



# NATURAL ENERGY LABORATORY OF HAWAII AUTHORITY

*An Authority of the State of Hawaii attached to the Department of Business, Economic Development & Tourism*



Draft

**BOARD OF DIRECTORS  
MEETING MINUTES  
Tuesday March 15, 2022  
10:00 a.m.**

**An Interactive Conference Technology Meeting was held at**

**NELHA OceanView Conference Room  
Hale Iako Building  
73-970 Makako Bay Drive  
Kailua-Kona, HI 96740**

**and via Zoom Video Conferencing Software.**

**Members/Designees in Attendance**

William Mielcke (Gov. Appointee/Chair)  
Cyd Miyashiro (Gov. Appointee/Vice Chair)  
Chung Chang (DBEDT)  
Robert Masuda (DLNR)  
Riley Saito (County of Hawaii)  
Dr. Phil Bossert (RAC Secretary)  
Alan Hilton (RAC Chair)  
Linda Rosehill (Gov. Appointee)  
Dr. Vassilis Syrmos (University of Hawaii)  
Neil Sims (Tenant Representative)

**Guests/Staff Present**

Greg Barbour (Executive Director)  
Laurence Sombardier (NELHA)  
Keith Olson (NELHA)  
Dr. Alexander Leonard (NELHA)  
John Cole (Deputy AG)  
Dr. Jeff Boehm (TMMC)  
Dr. Sophie Whoriskey (TMMC)  
Chris Kiser (EcoHarvest)  
Stephen Barron (EcoHarvest)  
Robin Coonan (Blue Ocean Mariculture)  
Dr. Joan Salwen (Blue Ocean Barns)  
Andrew Piktorna (Blue Ocean Barns)  
Jeff Zimpher (National Park Service)

**Board Members Not Attending and Excused**

Dick Jones (Tenant Representative).

- **Item 1. Call to Order.**

The meeting was called to order by Chair Mielcke at 10:04 a.m.  
Reference to Act 220.

Chair Mielcke asked Executive Director Barbour for a roll call of Board members, NELHA staff, and guests.

- **Item 2. Approval January 18, 2022, NELHA Board of Directors' Meeting Minutes.**

Chair Mielcke entertained a motion to approve the January 18, 2022, minutes. The motion was made by Director Sims and seconded by Director Rosehill. There were no objections, and the minutes were approved unanimously as circulated (9-0).

- **Item 3. Approval January 18, 2022, NELHA Board of Directors' Executive Session Meeting Minutes.**

Chair Mielcke entertained a motion to approve the January 18, 2022, Executive Session minutes. The motion was made by Director Rosehill and seconded by Director Hilton. There were no objections, and the minutes were approved unanimously as circulated (9-0).

- **Item 4. Informational Presentation from HOST Park Clients.**

Dr. Boehm and Dr. Whoriskey from The Marine Mammal Center (TMMC) provided a project update on TMMC operations in California and their operations at HOST Park to "Save a Species – Conservation of the Endangered Hawaiian Monk Seal". They are the world's largest marine mammal hospital and treated over 2,000 patients in California and Hawaii last year. They were founded in 1975 and have operations in Sausalito, Monterey Bay, San Luis Obispo, and Kailua-Kona.

Their hospital at HOST Park was built for long-term care of monk seals and they are partnering with NOAA Fisheries, US Coast Guard, Hawaii Wildlife Fund, DLNR, and the US Fish and Wildlife Service among many others. They have treated 39 monk seals since opening and 30 percent of the monk seals alive today are due to their rehabilitation efforts. They also have numerous school and youth programs for conservation.

Chair Mielcke thanked Dr Boehm and Dr. Whoriskey for their presentation and asked the Board if they had any questions for them.

Hearing none, Chair Mielcke announced that we would like to move up Item 7a and 7b as there are representatives from these companies waiting.

- **Item 7a. Discussion and Decision-Making regarding Approval in Concept for EcoHarvest LLC for a six-acre commercial facility to produce ornamental marine**

**fish for the aquarium markets.**

Chair Mielcke asked Deputy Director Sombardier to present this item to the Board. DD Sombardier explained that EcoHarvest LLC is planning for expansion based on a pilot project by its wholly owned subsidiary, Eco Harvest Hawaii LLC, currently located in the HOST Park research campus. EcoHarvest LLC (“EcoHarvest”) is seeking approval in concept from the NELHA Board for a 6-acre facility to produce ornamental marine fish.

EcoHarvest Hawaii LLC, the Hawaii subsidiary of EcoHarvest, currently leases approximately 3,000 sq ft in the research campus as well as a small stand-alone building since September 2021 in the research campus. Eco Harvest Hawaii LLC is a Hawaii startup. The company founder participated in the HATCH Hawaii Innovation Studio which took place in August 2021. The EcoHarvest Hawaii pilot project is a short-term project that aims to condition ornamental marine fish to captivity breeding and produce fish to market size. EcoHarvest has built out the pilot facility and received the required permits from Department of Aquatic Resources. Their facility has been inspected by DLNR and have started operating their new aquaculture tank systems.

Meanwhile, EcoHarvest which is based in Texas, has been working on the next steps to grow the business, including securing contracts within the aquarium industry and an expansion at NELHA to fulfill these contracts. The company is seeking NELHA Board approval in concept to facilitate the raising of funds associated with the build out.

EcoHarvest is interested in utilizing 4 acres previously leased by Oceanic Institute, although never developed) as well as an additional 2 acres for a total of 6 acres. The approximate location of the project is in the mid-level elevation area of the park. A preliminary proposal has been submitted.

DD Sombardier noted that the proposed project falls well within NELHA’s mission, and the principals appear qualified to carry out the project. With the recent Hawaii ban on ornamental fish collection, the market opportunity is very real and sizable. However, staff does recognize that there are a variety of challenges that the project will need to address. These are:

- 1) Technical challenges include the ability to meet the animal survival rate necessary to make the project economical. Others at NELHA have worked in the past on developing products for the ornamental fish industry with mixed results. EcoHarvest believes they can capitalize on recent advancements. The NELHA dual water system is key in the EcoHarvest R&D plan.
- 2) The pilot project has not yet had time to demonstrate success which staff feels will be important to help assess the viability for a larger facility. At the same time, EcoHarvest Hawaii is poised to start the pilot trials very soon and should

be able to show results by summer or fall, approximately at the time staff expects to review the final business plan for the expansion.

- 3) NELHA has only limited low elevation space for aquaculture projects. We are therefore having to consider locating projects in the mid-level areas. This project would be right above Blue Ocean Barn's 10-acre project. The project's 500 gpm sea water demand added to Blue Ocean Barns water requirements will start to place a strain on the sea water delivery system at that elevation. Given the ample pump capacity, the issue is mainly in increasing delivery. Staff will be working closely using client sea water use projections to ensure that water is available when it is needed. There will be a moderate cost to NELHA associated with expanding the pipeline delivery systems.
- 4) Staff believes that the financial projections are typical for start-ups we have seen in the past and very preliminary. These will need to be refined in the final business plan before final sub-lease approval can be recommended.
- 5) There are also a few critical areas that will need to be addressed before a final approval can be sought. These include sea water disposal, sea water charges for the project elevation and broodstock sourcing.
- 6) EcoHarvest is seeking to raise \$7.5 million for the project. The final business plan will need to include details regarding the funding as well as letter(s) of commitment.

The EcoHarvest project would be located next to a seaweed project (Blue Ocean Barns) and across the street of a fish processing facility (Keahole Point Provisions). Neither are expected to present biosecurity concerns, but staff will need to confirm by consulting with the neighboring projects.

Staff notes that the estimated freshwater usage will be very minimal and that the project will have its own solar system to meet most of its power needs.

This EcoHarvest project is a perfect example of the intended pipeline mechanism HATCH is supposed to generate for the park. Through their various programs (accelerator cohorts, innovation studios and other incubator activities), HATCH helps attract and/or form companies who would then conduct a proof on concept project in the R&D campus. If successful, the companies then graduate to the tech park or elsewhere in Hawaii. The recent EDA grant is assisting with these HATCH activities and provides small additional funding to further help incubate projects. For example, EcoHarvest Hawaii is receiving a 6-month rent incentive, 80% of which is being covered by the EDA grant.

Staff recommends that the Board provide an approval in concept for the EcoHarvest to build a 6-acre facility as described in the preliminary proposal. EcoHarvest should continue working with NELHA staff to present a final business plan for final approval.

Chair Mielcke asked representatives of EcoHarvest if they would like to provide any additional details.

Chris Kiser, EcoHarvest CEO provided a brief update on their efforts to date. He mentioned that they have constructed and installed their algae systems, their larval/copepods rearing systems and their broodstock tanks at their pilot facility in the research campus. They have a collection authorization from DLNR and their facilities recently passed DLNR inspection. They plan to be operational within the next month and hopefully will begin sales next summer. Stephen Barron, EcoHarvest COO talked about their projections and stated that projections are based on the amount of wild capture in Hawaii before the ban. They estimate that they can replace up to 65 percent of the wild capture which is estimated by EcoHarvest to be between 600,000 to 1,000,000 fish annually before the ban.

Director Miyashiro complimented EcoHarvest on their well written and well researched business plan on both the technical and business side. She asked how they came up with the data of 600,000 annually wild capture in Hawaii before the ban and, asked if there are any barriers to other locations replicating their business? Mr. Kiser mentioned that it is based on published data from DLNR and also that yellow tangs are really not found in large numbers anywhere else in the world and Hawaii has a comparative advantage in this respect.

**Director Bossert excused himself from the meeting at 10:47am.**

Chair Mielcke asked Director Hilton if he could summarize the comments from the Research Advisory Committee (RAC). Director Hilton explained that six members of the RAC reviewed the proposal, and they are in general agreement with the NELHA staff recommendations but recognize there are still significant challenges ahead that will need to be addressed before final approval. This will be based on the results of their pilot project especially in the areas of production and scale up as well as disease and mortality. He mentioned that the project is also attractive in that it addresses sustainability of these species in an environmentally sensitive market. The RAC would also like to see more data on grow out and feed when that comes available.

Director Masuda thanked Director Hilton and the RAC for their thorough report.

Chair Mielcke called for a motion to accept the staff recommendation. Director Rosehill made the motion which was seconded by Director Hilton. There were no

objections, and the staff recommendation was approved by a 7-0 vote and Director Sims recused himself.

- **Item 7b. Discussion and Decision-Making regarding Transfer of a four-acre lot from Keahole Point Hatcheries LLC to Blue Ocean Barns Inc.**

Chair Mielcke asked Deputy Director Sombardier to present this item to the Board. DD Sombardier explained that Keahole Point Hatcheries LLC (KPH) currently subleases three lots. KPH wishes to transfer one of the lots, a four-acre lot referred to as Lot E, to Blue Ocean Barns Inc. (BOB). This agenda item requests approval for this transfer.

DD Sombardier further explained that KPH is a wholly owned subsidiary of Blue Ocean Mariculture LLC (<https://bofish.com/>). It operates the only open water mariculture farm in the USA off Keahole Point. Its subsidiary, KPH, produces the fingerlings for its world renown Kanpachi fish product and is located at HOST Park. Of note, the sister subsidiary to KPH, Keahole Point Provisions, executed a sublease for 3 acres and acquired the old HDMI building for fish processing activities at NELHA in 2020 (Sublease K-38). Keahole Point Provisions also leases office space in the research campus.

BOB (<https://www.blueoceanbarns.com/>) is one of the Elemental Excellerator 2019 cohort companies. They aim to produce a cattle feed additive consisting of a red seaweed called *Asparagopsis taxiformis* which has been shown to drastically reduce methane emission from cows. The climate friendly dairy and beef is not only in high demand but some locations such as California are starting to regulate and require reduced emissions from cattle and dairy farms. BOB leases office space in Hale Iako, performs R&D work on a short-term temporary basis in underutilized facilities at Shrimp Improvement Systems, and entered a 30-year sublease for 10 acres in June 2021.

Land transfers are covered by the Assignment clause in NELHA subleases. Any transfer must be approved by both the NELHA Board and the DLNR Board.

In 2016, KPH, which was previously operating on 3.43 acres, acquired an additional four-acre lot known as lot E, in anticipation of a hatchery expansion associated with Blue Ocean Mariculture LLC's (BOM) offshore expansion. The expansion is currently still in progress, but KPH can produce the fingerlings needed for the offshore expansion from the original 3.43 acres and does not need lot E. KPH had envisioned developing other species such as moi on Lot E for retail sale. This activity is not currently a priority for KPH. Finally, KPH was also considering building a processing facility on Lot E, but subsequently decided that the HDMI location and specifically the existing building at HDMI would provide a better solution. Therefore, KPH no longer needs Lot E and has offered it to BOB.

Lot E has been used in the past for several finfish and seaweed projects. It is graded and fenced. Its acquisition by BOB would address BOB's immediate needs to produce seaweed for cattle feed additive products at large scale as soon as possible while BOB works on the build out of the 10-acre facility covered by existing BOB sublease K-40. BOB has moved quickly on the design of the 10-acre facility and is currently working on plan approvals with the County. However, the 10-acre space still needs to be fully graded and built before production can start. Lot E will allow BOB to scale up and generate product sooner.

KPH has represented that the removal of lot E does not affect KPH's business plan. BOB has provided an update to their business plan to specifically address the activities that will take place on Lot E. The activities are not expected to substantially change the financial projections presented to the Board in the initial BOB business plan.

From NELHA's perspective, it is preferable to see land in productive use rather than unused. The transfer will translate to a small net reduction in monthly rent to NELHA which could potentially be recovered through percent rent should BOB be as successful as they hope to be.

The transfer does not present any biosecurity issues since BOB will be producing seaweed and the adjacent property belongs to Shrimp Improvement Systems.

BOB is aware of an existing archaeological site on Lot E and the need to follow an existing burial treatment plan for that site. BOB is also aware that there are 12 brackish wells on the site which must be protected from damage and monitored or decommissioned.

KPH will retain a portion of the total land under its sublease K-35. Consequently, the preferred legal mechanism to reflect the lot E transfer is through two supplementals, one to remove lot E from the existing KPH Sublease K-35 and the other to add lot E to BOB Sublease K-40 rather than the standard consent to assignment document used in previous cases. Draft supplement agreements for both KPH and BOB are provided in the Board packet. These documents have been reviewed and accepted by NELHA's attorney as well as the respective companies.

A draft purchase of Assets Agreement was provided to NELHA staff, and it has been determined that no premium would be owed to DLNR in accordance with DLNR's Assignment of Lease Evaluation Policy. The next step after NELHA Board approval is to request BLNR approval.

Both KPH and BOB are in good standing with NELHA.

Staff recommends that the NELHA Board grant approval to transfer Lot E from KPH to BOB as described in this summary and execute the necessary documents to complete the transfer. The NELHA Executive Director will work with NELHA AG to finalize and execute the sublease supplementals to reflect the transfer.

Chair Mielcke asked representatives of Blue Ocean Mariculture and Blue Ocean Barns if they would like to provide any additional details.

Chair Mielcke called for a motion to the staff recommendation. Director Rosehill made the motion which was seconded by Director Chung. The motion was approved by an 8-0 vote and Director Masuda indicated he would vote kanalua as this item will come to the DLNR Board later for approval of the assignment.

- **Item 5. Financial Report: Approval and Decision Making.**

ED Barbour presented and overview and summary the Financial Report for the first six months of the fiscal year in the board packet (Attachment A).

**Director Saito joined the meeting at 11:12 am.**

Chair Mielcke called for a motion to accept the report. Director Sims made the motion which was seconded by Director Rosehill. There were no objections, and the financial report was approved unanimously as circulated. (9-0).

- **Item 6. Old Business.**

a. None.

- **Item 8. Executive Director's Informational Status Report on ongoing projects including: new leases; seawater system maintenance; new potable water supply update; aquaculture accelerator and investment fund initiative; new EDA grant applications regarding the ocean economy, 2022 Legislative Session update, renewable distributed energy resources initiative including grant applications and solicitations for microgrids, energy storage, and solar desalination; analysis HOST Park energy system.**

ED Barbour presented and overview and summary of NELHA's major goals and key projects timeline as contained in the Board Packet (Attachment B) as part of the Executive Director's Information Status Report.

Chair Mielcke asked if there were any questions or comments. Hearing no further questions or comments, the report was accepted unanimously (9-0) as presented.

- **Item 9. Announcements.**



Chair Mielcke noted that our next meeting is scheduled for May 17, 2022 however, staff is considering the need for a Special BOD meeting on April 12, 2022.

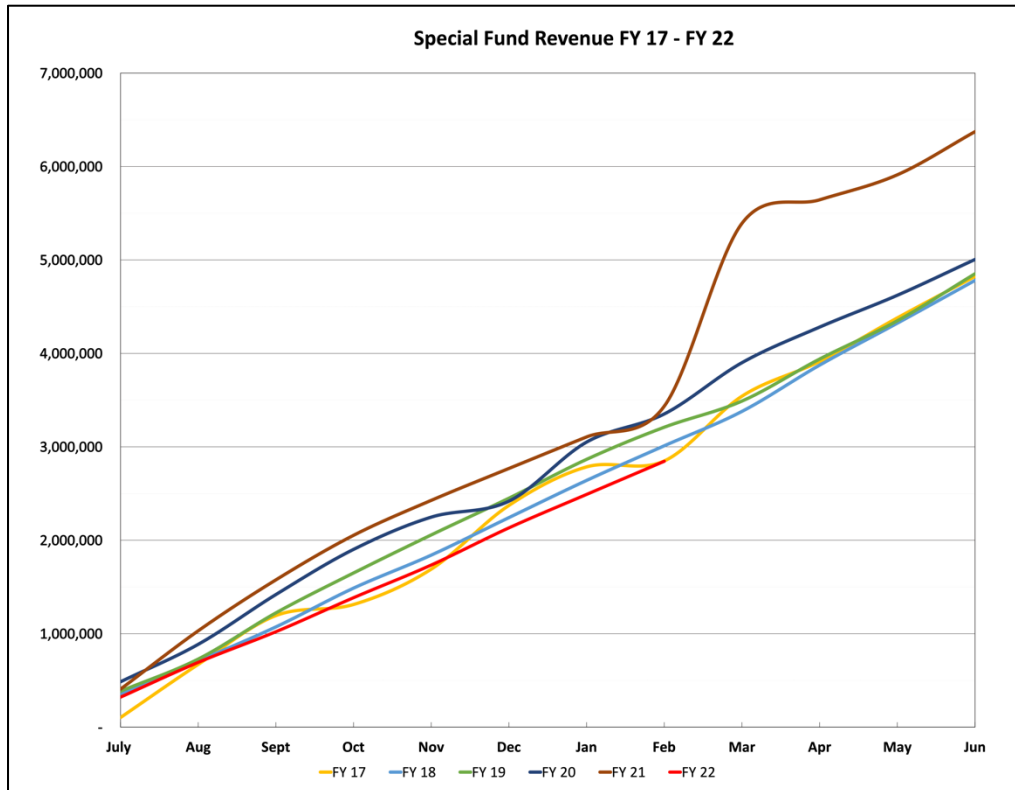
- **Item 10. Adjournment.**

Hearing no objections, Chair Mielcke adjourned the meeting at 11:41 a.m.

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**NATURAL ENERGY LABORATORY OF HAWAII AUTHORITY**  
**Financial Report Summary**

July 2021 through February 2022



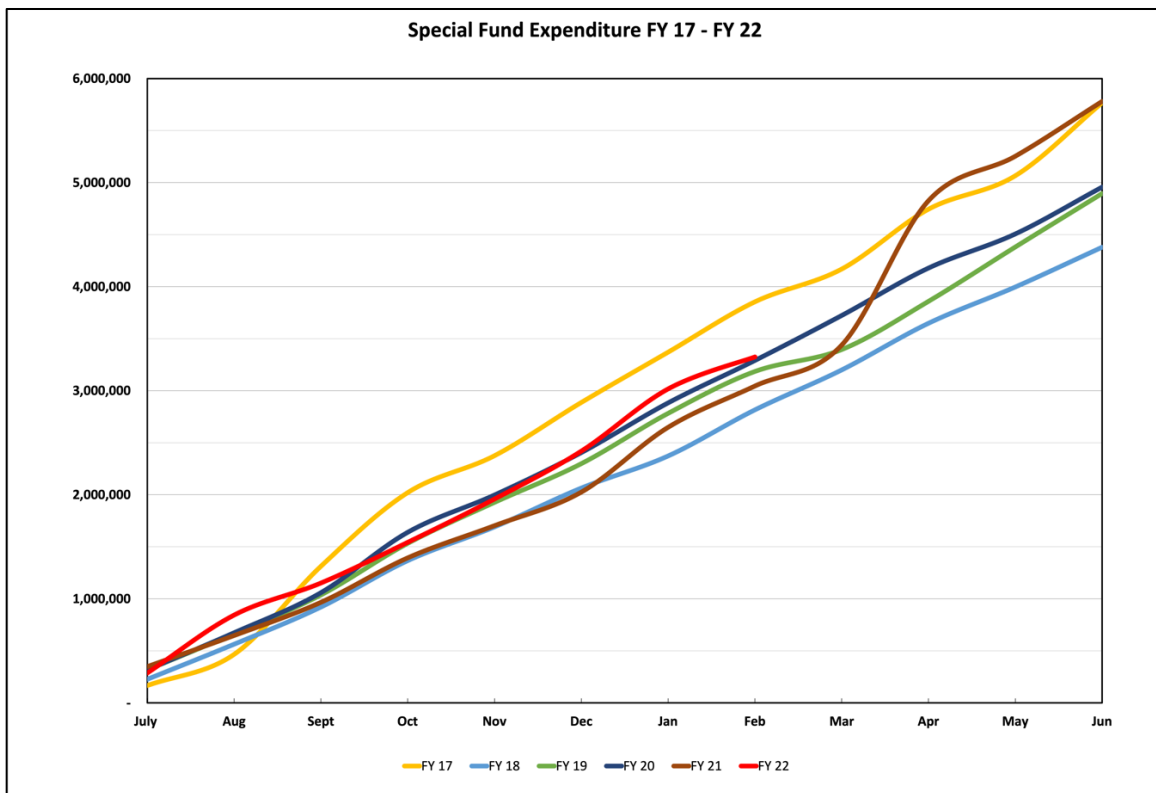
**FY 2022 Revenue vs. FY 2021 Revenue**

- Total revenue was \$2.8M for the eight months of this fiscal year and this represents a decrease of almost \$600,000 or 17 percent for the same period last year. In summary, this is due in large part to four main items, the receipt of EDA funds for the aquaculture accelerator, additional funds for the freshwater well drilling contract, less UH payments for their hydrogen project and down payment from the sale of a building. These items amounted to a difference of approximately \$500,000. Of notice for the first quarter of FY22 are the following:
  - Seawater system revenue was down by 17 percent (\$200,000) mainly due to lower demand for deep seawater. It is important to note that demand was down mainly due to conservation and production schedules shifting. The seawater system is operated on a break-even basis and as such there is little negative impact to our overall financial position.
  - Lease base rent is up slightly by \$30,000 (3 percent) with new leases to Blue Ocean Barns and Terraformation.
  - For the Research Campus outside space revenue is up 50 percent (\$35,000) due to several new companies while office rent is relatively flat and showing a slight decrease overall due

to our inability to lease conference rooms during the pandemic. We continue to experience almost 100 percent occupancy.

- Labor services continues to increase and is up by over \$10,000 (35%) with additional lab services being provided to clients.
- Reimbursements for electric are up by \$20,000 or 10 percent and due to lower use and higher electrical costs. Average cost per kWh has increased approximately 20 percent in the past year but have stabilized in the past several months.
- Special projects revenue is down by \$420,00 (100 percent) without the transfer payment from HHFDC and additional deposit from HNEI for the hydrogen project in last fiscal year.
- Misc. income is down by \$900,000 mainly due to partial down payments from Blue Ocean Mariculture for the building they recently purchased.

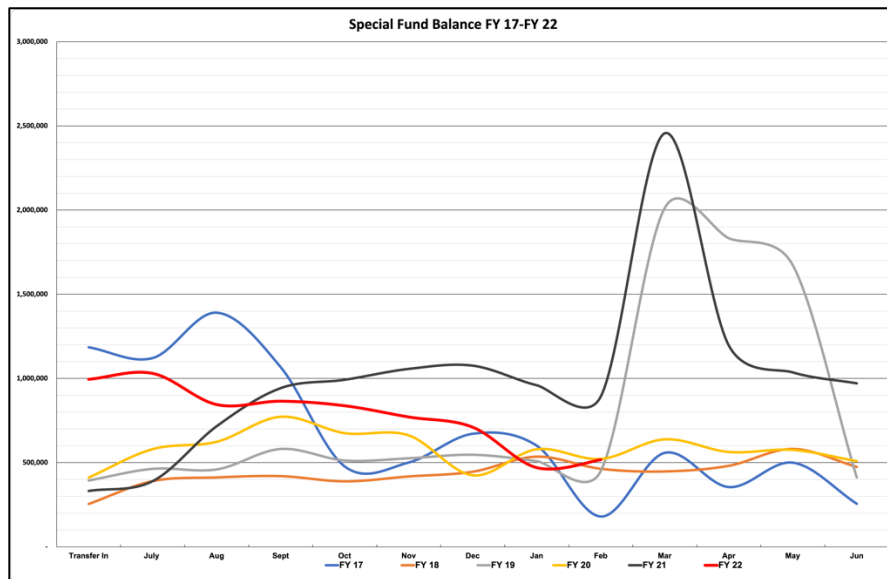
**FY 2022 Expenditure vs. FY 2021 Expenditure**



- Total expenses for the first eight months of this fiscal year were approximately \$3.3M and up \$250,000 or 8 percent over the same period last fiscal year. This is mainly due to the \$220,000 received last year and encumbered in our exploratory well drilling contract last quarter. We continue to monitor expenditures very closely. Of note are the following:
  - Seawater system expenditures are down 14 percent (\$140,000) and is due to lower personnel costs which are down by the same amount or \$135,000 with two vacant positions

and personnel being assigned to other projects in the short term. Electrical is up by \$45,000 mainly due higher cost per kWh.

- Tenant Utilities are up by 17 percent or \$45,000 mainly due to increased electrical costs.
- NELHA utilities are up by 85 percent or \$42,000 as last year’s costs included a large increase in freshwater due a significant leak in one of the distribution lines in the Research Campus that has since been repaired. Also, the power purchase agreement company for our solar panels in the research campus is now compliant with the tax office and we are paying two years of back bills.
- Beach Park maintenance is up \$10,000 with significantly increased use of the beach park which has since been resolved with the County agreeing to conduct daily patrols.
- Administrative costs are up 10 percent or \$110,000 as compared to the same period last year mainly due to allocation of personnel costs amongst other categories to complete construction of two portable office spaces and our insurance premium increasing by \$65,000.
- Special projects up mainly due to the encumbrance of additional funds for the exploratory well drilling contract the first quarter this year.



**Special Fund Account Summary**

- All data is as February 28, 2022.
- Special fund balance is \$515,000 and down \$480,000 from the beginning of this fiscal year.
- It is important to note that we encumber funds (\$200,000) for our security services contract in January and this represents the \$200,000 decrease in our special fund balance since December 31, 2021.

**Arrears Report**

- As of February 28, 2022, the arrears totaled approximately \$155,000.
- Kona Cold Lobster has been impacted by the pandemic and recently submitted percent rent reports for the past several years and is making payments. We anticipate that they will become current in the next several months.
- Ocean-Era is having cash flow issues with their federal grant.
- Arrears are up \$20,000 over the past two months.

NELHA – March 15, 2022

NELHA MAJOR GOALS AND KEY PROJECTS TIMELINE SUMMARY  
FISCAL YEAR 2022

MAJOR GOALS AND KEY PROJECTS	STATUS	2021						2022					
		JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN
Maintain 99.99% uptime and increase efficiency of seawater system	ONGOING	█	█	█	█	█	█	█	█	█	█	█	█
Survey of offshore deep water pipe	ONGOING	█	█	█	█	█	█	█	█	█	█	█	█
Planning/design of offshore deep water pipe removal	ONGOING	█	█	█	█	█	█	█	█	█	█	█	█
SCADA system development incl upgrade instruments in WQL	ONGOING	█	█	█	█	█	█	█	█	█	█	█	█
Long term plan for renewable energy upgrades to Host Park (HNEI)	ONGOING	█	█	█	█	█	█	█	█	█	█	█	█
Regional SWAC planning/design	ONGOING	█	█	█	█	█	█	█	█	█	█	█	█
Develop PV and storage testbed	ONGOING	█	█	█	█	█	█	█	█	█	█	█	█
DOE Sunshot solar desalination project	ONGOING	█	█	█	█	█	█	█	█	█	█	█	█
Manage aquaculture accelerator operations contract	ONGOING	█	█	█	█	█	█	█	█	█	█	█	█
Manage aquaculture venture fund development	ONGOING	█	█	█	█	█	█	█	█	█	█	█	█
Environmental and design for innovation village and visitor center	ONGOING	█	█	█	█	█	█	█	█	█	█	█	█
Potable water supply - exploratory phase	ONGOING	█	█	█	█	█	█	█	█	█	█	█	█
Update master plan and EIS	ONGOING	█	█	█	█	█	█	█	█	█	█	█	█
EDA Grant "Build Back Better" - Ocean Economy Phase I (Phase II if necessary)	NEW	█	█	█	█	█	█	█	█	█	█	█	█
New lease prospects for underutilized assets to increase revenue	ONGOING	█	█	█	█	█	█	█	█	█	█	█	█
Continue to improve landlord/tenant relationships/satisfaction survey	ONGOING	█	█	█	█	█	█	█	█	█	█	█	█
Annual reports	ONGOING	█	█	█	█	█	█	█	█	█	█	█	█
2022 Legislature	ONGOING	█	█	█	█	█	█	█	█	█	█	█	█
Global Pandemic	ONGOING	█	█	█	█	█	█	█	█	█	█	█	█