SB 623

SHAN S. TSUTSUI Lt. Governor



SCOTT E. ENRIGHT Chairperson, Board of Agriculture

PHYLLIS SHIMABUKURO-GEISER Deputy to the Chairperson

State of Hawaii DEPARTMENT OF AGRICULTURE 1428 South King Street Honolulu, Hawaii 96814-2512 Phone: (808) 973-9600 FAX: (808) 973-9613

TESTIMONY OF SCOTT E. ENRIGHT CHAIRPERSON, BOARD OF AGRICULTURE

BEFORE THE SENATE COMMITTEE ON AGRICULTURE & ENVIRONMENT

FEBRUARY 3, 2017 1:15 P.M. CONFERENCE ROOM 224

SENATE BILLL NO 623 RELATING TO AQUACULTURE

Chairperson Gabbard and Members of the Committee:

Thank you for the opportunity to testify on Senate Bill No. 623. The bill requires the Department of Agriculture to implement an aquaculture development program. The Hawaii Department of Agriculture supports this bill provided it does not impact the Department's priorities submitted in the Executive Budget.

There is recognition of the economic and sustainable benefit related to developing aquaculture as a protein source. Development of this program will support the goals of increasing food production, provide the opportunity for community involvement related to an agricultural product, and balance the role of regulation related to commerce and environmental stewardship.

Thank you for the opportunity to testify on this measure.



HAAA Testimony on SB623

The purpose of S.B. 623 is to require the Department of Agriculture (DOA) to implement an Aquaculture Development Program (ADP) and provide an unspecified appropriation for implementation. The Hawaii Aquaculture and Aquaponics Association (HAAA) is an industry trade association representing members of Hawaii's diverse aquaculture and aquaponics community. HAAA supports the concept of re-establishing an ADP in DOA to further expand and diversify the aquaculture and aquaponics industry and offers the following comments.

The "new" program should be modeled after the State's prior ADP, which, for nearly 30 years, was a highly successful program, ending up being placed under the DOA Chair. The former ADP, along with its partners in the community, provided industry planning, support services, and research and extension assistance that established most of today's commercial aquaculture industry. Hawaii's industry is currently in the top 10 state industries by value in the country and is ranked number 4 or 5 in value for diversified agriculture crops in Hawaii.

Prior to being largely dismantled by a prior administration in 2008 and then reorganized by DOA with Livestock Services in the Division of Animal Industry, the former ADP was a model program for sustainable and environmentally responsible aquaculture development that was emulated nationally and internationally.

The key to its significant success was: comprehensive planning; a very knowledgeable and dedicated staff with a strong understanding of the biology, production systems, and environmental impacts; and a close working relationship with the commercial aquaculture industry and research community.

In order to effectively re-establish this program to be meaningful and successful in expanding the Hawaii aquaculture industry, HAAA believes it is essential that industry members be included in the Program planning and development discussions, e.g. setting program priorities and identifying essential staffing. In addition, the relationship of the proposed ADP with the current Aquaculture and Livestock Support Services Branch needs to be fully understood and vetted.

HAAA appreciates the Legislature considering this important bill. Thank you for the opportunity to make these comments.



Committee on Agriculture and Environment Senator Mike Gabbard, Chair Senator Gil Riviere, Vice Chair

Thursday, February 2, 2017

Support for S.B. 623 Relating to Aquaculture

Blue Ocean Mariculture is the world's leading producer of cultivated Kahala (*Seriola rivoliana*). Our fish are served under the Hawaiian Kanpachi[™] brand in sushi and fine dining restaurants in Hawaii and across the mainland United States. We employ 25 people full-time in the Kona area in our hatchery and offshore aquaculture operations.

We strongly support S.B. 623 relating to implementation of an aquaculture development program, which makes an appropriation to outline a strategic framework, create research and marketing programs, develop appropriate permitting processes, and advance aquaculture as an industry in Hawaii.

An aquaculture development program is an important step to building the aquaculture industry to be a strong, positive component of Hawaii's economy. Aquaculture provides an opportunity to strengthen our state's economy by reducing Hawaii's seafood trade deficit and keeping the value of production in the local economy with high-wage job opportunities. The aquaculture development program provides support to continue the industry's achievements in environmental responsibility. Hawaii aquaculture contributes to meeting the increasing global demand for seafood while having a direct positive impact on our local community's food self-sufficiency.

We believe there is significant potential for Hawaii to contribute to the global aquaculture industry and develop into a leader in environmental responsibility and providing positive economic benefit to our local community. We believe the best way to pursue this potential is through the type of program contemplated by S.B. 623. Thank you for the opportunity to testify.

Blue Ocean Mariculture

From:	mailinglist@capitol.hawaii.gov
Sent:	Saturday, January 28, 2017 10:24 PM
То:	AEN Testimony
Cc:	dale@hicattle.org
Subject:	*Submitted testimony for SB623 on Feb 3, 2017 13:15PM*

Submitted on: 1/28/2017 Testimony for AEN on Feb 3, 2017 13:15PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
Dale Sandlin	Hawaii Cattlemens Council	Support	No

Comments:

Please note that testimony submitted <u>less than 24 hours prior to the hearing</u>, improperly identified, or directed to the incorrect office, may not be posted online or distributed to the committee prior to the convening of the public hearing.



31 January 2017

To : The Senate Committee on Agriculture and Environment (AEN)

R.e. SB 623

To be heard at Feb 3 at 1:15PM

Dear Senators,

I write in <u>strong support of SB 623</u>, to re-establish a Hawai'i State Aquaculture Development Program (ADP). The pressing need for a revitalized ADP is made abundantly evident in the language of the bill itself. It states that "Together, Hawaii visitors and residents consumed \$664,000,000 worth of seafood in 2005". That is truly an astonishing amount of seafood. But it is also a very dated figure ... over 12 years old!

Imagine if we were trying to run our State's schools on data that was 12 years old! There would be uproar. Yet ... that is what we are doing currently with aquaculture. This bill would provide an opportunity to rectify this situation. We need an ADP to collate this sort of information, to make it current, and relevant, and to help us all to start to plan for how we move forward together, to grow the seafood that we love.

Our company exists here in Hawaii because of the prior efforts of the past ADP, which was most capably headed by John Corbin. John and his team were instrumental in leading the push for re-writing of the State's ocean leasing legislation, which was passed in 1998, and which made it possible for us to start our Kona Kampachi farming operation offshore in Kona. This farm produced over \$6 million worth of fish in the best year that we operated it; it continues today under different ownership, but with a similar level of production. John and his team were pivotal guides through the tangled bureaucracy of the various Federal and State agencies and rules and regulations. We simply could not have done it without them.

Growing this industry is vitally important for the health of the planet, for the health of the oceans, and for the health of Hawaiians who love seafood. The following pages present the arguments for why we need more aquaculture. It should be a revitalized ADP that is making these arguments to you, and to other policy-makers, and to the public, to ensure that our seafood future is secure.



Consider, please, the following three imperatives for expanded aquaculture in Hawaii, and globally:

<u>Planetary health:</u> A 2012 study by Conservation International, titled 'Blue Frontiers', conducted a full Life-Cycle Analysis of all water, land and feed resource use, and impacts on greenhouse gas emissions, and concluded that aquaculture was, far and away, the least impactful of all animal protein production systems.¹ We should therefore be growing more seafood to meet the increased demand for proteins. If the 3 billion people around the world that are projected to rise into the middle class by 2050 are eating farmed fish, then the prospects for managing global climate change, and our other ecological challenges, are far brighter.

<u>Ocean health:</u> Ocean aquaculture is beneficial for our oceans, as it reduces the fishing pressure on wild stocks and can be a source for stock enhancement. The assertions by anti-aquaculture activists that net pen culture is detrimental to the marine environment have been soundly refuted by two recent studies: the first, by National Ocean Service researchers, evaluated the impact of net pen culture on water quality and surrounding substrates.² They concluded that as long as the water depth is at least twice the depth of the net pens used in the production system, and the currents in the area are moderate (over 0.25 knots), there is no significant detriment on the water quality or the benthic community, at any distance away from the net pens, and that there is often no *measureable* impact whatsoever.

The second study, by scientists at the National Marine Fisheries Service, reviewed an extensive set of data on marine net pen operations throughout U.S. state waters, and concluded that if regulations and Best Management Practices are adhered to, there is no significant impact from operations on other marine biota, including marine mammals and other charismatic megafauna, nor any significant impact from transfer of diseases to wild stocks, nor of escapees impacting wild stock genetics or wild food chains.³ In short, so long as net pens are sited correctly, and are operated in accordance with accepted Best Management Practices, open ocean aquaculture operations are benign, or even beneficial.

¹ Hall, S.J., A. Delaporte, M. J. Phillips, M. Beveridge and M. O'Keefe. 2011. Blue Frontiers: Managing the Environmental Costs of Aquaculture. The WorldFish Center, Penang, Malaysia. 104 pp. (Available at www.conservation.org/marine)

² Price, C.S., and J.A. Morris, Jr (2013) Marine Cage Culture and the Environment. NOAA Technical Memorandum NOS NCCOS 164. 172 pp. (Available at: <u>http://www.noaanews.noaa.gov/stories2013/pdfs/2013 PriceandMorris MarineCageCultureandTheEnvironm</u> <u>ent%285%29.pdf</u>)

³ Rust, Michael B., Kevin H. Amos, April L. Bagwill, Walton W. Dickhoff, Lorenzo M. Juarez, Carol S. Price, James A. Morris Jr. & Michael C. Rubino (2014) Environmental Performance of Marine Net-Pen Aquaculture in the United States, Fisheries, 39:11, 508-524, DOI:10.1080/03632415.2014.966818. (Available at: http://dx.doi.org/10.1080/03632415.2014.966818) P.O. Box 4239, Kailua-Kona, HI 96745-4239, USA- Ph: 808.331.1188 · Fax: 808.331.8689 www.kampachifarm.com



<u>Consumer health</u>: The preponderance of scientific evidence—and the recent official recommendations by the FDA—assert that all Americans need to be eating more seafood.⁴ Yet consumer fears about the risks of seafood have led to a decrease in per capita seafood consumption in the U.S. over the last decade. The definitive meta-study of the risks and benefits of seafood consumption concluded that if Americans would double their seafood consumption (to two meals of oily fish per week), there would be a 35% reduction in heart disease, and a 17% reduction in overall mortality.⁵ This conclusion should rank alongside seatbelts and smoking as a public health policy priority. A revitalized ADP needs to be making these arguments more widely known.

Hawaii therefore needs to lead in the expansion of aquaculture development in the Pacific, and in the U.S. This is a pressing imperative. And a strong ADP is going to be key to achieving these goals.

We all need to be eating more locally-grown Hawaiian seafood!

Mahalo, and aloha,

1 man film

Neil Anthony Sims, M.Sc. Co-Founder, Co-CEO, Kampachi Farms, LLC President, The Ocean Stewards Institute <u>neil@kampachifarm.com</u> (808) 989 2438

⁴ Food and Drug Administration. "Fish: What Pregnant Women and Parents Should Know". Draft Updated Advice by FDA and EPA. Available at: http://www.fda.gov/food/foodborneillnesscontaminants/metals/ucm393070.htm

⁵ Mozaffarian, Dariush, and Eric B. Rimm, "Fish Intake, Contaminants, and Human Health. Evaluating the Risks and the Benefits", *Journal of the American Medical Association*, 2006, vol. 296, pp 1885-1899.

From:	mailinglist@capitol.hawaii.gov
Sent:	Sunday, January 29, 2017 4:27 PM
То:	AEN Testimony
Cc:	alan@prloffice.com
Subject:	*Submitted testimony for SB623 on Feb 3, 2017 13:15PM*

Submitted on: 1/29/2017 Testimony for AEN on Feb 3, 2017 13:15PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
Alan Gottlieb	Ponoholo Ranch Limited	Support	No

Comments:

Please note that testimony submitted <u>less than 24 hours prior to the hearing</u>, improperly identified, or directed to the incorrect office, may not be posted online or distributed to the committee prior to the convening of the public hearing.



Aloha my name is Crystal Johnson. My family's company is Fresh Island Fish. We are one of Hawaii's largest wholesale seafood companies, having been in business for over 40 years. My father, Bruce Johnson, founded Fresh Island Fish and I am representing the second generation of our family company.

We are in full support of aquaculture development in Hawaii.

Fresh Island Fish has been engaged in commercial and research aquaculture since 2008. I've been in the family industry all my life and currently head the aquaculture development department where our focus for the past two years has been on creating a low cost natural shrimp and fish feed using Hawaii's abundant fish processing waste. Aquaculture has struggled for many reasons here in Hawai'i, arguably the biggest reason is the price of aquafeed as expensive imported feeds are currently the only option for our aquaculture farmers. In our opinion, aquafeed costs followed by the lack of financing for aquaculture projects have been the two main obstacles to the growth of aquaculture in Hawai'i.

My father who is now chairman of our family business, had the vision to turn our industry's thousands upon thousands of pounds of fish processing waste that was going into the landfills into aquafeed for shrimp and fish grown in Hawai'i.

I've taken lead of this project and over the last two years through development and testing we have proven that we can turn this waste into a sustainable natural shrimp and fish feed for aquaculture farms in Hawai'i. Our next step is to setup our own aquaculture farms to demonstrate the commercial viability and superior product output for seafood raised on this locally produced sustainable aquafeed.

It is my feeling that aquaculture as an industry has never been as well positioned as it is now to take root and thrive in Hawai'i and that state funding and resources are critical for this emerging industry right now.

We at Fresh Island Fish believe it's in the states' best interest to appropriate funds for developing this industry as it's only a matter of time when aquaculture will become a necessity and not just an alternative as the demand for seafood grows in Hawai'i and throughout the world.

Sincerely, Crystal Johnson Aquaculture Development crystal@freshislandfish.com www.freshislandfish.com Cell: 808.281.9962

2029 Nuuanu Ave. #1510 Honolulu, Hawaii 96817 February 2, 2017

Senator Mike Gabbard, Chair Senator Gil Riviere, Vice Chair Senate Committee on Agriculture and Environment Hawaii State Capitol, 415 S. Beretania St. Honolulu, Hawaii 96813

Dear Chair Gabbard, Vice Chair Riviere, and Members of the Committee:

I am sending this testimony to express my strong support for the intent of SB 623, "Relating to Aquaculture," which would require the Department of Agriculture to implement an aquaculture development program. In fact, Hawaii had an excellent aquaculture development program during the 1980's and 1990's – good enough that other states modeled their programs after Hawaii's. Hawaii's original Aquaculture Development Program (ADP) played a large part in creating an industry that generates more than \$70 million in annual revenues, and is now one of the pillars of Hawaii's diversified agriculture.

I have been involved in aquaculture production and consulting since 1979. In 1983, with a partner, I started a farm (Hawaiian Marine Enterprises) to produce *ogo* (edible seaweed), which at that time was becoming scarce due to overharvesting and other factors. ADP helped us find a suitable farm site and provided a small proof-of-concept grant which helped us get established. We operated the farm profitably for 27 years, until our lease expired and the land was sold.

Although our farm prospered during its existence, ADP was not so fortunate. Due to budget cuts, the program was reduced and ultimately folded into the Animal Industries division of DOA. SB 623 provides a potential mechanism to restart the program. Please recognize that achieving the many objectives stated in SB 623 will require a substantial budget and a significant increase in staff with expertise in biology, production technology, economics, and education. I hope, further, that the "institutional knowledge" of former ADP staff will be sought in the effort to re-establish the program going forward.

Thank you for the opportunity to testify on this important matter.

Sincerely,

(struderick M. Mencher

Frederick M. Mencher

From:	mailinglist@capitol.hawaii.gov
Sent:	Thursday, February 2, 2017 7:20 AM
То:	AEN Testimony
Cc:	kamakane73@gmail.com
Subject:	*Submitted testimony for SB623 on Feb 3, 2017 13:15PM*

Submitted on: 2/2/2017 Testimony for AEN on Feb 3, 2017 13:15PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
Kama Hopkins	Individual	Support	No

Comments:

Please note that testimony submitted <u>less than 24 hours prior to the hearing</u>, improperly identified, or directed to the incorrect office, may not be posted online or distributed to the committee prior to the convening of the public hearing.



Island Commodities Company

91-269 Olai Street, Kapolei, HI 96707 Phone: (808) 682-0726 Fax: (808) 682-4389

January 31, 2017

Island Commodities Company (ICC), has been in the recycling business since 1965 and has played a vital role in minimizing waste entering the landfill. Fish, Fat & Bone, and other hard material waste products run through ICC's facility which in turn is produced into a soil amendment compound called Meat and Bone Meal.

Meat and Bone Meal is not only used as a soil amendment but has recently been used as a feed source for the Aquaculture industry. ICC supports the HDOA and its efforts to improve the Aquaculture industry going forward. Sustainability is Hawaii's future therefore, any industry along this line will be key to supporting our keiki of tomorrow.

Thank you for your time.

John K. Tsukada Division General Manager

January 31, 2017

Senate Committee on Agriculture and Environment

Dear Member:

I wish to make it clear that I am submitting this testimony in my capacity as a private citizen. My professional responsibilities include serving as Director of the University of Hawaii Pacific Aquaculture and Coastal Resources Center (PACRC) and have a small aquaculture consulting company. I have worked in the field of aquaculture in Hawaii since 1999, which included collaboration with the former Aquaculture Development Program (ADP).

The ADP, which was dissolved as a result of the Great Recession, played an important role in fostering the State's aquaculture development. Hawaii leads the nation in many forms of aquaculture, but has lacked a strong, consolidated voice within the State government for many years, resulting in the inability of the State to take advantage of many opportunities for economic development and research. Although HDOA personnel have attempted to fill the gaps, they simply do not have the time, expertise or focus to truly promote and serve the aquaculture community.

Aquaculture contributes at least \$24 million a year to the State economy. This can grow rapidly if the State provides the same support that other states provide to their aquaculture industry. For example, permitting, particularly for new forms of aquaculture, can be extremely difficult and inhibitory. The previous ADP personnel were able to provide assistance to new companies and act as interlocutors with the State to facilitate the start up process. ADP also was able to reach out nationally and internationally to identify economic opportunities and bring these home to Hawaii. Promotion of Hawaii aquaculture was also part of its mission.

Reviving the ADP will help revitalize Hawaii's aquaculture and foster increased economic growth and job creation for the State. Please consider providing the requested support.

Mai Cottas

Maria Haws, Ph.D.

From:	mailinglist@capitol.hawaii.gov
Sent:	Tuesday, January 31, 2017 11:05 AM
То:	AEN Testimony
Cc:	DAMAGICJUICE@GMAIL.COM
Subject:	*Submitted testimony for SB623 on Feb 3, 2017 13:15PM*

Submitted on: 1/31/2017 Testimony for AEN on Feb 3, 2017 13:15PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
STANLEY RUIDAS	Individual	Support	No

Comments:

Please note that testimony submitted <u>less than 24 hours prior to the hearing</u>, improperly identified, or directed to the incorrect office, may not be posted online or distributed to the committee prior to the convening of the public hearing.

Backgrounder – Hawaii Oceanic Technology, Inc. Closes December 31, 2016

Press Release – December 31, 2016 – The Hawaii Oceanic Technology, Inc., open ocean mariculture Ahi farm, sited off the Hawaii Island has been closed. Bill Spencer, the company's co-founder and Chief Executive Officer explained that the venture did not receive sufficient funding and support to proceed with the project.

The company was permitted by the State of Hawaii Board of Land and Natural Resources and several other State and Federal agencies to deploy up to 12 of its patented Oceanspheres capable of producing upwards of 6,000 tons of ahi (yellow fin and/or big eye tuna) per year at a 247 acre ocean lease site in 1,400 feet of water, 2.6 miles from Malae Point on Hawaii Island. Spencer said, "the project, though quite bold and visionary, could have been a boon to Hawaii's efforts to achieve food sustainability, help protect wild fishery stocks and extend Hawaii's lucrative fish farming industry."

The company was not able to obtain funding due in part to stringent regulations that took the company eight (8) years to obtain. There was also push back from Hawaiian activists, a mainland non-government anti-fish farming organization that funded local groups, and government regulators fearful of lawsuits. "By the time we had all of our permits and were ready to move forward, we were out of money and local sources of venture capital were either dried up or no longer interested in the project." Spencer said. "I scoured the world for investors traveling from Japan to Abu Dhabi and from Silicon Valley to Seattle with little luck," he said. "One of the reasons the project was so difficult to fund, was the stringent conditions placed on it by Hawaii and Federal regulators," Spencer said. "There were multiple layers of regulatory agencies, all of whom had their own sets of conditions and requirements. Many of the conditions were patently absurd, but when questioned about them, the regulators indicated that they were required as concessions to environmentalists and "anti-aquaculture groups" or were simply done in order to avoid possible future lawsuits from activist organizations that were unhappy with the project, despite the fact that we did more than required (an Environmental Impact Statement) to demonstrate the viability and finding of no significant impact on the environment or the native Hawaiian community," he said.

For example, the EPA/NPDES permit requires testing for a long list of chemicals around the cages including Mercury, as if the fish farming activity were a source of mercury, but Spencer was told it was a concession to environmental groups. The U.S. Army Corp of Engineers took more than four years to prosecute a required Section 10 permit. The regulator in charge of the permit said that it was "taking so long because they wanted to make sure that there were no issues left unaddressed that environmental groups could use as a basis for a law suit."

The other challenge faced by the project was that Hawaii is one of only a few states in the U.S. that has a regulatory infrastructure that allows a company to lease an ocean column to perform mariculture. The Federal government and other states, except for Maine and some coastal states where permits are required for nearshore farming, do not allow deep ocean leases. Hence, finding investors from outside Hawaii to invest in a Hawaii centric project was almost impossible. Spencer was also unable to get any local investors to step up to the plate after Act 221 sunset in 2010 either due to the lack of significant levels of local venture capital for later stage deals, or the quirkiness of local venture capital funds that claim to invest in food sustainability but are very limited in their scope of investment. There is also a prominent attitude in the venture capital industry nationally that expects quick returns or liquidity within five years. "Projects with a long horizon or that offer social or environmental benefits are still very hard to find investors for, "said Spencer, "despite the talk about socially responsible investing."

"Ultimately," Spencer says, "the short-term objective of the project was to help meet Hawaii food sustainability objectives and develop support a new agriculture sector in the State that could generate exports and tax revenues. When fully operational, the company could have produced more than \$120 million in gross revenues and created several quality jobs. The long-term goal however was to show the world an environmentally responsible and economical way to farm seafood in the open ocean." Spencer said, "Unfortunately, the seafood industry would rather hunt for seafood than farm it and has yet to reach the tipping point agreeing that ocean farming makes more environmental and economic sense than hunting for seafood."

Spencer said that he continues to be "optimistic that open ocean mariculture will someday be proven an effective way to help meet Hawaii's food sustainability goals and feed a growing world hungry for fish."

###

From:	mailinglist@capitol.hawaii.gov
Sent:	Monday, January 30, 2017 11:33 AM
То:	AEN Testimony
Cc:	DALESARVER@HAWAII.RR.COM
Subject:	Submitted testimony for SB623 on Feb 3, 2017 13:15PM

Submitted on: 1/30/2017 Testimony for AEN on Feb 3, 2017 13:15PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
Dale Sarver	Individual	Support	No

Comments: Hawaii had an Aquaculture Development Program in the past that allowed Hawaii to be a leader in development of sustainable marine and freshwater aquaculture. The further development of this industry has stagnated due to excessive and unnecessary regulation. In spite of lots of empty promises to streamline this process from State and Federal agencies nothing has been done. Development outside the US is progressing very fast but here it is dead. Hawaii has to get back on the bus.

Please note that testimony submitted <u>less than 24 hours prior to the hearing</u>, improperly identified, or directed to the incorrect office, may not be posted online or distributed to the committee prior to the convening of the public hearing.

From:	mailinglist@capitol.hawaii.gov
Sent:	Thursday, February 2, 2017 5:01 PM
То:	AEN Testimony
Cc:	jmccay@hotmail.com
Subject:	Submitted testimony for SB623 on Feb 3, 2017 13:15PM

Submitted on: 2/2/2017 Testimony for AEN on Feb 3, 2017 13:15PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
James McCay	Individual	Support	No

Comments: Aloha Chair Gabbard, Vice Chair Riviere & the Committee on Ag and Environment, Thank you for your work on such important issues and opportunities for Hawai'i. I know you'll support anything that helps the sustainability of these islands. As you know, financial sustainability is also key. So I support SB623 as there is a potentially huge opportunity for Hawai'i with aquaculture done right. Additional to the points mentioned, a vibrant industry also creates a new opportunity for eco-tourism, education and also volunteer and community building. And it's right back to the heart of the traditional Hawaiian fish pond management philosophy. Being part of the hundreds of people that gather to improve these areas is one of my most cherished experiences from living here. So thank you again for your work in making Hawai'i a better place for all. Much Aloha, James McCay 2957 Kalakaua Ave, Honolulu, HI 96815

Please note that testimony submitted <u>less than 24 hours prior to the hearing</u>, improperly identified, or directed to the incorrect office, may not be posted online or distributed to the committee prior to the convening of the public hearing.