



**WESTERN  
PACIFIC  
REGIONAL  
FISHERY  
MANAGEMENT  
COUNCIL**

**AQUACULTURE POLICY**

*Initially Adopted at the 137<sup>th</sup> Council Meeting, March 13-16, 2007*

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In the development of a *loko*, or fishpond, the Native Hawaiians were able to perfect the idea of aquaculture and cultivate many varieties of both freshwater and marine fishes. The Hawaiians have built and maintained fishponds successfully in Hawaii for hundreds of years. This historical form of cultivating aquatic and marine plants and animals was also present throughout the Western Pacific Region through the use of fish weirs and other devices.

Today, along with fishponds surrounded by rock walls on the shore, or nets and baskets set out in the ocean, the raising of aquatic and marine plants and animals is done on land in tanks, or out in the ocean in cages. These operations are growing rapidly as new methods, materials, and technology allow operations to operate more efficiently. Aquaculture, as these operations are known, continues to grow with hopes of expanding out into the Exclusive Economic Zone.

As these aquaculture activities grow and spread out into the open-ocean, the Western Pacific Regional Fishery Management Council (Council) is concerned and aware of the possible conflicts with other users and their impacts on the environment, as well as potential benefits from marine aquaculture.

**Definitions**

The Council defines aquaculture as the raising and cultivation of plants or animals, both freshwater and marine, for food or other purposes. Aquaculture, as defined by the Council, includes fish farming, fish culturing, ocean ranching, and mariculture.

**Purpose**

The Western Pacific Regional Fishery Management Council recognizes that aquaculture is a rapidly developing industry in the Western Pacific Region as well as the rest of the world, and that aquaculture presents both potential benefits and potential negative impacts to the environment and society.

**Thus, the Council's policy is to encourage potential aquaculture operations that adhere to the [Council's] following guidelines:**

A. Cultured Species:

The Council recommends that genetic stocks native to the Western Pacific Region (i.e., the Territories of American Samoa and Guam, the State of Hawaii, the Commonwealth of the Northern Marianas Islands, and the U.S. possessions in the

Pacific of Howland, baker, Jarvis, Wake and Johnston Islands, Palmyra and Midway Atolls, and Kingman Reef) and the geographic island area in which they would be cultured receive priority as candidate culture species.

Non-native or genetically-altered species should be used only after thorough investigation has demonstrated no detrimental impacts on native species or the environment. The Council opposes use of non-native species in aquaculture systems unless clearly demonstrated there would be no detrimental impacts on native species or the environment. The Council particularly opposes use of non-native species in open-water or open-system environments where escapement can occur. Aquaculture activities utilizing the collection of juvenile native species for grow out could be allowed after a thorough review.

Collection of native wild brood stock should be regulated through permitting and reporting in order to prevent overfishing, and provisions should be made to aide enforceability of possession, landing, and marketing of species that would be illegal if wild caught.

Strategies should be adopted to minimize the potential that the genetic fitness (including both genetic variation and genetic composition) of wild populations would be diminished by aquaculture activities and escapement from aquaculture activities.

An invoice should accompany all cultured species through each sales transaction, including transactions at the place of the final sale to the consumer to verify the origin of the cultured species.

Aquaculture activities in the Council's jurisdiction should, whenever possible, minimize adverse genetic, disease, and other effects of escaped farmed fish on wild stocks.

B. Habitat:

To ensure that aquaculture activities are environmentally responsible, the following considerations should be made with respect to habitat in that:

1. Existing inland and offshore habitats important to marine fisheries should be protected from physical alterations or degradation to the extent practicable;
2. A baseline assessment should be conducted as part of the permitting process when feasible; and
3. Sensitive areas, including habitat areas of particular concern, should be discouraged.

C. Research:

The Council recommends the aquaculture industry demonstrate, in part, its stewardship of Western Pacific Region waters by:

1. Actively educating its member institutions about necessary regulations and permits;
2. Actively participating in research and monitoring to improve the understanding of aquaculture's relationship to coastal and marine ecosystems; and
3. Participating in cooperative research to enhance knowledge of cultured species.

D. Location, Design, and Operation:

Aquaculture operations should be located, designed, operated, and monitored to prevent adverse impacts to estuaries, marine habitats and native fishery stocks. Impacts that cannot be prevented must be fully mitigated in-kind.

Conditions should be maintained to sustain healthy, diverse, native biological communities without the production of nuisance, toxic, or oxygen-demanding conditions.

Standard operating procedures should contain methods to prevent escapement, accidental transport, or release of cultured organisms. Aquaculture operations should be held accountable for fish escapes from aquaculture facilities.

Aquaculture operations should be conducted in accordance with a management plan that incorporates a routine environmental monitoring program. The plan should be approved prior to the beginning of operations as part of the permitting process and modified as needed in accordance with adaptive management principles and based on the results of the monitoring program.

Aquaculture operations should develop an "emergency plan" that covers disasters, natural or not, such as, but not limited to tropical storms, floods, and hurricanes to prevent escapes and other problems associated with such disasters. Ingress and egress of native wild organisms in natural and public waters should not be impeded by physical or water quality barriers.

Aquaculture operations in the EEZ should minimize disruption of navigation in natural or public waters.

Aquaculture facility locations should avoid areas of high commercial and recreational fishing activities.

Aquaculture facilities should avoid or at least minimize conflicts with or restrictions on recreational, for-hire, or commercial fishing activities.

As part of the permit process, measures should be established to deal with intentional or unintentional facility or property abandonment or other environmental liability to ensure that sites can be reclaimed without public expense and with minimal risk of long-term impact.

As part of the permitting process procedures should be established to deal with: removal of damaged equipment from the permitted site; recovery of equipment that may be unintentionally transported from the permitted site; and restoration of habitats that may be damaged by aquaculture activities, whether at the permitted site or elsewhere.

Mechanisms should be developed to ensure that aquaculture facilities and operations avoid harmful effects to both wild aquatic and terrestrial organisms.

Aquaculture operations should employ feed that minimizes impacts to wild fish stocks, water quality, and habitat.

E. Water Quality:

Aquaculture facilities should be designed, maintained, and operated in such a manner that avoids impacts to the local environment by utilizing water conservation practices and discharging effluent that protects existing designated use of receiving water and meets applicable state and federal water quality guidelines.

Aquaculture facilities should develop, implement, and monitor best management practices to conserve water and improve effluent water quality.

Comprehensive aquaculture facility waste management practices should be encouraged where needed to minimize negative impacts of discharge from the facility.

F. Health Management and Disease Control:

Aquaculture activities should:

1. Minimize impacts of disease outbreaks if they occur;
2. Create and implement health evaluation programs and policies that prevent the importation or release of disease pathogens or parasites of regulatory concern.
3. These policies should support development and utilization of technologies to identify and control disease organisms;
4. Develop effective disease control, quarantine, and inventory destruction procedures to prevent the spread of disease to public waterways, native species, and other aquaculture facilities;
5. Create and implement health management strategies for aquaculture organisms in cooperation with states, federal agencies, industry, veterinarians, and scientists; and
6. Use only FDA approved therapeutic and chemical treatments as part of best management practices.

G. Indigenous People's Rights and Access:

Aquaculture activities and facilities should:

1. Provide access to indigenous fishing grounds and religious/cultural areas

2. Allow for and encourage indigenous participation in the planning and development and/or the project permitting process
3. Take into consideration indigenous as well as traditional rights and access to areas and resources

H. Permitting and Reporting

The Council advises that aquaculture activities and operations occurring in the Exclusive Economic Zone (EEZ) be permitted through the National Marine Fisheries Service. The permitting system should include a mandatory logbook for collection of data on:

1. Harvest of wild brood stock (i.e. individual size, species, weight, CPUE, etc.)
2. Harvest of cultured stock (i.e. size, species, and total weight)

I. Enforcement

Enforcement shall be made by the United States Coast Guard, NOAA Office for Law Enforcement, and any other agencies in the region with a joint-enforcement agreement with the United States.

J. Protected Species

Aquaculture activities, facilities and operations should take steps to reduce and/or prevent the entanglement, capture, or take of protected species listed under the Endangered Species Act, Marine Mammal Protection Act, Migratory Bird Treaty Act, or other protected species as listed by the United States government.

K. Social and Economic Considerations

Aquaculture activities, facilities, and operations should include social and economic impact analysis on existing fisheries and markets for the same species during the environmental review process (i.e. EA/EIS).