

Water Quality Classification Impacts on Hawaii Aquaculture Projects

Hawaii Department of Health
Clean Water Branch
January 2024

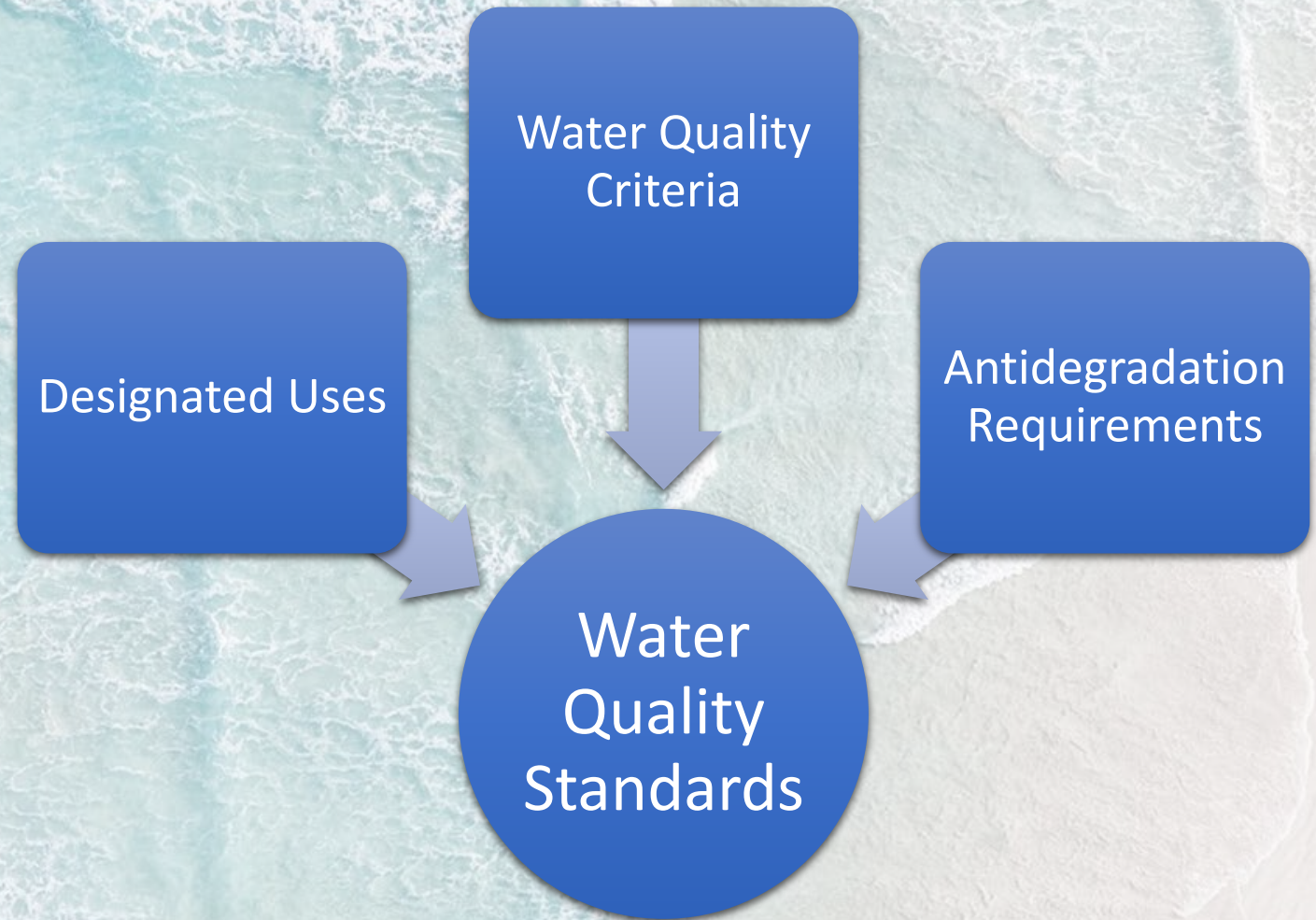


Compliance with Water Quality Standards

HAR Chapter 11-54 =
Hawaii's Water Quality
Standards (WQS)

Discharges to State surface
waters must comply with
WQS.

Processing and issuance of
NPDES permits and Water
Quality Certifications
implement WQS.



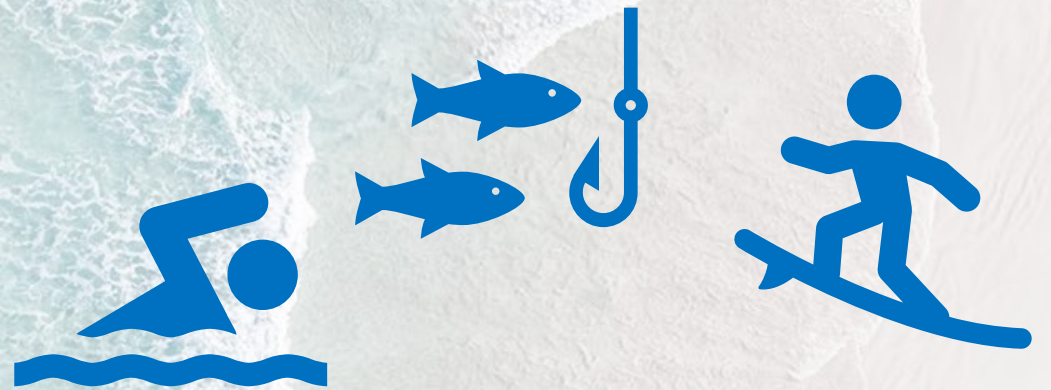
Designated Uses

Designated uses are the uses to be protected in the waterbody.

Example: recreation, aesthetic enjoyment, fish propagation, scientific research.

Designated uses are waterbody type specific and characterized by different classifications (Class 1, 2, A, AA).

Some designated use classifications may explicitly prohibit certain types of discharges to protect these uses.



Designated Use Classifications

HAR Chapter 11-54 Water Quality Standards

Classification of State Waters

State Waters

Water Type

Inland Waters
(Fresh, Brackish, Saline)

Marine Surface Waters
(Embayment, Coastal, Oceanic)

Marine Bottom Ecosystems

Class

Class 1

Class 2

Class AA

Class A

Class I

Class II

Subclass

Class 1.a

Class 1.b

Water Quality Criteria

Water quality criteria are divided into narrative criteria and numeric criteria.

Narrative

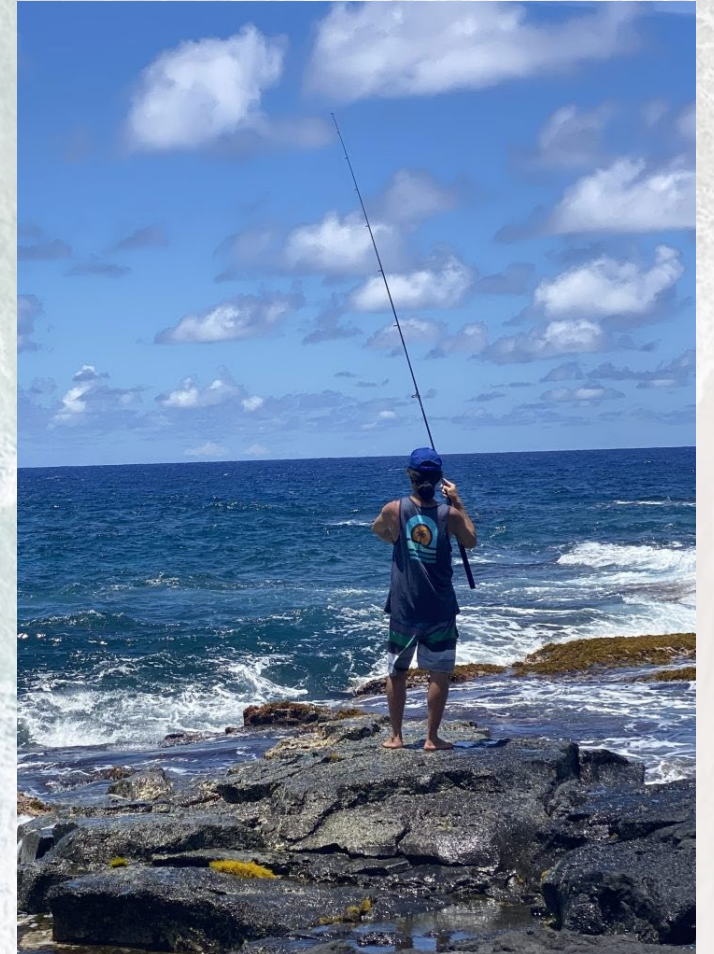
- General criteria that is not based on water chemistry/chemical analysis. Typically, these are general statements on what the desired conditions of the waterbody should be, such as not containing certain types of pollutants or undesirable conditions.
- Example: Waters shall be free of floating debris, oil, grease, scum, or other floating materials.
- Applies to all state waters.

Numeric

- Criteria based on acceptable amount of a substance detected in the water through sampling and chemical analysis. Samples should not have a concentration higher than the numeric criteria.
- Criteria may be expressed as acute criteria (short-term effects on aquatic life), chronic criteria (long-term effects on aquatic life), and fish consumption criteria (protection of human health from consumption of fish).
- Specific values are waterbody type specific.

Antidegradation Policy

Where the quality of waters exceed levels necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water, that quality shall be maintained and protected **unless the director finds, after full satisfaction of the intergovernmental coordination and public participation provisions of the State's continuing planning process, that allowing lower water quality is necessary to accommodate important economic or social development in the area in which the waters are located.**



Antidegradation Process to Justify Lowering of Water Quality

1. Determine Baseline Water Quality (BWQ) for Pollutants of Concern.
2. Assess the level of water quality degradation caused by the proposed activity using the BWQ data on a pollutant-by-pollutant basis.
3. Conduct Alternatives Analysis that compares the amount of water quality degradation of the proposed activity with alternative actions considering feasibility and cost-effectiveness.
4. Conduct Socioeconomic Analysis that documents the social and economic benefits and costs associated with the discharge.
5. Publish a notice to solicit public comments.
6. DOH makes final determination.



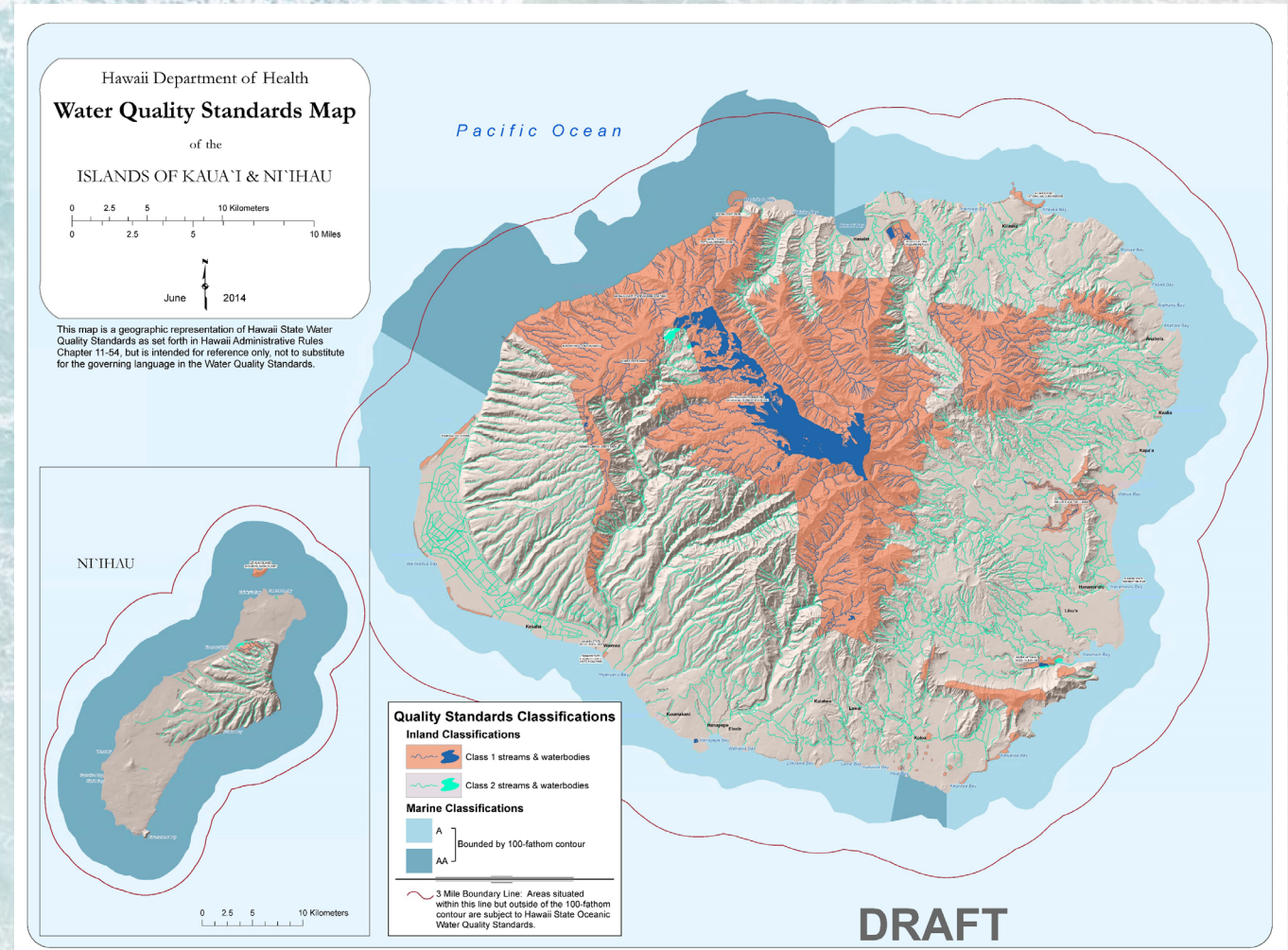
Conservation International
#69569028

University of Hawaii System

Potential Receiving Water Restrictions

Inland Waters:

Class 1 – shall remain in their natural state as nearly as possible with an absolute minimum of pollution from any human-caused source.



Potential Receiving Water Restrictions

Inland Waters:

Natural freshwater lakes, saline lakes, and anchialine pools shall be maintained in the natural state through the State's "no discharge" policy to these waters.



National Park Service



DLNR

Waste discharge into springs and seeps, ditches and flumes, natural freshwater lakes, reservoirs, low wetlands, coastal wetlands, saline lakes and anchialine pools is prohibited, except as provided in section 11-54-4 (pesticides).

Potential Receiving Water Restrictions

No new sewage and industrial discharges allowed in Estuaries and Embayments with limited exceptions.

Examples Estuaries and Embayments:

Lumahai Estuary

Hanauma Bay

Kilauea Estuary

Puako Bay

Pearl Harbor

Waiulua Bay

Ala Wai Canal

Anaehoomalu Bay

Hanalei Bay

Kiholo Bay

Waialua Bay

Kailua Harbor

Kahana Bay

Kealakekua Bay

Kaneohe Bay

Honaunau Bay



What is NPDES?

National Pollutant Discharge Elimination System

Hawaii Department of Health's NPDES permit program addresses water pollution by regulating point sources that discharge pollutants to Hawaii surface waters.

- Imposes water pollution control requirements from federal regulations.
- Legally obligates permit holder to comply.
- Water quality protection occurs through permit issuance.

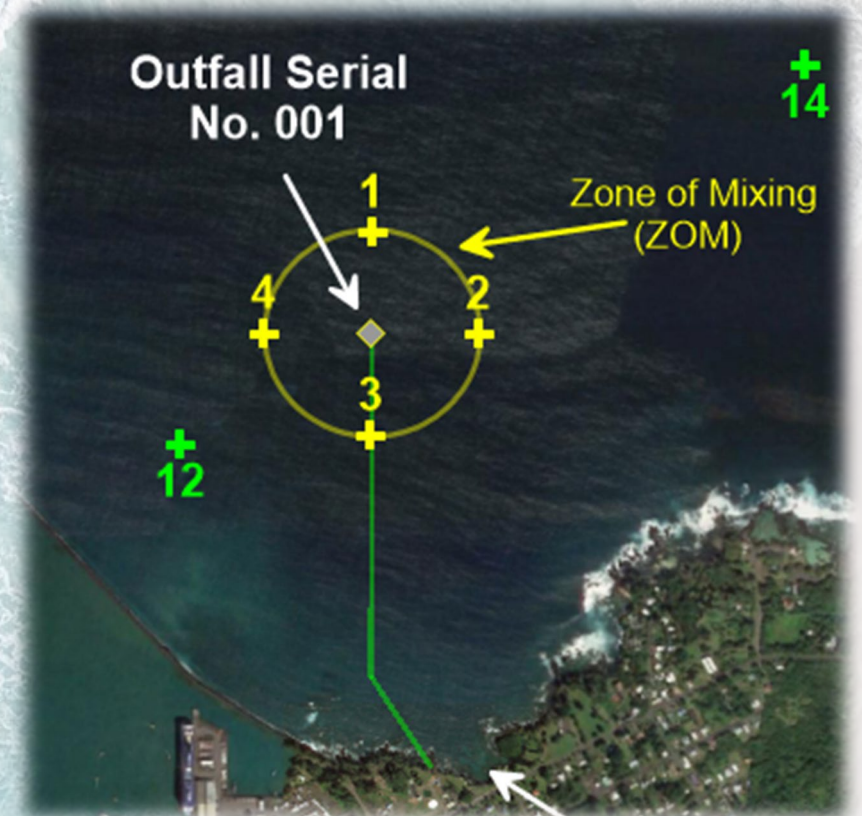
Zone of Mixing

If a facility cannot meet effluent limitations, they can apply for a Zone of Mixing (ZOM).

A ZOM is an area in the receiving water that allows for dilution of pollutants before compliance with the water quality criteria must be met.



ZOMs are not allowed in Class AA waters within defined reef areas with depths less than 10 fathoms and in waters up to 300 meters offshore if there is no defined reef and the depth is greater than 10 fathoms



Aquaculture Facilities with NPDES Permits

Keahole Point Fish

Kailua-Kona, Island of Hawaii

- Raises kanpachi in ocean net pens
- Discharges into the Pacific Ocean off Malae Point, Class AA
- Maintains a Zone of Mixing



Aquaculture Stewardship Council

Sunrise Capital

Kekaha, Island of Kauai

- Raises shrimp in inland ponds
- Discharges into ditches prior to the Pacific Ocean off of Kekaha, Kauai, Class 2, Class A
- Maintains a Zone of Mixing



Kauai Shrimp

Contact for More Information




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HI Senate Aquaculture
Informational Briefing
WTL & AEN 01/18/2024

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A large quantity of oysters, likely harvested, are shown in several metal mesh baskets. The oysters are piled together, filling most of the frame. The background is slightly blurred, showing more baskets and oysters. The lighting is natural, highlighting the textures of the oyster shells.

DOH FSB Edible Molluscan Bivalve Shellfish Program

- Regulate FDA interstate program, intrastate dealers and retail establishments
- Handle FBI and recalls/advisory notices
- Highly regulated farm product due to increased risk
- HAR 11-35 chapter has not been updated since 1981
- Local growing industry disappeared in 1990s
- Rebuilding effort started in 2000s, involved several agencies
- 2013—first new farm to be certified in 27 years, no charge to industry
- Currently only 4 working farms and one wet storage facility
- Challenges include lack of staffing at State Laboratories and extended period of time to get certified, high costs for farmers



Photo courtesy of Dave Anderson, KSF





Na Mea
KUPONO
Waialua, Oahu

KN95


























DOH FSB Edible Molluscan Bivalve Shellfish Program Support

- Increased staffing at State Laboratories
- Support for farmers and retail businesses waiting for certifications
- Increased testing capacity at State Laboratories
- Increased staffing at FSB



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