollution Control Program • Ocean Thermal Energy Conversion
NOAA Coral Reef Conservation Program (CRCP)	• Preservation and sustainability of coral reefs • Partnerships with NOAA Line Offices to work on coral reef issues
NOAA Marine Debris Program	• Marine debris • Japan Tsunami Marine Debris
NOAA National Marine Fisheries Service (NMFS)	• Aquaculture • Habitat conservation • Protected species management and enforcement (e.g., Hawaiian Monk Seal, Green Sea Turtle, False Killer Whale) • Seafood inspection • Marine aquaculture • Sustainable fisheries management and enforcement • Pacific Islands regional connections
Department of the Interior, U.S. Fish & Wildlife Service (DOI, USFWS)	• Critical habitats • Endangered species • Wildlife refuges • Invasive species • Jointly manage the Papahānaumokuākea Marine National Monument with NOAA, DLNR and OHA in the Northwestern Hawaiian Islands
DOI, Bureau of Ocean Energy Management	• Offshore energy leasing (renewable and oil) • Offshore minerals permitting
DOI, U.S. Geological Survey (USGS)	• Historical streamflow data • Groundwater levels • Water quality data • Water use data • National Climate Change and Wildlife Science Center
Western Pacific Regional Fishery Management Council (WPRFMC)	• Management responsibilities for fisheries beyond the state's jurisdiction

Appendix E: Scientific and Ocean Research Activities Taking Place in Hawai‘i

The University of Hawai‘i is currently involved with scientific and research activities in a number of fields.

University of Hawai‘i, School of Ocean & Earth Science & Technology (SOEST) at UH Mānoa is one of the nation's premier academic institutions for ocean-related research. SOEST faculty and staff conduct research in a broad disciplinary range, including but not limited to:

- The Hawai‘i Institute of Marine Biology (HIMB) situated on Coconut Island in Kāne‘ohe Bay;
- Hawai‘i Undersea Research Laboratory, established by National Oceanic Atmospheric Administration (NOAA) and UH to study deep water marine processes in the Pacific Ocean;
- International Pacific Research Center, conceived under US-Japan Common Agenda for Cooperation in Global Perspective, focuses on understanding climate variation and predictability in the Asia-Pacific region, including regional aspects of global environmental change. The Asia-Pacific Data Research Center provides easy access to climate data and research products. Specific projects include oceanic modeling, Hawai‘i Regional Forecast, monsoon monitoring, precipitation prediction, and other research;
- Joint Institute for Marine and Atmospheric Research was established to pursue the common research interest of NOAA and the UH in oceanic, atmospheric, and geophysical research, including climate and global change, equatorial oceanography, tsunamis and fishers oceanography; and
- Center for Microbial Oceanography: Research and Education (C-MORE) facilitates a greater understanding of microorganisms in the sea, ranging from the genetic basis of marine microbial life to their ecological place in the marine environment.

Pacific Islands Ocean Observing System (PacIOOS) is based within SOEST and is the Pacific Islands regional component of the U.S. Integrated Ocean Observing System (IOOS). PacIOOS is a partnership of data providers and users working together to enhance ocean observations and develop, disseminate, evaluate, and apply ocean data and information products designed to address the environmental, economic and public safety needs of stakeholders who call the Pacific Islands home. The organization's major goal is to generate and serve ocean and coastal data in a user-friendly manner for researchers, resource managers, and the public. Within Hawai‘i, PacIOOS research and development includes:

- A system of models that assimilate direct observations in order to produce a comprehensive ocean state prediction for the main Hawaiian Islands:
    - **Circulation Models**: Ocean circulation and current forecasts are made daily using the Regional Ocean Modeling System (ROMS) for the Main Hawaiian Islands, with increased resolution for O‘ahu.
    - **Wave Modeling**: Ocean waves are forecast daily using WaveWatch III (WW III) and Simulating Waves Nearshore (SWAN) models with domains that extend throughout the entire Pacific with increasing resolution for each of the main Hawaiian Islands, the Mariana Islands, and the Samoan Islands.
    - **Atmospheric Modeling**: The Weather Research and Forecasting (WRF) model produces daily atmospheric forecasts covering all of the Hawaiian Islands as well as detailed forecasts for each of the main Hawaiian Islands.

- A sensor network measuring water quality (conductivity/salinity, temperature, pressure, chlorophyll, turbidity and in some locations, also pH, dissolved oxygen, CO_2).
- An array of wave buoys measuring height, direction and period throughout Hawai‘i.
- An array of sensors conducting biological monitoring (satellite tags and passive and acoustic instrumentation) to track the behavior, movement and population dynamics of marine mammals, reef fish, and pelagics such as sharks and tuna.
- An array of High Frequency Radio systems to monitor surface currents real-time along the south shore of O‘ahu. Expanding to include the leeward coast of O‘ahu and Hilo on Hawai‘i Island as well.
- Operational products that forecast wave inundation, high sea levels, coastal erosion, nearshore wave and current hazards, and impacts of sea-level rise in low-lying communities.
- Integration projects that present data and information collected through the system above into user-friendly tools and services:
    - PacIOOS Website (www.pacioos.org) includes data servers where users can access and download data for free and store data long term.
    - PacIOOS Voyager (www.pacioos.org/voyager) is an interactive online mapping platform that uses Google Maps as a foundation for data overlays. Data are incorporated directly from PacIOOS servers as well as from other data providers. Historical, current, and forecast data are available, as are dynamic and static data layers. Users can access Voyager for free to visualize, save, embed, download, and combine thousands of data layers in an easy-to-use platform.
    - PacIOOS Explorer (www.pacioos.org/geoexplorer) is a free data service providing GIS or map-based information. This web mapping service (WMS) and geospatial database is a unique service of PacIOOS and acts to fulfill a more robust demand for geospatial cataloging, computations, and analysis. The WMS allows users to directly query the database, then make, save, and print maps and overlays as well as conduct geospatial analyses.

University of Hawai‘i, Sea Grant College Program (UH Sea Grant) works in collaboration with SOEST and NOAA. Sea Grant is dedicated to improving the understanding and stewardship of marine and coastal resources in the state and region. UH Sea Grant includes centers for Sustainable Aquaculture, Marine Science Education, and Island Climate Adaptation and Policy. Recent publications include “Research Priorities in the Insular Pacific: Transforming Research into Regional Management.”

UH Sea Grant is hosting the NOAA Coastal Storms Program (CSP) to foster community resilience to coastal hazards. The CSP utilizes funds and resources in the US Pacific Island coastal communities to help reduce and mitigate the risk from coastal storm and weather hazards and climate change. To enhance community resilience, the program provides an array of tools, products and services, including improved observing systems, forecast models, decision support tools, assessments, community best practices and guidance, socioeconomic information, training and outreach/extension activities.

Specific programs include:

- Coastal inundation mapping, including storm surge and hurricane inundation mapping
- Developing Pacific storms climatology, Pacific Climate Information System (PaCIS), Climate Extremes in the Pacific Integrated Case Studies (EPICS) to support vulnerability assessment and adaptation planning
- Developing a Pacific Region Global Positioning Satellite (GPS) Met Network
- Improving the national spatial reference system in the Pacific Islands
- Assessing land-based toxic runoff and coral reef ecosystem resilience in the Pacific Islands

The Pacific Regional Integrated Sciences and Assessments (Pacific RISA) program supports Pacific Island and coastal communities to mitigate and adapt to the impacts of climate variability and change. The agency conducts research in water resources, management, coastal impacts and disaster risk management.

The Pacific Islands Regional Climate Assessment (PIRCA) is a collaborative effort aimed at assessing the state of climate knowledge, impacts, and adaptive capacity in Hawai‘i and the U.S. affiliated Pacific Islands. PIRCA provides information to federal, state and local government agencies, non-governmental agencies, businesses, and community groups. Their priority focus is on preserving freshwater resources and minimizing the impacts of drought, fostering community resilience to the impacts of sea-level rise, coastal inundation and extreme weather, and sustaining marine, freshwater, and terrestrial ecosystems. Research topics involve:

- Climate variability and change science, including historical observations, trends, and climatology,
- Freshwater resource sustainability, flow trends, groundwater recharge, demographic stresses
- Sea level rise (SLR) and coastal inundation projections and scenarios, current and projected coastal hazards and impacts,
- Ecosystem assessments including climate effects on ocean acidification and coral health, SLR impacts on ecosystems, saltwater intrusion, and species/habitat responses to precipitation and temperature changes.

The University of Hawai‘i has recently committed to a collaborative Sustainability Initiative for the campus, involving new staff clustered around the statewide program. UH Sea Grant competed with other departments across the University of Hawai‘i system and won funding for this important and groundbreaking initiative. The cluster includes five new tenured staff in the fields and schools of economy, engineering, oceanography, architecture, planning, Hawaiian Studies, and ocean agriculture. The program will be focused on the three areas of water, energy and transportation, and while each staff member is housed in one of the five schools, they are also required to dedicate 25% of their time to collaborative work in the Sustainability Initiative.

Appendix F: Community and Place-Based Ocean Management Projects

A primary mission of OP-CZM is to coordinate the implementation of the *ORMP* by promoting collaborative governance and stewardship. During the ORMP Demonstration Phase, several community groups were able to implement projects with the assistance of funds from OP-CZM. Six ORMP implementation projects were funded that involved state or county government partners working with a community-based organization partner. Six other community projects were funded through the leveraging of other funds. The twelve projects described provide important information and lessons from the ORMP Demonstration Phase.

OP-CZM Direct Funded Partnership Projects

Māhuahua ʻAi o Hoi (Oʻahu)

The Hawaiʻi Community Development Authority (HDCA) worked with community partners Kākoʻo ʻŌiwi and the Koʻolaupoko Hawaiian Civic Club and received $96,395.00 of OP-CZM funds to support Māhuahua ʻAi o Hoi. The project site is on Oʻahu's windward coast at the Heʻeia wetlands (Hoi), which currently lay fallow and are covered with dense vegetation. Mangrove overgrowth that was hampering the flow of the Heʻeia Stream was removed. In order to restore the Heʻeia wetlands and reduce non-point source pollution at the shoreline, the partners are incorporating a traditional Hawaiian *ahupuaʻa* concept of land management through the interconnections of the Heʻeia wetlands to the Heʻeia shoreline. The *Heʻeia Wetland Restoration Strategic Plan 2010-2015* outlines plans, partnerships, and actions to be undertaken in the next few years. The planning and training phase of the project embodies all three perspectives of the *ORMP* and serves as a model demonstration project.

This project is considered highly successful and has since been chosen as a NOAA Sentinel Site. A NOAA Sentinel Site must be place-based, issue-driven, and collaborative, and in a coastal and marine environment that has the capacity for intensive study and sustained observations. NOAA chose this site based on its unique blend of characteristics: a dynamic physical setting, an ecologically diverse environment, and a rich culture of historical significance.

Honu‘apo Estuary (Hawai‘i Island)

This project is a partnership between the County of Hawai ‘i and the community group Ka ‘Ohana O Honu ‘apo. The partners are implementing the Coastal Nonpoint Pollution Control Program (CNPCP) Wetlands Management Measure for Restoration of Wetland and Riparian Areas in Wetlands. A Best Management Practice they are implementing is for restoration of a naturally occurring aquatic ecosystem. OP-CZM granted $25,000 to the County of Hawai‘i, and the County invested over $300,000 for this project in the County’s Honu‘apo Park.

Hilo Bay Watershed Advisory Group Web Site Project (Hawai‘i Island)

The Hilo Bay Watershed Advisory Group mission is to “bring the community together to understand and protect the ecology of the Hilo Bay Watershed.” This project is a partnership between the County of Hawai‘i Planning Department, Hilo Bay Watershed Advisory Group, and the Big Island Resource Conservation & Development Council. This project involved the design, development, implementation, and administration of a professional-quality interactive website, and OP-CZM awarded $5,000 to this project.

Hilo Bay Watershed Advisory Group Water Quality Monitoring Program (Hawai‘i Island)

This project is a partnership between the County of Hawai‘i Planning Department, Hilo Bay Watershed Advisory Group, Big Island Resource Conservation & Development Council, DOH Clean Water Branch, and the Pacific Aquaculture & Coastal Resources Center. OP-CZM awarded $5,020 to this project, which identifies pollutants that may need application of Best Management Practices to bring suspect waters into compliance with current water quality standards.

Tsunami Education, Preparation & Recovery Plan for Downtown Hilo (Hawai‘i Island)

The lead partners for this project are County of Hawai‘i Planning Department and the Pacific Tsunami Museum. This project addresses the risk that the Downtown Hilo business community faces from tsunami inundation, including storm surge and coastal flooding. OP-CZM awarded $24,700 to this project, which resulted in *Tsunami Education: A Blueprint for Coastal Communities* (January 2009).

Baseline Monitoring at High-yield Watershed Units C and D (Hawai‘i Island)

To prevent the degradation of streams and coastal waters from sediment loads carried from disturbed upland forest habitats, Best Management Practices will be followed by fencing Watershed Units C and D in the Pu‘u O Umi Natural Area Reserve and the Kohala Forest Reserve.

The Pu‘u O Umi Natural Reserve is 10,142 acres and was established in 1987. It includes 13 natural communities, including 2 rare communities. In addition, there are 124 total native plants and 7 total native animals, several of which are rare. A six-acre ungulate-free unit has been constructed on and above the narrow windward sea cliffs.

The Kohala Forest Reserve is one of 22 reserves on the Island of Hawai‘i, and is adjacent to the Kohala Watershed and Pololu Valley. The lead partners for this project are the DLNR Division of Forestry & Wildlife and the Kohala Watershed Partnership. OP-CZM awarded $50,000 for this effort.

Leveraged Projects

The first six projects described in this Appendix were funded by OP-CZM through direct grants. These next six projects were funded by leveraging funds from one or more ORMP partners, working in collaboration with OP-CZM. The following six projects occurred during the ORMP Demonstration Phase.

Mālama Maunalua at Maunalua Bay (O‘ahu)

This ORMP Demonstration Project is named “E Mālama I Nā ‘Āina Kumu Wai O Maunalua: Caring for the watersheds of Maunalua.” UH Sea Grant partnered with a community non-profit group, Mālama Maunalua, and created a *Watershed Handbook for the Residents of Maunalua* to illustrate how low impact development and easy community tools can to reduce nonpoint source pollution. Mālama Maunalua also partnered with schools and other volunteer groups to pull over 3 million pounds of invasive algae from Maunalua Bay, freeing up 23 acres of ocean. Mālama Maunalua worked with government agencies at the federal, state, and local levels to reduce runoff, while doing small community-based projects with residents and businesses to reduce the siltation into Maunalua Bay. This project was funded under the Coastal Nonpoint Pollution Control Program (CNPCP) through OP and was written in cooperation with UH Sea Grant. This funding was provided through a portion of a NOAA stimulus award worth $3.4 million. This project is an excellent example of building community capacity through education and outreach to address land-based pollution.

Kawainui Marsh Levee Certification Project (O‘ahu)

OP-CZM contracted with the City and County of Honolulu to assist in the certification of the Kawainui Marsh Levee. The U.S. Army Corps of Engineers (USACE) had constructed the original Kawainui Flood Control Project in 1966, with modifications made in 1997. The project protects the town of Kailua against flood events while perpetuating the 830-acre Kawainui Marsh as the largest wetland in the State of Hawai‘i. The Kawainui Marsh Environmental Restoration Project broke ground in June 2012 and is in the process of creating 11 wetland pond cells within 37 acres at the mauka end of Kawainui Marsh. The project restores wetland habitat for several endangered birds: Ae‘o Kukuluao (Hawaiian Stilt), ‘Alae ‘Ula (Hawaiian Gallinule), ‘Alae Ke‘oke‘o (Hawaiian Coot), and Kōloa (Hawaiian Duck). The project will provide increased public access to Kawainui Marsh while helping to protect the neighboring urban area, Coconut Grove, from flooding.

West Maui Mountains Watershed Partnership (Maui)

The West Maui Mountains Watershed Partnership (WMMWP) is a voluntary collaboration of public and private landowners to preserve and protect nearly 50,000 acres of the forested core of West Maui or 10% of the island of Maui. The WMMWP's efforts are concentrated in the West Maui Mountains, also known as Mauna Kahalawai, where elevations range from the summit at 5,788 feet to near sea level. The WMMWP includes several private landowners and DLNR. WMMWP crews have installed fences to protect against Axis Deer in the watershed while also monitoring and controlling weeds. Since 1998, they have built 17 miles of fences to protect 17,989 acres of land.

West Maui Ridge 2 Reef Initiative

The West Maui Ridge 2 Reef Initiative is an all-encompassing approach across multiple agencies and organizations to address adverse impacts to coral reefs in West Maui. This initiative covers covers five watersheds: Wahikuli, Honokowai, Kahana, Honokohua, and Honolua. Many individuals from the community are working closely with lead agencies including: DLNR, DOH, NOAA, EPA, National Fish and Wildlife Foundation (NFWF), USDA-NRCS, DOI-FWS, United States Geological Survey (USGS), and USACE.

US Army Corps of Engineers (USACE) Silver Jackets Initiative (Statewide)

Through its Silver Jackets Initiative, the USACE Honolulu District funded a collaborative project to reduce risk in the Pacific that could affect or impair holistic water management. The ORMP Policy and Working Groups were invited to partner with the USACE and the Pacific Risk Management Ohana (PRiMO) to support the continued development of synergies between agencies to help reduce risk associated with an array of issues, including environmental degradation, natural disasters, and climate change. One of these projects was the *Hawai‘i 2060: Visioning Hawaii’s Adaptation to Climate Change*, which is a report of the Alternative Futures Exercise at the 2011 Planning Meeting with ORMP partners.

Appendix G: Resources for Communities in Coastal and Marine Stewardship

Throughout the process of updating the ORMP, communities across the island state have asked how they can access more assistance for their projects. From Anahola, Kaua‘i where community members are rebuilding the ancient Hawaiian fishpond at their shoreline to the fishponds of Moloka‘i, from water quality monitoring concerns at Hulupoe Bay on Lāna‘i to runoff issues at Kawaihae Harbor on Hawai‘i Island, communities wanted to sustain their ocean resources, but they needed assistance. Some knew what had to be done but needed help with Federal and State permitting processes. Others had a vision for how their group could improve their resource but needed technical assistance for grant applications. And others had worked for decades on projects that had not come to fruition and could not prevail over their years of frustration.

There are many funding opportunities for communities doing work that matches the framework in the ORMP Three Perspectives: Connecting Land and Sea; Preserving Our Ocean Heritage; and Promoting Collaboration and Stewardship. These include:

National Oceanic and Atmospheric Administration Community-based Restoration Program

NOAA’s Community-Based Restoration Program (CRP), which is part of the Habitat Conservation of the National Marine Fisheries Service, supports priority projects in Hawai‘i that can address threats to the coastal ecosystem. CRP partners with grassroots organizations to encourage hands-on community participation in restoration projects. CRP delivers technical support along with funds for projects in order to help ensure restoration success.

Examples of funded programs are the Okelehao Trail Erosion Control Restoration and the Waipa Fishpond and Estuarine Habitat Restoration Project, both located in Hanalei on the island of Kaua‘i and both implemented by The Hanalei Watershed Hui.

Funding opportunities, guidelines, and proposal applications can be accessed here:
http://www.habitat.noaa.gov/funding/southwest.html

NOAA Marine Debris Program

NOAA supports several grant opportunities for removal of marine debris. The first is in partnership with NOAA CRP mentioned above, and the second is a public-private partnership called Fishing for Energy.

The NOAA CRP grants typically open each summer with proposals due in either late October or early November. Funding of up to $2,000,000 is expected to be available for Community-based Marine Debris Removal Project Grants in fiscal year 2012.

The Fishing for Energy Small Grants Fund is administered in partnership with the NOAA Marine Debris Program, Covanta Energy Corporation, Schnitzer Steel Industries, and the National Fish and Wildlife Foundation. This grant provides funding to Fishing for Energy Partnership ports, their partners, or other commercial fishing ports for disposal of old, abandoned, or derelict fishing gear.

Funding opportunities, guidelines, and proposal applications can be accessed here:
http://marinedebris.noaa.gov/funding/welcome.html

Hawai'i Conservation Alliance

The Hawai'i Conservation Alliance is a cooperative collaboration of conservation leaders representing government, education, and non-profit organizations. The purpose of the HCA is to work together to continue stewardship and promote preservation, to increase diversity of native species, and to ensure continued maintenance of Hawaii's biodiversity. The nineteen organizations currently in HCA are many of the same organizations represented formally in the ORMP Working Group, and will be many of the same organizations represented in the Hawai'i Sub-ROP. This alliance fits within all Three Perspectives.

HCA holds an Annual Hawai'i Conservation Conference, which celebrated its 20th Anniversary in 2012. HCA also aggregates many different funding opportunities on its website. Further information can be accessed here:
http://hawaiiconservation.org/resources/grants

Harold K. L. Castle Foundation

The Castle Foundation provides annual grants to nonprofit organizations serving Hawai'i if they have been approved as Internal Revenue Service Code Sections 501(c) (3) and 509(a) public charity status. The Castle Foundation also provides grants to Hawai'i public schools. The funding cannot be used for ongoing operating expenses unless it is a new project or new organization seeking start-up funding.

The categories for funding include: Public Education Redesign and Enhancement; Nearshore Marine Resource Conservation; Strengthening the Communities of Windward O'ahu; and Other Investments. The grants relating to Nearshore Marine Resource Conservation fit with Perspective Two: Preserving Our Ocean Heritage and Perspective Three: Promoting Collaboration and Stewardship.

Information about the Castle Foundation grants and resources for grant seekers is available here:
http://www.castlefoundation.org/grantseeker-resources.htm

Hawai'i Alliance of Nonprofit Organizations

The Hawai'i Alliance of Nonprofit Organizations (HANO) provides leadership, advocacy, research information, communications, professional development, and products and services for the nonprofit sector in Hawai'i. For community organizations seeking to become a formal non-profit, HANO provides several website links in Hawai'i and in the Unites States to complete this process. Links to resources for nonprofits and those starting a nonprofit can be found here:
http://hano-hawaii.org/resources/

Hawai'i Tourism Authority Natural Resources Program

The Hawai'i Tourism Authority (HTA) developed the *Hawai'i Tourism Strategic Plan: 2005-2015*, and one of the nine tourism strategic initiatives identified as necessary to achieve the vision of the plan is the Natural Resources Initiative. Funding is applied for annually via a Request for Proposals process. In the past, a variety of projects have been funded including efforts to remove alien species, re-planting of native plants, trash removal from natural resources areas, and installation of interpretative signage to educate visitors about environmental assets. Links to resources and the annual application can be found at:
www.hawaiitourismauthority.org

Makai Watch

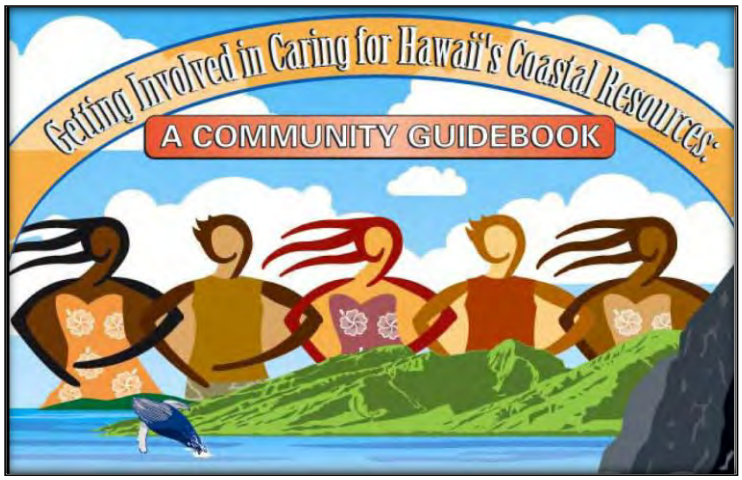
DLNR partners with community groups and Non-Government Organizations as part of the Makai Watch Program. Makai Watch focuses on near-shore marine resources and community-based participation. The Makai Watch Program consists of three main components: 1) Building Community Awareness and Outreach; 2) Biological and Human Use Monitoring; and 3) Incident Observation and Encouraging Compliance

The nine DLNR-recognized Makai Watch groups operating are:

1) Puakō, Hawai‘i
2) Ka‘ūpūlehu and Kūkio, Hawai‘i
3) Kā‘anapali/Kahekili, Maui
4) ‘Āhihi-Kīna‘u Natural Area Reserve, Maui
5) Pūpūkea-Waimea, O‘ahu
6) Maunalua Bay, O‘ahu
7) Waikīkī, O‘ahu
8) Hanalei, Kaua‘i
9) Hā‘ena, Kaua‘i

Anyone can get involved by contacting the Makai Watch Coordinator on their island:
http://www.hawaiicoralreefstrategy.com/index.php/makai-watch-on-going

Getting Involved in Caring for Hawaii's Coastal Resources



DLNR’s Division of Aquatic Resources distributes a community guidebook with support from NOAA’s Coral Reef Management Grant. The guide gives advice on how to start a community-based project, develop an action plan, prioritize projects, and find funding. Related activities, additional resources, and contact information is also provided.

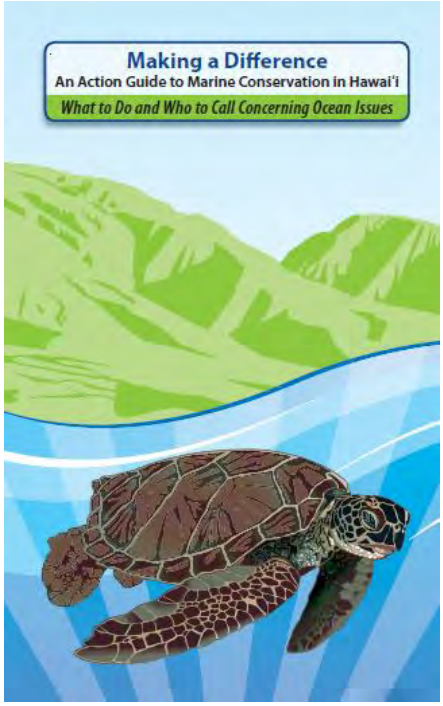
http://coralreef.noaa.gov/education/educators/resourcecd/guides/resources/hi_resources_g.pdf

Project S.E.A.-Link

Project S.E.A.-Link is a nonprofit organization based on Maui and founded in 1999. This nonprofit works with volunteers on all islands to implement community-based coral reef monitoring. A volunteer can conduct reef fish surveys or participate in the ReefWatchers program to collect information on the impact humans have on the reef itself. There are also educational, science, and awareness links available.

http://projectsealink.org/index.html

Making a Difference Action Guide



OP-CZM Program, in cooperation with Project S.E.A.-Link and NOAA, distributes *an Action Guide to Marine Conservation in Hawai'i*. The guide was designed as a tool to provide communities with key information, guidelines, and contact information for ocean users to participate in marine conservation.

Included in the contact information are the myriad of agencies at all levels of government in a handy marine enforcement phone book.

http://www.hawaiicoralreefstrategy.com/PDFs/14_Makai_Watch_On-going/EntireGuideBook.pdf

Hawai'i Community Stewardship Directory

The OP-CZM Program developed the *Hawai'i Community Stewardship Directory* to help community groups and organizations involved in natural and cultural resources management connect with each other, share their experiences, and exchange lessons learned. OP-CZM updates this directory periodically as one element of the ORMP. To date, 114 organizations across Hawai'i have requested inclusion in this directory.

http://files.hawaii.gov/dbedt/op/czm/initiative/community_based/May2010_HawaiiCommunityStewardshipDirectory.pdf

Marine and Coastal Zone Advocacy Council (MACZAC)

Chapter 205A-3.5 of the Hawaii Revised Statutes clarifies the Office of Planning's responsibility to maintain a public advisory body (MACZAC). The body is composed of twelve advisory members recruited from the Islands of Kaua'i, O'ahu, Maui, Moloka'i, Lāna'i, and Hawai'i, who have diverse backgrounds in business, environment, native Hawaiian practices, terrestrial and marine commerce, recreation, research, and tourism. MACZAC's mission statement is: "Advocate for a comprehensive management system which restores, preserves, and protects Hawaii's marine and coastal environment." MACZAC is an integral part of the ORMP.

http://planning.hawaii.gov/czm/maczac/

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Pacific International Space Center for Exploration Systems

PISCES

FINAL REPORT

Fiscal Year 2013

Act 273, SLH2013

1 July 2012 – 30 June 2013

July 20, 2013

Aloha!

I am very pleased to introduce the final report for the Pacific International Space Center for Exploration Systems (PISCES) for fiscal year (FY) 2013. As Executive Director for this important project, it has been my pleasure to direct the operations during this transition year. I want to extend my congratulations to the excellent PISCES staff who made this first year a success in Hawaii. I also extend my sincere thanks to the many legislators, board members, academic advisors, cultural committee members and members of the business sector for their input, contributions, guidance and interest.

Within the pages of this final report, the reader will note a marked growth in the level of strategic participation from many elements in Hawaii, as well as from NASA, educational institutions and the private sector outside the State and in other countries. The inclusion of private sector, federal agencies and international entities has allowed the research collaborations to greatly grow and deepen.

Further, our partnership with Hawaii's Department of Business, Economic Development, and Tourism (DBEDT) was an important linkage into the State's aerospace initiative. We look forward to continuing this partnership as PISCES efforts within the State continue to grow.

The need for Hawaii to improve its basic science and technology infrastructure remains a strong point in the strategic development of our state's economy and educational system. Hawaii's most important resource is our people. Thus, PISCES projects and partnerships focus not only on developing technologies for planetary surfaces, but also for how these technologies can improve the sustainability of Hawaii. As such, PISCES has infused three important tenets in all of its projects: (1) growth of 21st century skills for 21st century jobs, (2) economic development and (3) workforce development.

I look forward with great anticipation to my continued role as Director as PISCES enters its first full-year of operations in FY14. The enthusiastic and widespread support for PISCES will ensure continued success during the exciting years ahead. We have only just begun to reach for new heights in continuing Hawaii's long history with the stars.

With much Aloha,

Robert M. Kelso

Executive Director, PISCES

Pacific International Space Center for Exploration Systems

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A. Executive Summary

The Pacific International Space Center for Exploration Systems (PISCES) in Hawaii is focused on the validation and verification of planetary surface systems and technologies. It is also compelled to apply translational technologies back within the State of Hawaii at a terrestrial level to assist in improving the sustainability of Hawaii. As such, PISCES is an important component of the State's emerging aerospace sector and is an economic driver for Hawaii in promoting 21st century skills for 21st century jobs, economic development and workforce development. Act 169, SLH 2012 removed PISCES from the University of Hawaii-Hilo and instituted it as a State project within the Department of Business, Economic Development and Tourism (DBEDT). While Act 169 took effect on 1 July 2012, authority-to expend was not approved until December, 2012. Hiring of staff was not realized until late February, 2013. Thus, the remarkable achievements and milestones were accomplished in the remaining 4 months of FY13. FY14 will be the first full year of operations. The highlights of PISCES for FY2013 are presented below.

Overview of PISCES FY2013 Funding

- Act 169 and Act 106 provided the authoritative funding for PISCES operations for FY13. The level of funding was $2.34M.

Total Funding Authorized	$2.34M	
CIP	$1.84M	Act 106 (2012)
OPS-General (G-Fund)	$500K	Act 169 (2012)

- $275K was allocated from CIP to the State's Department of Accounting and General Services (DAGS) to perform a site selection and environmental assessment for a future PISCES organizational building. The remaining $1.565M of CIP is held in reserve for design and construction of the building.

FY2013 Milestones

- 1 July 2012 – (PISCES funding bill) takes effect
    - PISCES legislatively transferred from the University of Hawai`i system into the State of Hawai`i Dept. of Business, Economic Development and Tourism (DBEDT)
- 10-23 July 2012 – 3rd International Hawaii In-Situ Resource Utilization Analogue Field Test
    - A mission simulation to locate, characterize, and map water/ice and other volatiles that may be present at the lunar poles using the Regolith & Environment Science and Oxygen & Lunar Volatile Extraction (RESOLVE) experiment on the Canadian Space Agency (CSA) Artemis Jr. rover.
    - Evaluation of NASA's Moon Mars Analog Mission Activity (MMAMA) instrument ability to perform science investigations associated with rover-based planetary surface (Moon or Mars) exploration
- Nov 2012 – PISCES Board of Directors formed, new PISCES Executive Director named
- Nov 2012 – PISCES Conference in Waikoloa, "Pioneering Planetary Surface Systems Technologies and Capabilities"
- Dec 2012 – DBEDT/RCUH sign project agreement for administrative services to PISCES
- Dec 2012 – Governor Abercrombie approves request to expend funds under Act 169

- 25 Feb 2013 – official start-date / hiring complete of four of PISCES staff
    - Executive Director, Office/Admin Manager, Test Manager, Logistics Manager
- Late Feb 2013 – $275K transfer of funds to DAGS for PISCES building study
    - DAGS begins development of PDR requirements for a DBEDT-PISCES headquarters facility, plus Site Surveillance Study (SSS)
    - Effort to be completed in Dec 2013
- 10 April 2013 – PISCES, as Lead-PI, submits 5yr, $6M proposal to NASA for research study in "Regolith, Resources and Recovery"
    - Study, to be led by PISCES, will characterize the regolith on the Moon and near-Earth asteroids to assess regolith for construction materials (e.g., concrete, reinforcements)
    - PISCES also submitted as Co-PI on proposal to assess technologies for lava tubes and pit craters
- 11 April 2013 – PISCES establishes offices at 99 Aupuni Street, Hilo
- 19 April 2013 – signed Space Act Agreement (SAA) between PISCES and NASA
- 25 April 2013 – PISCES signs six memoranda of understanding (MOU)
- 15 May 2013 – hiring complete for PISCES public information officer (PIO) position
- 31 May 2013 – hired 5 student interns for summer 2013

Strategic Partnerships / Memorandums of Understanding (MOU)

- The following MOUs were signed with PISCES strategic partners:

Organization	Relationship with PISCES
East Hawaii Development Corp (EHDC) / Hawaii Tech Works	Workforce Dev, C3T, Machining for Customers, 3D and Additive Manufacturing
Behrokh Khoshnevis (University of Southern California)	Contour Crafting and Sulfur Binders
Leonhard Bernold (Univ. of New South Wales) - Australia	Polymer binders and basalt casting/sintering
Planetary Power Inc. (PPI)	Portable and sustainable renewable power
Lutz Richter – International Society of Terrain Vehicle Systems (ISTVS)	Robotics M&O
Na Pua No`Eau	EPO, workforce development at the front-end (K-12), student and intern projects
Russ Ogi Inc. (Honolulu)	3D printing technology
Korea - International Space Exploration Research Institute(ISERI)	Lunar/basalt concrete
Ontario Drive Gear (ODG)	Robotic rover systems

PISCES Projects

- Lunar/basalt concrete – PISCES is exploring research opportunities in the area of basalt construction:
    - Basaltic concrete – under investigation by PISCES is the use of basalt material for construction, versus using traditional concrete imported from the mainland into Hawaii. To live and operate on a planetary surface (example: moon, Mars) will

require stabilizing the surface to construct landing pads, berms, shelters, etc. Hawaii, with its volcanic basalt material approaching that of moon and Mars, is a perfect location and analog for testing planetary construction techniques using basalt material, with application of specific binding agents. This to the benefit in future planetary exploration, and also to the benefit of Hawaii in its move to a more sustainable environment.

- Advanced manufacturing / 3D printing technologies – in its search for 21st skills and workforce development, PISCES is assessing opportunities for infusing more advanced manufacturing within the State starting with applications of 3D printing technology.
    - 3D laser printing – 3D printing technology has come a long way in the last few years. PISCES is investigating the use of 3D laser printers to do sintering of basalt 'fines' - small particles of basaltic powder produced by rock crushers in quarries. Application of this technology is instrumental to constructing small part/objects on planetary surfaces using indigenous materials. It also applies to making small parts from the stock of basalt fines located in Hawaii. It has application to generating 21st skills for 21st century jobs and creating advanced manufacturing opportunities within the State.
- Renewable energy
    - PISCES is partnering with Planetary Power Inc (PPI) on assessing high technologies in the area of renewable energy generation. PPI has made recent advances in high-tech, solar concentrator energy systems that provide high efficiency off-grid power. PISCES needs such power systems to support remote field tests at various lunar/Mars analog test sites on the Big Island. These systems also could provide off-grid power for emergency response services in event of disasters.
    - PISCES is working with PPI to assess marketing opportunities within the State, and identifying candidates for early-adopters for the technology within the State. Then, discussions are planned for options to locate PPI manufacturing and production jobs to Hawaii for their power systems.
- Aerial Tele-robotic Systems
    - PISCES is investigating opportunities to leverage its prior experience in tele-robotics into the area of unmanned aerial systems, specifically gyro-copter systems. These systems could have relevant application to search & rescue, and sensor technologies for monitoring agricultural programs on the Big Island. It also includes opportunities for establishing operator training programs with Hawaii Community College (HCC).
- NASA Laser Communication Technology Demonstration
    - NASA has approached PISCES during FY13 with interest in exploring possible opportunities to locate a state-of-the-art laser communications ground terminal above the cloud layer in Hawaii. Such a capability relates to the broadband interest of the State cited within the PISCES authorization bill. PISCES has initiated discussions with NASA to further explore this opportunity.
- PISCES Facility Users Guide
    - It is anticipated that future users of the PISCES test facilities will come from NASA, international, and the private sector. In preparation for this future testing in Hawaii, PISCES is developing a facility user's guide which will assist users with understanding

what capabilities will be provided and how to make arrangements for travel to/from the site.

- Google Lunar X-Prize (GLXP) Preferred Provider Program
    - PISCES has initiated work to assess ability and options for PISCES to assist with the Google Lunar X-Prize (GLXP) organization regarding approaches within the State's local/corporate groups to assist these non-profit, GLXP teams in bringing their test hardware to Hawaii to test in the lunar analog sites of the Big Island. The idea is to assist these teams in defraying costs to make the trip more cost effective for the teams. Examples were reduced hotel rates, flying their hardware free on Hawaiian Airlines when excess capacity allows, etc.

PISCES Educational and Outreach Programs

- PISCES supported a number of EPO/outreach activities during the fiscal year, including Journey thru the Universe, Astro-Day in Hilo, hosting of the Moonbot: GLXP Lego Mind Storm Challenge winning team from Hungary, speaking to the Hui Ka Ua breakfast club, speaking at the Rotary group meeting, and outreach of rover / NASA technology at `Imiloa during the NASA/Canada field testing in July 2012.

PISCES Organization

- With the enactment of Act 169, PISCES was legislatively transferred from the University of Hawai`i system into the State of Hawai`i Dept. of Business, Economic Development and Tourism (DBEDT). Following the appointment of a Board of Directors in November 2012, the Board offered the new Executive Director position to Rob Kelso, formerly a NASA Space Shuttle Flight Director. The PISCES staff was formally hired at the end of February 2013:
    - Rob Kelso – Executive Director
    - Polly Roth – Executive Assistant, Office Administrator
    - Christian Andersen – Manager, Test Operations
    - John Hamilton – Manager, Test Logistic, EPO
    - Mari-Ela David Chock – Public Information Officer (PIO), hired mid-May 2013
- Board of Directors – a Board of Directors was established for PISCES through the legislative bill, Act 169 SLH 2012, as an executive Board. The Board convened and met with PISCES on four occasions during FY13. The Board was established with representatives from the State government, industry, University of Hawaii system, members local to Hawaii and those from the mainland. A NASA representative was assigned as a non-voting member. The Honorable George Ariyoshi was appointed as the PISCES Board Chairman.
- Cultural Advisory Committee – PISCES re-instituted a set of native Hawaiian representatives to advise the PISCES organization on cultural matters.

B. Introduction

PISCES was initially established in 2007 and located within the University of Hawaii-Hilo to provide enabling services for users of high-quality planetary surface test sites unique to Hawaii. In 2012, Governor Abercrombie signed Act 169 wherein the State determined that “the PISCES, including its proposed aerospace technology research and development park project, is an economic driver for the

island of Hawaii that promotes the establishment and growth of new sustainable and green industries along with associated jobs, workforce development, internships, and science, technology, engineering and math education programs (STEM)".

As such, Chapter 201, Hawaii Revised Statutes, was amended to administratively attach the PISCES project to the State's Department of Business, Economic Development and tourism (DBEDT). The bill also created an associated board of directors and executive director position.

Since 2007, PISCES had been instrumental in providing test operations for the verification and validation of planetary surface systems and technologies. Under this legislative transition in 2012, PISCES expanded its portfolio in FY13 to include a broader scope of planetary tasks, and also focus to assure that each project contained elements important to the State: growth of 21st century skills for 21st century jobs, economic development and workforce development. The PISCES portfolio thus expanded to include new focal areas: advanced manufacturing, 3D printing using basalt material, tele-robotics for search & rescue and Space-Ag, assessing high efficiency planetary power/energy systems for test site operations, lunar concrete, student flight experiment opportunities, and more.

Given the delay in establishing the board of directors (Nov 2012) and processing of the approval-to-expend (Dec 2012) for PISCES, the organization was in operations for only the last 4 months of the fiscal year. However, significant contributions, progress and strategic alliances were established for the State in that shortened period of operations in FY13.

This report highlights these accomplishments, budgetary overview, project planning, and strategic partnerships so produced during the last four months of FY13.

C. Overview of FY13 Funding

The State's Act 169 and Act 106 appropriated $2.34M to PISCES for FY13. This sum was portioned between $1.84M (Act 106)(12) for capital improvement (CIP) and $0.5M (Act 169)(12) of general revenues (G-fund) for operations.

- Of the $1.84M for CIP, $275K was allocated from PISCES to Department of Accounting and General Services (DAGS) for the planning and site survey study (SSS) for locating a new PISCES facility. This facility is required to support administrative offices for staff, workshop and highbay for test/checkout of test equipment and hardware leading to test operations. The DAGS study is due in December 2013. The remaining CIP ($1.565M) are held in reserve for the building project. Cost estimates for the PISCES building will be provided in the December report from DAGS. The balance of the CIP required for building construction will be forwarded into the FY15 funding cycle.

The following table shows the financial data for the fiscal operations thru 30 June 2013. A more detailed report is shown in Section M.

COST CATEGORY	AWARDED	EXPENDED THRU 6/30/2013	OUTSTANDING PURCHASE ORDERS	TOTAL EXPENDED & COMMITTED	AVAILABLE BALANCE
Salaries & Fringe	337,000	147,516	-	147,516	189,484
Non-labor Operating Costs	163,000	63,874	18,198	82,072	80,928
Equipment	-	-	-	-	-
Total	500,000	211,390	18,198	229,588	270,412

The available balance of FY13 funds show in the table above will be used to cover early FY14 operations until FY14 funds are available for use. If FY14 funds are available by the end of September, it is likely that some FY13 funds can be used to purchase essential test hardware.

D. PISCES Governance, Management & Administration

PISCES was established as a space center administratively attached to the State of Hawaii Office of Aerospace Development in the Department of Business, Economic Development and Tourism (DBEDT) through the enactment of Act 169 on July 1, 2012. The bill formally transferred all responsibilities, powers, functions, appropriations, supplies, assets, obligations, agreements from the University of Hawaii (UH) to DBEDT.

Act 169 laid the foundation for PISCES governance, management and administration, by establishing a PISCES board of directors and enumerating its powers and duties, enumerating the powers and duties of the executive director, and by providing stability for the transition from UH to DBEDT by keeping all existing administrative rules, policies, procedures and guidelines in full force and effect until they were amended or repealed by DBEDT. Here is an update of activities undertaken since the enactment of Act 169.

Governance

In November 2012, the PISCES Board of Directors was formed following the guidelines set forth in the legislation. The Board members are:

- PISCES Board Chairman, the Honorable George R. Ariyoshi
- Henk B. Rogers, Vice Chair
- Lewis L. Peach, Jr., Board Secretary
- Hoyt Davidson, Near-Earth LLC
- Galen Ho, President Galen Enterprise
- Mary Alice Evans (representing the Director of DBEDT)
- Jim Keravala, Shackleton Energy
- Chancellor Donald Straney (representing the President of the University of Hawaii)
- Rob Kelso, Executive Director, PISCES, Ex-Officio, Voting
- Dr. Daniel J. Rasky, NASA-Ames, Ex-Officio, Non-Voting

The Board has met four times in fiscal 2013: November 1, 2012; November 11, 2012; December 14, 2012; March 12, 2013.

Management

The Director of DBEDT appointed Robert M. Kelso to be the Executive Director of PISCES and the Board of Directors confirmed his appointment in November 2012. He was hired through the Research Corporation of the University of Hawaii (RCUH) on February 25, 2013. The Executive Director supervises all current PISCES personnel and provides direction for all of their activities and projects. The chart below lists current PISCES positions.

Position	FTE	Incumbent	Start Date
Executive Director	1.0	Rob Kelso	02/25/2013
Executive Assistant, Office Administrator	1.0	Polly Roth	03/01/2013
Manager, Test Operations	1.0	Christian Andersen	02/20/2013
Manager, Test Logistics, EPO	1.0	John Hamilton	02/20/2013
Public Information Officer	0.5	Mari-Ela David Chock	05/20/2013

The Executive Director meets quarterly with the Deputy Director of DBEDT and the Director of the Office of Aerospace Development to provide a budget status report and an update on programmatic progress.

PISCES has continued with the previously assembled Community Cultural Advisory Committee (Papa A'oa'o) which was originally formed in 2007. This committee is composed principally of Native Hawaiian professionals and cultural practitioners and its role is to provide advice to PISCES Management and Staff on conducting operations in a culturally aware and sensitive manner. This year PISCES hosted an inaugural meeting outlining the broader mission and soliciting greater interaction between the Cultural Advisory Committee and PISCES management. The committee will meet two to three times a year. In addition, individual members may be consulted in their particular area of expertise on an ad hoc basis as issues arise or new projects are undertaken. Two new members were recruited to bring the committee membership to nine. The new members are Dr. David Sing, Director of Na Pua Noe'au and Dr. Gregory Chun, previously of Kamehameha Schools/Bishop Estate and now with Awa Kele LLC.

Administration

DBEDT's decision to contract with the RCUH for fiscal and human resources services was key to effecting a smooth transition for PISCES administrative operations. DBEDT and RCUH entered into an agreement on December 6, 2012 that would assure the provision of these services through December 31, 2013, with the possibility of extending the agreement, one year at a time, through December 31, 2015.

RCUH was established by the legislature in 1965. They are an effective administrative organization. In FY 2012, their volume of business was $484M. RCUH has mature and tested procurement, accounting and human resources policies, procedures and forms. They have secure on-line financial and human resources portals for entering and approving purchases, payments and personnel actions. Up-to-date financial and human resources information can be viewed on line and downloaded for customized reports.

By contracting with RCUH, DBEDT assured that all funds provided to PISCES would be governed by, and would follow, all RCUH policies and procedures, thereby conforming to relevant laws and regulations. There is a system of checks and balances in place. Purchasing and hiring actions are initiated at the project level, they are approved by a Fiscal Officer at RCUH and by the Principle Investigator on the account (Deputy Director of DBEDT) or a Co-PI (PISCES Executive Director or Office Administrator).

There are few administrative situations that are not covered by RCUH policies, procedures and guidelines. As we discover areas that need to be clarified or expanded to cover PISCES operations, we develop PISCES-specific policies and procedures. Examples of PISCES-specific policies are those covering volunteer operations and use of the PISCES vehicle.

In addition to establishing governance, management and administrative functions during Fiscal 2013, PISCES staff located, leased and furnished an off-campus office near the State and County offices in Hilo. The facility has a private office, an administrative area, a conference room and general space with four desks that can be used by PISCES staff, interns and visitors.

E. Updated business plan for the aerospace technology research and development park project

The critical pieces that PISCES must understand and consider for the successful implementation of an Aerospace Technology Park are: location, land & infrastructure; park management; and anchor tenants.

Location

To be desirable to potential tenants, the location of the park is critical. The choice of location should derive from a number of factors that contribute and facilitate commercial activities.

- Labor Skill: Available labor needs to have adequate skills to perform desired work and an adequate workforce training program in the community.
- Cost of Living: The cost of living needs to be reasonable enough to minimize expenses to the business and employees.
- Accessible Distribution Points: Shipping facilities (ports, freight, and airports) must be easy to access and preferably underutilized (to accommodate increased traffic with minimal infrastructure improvements).
- Business Incentives: Any County, State and Federal business incentives should be attainable. In Hawaii this can mean Enterprise Zones, Federal Trade Zones, and qualifiers for grants (e.g. rural for USDA grants).

PISCES has been working with Hawaii Community College, Hawaii TechWorks, County of Hawaii Research and Development, University of Hawaii at Hilo and others to identify and quantify these factors.

Land & Infrastructure

PISCES will need to develop the Aerospace Technology Park on either public land, private land, or a combination of both. Factors that need to be considered in land choices for the park are:

- Cost of Development: High cost to develop the infrastructure needed for a tech park (roads, water, sewage, electric, fiber optics, etc.) makes it difficult for PISCES to develop the park on undeveloped State lands. The most cost- and time-efficient route will be to leverage pre-existing public and/or private business/industrial/research parks with emplaced infrastructure.
- Lease-Hold or Fee Simple
- Ease of access/building/zoning

PISCES has consulted, and will continue to consult, with the County of Hawaii, the State of Hawaii, NELHA, W.H. Shipman, University of Hawaii at Hilo, Maui Research & Technology Park and others to understand the options available.

Park Management

To better understand how PISCES will structure the park management and the models for cash flow, PISCES is consulting with: NASA AMES and studying their AMES Research Park model; Google and their Google Campus in Sunnyvale; Maui Research & Technology Park; and the NELHA model. PISCES has met with the Directors of the High Technology Development Corporation and the Director of the Hawaii Strategic Development Corporation to understand what roles they may be able to fulfill in a planned park. Specifics being studied are:

- Cash Flow Models
    - Sales or Rentals
    - Membership Fees
- Overhead Costs
- Methods to Receive Payment
- Incubators

PISCES is continuing to collect the various parameters for a DAGS Site Selection Survey and the information needed to develop the Aerospace Technology Park business plan. PISCES plans to have both finished by the end of 2013.

F. Progress made toward the development of a world-class space center for Hawaii

Executive Summary of July 2012 ISRU Testing

- PISCES conducted a 3 week Analog Field Test with NASA and the Canadian Space Agency. It was the most ambitious test to date, with operations at one site (Pu`u Haihawine) focused on a Lunar Polar Mission operations scenario conducted by a Mission Control situated a mile away. This was for the NASA Resolve program (tested twice before here in 2008 and 2010) along with the CSA Artemis Jr. robotic rover. The test was an overwhelming success and now the program has been slated for a Lunar Mission in November 2017 (Lunar Prospector). Operations were also performed simultaneously at a second higher elevation site ("Apollo Valley") conducting simulations with a Canadian contractor Juno robotic rover and astro-geologists as part of the Moon-Mars Analog Missions Analog (MMAMA) program of NASA.

Acquisition of PISCES rover from ODG

- Collaborations with Ontario Drive Gear (producers of the rover platforms for the last 2 field tests) have resulted in an extended load agreement for PISCES use of the Juno robotic rover. We expect delivery in late summer/early fall. This rover will play a central role in further PISCES research, activities and tests.

PISCES Facility Users Guide

- PISCES Form 100 - PISCES is producing a Facility Users Guide to aid future researchers on our capabilities and test sites, later to include our projected base support facilities. Central to this is the Form 100 survey detailing test parameters with customers. PISCES has completed the product development of the Form 100 and has already initiated the form to upcoming customers for test coordination.

Field Site Characterization Summary

To better serve a diverse customer base with varied testing needs, PISCES started a detailed inventory of potential analog test sites in Hawai`i. The site inventories capture geographic, biologic, geologic, logistic, visual, cultural, and land management information for incorporation into a GIS accessible database. Some specifics that we are capturing are:

- Geographic
    - slopes and inclines of topographic features
    - Degrees of vegetation
    - GPS waypoints
- Biologic
    - Native and invasive flora and fauna identification
        - Photographic cataloging of flora and fauna
        - Identification of endangered and threatened flora and fauna
        - Identification of critical habitats
- Geologic
    - Flow ages
    - Soil types via USDA satellite imagery and visual survey
    - Soil composition
    - Soil size distribution
    - Flow rates (in lava tubes)
- Logistic
    - Degree of ingress and egress to site
    - Proximity to food, gas, and lodging
    - Site ownership and permitting to be required
    - Maximum supportable field test size
- Visual
    - High resolution 3D, panoramic, and geotagged photos of site and points of interest.
    - Establishing ground truth of aerial and satellite imagery
- Cultural
    - Surveyors are to be aware of, and record, any potential areas of cultural history.

- Management
    - Information on ownership of land, Ahupua`a, land use designation, etc

The site surveys started in June of 2013 with 3 PISCES' student interns and 1 PIPES intern. The interns were upper classmen and graduates of UH Hilo with strong backgrounds in geology, geography, GIS, and environmental science. Due to the comprehensive nature of the site surveys, PISCES has been engaged by Bishop Estates and Kamehameha Schools for possible collaboration assessing sites on their lands. Their interest has highlighted the benefit these surveys may offer to private landowners and the role PISCES can play.

News release - "Mars Dirt Similar to Hawaiian Volcanic Soil"

- On October 30, 2012, NASA held a press conference to release exciting results from the CHEMEN instrument onboard the Mars Science Laboratory – Curiosity Lander/Rover. The CHEMEN instrument had been tested in 2008 in a PISCES Mars analog site on the slopes of Mauna Kea in preparing for flight. Incredibly, the CHEMEN instrument sampled the volcanic material at Gale Crater on Mars and found the soil/basalt to be identical to the slopes of Mauna Kea. The following day, November 1st 2012, the world-wide press carried headlines of the vast similarities between the basalt materials on Mars and those of Hawaii. This scientific evidence further validates that the planetary analogue test sites in Hawaii are among the world's finest!
- http://www.space.com/18286-mars-rover-curiosity-soil-analysis-chemin.html

Manifest of upcoming user testing in planetary analogue sites

- Team Puli – Fall 2013
    - PISCES has embarked on a campaign to attract all of the 23 international Google Lunar X-Prize competitor teams to perform high fidelity tests in Hawaii. This began with the participation of White Label Space team during our conference in November 2012 with a one day mini-test with their rover prototype. Results were encouraging, so we are planning a Summer 2014 field test of their flight hardware. In March 2013, the GLXP Moonbot Hungarian high school grand prize winners accompanied by the GLXP Hungarian sponsor members of Team Puli arrived in Hawaii to use a PISCES test site. They were pleased enough with our test site to plan a November 2013 field test. Another GLXP team (US based Astrobotics) are collaborating with PISCES for future testing of their rover for initial and follow up missions. (see grants)
- NASA collaborative projects (preliminary phase): JPL – AXEL 2015
    - Multiple opportunities exist for robotics testing with NASA. One such opportunity is further testing with the JPL AXEL rover system, a novel modular robot that can access challenging terrain such as cliffs and craters. Another prospect is from JSC, a game changing Development Program of deploying mini science payloads from a single lander via a catapult mechanism. Two more potential opportunities involving NASA Ames are the testing of robotic deployment of a radio telescope array planned for the lunar far-side and well as teleoperation of rovers in Hawaii from the orbiting International Space Station.
- Astrobotics -2014
    - The Google Lunar X-Prize (GLXP) team Astrobotics is considering several visits in 2014 for analog field testing of their robotic lander and exploration rover. Astrobotics is a team comprised of Carnegie Mellon University and their Robotics Institute. The exploration rover is designed to enter and explore sub-surface voids found recently on the moon. Analogs here in Hawaii suitable for testing such hardware include lava tubes and their skylights, volcanic pit craters and also large

volcanic cracks such as the Great Crack in Ka`u. PISCES is a collaborator on a NASA research grant proposal with Astrobotics for supplemental funding of these tests.

- Japan / White Label Space – summer of 2014
  - Another GLXP team, White Label, is also considering field testing of their flight hardware systems in the timeframe of 18 months. The White Label team is a consortium of European and Japanese collaborators, with the robotics element being led by Tohoku University in Japan. A prototype rover was brought to Hawaii and exhibited at our PISCES conference. This rover performed a one-day trial excursion at our analog test site on the slopes of Mauna Kea. Results were encouraging and highlighted the value of field testing at such a high fidelity lunar test site.

G. Development of technologies for basaltic concrete composition

Regolith, Resources and Recovery (R^3)

- In April of 2013, PISCES led and submitted (through UH Hilo) a grant proposal for $6,000,000 over 5-years to NASA. The proposal outlines a detailed characterization of lunar regolith and meteorites on Earth, which are samples of near-Earth asteroids, to address fundamental science problems and to set the stage for a series of materials science and engineering experiments. The engineering data gathered from the proposal will provide much of the research and development needed to move PISCES' sustainable basalt concrete forward in the State of Hawai`i. The proposal's Co-Investigators are leaders in their respective fields and contribute to an impressive consortium of universities and research institutions. Contributing to the consortium are: University of Hawaii, Manoa; University of Hawaii, Hilo; Notre Dame; Missouri University of Science and Technology; Hanyang University; NASA Kennedy Space Center Swampworks; NASA Marshall Space Flight Center; The Institute for Structure and Nuclear Astrophysics (ISNAP); and the International Space Exploration Research Institute (ISERI).

3-D laser printing with basalt fines

- There is a need in space exploration for in-situ methods for parts fabrication on the Moon, Mars, and Asteroids. This need is driven by cost and time. The European Space Agency (ESA) and NASA have begun actively investigating 3D additive manufacturing methods using fine basalt dust. In Hawai`i, this fine basalt dust is presently a waste product of quarries.

  PISCES is pursuing opportunities to purchase a Selective Laser Sintering (SLS) 3D printer. SLS printers form objects out of metallic and ceramic powders and have high potential for use of basalt fine dust. PISCES is discussing with Hawaii Community College the shared use of a PISCES acquired printer for course development and student training on an advanced manufacturing test bed.

KSC basalt bricks with Mauna Kea fines

- Early testing of manufacturing building material components ("bricks") was successful. Hawaiian tephra fines from our field test site were sent to KSC for use in their labs where they

successfully produced 3 cube samples with a polymer binder and well as a sample bonded by heat sintering. Results are encouraging for further research.

Basalt for sidewalk construction / ISERI

- PISCES is working with the County of Hawaii (through Hawaii County R & D) and Hanyang University (Korea) to prototype a non-cement portion of a sidewalk. We are working with the County of Hawaii to identify a suitable location. This prototype sidewalk will provide PISCES with data on durability and structural integrity.

H. Status of all working relationships with educational and research institutions, federal agencies, and local industries; to include the use of existing basalt resources in the State to identify, verify and validate sustainable and in-situ concrete binders

PISCES/NASA Space Act Agreement (SAA) Overview

- A fully reimbursable Space Act Agreement between PISCES and NASA Kennedy Space Center (KSC) went into effect in April of 2013. Under the SAA, PISCES will reimburse NASA for the costs associated with the help it receives. KSC will provide technical support of PISCES projects that involve developing advanced-human robotic systems and other technologies required for space exploration beyond low orbit Earth when such support is not available from commercial sources. Projects may include technical services related to the Hawaii Space Exploration Analog and Simulation (HI-SEAS) Mission Operations, advanced architecture concepts, development for interconnecting PISCES communications systems with other partner sites, advance regolith manipulation techniques, and advanced habitation systems and technology development. The SAA is for five years. PISCES is now seeking a non-reimbursable SAA with NASA.

Regolith, Resources and Recovery (R^3)

- R^3 notice of intent (NOI) was submitted in February of 2013 and the full proposal was submitted in April of 2013. Selection/Announcement of the proposals will be made at the Division for Planetary Sciences conference in early October. If awarded, funding is anticipated to begin in January of 2014.

CAVES

- PISCES is a co-investigators in a NASA research proposal collaborating with Carnegie-Mellon University Institute of Robotics and the GLXP team Astrobotics for investigating, access and survey methods of recently discovered lunar features of subsurface openings that resemble lava tube skylights. Analog testing on the Big Island at similar geologic sites (lava tubes, volcanic pit craters, cracks) will be very valuable.

ISTVS

- Discussions are underway with the International Society of Terrain-Vehicle Systems (ISTVS) to identify opportunities for future collaborations and equipment loans. PISCES will participate in the annual ISTVS meeting in November 2013.

UNSW

- PISCES and the University of New South Wales (Australia) entered into a MOU to explore mutual interests in sustainable concretes and to work towards student intern exchanges.

USC Contour Crafting

- PISCES and the University of Southern California have entered into a MOU to work together on applying USC's Contour Crafting (3D printing on a construction scale) technology in Hawai`i using sustainable binders (non-portland cement) in the concrete mixtures.

Korea ISERI

- PISCES and the International Space Exploration Research Institute (ISERI) entered into a MOU in November of 2012. This MOU was to work on shared interest and research into lunar concretes. As a result of the MOU: ISERI is part of PISCES' "Regolith, Resource and Recovery" proposal; ISERI and PISCES are working together to install a prototype sidewalk; ISERI has invited PISCES researchers to work in a researcher exchange in South Korea.

LADEE intern program

- PISCES is continuing to support the ground based data collection of optical lunar impact events with our high-speed data cameras. This continues with support of an Akamai Workforce Development Program intern for a 7-week program. The Lunar Atmosphere and Dust Environment Explorer (LADEE) is a robotic mission that will orbit the moon to gather detailed information about the lunar atmosphere, conditions near the surface and environmental influences on lunar dust. Our internship program (in collaboration with the Akamai Workforce Program) will assist with the collection of ground based observations of meteor impacts on the lunar surface, which are known to be contributors to the dust environment. A global effort before, during and after the LADEE mission is an important calibrator for this mission in order to help determine the causes of this temporary lunar exo-sphere. Understanding of the nature and movement of dust will be critical for any future lunar exploration or commercial development, manned or robotic.

Field Site Characterization intern program

- For ten weeks during the summer of 2013, PISCES had 4 University of Hawaii at Hilo interns. Of these, 3 were hired by PISCES and 1 by the Pacific Internship Programs for Exploring Science (PIPES) program. The interns were upper classmen and graduates of UH Hilo with strong backgrounds in geology, geography, GIS, and environmental science. They performed site surveys, constructed a GIS database, and presented at various venues.

Pacific Astronomy and Engineering Education Summit

- The Pacific Astronomy and Engineering Education Summit will be held in Hilo July 22-26, 2013 and is sponsored by the Thirty Meter Telescope (TMT). PISCES is preparing to present a student design brief on methods for mining asteroids. The student design

brief is a team-oriented exercise that has students solving real-world challenges through hands-on interaction. PISCES has been preparing the design brief content and focus to address the challenges NASA and commercial interests will face with activities on low gravity bodies like asteroids and the moons of Mars.

LUNABOTICS

- PISCES served as an invited judge for the 4th annual Lunabotics Competition held at KSC. This university-level event is the culmination of a year-long process in which student teams design, build and demonstrate a robotic system that can navigate and excavate regolith material and return it for off-loading. This is a critical component of future In-Situ Resource Utilization (ISRU) methodology which has now become the cornerstone of all future lunar and planetary exploration and development. Use of native resources for survival (oxygen, water) and for commercial applications (rocket fuel, precious metals) is essential for mission planning. The centrality and viability of ISRU technology has been the focus of the past three PISCES field tests held here. PISCES is exploring the concept of extending this competition to use our analog field test sites as part of an international grand challenge. This concept was validated when the 2012 Lunabotics winners (University of Alabama) tested their robot at our test site during last year's PISCES conference.

I. Development of robotics operator training and certification program and curriculum development

PISCES is developing an operator's course for Search and Rescue robotics systems along with facilitating acquisition of pilot systems (ground system rovers, aerial systems lick quad-copters, and marine systems). Future applications for government agencies and public-private partnerships are plentiful, and the need for trained workforce is coming.

J. Level of private sector investment in aerospace and related partnerships with industry to facilitate state-based manufacturing, and operations in green energy

- Hawaii Tech Works
    - PISCES has been working closely with Hawaii TechWorks to coordinate joint efforts in bringing needed manufacturing skills and technology to Hawai`i Island. Additionally we have begun talks to have Hawaii TechWorks work on the design and conversion of a shipping container for mobile ground support operations (command and control, situational awareness, and electronics repair)
- Planetary Power Inc. (PPI)
    - Planetary Power Inc. (PPI) is a manufacturer of portable and stationary renewable energy power systems. Their primary concentration is on biodiesel generators with thermodynamic capture of waste heat and solar concentrator units. PISCES has been working with PPI since November of 2012 to bring their units to Hawaii for testing. In April 2013 PPI installed one of their units on Mauna Loa at the HI-SEAS Mars analog habitat and their Chief Technical Officer

had the opportunity to meet with PISCES and discuss the potential for PPI to locate manufacturing and distribution for their Pacific Rim operations. This meeting was followed up by a series of meetings in mid-July between their COO & President and local groups. They met with County of Hawai`i R & D, W.H. Shipman, Hawaii County Council members, Hawaii TechWorks, and others to assess opportunities in Hawai`i.

K. PISCES 2013 Summer Intern Program

PISCES established a formal intern program for summer 2013, hiring five interns. Three of the interns were hired as temporary RCUH employees, one is sponsored by the University of Hawaii's Pacific Internship Programs for Exploring Science (PIPES), and the fifth comes to us through the Akamai Workforce Initiative (partnering with the UH Institute for Astronomy, Center for Adaptive Optics and UH-Maui College). The internships provide valuable work experience for the students, enhance PISCES relationships with University and workforce resources, and produce valuable information for future operations.

Four interns with backgrounds in geology, environmental science and database development are working on a site characterization project that includes both the design and population of a database that catalogs key characteristics of several potential analog sites on the island of Hawaii. This is the first year of a multi-year project that will result in a searchable database that will aid future analog site users in identifying the perfect site for their project.

The Akamai intern is working with John Hamilton gathering data for NASA's Lunar Atmosphere and Dust Environmental Explorer Mission that will be departing for the Moon on August 12th. They will be using two 11" telescopes and high speed video cameras to measure the impact and frequency of meteor strikes on the far side of the moon. This data will be used by NASA to help quantify possible dangers inherent in living on the lunar surface.

L. Memorandums of Understanding (MOU) regarding cultivation of skilled local workforce to support planned manufacturing operations

A skilled workforce is a crucial need when introducing high technology jobs and equipment. To this end PISCES has entered into Memorandums of Understanding with Na Pua No`eau, Planetary Power Inc., and Hawaii TechWorks. PISCES also meets and updates Hawaii Community College, the University of Hawaii at Hilo, the County of Hawaii, the County Councils for the State of Hawaii, the Hawai`i Aerospace Advisory Committee, educators like Art Kimura, Na Pua No`eau, the Chamber of Commerce, the Rotary Club, and Tech Tuesdays (Hawaii TechWorks public talks) to share our vision forward and the skills needed to achieve that mission.

M. Detailed statement of assets, liabilities, revenues, and expenses for FY13 ending June 30

Act 169 formally transferred all assets and obligations associated with PISCES from the University of Hawaii to DBEDT effective June 30th, 2012. The only capital asset (value of $5K or more) assigned to PISCES was a 2006 Chevrolet Silverado K1500 pick-up truck. For practical reasons, this truck remains assigned to the University of Hawaii for use by PISCES. PISCES pays for the operation, maintenance and care of this truck.

The first expenditure of Act 169 funds did not begin until the engagement of staff in late February. There have been, to date, no purchases of capital assets. Non-labor liabilities as of June 30, 2013 are low, with outstanding invoices already encumbered and totaling less than $500. June 2013 payroll expenses to be paid in July are $21.8K. The table shows the budget, expenditures, encumbrances and the balance of funds remaining as of June 30, 2013.

COST CATEGORY	AWARDED	EXPENDED THRU 6/30/2013	OUTSTANDING PURCHASE ORDERS	TOTAL EXPENDED & COMMITTED	AVAILABLE BALANCE
Salaries & Fringe	$341,000	$143,219	$0	$143,219	$197,781
Controlled Property	$18,000	$8,776	$0	$8,776	$9,224
Materials & Supplies	$11,000	$2,873	$1,433	$4,306	$6,694
Travel	$52,000	$19,382	$1,000	$20,382	$31,618
Consultant/Fee for Service	$24,000	$14,021	$10,000	$24,021	($21)
Printing/Publication	$1,000	$229	$0	$229	$771
Communication	$5,000	$1,965	$0	$1,965	$3,035
Equipment	$0	$0	$0	$0	$0
Repairs & Maintenance	$3,000	$1,344	$139	$1,483	$1,517
Rental-Space	$20,000	$8,841	$5,626	$14,467	$5,533
Other Current Expenditures	$10,437	$4,582	$0	$4,582	$5,855
Direct Costs Total	$485,437	$205,233	$18,198	$223,431	$262,006
Indirect Costs	$14,563	$6,157	$0	$6,157	$8,406
Grand Total	$500,000	$211,390	$18,198	$229,588	$270,412

PISCES will not have access to FY14 funds until late August or early September due to the time required to complete normal administrative steps within the state system. Some of the FY13 funds remaining as of June 30, 2013 can be used to cover PISCES operations costs until the FY14 funds are available. The remainder will be used to purchase essential test hardware for future PISCES operations. The following table below shows the plans for funds remaining as of June 30, 2013. These funds will be fully expended before December 31, 2013.

COST CATEGORY	AWARDED	TOTAL EXPENDED & COMMITTED THUR 6/30/2013	AVAILABLE BALANCE AS OF 6/30/2013	PROJECTED OPERATING COSTS JUL 1 - SEP 30	REMAINING FOR TEST HARDWARE PURCHASES	TOTAL PROJECTED EXPENSES THRU 12/31/2013	PROJECTED VARIANCE FROM BUDGET
Salaries & Fringe	341,000	143,219	197,781	156,337		299,557	41,443
Controlled Property	18,000	8,776	9,224	5,000		13,776	4,224
Materials & Supplies	11,000	4,306	6,694	3,150		7,456	3,544
Travel	52,000	20,382	31,618	18,464		38,846	13,154
Consultant/Fee for Service	24,000	24,021	(21)	12,300		36,321	(12,321)
Printing/Publication	1,000	229	771	-		229	771
Communication	5,000	1,965	3,035	1,530		3,495	1,505
Equipment	-	-	-	-	58,820	58,820	(58,820)
Repairs & Maintenance	3,000	1,483	1,517	500		1,983	1,017
Rental-Space	20,000	14,467	5,533	1,610		16,077	3,923
Other Current Expenditures	10,437	4,582	5,855	1,950		6,532	3,905
Direct Costs Total	485,437	223,431	262,006	200,841	58,820	483,092	2,345
Indirect Costs	14,563	6,157	8,406	8,693	2,059	16,908	(2,345)
Grand Total	500,000	229,588	270,412	209,534	60,879	500,000	0

The delay in availability of FY13 funds until December 2012 resulted in a delay in hiring PISCES staff. This delay produced a $41K underspend in the salaries and fringe budgets. There were corresponding under-spends in the rental, supplies and communications line items. Travel plans were curtailed in order to reserve budget for strategic consulting expenses which include redesigning the website, research park business model consulting services and the initial expenses for the Mare Volcanism Conference to be held in Houston in the coming year. Smaller variances from the other line items were added to the savings in the salaries & fringe in order to create a budget to begin to purchase essential test and design equipment.

N. Appendices

Appendix 1: Final Report – Lunar analog Field Demonstrations of In-Situ Resource Utilization & Human Robotic Systems

Appendix 2: Media outreach, website development, branding, newsletter - 2013

Appendix 3: Education/Public Outreach

Appendix 1: Final Report – Lunar analog Field Demonstrations of In-Situ Resource Utilization & Human Robotic Systems

Technical Progress Report
Two Year Report

ISRU ANALOG FIELD DEMONSTRATIONS OF IN-SITU RESOURCE UTILIZATION AND HUMAN ROBOTIC SYSTEMS

Performed under
NASA Cooperative Agreement NNX11AH92A

Submitted by
John Hamilton (PI) and Christian Andersen (Co-I)
University of Hawai`i-Hilo, Dept. of Physics & Astronomy

Introduction

The Cooperative Agreement began on March 3, 2011 with the initial award for preliminary preparations associated with the upcoming summer 2012 test on Hawaii Island, Hawai`i. The 3rd International In-Situ Resource Utilization (ISRU) Analogue Field Test was conducted July 10th to the 23rd, 2012. All project close-down activities were completed by December 31, 2012.

This report summarizes the activities completed under the requirements and scope of work (SOW) of the subject cooperative agreement.

Description of Performing Organization

The University of Hawai`i – Hilo (UHH) is the UH system outer island campus situated with a rural setting in close proximity to available analog site while the flagship campus (University of Hawai`i – Mānoa) is situated in urban Honolulu. The UHH Department of Physics and Astronomy has participated in two previous analog field demonstrations that were performed at a 9,200 foot elevation test site in November 2008 and January/February 2010. Expertise and experience was gained during prior work as staff with Pacific International Space Center for Exploration Systems (PISCES). For these tests PISCES was the lead local organization that provided logistical support for the organizations that came to Hawai`i to utilize the close similarity of soil, geology, geochemistry and terrain to that found on the Moon and Mars. On July 1, 2012 PISCES was legislatively transferred from the University of Hawai`i system into the State of Hawai`i Dept. of Business, Economic Development and Tourism (DBEDT) as an attached agency reporting to the Office of Aerospace Development (OAD).

Description of Test

The technical purpose of the 3rd International Hawaii In-Situ Resource Utilization (ISRU) analogue field test is to perform robotic mission simulations of resource prospecting and science before human crew arrive. The analogue test includes two mission simulations:

1. A mission simulation to locate, characterize, and map water/ice and other volatiles that may be present at the lunar poles using the Regolith & Environment Science and Oxygen & Lunar Volatile Extraction (RESOLVE) experiment on the Canadian Space Agency (CSA) Artemis Jr. rover.

2. Evaluation of Moon Mars Analog Mission Activity (MMAMA) instrument ability to perform science investigations associated with rover-based planetary surface (Moon or Mars) exploration using fixed instruments and instruments mounted on a CSA Juno II rover.

3. Perform rover mobility characterization activities.

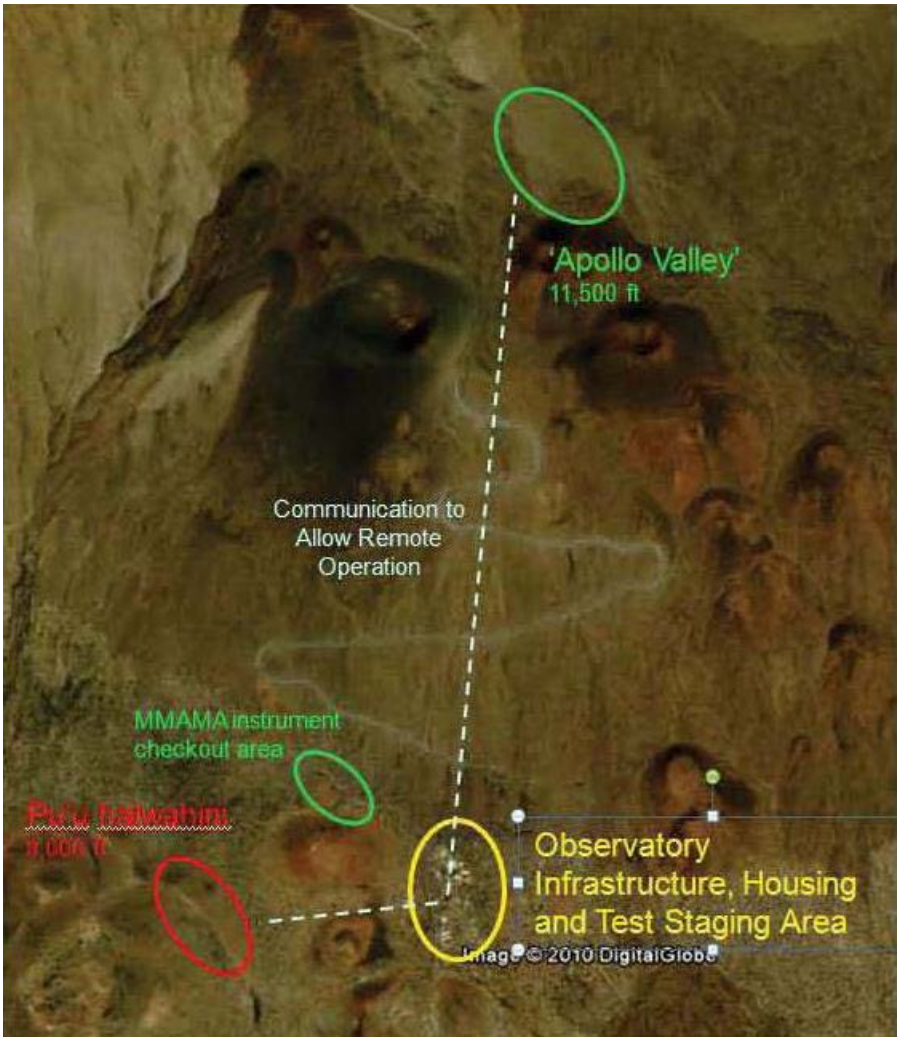

Figure 1 Overview map of Operations Area

Description of Test Sites

To support the technical objectives of the test, multiple analogue sites were selected and incorporated into a unified program.

The RESOLVE simulation was performed at the Pu`u Haiwahine valley test site (9,000 feet elevation) previously used in the 2008 and 2010 tests. The fine volcanic tephra and ash found here is an excellent lunar regolith simulant and the terrain of the valley lent itself well for multiple traverses. A support camp was created here for repair and maintenance and supplies.

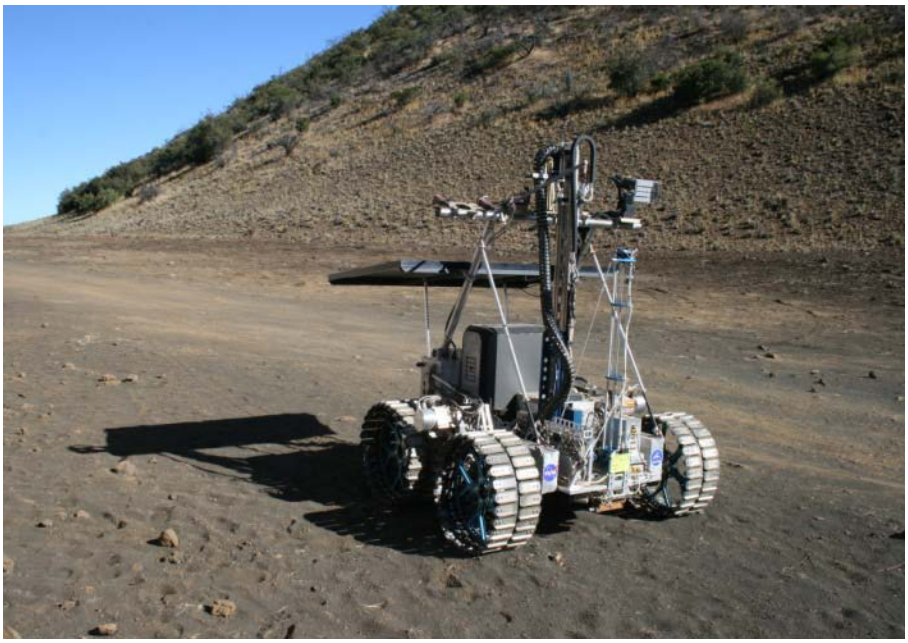

Figure 2 Artemis Jr. with RESOLVE and Norcat drill in Pu'u Haiwahine Valley.

Figure 3 Support camp behind Artie sans drill package.

The MMAMA activities were conducted at a site near 11,500 feet elevation in an area below the Mauna Kea ice-age glacial terminus called "Apollo Valley". This area lies on the tri-border between the Mauna Kea Science Reserve, the Mauna Kea Ice Age Natural Area Reserve and the State Foresty lands. A MMAMA instrument and rover check-out area was also supported near the Mauna Kea summit access road and Hale Pohaku on the upper Pu`u Haiwahine access 4wd road.

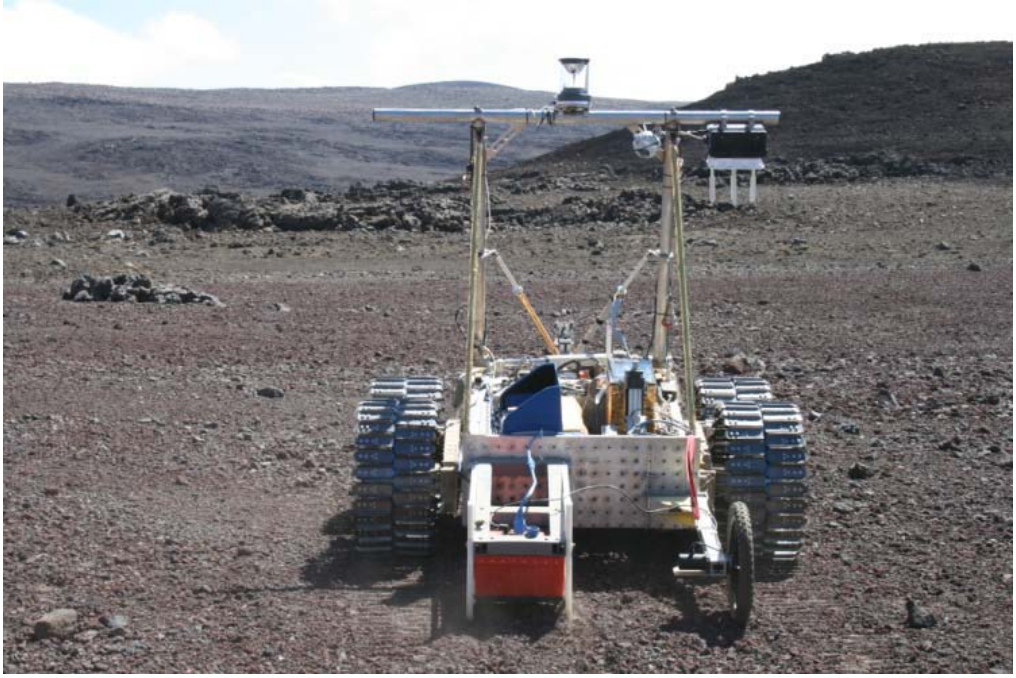

Figure 4 Juno II rover with MMAMA instruments at Apollo Valley.

Figure 5 Juno II egress into Apollo Valley with support team

Mission Control was established at a third location, allowing simultaneous command and control for both sites. This was housed at the nearby Ellison S. Onizuka Center for International Astronomy (aka Hale Pohaku) at 9,200 feet (2800m) elevation. The library was transformed into the control center, along with several support offices (including a devoted MMAMA control center in the downstairs Exercise Room).

Figure 6 Hale Pohaku Facilities.

Figure 7 Mission Control at Hale Pohaku library.

Implementation of Operations

A. Permits and permissions (cultural and legal)

Prior to formal permit applications, presentations were made to the PISCES Cultural Advisory Committee to establish proper protocols for access, use and restoration. A cultural and environmental awareness program was performed (via internet) with all participating staff prior to arrival. Permissions and blessings were conducted with an appropriate Hawaiian elder (kupuna) and kahuna on all test sites.

Permits were received from the Division of Forestry and Wildlife (DoFaR), Department of Land and Natural Resources (DLNR) for the operations in Pu`u Haiwahine valley for the month of July, allowing site preparation, camp and infrastructure deployment as well as survey of planned traverse routes. Permits for the Apollo Valley use was also obtained from DoFaR. Access to the valley is from the paved Mauna Kea access road (Gov. John Burns Way) which connects the Hale Pohaku facilities with the summit (a designated Science Reserve). The University of Hawai`i Office of Mauna Kea Management (OMKM) manages access on these areas overseeing a mixed use of science research, environmental preservation, historic site stewardship and commercial tour activities. This necessitated close attention to

interagency overlap and varying restrictions and regulations. Presentations were made to the OMKM Cultural Committee (Kahu Ku Mauna) as well as the Mauna Kea Management Board. Due to locations of historical sites, an archaeological survey by a certified expert was conducted and a "Letter of No Impact" solicited from the State Historic Preservation Department. OMKM regulations required the rediscovery on potentially impacted sites and onsite availability of our archeologist. Daily traverse maps (planned and actual) were reviewed each night to avoid proximity operations.

B. Researcher and Support Staff accommodations

Meals and lodging were provided at the mess hall and dormitories of the Mid-Level Support Facilities (Hale Pohaku). These were originally built to support operations of the multiple Mauna Kea Observatories at the 13,805 feet (4207m) elevation summit, but have become available for associated uses due to the increasing vacancies resulting from remote observing and remote control of the observatories. Co-location at Hale Pohaku (9,200 ft, 2800m) allowed acclimating to high altitude conditions and also allowed a full work day since the commute was quite short. Rapid after-hours response was also aided by this. Approximately 45 personnel were housed at the facility. A few personnel (23) elected to commute (~1 hour) to hotels in Hilo or Waikoloa areas.

UHH undergraduates (~40 total) were employed as laborers, drivers, field and (in some cases) research assistants. They commuted due to the varying daily availability (summer school) and projected tasking (as well as expense). This aspect was also an integrated portion of our EPO, as all had some quality time with researchers. Enthusiasm level was high.

Private security was contracted for nocturnal monitoring in the Pu`u Haiwahine valley. Security for Juno II/MMAMA was provided by the locked trailer inside the locked and fenced VLBI compound.

C. Communications Infrastructure

Operations at Apollo valley were facilitated by a communications loop that was wireless between the Juno II rover and an access point positioned above the valley on the overlooking cinder cones. This WiFi equipment was connected via a fibre optic and ethernet cable to the Very Large Baseline Interferometer (VLBI) facility managed by the National Radio Astronomy Observatory (NRAO). The VLBI sits at an altitude of 12,256 feet (3736m). The com link then connected to the Mauna Kea Fibre Optic Ring which connects all the observatories to the Hale Pohaku offices (and further to the Hilo and Waimea observatory headquarters). Because the VLBI is in the Mauna Kea Science Reserve and the WiFi link entailed a deployment across the terrain, not only was an archeology survey and monitoring required (due to possible burial sites in the cinder cones) but also the presence of the OMKM staff biologist since this area is within the rare wekiu bug habitat. All conditions were met and complied with for a successful operation.

Operations at Pu`u Haiwahine valley were facilitated by a Wireless Area Network established in the valley proper. This WAN was connected to the Hale Pohaku facilities by a repeater hop over the intervening cinder cone. This permitted operations in the valley as well as command and control from the MC at Hale Pohaku. Communications from MC to XDoc in Canada and JSC and KSC were provided over the existing high bandwidth fibre optic internet connection.

Resolve Mission Simulation Support at Pu'u Haiwahine valley

Access to the valley is supplied by two public 4WD hunter roads from the north and south. The valley is approximately one mile from Hale Pohaku facilities. Both roads were prepared prior to the test, an upper (north) road for ingress and a lower (south) road for egress. This was done to minimize 2-way traffic, as both roads are fairly narrow. Prior to test start road conditions were assessed and improved by filling large ruts with rocks and coarse base and then with surface stabilizing mats composed of fabric and chain link fencing allowing traction on the loose surfaces. Steep grades and sandy stretches were covered with a combination of anchored and tensioned chain-link and burlap (to prevent the chain link from sinking into sand). The road was patrolled and patched (as needed) by our student road crew daily to maintain safety and drivability.

Tents were successfully erected and stabilized against wind at the planned locations. Plastic tarps were initially placed as tent flooring for dust mitigation, but static discharge concerns resulted in the use plywood flooring. The tents were supplied with multiple Honda 2000i (2kW) generators and a Winco Big Dog generator for an available 16kW continuous power. The lander mockup was supplied with one 2kW generator to support its coms assets. These generators were fueled at the end of each day, and were checked at least 3 times throughout each day. Combustibles (gasoline, diesel and reserve propane tanks) were safely stored at a clearly designated spot about 0.5 kilometers from activities.

A rough terrain forklift was present in at all times in the valley with a licensed operator during the work day. Additionally a Case skid steer was also present at the site with a front loader and auger. A second rough terrain forklift was kept at the staging area below Hale Pohaku to accommodate incoming and outgoing road cargo.

16 drill sites were identified by NASA personnel prior to operations along with corresponding traverses and a mock lander. Clearing vegetation from the traverses and target sites began one month prior to testing and was completed shortly after testing began. Vegetation removed was non-native and considered an invasive pest (primarily California Needle Grass). This aspect of the site preparation was deemed beneficial to the mission of DNLR by reducing competing species for the indigenous native species. Removal was by hand as heavy equipment grading was not permitted. Also performed manually to aide plant identification. Grading would also remove the surface fines which accumulate around the vegetation due to aeolian processes. This task came in behind schedule due to an underestimate of labor performance at altitude.

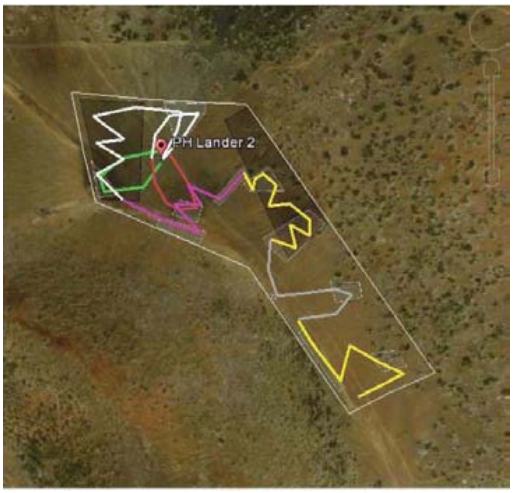

Figure 8 Resolve Traverse Path

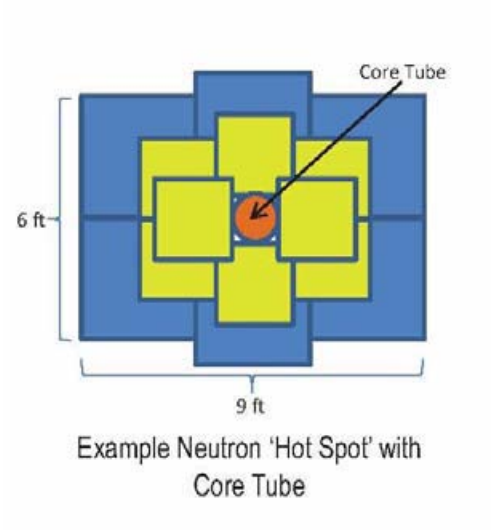

Figure 9 Subsurface poly sheet target pattern

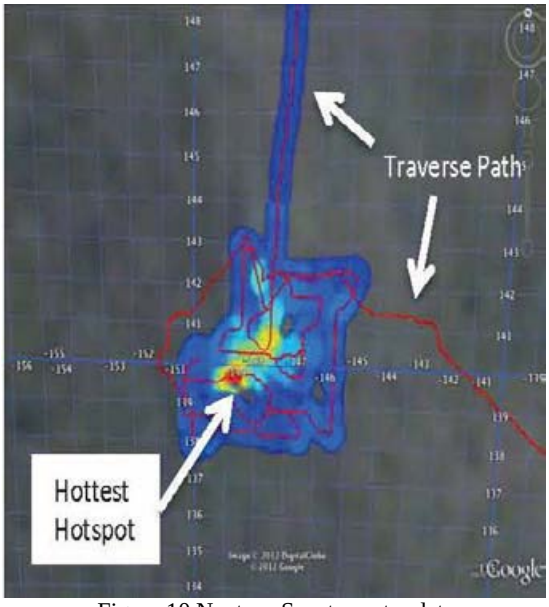

Figure 10 Neutron Spectrometer data

The identified target sites were excavated to accommodate 4 foot long, 8 inch diameter "drill tubes" which were later filled with sieved native material to remove large rocks. This material (tephra from the site) was previously dried to remove any moisture. Excavation was accomplished using a skid steer equipped with an 8 inch diameter auger bit after the two person hand power auger proved insufficient. After emplacement, different tubes were filled with material that was stratified according to moisture content. Each drill tube was buried an inch below surface level and surrounded by buried polyethylene sheets of varying diameter and thickness to emulate a H2O signal for the Artemis Jr. onboard neutron spectrometer.

MMAMA Mission Support at Apollo Valley

The Juno II rover and science packages were initially field tested on the upper (north) access road to Pu`u Haiwahine valley. This area simulated native terrain but was adjacent to the Hale Pohaku facilities and just west of the Mauna Kea Access Road (Gov. John Burns Way).

On Day One of operations, the rover was transported to the Apollo Valley at a road maintenance pulloff which had a small ramp provided by the Mauna Kea Support Services road crew. Transport was via a custom covered trailer pulled by a 4WD pickup truck. After rover delivery, the trailer was then taken to the VLBI fenced compound. Upon completion of the day's activities, the rover would be picked up by the trailer and returned to the VLBI for overnight storage and battery recharge.

This scenario was necessitated by the requirement by OMKM that prohibited off-road parking in the area, as well as a safety precaution for the numerous tourist traffic. This procedure was beneficial in that operations did not attract any unauthorized and unpermitted visitors. (Nor distract tourists on the steep unpaved portion of the summit road). At the conclusion of the MMAMA operations, trailer and rover were returned to the Hale Pohaku staging area.

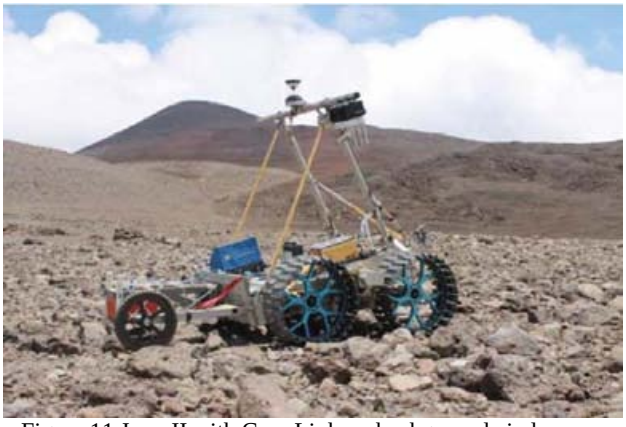

Figure 11 Juno II with Com Link on background cinder cone

Figure 12 Juno II / MMAMA traverse path

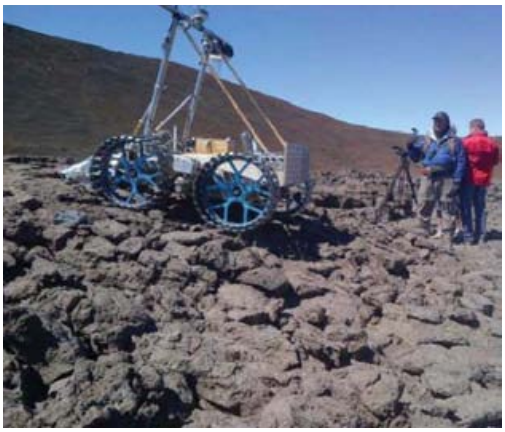

Figure 13 Rock climb

Community and Public Outreach

Pursuant to permit requirements and community "give-back", multiple EPO activities were conducted on island. Classroom visits to the Hilo (east) side were performed with the Ames Research Center Exploration Uplink educational internet controlled mini-rovers were conducted with PISCES and Ames personnel. While at Hale Pohaku, an EPO activity was conducted at the Mauna Kea Visitor Information Station (VIS) for the staff and general public visiting the observatories. Following accepted local protocol, a community and cultural "Mahalo" function was conducted on the Kona (west) side of the island at Pu`u Waa Waa ranch. A press day was conducted at the test site with coverage from print (Honolulu Star Advertiser, Hawaii Tribune Herald and West Hawai`i Today) and broadcast media (Big Island Video with feeds to the Honolulu news stations).

Figure 14 Juno II

Figure 15 ARC EU mini rover

Figure 16 Artemus Jr.

Due to the remote location and 4WD access to the sites (as well as restricted personnel at Apollo Valley), our keystone public education and outreach was conducted in Hilo. The culmination event was a public outreach day at the `Imiloa Astronomy Science Center at the University of Hawai`i-Hilo campus. A large visitor count ensued with the rovers and hardware on display and demonstration in the parking lot. Science and Mission presentations were conducted in the Planetarium. Ames EU rovers were popular with the keikis (youth). A live AM radio broadcast was held which carried interviews of team along with local dignitaries such as State Senator Gil Kahele and County Councilmember Dennis Onishi.

Post Test Activities

After the `Imiloa event, equipment was returned to the staging area below Hale Pohaku. The covered trailer that was used in the support for the MMAMA team was used for roundtrip transport of both Artemis Jr. and Juno II. Research equipment was re-crated and removed via commercial transport. Communication lines removed from the VLBI area and the WiFi hop for Pu`u Haiwahine. All camp equipment removed along with rented luas (porta-potties). Final notifications to the permitting agencies were performed.

Site Mitigation

All buried poly sheets and drill tubes were removed and holes filled. Vehicle tracks and operations/encampment area were hand raked to restore area to a visual state of non-use. Lastly the fencing and underlying mats were removed from both 4WD roads that access Pu`u Haiwahine valley. A final cultural protocol was also performed, concluding the use of the land.

Appendix 2: Media outreach, website development, branding, newsletter - 2013

MEDIA OUTREACH

Press Releases:

Since April, PISCES has issued two press releases. The first release, issued on April 18th, was on the Memoranda of Understandings (MOU's) that PISCES signed with six agencies around the world. The agreements are the first MOU's in five years for PISCES. The second release, issued on June 25th, announced the Space Act Agreement between NASA and Kennedy Space Center. Media coverage followed in both cases, from outlets such as the Hawaii Tribune-Herald, NBC News, KITV, the San Francisco Chronicle's SFGate, New York's Times Union, and more. The next round of pressers scheduled for release in July will be about the interns hired, the PISCES bill that takes effect on July 1st, and the new MOU's signed since the first six were announced.

Social Media:

PISCES is now on Facebook and Twitter. "PISCES Hawaii" is the profile name for both the Facebook and Twitter accounts, with @PISCES_Hawaii as the username for Twitter. The accounts became active in mid-June.

Other Outreach:

April 18: Executive Director Rob Kelso was the guest speaker at Hui Ka Ua's Breakfast Conversation at the Hilo Hawaiian Hotel. His presentation aired on Na Leo O Hawaii community television.

June 21st: Dr. David Livingston invited Kelso to be a guest on The Space Show. The 90 minute interview aired live via webcast.

August: Discovery Channel Canada will send a producer during the first week of the month to produce a segment on PISCES for the Daily Planet, a science magazine show

WEBSITE DEVELOPMENT

PISCES is setting up two websites: PISCES.hawaii.gov as well as an independent website (domain name TBD). DBEDT is currently working on constructing the shell of the Hawaii.gov website. Once complete, PISCES's PIO will be trained in Honolulu by DBEDT's IT team, on how to develop the site using WordPress, a Content Management System. The independent website will be developed professionally. An RFP was sent the first week of June to eight prospective web designers. All proposals are in, and PISCES is now in the process of choosing the winning bidder. Due to the pressing need for a website, the winning web developer will immediately put up a splash/temporary home page with essential PISCES information (i.e. contact) until the full site is complete. Estimated time of completion is between six weeks to two months.

BRANDING

PISCES will undergo a marketing make-over consisting of a new logo, identity and brand. Once a decision is reached by the Board of Directors on whether or not to keep the PISCES name, PISCES will send prospective design firms a RFP for re-branding.

NEWSLETTER

In an effort to keep legislators, the media, constituents, and the community informed of all the projects PISCES is working on, the PIO has developed a monthly e-newsletter, with the launch date of the inaugural issue set for July 1st. A newsletter featuring an annual report will also be published at the end of the year.

Appendix 3: Education/Public Outreach

PISCES EPO (Education/Public Outreach) Activities - 2013

As part and parcel of any effective workforce development, education and sharing of future technologies and developments to the public is important. PISCES EPO performs that function by engaging students at many levels; science, culture and employment.

PISCES has provided Cultural and Environmental Awareness training for our staff, the HI-SEAS project staff and the GLXP Moonbots team. All visiting researchers experience these activities to enhance productivity and bestow appreciation of the unique and fragile environment that many of our research projects utilize.

PISCES taught a Space Sciences Seminar class at the University of Hawaii - Hilo campus during the Spring of 2013. We also mentored several students on individual projects and have 5 student interns involved in two projects.

PISCES participated with numerous public events this past year such as the Onizuka Space Day at UHH, Hawaii Science and Engineering Fair (with a PISCES Aerospace Award), Journey Through the Universe classroom visitation program, Merrie Monarch Parade and AstroDay in Hilo at the Prince Kuhio Mall.

PISCES leverages its small staff and multi-faceted projects by participating in established events along with other island groups (such as USGS HVNP, NELHA, UHH-HCC, `Imiloa and the astronomical observatories). PISCES is an active member of the Mauna Kea Astronomy Outreach Committee. PISCES also collaborates with the NASA centers EPO programs, enabling use of greater resources and access.

HAWAII
SMALL BUSINESS
REGULATORY REVIEW
BOARD
ANNUAL REPORT SUMMARY

Results for Calendar Year 2013

Review of Administrative Rules, Legislation

and

Rules Requested by Small Business

In Compliance with

Chapter 201M, Hawaii Revised Statutes

HAWAII SMALL BUSINESS REGULATORY REVIEW BOARD

ANNUAL REPORT SUMMARY 2013

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SECTION I

MESSAGE FROM DIRECTOR

As the Director of the Department of Business, Economic Development and Tourism, I continue to thank the members of the Small Business Regulatory Review Board for their dedicated work. The service of this Board is and always will be an essential part of the rule-review process so that the regulatory burden on the small business community is manageable.

Richard C. Lim

SMALL BUSINESS REGULATORY REVIEW

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Anthony Borge
Vice Chair
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Leslie Mullens
Second Vice Chair
Maui County

Barbara Bennett
Kauai County

Howard Lum
Oahu

Kyoko Y. Kimura
Maui County

Craig Takamine
Hawaii County

Richard C. Lim
Director, DBEDT
Voting Ex Officio

MESSAGE FROM THE CHAIR

The year 2013 marked a new Small Business Regulatory Review Board (SBRRB) from an 11 Member Board to a 9 Member Board appointed by the Governor, Senate President and House Speaker approved by the full Senate with the DBEDT Director as an additional voting member. Board Members are representative of their diverse business expertise areas from our 4 islands.

The Board's Mission is to represent the economic interest of small businesses in Hawaii at the State & County level when it comes to all State and County Agencies Rules and Regulations, whether existing, proposed or amended which will impact their well-being and our State's economy whether positively or negatively. Agencies submit new/amended rules and regulations to our Board for review and comments – the Board, upon open questions and open discussions, may suggest amendments based on the negative or positive impact to small businesses before taking a vote to either recommend proceeding towards public hearing or not to the Governor, who has the final say.

Recent Rule changes affect Food Safety/inspections, pesticides, water safety, health coverage, early childhood education subsidy, shoreline management, fishing restrictions, licensing requirements for architects, nurses, continuing education for nurses, nursing aides, liquor control rules, workmen's compensation, etc. To date, SBRRB has reviewed close to 600 rules in the State of Hawaii, taking hundreds of hours of study by Board Members.

MESSAGE FROM THE CHAIR - *continued*

I am honored to be voted as Chair of this Board as the Chair carries a larger responsibility of working daily with our assigned Economic Development Specialist (Administrator) and deciding on Agenda matters, conducting hearings and ensuring an orderly and effective discussion between agencies, testifiers and our Board Members before voting the matter up or down. Furthermore, the Chair ensures SBRRB continues to outreach small businesses through the Board's RegAlert, electronic communication, brochures, and meetings with agencies, our stakeholders and the public. We take in complaints and enlist the assistance of our Agencies, Legislators and our Governor when rules and regulations need revision.

Our Board works hard and all of us are volunteering our time and expertise to ensure our constituents, small businesses in Hawaii, are effectively represented and protected. Our collaboration with State and County Agencies ensures that Rules and Regulations benefit our State, protect and grow our economy. I would like to thank our administrative agency, DBEDT for its support, our Legislators for creating us in 1998, our stakeholders, the small business owners, chambers of commerce, our Board Members and our State and County Agencies for valuing our input and recommendations to the Governor. The year 2013 has been a very successful year for the SBRRB.

Chu Lan Shubert-Kwock, Chair, SBRRB

OVERVIEW

The Small Business Regulatory Review Board is pleased to provide the Annual Report Summary for the period covered from January 2013 through December 2013. Pursuant to the Hawaii Small Business Regulatory Flexibility Act, Chapter 201M, Hawaii Revised Statutes (HRS), the annual summary is based on the following:

[201M-5] Small business regulatory review board; powers

(f) The board shall submit an annual report to the legislature twenty days prior to each regular session detailing any requests from small business owners for review of any rule adopted by a state agency, and any recommendations made by the board to any agency or the legislature regarding the need for a rule change or legislation. The report shall also contain a summary of the comments made by the board to agencies or the legislature regarding its review of any proposed new or amended rules.

ANNUAL SUMMARY

SMALL BUSINESS REGULATORY FLEXIBILITY ACT

The Small Business Regulatory Review Board was established on July 1, 1998, with the passage of the Small Business Regulatory Flexibility Act, pursuant to Act 168. Subsequently, the role of the Board has been codified in Chapter 201M, Hawaii Revised Statute (HRS), as amended. (See Appendix 1)

Statutorily, the Board is comprised of nine members, eight current or former owners or officers of businesses from across the State, and the Director of Business, Economic Development, and Tourism (DBEDT) or the Director's designated representative to serve as an "ex officio" voting member. The Board is administratively attached to DBEDT and has responsibility for providing recommendations to State agencies on new and amended administrative rules that directly impact small business. The Board is also charged with reviewing existing rules upon request from small business owners or at the Board's initiative. For requests regarding County rules, the Board may make recommendations to County Council or the Mayors for appropriate action.

In addition to reviewing rules and regulations, members have in the past volunteered their time attending State agency meetings, making presentations by performing outreach activities to small business organizations, and testifying on legislation. The Board also has the power to solicit testimony from the public regarding any reports submitted by State agencies.

As an effective and efficient means of review, each member is assigned to one or more State agency as a "discussion leader," and is responsible for the initial review

of the administrative rules of that State agency prior to consideration by the full Board. As of December 2013, the Board was operating with eight of the statutorily required nine members.

ADMINISTRATIVE RULE REVIEW

Since its inception, the Board reviewed a total of 586 sets of proposed new and amended administrative rules; the results are categorized in Appendix 2. During 2013, the Board reviewed and made recommendations on 35 sets of new and amended rules, both pre- and post-public hearing; a summary is categorized below.

Office of the Lieutenant Governor

No key matters of small business impact have been noted.

Department of Accounting & General Services

No key matters of small business impact have been noted.

Department of Agriculture

HAR Title 4 Chapter 143 Coffee

Comment – The Board recommended that the proposed amendments proceed to public hearing.

Department of Attorney General

HAR Title 5 Chapter 31 Child Support

Comment – The Board recommended that the request for public hearing be approved.

Department of Budget & Finance/Public Utilities Commission

Budget & Finance – No key matters of small business impact have been noted.

Public Utilities Commission – No key matters of small business impact have been noted.

Department of Business, Economic Development & Tourism

HAR Title 15 Chapter 315 Mortgage Credit Certificate Program

Comment – The Board took no action on this proposal for public hearing due to lack of quorum as a result of two board members needing to recuse themselves from voting. After public hearing, no action was taken because the rules had already been signed off by the Governor.

Department of Commerce & Consumer Affairs

HAR Title 16 Chapter 88 Naturopaths

Comment – The Board recommended that the proposed rule amendments go out to public hearing.

HAR Title 16 Chapter 115 Professional Engineers, Architects, Surveyors and Landscape Architects

Comment – The Board recommended that the rules, after public hearing, be sent to the Governor for approval.

Department of Defense

No key matters of small business impact have been noted.

Department of Education

No key matters of small business impact have been noted.

Department of Hawaiian Home Lands and the Office of Hawaiian Affairs

No key matters of small business impact have been noted.

Department of Health (DOH)

HAR Title 11 Chapter 25 Rules Relating to Certification of Public Water System Operators

Comment – The Board recommended that the rules proceed to public hearing.

HAR Title 11 Chapter 50 Food Safety Code, and Repeal of Chapter 12 Food Establishment Sanitation

Comment – The Board recommended that the Board approve the request to go out to public hearing.

HAR Title 11 Chapter 54 Water Quality Standards

Comment – The Board recommended that the rules proceed to public hearing as soon as possible.

HAR Title 11 Chapter 55 Water Pollution Control

Comment – The Board recommended that the rules proceed to public hearing as soon as possible.

HAR Title 11 Chapter 60.1 Air Pollution Control

Comment – The Board recommended that the after public hearing statement be approved.

HAR Title 11 Chapter 164.1 Emergency Rules Relating to Examinations for Tuberculosis

Comment – The discussion of these rules were essentially a "preview" of the proposed amendments that would be forthcoming to this Board. Therefore, no action was taken by the Board.

Department of Human Resources Development

No key matters of small business impact have been noted.

Department of Human Services (DHS)

HAR Title 17 Chapter 799 Preschool Open Doors Program

Comment – The Board recommended that the proposed amendments proceed to public hearing.

HAR Title 17 Chapter 1700 Overview through HAR Title 17 Chapter 1745 Funeral Payments Program

Comment – The Board recommended that the proposed amendments, also known as the Obamacare rules, proceed to public hearing.

HAR Title 17 Chapter 1722.3 Basic Health Hawaii, Chapter 1725 Assets, Chapter 1727 QUEST, and Chapter 1739.1 Authorization, Payment and Claims in the Fee-for-Service Medical Assistance Program for Non-institutional Services

Comment – The Board recommended that the proposed rule amendments, after public hearing, proceed to the Governor for adoption.

HAR Title 17 Chapter 1443 Feeding Assistant Training Program, Chapter 1444 Nurse Aide Training and Competency Evaluation Program, and Chapter 1445, Recertification of Nurse Aides in State-Licensed or State-Certified Health Care Settings, and Repeal of HAR Chapter 1420 Homemaker Services for Community Long-Term Care Programs, Chapter 1438 Nursing Home without Walls, HAR Chapter 1440 Home and Community-Based Services for Elderly Foster Family

Community Care Program, HAR Chapter 1441 Personal Care Services, Chapter 1442 HIV Community Care Program

Comment – The Board approved the statement after public hearing.

Department of Labor & Industrial Relations (DLIR)

Amendments to HAR Title 12 Chapter 45.2 State Fire Code, repeal of Chapter 45.2 Sections 1 through 154, and Adoption of Title 12 Chapter 45.3 State Fire Code

Comment – The Board recommended that that the proposed rule amendments proceed to public hearing.

HAR Title 12 Chapter 15-90 Hawaii Worker's Compensation Medical Fee Schedule and Exhibit A

Comment – Upon hearing from DLIR Director Dwight Takamine and many testifiers in support of these proposed rules, the Board recommended that the request go out to public hearing. After public hearing, upon hearing from Director Takamine, the Board recommended that statement after public hearing be approved. The Board also requested from DLIR a report showing results from fraud.

HAR Title 12 Chapter 46 Hawaii Civil Rights Commission

Comment – The Board recommended that the proposed set of rule changes which conform to the respective statutes to the Governor for approval go out to public hearing for public input.

Department of Land & Natural Resources (DLNR)

HAR Title 13 Chapter 95-1 Island-Based Fisheries Rules

Comment – The Board recommended that the rules request go out to public hearing.

HAR Title 13 Chapter 54, "Puako Bay and Puako Reef, Hawaii," Section 1 "Definitions," Section 2 "Prohibited Activities," Section 3 "Permitted Activities," HAR Title 13 Chapter 57 "Keauhou Bay, Hawaii," Section 1 "Definitions," Section 2 "Prohibited Activities," Section 3 "Permitted Activities," and "Map of Keauhou Bay Fisheries Management Area, Hawaii," Repeal of HAR Title Chapter 60.3 "West Hawaii Regional Fisheries Management Area," and Adoption of Title 13 Chapter 60.4 "West Hawaii Regional Fishery Management Area, Hawaii," HAR Title 13 Chapter 75 Section 12.4 "Lay nets"

Comment – The Board recommended the following proposed rule changes after the public hearing: 1) establishment of a list of 40 fish species permitted for aquarium take, only "throw" fish on the white list could be collected live for aquarium use, and size and bag limits are proposed for three species on the White List; 2) prohibition of take or possession of nine species of inshore sharks and rays and two invertebrate crown-of-thorns predators; 3) establishment of a 1,500 foot section of Ka'ohe Bay (Pebble Beach), South Kona, as a Fish Replenishment Are where aquarium collecting and/or recreational fish feeding is prohibited; and to oppose spear or speared aquatic life until further notice of the impact; the motion did not pass.

HAR Title 13 Sections 230-4 Penalties and Prosecution, 230-8 Definitions, 230-21 Definitions, 230-22 Twelve-month rule, 230-25 Particular categories, 230-27 Permittee required to report change of residence, and 230-28 Appeals

Comment – The Board recommended sending the proposed rules to public hearing, and to the Governor for adoption after public hearing.

HAR Title 13 Chapter 231 Operations of Boats, Small Boat Harbors, and Permits, Chapter 251 Waikiki and Ka'anapali Ocean Waters, Chapter 253 Registration and Permit Fees, Section 13-256-3 Commercial Operator Permit Requirements, and Section 13-256-4 Commercial Vessel and Water Sports Equipment Registration Requirements

Comment – The Board recommended that the proposed amendments proceed to the Governor to public hearing.

Department of Public Safety

No key matters of small business impact have been noted.

Department of Taxation

HAR Title 18 Chapter 231 Administration of Taxes

Comment – The Board recommended that the proposed amended rules proceed to public hearing.

HAR Title 18 Chapter 235 Income Tax Law, HAW Title 18 Chapter 235-12.501T and 235-12.5-06T, Relating to Renewal Energy Technology Income Tax Credit

Comment – The Board recommended that the proposed amended rules proceed to public hearing.

Department of Transportation

No key matters of small business impact have been noted.

University of Hawaii

No key matters of small business impact have been noted.

Counties

City and County of Honolulu- Liquor Commission

New Sections 3-81-20 General Right of Inspection, 2-82-38.26 Bottle Service for On-Premise Consumption, 3-82-41.3 Management or Operating Agreements, and 3-84-73.1 Quality of Liquor, and Proposed Amendments to Sections 3-80-1.1 Definitions, 3-81-17.53 License Fees; When Due and How Calculated, 3-81-17.54 Gross Sales Reports, 3-17.55 Additional License Fees on Gross Sales, 3-82-31.8 Recorking, 3-82.38.5 Registration of Employees, 3-82-38.8 Semi-Annual Submission of Employee List, 3-82-38.9 Licensee and Manager in Charge of Premises, 3-82-38.25 Restrictions or Conditions on Licenses, 3-82-41.2 Transfer of Corporate Stock; Notification Regarding Limited Partners, Limited Liability Company Managers or Members, 3-83-53.1 License Applications; Notice of Hearing; Affidavits, 3-83-61.1 Renewal of Existing License, 3-83-62 Architectural Requirements/Alteration of Licensed Premises, 3-84-72.2 Premises Lighting; Doors, 3-84-78.01 Conduct of Employees, 3-84-78.01 Conduct of Employees, 3-84-78.06 Solicitation of Business Outside of Premises, 3-84-78.52 Stacking of Drinks, and 3-85-91.12 Licenses under Safekeeping

Comment – In addition to the rule amendments proceeding to public hearing, the Board recommended that under Section 3-82-31.8 Recorking, clarification be made that recorking to its original bottle is not the mandatory responsibility of the licensee, but that the licensee may choose to record or to allow a patron to remove the left-over liquor from the premises.

County of Maui

No key matters of small business impact have been noted.

County of Hawaii

No key matters of small business impact have been noted.

County of Kauai

Planning Commission

Kauai County Code, Chapter 10 Section A, Lihue Town Core Urban Design District

Comment - The Board recommended to the County of Kauai Planning Commission that the proposed amendments go to public hearing.

Department of Water

Part III of the Rules and Regulations for Water Service Connections, Section IX – Adjustment of Bills for Undetected Underground Leaks and Unforeseen Damages

Comment - The Board recommended the proposed amendments proceed to public hearing.

LEGISLATIVE ACTIVITY

Since its inception, the Board has supported legislation by submitting testimony on bills of interest to small business. See "Legislative Review" at the end of this report for specific legislation the Board followed during the 2013 session.

SMALL BUSINESS IMPACT STATEMENT *and* GOVERNOR'S ADMINISTRATIVE DIRECTIVE NO. 09-01

Under Section 201M-2, HRS, State agencies that want to adopt new or modified administrative rules that have an impact on small business must submit to the Board a small business impact statement showing the economic impact on those businesses. As a result, the Board reviews the small business impact statements and the Governor's Administrative Directive (AD), while working with the rule-drafting agencies on behalf of the small business community.

On October 29, 2009, AD 09-01 (Appendix 3) was issued to update the policy and procedures by which State departments and agencies request Governor's approval for a public hearing of any proposed adoption, amendment or repeal of administrative rules developed under Chapter 91, HRS.

BOARD MEMBERS

Pursuant Section 201M-5 (c), "a majority of the board shall elect the chairperson. The chairperson shall serve a term of not more than one year, unless removed earlier by a two-thirds vote of all members to which the board is entitled." At the June 2013 board meeting, Ms. Chu Lan Shubert-Kwock was elected Chair; Mr. Anthony Borge was elected as Vice Chair, and Ms. Leslie Mullens as Second Vice Chair.

The board member nomination process, under Section 201M-5, HRS, provides that" the Board shall consist of nine members, who shall be appointed by the governor pursuant to section 26-34; provided that: (1) Three members shall be appointed from a list of nominees submitted by the president of the senate; (2) Three members shall be appointed from a list of nominees submitted by the speaker of the house of representatives; (3) Two members shall be appointed by the governor; (4) The director of business, economic development, and tourism, or the director's designated representative, shall serve as an ex officio voting member of the board; (5) The appointments shall reflect representation of a variety of businesses in the State; (6) No more than two members shall be representatives from the same type of business; and (7) There shall be at least one representative from each county."

In addition, "nominations shall be solicited from small business organizations, state and county chambers of commerce, and other interested business organizations. Except for the ex officio member, all members of the board shall be either a current or former owner or officer of a business and shall not be an officer or employee of the federal, state, or county government." At the end of December 2013, the board has the following members:

- Chu Lan Shubert-Kwock, ABC Mortgage & Chu Lan Properties, representing the City and County of Honolulu
- Howard Lum, Aloha Gourmet Products, Inc., representing the City and County of Honolulu
- Anthony Borge, RMA Sales, representing the City and County of Honolulu
- Barbara Bennett, *For Kauai Magazine*, representing Kauai County
- Leslie Mullens, PlayBook Consulting Group, representing Maui County
- Kyoko Y. Kimura, Beach Club Consulting Company, LLC, representing Maui County
- Craig Takamine, Takamine Construction, Inc., representing Hawaii County
- Richard C. Lim, DBEDT Director, Voting Ex Officio Member

ACTIVITIES AND PROJECTS

The following activities and projects were performed in 2013.

▪ **Website –** DBEDT's website and the Board's webpage were re-vamped as a result of Governor Abercrombie's initiative to standardize all the State department's websites. During 2013, the SBRRB's webpages were regularly updated; see: http://dbedt.hawaii.gov/sbrrb.

▪ **Brochures and Evaluation Survey** – During 2013, a new Board Brochure and an Evaluation Survey were created for outreach purposes and to distribute at the board meetings. In addition, the Board updated and re-instituted its "Small Business Bill of Rights" brochure.

▪ **Press Releases and Articles** – A press release was sent out in September 2013 announcing this Board's elected officers and members. As of the printing of this Report, it had not been published by any of the business publications.

▪ **RegAlert** – In 2013, the Board approved to create an investigative committee to review the re-activation of RegAlert. RegAlert is a small business regulatory alert system, created to assist in reducing the regulatory burden on Hawaii small businesses. Its intent is to allow the Board to serve as the "voice of small business" on both new and proposed administrative rules directly to the rule-making State and County agencies. Through RegAlert, business owners would be able to keep apprised of proposed rule changes on selected rules and given an opportunity to provide input to the agencies promulgating proposed and amended rules through the Board.

▪ **Meeting Schedule** – The Board agreed to meet the third Wednesday of each month in 2014, with the exception of December due to the holidays and January due to the conflict with the opening of the State of Hawaii legislative session.

ADMINISTRATIVE RULE REVIEW REQUESTED BY SMALL BUSINESS

During 2013, the Board has not been approached by small business owners in accordance with Section 201M-5 (f), HRS.

SECTION II

LEGISLATIVE REVIEW

The Board provided testimony on the following measures during the 2013 Legislative Session.

1. **Governor's Message No. 526, Submitting for Consideration and Confirmation to the Small Business Regulatory Review Board, Gubernatorial Nominee, Anthony Borge, for a term to expire June 30, 2015**

Background: At its February 2013 board meeting, the Board members unanimously supported this measure.

Recommendation: The recommendation by the Committee on Economic Development, Government Operations and House to Advise and Consent to the nomination was approved on April 22, 2013.

2. **Governor's Message No. 527, Submitting for Consideration and Confirmation to the Small Business Regulatory Review Board, Gubernatorial Nominee, Barbara Bennett, for a term to expire June 30, 2014**

Background: At its February 2013 board meeting, the Board members unanimously supported this measure.

Recommendation: The recommendation by the Committee on Economic Development, Government Operations and House to Advise and Consent to the nomination was approved on April 22, 2013.

3. **Governor's Message No. 528, Submitting for Consideration and Confirmation to the Small Business Regulatory Review Board,**

Gubernatorial Nominee, Chu Lan Shubert-Kwock, for a term to expire June 30, 2016

Background: At its February 2013 board meeting, the Board members unanimously supported this measure.

Recommendation: The recommendation by the Committee on Economic Development, Government Operations and House to Advise and Consent to the nomination was approved on April 22, 2013.

4. **Governor's Message No. 529, Submitting for Consideration and Confirmation to the Small Business Regulatory Review Board, Gubernatorial Nominee, Howard Lum, for a term to expire June 30, 2014**

Background: At its February 2013 board meeting, the Board members unanimously supported this measure.

Recommendation: The recommendation by the Committee on Economic Development, Government Operations and House to Advise and Consent to the nomination was approved on April 22, 2013.

5. **Governor's Message No. 530, Submitting for Consideration and Confirmation to the Small Business Regulatory Review Board, Gubernatorial Nominee, Kyoko Kimura, for a term to expire June 30, 2016**

Background: At its February 2013 board meeting, the Board members unanimously supported this measure.

Recommendation: The recommendation by the Committee on Economic Development, Government Operations and House to Advise and Consent to the nomination was approved on April 22, 2013.

6. **Governor's Message No. 531, Submitting for Consideration and Confirmation to the Small Business Regulatory Review Board, Gubernatorial Nominee, Leslie Mullens, for a term to expire June 30, 2015**

Background: At its February 2013 board meeting, the Board members unanimously supported this measure.

Recommendation: The recommendation by the Committee on Economic Development, Government Operations and House to Advise and Consent to the nomination was approved on April 22, 2013.

7. G**overnor's Message No. 792, Submitting for Consideration and Confirmation to the Small Business Regulatory Review Board, Gubernatorial Nominee, Craig Takamine, for a term to expire June 30, 2016**

Background: At its April 2013 board meeting, the Board members unanimously supported this measure.

Recommendation: The recommendation by the Committee on Economic Development, Government Operations and House to Advise and Consent to the nomination was approved on April 22, 2013.

Appendix

1. Chapter 201M, Hawaii Revised Statutes
2. Administrative Rules Reviewed Matrix
3. Administrative Directive No. 09-01

1. Chapter 201M, Hawaii Revised Statutes

CHAPTER 201M

SMALL BUSINESS REGULATORY FLEXIBILITY ACT

Section

201M-1 Definitions
201M-2 Determination of small business impact; small business impact statement
201M-3 Small business statement after public hearing
201M-4 Advisory committee on small business; consultation process for proposed rules
201M-5 Small business regulatory review board; powers
201M-6 Petition for regulatory review
201M-7 Periodic review; evaluation report
201M-8 Waiver or reduction of penalties
201M-9 Executive order

§201M-1 Definitions. As used in this chapter, unless the context clearly requires otherwise:

"Advisory committee" means an advisory committee on small business as established in section 201M-4.

"Affected small businesses" or "affects small business" means any potential or actual requirement imposed upon a small business through an agency's proposed or adopted rule that will cause a direct and significant economic burden upon a small business, or is directly related to the formation, operation, or expansion of a small business.

"Agency" means each state or county board, commission, department, or officer authorized by law to make rules, except those in the legislative or judicial branches.

"Board" means the small business regulatory review board.

"Rule" shall have the same meaning as in section 91-1.

"Small business" means a for-profit enterprise consisting of fewer than one hundred full-time or part-time employees. [L 1998, c 168, pt of §2, §5; am L 2002, c 202, §§2, 5; am L 2007, c 217, §2]

§201M-2 Determination of small business impact; small business impact statement. (a) Prior to submitting proposed rules for adoption, amendment, or repeal under section 91-3, the agency shall determine whether the proposed rules affect small business, and if so, the availability and practicability of less restrictive alternatives that could be implemented. This section shall not apply to emergency rulemaking.

(b) If the proposed rules affect small business, the agency shall consider creative, innovative, or flexible methods of compliance for small businesses

and prepare a small business impact statement to be submitted with the proposed rules to the departmental advisory committee on small business and the board when the rules are essentially complete and before the rules are submitted to the governor for approval for public hearing. The statement shall provide a reasonable determination of the following:

(1) The businesses that will be directly affected by, bear the costs of, or directly benefit from the proposed rules;

(2) Description of the small businesses that will be required to comply with the proposed rules and how they may be adversely affected;

(3) In dollar amounts, the increase in the level of direct costs such as fees or fines, and indirect costs such as reporting, recordkeeping, equipment, construction, labor, professional services, revenue loss, or other costs associated with compliance;

(4) The probable monetary costs and benefits to the implementing agency and other agencies directly affected, including the estimated total amount the agency expects to collect from any additionally imposed fees and the manner in which the moneys will be used;

(5) The methods the agency considered or used to reduce the impact on small business such as consolidation, simplification, differing compliance or reporting requirements, less stringent deadlines, modification of the fines schedule, performance rather than design standards, exemption, or any other mitigating techniques;

(6) How the agency involved small business in the development of the proposed rules; and

(7) Whether the proposed rules include provisions that are more stringent than those mandated by any comparable or related federal, state, or county standards, with an explanation of the reason for imposing the more stringent standard.

(c) When a proposed rule includes provisions that are more stringent than those mandated by any comparable or related federal, state, or county standards, the agency shall, in addition to the information required by subsection (b), include in the small business impact statement information comparing the costs and benefits of the standard set by the proposed rule to the costs and benefits of the standard under the comparable or related federal, state or county law. The agency shall also include an explanation of its decision to impose the higher

standard. The agency's comparison and justification shall include:

(1) A description of the public purposes to be served by imposing the standard under the proposed rule;

(2) The text of the related federal, state, or county law, including information about the purposes and applicability of the law;

(3) A comparison between the proposed rule and the related federal, state, or county law, including a comparison of their purposes and of the standards and their application and administration;

(4) A comparison of the monetary costs and benefits to the implementing agency and other agencies directly affected, of imposing the proposed standard, with the costs and benefits of imposing or deferring to the related federal, state or county standard, as well as a description of the manner in which any additional fees derived from imposition of the proposed standard are to be used; and

(5) A comparison of the adverse effects on small businesses of the standard imposed by the proposed rule, with the adverse effects on small business of the related federal, state, or county standard.

(d) This chapter shall not apply to proposed rules adopted by an agency to implement a statute or ordinance that does not require an agency to interpret or describe the requirements of the statute or ordinance, such as federally-mandated regulations that afford the agency no discretion to consider less restrictive alternatives. [L 1998, c 168, pt of §2, §5; am L 2002, c 202, §5; am L 2007, c 217, §3; am L 2008, c230, §3]

[§201M-3] Small business statement after public hearing. (a) For any proposed rule that affects small business, the agency shall also submit a small business statement to the small business regulatory review board and the departmental advisory committee on small business after the public hearing is held. This section shall not apply to emergency rules. The small business statement required by this section shall provide the following information:

(1) A description of how opinions or comments from affected small business were solicited, a summary of the public and small business comments, and a summary of the agency's response to those comments;

(2) The number of persons who:

(A) Attended the public hearing;

(B) Testified at the hearing; and

(C) Submitted written comments; and

(3) If there was a request to change the proposed rule at the hearing in a way that affected small business, a statement of the reasons for adopting the proposed rule, the reason why a requested change was not made, and the problems or negative result the change would provide if adopted.

(b) If the small business regulatory review board finds that a statement provided pursuant to subsection (a) (3):

(1) Indicates inconsistency with any of the agency's determinations under section 201M-2(b); or

(2) Does not address the concerns of public input, the board with good cause may request a written response from the agency explaining the rationale used to deny the public concerns within ten working days of receipt of the small business statement after public hearing. The agency shall respond in writing to the board's concerns within ten working days.

(c) The written response from an agency required in subsection (b), at a minimum, shall:

(1) Specifically address each issue and concern raised in the board's request for a written response; and

(2) Affirmatively state that the agency has considered all written and oral testimony received at the agency's public hearing and has addressed all issues or concerns raised in the written or oral testimony. [L 1998, c 168, pt of §2, §5; am L 2002, c 202, §5; am L 2012, c 241, §2]

[§201M-4] Advisory committee on small business; consultation process for proposed rules. (a) There may be established within and administratively attached to every department of the State or county whose rules affect small business activities, an advisory committee on small business. The advisory committee shall consist of three or more odd number of members appointed by the department and may advise more than one department. The department shall have the authority to appoint members to the advisory committee and to fill any vacancies. The members shall serve on a volunteer basis and have experience or knowledge of the effect of regulation by those departments on the formation, operation, or expansion of a small business. No person shall serve on the small business regulatory review board and an advisory committee on small business concurrently. The advisory committees shall not be subject to the requirements of chapter 91.

(b) When the agency is proposing rules that affect small business, the agency may consult with the administratively attached departmental advisory committee on small business regarding any matter related to the proposed rules prior to

complying with the rulemaking requirements provided in chapter 91. Each agency shall develop its own internal management procedures for soliciting comments during the drafting of proposed rules from affected small businesses. The agency may develop creative procedures for the solicitation of comments from affected small businesses during the drafting or development of proposed rules.

(c) If necessary, any group or members of affected small businesses may also be consulted by the agency to formulate the relevant language, develop criteria, and provide any other expertise to ensure that the proposed rules will be drafted in a manner that will protect the public health, welfare, and safety without placing an undue and significant burden upon small business. [L 1998, c 168, pt of §2, §5; am L 2002, c 202, §5]

§201M-5 Small business regulatory review board; powers. (a) There shall be established within the department of business, economic development, and tourism, for administrative purposes, a small business regulatory review board to review any proposed new or amended rule or to consider any request from small business owners for review of any rule adopted by a state agency and to make recommendations to the agency or the legislature regarding the need for a rule change or legislation. For requests regarding county ordinances, the board may make recommendations to the county council or the mayor for appropriate action.

(b) The board shall consist of nine members, who shall be appointed by the governor pursuant to section 26-34; provided that:

(1) Three members shall be appointed from a list of nominees submitted by the president of the senate;
(2) Three members shall be appointed from a list of nominees submitted by the speaker of the house of representatives;
(3) Two members shall be appointed by the governor;
(4) The director of business, economic development, and tourism, or the director’s designated representative, shall serve as an ex officio voting members of the board;
(5) The appointments shall reflect representation of a variety of businesses in the State;
(6) No more than two members shall be representative from the same type of business; and
(7) There shall be at least one representative from each county. For purposes of paragraphs (1) and (2), nominations shall be solicited from small business

organizations, state and county chambers of commerce, and other interested business organizations.

(c) **Except for the ex officio member**, all members of the board shall be either a current or former owner or officer of a business and shall not be an officer or employee of the federal, state, or county government. A majority of the board shall elect the chairperson. The chairperson shall serve a term of not more than one year, unless removed earlier by a two-thirds vote of all members to which the board is entitled.

(d) A majority of all the members to which the board is entitled shall constitute a quorum to do business, and the concurrence of a majority of all the members to which the board is entitled shall be necessary to make any action of the board valid.

(e) In addition to any other powers provided by this chapter, the board may:

(1) Adopt any rules necessary to implement this chapter;

(2) Organize and hold conferences on problems affecting small business; and

(3) Do any and all things necessary to effectuate the purposes of this chapter.

(f) The board shall submit an annual report to the legislature twenty days prior to each regular session detailing any requests from small business owners for review of any rule adopted by a state agency, and any recommendations made by the board to an agency or the legislature regarding the need for a rule change or legislation. The report shall also contain a summary of the comments made by the board to agencies regarding its review of proposed new or amended rules. [L 1998, c 168, pt of §2, §5; am L 2002, c 202, §§3, 5; am L 2007, c 217, §4; am L 2012, c 241, §3]

§201M-6 Petition for regulatory review. (a) In addition to the basis for filing a petition provided in section 91-6, any affected small business may file a written petition with the agency that has adopted the rules objecting to all or part of any rule affecting small business on any of the following grounds:

(1) The actual effect on small business was not reflected in, or significantly exceeded, the small business impact statement submitted prior to the adoption of the rules;

(2) The small business impact statement did not consider new or significant economic information that reveals an undue impact on small business;

(3) These impacts were not previously considered at the public hearing on the rules;

(4) The rules create an undue barrier to the formation, operation, and expansion of small businesses in a manner that significantly outweighs its benefit to the public;

(5) The rules duplicate, overlap, or conflict with rules adopted by another agency or violate the substantive authority under which the rules were adopted; or

(6) The technology, economic conditions, or other relevant factors justifying the purpose for the rules have changed or no longer exist.

(b) Upon submission of the petition, the agency shall forward a copy of the petition to the board, as notification of a petition filed under this chapter. The agency shall promptly consider the petition and may seek advice and counsel regarding the petition from the appropriate departmental advisory committee on small business. Within sixty days after the submission of the petition, the agency shall determine whether the impact statement or the public hearing addressed the actual and significant impact on small business. The agency shall submit a written response of the agency's determination to the small business review board within sixty days after receipt of the petition. If the agency determines that the petition merits the adoption, amendment, or repeal of a rule, it may initiate proceedings in accordance with section 91-3.

(c) If the agency determines that the petition does not merit the adoption, amendment, or repeal of any rule, any affected small business may seek a review of the decision by the board. The board shall promptly convene a meeting pursuant to chapter 92 for the purpose of soliciting testimony that will assist in its determination whether to recommend that the agency initiate proceedings in accordance with section 91-3. The board may base its recommendation on any of the following reasons:

(1) The actual effect on small business was not reflected in, or significantly exceeded, the impact statement submitted prior to the adoption of the rules;

(2) The impact statement did not consider new or significant economic information that reveals an undue impact on small business;

(3) These impacts were not previously considered at the public hearing on the rules;

(4) The rules create an undue barrier to the formation, operation, and expansion of small businesses in the State in a manner that significantly outweighs its benefit to the public;

(5) The rules duplicate, overlap, or conflict with rules adopted by another agency or violate the substantive authority under which the rules were adopted; or

(6) The technology, economic conditions, or other relevant factors justifying the purpose for the rules have changed or no longer exist.

(d) If the board recommends that an agency initiate rulemaking proceedings for any reason provided in subsection (c), it shall submit to the legislature an evaluation report and the agency's response as provided in subsection (b). The legislature may subsequently take any action in response to the evaluation report and the agency's response as it finds appropriate.

(e) If the board does not recommend that an agency initiate rulemaking proceedings, the board shall notify the small business of its decision and inform the small business that the small business may submit a complaint to the ombudsman pursuant to chapter 96 regarding the decision of the agency or board.

(f) Nothing in this section shall entitle an affected small business to a contested case hearing under chapter 91. [L 1998, c 168, pt of §2, §5; am L 2002, c 202, §5; am L 2007, c 217, §5]

§201M-7 Periodic review; evaluation report. (a) Each agency having rules that affect small business shall submit by June 30 of each odd-numbered year, a list of those rules to the small business regulatory review board; provided that, by June 30 of each year, each agency shall submit to the small business regulatory review board a list of any rules to be amended or repealed, based upon any new, amended, or repealed statute. The agency shall also submit a report describing the specific public purpose or interest for adopting the respective rules that affect small business and any other reasons to justify their continued implementation.

(b) The small business regulatory review board shall provide to the head of each agency a list of any rules adopted by the agency that affect small business and have generated complaints or concerns, including any rules that the board determines may duplicate, overlap, or conflict with other rules, or exceed statutory authority. Within forty-five days after being notified by the board of the list, the agency shall submit a written report to the board in response to the complaints or concerns. The agency shall also state whether the agency has considered the continued need for the rules and the degree to which technology, economic conditions, and other relevant factors may have diminished or eliminated the need for maintaining the rules.

(c) The board may solicit testimony from the public regarding any report submitted by the agency under this section

at a public meeting held pursuant to chapter 92. Upon consideration of any report submitted by an agency under this section and any public testimony, the board shall submit an evaluation report to the next regular session of the legislature. The evaluation report shall include an assessment as to whether the public interest significantly outweighs a rule's effect on small business and any legislative proposal to eliminate or reduce the effect on small business. The legislature may take any action in response to the report as it finds appropriate. [L 1998, c 168, pt of §2, §5; am L 2002, c 202, §5; am L 2007, c 217, §6; am L 2012, c 241, §4]

§201M-8 Waiver or reduction of penalties. (a) Except where a penalty or fine is assessed pursuant to a program approved, authorized, or delegated under a federal law, any agency authorized to assess civil penalties or fines upon a small business shall waive or reduce any penalty or fine as allowed by federal or state law for a violation of any statute, ordinance, or rules by a small business under the following conditions:

(1) The small business corrects the violation within a minimum of thirty days after receipt of a notice of violation or citation; and

(2) The violation was unintentional or the result of excusable neglect; or

(3) The violation was the result of an excusable misunderstanding of an agency's interpretation of a rule.

(b) Subsection (a) shall not apply:

(1) When a small business fails to exercise good faith in complying with the statute or rules;

(2) When a violation involves willful or criminal conduct;

(3) When a violation results in serious health and safety impacts;

(4) To violations of chapters 6E, 180, 180C, 181, 182, 183, 183C, 183D, 186, 187A, 188, 188F, 189, 190, 190D, 195, 195D, 195F, 205, 205A, 340A, 340E, 341, 342B, 342C, 342D, 342E, 342F, 342G, 342H, 342I, 342J, 342L, and 342P;

(5) To violations of sections 200-9(b) and (c), 200-24(4), 200-37, and 200-38; or

(6) To violations of administrative rules promulgated pursuant to section 200-4(6); except for rules pertaining to matters listed in section 200-4(6)(A), (B), (C), and (D).

(c) An agency may adopt rules to implement the requirements of this section. [L 1998, c 168, pt of §2, §5; am L 2002, c 202, §5; am L 2004, c 206, §1]

[§201M-9] Executive order. The governor may execute any executive order, memorandum, or directive necessary to implement any provision of this chapter. [L 1998, c 168, pt of §2, §5; am L 2002, c 202, §5]

2. Administrative Rule Review Matrix

	Month/Year	Support	Oppose	No Comment/ No Action	Support w/Rec.	Sup. w/Res.	Support/ Oppose	Pending
FY 2000 to FY 2012		434	12	54	26	17	6	0
FY 2013	Jul-12	0						
	Aug-12	0						
	Sep-12	0						
	Oct-12	0						
	Dec-12	6		2				
	Jan-13	0						
	Feb-13	3						
	Mar-13	3						
	Apr-13	0						
	May-13	3		2				
	Jun-13	3						
FY 2014	Jul-13	0						
	Aug-13	5		1				
	Sep-13	0						
	Oct-13	3		1				
	Nov-13	1			1			
	Dec-13	3						
	Jan-14							
	Feb-14							
	Mar-14							
	Apr-14							
	Totals	**464**	**12**	**60**	**27**	**17**	**6**	**0**

3. Administrative Directive 09-01

EXECUTIVE CHAMBERS

HONOLULU

LINDA LINGLE
GOVERNOR

October 29, 2009

ADMINISTRATIVE DIRECTIVE NO. 09-01

To: All Agency Heads

Subject: Policy and Procedure for the Adoption, Amendment, or Repeal of Administrative Rules

This administrative directive updates the policy and procedure by which departments or agencies shall request executive approval of any proposed adoption, amendment, or repeal of administrative rules. It rescinds Administrative Directive No. 99-02, Policy and Procedure for the Adoption, Amendment, or Repeal of Administrative Rules, dated August 2, 1999.

Legal Reference:

Section 91-3(c), Hawaii Revised Statutes, provides that, "the adoption, amendment, or repeal of any rule by any state agency shall be subject to the approval of the governor."

Hawaii Revised Statutes Chapter 201M, the "Hawaii Small Business Regulatory Flexibility Act," requires that if a proposed rule "affects small business," the department or agency shall submit a "small business impact statement" and a "small business statement" to the Small Business Regulatory Review Board. Chapter 201M does not apply to emergency rulemaking or rules adopted to comply with a federal requirement.

Policy:

Whenever any department or agency requests executive approval for the proposed adoption, amendment, or repeal of a rule, the director of the department or agency shall ensure that the proposed changes conform to existing legal provisions, including Chapter 91, Hawaii Revised Statutes. In requesting the adoption, amendment, or repeal of any rule, the director will explain or submit the following:

1. Explain the exact changes to be made and the purpose, reasons for the changes, and justification for the change. If applicable, cite the present rule and quote the proposed rule change in full without paraphrasing.

2. Describe the manner in which the proposal would affect the agency's internal and external responsibilities, programs, functions, operations, activities, and inter-relationships.

3. Identify the final result expected by instituting the proposal (e.g. a program improvement/clarification of statute).

4. Identify any program and financial impacts on the State that will arise upon the implementation of the proposal to include:

   a. Long- and short-range program impacts, and

   b. Anticipated program funding required for the present biennium, including a statement as to whether funds are currently budgeted to permit the implementation and enforcement of the proposed adoption, amendment, or repeal of the rule, and estimates for anticipated savings or funding shortfalls projected over the subsequent four-year planning period, and the assumptions used to arrive at the estimates.

5. Describe long- and short-term impacts to the public or the economy of the State.

6. Identify the alternatives explored in lieu of implementing the proposal.

7. Provide an explanation of whether the proposal will affect small business. For purposes of this Directive, a proposal will affect small business if the proposal will impact a for-profit enterprise consisting of fewer than 100 full-time or part-time employees and will cause a direct and significant economic burden upon a small business, or is directly related to the formation, operation, or expansion of a small business.

   If a proposal affects small business, the department or agency will describe:

   a. Whether it has considered the availability and practicability of less restrictive alternatives that could be implemented in lieu of adopting the proposal;

   b. Whether it has considered creative, innovative, or flexible methods of compliance for small business in lieu of adopting the proposed rule; and

   c. Whether it has prepared a "Small Business Impact Statement" that has been submitted to the Small Business Regulatory Review Board for consideration under HRS Chapter 201M.

<u>Procedure</u>:

1. Approval of the Governor is required prior to any rule change proceeding to a public hearing.

Prior to formal publication of notice of public hearing on the proposed adoption, amendment, or repeal of any rule, departments and agencies will:

a. Obtain the Attorney General's approval "as to form" prior to submitting the rule to me for approval for public hearing; provided that as to rules proposed for adoption, amendment, or repeal that are submitted by the Board of Regents of the University of Hawaii, such rules shall be first reviewed and approved as to form by the University's Office of General Counsel prior to submission to the Attorney General. The Department of the Attorney General will complete its pre-hearing review on an expeditious basis;

b. Provide the Governor's office with a copy of the proposed rule, including the information requested in "Policy" items 1 through 7 above; and

c. At the time the rules are submitted to the Governor's Office, concurrently provide copies to the Director of Budget and Finance (B&F) and to the Director of Business, Economic Development and Tourism (DBEDT) for their prompt review. B&F and DBEDT comments will be forwarded directly to the Governor.

2. Notice of Public Hearings.

If any proposed rule affects small business, the notice of public hearing will summarize any business impact described in the "Small Business Impact Statement," and will state any new fee or compliance burdens that will be placed on small business.

3. Final Approval After Public Hearing.

Departments and agencies will obtain the Governor's final approval for the adoption, amendment, or repeal of any rule after the required public hearing has been held. In seeking final approval, the director of the department or agency concerned shall:

a. Indicate whether any revision is being recommended to the proposed rule, amendment, or repeal based on facts and circumstances brought out in the public hearing;

b. If a revision or change is recommended, provide a copy of the proposed rule with revisions and changes to the Attorney General for approval "as to form" prior to resubmitting the rule to the Governor for final approval; provided that as to rules proposed for adoption, amendment or repeal that are submitted by the Board of Regents of the University of Hawaii, such rules shall be first reviewed and approved as to form by the University's Office of General Counsel prior to submission to the Attorney General.

The Attorney General's office will approve the form within two weeks of receipt if the changes are not substantive. If the changes are determined to be substantial or material by the Attorney General, an additional public hearing will be held.

If a re-hearing of a proposed rule is sought, the procedures required for approval to proceed to public hearing will again be followed;

c. Indicate whether the proposal affects small business, and, if so, whether a "Small Business Statement," which provides the information described in HRS Chapter 201M, has been submitted to the Small Business Regulatory Review Board; and

d. Submit three copies of the proposal in standard format and in accordance with Chapter 91, HRS, for the Governor's final approval. The original and a copy of the rules adopted by the department or agency will be signed by the director of the department, by the chairperson of a board or commission of a principal department, or by the chairperson of a board or commission if the rule has been adopted by a board or commission which is assigned to a department for administrative purposes. The third copy may use a facsimile of the required signatures.

4. Distribution of Approved Adopted Rules.

a. A complete set consisting of three copies approved by the Governor will be filed at the Office of the Lieutenant Governor.

b. The Office of the Lieutenant Governor will provide one copy to the agency adopting, amending, or repealing the rule.

c. Each department or agency adopting, amending, or repealing the rule will provide one file-stamped and certified copy of the rule in the Ramseyer and standard formats to the Legislative Reference Bureau.

LINDA LINGLE

APPROVED AS TO FORM:

Russell A. Suzuki

Attorney General

No. 1 Capitol District Building
250 South Hotel Street
Honolulu, Hawaii 96813

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CHAPTER 212
FOREIGN-TRADE ZONES

SECTION
212-1 "ACT OF CONGRESS" DEFINED
212-2 "PUBLIC CORPORATION" DEFINED
212-3 DESIGNATION AND APPROVAL OF GOVERNOR FOR APPLICATION
212-4 GRANT OF AUTHORITY TO GOVERNOR; RULES AND REGULATIONS
212-5 SETTING ASIDE PUBLIC LANDS; LEASE, LICENSE, AND PERMITS
212-5.5 FOREIGN-TRADE ZONE; JURISDICTION
212-6 ESTABLISHMENT, OPERATION, AND MAINTENANCE OF ZONE
212-7 POWERS; INDEMNITY OR ASSURANCE TO THE UNITED STATES AND DEPOSITS WITH UNITED STATES
212-8 EXEMPTION FROM TAXES
212-9 SPECIAL FUND
212-10 PERSONNEL

§212-1 "Act of Congress" defined. As used in this chapter, "Act of Congress" means the act of Congress approved June 18, 1934, entitled, "An act to provide for the establishment, operation, and maintenance of foreign-trade zones in ports of entry of the United States, to expedite and encourage foreign commerce, and for other purposes", and the amendments thereto. [L 1963, c 7, §2; Supp, §98T-2; HRS §212-1]

§212-2 "Public corporation" defined. As used in this chapter, "public corporation" means the State of Hawaii, any political subdivision thereof, and municipality therein, or any public agency of the State. [L 1963, c 7, §3; Supp, §98T-3; HRS §212-2]

§212-3 Designation and approval of governor for application. Any public corporation which is duly designated and approved by the governor may make application to the Foreign-Trade Zones Board of the United States for the purpose of establishing, operating, and maintaining a foreign-trade zone in accordance with the Act of Congress in any port of entry in the State. [L 1963, c 7, §4; Supp, §98T-4; HRS §212-3]

§212-4 Grant of authority to governor; rules and regulations. The governor may do all things necessary and proper to carry into effect the establishing, maintaining, and operating of foreign-trade zones, and make such rules and regulations concerning the operation, maintenance, and policing of the zone as may be necessary to comply with the Act of Congress. All rules and regulations established under this chapter shall be adopted and promulgated pursuant to chapter 91. [L 1963, c 7, §5; Supp, §98T-5; HRS §212-4]

§212-5 Setting aside public lands; lease, license, and permits. Notwithstanding any law to the contrary, the governor may set aside public lands to a public corporation for the purpose of this chapter and the corporation may, by

negotiation and without recourse to public auction, lease, rent, or let the lands or any part thereof or any interest therein, including concessions and concession space, by lease, license, or permit on the terms and conditions set by the corporation. [L 1963, c 7, §6; Supp, §98T-6; HRS §212-5]

[§212-5.5] Foreign-trade zone; jurisdiction. Anything to the contrary notwithstanding, the department of business, economic development, and tourism shall have jurisdiction and administrative authority over the area in the vicinity of Piers 1 and 2 currently being used as a foreign-trade zone. This area is defined as all of parcels 2 and 3-A of the Forrest Avenue subdivision, as shown on the map filed in the bureau of conveyances of the State of Hawaii, as file plan 2335, and lot A-1, as shown on map 2, filed in the office of the assistant registrar of the land court of the State of Hawaii with land court application 1328; provided that all existing easements affecting and appurtenant to the parcels to be deleted from the Kakaako community development district boundaries shall not be affected by this change. [L 2006, c 165, §2]

Note

Further requirements on conveyance of parcels at Piers 1 and 2. L 2006, c 165, §5.

Cross References

Honolulu Harbor, Piers 1 and 2; jurisdiction, see §266-1.5.

§212-6 Establishment, operation, and maintenance of zone. Any public corporation authorized pursuant to this chapter to make an application and whose application is granted pursuant to the terms of the Act of Congress may establish, operate, and maintain the foreign-trade zone:

(1) Subject to the conditions and restrictions of the Act of Congress;

(2) Under the rules and regulations, and for the period of time that may be prescribed by the foreign-trade zones board established by the Act of Congress to carry out the provisions of the Act. [L 1963, c 7, §7; Supp, §98T-7; HRS §212-6]

Attorney General Opinions

Application of various state taxes to foreign-trade zone activities. Att. Gen. Op. 64-52.

§212-7 Powers; indemnity or assurance to the United States and deposits with United States. If authorized to establish, operate, and maintain a foreign-trade zone, a public corporation may, in addition to its other powers:

(1) Provide for such indemnity or assurance to the United States or its agencies as they may request;

(2) Deposit such sums of money with the United States as the United States or its agencies may request, providing the money is available therefor by direct appropriation or otherwise. [L 1963, c 7, §8; Supp, §98T-8; HRS §212-7]

§212-8 Exemption from taxes. Notwithstanding any law to the contrary, sales of all products which are categorized as privileged foreign merchandise, nonprivileged foreign merchandise, domestic merchandise, or zone-restricted merchandise, and which are admitted into a foreign-trade zone, as more specifically set forth in the Act of Congress, and any rules and regulations promulgated thereunder, made directly to any common carrier in interstate or foreign commerce, or both, whether ocean-going or air, for consumption out-of-state by the crew or passengers on the shipper's vessels or airplanes, or for use out-of-state by the vessels or airplanes, shall be exempt from those taxes imposed under chapters 237, 238, 243, 244D, and 245. [L 1967, c 143, §1; HRS §212-8; am L 1985, c 16, §1; am L 1995, c 81, §1]

§212-9 Special fund. There is established in the state treasury a fund to be known as the foreign-trade zones special fund. All fees or other moneys collected under this chapter shall be deposited in this fund. All moneys in the fund are hereby appropriated for the purposes of and shall be expended by the public corporation for the operation, capital improvement, and maintenance of the zone. [L 1971, c 93, §2; am L 1995, c 81, §2]

§212-10 Personnel. Permanent employees currently not in civil service and who are employed by the State to operate and maintain the foreign trade zone in the department of business, economic development, and tourism shall be converted to permanent civil service status within the meaning of chapter 76 without the necessity of examination and shall be accorded all the rights, benefits, and privileges attributable thereto. Such rights and privileges shall include seniority, prior service credit, vacation and sick leave credits, and other benefits and privileges accorded employees with civil service status. Employees so converted shall not suffer a reduction in their pay rate. [L 1971, c 195, §1; am L 1987, c 336, §7; am L 1990, c 293, §8; am L 2000, c 253, §150]

TITLE 15 DEPARTMENT OF PLANNING AND ECONOMIC DEVELOPMENT

CHAPTER 8

FOREIGN-TRADE ZONE NO. 9

§15-8-1 Purpose
§15-8-2 Definitions
§15-8-3 Tariff; changes to tariff
§15-8-4 Use of zone facilities
§15-8-5 Inspection of tariff

Historical Note: This chapter is based substantially upon Rules and Regulations Governing Foreign-Trade Zone No. 9, Department of Planning and Economic Development. [Eff. 12/4/69; R JUL 06 1981]

§15-8-1 Purpose. The purpose of this chapter is to provide rules governing the operation of foreign-trade zone no. 9 pursuant to authority delegated to the director by the governor. [Eff. JUL 06 1981] (Auth: HRS §212-4) (Imp: HRS §212-4)

§15-8-2 Definitions. As used in this chapter, unless a different meaning clearly appears in the context:

"Department" means the department of planning and economic development;

"Director" means the director of planning and economic development;

"Office hours" means from 8:00 a.m. to 4:30 p.m., Monday through Friday, except holidays;

"Tariff" means the zone's Tariff No. 1 as amended;

"Zone" means foreign-trade zone no. 9 of the department;

"Zone users directives" means procedural clarifications of tariff and operating policies and procedures established by the director or a designated representative pursuant to requirements of the U.S. Foreign-Trade Zones Board, U.S. Customs Regulations, U.S. Internal Revenue Service Regulations, and of other governmental agencies. [Eff. JUL 06 1981] (Auth: HRS §212-4) (Imp: HRS §212-4)

§15-8-3 Tariff; changes to tariff. (a) In accordance with the Free Trade Zone Act, Public Law 73-397, as amended by Public Law 81-366, (19 USC 81a-81u), and regulations of the U.S. Foreign-Trade Zones Board, the director has issued a tariff, known as Tariff No. 1, which contains current rates, rules, and regulations governing use of the zone.

(b) The director reserves the right to change said tariff to comply with provisions of applicable federal law, and to change said tariff from time to time as economic conditions and department needs may dictate. [Eff. JUL 06 1981] (Auth: HRS §212-4) (Imp: HRS §212-4)

§15-8-4 Use of zone facilities. The issued tariff and zone users directives shall govern the use of zone facilities by the public. [Eff. JUL 06 1981] (Auth: HRS §212-4) (Imp: HRS §212-4)

§15-8-5 Inspection of tariff. Copies of the tariff and the zone users directives may be inspected by the public by calling at the zone offices during office hours. [Eff. JUL 06 1981] (Auth: HRS §212-4) (Imp: HRS §212-4)

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STATE OF HAWAII
DEPARTMENT OF PLANNING AND ECONOMIC DEVELOPMENT

Chapters 1, 2, 3, 4, and 8, State of Hawaii Department of Planning and Economic Development Administrative Rules, on the Summary Page dated June 22, 1981, were adopted on June 22, 1981, following a public hearing held on June 15, 1981, after public notice was given in the Honolulu Advertiser on May 23, 1981, and in the Honolulu Star Bulletin on May 25, 1981.

These rules shall take effect ten days after filing with the Office of the Lieutenant Governor.

for Hideto Kono
Director of Planning and
Economic Development

APPROVED:

George R. Ariyoshi
Governor
State of Hawaii

Dated: 6-23-81

APPROVED AS TO FORM:

Deputy Attorney General

Filed

LT. GOVERNOR'S OFFICE
REC'D.
JUN 9 '81

OVERVIEW OF HAWAII'S FTZ9 PROGRAM, 2013

FTZ9 CY 2013 HIGHLIGHTS

- **Total Foreign-Trade Zone activity ..... $11,782,245,368 (Decrease of 11.95% from 2012)**
- **Total non-refinery FTZ activity ..... $2,952,149,573 (Increase of 12.30% from 2012; Pier 2 activity up 16%)**
- **Total exports for Hawaii FTZs $877,205,623**
- **Total value-added and manufacturing activities $9,894,907,970**
- **Total capital improvement projects at FTZs $40,909,442**
- **Companies served statewide 292**
- **Employment from FTZ activity statewide 1,974**

The Foreign-Trade Zone Division of the Department of Business, Economic Development & Tourism administers the federal grant issued to the State of Hawaii in 1965 by the Foreign-Trade Zones Board in Washington, D.C. Hawaii has a large and diversified Zone program with its nine authorized general-purpose sites and four subzones. Its strategic Pier 2 location, excellent support facilities, and experienced professional staff make it one of the oldest and most respected Foreign-Trade Zones in the nation. As the Foreign-Trade Zone 9 (FTZ) grantee, we are pleased to report to you the activities that have taken place in Hawaii's foreign-trade zones in 2013, our 47th year in operation.

There are currently 13 sites on the islands of Oahu, Maui and Hawaii that have received FTZ designation. Of the 13 sites, three general-purpose zone sites and three special-purpose subzone sites are active. The Foreign-Trade Zone Division is responsible for ensuring that U.S. Customs and Foreign-Trade Zones Board regulations are followed at all of these sites.

Based on value, the Hawaii Foreign-Trade Zone project activity decreased in 2013. This past year, the total value of merchandise received and forwarded in all activated FTZ sites in Hawaii was down 11 percent from the previous year at $11.8 billion. The total value of merchandise handled is the combination of the value of merchandise received ($5,923,453,719) and the value of merchandise forwarded ($5,858,791,649) from all active FTZ sites in Hawaii. The overall decrease in this year's activity figures can be attributed to the decrease in Hawaii's petroleum activity as the state moves to reduce its dependence on fossil fuels and transition to other forms of renewable energy generation. Although Hawaii is a noted national leader in the integration of renewable energy production with a solar penetration rate estimated to be 10 percent, the state's main source of reliable energy is still petroleum based which emphases its continued importance in the state's international trade and at FTZ9 sites.

FTZ9 sites can accept merchandise in either domestic or foreign status. During the reporting period, one-fifth of all merchandise entering Foreign-Trade Zone sites in Hawaii was entered as domestic. This translates into merchandise valued at $1,227,140,982. In 2013, $4,696,312,737 of foreign status merchandise entered FTZ sites. Of merchandise received in foreign status, $1,986,946,921 was received in non-privileged foreign status and $2,709,365,816 was received in privileged foreign status. There were over 94 different types of foreign merchandise received from over 32 countries.

Merchandise is withdrawn from Foreign-Trade Zone sites in Hawaii and forwarded to both domestic and foreign markets. During 2013, $4,533,192,152 of merchandise received was forwarded to the U.S. market. Exports totaled $877,205,623 during the reporting period. In addition, the total value of merchandise forwarded to other FTZs in the U.S. was up 10 percent over 2012 to $448,393,874. Customs duties was collected amounted to $2,847,891 in 2013 on merchandise entering the U.S. market from FTZ sites in Hawaii.

Another measure of the impact of the Hawaii Foreign-Trade Zone program on the local economy is the overall value of capital investments throughout Hawaii's FTZs. In general, the value of capital investment has generally fluctuated over the past several years in the $20 million to $60 million range annually. In 2013, capital improvement investments made at FTZ facilities were approximately $40,000,000.

As Grantee for the State of Hawaii and a division of the Department of Business, Economic Development, and Tourism, the Hawaii FTZ9 is acutely focused on the growth and development of the State's economy and local jobs. In 2013, the number of companies using the FTZ program increased to an estimated 292. Of these companies, the vast majority were small businesses. These companies utilizing the FTZ9 program reported directly employing 1,139 people and employing 835 people indirectly. Within Foreign-Trade Zone sites in Hawaii, a variety of value-added and manufacturing activities occurred which totaled $9,894,907,970 in value of merchandise forwarded.

As a program created to assist manufacturers compete in domestic and international markets, FTZ9 has worked diligently over the past year to develop and support manufacturing initiatives within the state. An example of this is FTZ9's work with the Chamber of Commerce of Hawaii. FTZ9 has worked directly with the Chamber to obtain membership in the National Association of Manufacturers, a membership that Hawaii has not had in the past. FTZ9, the Chamber, and other public and private entities have also worked jointly in developing a manufacturer's resource portal. This on-line service was designed to assist local manufacturers in finding the resources and support needed to grow their businesses. This portal "connects the dots" for in-state manufacturers, linking them to suppliers, financial resources, equipment support and repair services, as well as other "like" companies in an effort to develop the manufacturing industry "cluster" in Hawaii. The response to the portal has been very positive and plans are to expand the site and its resources in the upcoming year.

FTZ9 also stepped up its efforts to partner with other private and public entities such as the U.S. Department of Commerce, U.S. Small Business Administration, the EXIM Bank, Innovate Hawaii Program, as well as other state organizations and local financial institutions to support DBEDT's HiGrowth Initiative.

Foreign-Trade Zone No. 9 increased its marketing efforts in 2013 with the launch of its new web site and outreach to local media. The new web site features an engaging interface design which is easy to navigate and creatively explains what an FTZ is and how to leverage the program to

the user's benefit. It relays key information about FTZ9 as Grantee for the State of Hawaii and the operation of its Pier 2 General Purpose Zone. The site can be found at www.ftz9.org.

FTZ9 was featured in several local publications and media outlets in 2013 such as ThinkTech Hawaii's *"Asia in Review"* program which highlights international trade and trade-related issues within the Pacific Rim. Foreign-Trade Zone Administrator David Sikkink was chosen by the leading business publication **Pacific Business News** as one of the "Top 10 People To Watch" in Hawaii for 2013.

In 2013, Foreign-Trade Zone No. 9 embarked on an ambitious renovation project to expand the program. The renovation encompasses the repurposing of 35,000 square feet of its existing Pier 2 bonded warehouse facility to develop additional office, conference, incubator, and shared working space. This new space will essentially double the existing office facilities at the Pier 2 location and will work to continue the expansion of its initiative to be the "one-stop-shop" for international trade in Hawaii. The renovation is expected to be completed in November, 2014, and already FTZ9 has a waiting list of several qualified companies requesting space in the new facility.

HAWAII
FOREIGN-TRADE ZONE
NO. 9

What is an FTZ?

The FTZ program is based on a **simple idea**: the **removal of disincentives** related to storing or manufacturing products in the U.S. by allowing U.S.-based companies to **defer, reduce or eliminate Customs duties** on products admitted to the federal government-authorized zones – **as they could in a foreign location**.

Why Use a Foreign-Trade Zone

Benefits:

- Duty deferral and avoidance
- Taking advantage of an inverted tariff
- Avoiding some costs/delays, limitations, certain taxes

What can be done with merchandise in a Foreign-Trade Zone

Assembled	Sampled	Manufactured*	Salvaged
Repackaged	Mixed	Tested	Relabeled
Stored	Processed	Destroyed	Manipulated

* **Manufacturing can only be conducted under a special grant of authority by the Foreign-Trade Zones Board**

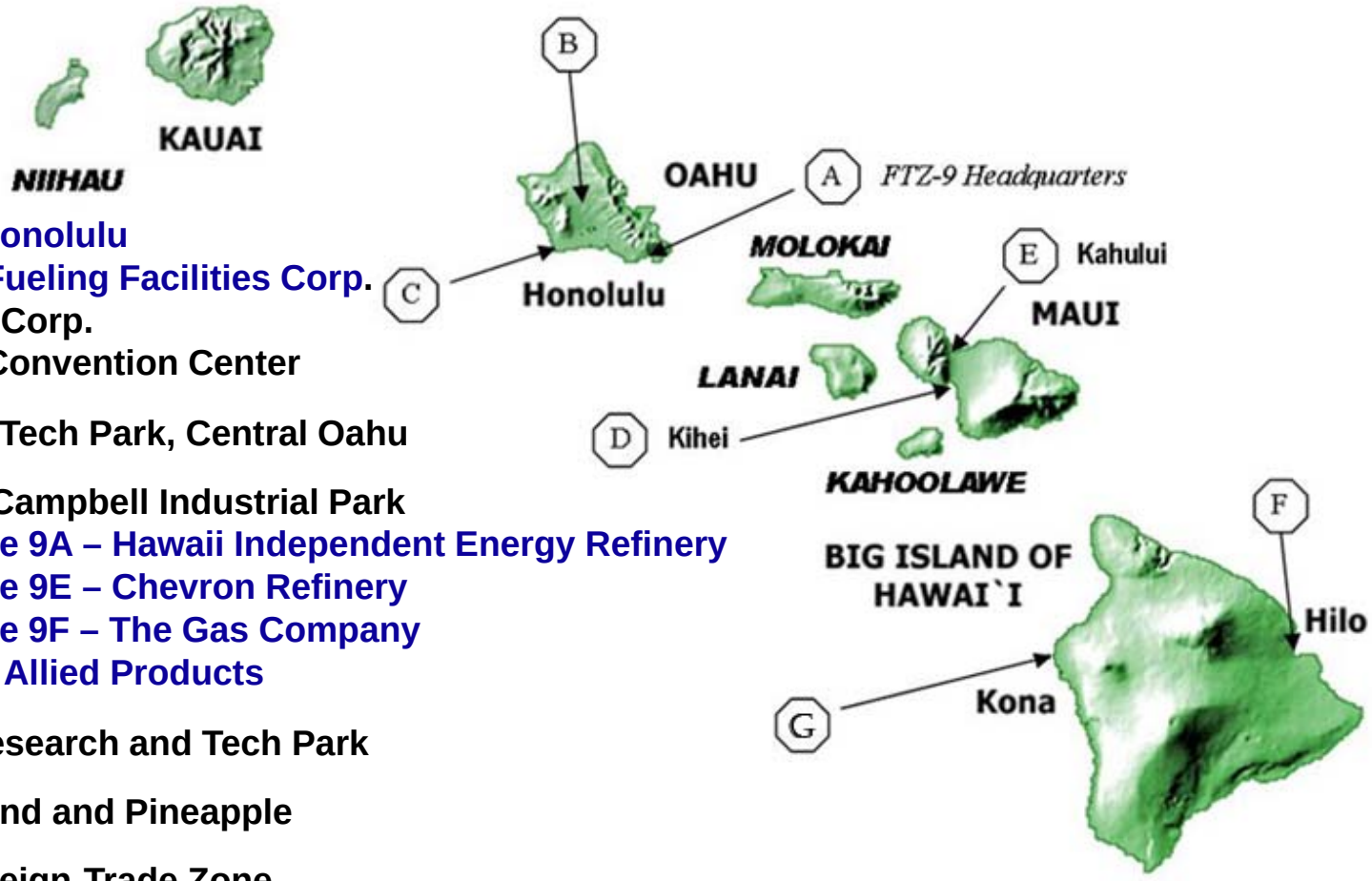
Who is Foreign-Trade Zone #9

Who is FTZ #9:

- Grantee for Entire State of Hawaii
  - Oversee the FTZ project for the State
  - 48th Year in Operation
- Entirely Self-Sufficient Agency
- Service Agency – 300 Clients/ 17 Employees

Who is Foreign-Trade Zone #9

13 Designated Sites – 6 Active Zones



A - Pier 2, Honolulu
Hawaii Fueling Facilities Corp.
Unicold Corp.
Hawaii Convention Center

B - Mililani Tech Park, Central Oahu

C - James Campbell Industrial Park
Subzone 9A – Hawaii Independent Energy Refinery
Subzone 9E – Chevron Refinery
Subzone 9F – The Gas Company
Pacific Allied Products

D - Maui Research and Tech Park

E - Maui Land and Pineapple

F - Hilo Foreign-Trade Zone

G - Natural Energy Laboratory of Hawaii Authority (NELHA)

Foreign-Trade Zone #9

Economic Impact

2013 Data:

$11.7 Billion in total merchandise/ $877 Million of that was exported.

Total Non-Refinery FTZ Activity totaled $2.9 Billion.

FTZ Value-Added and Manufacturing Activites totaled $9.9 Billion.

Total Capital Improvement Projects for FTZs in Hawaii = $41 Million.

Roughly 300 firms utilize FTZs, Direct employment over 1,900

HI Growth Initiative is Aligning State Efforts to Support Place-Based Clusters

Resources Invested

Entrepreneurs

- hfm Hawaii Fashion Month
- INNOVATE HAWAII
- CREATIVELAB

Accelerators

- blue startups
- energy EXCELerator
- GVS Transmedia
- Fashion

Incubators & Tech Parks

- HTDC Cultivating Hawaii's tech sector
- Hawaii Foreign-Trade Zone No. 9
- NELHA

Local Funds

- STARTUP CAPITAL VENTURES
- mbloom
- UPSIDE Fund

Funds Active in Hawaii

- EPIC VENTURES
- ARSENAL VENTURE PARTNERS
- POLARIS PARTNERS
- Azure Capital Partners
- MPM CAPITAL
- WEDBUSH CAPITAL PARTNERS
- TEMCapital Transformative Energy & Materials

Business Promotion

- Asia Pacific Clean Energy Summit and Expo
- The 76th Tokyo International Gift Show
- HIFF Hawaii International Film Festival
- creative industries HAWAII

Infrastructure Investment

- Hawai'i Powered Hawai'i Clean Energy Initiative
- HHFDC Hawaii Housing Finance & Development Corporation
- Kakaako Kalaeloa
- Hawaii Broadband Initiative

Startup — Expansion — Growth

Foreign-Trade Zone #9's

Position in the Hi Growth Initiative

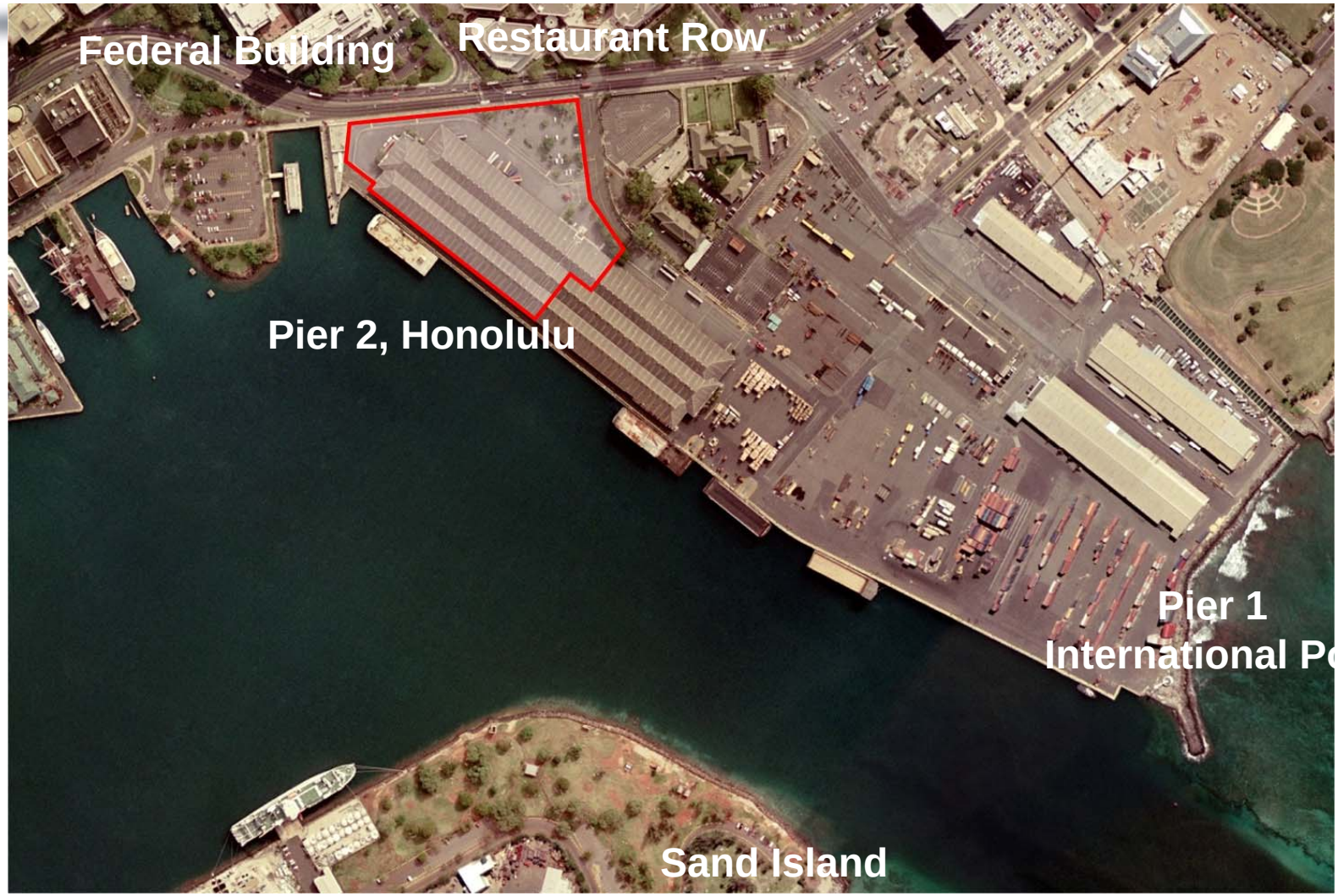
- Support Entrepreneurs & Small Business
- Support Manufacturers State Wide

- Provide Manufacturing Incubation Space
- Develop Regional Cluster for International Trade

- Export Training & Support

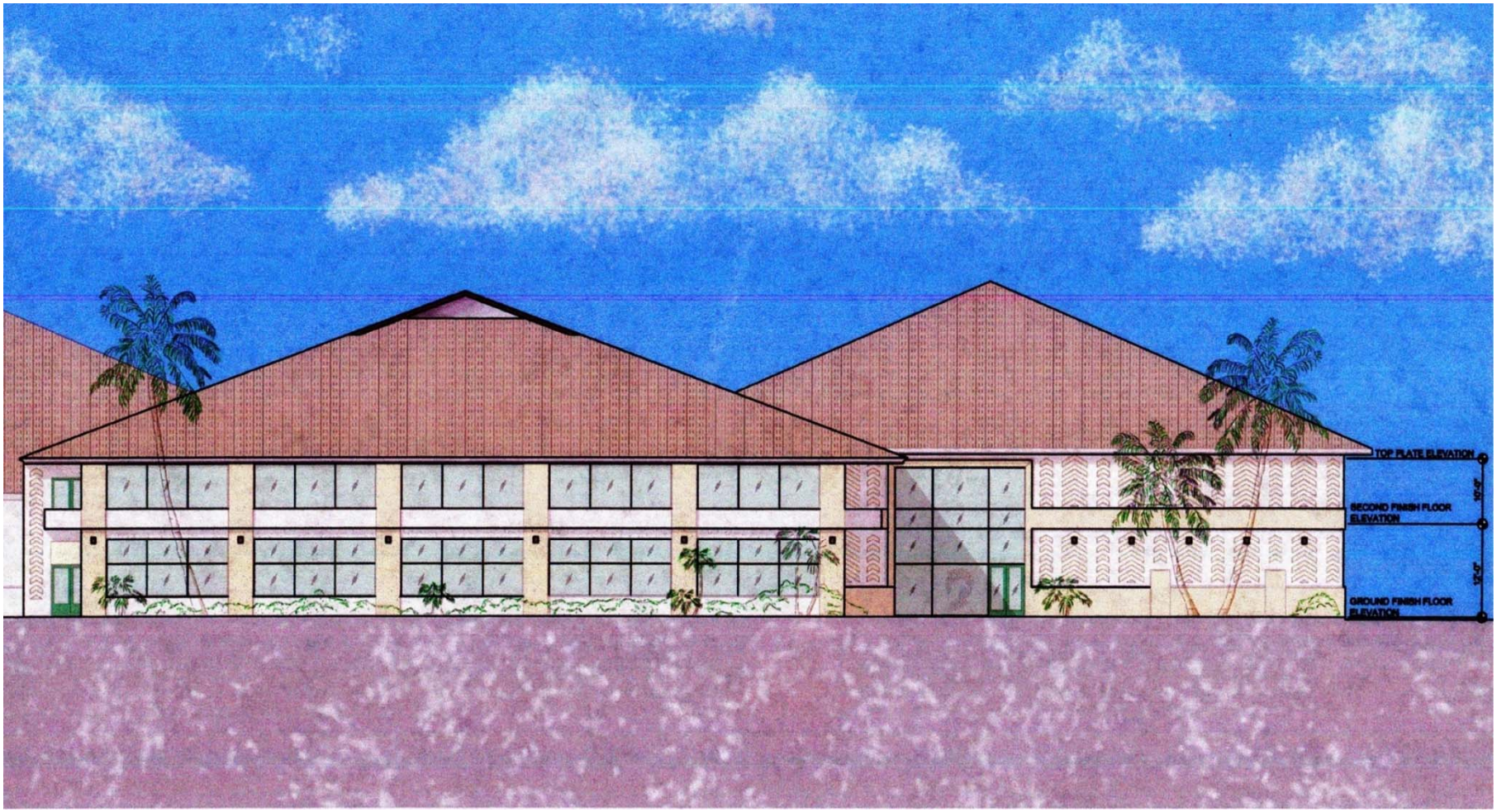
HAWAII
FOREIGN-TRADE ZONE
NO. 9

Who is Foreign-Trade Zone #9 at Pier 2



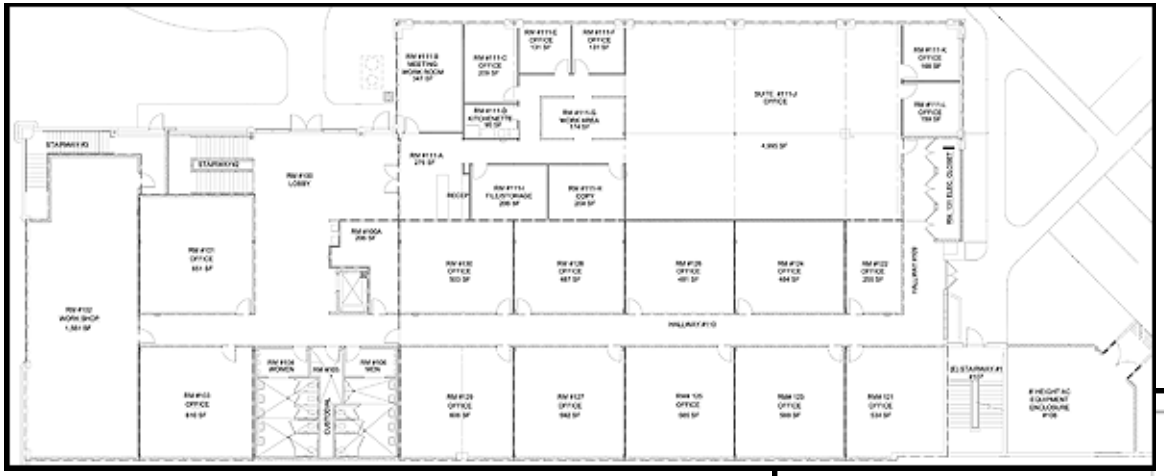
The Future of Foreign-Trade Zone #9

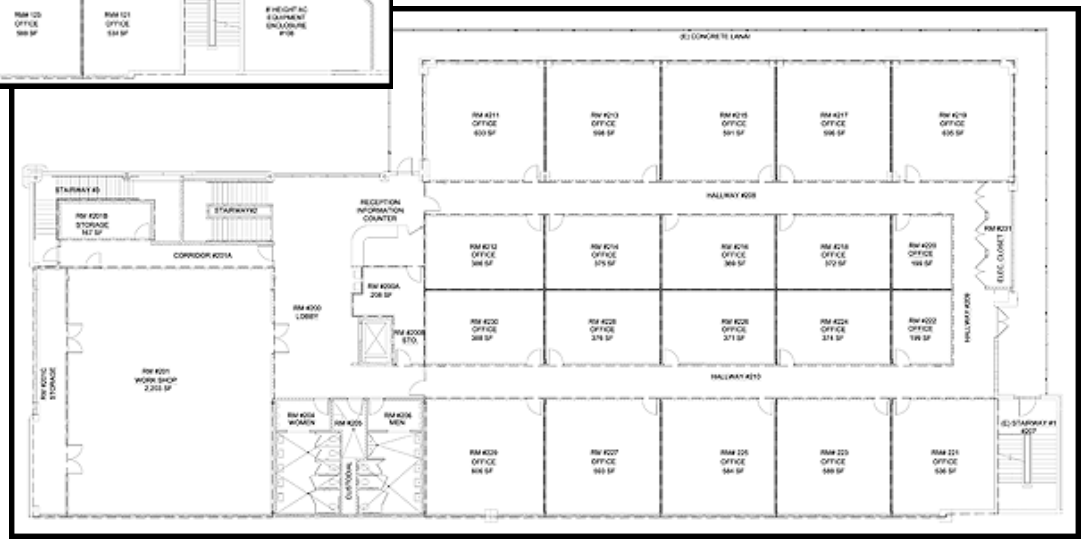
International Trade Resource Center



The Future of Foreign-Trade Zone #9

International Trade Resource Center





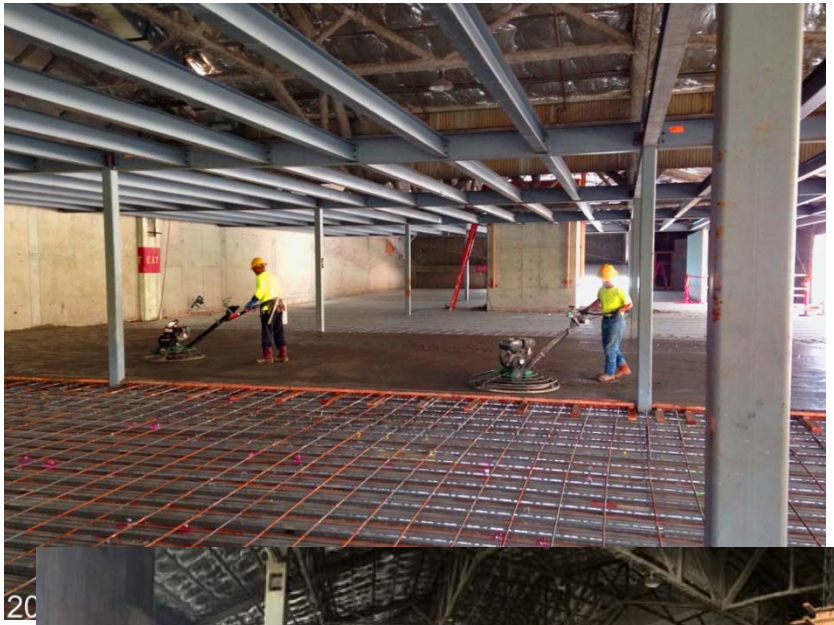
Foreign-Trade Zone No. 9
US COAST GUARD

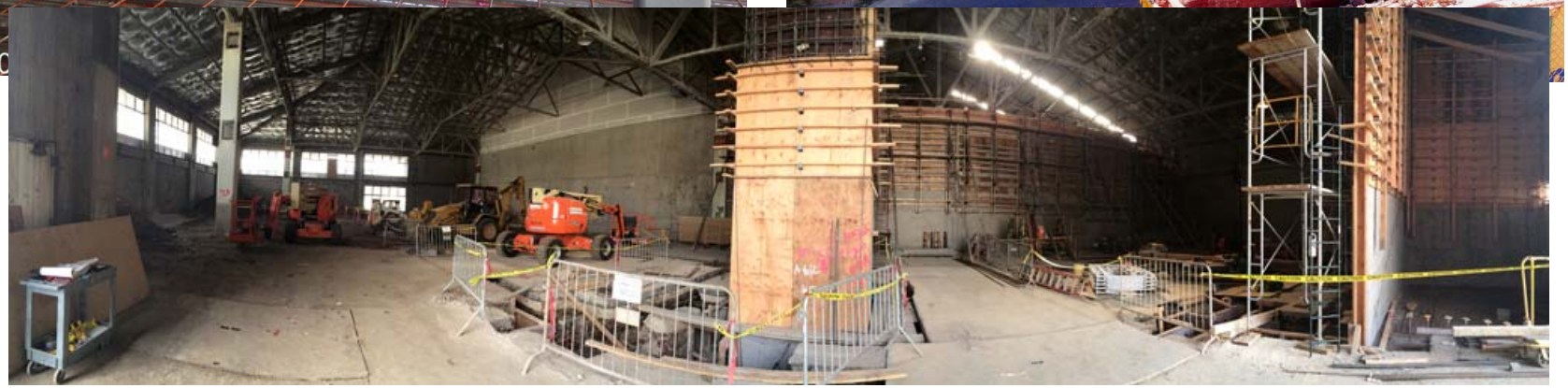
The Future of Foreign-Trade Zone #9

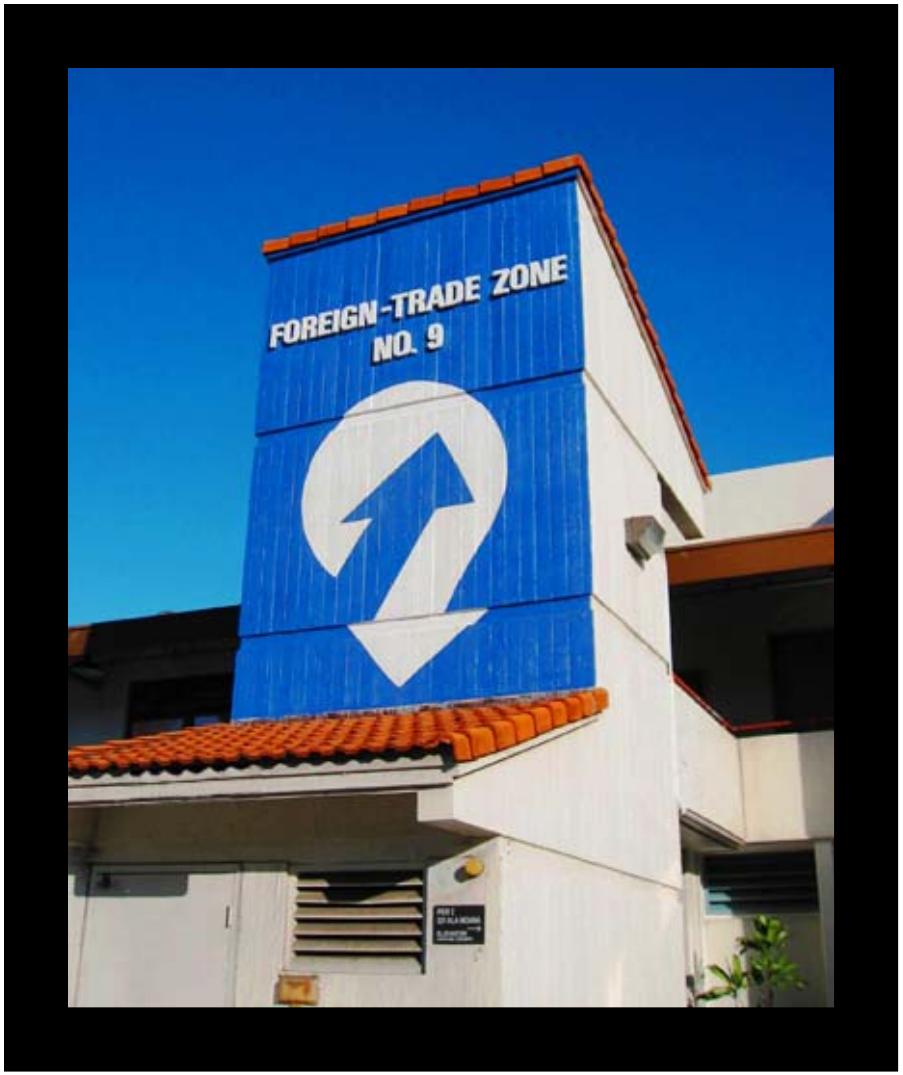
International Trade Resource Center

The Future of Foreign-Trade Zone #9

International Trade Resource Center







Hawaii Foreign-Trade Zone No. 9

www.ftz9.org | Facebook: HawaiiFTZ | Twitter: @ftz9

Supporting an Innovation Ecosystem

New Engines of Growth for Hawaii's Economy

Support
CLUSTERS
to increase productivity and competitiveness

Target
HIGH GROWTH BUSINESSES
as drivers of job creation

Focus on
GLOBAL RELEVANCE
to earn export dollars and create high wage jobs

HI GROWTH

Hawaii Broadband Initiative

Hawai'i Powered
Hawai'i Clean Energy Initiative

DBEDT
STATE OF HAWAII • DEPARTMENT OF BUSINESS, ECONOMIC DEVELOPMENT & TOURISM

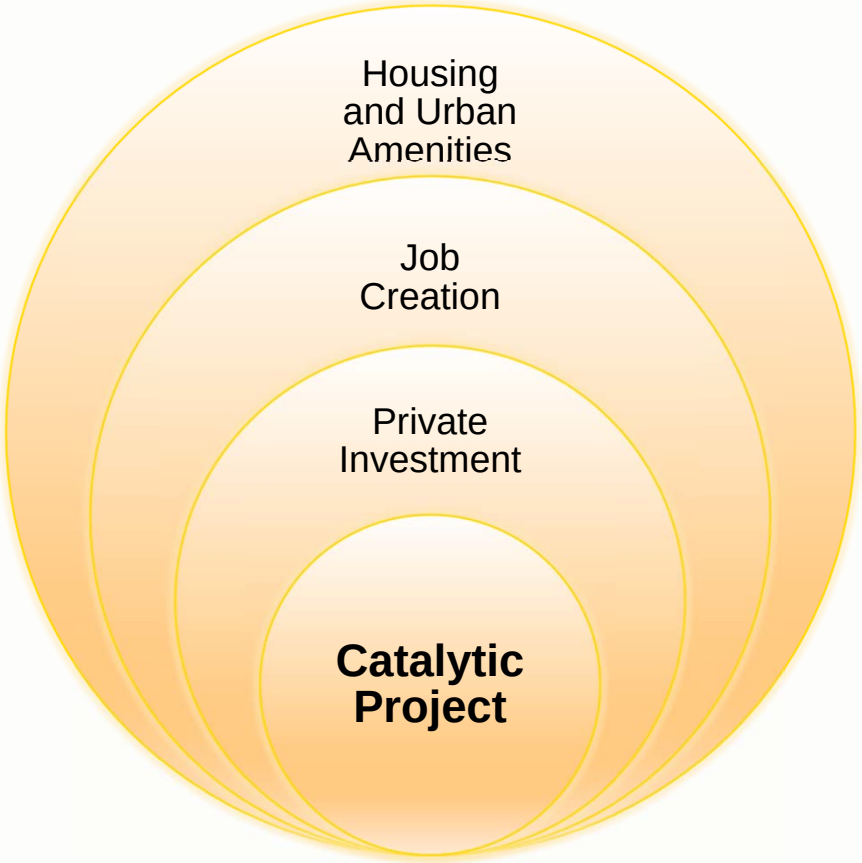
Export Focus is Critical to Support Future Economic Growth

Source: Oregonbusinessplan.org

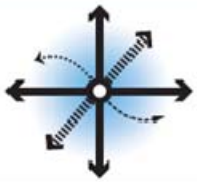
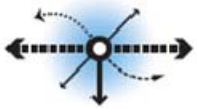
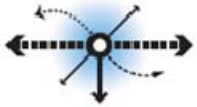
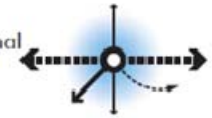
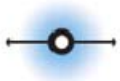
Clusters will Increase Productivity and Competitiveness of High Growth Industries

- Target new sources of export dollars
  - IT/Digital Media
  - Clean Tech/Med Tech
  - Food
  - Fashion
- Higher wage jobs
- Reverse brain drain
- Strengthen economy

Catalytic Projects Drive Place-Based Cluster Formation



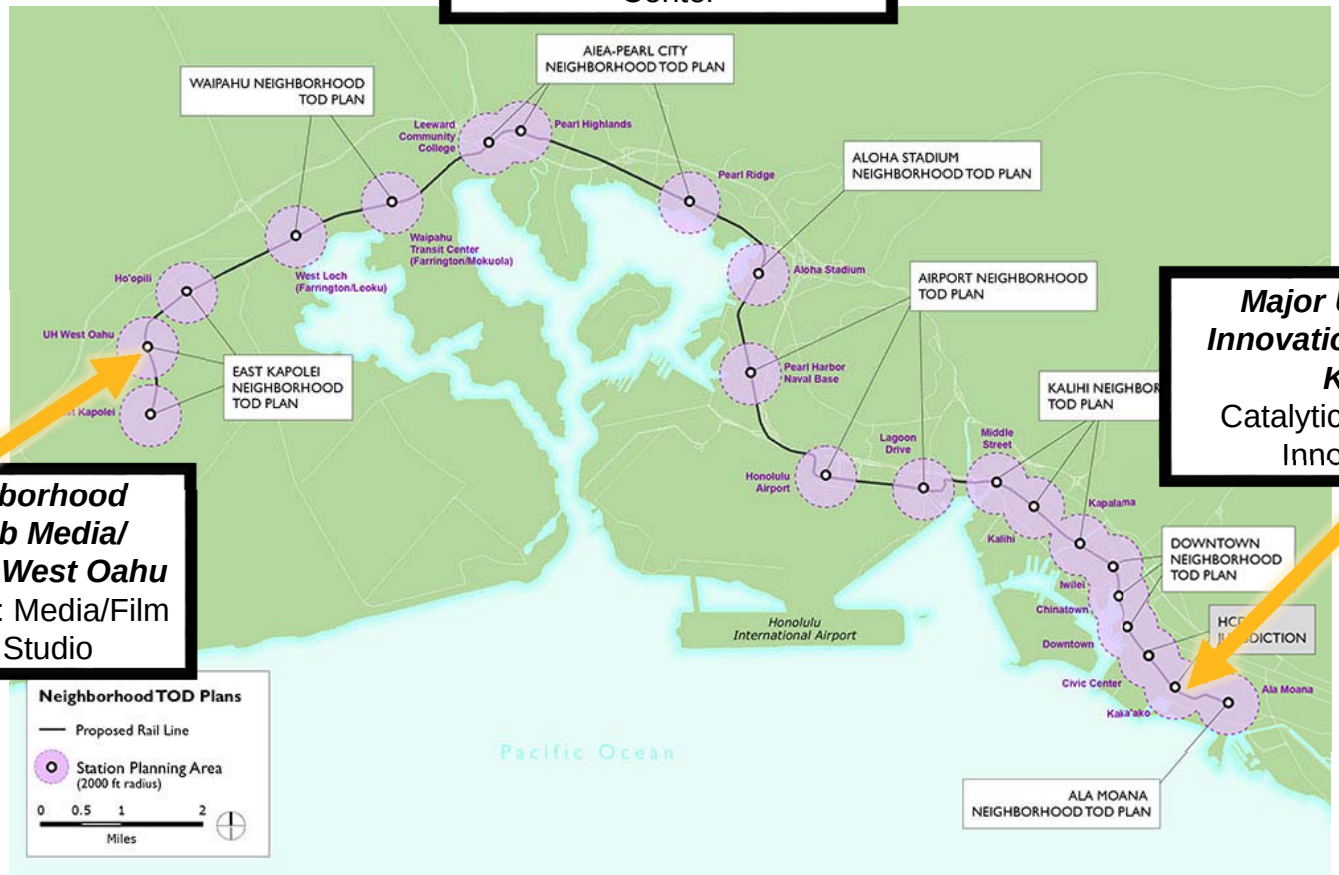
Clusters Need to Reflect Place-Based Economic and Community Assets

Place Type Image	Place Type	Transit Node	Intensity
	Downtown Core	• Central Hub • Highest Regional Accessibility 	• Highest Intensity • 6+ Stories
	Major Urban Center	• Regional Destination • High Regional Accessibility 	• Medium-High Intensity • 4-8 Stories • Incentive: 15 Stories
	Medium Urban Center	• Sub-Regional Destination • Medium Regional Accessibility	• Medium Intensity • 3-6 Stories • Incentive: 10 Stories
	Minor Urban Center	• Sub-Regional Destination • Medium Regional Accessibility 	• Medium-Low Intensity • 2-5 Stories • Incentive: 7 Stories
	Suburban Commuter Center	• Commuter Intermodal Destination • Medium-Low Regional Accessibility 	• Medium-Low Intensity • 2-4 Stories • Incentive: 7 Stories
	Neighborhood Center	• Neighborhood Destination • Less Regional Accessibility 	• Low Intensity • 2-4 Stories • Incentive: 5 Stories

Source: TOD Strategic Policy Framework, City of Phoenix, 2013

The HI Growth Initiative Targets Place-Based Catalytic Projects

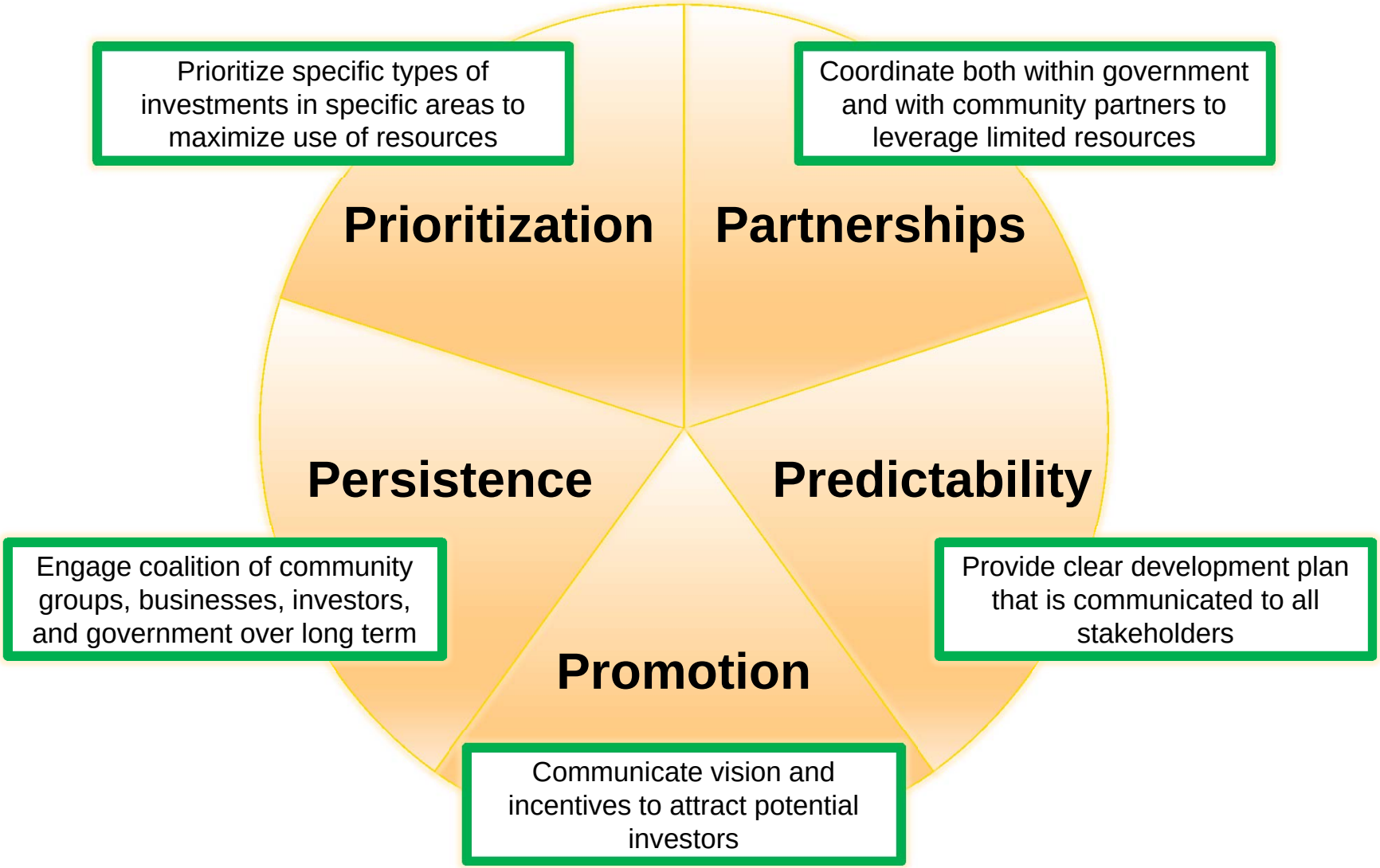
Rural Industry Centered Hub Agriculture: Whitmore Village
Catalytic Project: Shared Processing/Packaging Center



Major Urban Center Innovation District Hub: Kakaako
Catalytic Project: HTDC Innovation Hub

Urban Neighborhood Centered Hub Media/ Entertainment: West Oahu
Catalytic Project: Media/Film Production Studio

Place-Based Economic Development Should be Results Driven



Source: TOD Strategic Policy Framework, City of Phoenix, 2013

HI Growth Initiative is Aligning State Efforts to Support Place-Based Clusters

Resources Invested

Entrepreneurs

- hfm Hawaii Fashion Month
- Innovate Hawaii
- Creative Lab

Accelerators

- blue startups
- energy EXCELerator
- GVS Transmedia
- Fashion

Incubators & Tech Parks

- HTDC Cultivating Hawaii's tech sector
- Hawaii Foreign-Trade Zone No. 9
- NELHA

Local Funds

- Startup Capital Ventures
- mbloom
- UPSIDE Fund

Funds Active in Hawaii

- EPIC Ventures
- Arsenal Venture Partners
- Polaris Partners
- Azure Capital Partners
- MPM Capital
- Wedbush Capital Partners
- TEM Capital

Business Promotion

- Asia Pacific Clean Energy Summit and Expo
- The 76th Tokyo International Gift Show
- HIFF Hawaii International Film Festival
- creative industries Hawaii

Infrastructure Investment

- Hawai'i Powered
- HHFDC Hawaii Housing Finance & Development Corporation
- Kakaako Kalaeloa
- Hawaii Broadband Initiative

Startup — Expansion — Growth

HSDC's Mission is to Promote Economic Development and Diversification through a Return Driven Investment Program in Partnership with Private Capital

Section	Description
§211F-2	Establish programs to **stimulate private capital investment** in Hawaii toward investments that promote the welfare of citizens in this State, economic growth, employment, and economic diversification. The corporation may use public funds to provide incentives to private investment activity, by co-investing public funds in private financial organizations to increase the impact of the public investment while **utilizing the investment acumen of the private sector**, and by using public funds to reduce the risks of private investments. The corporation shall make provision for the **recovery of its expenditures, as far as possible**.
§211F-1	The endeavor shall **not be devoted to the sale of goods at retail, construction of housing, or tourism-related services**.
§211F-7	Financial participation by the corporation in private financial investment funds shall be made with the provision that the private fund shall make investments in Hawaii in amounts at least equal to the amount of state participation. Investments by the corporation to persons shall be made on the basis of solicitation and a competitive technical review process, **subject to the availability of funds allocated to the corporation for making investments**.
§211F-12	**Significant private sector financial support shall be associated with any economic development project** for which the corporation provides assistance.

Supporting an Innovation Ecosystem

HTDC

Cultivating Hawaii's tech sector

HIGH TECHNOLOGY DEVELOPMENT CORPORATION

DUTIES

- Develop industrial parks as ***high technology innovation centers*** and assist in the development of projects, including ***with the private sector***
- Funding, support & services to high tech activity
- Metrics and analysis of high tech sector
- Promote & market HI as THE place for technology dev.
- Policy and planning advice on TBED

HTDC
Cultivating Hawaii's tech sector

POWERS

- **Relating to creating Industrial Parks/projects**
  - **13 general powers related to the planning, preparation and creation**
- **10 sections on the use of special purpose bonds for the development of such parks/projects**
- **The ability to work with any state or county agency**
- **Public private partnerships allowed**

HTDC
Cultivating Hawaii's tech sector

Mission: Advancing The Technology Industry Throughout Hawaii

- **All stages of growth and all technologies**
- **Catalytic Projects**
  - Incubators, co-working space, technology parks
- **Business and Technical Assistance**
  - Mentoring, Innovate Hawaii
- **Mobilizing the Industry through Funding**
  - HSBIR, Community support
- **Partnerships & Collaborations**
  - Build a cohesive technology Industry
- **Innovation Generator**
  - New industry sectors, Creative outlets
- **Branding**

HTDC
Cultivating Hawaii's tech sector

HTDC FACILITATES CATALYTIC PROJECTS

- **TEAM**
  - **Visionary Leader - Purpose**
  - **Partnerships – Public And Private Stakeholders**
- **STRATEGIC**
  - **Focus – Industry/technology**
  - **Placed-based Economic Development**
  - **Desired goals and outcomes**

HTDC
Cultivating Hawaii's tech sector

HTDC NEW FACILITY

- **Catalyst for Cluster Development**
- **INNOVATION CENTER**
  - **Incubation**
    - Co-working space
    - Flexible office space
    - Collaboration space
  - **Innovation**
    - Maker space
    - Laboratories
    - Creative Media lab
  - **Instruction**
    - Entrepreneurial education
    - Workforce development
  - **Integration**

HTDC
Cultivating
Hawaii's tech sector

KAKAAKO INNOVATION CLUSTER

CATALYTIC PROJECTS

- **NEED MANPOWER**
  - HTDC lost 2 FTEs in previous budget cuts
  - Expansion of the charter
- **NEED CAPITAL**
  - Pre project work
    - Industry Expert
    - Project Manager
- **POTENTIAL FUNDING SOURCES**
  - State/county
  - Private Sector
  - Federal

HTDC
Cultivating Hawaii's tech sector

HTDC FY14/FY15

- **HTDC INNOVATION HUB**
- **TECHNOLOGY PARKS**
  - Agriculture Tech Park – Whitmore Village
  - Explore other tech park opportunities
- **EXPAND HTDC ACTIVITIES**
  - Expand HTDC to all things technology
  - Create Neighbor Island Innovation Programs
  - Increase the number of companies winning federal SBIR Grants
  - Explore new agricultural technology projects/partnerships
  - Identify industries needing technology advancement

HTDC
Cultivating Hawaii's tech sector

HTDC

Cultivating Hawaii's tech sector

HIGH TECHNOLOGY DEVELOPMENT CORPORATION

Office of Planning

Powers and Duties

- Hawai‘i Revised Statutes (HRS):
  - Chapter 225M – State Planning
  - Chapter 226 – Hawai‘i State Planning Act
  - Chapter 205 – Land Use Commission
  - Chapter 205A – Coastal Zone Management
  - Chapter 206E – Hawai‘i Community Development Authority

Powers and Duties

- HRS Chapter 225M
  - Establishes the Office of Planning
  - Gather , analyze, and provide information to the Governor to assist in overall analysis and formulation of state policies and strategies
  - Provide central direction and cohesion in the allocation of resources and effectuation of State activities and programs
  - Address current or emerging issues and opportunities

Powers and Duties

- HRS Chapter 226
  - Office of Planning duties in administering the Hawai‘i State Planning Act
    - Review / Analysis / Recommend
    - Conduct strategic planning and special studies and reports on major policy issues
    - Provide technical assistance to the Governor and state and county agencies
    - Cooperation and coordination with all public agencies

Powers and Duties

- HRS Chapter 205
  - The Office of Planning is a mandatory party in every case/docket
  - Undertake a periodic review of the classification and districting of all lands in the state; developing recommendations presented to the Land Use Commission

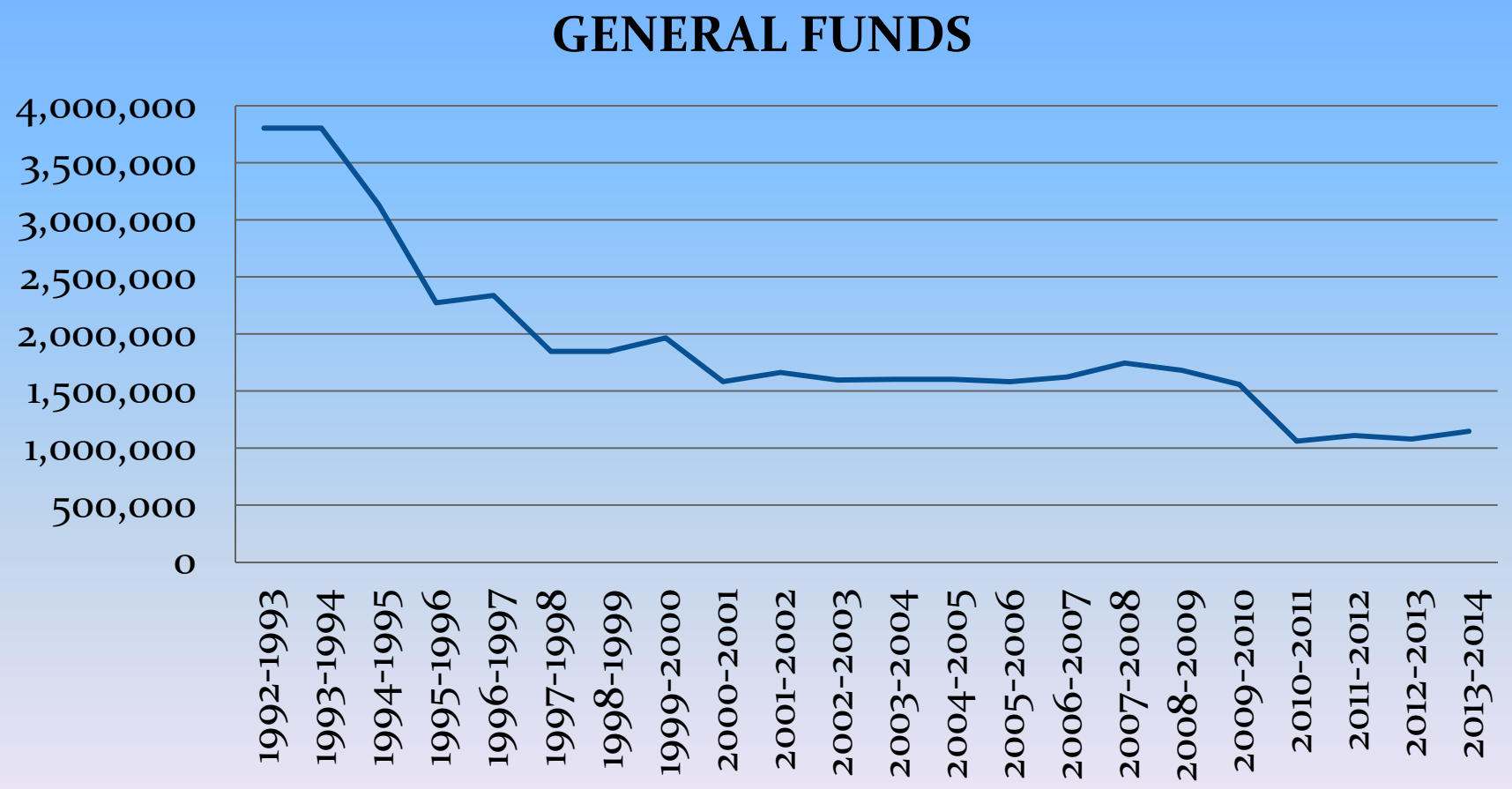
Powers and Duties

- HRS Chapter 205A
  - Lead agency in the administration of the federal and state coastal zone management program
  - Ensure that actions by governmental agencies are consistent with CZM objectives and policies
  - Coordinate implementation of the Hawai‘i Ocean Resources Management Plan
  - Facilitate public participation in the CZM program
  - Continually review administration of the program in accordance with federal regulations

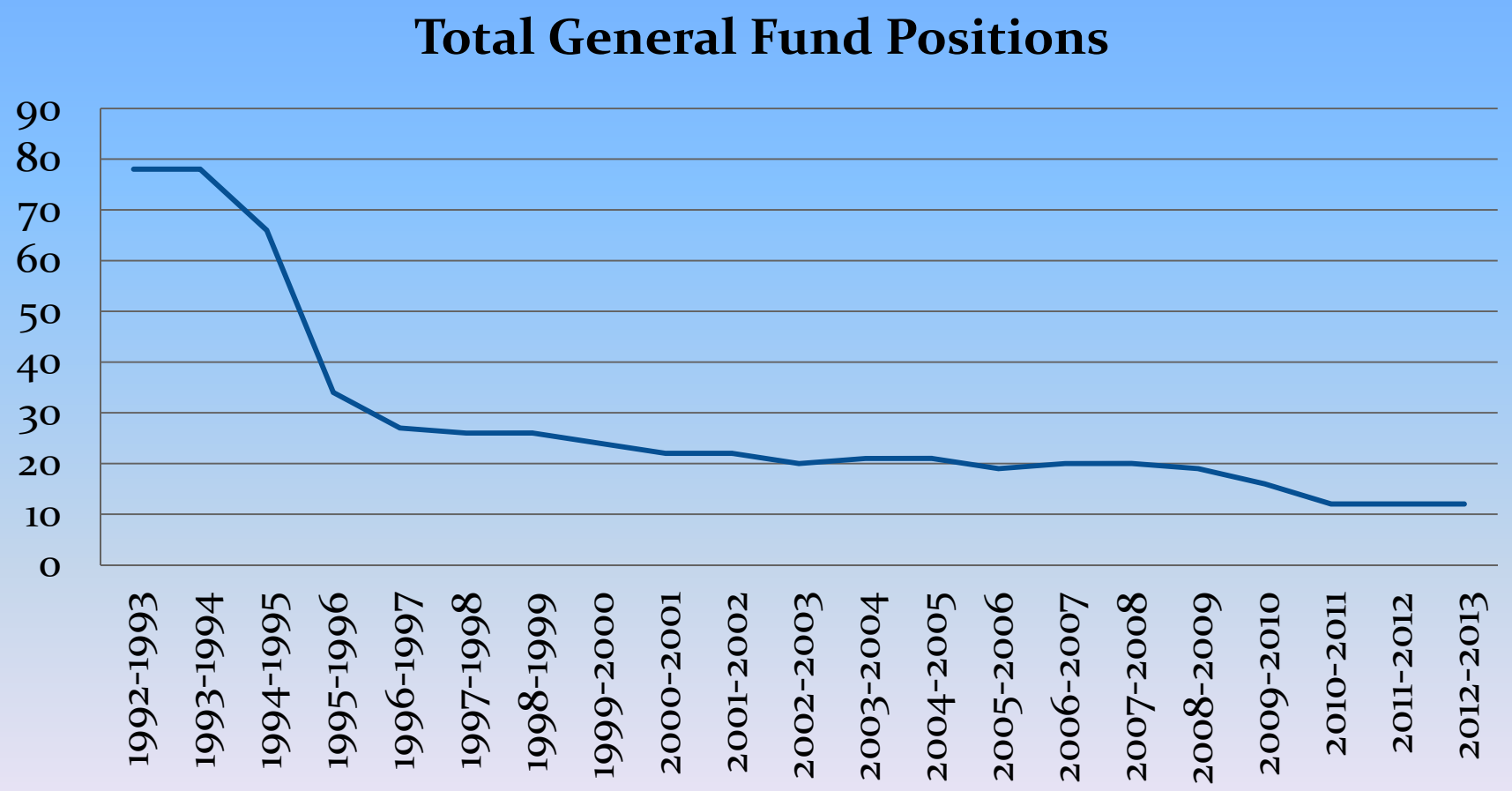
Powers and Duties

- HRS Chapter 206E
  - Lead agency in review and approval of requests for development within the Special Management Area and Shoreline Setback Variances
  - Only in Community Development Districts designated by the Legislature where a community development plan has been developed and approved pursuant to HRS § 206E-5

OP Historic Trends



OP Historic Trends



Office of Planning

Department of Business, Economic Development & Tourism
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Honolulu, HI - 96804-2359

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Fax: (808) 587-2824

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