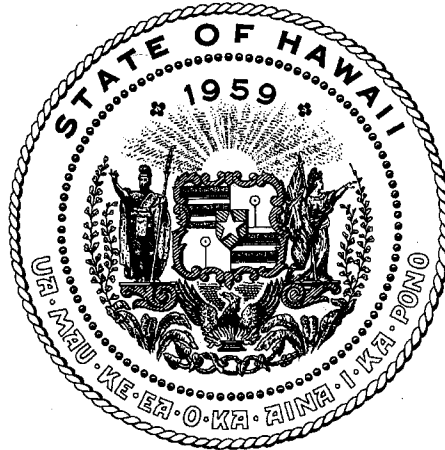


REPORT TO THE TWENTY-FIFTH LEGISLATURE
STATE OF HAWAII
2009 REGULAR SESSION

IMPLEMENTATION OF CHAPTER 190D, HAWAII REVISED STATUTES
OCEAN AND SUBMERGED LANDS LEASING



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DEPARTMENT OF AGRICULTURE
AND
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IN RESPONSE TO SECTION 12 OF ACT 176, SESSION LAWS OF HAWAII 1999

December 2008

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IMPLEMENTATION OF CHAPTER 190D, HAWAII REVISED STATUTES OCEAN AND SUBMERGED LANDS LEASING

1.0 Introduction

Act 176, Session Laws of Hawaii 1999, went into effect on July 1, 1999, allowing greater use of Hawaii's ocean resources for research and commercial development of open ocean aquaculture. In addition the law requires the Department of Land and Natural Resources (DLNR) in cooperation with the Department of Agriculture (DOA), to submit a report to the Legislature prior to each regular legislative session. This report, the tenth in the series, highlights related national activities and addresses the progress in implementing ocean leasing for open ocean aquaculture during 2008.

2.0 After the National Offshore Aquaculture Act of 2007

On April 24, 2007, Representative Nick Rahall, Chair of the House Natural Resources Committee and Congresswoman Madeleine Bordallo, Chair of the House Natural Resource Committee, Fisheries, Wildlife and Ocean Subcommittee, jointly introduced legislation, the National Offshore Aquaculture Act of 2007, in the United States (U.S.) House of Representatives. The bill was referred to three House committees. On June 13, 2007, U.S. Senators Daniel Inouye and Ted Stevens introduced by request the same bill and added four amendments. The bill was referred to the Senate Committee on Commerce, Science and Transportation. The purpose of the bill is to create a regulatory framework that allows for safe and sustainable aquaculture operations in U.S. federal waters. It includes requirements to ensure that offshore aquaculture proceeds in an environmentally responsible manner that is consistent with stated policy to protect wild stocks and the quality of marine ecosystems and is compatible with other uses of the marine environment. The bill's current status is unknown as Senator Stevens' support is crucial for a successful outcome and his personal situation is unclear.

On May, 2008, the Government Accountability Office released a report, "Offshore Marine Aquaculture: Multiple Administration and Environmental Issues Need to be Addressed in Establishing a U.S. Regulatory Framework." The report highlighted the need for research and for a comprehensive regulatory framework for marine aquaculture in federal waters as emphasized within the 2007 National Marine Aquaculture Summit¹ and the U.S. Department of Commerce, National Ocean and Atmospheric Administration's (NOAA) 10-Year Plan for Marine Aquaculture².

On June, 2008, NOAA released a report, "Offshore Aquaculture in the United States: Economic Considerations, Implications and Opportunities." The report concluded that U.S. commercial fishermen will continue to be impacted by increasing foreign aquaculture production, whether the U.S. has aquaculture production or not owing to global markets. Aquaculture products' impact on the capture fisheries will depend upon whether new markets could be developed, and how fast and what quantities are available. Offshore aquaculture could create opportunities for U.S. fishing interests owing to their ownership of the fishing fleets and open ocean experience.

In September, 2008, the Gulf of Mexico Fishery Management Council and NOAA released a public hearing draft of an amendment to the existing fishery management plan, "Fishery Management Plan for Regulating Offshore Marine Aquaculture in the Gulf of Mexico (Including a Draft Programmatic Environmental Impact Statement, Initial Regulatory Flexibility Analysis and Regulatory Impact Review)." The amendment proposes a permitting system for offshore aquaculture in the federal waters of the Gulf of Mexico without the need of the National Offshore Aquaculture Act of 2007. The Fishery Management Council has been working on this fishery management plan for over five years and the

¹ http://aquaculture2007.noaa.gov/pdf/summitsum_web_1_08.pdf

² <http://aquaculture.noaa.gov/pdf/finalnoaa10yrrweb.pdf>

plan will be scheduled for final public hearings in late 2008. If passed, the National Marine Fishery Service will be in a position to issue operational permits for offshore aquaculture operations.

Also in September, 2008, the Western Pacific Regional Fishery Management Council requested that DOA's Aquaculture Development Program brief the Council on the regulatory roadmap for Hawaii open ocean aquaculture. Existing regulations allow for open ocean site leases in State waters rather than Federal waters of the Exclusive Economic Zone.

3.0 Hawaii Activities

3.1 Research Funding

The previously reported Hawaii Offshore Aquaculture Project (\$655,000) involving the University of Hawaii and Oceanic Institute is nearing completion and is in the final stage of report writing and data analyses. The researchers share the general findings that the bottoms under the fish cage show a partial, but not full recovery with fallowing of the bottom space after experimentation.

During 2008, DOA awarded research funds (\$49,916) to Dr. Spencer Malecha (University of Hawaii – College of Tropical Agriculture and Human Resources) for a project exploring the concept of culturing scavengers (i.e., lobsters or shrimp) that may feed on the organics drifting down from open ocean fish cages. Research results are pending.

Currently, there is ongoing negotiation for the establishment of a tuna hatchery research program between Hawaii Oceanic Technology, Inc. and the Pacific Aquaculture and Coastal Resources Center, University of Hawaii at Hilo, lead by Dr. Kevin Hopkins. No details are available at this time.

Dr. Clyde Tamaru, Sea Grant College Program Aquaculture Extension and Hawaii Institute of Marine Biology, collaborated and were awarded a research grant from NOAA, U.S. Department of Commerce, and the Center for Tropical and Subtropical Aquaculture (total \$450,000) for the culture of the pink snapper opakapaka. Dr. Tamaru held a well-received workshop on live feeds related to this project discussing rotifers and copepods. The project was able to achieve conditions for triggering a controlled bloom of copepod nauplii to coincide with the first feeding of opakapaka larvae within the first 100 hours after hatching. The next hurdle researchers face is extending the feeding environment for days 14 to 18 posthatching and working on slightly larger rotifer and artemia nauplii, as live feeds. The researchers have been able to transition opakapaka to commercial pellets and achieve nearly 1.5 pounds of growth within one year.

3.2 Commercial Development Progress

Currently, there are two farms, which have successfully met all requirements, and are able to raise fish within their sea cages. One of the two farms, Kona Blue Water Farm, has decided to move its production to the Gulf of California, Mexico. Also, there are two new groups seeking permission to lease undersea lands for their operations. Additionally, there has been increasing interest and inquiries coming from commercial fishermen.

3.2.1 Hukilau Food, LLC

Hukilau Food has not completed permitting and construction of its hatchery at Campbell Industrial Park, Barbers Point. Meanwhile its biological team has been developing and expanding its finfish hatchery technology at the facilities of the Oceanic Institute, Makapuu Point. Hukilau Food is currently addressing the permitting issues for the site. For the next year, it would like to see completion of its finfish hatchery, which would be the largest in the U.S., and acquire permits and expand, into a

new secondary offshore farm site. The scoping meeting was held for their proposed Kahe Point offshore site during 2006.

3.2.2 Kona Blue Water Farm

Kona Blue Water Farm has about 250,000 Kona Kampachi in its seacages located offshore at Keahole Point, Big Island. Kona Blue Water has made a large number of hatchery improvements and continues to develop a strong marketing presence for its products - sending about ten tons of fish to market each week. Earlier this year, it attempted to double its production by increasing its lease to 113 acres, allowing for the use of larger submerged cages. This was strongly opposed by the community and developed into a contested case hearing, at which time Kona Blue Water Farm withdrew its proposed lease amendment. The company feels that there is too much opposition for its continued business operations. After much consultation about its inability to get permits or expand, it is rethinking the options available and is planning to move its production operations to Mexico.

3.2.3 Hawaii Oceanic Technology, Inc.

Hawaii Oceanic Technology, Inc. (HOT) is interested in farming tuna off the Big Island in geostatic positioning platform cages using hybrid ocean thermal energy conversion engines in the offshore waters of the State. Each proposed cage is capable of producing 2,000 tons of biomass per platform cage. HOT has previously held a scoping meeting and submitted an environmental assessment (EA) statement DLNR in June 2007, which was not accepted.

The company re-submitted its draft EA to DLNR with answers to a long list of questions in January 2008. The analysis, performed by TetraTech, a

leading national environmental firm determined a Finding of No Significant Impacts on all 12 items required by the EA. DLNR took no action on the draft EA, asked additional questions and strongly recommended that the company perform an Environmental Impact Statement (EIS). After obtaining answers to the questions, the company convened another scoping meeting on July 16, 2008. Representatives of DLNR proposed scaling back HOT's project and posed many additional questions (i.e., pictures of the bottom benthos at 1320 feet; a year of current data), but still recommended the company pursue an EIS.

At present, HOT is collecting more site data, answering additional questions raised by reviewers, and is doing another environmental statement submittal. The company's current plan is to submit an EIS and begin the process by the end of the third quarter. This is expected to cost the company additional delays beyond the year already spent completing the EA, which DLNR did not accept.

3.2.4 Maui Fresh Fish, LLC

Maui Fresh Fish, LLC is interested in farming opakapaka off southern Maui. They have built a land-based hatchery, hired key finfish hatchery personnel, and retained Pacific Planktonics of Kailua-Kona to assist with hatchery protocol development. Recently, they have hired a consultant to prepare an EA for a tentative site. They have held a scoping meeting for a site off of south Lanai, but the community of Lanai fishermen in opposition has asked that they move the site four miles northeast of the proposed site. Like Hawaii Ocean Technology, Inc., this company is concerned about how to get through the permitting process and their relationship with the community. Another scoping meeting would be required prior to their formal leasing and permitting submission. Maui Fresh Fish has applied for a scientific collection permit for broodstock permitting to DLNR, but has

seen no progress on its application. At present, they consider the conditions for business development as being unfriendly and are weighing alternative options.

4.0 Conclusions

Progress to expand open ocean aquaculture has been slow. The existing operations continue to struggle with obtaining permits to expand and gain community support. New operations looking to enter the market face similar challenges. Hawaii has the ability to lead the world in open ocean aquaculture operations and research but without a supportive regulatory and business environment, the opportunity will pass.

5.0 Recommendations

In order to support open ocean aquaculture, the proper infrastructure must be established to balance environmental concerns with opportunities for development. Areas for the Legislature to focus on are governance, environmental impact and health management. Governance is crucial because there is a current lack of clear federal responsibility and jurisdiction in governing the open ocean space and a lack of standards to protect the marine environment. The National Offshore Aquaculture Act OF 2007 is the beginning of such a framework and should be supported. To further support aquaculture development, funding needs to be dedicated to support research and the implementation of protocols to identify and mitigate environmental and health risks for aquaculture products. Additionally, a system to disseminate authoritative information needs to be implemented to offset the misinformation about the industry that is easily found today. Through the continued support by the State, aquaculture will be able to maintain its status as a viable Hawaii industry and grow in its ability to positively impact the State's economy and food supply.