

Fish Farming News

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AQUACULTURE
HAWAII

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Aquaculture's National Newspaper - Volume 27 - Issue 2 - 2020 - A Compass Publication - US\$2.50

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SPECIAL SUPPLEMENT
For selected readers

**EAST COAST SHELLFISH
GROWERS ASSOCIATION
NEWSLETTER**

A visit to Hawaii Fish Company: Family-owned aquaculture pioneer with impressive growth plans and huge potential

HONOLULU, HI – Prior to attending the recent Aquaculture America 2020 conference and trade show here, I searched my business card files for fish farms to potentially visit.

I know, business cards might seem obsolete or archaic to some of you too young to remember the Rolodex, but I tell you there is a ton of history and many great stories to be found in my file of some 4,000 cards.

One card that appeared seven times (and I think that might be a record), is Ron Weidenbach's. Ron owns Hawaii Fish Company with his wife Lita.

I have visited with Ron at many of the Aquaculture America meetings over the past 30 years but this is the first time I've made time to visit his farm.

What a treat.

Hawaii Fish Company Inc. (HFC), a multigenerational family corporation and the state's oldest land-based fish farm, has been a leader in freshwater aquaculture in Hawaii since 1978.

They are situated on Oahu on the North Shore. For the past 28 years, HFC has been operating at the former US Army/Hawaii Bitumuls & Paving Company quarry and asphalt mixing plant site on state land in Kaena-Mokuleia.

During this time, HFC has developed a small-scale, self-sustaining aquaculture farm; researched and developed innovative aquaculture and aquaponics production technologies (supported by highly competitive national and local grants); and gained

a strong and positive reputation within the local seafood and restaurant trades as a consistent and reliable supplier of premium quality farm-raised fish.

Since 2014, HFC has also collaborated with a world leader in commercial-scale, greenhouse-based, organic aquaponics production to establish an internationally recognized Blue Farms Hawaii (BFH) partnership.

Upon reflection, it should be noted that Ron and his family are always looking out for what might be the next opportunity to help the people of Hawaii.

Smart, skilled team

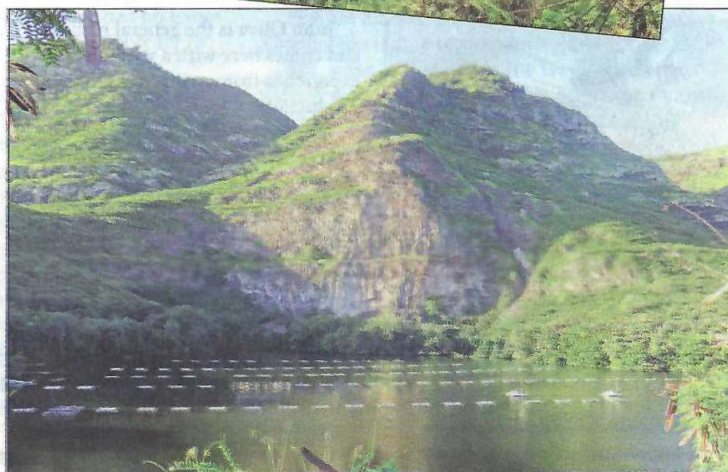
HFC's co-owners – Ron and his wife Estralita "Lita" Weidenbach – and fulltime employee Fred Mencher, hold undergraduate and graduate degrees in business, natural resource management, marine biology, and human resources from Miami Dade College, the University of Michigan, Harvard College, and the University of Hawaii (UH).

The Weidenbach's three adult children and current parttime employees, Mikia, Joseph, and Mariah, hold undergraduate and graduate degrees in ecology and biology, environmental management, engineering, and education from Princeton, Duke, Tufts, and UH.

The HFC team members have received additional training in aquaculture production and



A view of the farm from above with the Pacific Ocean in the background. Stunning.



All photos courtesy of Bob Robinson and HI Fish Co.

Hawaii Fish Company's floating tilapia cages in a former quarry on Oahu's North Shore.

Netting Protection

Above & Below the Water

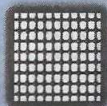
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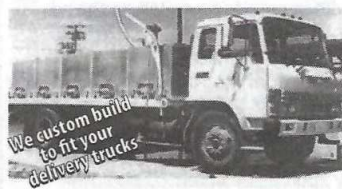


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engineering, seafood technology, food safety, renewable energy, and aquaponics from the East West Center, Kasetsart University (Thailand), North Carolina State University, Cornell, University of Hawaii, University of Connecticut, Oregon State University, Hawaii Seafood Council, Safe Quality Foods, New Mexico State University, the Hawaii Dept. of Agriculture, and Auburn University.

Ron was previously a fisheries/aquaculture biologist with the University of Miami, the University of Michigan, the United Nations Mekong Secretariat, Bangkok, and the East West Center, Honolulu. He has also been an aquaculture advisor and consultant to Pfizer of Asia, the World Bank, the Hawaii Dept. of Land and Natural Resources (DLNR), and the local private sector. And, last but not least, Ron has served as president of the Hawaii Aquaculture and Aquaponics Association for a number of years.

Lita previously worked at her family's horticulture/floriculture farms on Hawaii island before joining Ron to form HFC in 1978.

And Fred was previously general partner of Hawaiian Marine Enterprises (Hawaii's pioneering ogo or edible seaweed farm for 27 years) and Hawaiian Seafood Gardens (clam farm) in Kahuku, and co-owner of Primavera Aquaponics, Kailua, before joining HFC in 2014.

The Weidenbach's three adult



Lita with lettuce and marigolds grown in the farm's aquaponics operation.

children have worked in all aspects of HFC's aquafarm operations and aquaculture and aquaponics research efforts from childhood to present.

So, it is an understatement to say that there are plenty of smarts and firsthand industry knowledge at this facility.

Starting from scratch

The former quarry and asphalt operations at the HFC site were closed and abandoned in 1976.

In 1988, HFC was asked to assess the 147.7-acre site for its aquaculture potential following a growing vagrant

presence and cliff diving fatalities at the water-filled quarry excavation pit.

HFC conducted a comprehensive environmental assessment (EA) of the highly disturbed property for proposed aquaculture development from 1989 to 1991.

Subsequently, the Hawaii Dept. of Health (DOH) recommended that HFC initially limit its EA and Conservation District Use Application (CDUA) to approximately 18 acres around and including the quarry pond – that had been determined to be free of environmental concerns from the site's prior industrial and dumping

activities – while an environmental hazard assessment was completed on the balance of the site.

In 1992, the Hawaii Board of Land and Natural Resources approved a Conservation District Use Permit (CDUP) and 30-day, month-to-month revocable permit (RP) for the company's initial aquaculture purpose at this site.

The initial site consists of approximately 4.3 acres of usable flooded pond area and several small adjacent areas totaling approximately 1.0 acre of gradable Class E lands, all currently utilized by HFC, with the balance of these initial lands being steep rocky slopes or requiring significant remediation.


The remaining property consists of similar sandy lowlands, rocky talus slopes, and steep rock lands ranging in elevation from sea level to more than 1,000'. Quarry remnants remain throughout the site.

Over the past 30 years, HFC has coordinated and assisted with the removal of abandoned quarry structures, 135,000 gallons of underground aviation and diesel fuel storage tanks, approximately 500 cubic yards of fuel-contaminated soil, and an estimated 300 tons of scrap steel from throughout the site.


Significant clean-up and remediation work remains.

Under its ongoing and continuing 30-day RP, HFC has been precluded

See HFC Inc., next page



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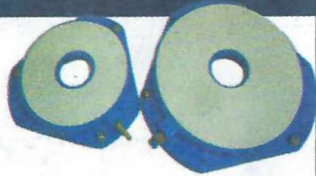
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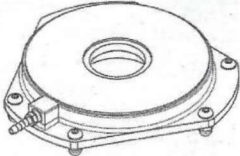
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Quick visit with David Cohen, HI Div. of Aquatic Resources

HONOLULU, HI - Once I landed in Honolulu en route to the Aquaculture America conference and trade show, I needed to get to my hotel - but directly on the path to the hotel was David Cohen's place of work.

This required a quick stop. To explain who we are talking about, David has a business card that has a lot of stuff on it. Here goes: Aquatic Invasive Species Biocontrol Specialist-State of Hawaii,

Div. of Aquatic Resources, Dept. of Land and Natural Resources.

So interestingly, part of Dave's charge is to raise sea urchins to control and eat invasive plants that are killing native coral.

The urchins like to eat invasive exotic seaweed and it is his job to grow them as fast as possible.

David and his colleagues have figured out how to do sterile algae culture to give them the feed that they need for young urchins during their 24-plus-day larval cycle.

So far, David says, they have produced about 500,000 urchins over the last 8 years.

He has been at this lab for 10 years

and came with plenty of aquaculture experience, including:

- Clam farming in Connecticut;
- A degree from Connecticut State University;
- One year working with Ron Weidenbach at Hawaii Fish Company (see related story page XX) raising catfish and tilapia;
- Time spent at Amorient Shrimp Farm which closed as a result of the Taura syndrome virus (TSV). I visited this farm on my first trip to Hawaii in the late 1980's; and
- Consulting.

David said what makes this job cool is, "I am really interested and invested into aquaculture conservation. This is what I am good at. We are doing

something here that is good for the environment."

Pretty short story, I realize, but there are many more if time and space allowed.

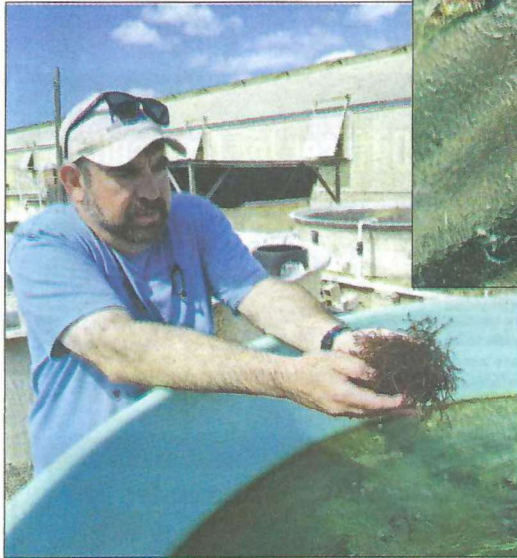
If you want to reach out to learn more about what is going on there feel free to e-mail David at <dlcohen@hawaii.edu>.

Bob Robinson



Growing algae to feed larval stage sea urchins.

Bob Robinson photo



Sea urchins being cultured and mobilized to fight off invasive plants.

David Cohen holding gracilaria.

Bob Robinson photos

Hawaii's local food production.

Hawaii currently imports approximately 90% of the seafood and produce consumed statewide.

This situation compromises the state's food security and represents a significant missed opportunity for local food production, import substitution, rural employment, economic growth, and improved local nutrition.

Given HFC's 30-year involvement and extensive knowledge, experience, remediation efforts, and investment on this site, it is uniquely advantaged to leverage an exclusive long-term lease to incrementally and collaboratively develop a world-class integrated aquaculture and aquaponics farm.

Growth plans

To help strengthen HFC's capacity to produce locally grown seafood and produce, the company has entered into a planned joint venture partnership with Australia's leading commercial-scale, organic-certified, aquaponics company, Urban Ecological Systems Ltd. (UES), trading as Blue Farms.

UES's initial aquaponic operation in Sydney currently supplies Cole's Supermarkets, the second largest supermarket chain in Australia.

Together, HFC and UES will establish a Hawaii-registered corporation named Blue Farms Hawaii (BFH), which will license the US-patented Blue Farms technology from UES.

HFC will be an equity partner in this investor-financed partnership.

Ron and Lita are looking to have their farm lease approved this year to enable their family to proceed with carefully laid out plans for farm expansion and diversification.

I can't think of a better location or family to make this happen.

Words from their website have to resonate with today's marketplace.

"Hawaii Fish Company continues to contribute volunteer time to advance the aquaculture industry, and in recent years, to support and participate in the growing field of aquaponics so that Hawaii can become more sustainable as an island state in local food production.

"As we expand our operations, we are committed to staying true to our goals for sustainability by exploring ways to integrate alternative energy resources, such as wind and solar, into our daily farm operations and incorporating aquaponics to recycle our aquaculture water and fish waste nutrients to grow crops that are organic and food safe."

My latest business card from Ron says "Innovation" "Quality" and "Commitment."

They are inspiring survivors - in spite of some very strong obstacles to growth.

Reach out if you have questions to <hawaiifish@gmail.com>.

Bob Robinson

HFC Inc.

Continued from previous page from access to electrical and potable water service and project financing that would have enabled greater development of the farm's initial operations.

Success, the hard way

Despite these constraints, HFC has produced and sold its premium-quality farm-raised North Shore Tilapia from this site on a weekly basis to Oahu's live seafood markets since 1993, and to Alan Wong's James Beard award-winning Honolulu restaurant since 2009.

In addition to tilapia, they raise an assortment of other fish, including catfish, and those species have evolved over the years as a function of market demand, species knowledge, and availability.

What a striking view when you sit back toward the higher edge of this property and look at more than 100 cages in the former quarry - and then look further to the ocean and, on this day, see 25' waves crashing onshore from the Pacific.

Employing both aquaculture and aquaponics, HFC's North Shore Aquafarm Project can clearly be a significant contributor to increasing



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