Enchanted Lake Residents Association

2021-2022 Annual Report to Members

October 2022

2021-2022 ELRA BOARD MEMBERS

- Donald Young, *President*
- Jeanette Bean, *First Vice President*
- Sean Harding, *Second Vice President*, *Lake Dredging Lead*
- Gus Gustavson, *Treasurer*
- Margaret Novack, *Secretary*
- Greg Colbert*, Dredging Committee*
- Mike Compton, *Security Officer*
- Dustin Dawson, *Operations & Dredging*
- Linda Jenks, *Lake Environment*
- Connie Jewell, *Community Relations*
- Danny Medeiros, *Membership Committee*
- Alan Richardson, *Finance & Audit*
- Fran Tannen, *Community Relations*
- Cindy Turner, *Lake Environment*

Advisor:

- Bob Bourke, *Scientific Advisor*

Webmaster/Newsletter

- Cindy Turner

Support Staff

- Melody Spencer, *Administrative Assistant, 808-520-4836 during business hours only*
- Adam Bookatz, Accounting Solutions, *Accountant*

ELRA Annual Report 2021–2022

The following is the Annual Report for 2021–2022, a year when the Board of Directors continued to meet via Zoom to conduct Association business.

For the second time, the ELRA Annual Meeting was cancelled due to the continuing COVID-19 pandemic. Since there was no meeting in October 2021, there was no election. Directors whose terms would have expired, voluntarily continued to serve on the Board another year.

At the November 2021 Board of Directors meeting, the Board elected officers. These Directors agreed to serve: Donald Young as President, Jeanette Bean as First Vice President, Margaret Novack as Secretary, and Gus Gustavson as Treasurer. These Officers constitute the ELRA Executive Committee and are on-call as needed.

Sean Harding who had been serving as Second Vice President and Dredging Committee chair resigned and moved to Honolulu. We thank Sean for his exceptional leadership and dedicated service as we navigated the maze of approvals for dredging a small portion of the Lake. We have been fortunate to have Sean's knowledge and expertise through this long process. Greg Colbert stepped in and agreed to Chair the Dredging Committee.

The full Board meets monthly on the second Tuesday of the month.

At the December 2021 meeting, the Board approved the following Goals for 2021-2022. We have made good progress on some of these, while others are on-going endeavors.

Goal 1. Implement Dredging Operation
Goal 2. Enhance Lake Environment
Goal 3. Improve Community Relations
Goal 4. Improve Association Administration

This year the Board focused primarily on continuing efforts to monitor water quality, complete dredging, and maintain Lake health. Read more about these efforts in this report.

The long-anticipated dredging project has taken an inordinate amount of time, but the Board is hopeful that this will come to a positive end in the coming year. You can read more about this project status later in this newsletter.

This year was a first full year of having water quality tests performed throughout the Lake, canal and where the canal meets Kailua Beach. The records of these tests will enable us to show how severe weather, construction runoff, lack of berm openings, lack of water exchange between the Kawainui marsh wetlands and our Lake, result in diminished Lake health. Having these data strengthens our position when we seek regular berm openings and provide evidence of the negative impacts of uncontrolled runoff entering the Lake from construction sites.

Board members also participated in a City project by painting notices at streetside storm drain openings to bring public awareness that these openings flow directly to the beach (via the Lake).

One company responded to our advertisement for regular Lake clean ups and agreed to help. If successful, the contract may be extended six months at a time. In the meantime, some individual lot owners have volunteered and cleaned some limited areas. Look ahead to some organized clean up events involving lot owners in the future. We thank everyone for their willingness to make efforts on behalf of the entire Lake community.

Enchanted Lake Residents Association
Financial Report
FY 2021-2022 End of Year
and
FY 2022-2023 Budget

This report updates ELRA members on the ELRA spending in the FY 2021-2022 ending June 30, 2022 and the ELRA budget for FY 2022-2023.

FY 2021-2022 End of Year:
Total operating revenues for FY 2021-2022 were $52,980 consisting primarily of $51,921 from member annual assessments, $1,059 of interest on investments, plus some incidental revenue items.

Total operating expenses for FY 2021-2022 were $44,312. As in prior years, the major expenditures were insurance ($19,821), administrative expenses ($10,156), and Eco-Harvester and Security Boat operations and depreciation ($12,161).

FY 2022-2023 Budget:
Consistent with previous years, the budget philosophy for FY 2022-2023 was to construct the operating budget within the expected revenues from assessments, and fund dredging activities from the settlement funds.

The Board approved operating budget for 2022-2023 is $66,150 in revenues, $45,300 of this amount is predicted to accrue from assessments. As of the end of August 2022, actual revenues were $36,730.

The planned expenses for FY 2022-2023 are similar to last year. The approved budget expense is $65,867.

A continuing item of concern is Lake maintenance, specifically cleanups of the Lake. During FY 2021-2022 we were unable to find a contractor to conduct periodic cleanups. Just recently we have received a bid from a contractor, and we are doing a one-month trial cleanup to determine if his performance is adequate. We have budgeted $15,000 for Lake cleanups in FY 2022-2023.

Dredging was scheduled to be completed in calendar year 2021 but was delayed because the State had not signed off on the plan to place the dredge material at the Hawai'i Youth Correctional Facility (HYCF). Dredging continues to be delayed as the HYCF has withdrawn their agreement to accept the dredge materials. Details are in the Dredging Report

Any questions regarding the Financial Report can be directed to Gus Gustavson or Alan Richardson at Treasurer@Kaelepulupond.org or gusgustavson@gmail.com .

Kailua Neighborhood Board Monthly Meetings

Representative members of the Board attended the monthly meetings of the Kailua Neighborhood Board via Zoom to monitor agenda items and provide input on activities that might impact the Lake and connected waterways.

Other Members attended the monthly meetings of the Pollution of Kailua's Waterways and Beaches Subcommittee where ELRA provided regular updates on progress on dredging and the importance of regular berm openings at Kailua Beach.

In each of these meetings the Board emphasizes six steps to restore Kailua estuaries

1. Restore water flow from Kawainui Marsh to Kawainui Stream
2. Remove all mangroves from Kawainui and Ka'elepulu Streams
3. Consistently open Ka'elepulu Stream mouth to ocean
4. Control pollutant loads from construction sites
5. Control pollutants from storm drains to waterways
6. Dredge a section of Ka'elepulu Stream to improve tidal circulation in the estuary

Dredging Remains a Work in Progress

All work to obtain the Army Corps of Engineers and State of Hawai'i Department of Health (DOH) permits for dredging specific low areas of the Lake and canal entrance have been completed, and the permits have been issued. Our current challenge is finding a location for the Lake dredge material. The (HYCF) had originally agreed to accept the material on their lands to fill low areas. However, the assigned attorney from the State Attorney General office recently decided HYCF could not to accept our soil.

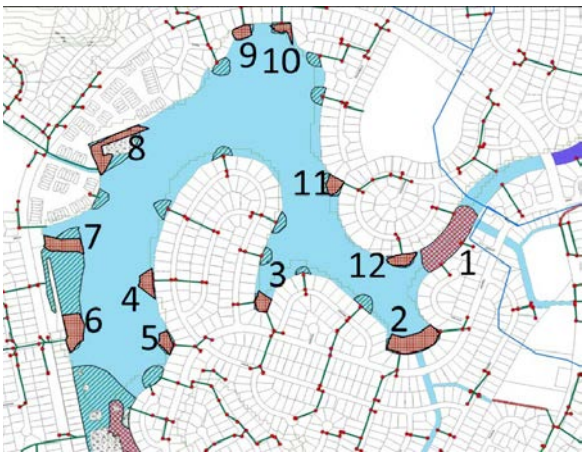
Our plan B options now include the following:

- Truck the materials to the construction waste disposal site in Nanakuli
- Build an island or a peninsula in the Lake
- Find other disposal sites

At present, we are pursuing more precise, updated cost estimates for the trucking to Nanakuli and for building an island. We will continue to look for other disposal locations, but we are not particularly hopeful.

The long-distance trucking option appears to be the most reasonable and the most straight forward at this time and can be performed under our current permit structure.

We will provide updates as we understand costs and time frames better. We are hoping to complete the project in the summer of 2023.



Identified Dredge Sites

Site 1 is the shallow area of the canal just mauka of Keolu Bridge and has top priority for dredging. The plan is to cut a 50 ft wide channel approximately 6 feet deep to facilitate greater saltwater exchange as pond water flows between high/low tides when the Lake is open to the ocean.

This enhances an increase in salinity, which will reduce freshwater algae growth, and is expected to support a healthier Lake ecosystem.

Berm Opening at Kailua Beach

Opening the berm at Kailua Beach is essential to the health of the Lake, wetlands, and Kailua Bay. The existing City and County permit for opening the berm only allows them to do so in emergency flood situations.

Kailua Neighborhood Board passed a resolution *(June 7, 2022*) to support regular openings of the berm for both safety and health reasons. In addition, Council Member Kia‘aina has been very engaged with the ELRA Board and has been helpful in motivating the city to complete the permit needed for regular berm openings.

In the absence of a permit for regular stream mouth openings, the Army Corps of Engineers (USACE) typically only allows mechanical openings when there is a threat of flooding. However, the USACE also has environmental quality mandates. The rapidly decreasing water quality due to stagnation should be considered an imminent threat to the health and welfare of the native waterfowl that are dependent upon these systems.

Status of berm opening permit application: The Department of Facilities Maintenance (DFM) submitted its stream mouth opening permit application to the USACE very soon after receiving a request from the City Council office, approximately 24 weeks ago. The USACE requested additional information from the City. No draft permit has yet been made available for public review.

Information we have received from DOH indicates that the City was considering NOT applying for an individual permit, but to add Ka‘elepulu to the existing general stream mouth opening permit. This would likely result in a faster approval as it avoids the necessity for an independent Water Quality Certification from the DOH. The ELRA agrees with this approach and has requested an update on its progress.

Opening the berm regularly provides many benefits, including minimizing flood risks and improving near-shore fisheries, but most importantly, it mimics the natural hydrology of the estuary.

The water exchange during a berm opening increases the salinity in Ka‘elepulu Pond and wetlands and maintains a better ecosystem for the fish, endangered water birds and other species who historically thrived in these waters. Improving the habitat for these animals also benefits the many people who fish, play, visit, or live near these waters.

These waterways were negatively impacted by the building of the Kawainui levee in 1966, which diverted all the water that used to flow naturally from Kawainui to Ka‘elepulu. Prior to the construction of the Kawainui levee, water flowed freely between all parts of the Kailua ecosystems and to the ocean. Constructing the levee minimized the threat of flooding to Coconut Grove, but had unforeseen consequences to the Hamakua and Ka‘elepulu waterways.

While the ELRA community is actively working to improve the ecosystem, we need the State and City’s help with two key actions:

1. Conduct regular openings of the berm at Kailua Beach Park, timed for optimal interchange of fresh water from the Lake and saltwater from the bay.
2. Restore partial, controlled, waterflow from Kawainui to Ka‘elepulu.

These two actions will significantly improve the ecosystem by mimicking the natural, historical hydrology of the estuary.

Lake Maintenance

The Lake receives runoff from the surrounding area, including the culverts and storm drains that empty into it. Yet, it remains an important ecosystem supporting a wide variety of habitats for native water birds, recreational boating, catch-and-release fishing, and serves as a nursery for several native fish species. Fish found in Ka‘elepulu Pond and Stream include awa, kaku, ulua, ama-ama, o'opu, anae, and aholehole.

Debris is a persistent problem in the Lake, however the bulk of the trash is not from the lakeside residents, but is predominately made up of debris from all of the surrounding street storm drains that wash down the city’s storm systems and empty into the Lake. Rainfall and the easterly winds cause the debris to end up in some areas where they are trapped more than in other areas.

While we continue to seek a monthly Lake cleanup contractor, there’s been several cleanups in FY21-22 by ELRA Board members and Lake resident volunteers with focus on Kimo’s Cove and the removal of coconuts and other floating debris that concentrate in this area.

ELRA depends on fellow lakeside residents to help keep the Lake clean. We ask that all owners regularly collect coconuts and other debris that washes up to their lakefront, and that you maintain your trees so they do not drop fronds and coconuts into the Lake.

ELRA's Eco-Harvester
ELRA's Eco-Harvester has been used to collect algae from the Lake when conditions allow. Because the Lake level has been extremely low for most of 2022, it's too shallow to take the Eco-Harvester to where we normally offload algae and compost it.

We're trying a new method of drying harvested algae on a floating barge prior to disposing of it. After a week or two of drying in the sun, the algae is a fraction of the size and weight that it was when first collected. We've recently pulled out an estimated 2,000+ pounds of algae.

Warm sunny days, combined with the muddy sediment (from upslope developments) that washed into the Lake from the storms in December 2021 and January 2022, are fueling the current algae bloom. It is most visible in the afternoon when significant areas of the Lake are covered with algae mats floating on the surface.

We could pull out much more algae from the Lake if we had more areas where it could be dried. If you have a concrete area lakeside or a dock that could be used for drying algae, please let the ELRA Board know.

Per the ELRA Bylaws Section 2.7. Responsibilities of Members, *Members are expected to contribute to the health, maintenance, and general enjoyment of the Lake by assuring no trash, debris, plant or soil matter, pesticides, fertilizers, etc. enter the Lake from their respective Lots. Furthermore, Members are expected to remove debris and foreign material from the Lake within reach of their Lot and provide for its appropriate disposal.*

Storm Drain Markings
The storm drain marking program, led by Linda Jenks, and helped by several other Board members, is ongoing and reminds residents that what goes down the storm drain goes into Kailua Bay.

Events Affecting Lake Water Quality

Summer and fall of 2021 was relatively uneventful. With no berm openings, salinity was extremely low in the Lake. The Lake no longer has oysters or Samoan crabs. Tilapia and mullet were at about their usual levels. There were fewer sightings of barracuda, but some were very significant (ask ELRA Board Member Linda Jenks for details and a good story).

A significant winter storm arrived December 5 and dumped over 10" of rain during the next 72 hours. For every one inch of rainfall, the Lake typically rises four inches, due to stormwater channels and street drains emptying into the Lake. NOAA classifies this as a 5-year storm for our area. The Lake received tons of sediment dumped into it via the storm drain system. There are currently several construction projects upslope of the Lake that are the primary cause of the muddy runoff.

The C&C opened the sand berm at Kailua Bay to prevent flooding on December 6, 2021. The Ka‘elepulu stream to ocean connection stayed open for several days, which increased the salt content in the Lake and better replicated the natural ecology of the estuary.

Another even more severe storm hit on Dec. 31, 2021. The multi-day storm event dropped more than 10” of rain and inundated the Ka‘elepulu waterways with muddy stormwater runoff. This resulted in the Lake and canal rising higher than most residents had ever seen. As the Lake was rapidly rising to flood levels on Jan. 1, 2022, ELRA President Don Young moved quickly to engage with the (C&C) Department of Facilities Maintenance responsible for opening the berm.

Numerous residents around the Lake and on the canal found water coming into their yards and, in some cases further down the canal, into their homes. Residents on the canal near Buzz’s Steak House came together to dig a narrow trench in the berm to release high stream water into Kailua Bay. The DFM crew arrived at about 1:30 pm and widened the hand-dug opening with their tractor.

The levels of the Lake began to recede very quickly and then fluctuated with each tide with the berm staying open for more than a month. The salinity of the Lake was greatly enhanced by these exchanges, and many young mullet made their way into the Lake as well.

Unfortunately, January 1 was the last berm opening the city has done this year. The lack of openings since January has resulted in low Lake salinity and combined with the nutrients that were deposited into the Lake from the two storms, caused a major algae bloom.

January 1, 2022 Flooding at Kailua Beach impacted the Park and flooded homes

January 1 Ka‘elepulu stream from Keolu Bridge.

January 1, 12:30 pm, Stream level is high. A group of volunteers dig an opening to the bay. The dark brown color is caused by old grass cuttings, leaves, coconuts, and other debris washed out of storm drains and floating on top of muddy stormwater

January 1, 1:30 pm: C& C DFM arrives

January 9, 2022: The water in the lake and in the bay is clear and blue. On the left, you can see the remains of several ironwood trees that were felled by erosion during the storm.

Clearing Clogged Channels

Significant amounts of gravel, sediment, trash and vegetation have accumulated in all the open stormwater channels leading into the estuary. With the first heavy rainfall, this debris washes into the estuary, a direct violation of the City's NPDES permit.

This flow of debris and trash carried by the stormwater greatly reduces water quality and environmental conditions within the estuary and places an undue burden upon waterfront owners for the removal of these materials.

ELRA Board Member Cindy Turner documented the conditions of each of the hard channels (1. Hele Channel, 2. Akipola Lined Channel, 3. Keolu Lined Channel, Kamahele Ditch) emptying into the Lake by photographing each one.

We informed Council Member Esther Kia'aina and Dawn Szewcxyk Director DFM by letter requesting DFM clean and remove debris and vegetation from the five channels and ditches prior to the onset of anticipated major rainfall events this fall. At present DFM is in the process of cleaning the channels.

Hele Channel

Akipola Lined Channel

Kamahele Ditch

Construction Runoff

You may have noticed the open scar on the upper slope of Olomana where ARCUS Secured Loan Fund III LLC is preparing to build homes on the property.

Note the almost complete lack of Best Management Practices (BMPs) for erosion control on these extremely steep hillsides.

Without ample sediment erosion and runoff control from the grading activity, Ka‘elepulu Pond will be adversely impacted by runoff this winter.

Erosion on Olomana Heights

ELRA is preparing letters to the owner, DOH, C&C, and EPA informing them of these violations.

US Fish and Wildlife Grant

ELRA obtained funding from the US Fish and Wildlife, Fisheries Habitat Restoration Program in 2020 for $60,000 to dredge a limited area in the wetlands. Approximately $600 of this has been spent this fiscal year on invasive water-plant removal, supplies and equipment. The dredging for the wetland area is waiting for the same final permissions from the State as the major dredging project.

The wetland project is of much smaller scope and other dredging solutions for this area are being explored.

Ka‘elepulu Pond Water Quality Sampling

ELRA contracted Pacific American Foundation to conduct quarterly water sampling at five sites within the Lake and five sites that are connected to the Lake.

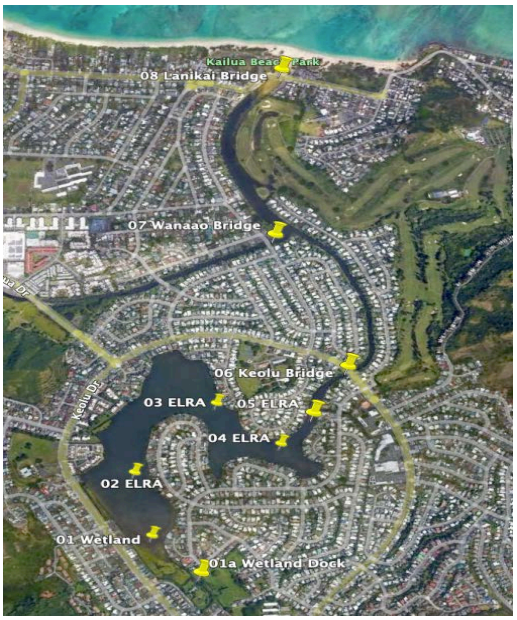
Water samples are tested for dissolved oxygen (DO), temperature, conductivity, salinity, pH, and turbidity from the surface to the bottom every 30 cm. Water samples are analyzed for the fecal coliform enterococci levels and limiting nutrients. Those nutrients are total phosphorous, total nitrogen, nitrate + nitrite, ammonium, and silicate. Samples are analyzed by the University of Hawai‘i’s School of Ocean & Earth Science & Technology (SOEST) Laboratory for Analytical Biogeochemistry.

The purposes of regular water sampling are to:

1. create a foundational database on which ELRA can better monitor and improve Lake quality that will support appropriate species.
2. use the database to document water quality prior to future natural and unnatural polluting events that impact Lake quality so the baseline data can then be compared with post-event levels, and:
3. provide quantitative evidence of Lake health to address the persistent community myths the Lake is polluted and unsafe.

Over the period from June 2021 to June 2022 Ka‘elepulu Pond has experienced 2 significant openings. These opening have increased the overall salinity in the pond and have created a greater salinity gradient. Both of which are beneficial to the promotion of endemic species growth and overall water quality.

In the Pond the geometric mean of dissolved oxygen concentration increased from 70.58% to 75.74%. This is significant because the Hawai‘i Department of Health Clean Water Branch has a threshold of 75% Dissolved Oxygen Concentration. Meaning estuarine waters with less than 75% DO are considered impaired and cannot support endemic fish species. Data leads us to conclude that the opening of the berm increases the salinity and improves the water quality in the Pond.



Water sampling collection sites

Safety Officer’s Report

The safety boat continues to serve our Lake well. It now starts easily, is very quiet and is less of a challenge to maintain. The new LED navigation lights help increase Lake safety at night.

This year we used the boat very frequently. I support cleanups, security patrols, safety calls, and visits by regulators, contractors, and elected officials. I would like to thank the many other Lake volunteers that help protect our Lake.

The primary focus is still supporting Lake security and safety calls. The new catch and release rules have decreased fishing violations significantly and the fish population on the Lake seems to be more diverse and active.

I am still concerned with a few boats/barges without adequate night lights and insufficient life preservers. Remember it is a Hawai‘i law that children less than 13 must WEAR a PFD at all times on a boat.

Please remember to display your Lake sticker on all watercraft. On craft kept in the water, the sticker should be visible from the lake. This year's sticker is a peach color.