# Natural Energy Laboratory of Hawai'i Authority

# Fiscal 2008 – 2009

# **Annual Report**

The future is here and now at NELHA









Microphotographs courtesy of West Hawaii Exploration Academy Students

# CHAIRMAN'S AND CHIEF EXECUTIVE OFFICER'S WELCOME LETTER

To the People of Hawai'i:

Fiscal 2008-2009 indeed was a year marked by exciting progress at the Natural Energy Laboratory of Hawai'i Authority as well the development of some concerns for the future.

We must thank the very small, 16 person, staff of NELHA for its outstanding efforts during a difficult economic time. The dedication with which the NELHA staff does its work is exceptional and deserving of much more than a few words of written praise.

The 16 member staff compares to 33 in 1995 when NELHA had 20 tenants (versus 43 now) and operates a seawater distribution twice the size of that in 1995. System reliability is essential for tenants: for many, four hours without water and their crops begin dying off. This would result in millions of dollars of wasted intellectual property. The operating staff is on 24/7/365 call to maintain system reliability. In the administrative sector, NELHA is hampered seriously by the resignation of the fiscal account clerk. Efforts to obtain permission to fill this vital position have been without success.

Legislative action, followed by gubernatorial signing, created Act 157. This Act allows NELHA to generate renewable energy at the facility as well as distribute it to adjacent properties, such as the Kona International Airport. NELHA has had requests for proposals filed for some time to solicit offers to build and operate a solar array as well as an OTEC plant at NELHA. Our belief is these types of alternative energy would reduce our operating costs; benefit aquaculturalists by helping keep the cost of seawater production down.

Bio-fuels from algae are already being produced at NELHA. This past summer, a Continental jet flew on fuels partially manufactured from algae grown at Cyanotech Corporation. Cellana LLC is now ramping up its prototype commercial production modules for bio-fuels. Bio-Energy Hawaii LLC is still planning on constructing what would be a bio-fuels facility at NELHA.

NELHA welcomed a number of new research projects, two of which hold great promise for the future in terms of energy production and understanding of global warming events and consequences. Since the beginning of the new fiscal year July 1<sup>st</sup>, additional research inquiries and plans for research investigations have been received.

The first is a venture headed by Makai Ocean Engineering on heat exchanger research for OTEC plants. This project is investigating new and different types of materials for use in the heat exchanger portion of OTEC plants as well as the effect of different qualities of water on the materials. Research is being conducted at both NELHA's 40" pipeline as well as the 55" pump station.

The second venture involved a team of 15 researchers from Old Dominion University, Georgia Tech, Woods Hole Oceanographic Institute, the US Geological Survey and two German groups, the Max Planck Institute and Helmholtz Zentrum Muenchen. In the largest scale effort of its kind ever undertaken, these groups isolated dissolved organic matter (DOM) from both the surface and deep waters at NELHA in order to better characterize this major global carbon pool and its role on global climate change and marine ecology. The group plans to utilize NELHA's unique facilities for further large scale sampling and to work with NELHA and other interested local parties to establish a funded, educational monitoring program yielding world class scientific data.

Two significant commercial projects that want to locate at NELHA were unable to make progress with other departments during 2009 so that they could commence operation. NoriTech Ltd. wants to raise nori algae for production of a variety of products. The Board of Agriculture, in late October, unanimously voted to allow NoriTech to import nori without an environmental assessment. The company is now seeking funding as its previous funding sources had become discouraged during the nearly two years required to obtain import permission.

The other project, BioEnergy Hawai'i, LLC, would operate a plant producing electricity from commercial waste, saving many gallons of diesel fuel annually,  $CO_2$  for use by the aquaculturalists at NELHA (all  $CO_2$  is presently imported), and experiment with raising algae for bio-diesel or bio-jet fuel. This project represents an estimated investment of \$100 to \$150 million at NELHA. The company has been awaiting resolution of certain lease conditions during fiscal 2009.

NELHA had a great number of capital improvement projects that it hoped would be accomplished during fiscal 2008-2009. The only one that succeeded in going through the procurement process was that concerned with repairs to the 18" and 40" pipelines resulting from the October 15, 2006 earthquakes. Those repairs were completed September 15, 2009.

The staff and management of NELHA wish everyone the best for fiscal 2010-2011.

Best regards, John DeLong Chairman

Ron Baird Chief Executive Officer

# NELHA Vision

# To become a Green Energy Zone – a research and business park powered by maximum Renewable Energy.

# Today NELHA has:

- Longest, Deepest and Widest Ocean pipelines
- Base infrastructure for the next OTEC
- Acres of algae farms ready to convert to the next biofuel
- International airport as neighbor for partnership and export
- Fastest growing area of Hawai'i Island with West Hawai'i University campus planned
- Fertile business environment which includes Foreign Trade and Enterprise Zone status
- Act 157 provides for the production and distribution of renewable energy at NELHA and to adjacent properties

# To implement the Green Energy Zone - NELHA needs:

- Fast Track Permitting -
- Fast Track Procurement -
- TMK Wheeling allowed -
- Utility Fee-Free zone = No Transmission, Wheeling and other fees
- EIS and SMA permits for Renewable Energy
- NELHA's performance sharing with projects/technologies

# **NELHA TENANTS**

# **Alternative Energy Tenants**



# CELLANA, LLC.

Cellana, LLC is a joint venture between HR Biopetroleum, a University of Hawai'i, School of Ocean and Earth Science and Technology based company and Royal Dutch Shell Petroleum. One of the long term objectives of Cellana is to provide the underlying scientific research that will enable commercial production of biofuels from photosynthetic microbes. Cellana has begun test runs of its first commercial biofuels production modules, while still building out parts of its facility. The

company has employed, in the past year, 60 people, mostly in technical jobs.



# Keahole Solar Power, LLC.

This partnership has constructed a concentrating solar power electricity generating plant at the Gateway Center. This power plant consists of many parabolic trough solar collectors, thermal storage and expansion tanks, a cooling tower, and an Organic Rankin Cycle power block. The clean, renewable electricity generated from this solar power plant will be sold to the local utility company.



# Hawai'i County Economic Opportunity Council

HCEOC continues to test a state-of-the-art 2.5 Kw concentrator photovoltaic demonstration model developed by SolFocus of Palo Alto Research Center that has been assembled and installed at NELHA. Also a small cottage has been erected with household appliances to demonstrate the effectiveness of the photovoltaic model. The photovoltaic cells of this model have been rated at 30% efficiency. In the future, HCEOC intends to develop other renewable energy

devices and fabricate demonstration models to be on public display at the Hawai'i Gateway Energy Center.



# W2 Energy Development Corporation

W2 Energy Development Corporation is a California startup company developing a new methodology for harvesting wind energy, called the WindWing technology. It is designed to extract a much higher percentage of wind energy from a given volume of wind force than the currently employed propeller driven turbines at a much lower cost and very little environmental impact. A current model of the WindWing is being tested in Santa Barbara CA and will be deployed at

NELHA to test in low velocity and high velocity coastal winds.

# Aquaculture Tenants:

Utilize NELHA's unique resources: natural seawater at different temperatures (cold deep seawater and warm surface water), winterless climate and low rainfall, to create optimum growing conditions for a wide range of marine organisms.



# Big Island Abalone Corporation

BIAC operates a 10-acre aquafarm (one of the largest in the world) to serve the market for premium live abalone. The aqua farm currently produces 70 tons of live abalone per year. BIAC produces Kona Coast Abalone, a premium stock of Ezo (Japanese Northern) abalone. Kona Coast Abalone shipped live to markets in Japan, mainland USA, Hawai'i, and soon to Hong-Kong and Korea. BIAC facilities include a hatchery, a nursery and abalone grow-out tanks. The product size ranges

from 80 grams average (medium size) to 100 grams (large size). Location at NELHA provides a near-perfect environment for growing Kona-Coast Abalone.



# **Cyanotech Corporation**

Cyanotech produces high-value microalgae-based products including nutraceuticals, pharmaceuticals, astaxanthin based NatuRose for the world aquaculture animal feed industry, BioAstin – a powerful antioxidant for human consumption, Spirulina Pacifica – a nutrient-rich dietary supplement, and phycobiliproteins-fluorescent pigments for the medical immunological diagnostics market. Cyanotech produces these products from microalgae grown at its 90-acre facility and distributes them to nutritional, supplement, nutraceutical,

cosmeceutical, and animal feed makers and markets in more than 40 countries world wide.



#### High Health Aquaculture, Inc.

High Health Aquaculture develops and supplies certified pathogenfree broodstock to the global marine shrimp markets. HHA maintains SPF stock of all 4 major domesticated shrimp species.

# Indo-Pacific Sea Farms

Indo-Pacific Sea Farms develops innovative technologies for the sustainable production of coral reef fish, plants and invertebrates. Indo-Pacific Sea farms has been operational at NELHA since 1994. Company's current products include certified captive-bread marine organisms for the saltwater aquarium industry, marine invertebrates, ornamental marine plants, algae feeds, live plankton, live rock and sand, and biologically active filter media.

# King Ocean Farm, Inc.

King Ocean acquired Uwajima Fisheries last year. It produces superior quality *hirame*, a Japanese coldwater flounder highly prized for Hawai'i's sashimi and sushi markets. The company also produces *ogo, moi*, and milkfish (also known as *awa*) for local markets. Studies are underway to broadening the company's products to include possibly blue fin tuna.



impact on environment.

# Kona Blue Water Farms

Kona Blue Water Farms is the first integrated hatchery and offshore fish farm in the country for various valuable food fish species, including kampachi, mahi-mahi, and giant groupers. Kona Blue premiere achievement is Kona Kampachi, a premium sushigrade Hawaiian yellowtail species. The company raises Kona Kampachi without depleting wild fish stock. The fish is grown in open ocean pens half a mile off the Kona coast that provides the fish with a healthy clean environment to grow with no negligible

# Kona Coast Shellfish, LLC

Kona Coast Shellfish LLC. (KCS) began the construction phase of their Shellfish Hatchery/Nursery operations in January of 2007. They became operational by May of 2007 with sales of shellfish larvae and seed to West Coast customers. Current production includes Pacific oyster larvae and Pacific oyster seed and Manila clam seed. KCS currently employs 8 people and further expansion of operations continues. They anticipate the

production levels to increase in 2009 as the worldwide demand for shellfish larvae and seed continues to grow.

# Kona Cold Lobsters, Ltd.

Kona Cold Lobsters imports live lobsters and crabs from natural Atlantic fisheries and rejuvenates them in cold deep seawater holding pens for distribution throughout Hawai'i and select Asian and Pacific destinations. It also processes fish and other seafood products produced by aquaculturalists at NELHA for resale to restaurants and the public.

# MERA Pharmaceuticals, Inc.

Mera Pharmaceuticals develops cost–effective, cutting edge photobioreactors for the industrial cultivation of microalgae for new microalgal products. Currently marketing astaxanthin-based products, the AstaFactor a human nutraceutical with powerful antioxidant properties and AquaXan, a natural pigment for shrimp and salmon feed.

# Moana Technologies, Inc.

Moana Technologies is partnered with multinational group of established companies from the aquaculture industry together having the expertise to meet the challenges of shrimp farming in the 21<sup>st</sup> century and bring it to new levels of productivity. Through advanced R&D, Moana Technologies is developing nutritional and health solutions that will benefit the world's shrimp aquaculture industry.

# NoriTech Hawai'i Inc.

NoriTech plans to establish a site for cultivation of porphyra. The red seaweed porphyra, commonly known as nori, is widely recognized in the food industry as the sushi wrap. It is rich in protein, fiber, and minerals and is an ideal candidate to be used as an ingredient in the growing nutraceuticals market. After nearly two years of effort, the Board of Agriculture in October 2009 permitted NoriTech to import its strain of nori. The company is now in the funding stage.



# Ocean Rider, Inc.

Ocean Rider using captive aquaculture techniques continues to produce over 20 species of seahorses and accessories for the world aquarium pet market. Seahorses are threatened in their natural habitats by overfishing around the world, so development of such techniques is the key to their survival. Ocean Rider also offers interactive educational seahorse tours for the general public.

# Pacific Aquaculture & Biotechnology, LLC.

This firm produces brood shrimp for export to its parent company's operations in Indonesia. It occupies the site previously utilized by Kona Bay Marine resources.



# **Pacific Planktonics**

Pacific Planktonics specializes in innovation, with a goal to develop methods to culture ornamental marine fish and shrimp for scale-up to commercial production, including optimization of larval live first feeds and growout for native Hawaiian species. Some of the species grown by Pacific Planktonics include reef fish, cleaner shrimp larvae, harlequin shrimp and wild plankton.

# Royal Hawaiian Seafarms, Inc.

Royal Hawaiian Seafarms commercially produces *ogo* (edible sea vegetables) with sales of over two ton per week. The company also produces salt water tilapia and milkfish, and is investigating commercial production of edible sea cucumbers, *opihi* (Hawaiian limpets) and warm water abalone and marine fin-fish.



other growers.



# **Taylor Shellfish-Kona**

Taylor Shellfish, headquartered in Washington State, is one of the largest U.S. clam and oyster producers. The company maintains a nursery at NELHA where juvenile mollusks take a "winterless Hawaiian growout vacation" during critical early growth periods. Up to 400 million juvenile Manila clams and 10 million juvenile Pacific oysters are exported year round back to Washington for final growout or sold as seed stock to

# Troutlodge Marine Farms Kona, LLC.

Troutlodge grows Atlantic halibut and sablefish acquired through the purchase of the company from the previous owners in August of 2007. Utilizing the cold deep seawater and surface seawater to provide optimal temperatures to reach maximum growth for harvesting allows Troutlodge to decrease the average grow out time required for these cold water species. Troutlodge has begun conducting its own larval rearing trials with sablefish for the development of

hatchery technology here at NELHA as well as maintain broodstock fish to determine optimal

nutrition for egg production. Fish sales of Atlantic halibut continue, providing 200-400 lbs. of fresh fish per month. Marketing development of sablefish will begin as the fish reach harvest size.

# Water Bottling Tenants:

# Utilize the natural and abundant resource of the pristine, pathogen free 3000' deep ocean water accessed from NELHA.



# Destiny Deep Sea Water LLC.

Is the successor to the business of Enzamin USA. It is producing bottled water and mineral salts from the deep seawater resource for commercial sales.

# Hawai'i Deep Ocean Water LLC.

This company is conducting research on products made from deep seawater, as it has for some years at NELHA.



# Hawai'i Deep Marine, Inc.

Hawai'i Deep Marine is developing deep seawater based products for export. Desalinated seawater, salt and brine (*nigari*) and being developed for commercial sales to Asian markets.



# **Kona Deep Corporation**

Deep Seawater International, Inc. produces desalinated bottled water "KONA DEEP" for domestic and global markets.



# KOYO USA Corp.

KOYO was the first tenant at NELHA to produce purified deep seawater-based drinking water starting in 2003. KOYO is also the first tenant licensed to use a new trademarked NELHA logo to certify the source of 100% deep seawater. From its present site of 30 acres, KOYO produces a bottled water product *"Mahalo,"* which consists of purified 100% Hawai'i deep seawater, exported on a weekly basis to domestic and Japanese markets.

# Savers Holdings Ltd.

Savers Holdings is still in the developing stages to produce desalinated water for bottling and export to the Asian markets including Korea and Japan.

# **RESEARCH, EDUCATION AND COMMUNITY SERVICE TENANTS:**

#### **Charter School Review Panel**

Uses office space at NELHA to conduct its activities, which include the authorizing of public charter schools.

#### Friends of NELHA

The Friends of NELHA are a non-profit volunteer group that provides visitor education and information about NELHA for the public. In fiscal 2008 – 2009, FON hosted over 4,000 visitors to the Gateway Center, where they were able to learn about Hawai'i's need for energy independence as well as be informed about what NELHA and its 43 tenant companies are doing at NELHA.

# Georgia Institute of Technology

Georgia Tech conducts marine biota research at NELHA at various intervals. Most recently, Georgia Tech was a team leader in the world's first major attempt to recover DOM from deep seawater.



# Hawaiian Islands Humpback Whale National Marine Sanctuary

Hawaiian Islands Humpback whale National Marine Sanctuary is responsible for general public education, outreach, research and monitoring of Big Island marine resources. This has included monitoring the Hawaiian Monk seal population on the island, assisting local research groups in efforts to learn more about the humpback whale and their habitat and participating in marine conservation and education on the Big Island through a variety of

outreach projects.

# Kona Halo Technologies LLC.

Present plans are indeterminate, due to financial markets' conditions. The company had planned to extract various compounds from the seawater produced and supplied by NELHA.

# Physics, Materials & Applied Mathematics, LLC.

PM&AM conducts various research projects on a time-to-time basis at NELHA.

# University of Hawai'i Infrasound Laboratory (ISLA)

ISLA maintains an array of acoustic sensors to monitor the Pacific region for atmospheric infrasound signals to support the international Comprehensive Nuclear Test Ban Treaty as well as to gather signal evidence of Global geophysical and meteorological events.

# University of Hawai'i Sea Grant Extension Service

Supports long term economic development, stewardship, and responsible use of Hawai'i's marine and coastal resources, working closely with NELHA and its tenants to improve the effectiveness of community outreach and education.

# United States Coast Guard

The Coast Guard operates a lighthouse facility at Keahole Point, the westernmost part of the Island of Hawai'i. A new structure for the lighthouse was constructed during the next year.



# West Hawai'i Explorations Academy – Public Charter School

West Hawai'i Explorations Academy is a public charter school, offers innovative full-immersion learning for secondary students based on student-run projects. WHEA won the Intel 2005 Schools of Distinction Science Award in Competition with over 3,000 high schools nationwide.

# Gateway Tenants:

# Friends of NELHA

Friends of NELHA is a non-profit group operating a program that provides outreach to support NELHA. Trained community volunteers make presentation to interested visitors at the Gateway Center.

# Hawai'i Island Economic Development Board

HIEDB is a private not-for-profit corporation that provides valuable information and contacts for area businesses and industries as well as key liaison to federal, state, county and private sector resources in financing, business planning, permitting, legal advice and other business services. HIEDB is a networking business organization that specializes in facilitating federal resource programs and implementation of economic development projects.

# Tenants Coming to NELHA:

Hawaiian Monk Seal Recovery Project Hawai'i Kai, LLC. Hawaiian Tropical Fish Company **CEROS** continues to receive annual Department of Defense appropriations funding through the Defense Advanced Research Projects Agency (DARPA). In FY09, CEROS will fund approximately 18 contracts for \$9.89 million. In FY10, CEROS anticipates \$9 million.

**BACKGROUND:** The CEROS Program was created under an initial grant provided by the DARPA in 1993 and has continued to receive annual defense appropriations funding. CEROS seeks to advance innovative concepts and new approaches to technology while fully leveraging existing facilities and infrastructure in Hawai'i and demonstrating beneficial commercial utility for the Department of Defense. Since 1993, the CEROS research programs have funded a total of 238 projects at a value of over \$91,694,194 million (FY93 – FY08).

<u>FY09 Core Technology Program</u>. CEROS received the FY09 Cooperative Agreement modification which increased the value by \$9,890,000 bringing the Agreement total to \$25,300,000 and extended the period of performance to September 30, 2010.

<u>FY08 Core Technology Program.</u> Nineteen contracts have been funded to date for a total of \$9,026,754. Two projects have been completed.

<u>FY07 Core Technology Program.</u> Twelve contracts have been funded to date for a total of \$4,769,356. Eleven projects have been completed.

#### MISSION:

- a. Support the Department of Defense technology requirements;
- b. Encourage leading edge R&D in ocean sciences and technology in Hawai'i;
- c. Foster use of ocean R&D facilities in Hawai'i;
- d. Provide an interface between specialized small businesses with expertise in ocean related R&D and DoD users of advanced technology; and
- e. Develop avenues to ocean science expertise and facilities at the University of Hawai'i

#### TECHNICAL PRIORITIES:

- 1. Ocean Environmental Preservation
- 2. Shallow Water Surveillance Technologies
- 3. New Ocean Platform and Ship Concepts
- 4. Ocean Measurement Instrumentation
- 5. Unique Properties of the Deep Ocean Environment
- 6. Improvements in Logistics, Staffing and Operations and Maintenance

BUSINESS MODEL: CEROS solicits proposals through annual competitive solicitations. All proposals are evaluated by an expert panel for technical merit, innovation, and value according to criteria published in the solicitations.

TECHNICAL PRIORITIES:

Ocean Environmental Preservation Shallow Water Surveillance Technologies New Ocean Platform and Ship Concepts Ocean Measurement Instrumentation Unique Properties of the Deep Ocean Environment Improvements in Logistics, Staffing and Operations and Maintenance

Grant/Agreement Term	Federal Funding Year	Federal Funding Amount	CEROS Projects Funded (\$)	CEROS Projects Funded (#)
MDA972-93-1-0008 Feb 22, 1993 - Jun 30, 1998	FY93	\$5,070,000	\$4,496,887	11
MDA972-94-1-0010	FY94	\$5,449,974	\$5,939,919	16
May 23, 1994 - Jun 30,	FY95	\$6,753,822	\$5,634,768	11
1999	FY96	\$6,534,000	\$5,445,811	12
MDA972-97-2-0001	FY97	\$6,518,000	\$5,779,261	16
Sep 1, 1997 - Jun 30,	FY98	\$6,714,917	\$6,347,637	19
2003	FY99	\$6,785,759	\$6,201,191	15
	FY00	\$6,788,888	\$6,441,440	16
	FY01	\$4,900,000	\$4,524,611	14
MDA972-02-2-0002	FY02	\$4,668,500	\$4,055,811	10
May 15, 2002 – Mar 31,	FY03	\$5,623,500	\$4,898,907	15
2009	FY04	\$6,905,000	\$6,247,373	19
	FY05	\$6,905,000	\$6,119,918	15
	FY06	\$6,155,000	\$5,999,550	17
HR0011-07-2-0005	FY07	\$5,505,000	\$4,769,356	12
Apr 1, 2007 - Sep 30,	FY08	\$9,905,000	\$9,026,754	19
2010	FY09	\$9,890,000	TBD	TBD
	Total	\$101,182,360	\$91,694,194	238

# 2008 CEROS CONTRACTS

CONTRACTOR PROJECT TITLE	AMOUNT
Action Packed Research Inc. dba ActionPacked! Networks	¢ 4 7 0 0 0 0
Tactical Network and Communications Intellegent Assistant Software (TNACIAS)	\$479,908
Archinoetics, LLC Specification of Target using Case Tracking Counled with Different Trigger Medalities	¢ 400 000
Specification of Target using Gaze Tracking Coupled with Different Trigger Modalities	\$400,000
Eyekon Systems LLC Integrate-able Dimensionally Accurate Reconnaissance Turret	¢75 145
Innovative Technical Solutions	\$25,465
Stand-Off Methamphetamine Detection (SOMAD)	\$1,300,349
Kuehnle Agrosystems, Inc.	φ1,300,34 <i>9</i>
Algae-Based Renewable Lp8: Preservation of Strains and Joint Products	\$297,602
Liquid Robotics, Inc.	\$Z77,00Z
Performance Characterization and Analytic Modeling of the Wave Glider Wave Powered Vehicle	\$901,063
Lockheed Martin Corporation	\$701,003
Reconfigurable Autonomous Classification System (RACS)	\$514,998
Lockheed Martin Corporation	ψυτη, / / Ο
Automated Marine Mammal (MM) Detection and Classification on Navy Ranges	\$618,151
Makai Ocean Engineering, Inc.	\$010,151
A Tool to Improve the Retrieval and Maintenance of U.S. Navy Cable Systems	\$417,600
Makai Ocean Engineering, Inc.	φ+17,000
A Web-Based, Geospatially Enabled, 4D Data Fusion and Visualization Tool	\$748,801
MIKEL, Inc.	ψ/ <del>10</del> ,001
Acoustic Transient Geo-Location Software Tool for Pacific Missile Range Facility (PMRF)	\$294,377
Navatek, Ltd.	ΨΖ/Ψ,5//
Application of Inflatable (Drop-Stitch Fabric) Technology to an Entrapment Tunnel Hull-Form to Yield a	
High Performance Inflatable Boat for SOCOM Unique Missions	\$419,546
Oceanit Laboratories, Inc.	ψητ, σης
Hybrid Nano-Composite Anti-Growth Film	\$429,790
Oceanit Laboratories, Inc.	¢1277776
Ku-SATCOM Phased-Array Antenna for USSOCOM Combatant Craft Program	\$467,829
Pacific Defense Solutions, LLC	\$10770Z7
Maritime Space Situational Awareness (SSA) Technologies for Fleet and Joint-Forces Protection	\$205,352
Pacific Defense Solutions, LLC	+2007002
Automated Target Detection and Tracking (ADAT) Algorithms for Submarine Situational Awareness (SA)	
Imaging Systems	\$446,086
Pacific Hydrogeologic, LLC	
Pilot Scale Remediation of Decommissioned Military Vessels Using a Gel with Hawaiian Saprophytic Fungi	\$270,000
Referentia Systems, Inc.	,
EER Acoustic Simulation for Training	\$575,998
Technical Research Associates, Inc.	
Sharpening of Hyperspectral Data for Coastal and Riverine Applications	\$213.,839
(19)	\$9,026,754

# NATURAL ENERGY LABORATORY OF HAWAI'I AUTHORITY FINANCIAL REVIEW

# STATEMENT OF OPERATIONS

(For the period July 1, 2008 to June 30, 2009)

<u>REVENUES</u>		<u>EXPENDITURES</u>	
General Funds		General Funds	
State Funds Appropriated	\$365,000.00	Salaries Kona Operations	\$0.00
		(seawater subsidy)	\$357,668.94
Subtotal	\$365,000.00		
		Subtotal	\$357,668.94
Special Funds		Special Funds	
(Revenue)			
		Salaries	\$1,475,021.25
Land Use Fees	\$1,354,614.67	Operations(including OHA transfers)	\$2,169,154.77
Royalties	\$170,791.67		
Reimbursable	\$1,950,671.24	Subtotal	\$3,644,176.02
Interest Received	\$51,690.96		
Percentage Rents	\$40,098.62		
Subtotal	\$3,567,867.16		
TOTAL	\$3,932,867.16	Total Expenditures	\$4,001,844.96

# FINANCIAL POSITION

Special Fund Cash Balance July 1, 2008 State General Fund Appropriations Special Fund Revenues	\$1,517,896.00 \$365,000.00 <u>\$3,567,867.16</u> \$5,450,763.16
General Fund Expenditures Restricted G/F Returned to St Treasury/DBEDT Special Fund Expenditures/journal entries	\$357,668.94 \$7,331.06 \$3,351,622.24
Transfer to State General Fund From Special Fund Transfers to OHA-Ceded land Prior year adjustment	\$0.00 \$292,553.78 \$0.00
**Ending Special Fund Cash Balance 6/30/09	\$1,441,587.14

\*\*subject to DAGS final numbers

# **BOARD OF DIRECTORS**

As of December 31, 2009

# John Delong, Chairman of the Board

Hawaiian Cement At Large-Governor's Appointee; term expires 06/30/11

Brian Goldstein, Vice Chair High Technology Development Corporation (HTDC)

# Makani Maeva

Pacific Housing Advisors/Allied Pacific Development At Large-Governor's Appointee; term expires 06/30/12

# Jason Ikaika Hauanio, CFM

Assistant Vice President, Senior Financial Advisor for Merrill Lynch At-Large, Governor's Appointee; term expires 6/30/10

# Donald Thomas, Ph. D.

*Center for the Study of Active Volcanoes University of Hawai'i at Hilo Research Advisory Committee Chairman* 

# Theodore E. Liu

Director Department of Business, Economic Development & Tourism

# Russell Tsuji

Land Division, Department of Land and Natural Resources Representing Laura Thielen, Chairman, Board of Land and Natural Resources

# Patricia Cooper

School of Ocean & Earth Science & Technology University of Hawai'i Representing M.R.C. Greenwood, President, University of Hawai'i at Manoa

# Danton S. Wong

Attorney at Law Hawai'i Strategic Development Corporation (HSDC)

# **Bobby Command**

Executive Assistant to Mayor Billy Kenoi Representing Mayor of the County of Hawai'i

# Gerald Cysewski, Ph.D.

Cyanotech Corporation Tenant Representative, term expires 9/30/11

# Brad Kinoshita

Kona Deep Corporation Tenant Representative, term expires 9/30/13

# NELHA STAFF

As of December 31, 2009

Ron Baird, Chief Executive Officer Karen Appleby, Administrative Assistant **Tom Kelly**, *Operations Supervisor/Electrical Engineer* Chad Debina, General Laborer Richard Robinson, Vehicle Construction Equipment Mechanic Georgie Espinueva, Secretary Tom Pierce, Utility Electrician Karin Haleamau, Groundskeeper Sheryll Kaniho, Fiscal Officer Laurence Sombardier, Tenant Revenue Specialist Anthony Mitchell, Maintenance Mechanic Cilly Gibo, Maintenance Mechanic Jeff Nichols, Engineering Projects Coordinator Eugene Pierce, Electrician Keith Olson, Quality Water Lab Manager Jan War, Operations Manager **CEROS STAFF** 

Lee Fausak, Research Administrator

Jacquie Brewbaker, Program Manager for Outreach & Administration

Debbie Hansen, Fiscal Assistant

Donna Mau, Contracts & Grants Administrator



 Phone:
 (808) 329-7341

 Fax:
 (808) 326-3262

 E-mail: nelha@nelha.org

 Website:
 http://www.nelha.org