

**California Fish and Game Commission and
California Department of Fish and Wildlife**

**Proposed Requirements for Shellfish Aquaculture Lease
Best Management Practices (BMP) Plans Regulation**

October 24, 2018

Background

The California Fish and Game Commission (Commission) has the authority to lease state water bottoms to any person for the purpose of conducting aquaculture in marine waters of the state, with the exception of Humboldt Bay, under terms agreed upon between the Commission and the lessee (Sections 15400 and 15405, California Fish and Game Code). General regulations in Section 237 of Title 14, California Code of Regulations, govern all aquaculture leases, while terms are established for individual state water bottom lease areas in a lease agreement.

Statewide there are currently 17 active, Commission-issued, state water bottom aquaculture leases with 10 companies. In recent years, public attention has focused on shellfish aquaculture practices and stewardship on certain aquaculture leases, particularly related to marine debris. Responding through Commission-approved best management practices (BMPs) by shellfish aquaculture leaseholders provides a promising approach to collaborative environmental stewardship, adaptive management, and administrative efficiency. In 2016, the Commission approved a staff recommendation to address concerns through a rulemaking that would require growers to develop, and Commission- to approve, a BMP plan for each shellfish aquaculture lease. The regulation would identify what objectives or outcomes must be addressed in the BMP plans in order to obtain Commission approval of that plan.

Stakeholder Outreach to Date

Over the course of two public stakeholder meetings (July 2017 in Marshall, near Tomales Bay, and May 2018 in Santa Barbara), and public briefings to the Commission and its Marine Resources Committee (MRC) over the past three years, staff from the Commission and the California Department of Fish and Wildlife (DFW) have collected input and heard concerns voiced by stakeholders, aquaculture leaseholders, and other responsible agencies on the concept of a shellfish aquaculture BMP rulemaking.

Themes for Possible BMP Categories

At the July 2018 MRC, DFW and Commission staff reported on the outcomes from the public meeting, presented initial BMPs categories derived from the public meetings and from research, and discussed next steps in developing draft regulation language for public and MRC review. DFW noted that many of the concerns voiced during the outreach process are fully or partially addressed by conditions imposed by leases, permits, codes, or regulations at both the state and federal levels (e.g., siting, water quality, navigational hazards, biosecurity, etc.), and recommended that these be excluded from BMP requirements. The remaining

concerns were grouped into several key concepts that could be addressed through BMP plans. Staff has organized these into the following categories:

- ***Reduce ocean litter, marine debris, and plastic pollution***
 - Materials, gear design and installation
 - Maintenance and operational preparations, practices and responses
 - Clean-up participation
- ***Minimize impacts to living marine resources and their habitats***
 - Wildlife interactions
 - Vessel and vehicle use (water, land, and air)
- ***Commit to, train for, and demonstrate compliance with BMP plans***
 - Company standards and worker training

Following discussion, MRC developed a recommendation that the Commission “direct staff to apply the concepts presented during the [MRC] meeting to draft proposed requirements for best management practices plans for state water bottom leases, provide opportunity for public review of the draft proposed language, and schedule the draft proposed language for MRC review and possible recommendation in November 2018.” In August, the Commission adopted the MRC recommendation.

The purpose of this document is to invite public review and feedback on proposed requirements and other considerations for site-specific shellfish aquaculture BMP plans.

Draft Proposed Requirements for Site BMP Plans

Under the envisioned new regulation, current and prospective aquaculture leaseholders would be required to submit proposed BMPs and other required topics within a BMP Plan for each lease site for approval by the Commission before a lessee may engage in lease operations. Site-specific plans are intended to include BMPs that provide environmental stewardship while supporting viable commercial aquaculture production.

Lessees would have to identify in their proposed BMP Plans how they will achieve multiple objectives when engaging in aquaculture operations on their lease site:

- (a) ***Reduce Litter, Marine Debris and Plastic Pollution***
 - (1) *Prevention*
 - i. Minimize waste generation through:
 1. Material selection.
 2. Avoid or phase out single-use materials (e.g., zip ties) that are easily lost, and replace with more durable materials that are re-usable with a long-life span (e.g., stainless steel clips).
 3. Avoid floats made of materials that are prone to degradation and decomposition by direct sunlight, especially for floats and buoys.

- ii. Design considerations and adaptation to avoid gear loss:
 1. Ensure that gear is secured to prevent loss (drifting or movement off lease area) under all local weather and sea conditions.
 2. Remove loose supplies prior to leaving lease area (tools, water bottles, etc.).
 3. Secure gear left on lease site, including staging areas.

(2) *Maintenance*

- i. Gear/materials must be maintained in a way to minimize failure, displacement or loss.
 1. All staff responsible to look for and remove, repair, or secure any loose culture gear on or near growing leases on a regular basis, and especially in the event of a storm.
- ii. Continually improve gear to minimize degradation and enhance structural integrity under varying sea conditions.
 1. Operators perform gear maintenance assessments on a _____ basis [*NOTE: frequency to be determined based on public input. Options might include "regular", monthly, quarterly, pre- and post-storm, and/or semi-annually.*]
 2. Operators participate in community-oriented clean-up efforts, and conduct clean-up efforts of their own.

(3) *Recovery*

- i. Lost gear must be recovered by growers where feasible upon recognition that gear is lost.
 1. Method to track gear inventory [*NOTE: What level of accountability for tracking gear inventory is acceptable?*]
- ii. Gear and vessels must be uniquely identifiable to determine the origin.

(1) Gear: Identify approach to uniquely marking gear [e.g., unique color or marking, labelling, or branding of gear and components].

- i. [*NOTE: Which gear types should require marking - all culture gear (grow-out bags, lines, floats) or excluding grow-out bags?*]

(2) Vessels: Uniquely and clearly identify company and/or lease number(s) on all boats and barges used in operations.

- iii. Within 90 days remove culture systems and gear that are not in current or upcoming productive use.

(b) ***Minimize Impacts to Living Marine Resources and Their Habitats***

(1) Measures to avoid or minimize harm to wildlife, including seabirds, marine mammals, turtles, and protected species:

- i. Avoid disturbance of roosting birds and marine mammal haul-outs
- ii. Avoid and minimize harm to sensitive biogenic habitat eelgrass and kelp within the lease area, including damage from vessel (e.g.,

propeller cuts), air (e.g., drones), gear placement (e.g., shading or direct contact), and foot traffic (i.e., trampling).

(c) **Prevent Spread of Disease or Invasive Species for Biosecurity**

NOTE: DFW has identified that this category is partially addressed in existing regulations; however, there remain gaps that can be addressed by BMPs. DFW recommends adding this to the list of BMP categories, as follows:

- (1) Measures taken to prevent the movement or transfer between watersheds of livestock, wetted gear, and equipment to maintain biosecurity.
- (2) Source seed and broodstock from approved origins.
- (3) Responses to biofouling and employing other measures to prevent the spread of aquatic invasive species

(d) **BMP Commitment, Compliance and Verification**

- (1) *Staff trainings* - Incorporate employee training program with focus on environmental stewardship, litter and marine debris reduction, and good-neighbor practices. *[NOTE: Growers may be able to partner with other local organizations and agencies regarding implementation of a training program.]*
- (2) *Elements to demonstrate compliance* - Describe process to certify compliance with BMP Plan through regular monitoring, reporting, and site-inspection program to ensure operations are in compliance with BMPs. Options:
 - i. Self-monitoring and documentation of compliance activities
[NOTE: consider mode of keeping and maintaining records and availability.]
 - ii. Inspections conducted by certified/approved third-party inspectors *[NOTE: Random, bi-annual, or annual basis.]*
 - iii. Option of demonstrated compliance:
 1. First year [or first and second years] after BMP plan approval: Maintain records, submit report quarterly, and inspection bi-annually for performance and effectiveness.
 2. Subsequent years (when performance and effectiveness is certified by inspector). Reduce frequency of reporting and inspection requirements [frequency?]. All records maintained and available on site.

Additional Considerations

Commission and DFW engagement

- Annual public discussions suggested
- The Commission and DFW will work with growers if concerns or potential non-compliance with BMPs are identified
- The Commission may suspend or terminate a lease if activities are found to not be in compliance with BMPs, and lessee has not remedied the situation within a reasonable, specified time