

JAN 20 2017

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# A BILL FOR AN ACT

RELATING TO AQUACULTURE.

**BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF HAWAII:**

1           SECTION 1. The legislature finds that, according to a 2010  
2 study, approximately sixty-three per cent of seafood consumed in  
3 Hawaii is imported. Seafood is an important staple in the diets  
4 of many Hawaii residents. Seafood consumption is further  
5 enhanced by millions of visitors every year that seek high-  
6 quality, fresh, and tasty seafood dishes while on vacation in  
7 Hawaii. Together, Hawaii visitors and residents consumed  
8 \$664,000,000 worth of seafood in 2005. Production of more local  
9 seafood will increase revenues and high-wage and skilled jobs  
10 and reduce reliance on imported seafood, while enabling the  
11 State to have greater control of product quality. Additionally,  
12 increased local seafood production is in line with the State's  
13 food self-sufficiency initiative and Governor Ige's goal to  
14 double local food production by 2020.

15           The legislature further finds that the United States  
16 imports eighty-six per cent of its seafood and the seafood trade  
17 deficit has grown to \$10,400,000,000 annually. United States



1 aquaculture accounts for just fifteen per cent of seafood  
2 consumption. The high level of imports exposes the United  
3 States to the vulnerability of volatile prices in the  
4 international market, as well as variability in the food safety  
5 practices and health standards of exporting countries.

6 The legislature also finds that the projected growth of the  
7 world population will reach over nine billion by 2050.  
8 Providing adequate food and a balanced diet to this growing  
9 population is challenging when faced with the world's already  
10 depleted natural resources. Fish has become increasingly  
11 popular in the United States as the result of national dietary  
12 changes toward heart-healthy proteins as well as in developing  
13 countries where millions of people in a new middle class have  
14 begun to appreciate fish as a delicacy. As demand for seafood  
15 is skyrocketing, fishery resources are dwindling. Overfishing  
16 worldwide has created irreversible damages to the marine  
17 ecosystem, depleting ninety per cent of all large fish,  
18 including tuna, swordfish, marlin, cod, halibut, skates, and  
19 flounder.

20 The legislature finds that the challenge of global seafood  
21 demand outpacing supply presents Hawaii with an opportunity to



1 build aquaculture into a strong industry, like tourism. It is  
2 also in the best interest of the nation to produce more seafood  
3 domestically. Aquaculture is a growth industry at its early  
4 stage with rapid technology advancement. If Hawaii successfully  
5 captures this opportunity, the State can attract pioneers in the  
6 industry, including entrepreneurs, experts, and venture  
7 capitalists, and make Hawaii the Silicon Valley of the seafood  
8 industry.

9 The purpose of this Act is to require and appropriate funds  
10 for the department of agriculture to implement an aquaculture  
11 development program.

12 SECTION 2. (a) The department of agriculture shall  
13 implement an aquaculture development program, including but not  
14 limited to outlining a strategic framework, identifying elements  
15 unique to Hawaii, identifying and creating programs,  
16 establishing pilot projects, establishing a five-year timeline,  
17 and developing a pipeline to provide a skilled workforce. This  
18 program shall identify priority demonstration, research,  
19 outreach, and industry development strategies leading to  
20 sustainable economic development and environmental,  
21 conservation, and social well-being in Hawaii.



1 (b) The aquaculture development program shall include the  
2 following essential elements:

3 (1) Applied research, including scientific study and  
4 research, that seeks to solve practical problems;

5 (2) Demonstration and extension, including projects that  
6 implement the applied research results and show  
7 operators how the research can be applied in real  
8 world scenarios, followed by adoption of the technique  
9 or activity in a commercial setting through a network  
10 of extension efforts to distribute and promote the new  
11 knowledge;

12 (3) Education and training of K-12 teachers and students  
13 about aquaculture, opportunities for aquaculture as a  
14 career, and benefits of aquaculture to the  
15 sustainability and economic growth of the State; and

16 (4) Communication, including developing a framework to  
17 deliver accurate, reliable, science-based information  
18 about aquaculture in Hawaii to educate the general  
19 public and attract new investors to the industry.

20 Communication may include media such as newsletters,  
21 brochures, posters, articles, web sites, podcasts, and



1 video books to present a balanced and accurate view of  
2 aquaculture and its role in the State's economic and  
3 social future.

4 (c) The aquaculture development program shall focus on key  
5 areas tied directly to aquaculture as follows:

6 (1) Providing economic and marketing outreach to increase  
7 the profitability and environmental sustainability of  
8 the State's aquaculture businesses, including by:

9 (A) Investigating international trade issues,  
10 identifying major drivers of seafood trade into  
11 the United States, and analyzing the economic  
12 impact of trade on the domestic seafood industry;

13 (B) Conducting economic analyses of using public  
14 waters for aquaculture, including an assessment  
15 of ecological and socio-economic impacts;

16 (C) Supporting comprehensive research and outreach  
17 targeting behavioral and consumer sciences,  
18 consumer perception and preferences, food safety,  
19 labeling and certifications, seafood demand  
20 studies, and promotion of local seafood;



- 1 (D) Developing niche markets domestically and
- 2 overseas for the species grown in Hawaii when
- 3 supply reaches export levels;
- 4 (E) Developing optimal business models for diverse
- 5 species, which would include hatcheries and grow-
- 6 out for freshwater, low-salinity, and marine
- 7 species and systems; and
- 8 (F) Providing training on business planning and
- 9 aquaculture business assessments related to
- 10 capital investments, financing, insurance, and
- 11 risk;
- 12 (2) Creating a balanced permitting framework that supports
- 13 the economic development of the aquaculture industry
- 14 while protecting the environment and addressing local
- 15 social concerns, including by:
- 16 (A) Identifying policies that will ensure uniform
- 17 state governance;
- 18 (B) Facilitating the development of model state laws
- 19 and guidance to address typical legal and
- 20 regulatory barriers to the aquaculture industry;
- 21 and



1 (C) Conducting extensive outreach programs for  
2 aquaculture stakeholders to increase awareness of  
3 the legal responsibilities of state agencies as  
4 managers of public trust lands and waters, the  
5 challenges of balancing multiple uses of coastal  
6 lands and waters, and the legal authority of  
7 local governments to regulate land uses in  
8 certain zones;

9 (3) Increasing domestic production of currently farmed and  
10 promising new species that support improvements in  
11 nutrition, reproduction, larval rearing, and genomics  
12 to enhance growth, improve health, and adapt to  
13 changing conditions, including by:

14 (A) Improving hatchery production to produce reliable  
15 shellfish seed, macroalgae seedlings, and finfish  
16 juveniles to accelerate industry growth;

17 (B) Developing sustainable alternative and emerging  
18 species, including through reproductive biology,  
19 nutrition and feeding, health, husbandry  
20 practices, and other species-specific research;



- 1 (C) Identifying species already grown in similar
- 2 climates and environments and collaborating with
- 3 government agencies or academic institutions who
- 4 administer aquaculture development in those areas
- 5 to transfer operational knowledge to the State;
- 6 (D) Improving the efficiencies of existing species
- 7 grown in the State; and
- 8 (E) Guiding the use of sustainable alternative and
- 9 emerging species;
- 10 (4) Linking industry needs to basic and applied research
- 11 efforts, including by:
- 12 (A) Establishing demonstration centers to develop and
- 13 refine aquaculture systems and disseminate
- 14 applied information to end users;
- 15 (B) Developing new and optimizing existing integrated
- 16 multi-trophic systems for marine aquaculture
- 17 development and ensuring that outreach is a
- 18 significant and well-funded aspect of each
- 19 project;
- 20 (C) Improving the efficiency of technology and input
- 21 use in production;



- 1 (D) Improving the economics of commercial scale
- 2 production;
- 3 (E) Developing cost-saving technologies for
- 4 production, harvest, and processing;
- 5 (F) Establishing demonstration centers where systems
- 6 and culture practices can be refined, validated,
- 7 and demonstrated to the private sector; and
- 8 (G) Fostering commercially based collaborative
- 9 research and development where the private sector
- 10 can test production technologies on a small scale
- 11 to evaluate investment risks for commercial scale
- 12 production; and
- 13 (5) Providing technical assistance and outreach to
- 14 aquaculture producers to ensure the safety and quality
- 15 of sustainably cultured seafood products to meet
- 16 public demand, including by:
- 17 (A) Assessing rising concerns about bacteria and
- 18 viruses, such as *Vibrio* species and norovirus, in
- 19 a changing environment;
- 20 (B) Improving the understanding of aquaculture
- 21 interactions with wild stocks and the natural



- 1 environment relative to diseases and other
- 2 factors affecting product quality and
- 3 sustainability;
- 4 (C) Strengthening consumer confidence and building
- 5 markets by working with seafood handlers to
- 6 improve seafood quality and safety and providing
- 7 information to consumers;
- 8 (D) Guiding development of product diversity; and
- 9 (E) Providing technical assistance and outreach to
- 10 develop value-added aquaculture products.

11 SECTION 3. There is appropriated out of the general  
 12 revenues of the State of Hawaii the sum of \$ or so  
 13 much thereof as may be necessary for fiscal year 2017-2018 and  
 14 the same sum or so much thereof as may be necessary for fiscal  
 15 year 2018-2019 for implementation of the aquaculture development  
 16 program.

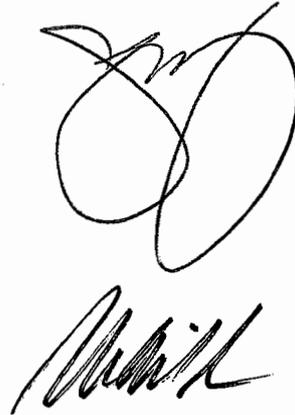
17 The sums appropriated shall be expended by the department  
 18 of agriculture for the purposes of this Act.

19 SECTION 4. This Act shall take effect on July 1, 2017.

20

INTRODUCED BY: *[Signature]*  
*[Signature]*  
*[Signature]*  
*[Signature]*

S.B. NO. **623**

A handwritten signature in black ink, consisting of a large, stylized initial 'D' followed by a surname that appears to be 'Smith'.

# S.B. NO. 623

**Report Title:**

Department of Agriculture; Aquaculture Development Program;  
Appropriation

**Description:**

Requires the department of agriculture to implement an  
aquaculture development program. Makes an appropriation.

*The summary description of legislation appearing on this page is for informational purposes only and is not legislation or evidence of legislative intent.*

