

Staff Report 63 (Informational)

Informational update on aquaculture in State and federal waters, including development of Statewide Aquaculture Principles and the establishment of Aquaculture Opportunity Areas in federal waters.

INTRODUCTION:

Aquaculture could become a prominent force in California's blue economy, expanding opportunities for working waterfronts and contributing multiple benefits for the environment. The development of the aquaculture industry in California state and federal waters is closely linked to Public Trust resources, uses, and values on sovereign land. The Commission, as the agency entrusted by the Legislature with management authority over much of the State's tide and submerged lands has a vested interest in this development. This staff report provides background information on existing and proposed aquaculture initiatives and efforts in California and the status of State and federal policies and strategies that are relevant to the aquaculture industry in California. These include Statewide Aquaculture Principles, developed by the Ocean Protection Council (OPC), an aquaculture permitting guidance document by the California Coastal Commission (CCC), and federal Aquaculture Opportunity Areas (AOAs), led by the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NOAA). The focus of this staff report is on aquaculture in California's coastal zone and open ocean and excludes information on freshwater and land-based aquaculture, such as farms using recirculating tanks.

BACKGROUND:

According to a 2016 report from the Food and Agriculture Organization of the United Nations, the United States of America is the world's largest importer of seafood. Approximately 90 percent of the seafood consumed in the United States is imported. It is estimated that half of the seafood imports are raised in aquaculture facilities. Seafood demand is expected to rise, and wild fish populations are unlikely to meet this demand. There is increased interest in marine aquaculture to supply the demand of the American seafood market and provide greater domestic food security. The long coastline of the State, as well as topographic and

oceanographic conditions of the California coast, make California well suited for a burgeoning aquaculture industry.

The role of aquaculture in California's blue economy and the continued development of the industry is fundamentally connected to coastal communities and Public Trust resources, uses, and values. The OPC's 2020-2025 Strategic Plan highlights the importance of promoting sustainable aquaculture as an objective in Goal 4: Support Ocean Health Through a Sustainable Blue Economy. The Commission's management role for the sovereign land in California state waters and its responsibility to protect and enhance Public Trust resources is integral to the planning and growth of California's aquaculture industry. Except in areas where sovereign land was legislatively granted to local Trustees (e.g., ports and harbors), the California Fish and Game Commission (FGC) is generally responsible for authorizing water bottom leases for aquaculture (Fish & G. Code §15400), the Commission frequently provides advisory support due to staff's leasing and resource management expertise. Aquaculture facilities often require leases with the Commission for ancillary structures related to aquaculture operations, such as seawater intakes, discharges, docks, and ramps.

The three main types of aquaculture—seaweed, shellfish, and finfish—are distinguished by the species that are grown and harvested. There are 17 active seaweed and shellfish aquaculture farms operating in California state marine waters. Seaweed aquaculture cultivates macroalgae species for culinary, agricultural, and pharmaceutical uses that can be grown in specialized facilities or in tandem with shellfish farming. Facilities specializing in shellfish aquaculture typically grow species of abalone, oysters, mussels, and clams for commercial use as well as the enhancement and restoration of wild stocks. White abalone (*Haliotis sorenseni*) are grown in captivity to re-establish the currently endangered wild population. Both shellfish and seaweed aquaculture intersect with the Commission's jurisdiction and priorities. There is the potential to use existing coastal infrastructure leased by the Commission, such as piers and wharves, for seaweed and shellfish farming. This could increase opportunities for aquaculture while minimizing the spatial footprint of operations. There is emerging interest in repurposing decommissioned oil platforms for use as offshore seaweed and shellfish aquaculture facilities.

The OPC is developing Statewide Aquaculture Principles (Principles) to inform the subsequent development of a statewide aquaculture action plan that will create a comprehensive and science-based framework and improve the State's ability to plan for, permit, and manage marine aquaculture in California. These Principles will focus on marine macroalgae and shellfish cultivation in State waters and only includes finfish aquaculture in land-based recirculating tanks. Finfish aquaculture in

California is restricted to land-based recirculating tanks and freshwater facilities and is currently not permitted in State marine waters. However, there is interest in permitting offshore marine finfish aquaculture facilities in federal waters adjacent to the State boundary 3 nautical miles off the coast. Such development would inevitably impact Public Trust lands and resources that the Commission owns, manages, or oversees. NOAA Fisheries is reviewing a proposal for a finfish aquaculture facility offshore San Diego. NOAA is also ~~selecting two AOAs in the~~ **process of identifying one AOA** in federal waters off southern California through a data-driven spatial planning process that can host new aquaculture projects if all required permits and authorizations are obtained.

DISCUSSION:

California Statewide Aquaculture Principles

In September 2020, the OPC authorized the development of a statewide aquaculture action plan in alignment with their Strategic Plan Target 4.2.1. The purpose of this action plan will be to support sustainable commercial aquaculture in California by providing a coordinated approach for considering, approving, and managing proposed aquaculture projects. The Commission is one of several State agency partners informing the OPC throughout the development of the action plan, which is set to be finalized by 2023.

Before it develops the statewide aquaculture action plan, the OPC is working with State agency partners, including the Commission, to develop interim Principles to serve as guidance for proposed aquaculture projects until 2023. The intent is to guide environmental stewardship, manage Public Trust resources, and provide a healthy food supply by supporting viable commercial aquaculture development in California. Commission staff will continue to work with OPC and other agency partners to inform the final Principles.

California Coastal Commission Aquaculture Permitting Guidance

Senate Bill 262 (McGuire) Chapter 472, statutes of 2019, directs the CCC to develop guidance for aquaculture coastal development permits in order to reduce duplication and increase efficiency, increase coordination among state and federal agencies, increase regulatory certainty for applicants, and potentially reduce the time and cost to obtain a coastal development permit. The CCC collaborated with Commission staff, the California Department of Fish and Wildlife (CDFW), as well as other relevant state agencies and stakeholders, on development of this guidance, as directed by SB 262. The CCC has released its final [Aquaculture and Marine Restoration Guidance document](#).

Federal Aquaculture Opportunity Areas

An Executive Order on Promoting American Seafood Competitiveness and Economic Growth, issued on May 7, 2020, directed NOAA to identify AOAs in specific regions based on spatial analysis of ocean use data and current industry interest to develop sustainable aquaculture. NOAA has identified two regions so far: The Gulf of Mexico and southern California.

The actual AOAs will be small, defined geographic areas within these regions that have been evaluated by NOAA staff to determine how suitable they are for the development of sustainable commercial aquaculture. ~~The overall process will take 3 years and consists of conducting an initial spatial analysis process to identify several alternative AOA locations to evaluate, completing a programmatic environmental impact statement (EIS) that evaluates the potential environmental effects of the AOA alternatives, and finally, issuing a record of decision that identifies one AOA for the southern California region.~~ According to NOAA, this evaluation by NOAA staff is based on the best-available science and data on current ocean uses. The AOA identification process involves an extensive siting analysis that reviews hundreds of data sets on ocean conditions and uses, including fishing data and locations, vessel traffic data, biological resources such as whale and bird migration data, existing oil and gas lease locations, and military uses. This detailed scientific data analysis will be coupled with a comprehensive public engagement process to determine ~~potential~~ AOAs that will be environmentally, economically, and socially suitable for sustainable commercial aquaculture.

The Executive Order directed NOAA to complete ~~a programmatic Environmental Impact Statement (EIS) for the identified AOAs within 2 years (by May 7, 2022)~~ ~~and~~ the initial siting analysis during year one of the 3-year process and the programmatic EIS evaluating the effects of an AOA on the environment throughout the following two years. ~~It is expected the EIS~~ will identify suitable species, gear, and reporting requirements for commercial aquaculture development. NOAA stresses the importance of an in-depth public engagement and stakeholder input process, including working with State, local, and tribal partners, to complete the EIS. NOAA provided Commission staff with progress updates this fall and winter. Commission staff is concerned, however, that the ~~short~~ 23-year timeline for the AOA process may make it difficult to achieve robust stakeholder engagement during both the site suitability analysis and EIS development phases.

NEXT STEPS:

The Principles are estimated to be completed by early 2021. The FGC extended the hiatus on new aquaculture lease applications during its Marine Resources

Committee meeting on November 10, 2020. The hiatus will be in effect while the Principles are under development, highlighting the importance of this process to the development of the aquaculture industry in California. Commission staff will continue to coordinate with the OPC as they finalize the Principles.

NOAA has updated Commission staff on the development of the federal AOAs, including the methodology of the siting analysis. NOAA requested Commission staff share any data that would help the siting analysis be more accurate and thorough. Commission staff will collaborate with other State agencies, including the OPC, on a comment letter to NOAA that reflects the interests and concerns associated with the AOAs. Comment letters are due by December 22, 2020; more information can be found [here](#) (NOAA-NMFS-2020-0118). NOAA estimates ~~the AOA~~ several AOA alternatives for southern California will be identified by May 2021 which will then be carried forward to the EIS for evaluation. Commission staff will continue to engage with NOAA and other stakeholders throughout the entire process. The Commission has experience in related marine spatial planning efforts, such as the [San Diego Ocean Planning Partnership](#), and staff will continue to advocate for significant stakeholder engagement throughout this process.

OTHER PERTINENT INFORMATION:

This informational update is consistent with:

- Strategy 1.1 of the Commission's Strategic Plan to deliver the highest levels of public health and safety in the protection, preservation, and responsible economic use of the lands and resources under the Commission's jurisdiction;
- Strategy 1.2 to provide that the current and future management of ungranted sovereign land and resources and granted lands, including through strategic partnerships with trustee ports and harbor districts, is consistent with evolving Public Trust principles and values;
- Strategy 3.1 to foster, improve, and enhance relationships to engage the Legislature, public, local, State and federal agencies, legislative grantees, Commission lessees, potential applicants, non-governmental organizations, and the regulated community; and
- Strategy 3.2 to commit to early and meaningful coordination and collaboration with local, State and federal agencies, California Native American Tribes, and local and regional communities and all individuals disproportionately impacted by environmental pollution.

CONCLUSION:

The development of a robust aquaculture industry in California will be an integral part of the State's blue economy. It is important now, more than ever, to spotlight responsible and sustainable economic opportunities given the upheaval and uncertainties that the Covid-19 pandemic has caused. While there are impacts from any human use of ocean space and resources, aquaculture has the potential to create jobs in coastal communities, bolster domestic food security, and provide environmental benefits through enhancing wild brood stock and decreasing pressure on wild fisheries. The recent State and federal efforts present opportunities for Commission staff to contribute its leasing and Public Trust resource management expertise to ensure new and existing aquaculture projects provide benefits to all Californians while minimizing impacts to the marine environment.