

# THE PIPELINE

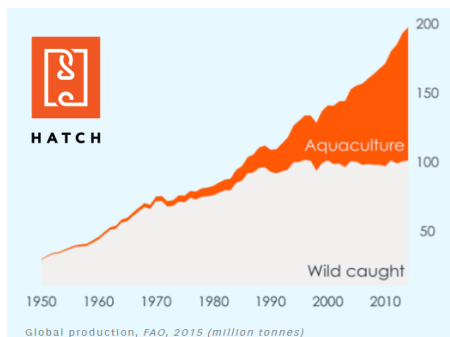
## HATCH AQUACULTURE COHORT KICKS OFF

HATCH Aquaculture Accelerator has been busy selecting their first cohort companies to start at NELHA this summer. Applications did close on July 14th, however HATCH connects with potential cohort companies throughout the year, always on the lookout and preparing for the next cohort. So don't hesitate to enquire with them about opportunities for Aquaculture related startups and early stage businesses.

The first 12 selected cohort companies will receive \$100,000 in funding, access to mentors and business opportunities in Hawaii, Norway and Singapore. The 15 week program will include intensive business development and visits to three world renowned aquaculture hubs.

Even if you are not a target early stage cohort company, you might be interested in how some of these companies can help solve your existing aquaculture related challenges. Some of the previous HATCH companies include companies that have focused on real time data analytics for water quality, animal counting and feed, biotherapeutics for disease control and trading platforms for sustainable aquaculture products.

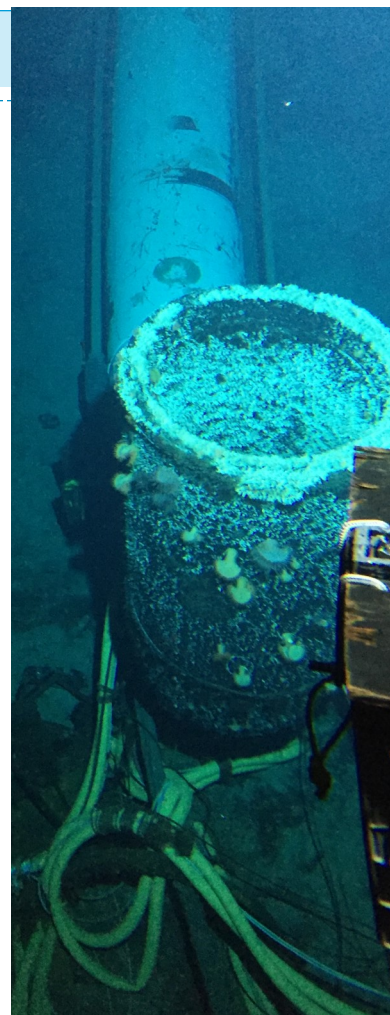
HATCH will be holding a kick-off event on August 26th, 2019 at Hale Kaa Building in NELHA's Research Campus (73-984 Makako Bay Drive) with company introductions and 3 minute pitches starting at 1:30PM. We invite you to come meet the new kids on the block. The event is expected to be live-streamed. See [www.hatch.blue](http://www.hatch.blue) for more information.



## TALK TO US!

We are in the process of putting together a NELHA Recipe Booklet highlighting food products from our clients. Do you have a delicious recipe and a unique story you would like to share? If so please contact Laurence at [laurence.sombardier@hawaii.gov](mailto:laurence.sombardier@hawaii.gov) to participate in this exciting project!

It's Survey Time! The HOST park clients will be receiving another survey request shortly—this time requesting feedback on how to best improve our services... You can also tell us what we are doing well!



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# WORLD AQUACULTURE Society



## AQUACULTURE AMERICA 2020 CONFERENCE

The World Aquaculture Society is hosting its Aquaculture America 2020 conference in Honolulu! This is a great opportunity for Hawaii and NELHA to showcase its strengths. The meeting is scheduled for February 9 through 12, 2020.

The theme is Hawai'i Aquaculture: A Tradition of Navigating with Innovation, Technology and Culture. The meeting is expected to be attended by national and international experts as well as folks looking for business opportunities.

NELHA plans to chair a session to showcase NELHA success stories. Do reach out to us if you want to be a part of the NELHA session. The session is 2 hours long and

will include presentations and a panel discussion.

Abstracts are being accepted and the deadline for abstract submittals is August 31, 2019.

More information on the meeting is available online at: <https://www.was.org/Meeting/code/AA2020>

The organizing committee is working to organize tours to showcase Hawaii aquaculture projects. If you are interested in having your project be part of the tour, please let us know as soon as possible. Tour participants will be required to register and pay for the tour in advance.

*“A goal without a plan is just a wish.” Antoine de Saint-Exupéry*

### GOING SOLAR AT THE RESEARCH CAMPUS

Greenpath Technologies LLC has completed the installation of a 170kW PV system on the rooftops of Hale Iako and Keena Hana buildings in the research campus.

In late June, the system was successfully operated and tested for 5 days. Final adjustments are being made in July.

Once HELCO issues the final approval, the system will be turned on for good! The new system will cover the majority of the campus load during peak sunlight hours.



### STARTING, EXPANDING, OR REINVIGORATING YOUR BUSINESS?

Were you aware that West Hawaii Small Business Development Center (SBDC) is located in NELHA's Hale Iako incubator building (73-970 Makako Bay Dr.) and offers no-cost business advising services to both startups and existing businesses?

The West Hawaii SBDC is funded by the State and by the US Small Business Administration and in addition to one on one, no-cost business advising services offers approximately two business related classes per month right here on our campus, covering a range of topics. Recent classes covered topics such as Business Financing, Social Media Advertising, and Employment Law.

SBDC also collaborates with the Hawai'i Island Business Plan Competition (HIplan; [bbihp.org](http://bbihp.org)) in hosting monthly entrepreneurial meetups at Pictures Plus in Kona.

See SBDC's website ([hisbdc.org](http://hisbdc.org)) or contact Dennis Boyd, West Hawaii SBDC Center Director ([dboyd@hisbdc.org](mailto:dboyd@hisbdc.org)) or Marty Kennedy, Business Advisor ([marty.kennedy@hisbdc.org](mailto:marty.kennedy@hisbdc.org)) for more information, or drop by their offices on the first floor of Hale Iako to see how they might be of assistance to you and your business.

Marty Kennedy, left, and Dennis Boyd, right, present in the Hale Iako training room.







*The old Sopogy site to be repurposed for Department of Energy forward osmosis desalination project*

## FORWARD OSMOSIS DESALINATION IS UNDERWAY

Solar thermal desalination of seawater is coming to NELHA. With funding support from Department of Energy Solar Energy Technologies Office (SETO), NELHA and their technology partner – Trevi Systems Inc. from Petaluma California are to build and operate the world's largest FO solar thermal desalination plant.

The three-year project is underway and is intended to demonstrate at scale, a novel desalination process called forward osmosis – or “FO” – which is quite literally the physico-chemical opposite of conventional reverse osmosis. Recent breakthroughs in polymers and membrane manufacturing and have cleared hurdles in moving the technology out of the lab. By capitalizing on a unique pairing of resources at Hawaii Ocean Science and Technology Park (HOST Park) – the world's largest seawater distribution system and an existing 2MW concentrating solar power array, the project will leverage Trevi System's nine years of development of proprietary FO technology to design a system that will produce up to 130,000 Gallons of agricultural-grade water per day, and by doing so also collect real-world data to derive the cost of FO desalinated water in commercial quantities.

SETO awarded NELHA \$2M for this project in 2018 with the goal of driving down the cost of solar-powered desalination. Because FO is dramatically more energy-efficient than other processes used to purify water, it provides an attractive alternative to currently implemented technologies. Because it relies on low-cost components, it offers the promise of small, portable systems that do not need to be grid-tied, thereby expanding access to desalinated water to places and situations where this has not yet been practical.

NELHA staff have started recommissioning the parabolic trough mirror array installed by Keahole Solar Power (Sopogy). Trevi Systems are engaged in design and technology refinement work. The plan is to commission the system by years' end 2020, and if successful, produce water for Cyanotech Corporation who is a partner on this project. Cyanotech will utilize the water for growing microalgae.

This project is one of several initiatives in which NELHA seeks to provide for freshwater use at HOST park.

## FROM THE DEEP

NELHA's pump stations and distribution system are the heart and arteries of the park. The park operations crew is on call 24/7 to make sure NELHA delivers 30,000,000 gallons a day to our clients. Historically, this has been accomplished with a 99.99% uptime.

We continue to improve the systems to maintain the excellent uptime record. Over the past 3 years, we have:

- Replaced all the older Danfoss variable frequency drives with newer ABB drives;
- Expanded the SCADA system to include flowmeters for the largest seawater users in the park, thereby capturing 85% of the usage in real time;
- Upgraded the local controls of the pumps by improving the pressure sensor information to the PID controllers;
- Improved the alarming capabilities of the system to provide information remotely;
- Continued to plan for further upgrades and improvements. Stay tuned!



## BLUE ZONE

NELHA was approved as a Blue Zone in 2018. We called the effort HOST OLA. Ola is the Hawaiian word that can be translated to life, health, and well being.



We sometimes forget what a beautiful location we get to work at... We have easy access to a beautiful beach path, an interesting coastline, amazingly clear water complete with a beach park and picnic tables.

Being a Blue Zone means placing an emphasis on the well being of everyone involved at the park.

So take a walk on one of the trails shown below. Or if sand and sunshine are not your cup of tea, come play ping pong Wednesdays at Noon in the sea water air-conditioned Hale Iako building...



## ARE YOU TAKING FULL ADVANTAGE OF OUR SERVICES?

The NELHA team is dedicated to fostering economic development and diversification in Hawaii. Most of you are already familiar with NELHA's unique sea water resources and leasable land. But did you know that with the renovation of Hale Iako incubator building, you now have access to co-share offices, training rooms and conference rooms as well as air conditioned collaboration space?

The 'iako is the crossbeam that fastens the floater to the hull in an outrigger canoe. Hale Iako aims to bridge NELHA's ocean, energy and sustainability activities.

As a NELHA client, you can use the training and conference room space for free for up to 2 hours every month. The collaboration space is always free to use.

NELHA can also provide lab services,

particularly nutrient analysis. So please feel free to reach out to Pam or Keith to discuss your needs.



*Hale Iako Building Entrance*

## MEET OUR NEW STAFF MEMBERS

In the past few months, we have hired two new staff to replace Karen Appleby and Sheryll Kaniho who both recently retired after many years of service. Jennifer Rasmussen (right) has taken the Accounting Clerk position which opened up when Jerrae Miranda replaced Sheryll as Accounting Office Manager. Meanwhile, Stacey Burge (left) has taken on the Senior Secretary position. Feel free to stop by our administrative offices in Keena Hana and say Hi!

If you are in need of Notary Services, no need to go to the bank. Stacey Burge is a notary and, in most cases, can notarize documents on the same day. Please call Stacey at 327-9585, ext. 238 to check availability



## WHAT WOULD YOU LIKE TO SEE IN THE NEWSLETTER?

For a few years in the early 2000's, NELHA issued a monthly Newsletter called the "NELHA Pipeline". It included updates on CIP projects, leases, policies, operations and maintenance. We plan to issue this new newsletter twice a year—in summer and in winter. We want to make sure the publication is relevant. So please let us know, what would **YOU** like to see in the newsletter?

Would you like to see in depth stories on NELHA client projects?

Would you like to see an equipment exchange board?

Do you want to see more opportunities to connect with your fellow NELHA colleagues to leverage resources to solve common problems?

Contact us at [nelha@nelha.org](mailto:nelha@nelha.org) with any brilliant ideas and we will do our best to make it happen.



## IRONMAN WORLD CHAMPIONSHIP

The Ironman World Championship will take place on October 12, 2019. This most iconic triathlon attracts thousands of athletes and supporters to Kailua Kona, many of which train for weeks leading up to race day.

Every year, a portion of the 2019 Ironman marathon takes place at NELHA and NELHA's Makako Bay road is a favorite place to train as it is considered one of the hardest parts of the entire triathlon. Mention of this challenging portion of the race generates a bit of fear and apprehension in many an athlete. It has also inspired quite a few musings (<https://www.scott-sports.com/us/en/page/moments-of-kona-energy-lab>).

NELHA would like to thank you in advance for accommodating the training that happens on our access road as well as the race itself. Please stay safe as you drive in and out of work.

Passes for NELHA clients will be issued before the race.



*“Some athletes fear the Energy Lab, I rather see it as an opportunity to pass competitors in front of me,” Cyril Viennot, Ironman competitor says.*

## NELHA'S JAN WAR INDUCTED INTO 2019 IRONMAN HALL OF FAME

Congratulations to Jan War, NELHA's long time Operations Manager and 2019 IRONMAN Hall of Fame Inductee!

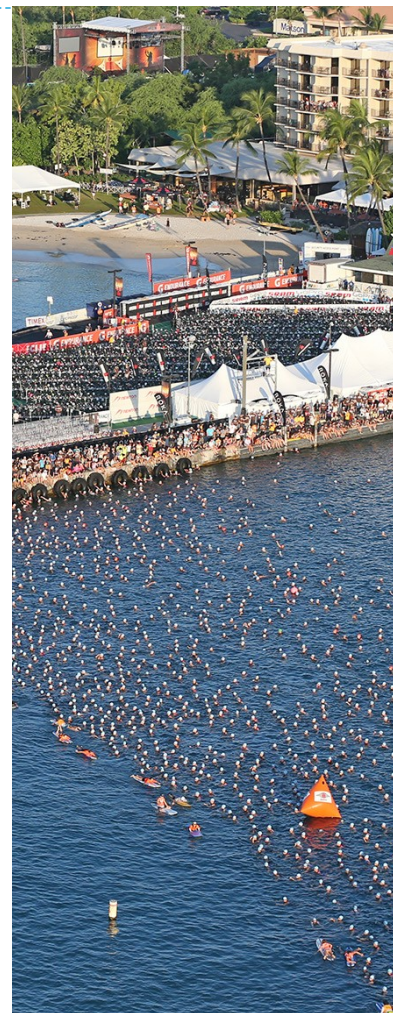
The IRONMAN Hall of Fame was founded in 1993 to honor those who have made outstanding contributions to the growth of the world's most famous single-day endurance race. There are approximately 30 inductees.

Jan started volunteering in 1981 when he and a fellow friend were in charge of setting up the swim start line from the sea wall on Alii Drive to a coconut tree growing on the pier and assisting athletes out of the water at the boat ramp for the swim exit. He then subsequently became the coordinator for the showers until he was offered to take over the Swim Director role in 1987, a position which he holds to this day.

As the Swim Director for a race that was moderate in size in the early 1980's with 450 participants to over 2,400 participants in 2018, Jan was instrumental in accommodating the popular race's rapid growth. With nine coordinators, he organizes 325 volunteers that include setting up 28 buoys for the 2.4 mile swim course,

water and kayak safety patrols, showers for the athletes, catchers at the swim exit and jet ski rescue teams.

Jan was raised on Oahu where he attended Iolani high school and moved to Kona in 1975 after college. Being an avid competitive swimmer, diver, surfer, water polo player and lifeguard, he was well prepared for the Swim Director's role. When he accepted the job, he had not realized what he was getting into and has many stories to tell. He says, “the most intense time for me each year is the 10 to 15 minutes of terror it can take to determine that everyone is accounted for after the swim cut-off”.



## NATURAL ENERGY LABORATORY OF HAWAII AUTHORITY

NELHA administers the world's premier energy and ocean technology park. This unique master-permitted park is located on 870 acres of prime coastal property in Kailua-Kona Hawaii and offers research support facilities for the development of renewable energy and other demonstration projects that utilize the unique resources found at the park. It is the world's only facility that continually brings ashore high quality, pristine supplies of both warm surface and cold deep seawater 24 hours a day which allows for various tests to take place with intent to reap economic potentials from the dual temperature seawater delivery system and high solar insolation. Tenants located in HOST Park work at the pre-commercial, commercial, research and educational levels. It is the largest diversified economic development project in the State and is solely focused on developing green economic projects.

## FROM THE LAB BENCHTOP

For 30 years, NELHA has supported a Comprehensive Environmental Monitoring Program (CEMP), part of which includes annual independent biota monitoring surveys of coral cover, marine fish communities and anchialine pool assemblages within the HOST park. We recently hosted an intern who created an interactive database to showcase the biota monitoring trends over the last three decades. Check out the webpage (<http://nelha.hawaii.gov/resources/library/nelha-lab-reports/biota-studies/>) to explore the coral and fish data at different sites and depths and the community characteristics of the anchialine pools.

The annual biota studies revealed that invasive mosquito fish have taken over several pools and decimated the native 'ōpae 'ula (*Halocaridina rubra*) population. Pam is collaborating with the Hui Loko Network, which is comprised of Federal and State agencies, Non-Profits, Private Landowners, and Cultural Practitioners who share a collaborative approach to restoring, maintaining habitats, and perpetuating traditional practices of fishponds and anchialine pools. Removal of the invasive fish in 4 of our anchialine pools has been underway since November 2018. To date, over 1,500 fish have been removed and 'ōpae 'ula are starting to return!



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PLEASE  
PLACE  
STAMP  
HERE

