



# NATURAL ENERGY LABORATORY OF HAWAII AUTHORITY

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



## BOARD OF DIRECTORS MEETING MINUTES

April 9, 2024  
1 p.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**

**Homer A. Maxey International Trade Center Conference Room  
521 Ala Moana Blvd.  
Honolulu, HI 96813**

**and via Zoom Video Conferencing Software.**

### **Members/Designees in Attendance**

Cyd Miyashiro (Gov. Appointee/Chair)  
Gordon Bruce (Gov. Appointee)  
Noelani Kalipi (Gov. Appointee)  
Dane Wicker (DBEDT)  
Doug Adams (County of Hawaii)  
Gregory Kim (HTDC)  
Dick Jones (Tenant Representative)  
Nathan Tsao (Tenant Representative)  
Dr. Vassilis Syrmos (University of Hawaii)  
Russell Tsuji (DLNR)  
Dr. Philip Bossert (RAC Secretary)

### **Guests/Staff Present**

Greg Barbour (NELHA)  
Laurence Sombardier (NELHA)  
Alexander Leonard (NELHA)  
Jennifer Rasmussen (NELHA)  
Rae Nguyen (NELHA)  
Faustine Edge (NELHA)  
Jeff Zimpfer, (National Park Service)  
John Cole (AG)  
Gerald Heslinga (Indo-Pacific Sea Farms)  
Simona Augyte (Marine Biologics)

### **Board Members Not Attending and Excused**

Alan Hilton (RAC Chair)

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

The meeting was called to order by Chair Cyd Miyashiro at 1:08 p.m. Chair Miyashiro welcomed the new Tenant Representative Board Director, Nathan Tsao, and asked him to introduce himself. Director Tsao started at NELHA about 20 years ago as a tank scrubber. He represents Hawaii on the Pacific Coast Shellfish Growers Association and hopes to be at NELHA for the next 30 years. Chair Miyashiro thanked him for his service.

Executive Director (ED) Barbour for a roll call of Board members and NELHA staff. Reference to Act 220. 9 members present and 2 excused.

- **Item 2. Approval January 23, 2024, NELHA Board of Directors' Meeting Minutes.**

Chair Miyashiro entertained a motion to approve the January 23, 2024, minutes. Two corrections were noted 1) page 4, third paragraph, last sentence should be changed to "...Department of Business Economic Development and Tourism and University of Hawaii." 2) page 5, under Revenue, first bullet point "Total revenue was \$2.4 million for the first...". The motion was made by Director Bruce and seconded by Director Jones. Chair Miyashiro asked if there are any objections. Hearing none, the minutes were approved as amended (9-0).

**Director Adams joined the meeting at 1:11 p.m.**

- **Item 3. Approval January 23, 2024, NELHA Board of Directors' Executive Session Minutes.**

Chair Miyashiro reported the minutes were circulated the day prior, April 8, 2024, by Deputy Attorney General (AG) John Cole. Director Bossert moved to approve the Executive Session Minutes and Director Kalipi seconded. Hearing no objections, the Executive Session Minutes were approved (9-0), Director Wicker abstained.

- **Item 4. Old Business. Approval and Decision Making on NELHA Executive Director Performance Review \*\*.**

Director Miyashiro asked for a motion to go into Executive Session to discuss personnel issues. Director Jones moved, and Director Kalipi seconded. Chair Miyashiro asked for any objections. There were none and motioned passed (10-0). The Board entered the Executive Session at 1:10 p.m. NELHA staff called back the board attendees to return at 2:14 p.m.

**Director Tsuji joined the meeting at 2:18 p.m.**

Upon return, Chair Miyashiro stated that after exiting Executive Session regarding Item 4a., the Board is looking to accept the Executive Director performance appraisal without a merit increase. Director Bossert moved to accept the performance appraisal without the merit increase and Director Adams seconded. There was no discussion from the Board or public. Hearing and seeing none, Chair Miyashiro asked if there are any objections. Hearing and seeing none, the motion passed (9-0), Director Tsuji abstained.

- **Item 5a. New Business. Approval and Decision Making for Kona Limu Co. 2-acre Seaweed Project.**

Chair Miyashiro asked ED Barbour to present this item. ED Barbour explained last week Forever Oceans notified NELHA they were closing their offices in the United States. Kona Limu had planned to extract two acres of their 4.5 acre lease. Now that Forever Oceans will be leaving HOST Park in the next month or earlier, we need to reevaluate the situation with the 4.5 acre property to determine what its value is as its existing parcel and what its value would be if it were two parcels as well as highest and best use. NELHA owns the building that is on the property and believes that Forever Oceans has a \$200,000 note on the building. ED Barbour spoke with Neil Sims, CEO of Ocean Era and Kona Limu, and he is agreeable to deferring. Accordingly, Chair Miyashiro announced Item 5a is deferred.

- **Item 5b. New Business. Status Report on Master Plan, Strategic Plan, and Onshore Environmental Impact Statement update process.**

Chair Miyashiro asked ED Barbour to present this item. ED Barbour summarized the current status of the plans.

We received \$1.5 million to update our onshore Environmental Impact Statement (EIS). We also have received \$1.5 million to complete an offshore EIS. This discussion is regarding the onshore EIS. We spoke with other department heads (Ms. Mary Alice Evans with the State Office of Planning and Mr. Scott Glenn who was previously the head of the Office of Environmental Quality Control). Both recommended that it would be appropriate to complete the EIS and Master Plan at the same time. Mr. Dean Minakami with Hawaii Housing Finance and Development Corporation (HHFDC) sent us a good example of the combined EIS/Master Plan and we are using it as a model/template for ours.

NELHA's Master Plan for HOST Park provides a framework for evaluating and implementing projects that are consistent with the organization's vision and needs, and it helps the Board of Directors and NELHA staff prioritize budget and resource allocation.

The Master Plan, last updated in 2011, was very extensive and we do not expect any major changes. An important part of the Master Plan and EIS is the seawater disposal plan. We

are not allowed to dispose of seawater offshore because it is AA pristine. Dr. Alex Leonard added we are vulnerable due to the Supreme Court rulings on wastewater discharge from the Maui Sewage Treatment Plant. Though we are not pumping sewage into the rock formation, the distinction must be made.

Further, evolving awareness of the need to increase inclusion of and emphasis on cultural values and perspectives in the planning and decision-making process dictate the need to update NELHA's planning documents. Another new change is adding the cultural Ka Pa`a Kai analysis.

Pursuant to HRS chapter 103D, a Professional Services Selection Committee was formed on February 28, 2024, to review the Statements of Qualifications (SOQs) of 11 professional services providers received in response to the "Notice to Providers of Professional Services PS-23-01-NELHA".

The committee is comprised of the following members:

- Alex Leonard, PhD , Chair NELHA Administrative and Projects Manager
- Scott Glenn, Senior Advisor, Federal Affairs, Climate, and Housing in the Office of Governor Josh Green, M.D.
- Laurence Sombardier, NELHA Deputy Director.
- Keith Olson, NELHA Chief Operations and Science Officer
- Pam Madden, NELHA's Water Quality Laboratory Manager

All committee members are approved for procurement of professional services and experienced in this process.

We began procurement process using the Professional Services method typical for a Master Plan and an EIS update by issuing a call for interested companies in late June 2023. Each fiscal year, we list the kinds of projects we are planning for the year which included EIS and Master Plan. Companies submit their qualifications, and we select from that list.

The committee's first meeting took place on March 12, 2024, where they started laying out the scope of work for the combined project and defining the qualifications and experience requirements needed to accomplish the work successfully.

In the ensuing days, the committee worked interactively on-line to draft the project scope of work (attached) and a scoresheet that would be used in the review process. They reached consensus on these two documents on March 20, 2024, and started evaluating, each individually, all 11 SOQs. The committee plans to complete their scoring and ranking of the top-3 most qualified submissions shortly.

**Director Syrmos left the meeting at 2:29pm**

Chair Miyashiro stated though this item does not require Board action, she opened this item for discussion. She asked if there will be one contractor for the three plans or will it be carved out. ED Barbour answered the Strategic Plan and Master Plan will be one document. Dr. Leonard added the Scope of Work included in the Board Packet goes into detail. He explained further the Master Plan is a 20+-year vision, the Strategic Plan is for the immediate steps to be taken once the Master Plan is approved. The EIS informs what actions can or cannot be taken and is used for the Master Plan.

Director Wicker asked if the Strategic Plan should be developed first, as the Master Plan and EIS would support the Strategic Plan, or otherwise what's driving the Master Plan. Both ED Barbour and Dr. Leonard answered the vision and mission of the agency drives the Master Plan. Director Wicker asked would this not be the strategic plan? ED Barbour answered for the previous Master Plan the consultant developed five different scenarios in a Master Plan, and the Board selected the final Master Plan (which ED Barbour presented onscreen). Director Wicker asked what the consultant used to develop the five scenarios? ED Barbour answered the consultant based his scenarios on cultural, physical and infrastructure features that were and could be available given zoning. Director Wicker asked if NELHA zoning is under County, ED Barbour confirmed we are and that there are two major industrial zones, 1) area along the shoreline is 1-acre minimum and 2) area from the entrance road to the beach is 3-acre minimum.

ED Barbour referred back to the 2011 Master Plan that they came up with five zones of general use, and each zone had specific features. There is also a 5-Phase Plan. Phase 3, along the shoreline was fully leased until this upcoming vacancy of Forever Oceans. Phase 5, which was not included in the original EIS will be a long-term process for development as there is no infrastructure, roads, electrical, seawater or freshwater. Phase 4 has a large portion for conservation. Phase 2, which is the economic driver was a key phase, because back in 2011, Legislative additional financial support for infrastructure was waning. NELHA for its long-term future needed to develop this economic driver to generate revenue to fund the additional improvements needed to achieve the goals central to our long-term master plan. The idea is that all restrictions are "off" for the development of that area. Currently, if companies are interested in NELHA, but do not want to use the seawater and access to high solar insulation resources that we have developed, we would tell them they would have to go elsewhere because we have a limited amount of land.

This Area #2, the Economic Driver on the 80 acres site which we made accessible in 2016 with a new \$10 million road would provide the funding necessary to develop the rest of the infrastructure necessary to build out NELHA for the future.

ED Barbour emphasized that NELHA cannot move forward until we get additional water resources. We need to subdivide that area. We have been unable to get approval from CWRM to drill that well to provide the additional water resource.

We were given a permit about a year ago, but as we've said, the conditions were not acceptable to NELHA and HHFDC. So, we've been talking with the community stakeholders since October 2023. We presented to CWRM about three weeks ago, an information briefing and can come back to present at the next meeting for a modification or special conditions acceptance. We are on the agenda at that meeting next Tuesday, and we hope to get the permit. We are in the Administrative Budget request for \$5 million, but not in the House or Senate version. This makes it difficult to get back into the budget, but we are hopeful that it is not impossible.

ED Barbour continued that The Ocean Centerpiece Site Concept 80-acre site would be fully developed and generate as much revenue as possible. From businesses we talk to, although housing is a big problem everywhere, it is especially in West Hawaii. For a lot of the advanced tech research using ocean resources, the engineers and researchers are from out-of-state and are interested in coming use these unique resources. However, they cannot afford to stay in the 4- or 5-star upscale properties for 3-4 months. One of features in the Area #2 Economic Driver was a hostel/research accommodation for researchers to come and be able stay for 3-4 months.

NELHA would be developed as a Living Laboratory and Showpiece for Sustainable and Green Technologies. The way they did the financials in the 2011 Master Plan would provide significant revenue to build the rest of NELHA.

Director Wicker answered this plan actually looks like a strategic plan, but as NELHA said it was developed 50 years ago, and they were still trying to do the same now. He added that maybe we have to look at it a different way now we that have the sustainable technologies. Director Wicker also stated that ED Barbour seems fixed on revenue as he heard revenue mentioned many times. He asked if that is in NELHA's statutes. Though he recognizes we need revenue, he explained maybe because the focus is only on revenue is why there is concern. Where is that business on the research side? ED Barbour explained NELHA is a self-sufficient agency, and we need revenue to continue work. Director Wicker agreed but that NELHA must fulfill the statute, and we don't have those resources. He added NELHA should take Director Syrmos' suggestion to chase more Federal grants. ED Barbour agreed with Director Syrmos and confirmed that NELHA has applied for and received significant Federal funds. ED Barbour added that Federal funds they did apply for and received is the only reason NELHA has expanded in the last five years.

Regarding NELHA statutes, ED Barbour believes we are fulfilling the statutes, and knows that some disagree. ED Barbour added we are very successful as well. Director Kim commented that the Master Plan is not etched in stone and maybe something has changed in the 50 years. He asked that if we wanted to change sectors strategically, can we still use this Master Plan to accomplish or is the use so specific we cannot. ED Barbour believes the use is very broad. Dr. Leonard added that the Scope of Work for this project seeks board

input early in the process. First assessing the needs, amenities, strength and weakness and later the options and possibilities conceived. NELHA will be looking to the Board to make choices and provide direction.

ED Barbour noted that achieving community alignment is very strong also in this update. Director Kalipi building on Director Wicker's point calling the plan Strategic or Master, for her, removing any titles she understands there will be a visionary document which is the foundational piece for the strategy we want to achieve, there is an environmental process and the tasking strategy that gets us there, and how we incorporate the Federal and State funding processes so that we have a framework that works through that. Director Kalipi asked how much is focused on energy innovation research that can be picked up for the next 20 years from the Ocean Center of the Master Plan. Dr. Leonard responded that in that previous plan has distinct areas with different kinds of research and development activities. The Ocean Center as ED Barbour described is the revenue generator for retail, conference room, hotel types of use. ED Barbour described the zones: EZ=Energy Zone, AT=Applied Technology, CT=Culture and Technology, RE=Research and Education. He believes these are broad enough to developed appropriately and as the Board chooses. ED Barbour continued that he believes this Master Plan was well done, and is still applicable, but if the Board disagrees, we need to know right away.

Chair Miyashiro asked to fully understand the process we were talking about earlier what by statute NELHA was responsible for and why it was effectuated. She continued NELHA's only asset is HOST Park and asked how closely are those two aligned to begin with, and how much alignment should we have between the two. Is our only purview what the Authority's assets are or are we looking for outside of that statute. She doesn't have an answer and thinks over time they morphed together, but they are two distinct areas. She trying to reconcile how to bring them together, and if you suspend the statute, if the Authority's only has this as an asset, it's an asset play and you're trying to get the asset play aligned with the policy. But if you're saying we're statutorily driven, and the asset supports policy then it's a different way to look it. Chair Miyashiro is not sure if we made that decision intentionally or by default. She wants to be cognizant of it going forward.

Director Wicker commented NELHA had this vision in 2011 and had a plan on how they will do it. To NELHA's benefit, they have the assets and a lot of the other attached agencies do not. NELHA is coming in trying to ask for infrastructure but is missing the boat on what they are asking the Legislature for: the \$5 million of the well and the \$10+ million for the roads. He added a point from Director Syrmos, if NELHA was aware of SCR 195.

Chair Miyashiro expressed her hunch that between when the Master Plan was effectuated and now, she feels an economic development zone might be a harder push. She asked what the number is if there is no economic driver. She continued NELHA is staying so close to this plan, she cautions that a public funding mechanism might not be as in vogue as it was 10+ years ago. Chair Miyashiro when asking to the Board to provide input to the

Master Plan discussion update if NELHA doesn't the public/private zone, or if it is strictly funded by State and/or Federal. ED Barbour expressed this is the purpose of the Master Plan, to have these discussions.

Director Kalipi commented we must make sure we are building on the existing assets and take what's working because NELHA's aquaculture assets are phenomenal. Director Tsao added as a tenant, he feels aquaculture is what NELHA does best and identity-wise we should lean into what NELHA does best makes the most sense to him. Director Wicker commented that "identity" is the key word, if there has been a shift that we were we need to make the case at Legislature because Natural Energy Laboratory of Hawaii is the name. If that is a shift because of the asset, we need to talk about the vision of NELHA overall. Recently he was speaking with DBEDT Director Tokioka about how to help Maui long-term. They would have to look at NELHA expanding to the neighbor islands and Maui might be the start, but what is the economy out there for aquaculture. He continued there are four quadrants of Blue Economy, and suggests starting with that. For example, here's how NELHA is looking at these four areas, and he believes you would get consensus. If they agree with the plan, then they will give the funds.

Director Wicker added that at his time with DBEDT he visited NELHA twice, and realizes we have to talk a lot about aquaculture, and it is definitely one of our economies. When tech first came out with Silicon Valley there was discussion that we have to get Hawaii to be the next Silicon Valley, but that is not our space or strength. Director Wicker attended a Hatch Accelerator and one of the cohorts who went through the Accelerator said NELHA is the Silicon Valley for aquaculture. He believes that is our strength, our brand and identity, and how do we leverage our position in the Pacific to replicate that through our State.

Chair Miyashiro suggested we have the Master Plan, Strategic Plan and EIS on the Board Agenda as an ongoing item. She believes the Board would appreciate a timeline and when different items come to the Board. This way the Board is better prepared to answer questions from the Legislature or Statesmen about the plan going forward. ED Barbour and Director Wicker agreed. Director Wicker also suggested that the County should provide input. Director Adams answered looking at the committee because the Master Plan and EIS is going to have some impact in the area, he expects the Department of Planning and Department of Water would be part of the process.

Chair Miyashiro also asked to follow up on the aquaculture comment she didn't know for certain, but her understanding is that HOST Park in addition to have access to lands and water that normally would not be open to the private sector because it is under State control. It is her understanding also for research the State offers below market rent, cheaper than what you would have to pay at market. She also asked is aquaculture as a market driver sustainable without the State subsidies with the market rate because of the locations, facilities, and the infrastructure. Director Jones commented he doesn't believe it is below market.



Director Tsao offered his experience of 20 years, and he's seen only one company startup outside of NELHA on the Big Island, Hawaiian Shellfish. They were able to acquire permits, and he thinks that permits are the big issue. Not so much payments, but getting the permission to do what they need. Hawaiian Shellfish got permits in Hilo, through HPP to drill two saltwater wells and build a facility. They are very successful and good at what they do. But if he were looking to start an aquaculture business outside of NELHA, it's almost impossible. Having NELHA is priceless in the United States, especially in Hawaii. Director Jones added it was also the technology and the innovation piece and it's the reason that Hatch is there, and all the companies are there because of all the private investment that is happening because we have access to water. Blue Ocean Mariculture now has 80 employees, four times more than the past three years, and expects in the three years will add staff at that same rate. This growth is from all the technological innovations through those drivers NELHA is able to facilitate. If we can be more efficient it allows us to grow to scale.

Director Tsao added to the Silicon Valley reference, not only do we have a hive mind of intellectual property at NELHA, they also have critical infrastructure businesses that have been operating for a long time. Taylor Shellfish is the Pacific Coast's largest shellfish supplier and they have been in operating in NELHA for over 40 years. You wouldn't think of them as a high-tech company, but they are critical to the infrastructure of the shellfish industry for the entire United States. There is no other place like NELHA.

Deputy Director (DD) Laurence Sombardier answered Chair Miyashiro's question regarding market rates. She explained that when NELHA was required to become self-sufficient, we brought our rate to market. Because NELHA has unique assets and there are no comparable properties, the rental rates were based on the New and Old Industrial areas on the Big Island at \$100/acre and now closer to \$500/acre. Chair Miyashiro asked how the commercial rate compares to retail. DD Sombardier did not have that information as there were no retail rate comparison on the appraisal. Director Tsuji added he recalls the appraiser, Mr. Ted Yamamura compared rate based on the industrial demand for water bottling companies at that time. Chair Miyashiro suggested that one differential for agriculture and retail might make the case for the economic development area.

Director Kalipi commented that for the community work with the Pā Pā'aeia cultural hui, aquaculture has the fundamental piece of ancestral knowledge. They have global leaders, Hawaiian practitioners with thousands of years of knowledge. This would be a good opportunity for collaboration. Director Kalipi continued that 40 years ago, Senator Akaka was working with commerce and the interior for aquaculture for Hawaii. So, there is a record that could be particularly helpful.

**Director Kalipi exited the meeting at 3:12 p.m.**

Director Kim believes if NELHA decides aquaculture is the vision, it should be a big vision that will equal or be bigger than tourism.

Director Wicker commented the problem is aquaculture falls under the statutes of the Department of Agriculture (DOA). They have tried to move it out of DOA in the Legislative session, but they could not. That's the battle, the political jurisdiction and why NELHA is stuck.

Director Adams might encourage because he has contacts at DOA he has agriculture in his department. The department has no money, but they have people who care about this as he does might be worth bringing their experts to talk to us.

Director Tsuji added that DLNR has a limited role in aquaculture in that they have a special statute for open ocean cages for mariculture. They have the lease for Blue Ocean Mariculture.

Chair asked if any discussion from the board and for public members both comments discussion from the public.

- **Item 5c. New Business. Create a Special Investigative Committee for the purpose of preparing and delivering to the NELHA Board of Directors the annual performance evaluation of the NELHA Executive Director for the period July 1, 2023 to June 30, 2024 including goals and objectives Fiscal Year 2024 (July 1, 2023 to June 30, 2024) and development and evaluation of proposed goals for the period July 1, 2024 to June 30, 2025.\*\***

Chair Miyashiro began she would like to create a special investigative committee to develop the goals and objectives of the fiscal year 2025 (July 1, 2024 to June 30, 2025).

Before voting on the Special Investigative Committee for the purpose of preparing and delivering to the board, the annual performance evaluation of the NELHA Executive Director for fiscal year 2024 (July 1, 2023 to June 30, 2024), Chair Miyashiro proposed the committee include the three board directors who are Governor nominees: herself, Director Kalipi and Director Bruce and the DBEDT Director as NELHA is an attached Agency. Chair Miyashiro asked for a motion to create a Performance Interactive Group (PIG) for the purpose of preparing and delivering the annual performance evaluation of the NELHA Executive Director to the board. The PIG is to meet at the earliest possible date after the 2024 fiscal year ends. Director Bossert made the motion, Director Jones seconded. There were no objections, and the motion passed (9-0).

Chair Miyashiro then asked for a motion to create a PIG for fiscal year 2025 (July 1, 2024-June 30, 2025) which develop and establish proposed goals of NELHA and decouple these goals from the Executive Director's performance evaluation. Chair Miyashiro proposed the committee include the Governor appointees: herself, Directors Kalipi and Bruce and DBEDT Director. Chair Miyashiro asked for two additional volunteers, and Director Adams and Director Tsuji volunteered. Director Wicker moved to create the PIG, and Director Bossert seconded. There were no objections and the motion passed (9-0).

- **Item 6. Financial Report: Approval and Decision Making.**

Chair Miyashiro asked ED Barbour to present this agenda item.

ED Barbour presented an overview for July 2023 through February 2024.

Revenue

- Total revenue was \$3.4 million for the eight months of the 2024 fiscal year, and this represents a decrease of almost \$70,000 or 2 percent for the same period last year. Of notice for FY24 are the following:
  - Overall seawater system revenue is down by \$150,000 or 13 percent. This is mainly due to a 10 percent drop (\$45,000) in surface seawater revenue combined with lower electricity rates decreasing the electrical surcharge by \$100,000 or 40 percent over the same period last year.
  - Overall lease rent is up by \$135,000 (10 percent) for fiscal year 2024. More specifically, this is due to an increase in Land Base Rent up approximately \$145,000 or 13 percent and Research Campus office rental revenue up slightly at \$7,000. Outside research campus rental was down by \$15,000 or 7 percent.

There have been recent tenant departures (EcoHarvest and Dear Ocean) at the Makai Research Campus. Forever Oceans will vacate their space outside of the Makai Research Campus in the next couple of months.

- Labor services are up a healthy \$30,000 or 75% over the same period last year.
- Reimbursements for electric are down by \$70,000 or 20 percent due to lower electrical costs, which peaked a year ago. Freshwater revenue includes a double payment and is up \$60,000 or 75 percent and will eventually even out.
- Interest Income/Investments is down by \$75,000 due to the income distribution from the venture fund last year.

Expenditures

- Total expenses for the first eight months of the fiscal year 2024 were approximately \$3.4M or down by \$85,000 (2.5%). This decrease is mainly due to the cost of electricity

which peaked last summer. We continue to monitor expenditures very closely. Of note are the following:

- The microgrid project has come online doing final testing today. Water is being turned off and on, every 10 minutes for the last 4 hours. Very complicated system providing about 35% power for the 55" Pump Station. Four sources the grid, battery, PV and diesel generators we are working to sync, and we have some of LG's best engineers from Seoul, Korea on site trying to make sure the microgrid operates properly. This is causing a decline in some of the expenditures.
- Insurance costs continue to increase another \$70,000 almost \$200,000 a year.

#### Special Fund and Arrears

- Special fund balance is \$965,000 and down slightly by \$15,000 in the past eight months.
- As of February 29, 2024, the arrears are very low and totaled approximately \$20,000 of which Jamestown Point Whitney accounts for 50 percent.

ED Barbour closed his Financial Report. Director Bruce noted a typo on Expenditures the "Seawater system expenditures were down by \$4150,000...". Chair Miyashiro asked what lease Four Seasons' Hualalai had at HOST Park, and ED Barbour answered no lease, but payments for water lab sample testing. Chair Miyashiro opened for discussion and asked if there were any questions or comments from the board and public. Hearing none. Director Bruce moved to approve the Financial Report, and Director Wicker seconded, and the Financial Report was approved as amended (9-0).

- **Item 7. Executive Director's Informational Status Report on ongoing projects including: new leases; seawater system maintenance; offshore deep seawater pipe removal planning and design; regional seawater air conditioning planning and design; new potable water supply update; aquaculture accelerator and investment fund initiative; design of expansion of research campus and visitor center; renewable distributed energy resources initiative for microgrid; and, solar desalination.\***

Chair Miyashiro asked ED Barbour to present this agenda item.

Seawater Quality Analysis. ED Barbour began directly with the water quality report because it's interesting for the board to understand how complex it is to pump large volumes of seawater and some of the issues we are facing. There has been a problem at NELHA in the past 6-8 months that has come to our attention. It is a big problem in larval mortality rates in the early stages (7-10 days) and complete mortality for the fish, shrimp and crawfish hatcheries. It is now affecting all businesses. We took it very seriously and the businesses formed a voluntary group, the Keahole Point Larval Group (KPLG). There are about 12

businesses are in that group. We also hired Dr. Jim Wyban who is an expert in shrimp production. ED Barbour turned the status report over to Dr. Leonard who explained that it's hard to imagine a set of conditions that would affect larval from these very different organisms at the same time or period of days. It doesn't make a lot of sense from a biological standpoint.

He continued that we asked Dr. Wyban to gather as much information as he can from our tenants, their day-to-day records and system performance looking for commonality in time and peaks of mortality. Then guide an investigation of what might be happening, considering what could be causing it whether it is the pipes, an external source, the ocean itself, and if it is chemical or biological.

Dr. Wyban has completed his interviews with all the stakeholders, and presented his observations to NELHA yesterday, and to KPLG this morning. He concluded there is a seawater quality issue, and it is affecting all of the tenants who have animals, but none of the ogo producers. He reported the most likely explanation build up in some of the PVC sections of pipe that is used to convey seawater. Dr. Leonard noted that because NELHA has very little PVC and most of the pipes are HDPE if there is contamination due to the pipeline, it most likely on tenant land.

Dr. Wyban reported there is a possibility the decrease in seawater flowrates could lead to higher residue in pipelines. The low water movement increases the incidence and concentration of the contaminants in the water. He also noted that there is no system flushing capacity at NELHA. NELHA has wanted this capacity, and now begin implementation as part of the EIS.

Another important point Dr. Wyban reported is there is no biosecurity risk at HOST Park, and at this point and time biosecurity is well maintained. There is no disease and bio-contaminants found in air cells and seawater are what is expected in aquaculture.

Dr. Wyban will recommend that the farms infected must upgrade their water filtration system to modern best practice systems. Blue Ocean Mariculture has made these upgrades and would be a model for other farms. Director Jones, Board Tenant Representative and CEO of Blue Ocean Mariculture, reported during this presentation at the board meeting, he received notice from his staff that they lost 25 of the last 33 live stocked larval tanks. Dr. Leonard commented his surprise after Blue Ocean Mariculture's three successes with upgrades, Director Jones answered they weren't complete successes.

Mr. Leonard continued that Dr. Wyban has collected the datasets available and there is some pathology work undertaken at the State Veterinary's Laboratories as was the State veterinarian's recommendation. Dr. Wyban urged tenants to take advantage and only one

tenant has taken this opportunity. Though he is not expecting an answer because it's like looking for a needle in a haystack.

NELHA is sending in water samples for broad chemical testing similar to the ones we did for human drinking water consumption that the NSF and FDA requires. Other recommendations for tenants and NELHA include improving filtration systems on site, upgrading farm water systems to allow for bypassing to do the pipeline flushing necessary, and applying best practices to their seawater operations. Dr. Wyban made operational and system upgrade recommendations specific to NELHA.

It is a work in progress, as he expects feedback from the KPLG presentation this morning.

Director Tsao offered some backstory from his tenant perspective and using shellfish as the baseline organism. Shellfish larvae is very easy to grow that's why there are so many successful shellfish companies at NELHA for past 34 years. He explained this issue started late 2020 and started showing its ugly face in 2021 when it basically flatlined production across many larval runs. At this point and time production went to 0. At his site, from 2015 to late 2020 they produced every drop of larva in-house from our own larval system. Starting 2021, we started to have to purchase every single piece of larvae from outside sources because we just couldn't grow it anymore. He thought it was their problem until he started talking with his neighbors and figured out everyone at the park was having the same problem. He confirmed ED Barbour's statement it only affects larvae from day 6 to day 12 all species no algae. Then our next life stage has been producing better than ever. It is a small window of mortality, but it's crippled his hatchery and they have had to invest in these updated water quality controls as Blue Ocean Mariculture has.

Director Kim asked if there was liability to NELHA. Have there been any claims made, or might there be claims made? What does the tenant agreement say about water any implied warranty. AG Cole answered he believes there is general language in the leases there aren't any guarantees about water quality. Director Kim asked what would happen if it concludes NELHA is at fault. ED Barbour and Dr. Leonard explained Dr. Wyban reported there are no digital records or enough records/data to come to a conclusion. Director Bruce as if the board will be able review the final report. ED Barbour answered the report is expected to be completed mid-May and thinks Dr. Wyban would be happy to present to the board.

Director Adams asked if there is any County connection, they haven't seen from Dr. Wyban's report, and if any impact on humans not just the larvae. ED Barbour answered that his understanding is that many larvae 6-10 days are easily affected by a lot of different things at that very young age. Director Tsao referred to the report recommendation of a permanent discharge system. Speaking from the KPLG perspective, Director Tsao would like

to see this happen as soon as possible as it is the simplest solution. Director Bruce added it would also eliminate one of the possibilities of cause.

Director Jones commented Blue Ocean Mariculture is investing at least \$1 million into transitioning their hatchery into recirculating aquaculture. It's going to be a lot of power, so they are investing \$1.5 million in solar. It's going to cut the water use significantly, but it's what we need to do right now to be able to keep our fish alive. Director Jones also addressed Director Adams' question by referring to question in the report about whether run-off from the airport or sewage could be getting into the surface water intake.

Chair Miyashiro asked if NELHA has the capability to do this flushing. Dr. Leonard answered no, not adequately as far as NELHA is concerned. That we want to flush the pipes as badly as the tenants and we have a plan, but it's going to take money. He expects we will be going to the board to ask for money from Legislature.

Director Jones commented that along with flushing, the pipes need to be cleaned as well with a method of scraping to release any contaminants. ED Barbour explained that NELHA does not have the permit and are not allowed to dispose of that waste into the surface water, and the EIS will address that limitation. ED Barbour explained from Dr. Wyban's findings NELHA has HDPE pipe which is very thick and black which prevents organism growth. The white PVC pipes can grow contaminant organisms. He believes this is the right track, and we'll need to work with the tenants for best practices.

Director Tsao countered they have used PVC pipe for 30 years without issue and has already replaced the PVC pipe. However, even with the pipe replacement the issue is the same. He does not believe this is the cause.

**Director Kalipi returned and rejoined the meeting at 4:01 p.m.**

Chair Miyashiro thanked the directors for the discussion, and the Board does now understand this is a serious, difficult, and complex issue. She suggested that if money is needed to address this issue, we should start working with DBEDT to make the request.

- **Item 8. Announcements.**

Chair Miyashiro noted that our next meeting is scheduled for May 21, 2024 at 1:00 p.m. She continued that prior to COVID the majority of the NELHA board meetings were in person, and she would like to return to in person periodically for the sake of collaboration and facilitation of board matters. Ideally, she would like all the directors to meet in person at NELHA, but given that the Legislature is in session, it might not be feasible. If there are

travel conflicts with session and quorum cannot be reached, we would meet in person in two locations, NELHA and Honolulu.

- **Item 9. Adjournment.**

Chair Miyashiro adjourned the meeting at 4:04 p.m.

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