Guide to Leasing, Permitting, and Authorizing Commercial Aquaculture Operations off the California Coast

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Assembled by the Southern California Offshore Aquaculture Interagency Working Group: This *Guide to Leasing, Permitting and Authorizing Aquaculture Operations Off the California Coast* (hereafter "guide") was collaboratively developed by the Southern California Offshore Aquaculture Interagency Working Group (Working Group). The Working Group is a forum that enables interagency communication and collaboration related to the permitting and monitoring of sustainable offshore aquaculture in federal and state waters off the coast of California. The Working Group thanks Seatone Consulting for supporting the development of this guide. Agencies that participate in this Working Group include:

- Bureau of Ocean Energy Management
- California Coastal Commission
- California Department of Fish and Wildlife
- California Fish and Game Commission
- California Ocean Protection Council
- California Sea Grant
- California State Lands Commission
- Environmental Protection Agency
- Food and Drug Administration
- National Oceanic and Atmospheric Administration National Marine Fisheries Service
- Santa Ana Regional Water Quality Control Board
- United States Army Corps of Engineers
- United States Coast Guard

Disclaimer: This guide should serve as an introduction to the permitting and authorization processes for commercial aquaculture operations off the California coast and a helpful reference but should not replace regular communication with regulatory agencies. The authors have sought to ensure the information summarized in this guide is up to date. Readers of the guide should contact state and federal regulators to better understand the information presented and to verify it is current. The guide serves as a general summary only and does not substitute for the underlying laws and regulations.

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Overview

This guide addresses permitting and authorization processes for aquaculture operations for California state waters within the United States (U.S.) exclusive economic zone (EEZ) and federal waters off the coast of California. California state waters extend from the state lands boundary (generally the mean high tide line) to three nautical miles (nm) offshore, including three nm around offshore islands. Federal waters extend from three nm to 200 nm from shore. This guide is intended to assist individuals or groups seeking information for permitting and other requirements for new commercial aquaculture projects, or the expansion of existing aquaculture operations in state or federal waters off the coast of California.

For all commercial aquaculture facilities, permits and authorizations are required from multiple state and federal agencies. Individual agency permits and authorizations are separate and may overlap in time. **This guide provides high-level guidance and informational resources to potential aquaculture operators regarding these permits and authorizations including what they are, why they are needed, steps to follow, and who to contact for more information.**

Not all aquaculture-permitting situations are covered here. As the first step in your permitting journey, and for specific questions, contact the California State Aquaculture Coordinator (SAC) at the California Department of Fish and Wildlife (CDFW) for projects in California state waters, or the National Oceanic and Atmospheric Administration (NOAA) National Marine Fisheries Service (NOAA Fisheries) West Coast Regional Aquaculture Coordinator (RAC) for projects in federal waters off the coast of California. These individuals will help you navigate the permitting process.

- **This guide is for:** Individuals or groups seeking information on permits and authorizations to establish new commercial aquaculture operations or expansion of existing aquaculture operations in state or federal waters off the coast of California.
- **This guide does not include:** Informational resources for aquaculture operations in private waters, on land, or for research or non-commercial operations.

Acronyms & Abbreviations

AB 52	Assembly Bill 52. Refers to AB 52 Consultation.
AOA	Aquaculture Opportunity Areas
CAPP	Coastal Aquaculture Planning Portal
CCA	California Coastal Act
CCC	California Coastal Commission
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CDP	Coastal Development Permit
CDPH	California Department of Public Health
CEQA	California Environmental Quality Act
CFGC	California Fish and Game Commission
CWA	Clean Water Act
CZMA	Coastal Zone Management Act
DOD	Department of Defense
EA	Environmental Assessment
EEZ	Exclusive Economic Zone
EFH	Essential Fish Habitat
EIS	Environmental Impact Statement
ESA	Endangered Species Act
FDA	Food and Drug Administration
GP	General Permit
LOP	Letter of Permission
MMPA	Marine Mammal Protection Act
NCCOS	National Centers for Coastal Ocean Science
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NM	Nautical Mile
NMSA	National Marine Sanctuaries Act
NOAA	National Oceanic and Atmospheric Administration
NOAA Fisheries	NOAA National Marine Fisheries Service
NOAA SIP	NOAA Seafood Inspection Program

Acronyms & Abbreviations

NPDES	National Pollutant Discharge Elimination System
NSRA	Navigation Safety Risk Assessment
NSSP	National Shellfish Sanitation Program
NWP	Nationwide Permit
ONMS	Office of Marine National Sanctuaries
OPC	Ocean Protection Council
OST	Ocean Science Trust
PATON	Private Aids to Navigation
RAC	Regional Aquaculture Coordinator
RHA	Rivers and Harbors Act
SAC	State Aquaculture Coordinator
SHPO	State Historic Preservation Office
SIP	Standard Individual Permit
SLC	State Lands Commission
US	United States
USACE	United States Army Corps of Engineers
USCG	United States Coast Guard
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
WRAC	Western Regional Aquaculture Center

Things to Know Before Starting the Application Process

Permitting Aquaculture Operations in State Versus Federal Waters

Aquaculture operations conducted in state and federal waters off the coast of California require meeting many regulatory requirements such as leases, permits, certifications, and authorizations from state and federal agencies. The specific details of each step in the leasing and permitting processes in state and federal waters are explained further in the following sections, starting on page 9 for state waters and page 26 for federal waters. **There are major differences between operating in state and federal waters**, which are detailed in *Table 1*.

Table 1. *The important differences between the commercial aquaculture leasing and permitting processes in state and federal waters.*

State Waters	Federal Waters
Requires a state water bottom lease.	Does not require any lease.
California Fish and Game Commission (CFGC) is the lead agency in the state water bottom lease approval process.	CFGC is not involved in any entitlements for aquaculture operations in federal waters.
Environmental analysis is mandated by the California Environmental Quality Act (CEQA).	Environmental analysis is mandated by the National Environmental Policy Act (NEPA).
California Department of Fish and Wildlife (CDFW) is actively involved in the leasing and permitting process for operations in state waters.	CDFW acts in an advisory capacity during the federal permitting process. Registration may be required from CDFW if the offshore operation has an additional aquaculture facility within California.
California state agencies are actively involved in the leasing and permitting process and are responsible for approving permits for operations in state waters.	California state agencies act in an advisory capacity during the federal permitting process. State agencies do not approve permits for aquaculture operations in federal waters.
California Coastal Commission (CCC) acts on a Coastal Development Permit (CDP) application.	CCC reviews for consistency with the Coastal Zone Management Act (CZMA) through a Federal Consistency Certification.
Finfish operations are not currently allowed in state waters.	Finfish operations are not prohibited in federal waters.

Additional resources to learn more:

- NOAA Guide to Permitting Marine Aquaculture in the United States
- NOAA Fisheries Aquaculture on the West Coast
- Permit Guide to Aquaculture in California | CDFW
- Aquaculture | CDFW
- California Aquaculture: Stakeholder Views and Recommendations for Moving Marine Aquaculture Projects Forward | Aquarium of the Pacific, CEA Consulting
- Guide to Aquaculture Permitting | CCC

Considerations for Your Operations

When planning for your future commercial aquaculture operation in state or federal waters, consider and research the following information ahead of meeting with your State or Regional Aquaculture Coordinator (Step 1) to ensure that you both have an informed and productive introductory conversation.

- **What motivates you to start an aquaculture operation in California? What markets will you serve?** Your rationale will help you respond to the questions below.
- **What species do you intend to culture?** Determining which species you are interested in producing will inform your operation plan, best management practices, permits, and authorizations you may need to obtain.

Resources

- Aquaculture | Food and Drug Administration (FDA)
- NOAA Fisheries Aquaculture References and Further Reading - Aquaculture Feeds
- NOAA Fisheries Aquaculture References and Further Reading - Ecosystem Services
- NOAA Fisheries Aquaculture References and Further Reading - Water Quality
- Publications from Western Regional Aquaculture Center (WRAC) - Sponsored Projects
- National Shellfish Sanitation Program (NSSP) | FDA

- **What culture and harvest methods do you plan to use?** The species you choose to cultivate will determine the culture and harvest methods needed for your operation.

Resources

- NOAA Fisheries Aquaculture References and Further Reading - Planning and Siting
- NOAA Fisheries Aquaculture References and Further Reading - Aquaculture Entanglements

- **Where will your operation be located?** The location of your operation is determined by the needs of the type of aquaculture, leasing availability, sensitive natural resources, impacts of adjacent pollution sources, presence of marine biotoxins, and other ocean space user constraints (e.g., protected areas, areas with high commercial and/or recreational use).

Resources

  - Southern California Aquaculture Opportunity Areas (AOA)
  - Coastal Aquaculture Planning Portal (CAPP) | National Centers for Coastal Ocean Science (NCCOS)
  - California Commercial Shellfish Growing Areas | California Department of Public Health (CDPH)
  - NOAA Fisheries Aquaculture References and Further Reading - Planning and Siting
  - NOAA Fisheries Aquaculture References and Further Reading - Water Quality
  - Surface Water Quality Assessment Program | California State Water Resources Control Board
  - California Marine Protected Areas (MPAs) | CDFW

- **What is your business plan?** How much product do you plan to culture? How will you get the product into the water and then harvest it? From which port(s) will your product be landed and distributed? What are your estimated costs for construction as well as operation and maintenance? What are your estimated labor needs for construction and then operation and maintenance?

Resources

  - Aquaculture in California | California Sea Grant
  - Coastal Aquaculture Planning Portal | NCCOS
  - Planning for Success in Your Aquaculture Business
  - Business Planning in Marine Aquaculture
  - Business Planning for Kelp Farming | Connecticut Sea Grant
  - Aquaculture Business Planning and Management | University of Maryland Extension
  - Open Grant Funding Opportunities | California Ocean Protection Council (OPC)
  - California Ocean Science Trust (OST)
  - Online Oyster Culture Course | Mississippi-Alabama-Louisiana Sea Grant

- **Have you considered costs associated with operations?** Consider start-up costs, ongoing costs (e.g., labor, maintenance, reporting, monitoring, testing requirements, yearly taxes, and registration fees), and removal costs. While there may not be a cost for a specific permit or certification, there can often be substantial costs associated with the required environmental reviews or third-party consulting necessary to help obtain the permit or certification. Early communication with state and federal agencies can help minimize potential costs to obtain a certification or permit.

Expansion of an Existing Aquaculture Operation

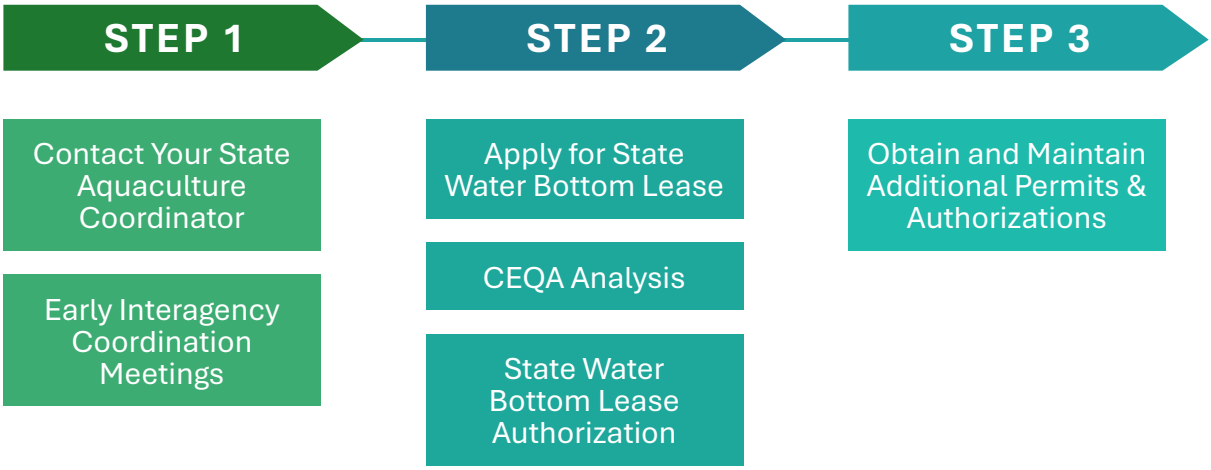
If you are a grower seeking to expand your operations or modify your original plan, please reach out to the State Aquaculture Coordinator or the NOAA Fisheries Regional Aquaculture Coordinator first to inform them of your plans and for additional guidance. You will need to coordinate with all relevant agencies in *Table 2* for operations in state waters, or *Table 5* for operations in federal waters, to either amend or apply for permits. A supplemental CEQA or NEPA analysis may also be required.

Connect with a Sea Grant Extension Agent! Sea Grant Extension Agents are excellent resources. View aquaculture resources from Sea Grant and reach out to a California Sea Grant or a National Sea Grant Extension Agent.

- California Sea Grant Extension - Aquaculture
- National Sea Grant Extension - Aquaculture

Leasing and Permitting Process in California State Waters

This flowchart provides a simplified overview of a complex permitting process. Each step contains multiple sub-steps and requires coordination with various government agencies. The tables and descriptions that follow offer clearer guidance on how to navigate the permitting process and engage with the relevant agencies.



STEP 1: Pre-Application Preparation

Contact Your CDFW State Aquaculture Coordinator

Early coordination with your CDFW State Aquaculture Coordinator is key to navigating the permitting process. The State Aquaculture Coordinator (SAC) can help refine your ideas, provide direction, and facilitate communication and scheduling of pre-application meetings with the appropriate state and federal agencies.

For operations proposed in state waters, contact the State Aquaculture Coordinator at the California Department of Fish and Wildlife.

Conduct Early Interagency Coordination Meetings with Government Agencies

Initial early interagency coordination meetings will be organized by CFGC and CDFW. The purpose of these meetings is to familiarize state and federal regulatory agencies with your proposed project and gather their initial feedback *before* submitting leasing and/or permitting applications. This will help ensure your permit application is complete when submitted. This is also a great opportunity for you to meet the agency representatives with whom you will be working later. See *Table 2* on page 11 for examples of questions

various agencies will likely ask about your project to provide guidance and determine your permitting pathways for proposed aquaculture operations in **state waters**.

- **Iterative process:** This is an iterative process in which an applicant may need to go back to project design after conducting early interagency coordination meetings.

TIP! Early engagement with your SAC, CFGC, and CDFW before a firm commitment to a project's location, construction, and operational details is established is highly recommended. Delays in coordination will likely result in longer timelines to obtain necessary permits and authorizations for your operation.

Table 2. *Questions various agencies will likely ask about your project to provide guidance and determine your permitting pathways for proposed aquaculture operations in **state waters**. Please refer to the list of acronyms to identify referenced agencies.*

Example Questions	Agencies										
	CCC	CDFW	CDPH	CFGC	California SLC	NOAA Fisheries	NOAA ONMS	Regional Water Boards	USACE	USCG - Local Sector	USFWS
Will you be growing and/or harvesting bivalve molluscan shellfish (shellfish)?	●	●	●	●				●	●		
Will you be growing algae, such as kelp or seaweed?	●	●		●				●	●		
Will you be collecting wild populations for cultivation?		●									
Could your operation impact threatened and endangered marine species, essential fish habitat (e.g., rocky reef, eelgrass, or kelp beds), protected marine mammals, or migratory birds?	●	●				●		●	●		●
Could your project result in a discharge into Waters of the United States (WOTUS), including but not limited to discharge of dredged materials?								●	●		
Will your operation be connected to onshore facilities or shoreline infrastructure?	●	●			●			●	●		
Does the location of your proposed operation overlap with cultural sites or shipwrecks?	●	●			●				●		
Does the location of your proposed operation overlap with a marine sanctuary or state marine protected area?	●	●		●	●		●	●	●		
Will you be installing structures in, over, or under the navigable waters of the United States?								●	●	●	

STEP 2: State Water Bottom Lease and CEQA

This step initiates the leasing process and must be completed before applying for other permits and authorizations. ***A state water bottom lease is only necessary for proposed aquaculture operations located in state waters.*** The agencies the applicant will work with the most during this part of the process are CFGC and CDFW.

State Water Bottom Lease

An aquaculture operation in California state waters within CFGC authority (as opposed to local jurisdiction authority in granted state lands – see Appendix A) must lease space in the ocean "state water bottom" which includes the ocean floor and the water column above. *Table 3* below provides details regarding the lease requirements. Evaluation of the lease application includes environmental review through the California Environmental Quality Act (CEQA, see next section) and Public Interest Determination processes prior to lease approval. You can refer to Title 14, California Code of Regulations, Section 237 for requirements for aquaculture leases and agreements.

Submitting the lease application initiates the CEQA and Public Interest Determination processes. These processes are led by CFGC in partnership with CDFW. The Public Interest Determination decision is determined after the CEQA process and the potential completion of additional studies to evaluate the socio-economic impacts and benefits of the operation. The final decision on the lease will be considered by the CFGC through its formal public process. **The applicant is responsible for bearing the cost of CEQA analysis,** while CFGC is the lead agency under CEQA.

Table 3. *Lease Requirements for Operations in **state waters** within CFGC authority.*

Authorization	Application Information & Requirements	Monitoring & Reporting Requirements
State Water Bottom Lease	• Required for projects in state waters within CFGC authority. • Applicants are typically awarded an initial lease for a 10 to 15-year term, with an option to renew. • State water bottom leases cannot currently be issued for marine finfish aquaculture. • A state water bottom lease is required before subsequent permits will be issued.	Proof-of-Use Reports from leaseholders, which provide important production statistics and estimates of cleanup cost projections. Annual verification of planting and harvesting activities on all state water bottom aquaculture leases must be submitted

Authorization	Application Information & Requirements	Monitoring & Reporting Requirements
	Additional Resources: • State aquaculture leasing information leaflet • Aquaculture lease approval process diagrams • Public interest criteria and evaluation framework for aquaculture leases • Leasing information, including state water bottom lease application requirements, lease approval process diagrams, and public interest criteria and evaluation for new leases, is available here. **Issuing Agency:** CFGC **Application Requirements:** • Description of state lands which the applicant intends to lease and on which the operations are to occur. • Description of the area involved and a reference map showing the exterior boundaries of the area (tied to monuments of record). • An explanation of the type of operation including the aquaculture practices and/or relay or depuration activities to be employed. • Whether the areas involved in the relay or depuration operation have been classified by the CDPH. **Additional Information Needed to Conduct CEQA Analysis and Evaluate an Application:** • Studies to evaluate potential biological, archeological, and cultural impacts. See CEQA Appendix G and Public Interest Considerations Criteria. • Studies to evaluate the potential socio-economic impacts and benefits	to CDFW's Aquaculture Coordinator on or before February 1 each year, for the preceding year (January 1 – December 31).

Authorization	Application Information & Requirements	Monitoring & Reporting Requirements
	of the operation (to support public interest evaluation). • Plans for Financial Surety funding. **Cost:** Applicant is responsible for covering the cost of the CEQA Analysis. **Timeframe:** Variable. 2+ years	

CEQA Process

CEQA is the state's mandated environmental review process. It is not a permit. CEQA requires government agencies to consider the environmental consequences of proposed projects before approving plans and policies or committing to a course of action on a project. In this case, the project is the state water bottom lease authorization for a proposed aquaculture operation.

The purpose of CEQA is to (1) inform government decision-makers and the public about the potential environmental effects of proposed activities; (2) identify the ways that environmental damage can be avoided or significantly reduced; (3) prevent significant, avoidable environmental damage by requiring changes in projects, either by the adoption of alternatives or imposition of mitigation measures; and (4) disclose to the public why a project was approved if that project has significant environmental impacts that cannot be mitigated to a less than significant level.

CEQA and permitting are separate processes that sometimes occur in parallel. The same agencies may be involved in both processes.

Proposed aquaculture operations that require a state water bottom lease for California state waters must *comply* with CEQA. CFGC will take the lead in the CEQA process on behalf of the project applicant, though **the applicant is required to bear the cost of CEQA preparation.** If your proposed aquaculture operation is within granted state waters (see page 25) please contact your local trustee to ask about the CEQA process.

Upon receiving an application for a state water bottom lease, the CFGC, in addition to initiating CEQA, may be required to formally engage with:

- **California Native American Tribes** via Assembly Bill (AB) 52 Consultation to assess the project's impacts on tribal cultural resources.
- **State Historic Preservation Office (SHPO)** to assess the impact of the construction and operation on impacts to historic properties.

- **NOAA Fisheries** to assess the impacts of the proposed construction and operation on essential fish habitat, endangered species, and marine mammals.
- **Office of National Marine Sanctuaries (ONMS)** to conduct a Section 304(d) Consultation and assess the impact of the construction and operation on marine sanctuaries and ensure compliance with the National Marine Sanctuaries Act (NMSA).
- **Impacted stakeholders,** including fishing communities, who can comment during the public review process.

State Water Bottom Lease Authorization

The final authorizations of the state water bottom lease are conducted in a CFGC public hearing(s) and include:

- Certification of the CEQA document
- Determining that the lease is in the public interest
- Issuance or authorization of the lease

STEP 3: Permits and Other Authorizations for Operations in State Waters

Permits and Authorizations

After you have initiated the state water bottom lease and CEQA processes, it is highly encouraged that you reach out to the other permitting agencies you met during your early interagency coordination meetings (also described below) to begin their permitting or authorization processes. Permits may not be issued until *after* a state water bottom lease is obtained, however, the processes can be conducted in parallel. And it is good to get a jump start! Acquiring the necessary permits and authorizations for aquaculture operations in state waters requires coordination with *both* state and federal agencies. Indeed, this can be confusing. Here are the agencies involved:

State Agencies

- **CCC** will ensure compliance with the California Coastal Act (CCA) and act on a Coastal Development Permit (CDP).
- **CDPH** will ensure shellfish sanitation standards by classifying a growing area in compliance with the National Shellfish Sanitation Program (NSSP) and issuing a Shellfish Growing Area Certificate.
- **Regional Water Quality Control Boards** will assess the impacts of the construction and operation of your project on water quality and issue a Section 401 Clean Water Act Certification.
- **CDFW** will issue an Aquaculture Registration that includes the species approved for each facility location.

Federal Agencies

- **U.S. Army Corps of Engineers (USACE)** will assess the impacts of the construction and installation of your project in compliance with Section 10 of the Rivers and Harbors Act (RHA) and will ensure compliance with Section 404 of the Clean Water Act (CWA) if your project results in discharges of dredged or fill material. USACE also formally consults with **NOAA Fisheries** and/or **U.S. Fish and Wildlife Service (USFWS)** to assess potential impacts to threatened and endangered species, critical habitat, and other federal resource protection statutes. The permit issued by USACE incorporates conditions resulting from these consultations.
    - *Note: USACE may conduct its permit process concurrently with the CEQA process. In some cases, the USACE may provide comments on a CEQA document.*
- **U.S. Coast Guard (USCG)** will assess impacts to navigation and issue a Private Aids to Navigation (PATON) permit. USCG may also require that a Navigation Safety Risk Assessment (NSRA) be conducted during the federal permitting process.

Table 4 on the following page lists potential permits or authorizations you may need for your proposed aquaculture operation in state waters. Work with your CDFW State Aquaculture Coordinator to identify all permits and authorizations you need to obtain for your operation.

Table 4. *Permit and other authorization requirements for operations in* ***state waters.*** *Not all aquaculture operations require all the permits and authorizations listed herein. Required permits and authorizations are specific to each operation. Additional mitigation and monitoring may be applicable in response to the various interagency consultation processes.*

Authorization	Application Information & Requirements	Monitoring & Reporting Requirements
Coastal Development Permit	★ Required for any project in state waters. *Additional Resource:* • CCC Guide to Aquaculture Permitting **Issuing Agency:** CCC **Application Information and Requirements:** • If your proposed project is within San Diego Bay, apply for this permit through the Port of San Diego. • Applicants and their representatives fill out and sign the downloadable CDP application form found here and submit it along with a detailed project description and attachments. • Project description must include details of proposed development using recent maps of current conditions, site plans, project plans, photographs of the site of proposed development, and vicinity map sufficient to determine whether the project complies with all relevant policies of the Coastal Act. Sufficient information concerning land and water areas in the vicinity of the site of the proposed project (whether or not owned or controlled by the applicant) should be described as well as the coastal resources that may be affected by the proposed project. Project descriptions must also include any feasible	**Monitoring requirements are permit-specific but may include the following:** • Regular gear and bed inspections and removal of escaped equipment. • Plan for gear marking and maintenance. • Pre-construction surveys to describe and verify substrate type and presence or absence of sensitive species such as eelgrass. • Marine wildlife observers required during construction. • Benthic surveys following the removal of legacy gear. • Inspections for Pacific herring spawning activity prior to out-planting and or harvest. • Spill prevention and response plan. • An annual report with information on cleanup events and operational changes under consideration. • Other monitoring requirements based on potential impacts to

Authorization	Application Information & Requirements	Monitoring & Reporting Requirements
	alternatives, or any feasible mitigation measures available which would substantially lessen any significant adverse impact that the development may have on the environment. • Pre-construction surveys documenting marine resources in and adjacent to the project site such as a bathymetric survey, sediment grab samples, fish surveys, or water quality samples. • Review of recent marine mammal, marine reptile, and avian data to determine the potential for animal interactions with ocean infrastructure. • Documentation of the applicant's legal interest in all property upon which work would be performed if approved. • Performance bond. **Cost:** Based on the total development cost. The CDP application fee is determined by filling in the applicable amounts in Appendix E of the downloadable application form here. **Timeframe:** Variable. CCC staff has 30 days to determine if the application is "complete" once submitted. Once the application is deemed complete, it can take up to180 days for CCC staff to conduct its review and prepare a staff report and recommendation for the Commission to act on the application.	sensitive coastal resources may include enhanced marine debris monitoring and collection, benthic habitat and marine mammal monitoring and avoidance, rates of biofouling and invasive species monitoring, and interactions with recreational activities near the project site.
United States Army Corps of Engineers Permit: Section 10 RHA and Section 404 CWA	Construction of an operation in the Waters of the United States (WOTUS) requires a Section 10 Rivers and Harbors Act Permit for installation of structures, and/or a Section 404 Clean Waters Act Permit for discharges of dredged or fill material.	**Pre-Construction:** • Conduct baseline site characterization surveys prior to application for permit

Authorization	Application Information & Requirements	Monitoring & Reporting Requirements
	Additional Resources: • There are three options for obtaining a permit: General Permits (GP), Letter of Permission (LOP), and Standard Individual Permit (SIP). Learn more about each of these permits here. • View a sample Nationwide Permit (NWP, a type of GP) application form here. **Issuing Agency:** USACE **Application Requirements:** • Narrative project description that includes information on everything that is currently or would occur in, over, or underwater plus related landside work and locations • Legible maps and scaled drawings of the operation - must use agency drawing standards • Latitude and longitude of the proposed project • A list of all required agency approvals and denials, and the current status • Copy of approved state water bottom lease, for operations in state waters only • Information on alternative sites, facility designs, mooring systems, project designs • Biological assessment. See the ESA consultation handbook • Essential fish habitat (EFH) assessment. Additional information may be required to inform an EFH consultation. See the EFH Guide for more information. • Marine mammal impact assessment	**Operation Construction Requirements:** • Monitor authorized construction to ensure no additional impacts beyond those identified in the project proposal • Monitor placement and integrity of mooring systems, buoys, and growing lines

Authorization	Application Information & Requirements	Monitoring & Reporting Requirements
	• Historic sites impact assessment • Engineering analysis of proposed gear under typical ocean conditions and storms • A siting study. Use NOAA Marine Cadastre and Ocean Reports • Plans for monitoring and maintaining structures • Plans for conducting benthic habitat monitoring • A schedule for regular monitoring and reporting • Plans for gear marking and recovery • Contingency plans for species entanglement and decommissioning **Cost:** $0 for GP, $100 for LOPs and SIPs **Timeframe:** 60-120 days once an application is deemed complete, depending on the permit type and project complexity. Consultations and other agency process may substantially extend these processing times.	
Section 401 Clean Water Act Certification (401 Certification)	★ The 401 Certification ensures that the project proponent's discharge of dredged or fill material will not violate state water quality standards and will be consistent with all applicable water quality control plans and policies for water quality control. *Additional Resources:* • 401 Water Quality Certification and Wetlands Program | California State Water Resources Control Board	**Post-Dredge and During Construction:** • Surface water sampling - turbidity, suspended or dissolved contaminants (e.g., metals and pesticides) • Sediment sampling - contaminant exposure Monitoring and reporting requirements may be included as conditions of a certification.

Authorization	Application Information & Requirements	Monitoring & Reporting Requirements
	• Final 2023 CWA Section 401 Water Quality Certification Improvement Rule | U.S. Environmental Protection Agency (USEPA) **Issuing Agency:** Regional Water Quality Control Boards **Application Requirements:** • Applicants must request a pre-filing meeting and submit a request for certification with the minimum required contents in accordance with the final 2023 rule. It is recommended to invite USACE to the pre-filing meeting. • The California Code of Regulations (CCR § 3856) and the State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State (Dredge or Fill Material) list items required to be submitted with applications, and define procedures for submittal, review, and approval of 401 Certifications. **Cost:** Refer to the Water Board fees to determine the fees for 401 certifications issued by the Water Boards. **Timeframe:** Within 30 days of receiving all items listed in the California Code of Regulation title 23, section 3856 "Contents of a Complete Application," the certifying Regional Water Board shall notify the applicant whether the application is complete or notify the applicant if additional information is needed. The federal agency and certifying Regional Water Board will set a reasonable period of time to act on the 401 Certification request but cannot exceed one year from the day the Water Board deems the application complete.	

Authorization	Application Information & Requirements	Monitoring & Reporting Requirements
Shellfish Growing Area Certificate	★ Based on the National Shellfish Sanitation Program (NSSP) and CDPH requirements for shellfish growing areas and the siting of any shellfish aquaculture operation in the state of California to ensure compliance with shellfish sanitation standards. ★ View California Commercial Shellfish Growing Areas. **Issuing Agency:** CDPH **Application Requirements:** • Authorization to use growing area lease site. • Applicant to support water quality sampling according to a Sampling Plan. **Cost:** $0 Application fee. Variable cost for water quality sampling according to a Sampling Plan. **Timeframe:** Variable; likely one year minimum. Dependent on location and pollution sources and coverage under existing growing area sanitary survey.	**Pre-certificate:** • Sample plan for water quality. **After the certificate is issued, monitoring requirements are specific to the growing area but may include the following:** • Water quality monitoring • Marine biotoxin monitoring • Sampling audits • Harvest log audits
Private Aids to Navigation (PATON) Permit	★ Private Aids to Navigation (including buoys, lights, or day beacons) are necessary for offshore aquaculture operations to mark structures and any hazards to navigation, or facilitate operation navigation. **Issuing Agency:** USCG (contact the PATON Program Manager) **Application Requirements:** USACE permit or concurrence from USACE that a NWP is applicable. **Cost:** $0 **Timeframe:** 30 days	**Regular inspections:** • Condition, operational state, and position of aids are inspected and verified by the USCG Auxiliary • Completed on a 3-to-5-year cycle, depending on the class of the aid

Authorization	Application Information & Requirements	Monitoring & Reporting Requirements
Navigation Safety Risk Assessment (NSRA)	★ The USCG Navigation Center conducts Automatic Identification System analysis and modeling in support of NSRAs at the request of, or in response to, a permitting agency that is considering a project proposal from an applicant that will occur on or near the navigable waters of the United States. ★ If requested and issued, USACE will require a copy of the final NSRA. **Issuing Agency:** USCG **Application Requirements:** Proposed site coordinates. **Cost:** $0 **Timeframe:** 90 days (estimated)	
Aquaculture Registration	★ After obtaining all necessary permits, then register your aquaculture facility before commencing operations. ★ Requires annual renewal. **Issuing Agency:** CDFW **Application Requirements:** One application must be completed for each facility. However, operations with multiple facilities are only charged one registration fee. **Cost:** Variable. See more information here. **Timeframe:** 30 days	

*For more information on permits and authorizations required for proposed operations in **state waters**, see the CDFW Aquaculture Permit Guide.*

Lease of *Granted* State Lands

Some areas of California's public state lands (tidelands and submerged land) have been granted by the legislature to local trustees, such as cities, counties, ports, and harbor districts. **If the desired location is within one of these granted areas, the local trustee is the leasing entity and likely, the CEQA lead.** Please reach out to the respective local trustee in this case.

Note that each granting statute is unique, and there is no standard boundary designation of each grant. In other words, some grants extend from the shore to the state-federal boundary offshore, some are patchy and not contiguous, etc. Also, not all grants allow for aquaculture operations within those granted lands.

A Preview of Ongoing Costs and Requirements to Maintain Your Permits

Your aquaculture project will have associated construction monitoring, operation monitoring, and mitigation requirements that must be met and reported on in accordance with permit conditions and/or CEQA. These requirements are unique to each project. See *Table 4* above for an overview of potential monitoring requirements.

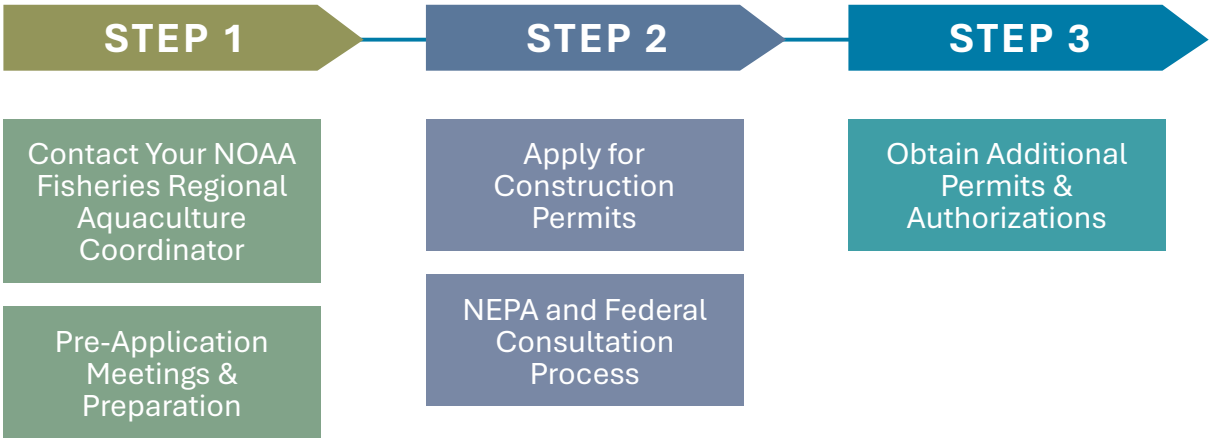
Additionally, as with any business, there are regular and ongoing costs associated with general operation. Here is a short list of likely **costs and reporting requirements** necessary to maintain your permits:

- Pay rent on your lease
- Pay monthly privilege taxes
- Submit annual Proof-of-Use report (a report on harvest statistics)
- Renew your aquaculture registration annually
- Renew other entitlements (leases and permits) as required before expiration or making changes to your project (for example, additional culture methods or species, expanded footprints, etc.)
- Insurance
- Letter of Credit or other agency-approved financial surety instrument to ensure adequate funding is available for full facility removal and clean-up

As before, your State Aquaculture Coordinator will be there to guide you through the specific ongoing requirements for your operation.

Permitting and Authorizations in Federal Waters

This flowchart provides a simplified overview of a complex permitting process. Each step contains multiple sub-steps and requires coordination with various government agencies. The tables and descriptions that follow offer clearer guidance on how to navigate the permitting process and engage with the relevant agencies.



STEP 1: Pre-Application Preparation

Contact Your NOAA Fisheries Regional Aquaculture Coordinator

Early coordination with your NOAA Fisheries Regional Aquaculture Coordinator is key to navigating the permitting process. Federal aquaculture coordinators can help refine your ideas, provide direction, and facilitate communication with the appropriate state and federal agencies.

For commercial operations proposed in federal waters off the coast of California (i.e., waters that extend from three nm to 200 nm from shore), contact the NOAA Fisheries West Coast Regional Aquaculture Coordinator (RAC).

Conduct Pre-application Meetings with USACE, CCC, and Federal Agencies

The purpose of these pre-application meetings with USACE, CCC and other regulatory agencies is to familiarize the agencies with your proposed operation, gather feedback on your proposed operation, and help you understand what is needed for a complete application *before* submitting permit applications. USACE and CCC will be the main contacts at the beginning of this federal permit process. This is also a great opportunity for

you to meet the agency representatives with whom you will be working later. See *Table 5* on the following page for questions various agencies will likely ask about your project to provide guidance and determine your permitting pathways for proposed aquaculture operations in **federal waters.**

TIP! Early engagement with the RAC, USACE, CCC and other regulatory agencies *before* a firm commitment to a project's location, construction, and operational details is established is highly recommended. Delays in coordination will likely result in longer timelines to obtain necessary permits and authorizations for your operation.

Table 5. *Questions various agencies will likely ask about your project to provide guidance and determine your permitting pathways for proposed aquaculture operations in* ***federal waters.*** *Please refer to the list of acronyms to identify referenced agencies.*

Example Questions	Agencies									
	CCC	CDFW	FDA	NOAA Fisheries	NOAA SIP	NOAA ONMS	USACE	USCG	USEPA	USFWS
Will you be growing shellfish?	●	●	●	●	●		●			
Will you be growing algae, such as kelp or seaweed?	●	●	●	●			●			
Will you be growing finfish?	●	●	●	●			●		●	
Will you be collecting wild populations for cultivation?		●		●			●			
Could your operation result in significant impacts on the environment?	●						●		●	
Could your operation impact threatened and endangered marine species, essential fish habitat (e.g., rocky reef, eelgrass, or kelp beds), protected marine mammals, or migratory birds?	●	●		●			●			●
Does the location of your proposed project overlap with a marine sanctuary?	●	●		●		●	●			
Does the location of your proposed operation overlap with cultural sites or shipwrecks?	●						●			
Will you be installing structures in, over, or under the navigable waters of the United States?							●	●		
Will your project discharge pollutants into WOTUS from a point source, like finfish operations?									●	
Do you require technical assistance with getting your project operational?				●						

STEP 2: Construction Permits and NEPA Process

Section 10 Rivers and Harbors Act Permit

The process for obtaining a Section 10 Rivers and Harbors Act (RHA) permit is the first step in the permitting process for proposed operations in federal waters. A Section 10 RHA permit is required for any work activity or installation of structures in, over, or under the navigable waters of the United States. It is a construction permit issued by USACE. There are three options for obtaining a permit: General Permits (GP), Letter of Permission (LOP), and Standard Individual Permit (SIP). Your contact at USACE will help determine the best option for your proposed aquaculture operation.

NEPA Process

The National Environmental Policy Act (NEPA) is a federal law that requires federal agencies to consider environmental impacts before making decisions on proposed actions or projects. In this case, the project is the proposed aquaculture operation. NEPA is a mandated environmental review process. It is not a permit.

Federal agencies are responsible for NEPA compliance. USACE will take the lead in the NEPA process on behalf of the project applicant and will complete the NEPA process *as part of* its permitting process. The NEPA process may include the preparation of an Environmental Assessment (EA) or an Environmental Impact Statement (EIS) that evaluates the potential environmental, cultural, and socio-economic effects (both beneficial and detrimental) of a project, and includes methods to mitigate adverse impacts.

USACE may consult and/or coordinate with other regulatory or resource protection agencies, including:

- **Department of Defense** (DOD) Clearinghouse coordination to assess any national security conflicts and available options for mitigation.
- **SHPO** to assess impacts to listed or eligible historic properties and ensure compliance with the National Historic Preservation Act (NHPA).
- **Native American Tribes** and **California Native American Tribes** to assess the project's impacts on sacred lands, traditional cultural properties and practices, treaty rights, and Native American lands.
- **USFWS** to assess impacts to federally listed threatened or endangered species and designated critical habitat under the purview of the USFWS.
- **NOAA Fisheries** to assess impacts to federally listed threatened or endangered species and designated critical habitat under the purview of NOAA Fisheries. In addition, NOAA Fisheries addresses Essential Fish Habitat (EFH) during consultation to assess impacts to EFH or federally managed species complexes and coordinates on compliance with the Marine Mammal Protection Act (MMPA).

- **CDFW** as a trustee state agency for potential impacts to state resources.
- **ONMS** to complete a Section 304(d) Consultation and assess impacts to marine sanctuaries, if applicable.
- **CCC** as a state agency that regulates the use of land and water in the coastal zone, and with review authority over federally permitted activities with effects on coastal zone resources (see below).
- **USEPA** to assess impacts to water quality in WOTUS (relevant to finfish operations).

STEP 3: Apply for Permits and Authorizations

Permits and Authorizations

After you have initiated the USACE permitting process, it is highly encouraged to reach out to the RAC who will connect you with the other permitting and authorizing agencies described below to begin their permitting and site review processes. The permit from USACE may not be issued until *after* permits or authorizations are obtained from these other agencies:

- **NOAA SIP/FDA** will coordinate the NSSP shellfish growing area classification/FDA sanitary survey. This is part of the initial contract application requirements for safe and sanitary control of shellfish harvested from federal waters and sold for human consumption.
- **CCC** will act on a consistency certification when reviewing for compliance with the CZMA. This process needs to be completed before a final USACE permit (or final USEPA permit for a finfish facility) can be granted and should therefore be coordinated with CCC staff prior to submission of a permit application to USACE (or USEPA).
- **USCG** will assess impacts to navigation and issue a Private Aids to Navigation (PATON) Permit. USCG may also require that a Navigation Safety Risk Assessment (NSRA) be conducted during the federal permitting process.
- **USEPA** will assess the discharge of pollutants into federal waters and issue a Section 402 Clean Water Act National Pollutant Discharge Elimination System (NPDES) permit.

Table 6 on the following page lists potential permits or authorizations you may need for your proposed facility construction and aquaculture operation in **federal waters.** Work with your NOAA Fisheries Regional Aquaculture Coordinator to identify all permits and authorizations you need to obtain for your operation.

Table 6. *Permits and other authorization requirements for operations in* ***federal waters.*** *Not all aquaculture operations require all the permits and authorizations listed herein. Required permits and authorizations are specific to each operation. Additional mitigation and monitoring may be applicable in response to the various interagency consultation processes.*

Authorization	Application Information & Requirements	Monitoring & Issuance Requirements
Section 10 Rivers and Harbors Act Permit	★ Required for any work activity or installation of structures in, over, or under the navigable waters of the United States. *Additional Resources:* • There are three options for obtaining a permit: General Permits (GP), Letter of Permission (LOP), and Standard Individual Permit (SIP). Learn more about each of these permits here. • View a sample Nationwide Permit (NWP, a type of GP) application form here. **Issuing Agency:** USACE **Application Requirements:** • Narrative project description that includes information on everything that is currently or would occur in, over, or underwater plus related landside work and locations • Legible maps and scaled drawings of the operation – must use agency drawing standards • Latitude and longitude of the proposed project • A list of all required agency approvals and denials, and current status • A siting study. Use NOAA Marine Cadastre and Ocean Reports	**Pre-Construction:** • Conduct baseline site characterization surveys prior to application for a permit **Operation Construction Requirements:** • Monitor authorized construction to ensure no additional impacts beyond those identified in the project proposal • Monitor placement and integrity of mooring systems, buoys, and growing lines

Authorization	Application Information & Requirements	Monitoring & Issuance Requirements
	• Information on alternative sites, facility designs, mooring systems, project designs • Biological assessment. See the Endangered Species Act (ESA) consultation handbook • Essential fish habitat (EFH) assessment. Additional information may be required to inform an EFH consultation. • Marine mammal impact assessment • Historic sites impact assessment • Engineering analysis of proposed gear under typical ocean conditions and storms • Plans for monitoring and maintaining structures • Plans for conducting benthic habitat monitoring • A schedule for regular monitoring and reporting • Plans for gear marking and recovery • Contingency plans for species entanglement and decommissioning **Cost:** $0 for GP, $100 for LOPs and SIPs **Timeframe:** Variable. Processing time of 60-120 days for permits, however, the NEPA consultation process extends beyond this processing time.	
Federal Consistency Certification	• Projects in federal waters with the potential to affect coastal resources or uses require a Consistency Certification per the Coastal Zone Management Act's requirements. • CCC's concurrence with a consistency certification should be provided *before* a USACE permit is granted.	**Issuance and monitoring requirements are specific to each project but may include the following:** • Pre-construction survey to describe and verify substrate type.

Authorization	Application Information & Requirements	Monitoring & Issuance Requirements
	Additional Resources: • CCC Guide to Aquaculture Permitting • Examples of consistency certifications can be found here: Federal Consistency Program **Issuing Agency:** CCC **Application Requirements:** • All applicants for required federal licenses or permits subject to CCC review shall provide in the application to the federal licensing or permitting agency a certification that the proposed activity complies with and will be conducted in a manner consistent with California's Coastal Management Program. At the same time, a copy of the consistency certification must be submitted to the State agency. • The applicant's consistency certification shall state: "The proposed activity complies with the enforceable policies of California's approved management program and will be conducted in a manner consistent with such program." • The applicant must provide a detailed project description with necessary data and information to support the consistency certification, including a copy of the application for the federal license or permit and a detailed description of the proposed activity, its associated facilities, the coastal effects, and any other information relied upon to make the consistency certification. **Cost:** Based on the total cost of development. The fee for a consistency certification submittal is determined by filling	• Marine wildlife observers required during construction. • Post-construction monitoring and/or analyses including accumulation of biological material or other marine debris in the project area; benthic habitat and marine mammal monitoring; rates of biofouling and invasive species; water current speeds; adverse effects to commercial and recreational fishing activities (e.g., damaged fishing gear, lost catch). • Regular gear inspections, removal of escaped equipment, and facility inspections following significant storm events to ensure structural integrity. • Implementation of a lost/ damaged fishing gear compensation program that would allow fishermen to recover a gear loss or cost incurred as a result of the project. • Plan for gear marking and maintenance.

Authorization	Application Information & Requirements	Monitoring & Issuance Requirements
	in the applicable amounts in Appendix E of the CDP application form found here. **Timeframe:** Variable. Six-month review period once the application is determined "complete."	• Spill prevention and response plan. • An annual report providing the results of monitoring activities and the data collected to support statistical and/or observational analyses. The annual report must also discuss any adaptive management techniques proposed to address any adverse impacts observed.
Section 402 (NPDES) Clean Water Act Permit	★ Required for operations that will discharge pollutants into U.S. waters from a point source, like finfish operations. *Additional Resources:* • NPDES Applications and Forms – EPA Applications • Learn about your local watershed **Issuing Agency:** USEPA **Application Requirements:** • USEPA requires the operator to submit a Baseline Environmental Survey at the very beginning of the project scoping and prior to submitting NPDES application forms. • NPDES Permit Application forms, 1 and 2B, will need to provide a business plan describing net pen installation timelines (scale up), operations and maintenance, and potential need for administration of drugs to fish, EPA may	**Water Quality Parameters:** • Dissolved oxygen • pH • Temperature • Total suspended solids • Chlorophyll-a • Sulfide • Copper • Total ammonia-N • Total nitrogen • Total phosphorous • Ortho-phosphorus • Pathogens (e.g., coliform, viruses, etc.)

Authorization	Application Information & Requirements	Monitoring & Issuance Requirements
	ask for supplemental information for the facility. • Permit Requirements: discharge effluent limitations, including effluent limitation guidelines, monitoring, and reporting requirements (these are site-specific). • Description of water quality assessment, i.e., describe if the waterbody is impaired and identify all associated pollutants. **Cost:** To be determined **Timeframe:** Variable	**Water Quality-Associated Parameters:** • Fish biomass • Feed rate • Feed conversion ratio • Emerging contaminants (from feed that may have mercury and/or PCBs) • Medicinal products • Antifouling agents • Current measurements (direction and speed) **For finfish farms, water quality sampling is required for site up current, effluent, and down current at approximately mid-cage depth.* **Sediment Physical Characteristics:** • Particle size distribution • Total solids **Sediment Chemical Composition:** • Total volatile solids • Total organic carbon • Total nitrogen • Total phosphate • Hydrogen sulfide • Sediment oxygen demand

Authorization	Application Information & Requirements	Monitoring & Issuance Requirements
		Other: • Benthic Infauna in Sediment Below Cage
Private Aids to Navigation (PATON) Permit	★ Private Aids to Navigation, including buoys, lights, or day beacons, are necessary for offshore aquaculture operations to mark structures, and any hazards to navigation, or facilitate operation navigation. **Issuing Agency:** USCG (contact the PATON Program Manager) **Application Requirements:** USACE permit or concurrence from USACE that a NWP is applicable. **Cost:** $0 **Timeframe:** 30 days	**Regular Inspections:** • Condition, operational state, and position of aids are inspected and verified by the USCG Auxiliary • Completed on a 3-to-5-year cycle, depending on the class of the aid
Navigation Safety Risk Assessment	★ The USCG Navigation Center conducts Automatic Identification System analysis and modeling in support of Navigation Safety Risk Assessments (NSRAs) at the request of, or in response to, a permitting agency that is considering a project proposal from an applicant that will occur on or near the navigable waters of the United States. ★ If requested and issued, USACE will require a copy of the final NSRA. **Issuing Agency:** USCG **Application Requirements:** Proposed site coordinates.	

Authorization	Application Information & Requirements	Monitoring & Issuance Requirements
	Cost: $0 **Timeframe:** 90 days (estimated)	
NSSP (NOAA SIP Contract)	★ Required for shellfish only. ★ The NSSP requires all federal waters shellfish harvesters to enter into a NOAA Seafood Inspection Program (NOAA SIP) contract to harvest and land shellfish at a state-certified shellfish dealer. The NOAA SIP contract serves as the mechanism for the control of shellfish harvested from federal waters to ensure the protection of human health. NOAA SIP and FDA work cooperatively with industry to define and document the NSSP requirements within the NOAA SIP contract. **Issuing Agency:** Per the NSSP, NOAA SIP in coordination with the FDA **Application Requirements:** • Contact the NOAA SIP and/or FDA to understand the requirements to obtain a NOAA SIP contract. **Cost:** Harvesters are responsible for the cost of marine biotoxin testing, and inspection services when required, (e.g., marine biotoxin test results review and release of product, and or harvest controls/inspection). All requirements to meet the NSSP requirements are contained in the contract, for which the contract application does not have an associated fee. **Timeframe:** Variable	**Water Quality Parameters:** • Total or Fecal Coliform • Male Specific Coliphage (MSC) **Shellfish Tissue Parameters:** • Total or Fecal Coliform • MSC • Amnesic Shellfish Poisoning (ASP) • Diarrhetic Shellfish Poisoning (DSP) • Neurotoxic Shellfish Poisoning (NSP) • Paralytic Shellfish Poisoning (PSP) • Azaspiracid Shellfish Poisoning (AZP) **Biotoxin Parameters:** • Phytoplankton

*For more information on permits and authorizations required for proposed operations in **federal waters**, see the NOAA's Guide to Permitting Marine Aquaculture in the United States (2022).*

A Preview of Ongoing Costs and Requirements to Maintain Your Permits

Your aquaculture project will have associated construction monitoring, operation monitoring, and mitigation requirements that must be met and reported on in accordance with permit conditions. These requirements are unique to each project. See *Table 5* above for an overview of potential monitoring requirements.

Additionally, as with any business, there are regular and ongoing costs associated with general operation. For example:

- Renewal of permits and submission of fees as required before expiration
- Monitoring completed by qualified businesses or individuals
- Insurance
- Letter of Credit or other agency-approved financial surety instrument to ensure adequate funding is available for full facility removal and clean-up

As before, your NOAA Fisheries Regional Aquaculture Coordinator will be there to guide you through the specific requirements for your operation.

Frequently Asked Questions

How do I get started with permitting my aquaculture operation?
If your operation will be in federal waters, contact the NOAA Fisheries Regional Aquaculture Coordinator. If your operation will be in state waters, contact the State Aquaculture Coordinator.

What is the difference between California state and federal waters?
State waters are regulated by state agencies and USACE (territorial seas) (33 CFR 328(a)(1)). State waters span from the state lands boundary (generally the mean high tide line) out to 3 nm. Federal waters are regulated by federal agencies and span three nm to 200 nm off the coast (33 CFR 329.12(a) and 33 CFR 322.3(b)).

How are potential environmental impacts considered when aquaculture permit applications are reviewed?
The permitting agencies identified in this guide thoroughly evaluate the potential environmental impacts of an aquaculture operation before granting or denying a permit, or other authorization. These potential environmental impacts include but are not limited to:

- Marine mammals (MMPA)
- Threatened and endangered species and designated critical habitat (ESA)
- Essential fish habitat (EFH) including Habitat Areas of Particular Concern (HAPC) (Magnuson-Stevens Fishery Conservation and Management Act)
- Water quality
- Commercial and recreational fisheries
- Fish and wildlife resources (health of wild stocks, food sources for farmed fish)
- Cultural resources
- Historic places (National Historic Preservation Act)
- National Marine Sanctuaries (National Marine Sanctuaries Act)
- State coastal resources (Coastal Zone Management Act, California Coastal Act)
- Other factors, such as noise, vessel and landside traffic, aesthetics, landside facility requirements, and cumulative impacts

If, through the CEQA or NEPA analysis process, it is determined that a resource would be impacted, the lead agency will work with the applicant to mitigate impacts through design changes or reductions in the size or scope of the facility.

Are impacts to tribal resources considered when permitting aquaculture operations?
Yes. Projects in state and federal waters follow similar tribal consultation policies. State agencies evaluating aquaculture projects must adhere to the AB52 Tribal Consultation

policy, while federal projects follow the USACE's tribal coordination policy in compliance with Section 106 of the NHPA. In both cases, tribes are invited to provide input and may request government-to-government consultation.

How long does it take for a new aquaculture operation to obtain all necessary permits and authorizations?
Offshore aquaculture (both in state and federal waters) is a developing industry in the U.S., therefore every project and permitting process is somewhat unique, so the permitting process may take multiple years.

What financial costs should be considered for the permitting process?
Every project and permitting process is unique, so the potential costs may vary considerably. Preparation of the CEQA and NEPA documents contribute to such cost variables, as does monitoring, testing, sample analyses, data collection, data analyses, studies, and supporting reports to inform permitting processes.

Where can I learn more about aquaculture?

- Learn more about permitting aquaculture in federal waters:
  - NOAA Fisheries Offshore Aquaculture Permitting Guide
- Learn more about permitting aquaculture in California State waters:
  - California's Aquaculture Permitting Counter
  - CCC Guide to Aquaculture Permitting

Glossary of Terms

AB52 Consultation | Consultation with local tribes by public agencies during the CEQA process to assess potential impacts of an aquaculture operation in state waters on tribal cultural resources.

AOA Atlas | Information on Aquaculture Opportunity Areas in the United States.

Aquaculture Opportunity Area | An AOA is a defined geographic area that has been evaluated to determine its potential suitability for commercial aquaculture.

Biological Assessment | An analysis to determine if a planned project could harm endangered species or their habitats. It looks at whether the project might negatively affect species that are already listed as endangered, those that are being considered for listing, or their critical habitats. This assessment is required for major construction projects. The results decide if further consultation is needed to protect these species.

CEQA Process | An analysis by California government agencies of the potential environmental impacts of a project—in this case an aquaculture operation—on the local environment.

Essential Fish Habitat | Habitat necessary to fish for spawning, breeding, feeding, or growth to maturity.

Financial Assurances / Financial Surety and Removal Plans | These are used to ensure the decommissioning and removal of aquaculture structures and restoration of the area to its original condition. Various financial instruments may be used for this purpose, including surety or performance bonds, irrevocable letter of credit, trust funds, funds in escrow, etc. A removal plan describes how an aquaculture operation would be decommissioned and the structures removed.

Granted State Lands | State lands granted to local municipalities (e.g., cities, ports, harbors) to be managed for the people of California.

Marine Engineering Analyses | An assessment of the structural components and operation of aquaculture gear to ensure structural integrity, especially in consideration of seasonal sea-state conditions that may affect the proposed aquaculture operation.

Monitoring Plan | A plan which determines through on-site monitoring and evaluation the effects of an aquaculture operation. This can include a plan for monitoring structural integrity, water quality, invasive species, benthic habitat effects, gear maintenance, potential gear interactions with wildlife, and more.

NEPA Process | An analysis by U.S. government agencies of the potential effects of a proposed federal action (i.e., issuing a permit for an aquaculture project), on the affected environment.

Private Lands | Lands owned by an individual, business, or other type of non-governmental organization.

Public Interest Determination | A statutory step required before a lease is issued in state waters. Criteria for making this determination have now been defined, see here.

Public Lands | Land and water areas collectively owned by the public and managed by state or federal governments.

Section 106 of the NHPA | Section 106 of the National Historic Preservation Act of 1966 requires federal agencies to consider the potential effects of their actions on historic properties before approving or licensing projects.

Spatial Siting Analysis | A spatial data analysis to inform evaluation and selection of a location proposed for an aquaculture operation.

Ungranted State Lands | State lands managed for the people of California by the State Government.

Permitting Checklists

Permitting Checklist for Operations in California STATE Waters

Pre-Application Preparation

- ☐ Contact your State Aquaculture Coordinator
- ☐ Meet with government agencies in early coordination meetings

Obtain State Water Bottom Lease and Complete CEQA Analysis

- ☐ Apply for a state water bottom lease from the California Fish and Game Commission *(for operations within CFGC authority)* or Local Trustee *(for operations on granted state lands)*
- ☐ Complete CEQA analysis
- ☐ Obtain state water bottom lease from CFGC

Obtain the Necessary Construction and Operation Permits and Other Authorizations to Operate

- ☐ Coastal Development Permit from CCC
- ☐ Section 10 Rivers and Harbors Act Permit from USACE
- ☐ Section 404 Clean Water Act Permit from USACE
- ☐ Section 401 Clean Water Act Certification from the Regional Water Board
- ☐ Growing Area Certificate (*shellfish operations only*) from CDPH
- ☐ Private Aids to Navigation Permit from USCG
- ☐ Navigation Safety Risk Assessment from USCG
- ☐ Any other necessary local permits and licenses

Register your aquaculture facility after you have obtained all other necessary permits and authorizations

- ☐ Aquaculture registration from CDFW

Permitting Checklist for Operations in FEDERAL Waters Off the Coast of California

Pre-Application Preparation

- ☐ Contact your NOAA Fisheries Regional Aquaculture Coordinator
- ☐ Meet with government agencies in pre-application meetings

CZMA Review, Obtain USEPA Permits, and Complete NEPA Analysis

- ☐ Federal Consistency Certification review by CCC
- ☐ Section 10 Rivers and Harbors Act Permit from USACE
- ☐ Complete NEPA Analysis

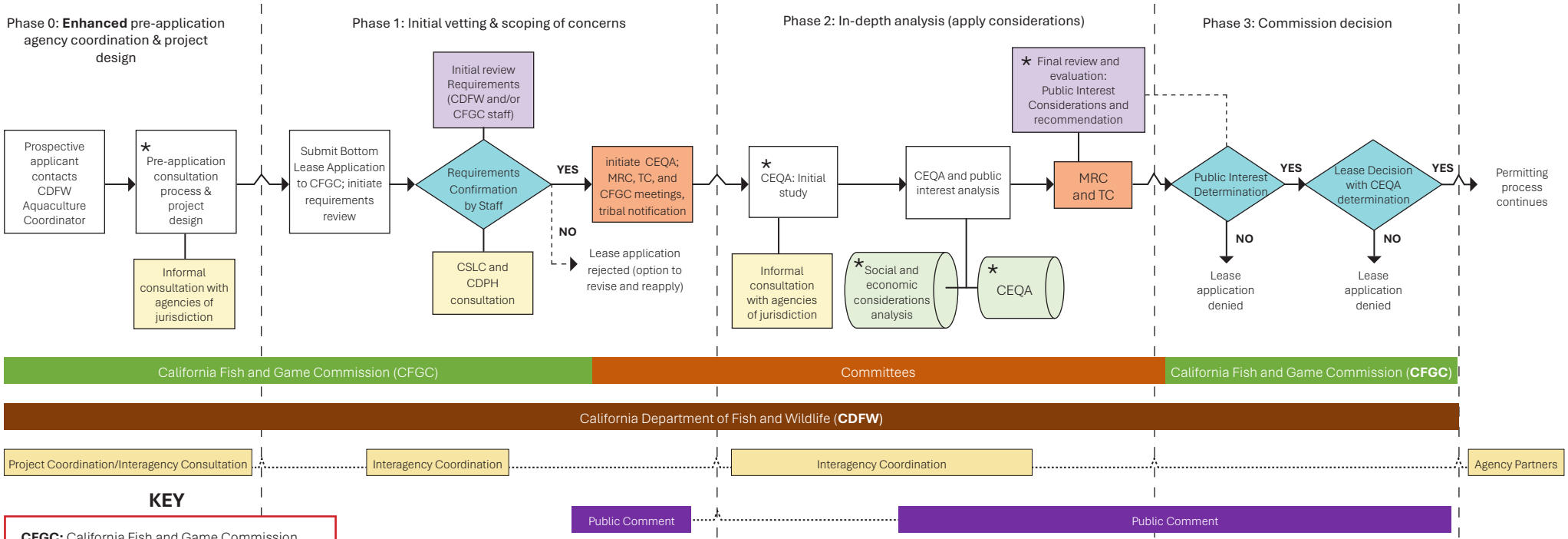
Obtain the Necessary Construction and Operation Permits and Other Authorizations to Operate

- ☐ Section 402 (NPDES) Clean Water Act Permit from USEPA
- ☐ Private Aids to Navigation Permit from USCG
- ☐ Navigation Safety Risk Assessment from USCG
- ☐ NOAA SIP Contract and NSSP Requirements Review (*shellfish operations only*)
- ☐ Any other necessary local permits and licenses

APPENDIX A:
Existing Aquaculture Lease Locations Along the California Coast

APPENDIX B:
CFGC Public Interest Determination Process Diagrams

Figure 1. ***Aquaculture Lease Application Process, Phases 0 through 3.*** Overview of staff-proposed process for Commission consideration of new state water bottom aquaculture lease applications, including public interest determination. Includes an enhanced and formalized pre-application phase (Phase 0) facilitated by CDFW and including interagency consultation, followed by a three-phase Commission process (phases 1-3) (see figures 2 and 3 for close-up images of each phase with written descriptions below steps in the corresponding phase).



KEY

CFGC: California Fish and Game Commission
CDFW: California Department of Fish and Wildlife
MRC: Marine Resources Committee
TC: Tribal Committee
CEQA: California Environmental Quality Act
EIR: Environmental Impact Review
CSLC: California State Lands Commission
***:** Guided by public interest considerations criteria

Figure 2. Aquaculture Lease Application Process, Phases 0 and 1, Detailed. Enlarged image of 0 and 1 with written descriptions below steps in the corresponding phase.

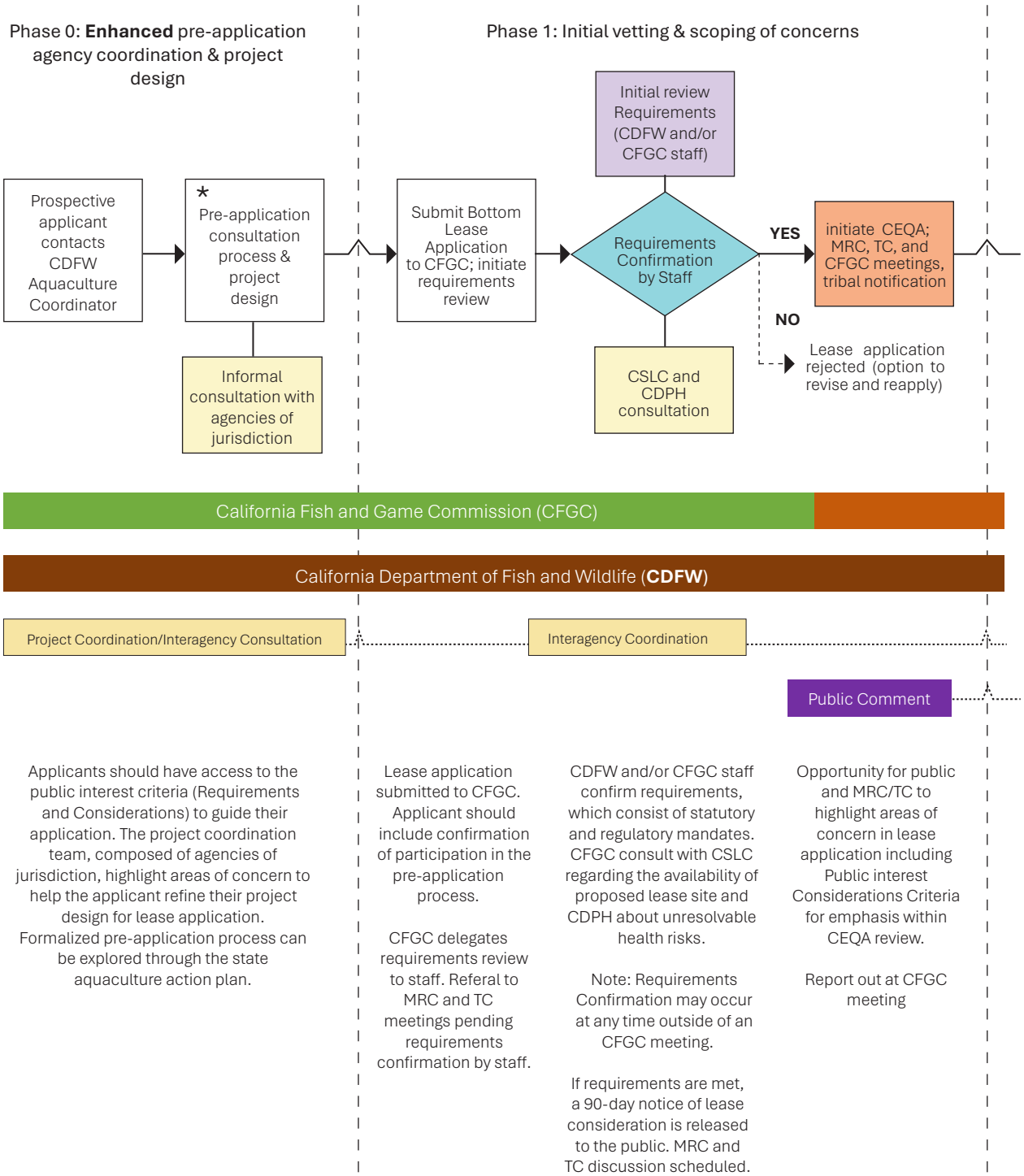
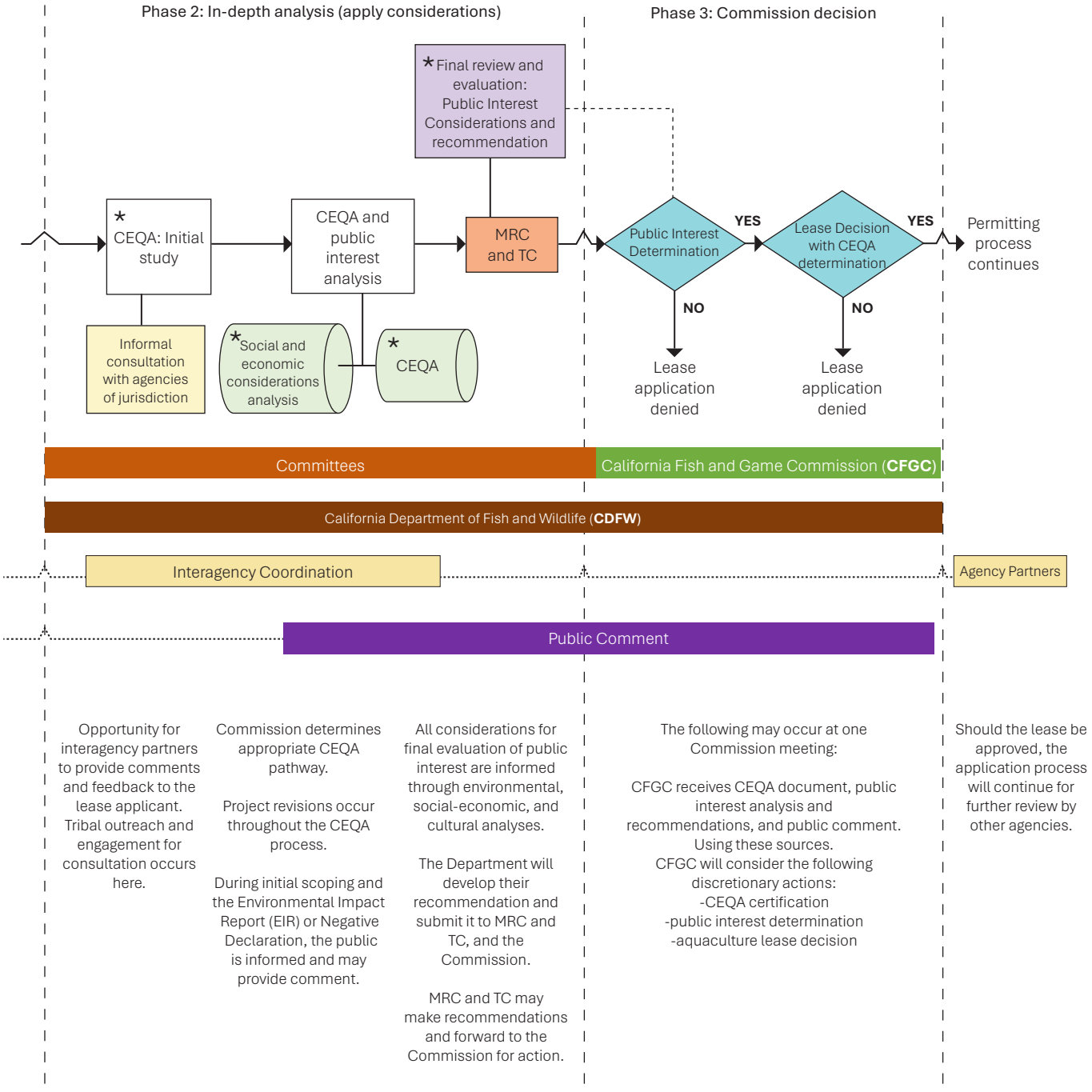


Figure 3. Aquaculture Lease Application Process, Phases 2 and 3, Detailed. Enlarged image of phases 2 and 3with written descriptions below steps in the corresponding phase.



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