

# CALIFORNIA SHELLFISH INITIATIVE

## A Strategy to Enhance the Marine Environment and Economy of Key Coastal Communities



Photo: Brenna Schlagenhaut

### INTRODUCTION

The California Shellfish Initiative (“Initiative”) is a collaborative effort of growers, regulators, NGO’s and scientists to restore and expand California’s shellfish resources, including oysters, mussels, clams, abalone and scallops.<sup>1</sup> The Initiative seeks to harness the creative talents of shellfish growers, local, state, and federal resource managers and environmental leaders. The Initiative’s goals are to protect and enhance our marine habitats, foster environmental quality, increase jobs, encourage inter-agency coordination and communication, and strengthen coastal economies. A successful Initiative will engage coastal stakeholders in a comprehensive process to grow California’s \$25M sustainable shellfish (bivalve) harvest, restore natural shellfish reefs, protect clean water and enhance healthy watersheds.

This “Position Paper” presents the views of California members of the Pacific Coast Shellfish Growers Association (PCSGA). This information is intended to contribute to the dialogue among participants at the September 5th Shellfish Stakeholder Workshop in Sacramento. Additional information is available on the PCSGA website at <http://pcsga.org/shellfish-initiative>. We welcome feedback on this Position Paper, either at the workshop or on our website. Please send your comments or questions to the PCSGA Executive Director at: [margaretbarrette@pcsga.org](mailto:margaretbarrette@pcsga.org).

A POSITION PAPER OF THE PACIFIC COAST SHELLFISH GROWERS ASSOCIATION

<sup>1</sup> While the term shellfish also includes crab, lobster, urchins, abalone and sea cucumbers, this paper uses the term shellfish as a shorthand for some shellfish (e.g. oysters, mussels, clams, abalone and scallops).



Photo: Ed Anderson

## EXECUTIVE SUMMARY

California has an enormous opportunity to create living-wage jobs in coastal communities, improve water quality, and restore important ecosystem functions through expansion of sustainable shellfish farming and habitat restoration. Public demand for local shellfish has risen dramatically in recent decades. Worldwide, demand for farmed seafood has never been greater, as global farmed aquaculture exceeded beef production for the first time in 2012.<sup>2</sup> However, shellfish cultivation in the state has lagged far behind. While California is the third largest shellfish consuming state in the United States, state production meets less than half of this demand, contributing to a state and national seafood trade deficit and a lost opportunity for economic growth.

Aquaculture is a multi-billion dollar global industry. With many coastal areas ideal for cultivation, our state's shellfish industry could supply a substantial and sustainable local and export market. California could lead the nation to meet an

ever growing shellfish demand while creating environmentally sustainable "Blue Jobs" in coastal communities.

The proposed Initiative is intended to build on the success of other recent national and state initiatives that have sought to promote the expansion of sustainable shellfish aquaculture and natural reef restoration programs. California is unique and must develop its own initiative that recognizes the particular ecological, regulatory, political, and economic considerations of the state; however, consideration of other successful policies will provide a stronger initiative that improves California's competitiveness in the national and global aquaculture economy and encourage shellfish restoration projects while ensuring proper protection of its valued coastlines and estuaries.

## AREAS FOR COOPERATION

The Initiative builds on the National Oceanographic and Atmospheric Administration's (NOAA's) National Shellfish Initiative and National Marine Aquaculture Policy to develop a strong and sustainable national shellfish industry and maintain healthy ecosystems. California shellfish farmers seek a thoughtful dialogue with local, state and federal leaders to leverage these national programs to produce a visionary California shellfish policy. We suggest three areas for dialogue, cooperation and action:

- 1. POLICY** - A dialogue between industry, environmental, and agency leaders to develop an improved permitting process that is efficient and economical for both shellfish restoration and commercial farming.
- 2. LOCAL PLANS** - Conduct community based and stakeholder driven comprehensive planning for the primary existing areas of shellfish production. This would include support for the ongoing Humboldt Bay Mariculture Pre-Permitting Project as well as coordinating similar planning efforts in Tomales Bay and Morro Bay. These three estuaries represent 90% of California's current shellfish production. This would also include supporting regional shellfish restoration plans and efforts in San Francisco Bay, Elkhorn Slough and Southern California.

Accelerate local restoration plans, like the 50-year Subtidal Conservation Plan to restore 8,000 acres of San Francisco Bay shellfish habitat. This effort by the S.F Estuary Partnership, Coastal Conservancy and other leaders, will restore oyster reefs to protect shorelines in the face of climate change and sea level rise.

- 3. STATE PLANS** - Utilize the state's Geoportal and other state-of-the-art planning tools to involve the public and evaluate the opportunities and challenges for new shellfish operations and restoration areas along California's coastal and offshore ocean waters. Support the completion and approval of a Marine Aquaculture Programmatic Environmental Impact Report, currently being prepared by the Department of Fish & Wildlife, which will identify and address any environmental impacts of expanded shellfish production in the state.

<sup>2</sup> National Geographic Ocean Views, "Farmed Fish Now More Popular Than Beef Worldwide", 6/19/13.

# The Economic and Environmental Challenges and Opportunities for Shellfish Aquaculture in California

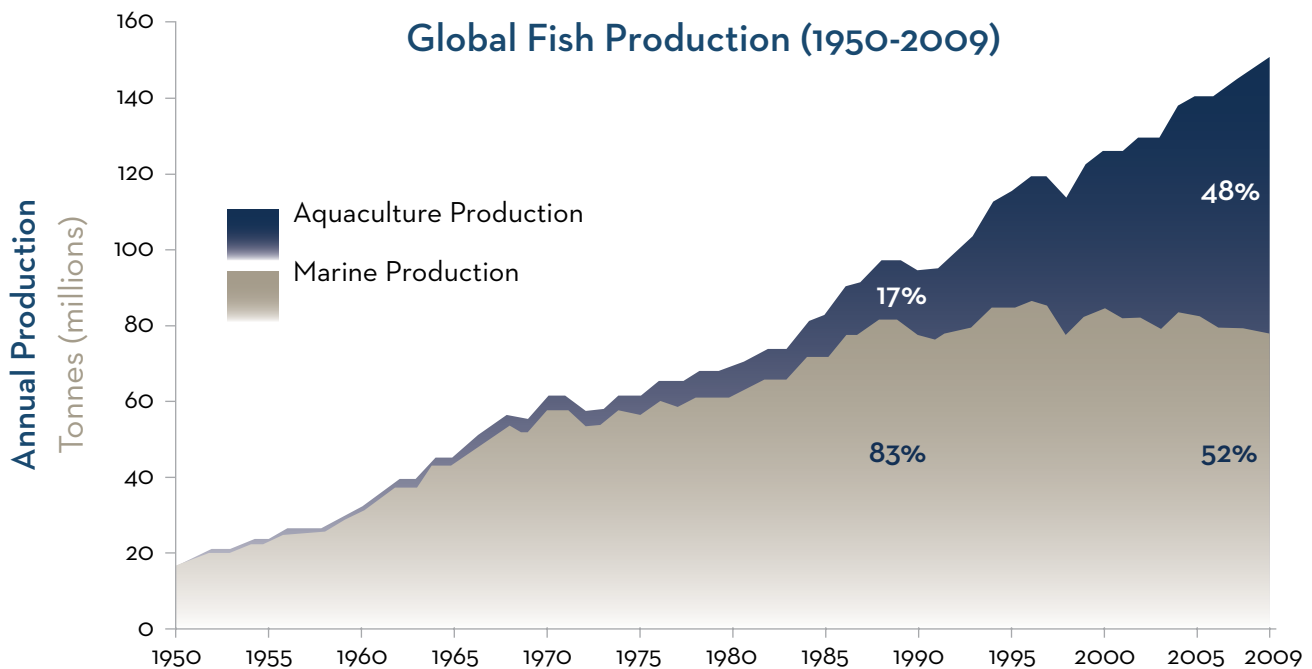
There are a variety of economic and environmental benefits from shellfish aquaculture:

## ECONOMIC

- Expanded shellfish farming would produce an increase in year-round, living wage “Blue” jobs, many of which would be provided by small, family owned operations.
- A greater number of small shellfish farms would diversify the industry and increase innovation while providing locally produced seafood.
- Local economies with working waterfronts would be strengthened directly by increased production and processing jobs, and indirectly, with equipment, supplies and other local businesses.
- If the Initiative is successful in achieving its goals, the shellfish industry could double its landed value from \$25 million in 2012 to \$40-\$50 million within five years.<sup>3</sup>
- Greater California shellfish farming would increase food security, and enhance connections between consumers and producers and farm-to-table food sourcing.

*For every person employed in commercial shellfish cultivation, it creates an additional three secondary jobs in processing, marketing, and distribution.<sup>4</sup>*

The global aquaculture industry is a \$50 billion enterprise. Washington State’s commercial shellfish economy is valued at well over \$200+ million/year and growing. California’s \$25 million commercial shellfish industry is small but has the advantage of an enormous unmet demand. Currently, half of the global seafood consumption is from farmed sources (see chart below).<sup>5</sup> This percentage is expected to grow in the coming years. For California, over 90% of our seafood is imported and over 60% of our shellfish are supplied (mostly by air transport) from other states.



3 This estimate is based on a modest increase in the available near shore and offshore acreage for shellfish aquaculture, which would be comparable to California’s 2011 landed value of \$51 million for Dungeness crab and \$68 million for squid. See <http://www.dfg.ca.gov/marine/landings/landings11.asp>. This estimate also considers that the U.S. imports 34 million pounds of mussels per year while California’s annual production is only approximately 500,000 pounds.

4 FAO, 2008.

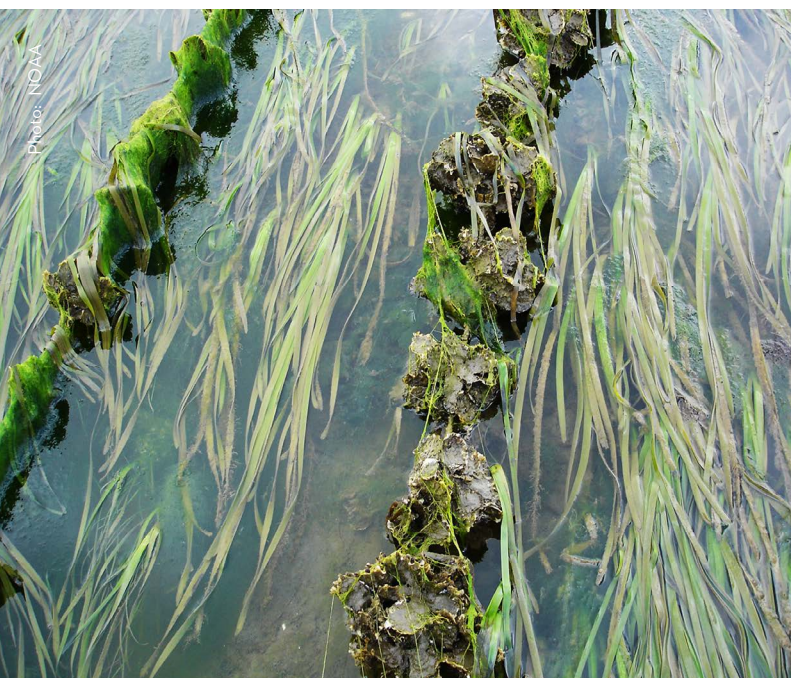
5 FAO FISHPAT, 2010

California's bivalve shellfish production was valued at \$25 Million in 2011.<sup>6</sup> By weight, this commercial shellfish production is about 75% oysters, 23% mussels and 2% clams.<sup>7</sup> More than 60% of the state's oysters are farmed in Humboldt Bay. Most of the remaining oysters are grown in Marin County (Tomales Bay and Drakes Bay) with a small percentage grown in Morro Bay. A few other small operations exist in Southern California.

The shellfish farming community has seen the popularity and public demand for its product continue to grow and has had difficulty keeping up with demand. Farmers predict that current demand could support a tripling of the state shellfish production grown each year in local waters. Overall, the U.S. Department of Commerce predicts that the national aquaculture industry will triple in size from \$1 Billion to \$3 Billion by 2025.<sup>8</sup>

Much of this growth can be from small or family owned shellfish farms. As discussed below, the current regulatory and permitting environment is time consuming, extremely costly and results in a barrier to smaller farmers entering the industry; however, improvements in efficiency and agency cooperation would facilitate a substantial increase in small and family-run operations. This would not only provide more jobs in the state, but would also promote greater diversity in the shellfish industry. Improving efficiency and reducing regulatory costs would also benefit larger established shellfish farms; thereby maintaining California's competitiveness and increasing the possibility that larger businesses will seek to expand in California.

*Shellfish has the lowest CO<sub>2</sub> foot print of any farmed protein source.*



## ENVIRONMENTAL

- ▶ Shellfish filter nutrients from the water and improve water quality and clarity, allowing sunlight to reach bottom vegetation.
- ▶ Shellfish create diverse three-dimensional habitats for important marine organisms. These habitats and organisms provide food for fish, coastal birds, and other species.
- ▶ Since shellfish rely on good water quality, the shellfish farms are an economic indicator of environmental health.
- ▶ Shellfish farmers provide essential water quality monitoring for resource managers.
- ▶ Shellfish farmers also become engaged and effective business and community advocates for healthy watersheds, water quality and climate adaptation policies.
- ▶ A more efficient and coordinated inter-agency permitting system will increase the effectiveness and success rate of natural shellfish restoration programs by reducing planning and implementation costs and timelines.

Many coastal communities with estuarine resources and working waterfronts are working to measure and predict how changing socioeconomic and environmental factors, including climate change, will affect their future. These communities seek a balance between protecting (and restoring) their marine and estuarine habitats while also maintaining a local economy. Coastal communities could greatly benefit from a coordinated effort to promote sustainable shellfish aquaculture production in a manner that achieves both desired goals.

Shellfish cultivation depends upon maintaining harmony with their surrounding habitats. Most shellfish are rated as “super

<sup>6</sup> The Economic Impact of Shellfish Aquaculture in Washington, Oregon, & California, Northern Economics, April 2013.

<sup>7</sup> Ibid.

<sup>8</sup> Sea Grant - Review of Trends in N. America Aquaculture, P. Olin et al. 2010.

green” or a “best buy” by Monterey Bay Aquarium’s Seafood Watch Program<sup>9</sup> and many other sustainable seafood rating systems. As such, shellfish farmers are strong advocates of coastal land use practices and environmental efforts that maintain high water quality and align as partners with state agencies and environmental organizations that share these goals.

Another key goal of the Initiative is to support the efforts of local governments, NGOs, and state and federal officials to restore wild shellfish habitats in various California estuaries. These efforts reflect significant cooperation between multiple state and federal agencies and the academic, scientific, and environmental communities. Similar to commercial operations, these restoration efforts must comply with a significant number of state and federal policies and permit processes. The Initiative seeks to begin a dialogue to review inter-agency coordination to determine if a more efficient regulatory process can be developed to assist natural shellfish restoration efforts.

*Shellfish cultivation depends upon maintaining harmony with their surrounding habitats.*

## The California Shellfish Initiative - Addressing Key Issues to Promote Sustainable Coastal Shellfish Farming and Restoration

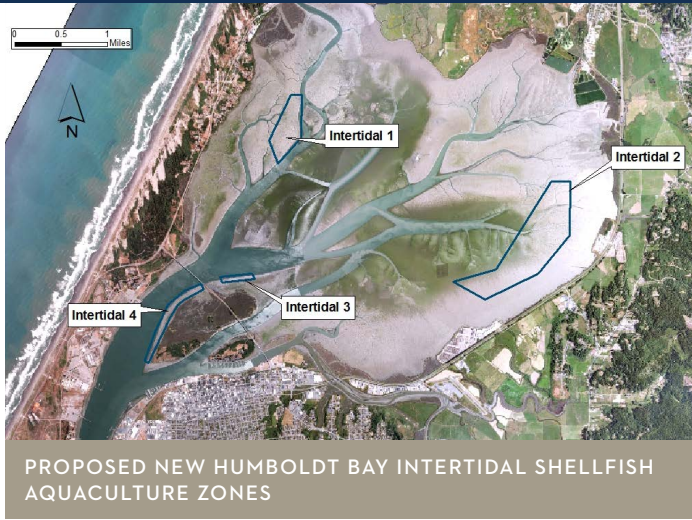
The Initiative is a 21st Century approach to leverage California’s best marine science, research, technology and policy resources to comprehensively address how to promote and expand responsible and sustainable shellfish farming in California. The Initiative can build on recent science and technology investments made by state and federal resource management agencies to address the key issues facing the industry and other stakeholders. The Initiative will build upon successful marine planning collaborations from other states (discussed below). The Initiative seeks to improve regional planning and permitting coordination for shellfish aquaculture while creating strong performance standards to:

- Provide an open process for community leaders to engage in coastal resource planning
- Enhance shellfish production and habitat restoration by developing a more comprehensive, efficient, and economical permit process with increased agency coordination
- Ensure a clean and healthy marine environment to protect existing shellfish beds and access to additional acreage to shellfish farming and restoration

### Improving Permit Efficiency and Agency Coordination

A key goal of the CSI process is to identify ways to make the aquaculture permitting process more efficient and cost-effective while still complying with each agency’s regulatory mandates and statutory requirements. Due to the significant number of federal and state agencies that have jurisdiction over California coastal waters and proposed aquaculture projects, new applicants face a multitude of state and federal agencies that must approve their proposed project before any shellfish are planted. Attachment A provides a list of all relevant agencies, based on the Department of Fish & Wildlife Marine Aquaculture Programmatic EIR. This complex regulatory framework has resulted in a permitting process that can take several years to complete and hundreds of thousands of dollars in studies, application fees, CEQA and NEPA environmental review documents, and consultant and attorney fees. Attachment B is an example timeline for approval of a new shellfish project based on experiences from growers that obtained permits within the last 10 years.

<sup>9</sup> [http://www.montereybayaquarium.org//cr/SeafoodWatch/web/sfw\\_factsheet.aspx?gid=40](http://www.montereybayaquarium.org//cr/SeafoodWatch/web/sfw_factsheet.aspx?gid=40).



Adding to this complexity is a lack of clear understanding as to each agency’s scope of review in the process and when each agency should begin and finalize its review. This has frequently led to many agencies addressing the same question, which duplicates other agency work or may lead to inconsistent or contradictory conditions of approval. Further, because agencies see significantly fewer aquaculture applications than other more traditional land use applications (such as docks, residences, hotels, etc.), staff are inexperienced with issues specific to aquaculture. This may result in misunderstanding shellfish projects and their potential impacts on the surrounding environment or a lack of knowledge concerning the existing available science. All of these situations are costly, both in time and money, to shellfish growers and restoration projects.

Inefficiencies within the permitting process make it almost impossible for new, smaller growers to enter into the industry, often lacking sufficient funds, knowledge, or endurance to go through the existing permit process. The same problems limit shellfish restoration efforts. It also impacts the review of the project by the CEQA lead agency, which may not have all of the information relevant to making its CEQA determination and imposing mitigation measures if relevant agencies do not submit complete responses concerning a project’s potential environmental impacts during the CEQA comment period.

The Initiative seeks to improve this process by (1) facilitating improved coordination and communication amongst agencies regarding aquaculture and restoration projects; (2) improving education for shellfish growers and agency staff regarding the permit process and scope of each agency’s review and regulatory obligations; and (3) soliciting ways that the process can be more cost effective and efficient.

The Initiative seeks to improve this process by (1) facilitating improved coordination and communication amongst agencies regarding aquaculture and restoration projects; (2) improving education for shellfish growers and agency staff regarding the permit process and scope of each agency’s review and regulatory obligations; and (3) soliciting ways that the process can be more cost effective and efficient.

## Establishing Local Shellfish Planning Tools

The Initiative proposes to support local stakeholder community planning efforts to define shellfish aquaculture regional policies in the three communities -Humboldt Bay (pictured below), Tomales Bay and Morro Bay, which comprise about 90% of California shellfish production.

### The Humboldt Bay Mariculture Pre-Permitting Project

An innovative pilot project is currently being developed in Humboldt Bay and funded by the Headwaters Fund, that may offer a potential model for other regions. This public-private project has engaged shellfish farmers, the Humboldt Bay Harbor, Recreation & Conservation District (Harbor District), state and federal officials, and environmental leaders to develop a regional shellfish plan.

Their common goal is to protect and improve the Bay’s complex ecosystem while also increasing the acreage for environmentally sustainable commercial shellfish operations. The Pre-Permitting Project has already engaged the community and agencies to solicit any comments or concerns regarding the region-wide planning effort; conducted detailed regional natural resource mapping to determine locations ideal for expanded shellfish operations while taking into account sensitive resources and habitats; and initiated a process to integrate the collaborative efforts of multiple state and federal resource agencies that evaluate and permit shellfish aquaculture.

A goal of the Pre-Permitting Project is to provide a comprehensive environmental analysis of the cumulative impacts of all of the sites identified for expanded shellfish farming. The environmental impact report currently being developed will utilize a “thresholds-based” approach that establishes regionally-specific significant impact thresholds that provides a comprehensive review of potential impacts to Humboldt Bay and a flexible analytical framework that could be used to permit additional future shellfish operations if they comply with the established thresholds. This analytical process has been very successful in other formats for other state agencies, including measuring significant traffic impacts by Caltrans and significant air quality impacts by Air Quality Management Districts.

The Harbor District will coordinate the permitting process for all identified sites and apply for all necessary permits, so that they can be leased fully permitted, thereby reducing the cost of entry for new farms or expansion of existing farms. With this proposed process, new shellfish applicants will only be required to secure a single permit/lease from the Harbor District to begin planting and cultivation.

While the Pre-Permitting Project is still under development, it has the potential to provide a strong model for local planning and permitting of shellfish projects. The community and other agencies will benefit from a comprehensive environmental study that considers the cumulative impact of additional expanded shellfish operations in Humboldt Bay and a public process for community dialogue about regional shellfish policy. The result of this comprehensive regional approach can include regional mitigation measures or implementation of best management practices (BMPs) that consider the impacts on a regional level rather than project-by-project. New shellfish farmers will benefit from a more efficient and cost effective permit process. This comprehensive planning approach also improves cost effectiveness for state and federal agency review of shellfish farm projects, as they can review all proposals at one time.

A key goal of the Initiative is to support the Pre-Permitting Project and the associated environmental review and permitting process and, if the process is successful, consider how it may be applied in other potential areas of shellfish expansion. While the environmental, economic, land use and governance conditions in Humboldt Bay are different from Tomales Bay and Morro Bay, the methodology and process used in the Pre-Permitting Process may provide a successful model that can be replicated in those areas.

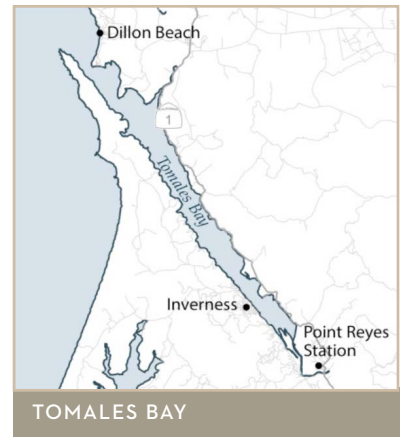
### Tomales Bay

Building on the Humboldt Bay model, the Initiative proposes a similar, community based, collaborative process for the Tomales Bay region. A goal of the Initiative is to conduct a local planning process to enable community stakeholders within this 255-square mile watershed to develop a regional plan for Tomales Bay which identifies potential areas for increased shellfish expansion while preserving the unique ecological features of the estuary.

### Morro Bay

The Initiative also proposes a similar process for the Morro Bay region. The goal will be to identify planning efforts to support local shellfish aquaculture and natural shellfish restoration. This effort would be coordinated with local programs to strengthen the working waterfront and improve water quality within the Morro Bay National Estuarine Reserve.

Natural Shellfish Restoration - Natural shellfish reef restoration projects are planned for San Fran-



Much of California's bivalve shellfish aquaculture (e.g. oysters, clams and mussels), occurs in these three bays.



cisco Bay, Elkhorn Slough and at multiple sites in Orange County and San Diego County. A goal of the Initiative is to support these natural restoration projects and to establish measures to create a more cost-efficient inter-agency review and permitting process that would decrease the cost of such restoration efforts for local governmental agencies and NGOs.

### Establishing Statewide Aquaculture Mapping & Planning to Identify Additional Areas for Shellfish Expansion

As stated by the Legislature in the Sustainable Oceans Act (2006): “salt water or brackish water aquaculture is a coastal-dependent use which should be encouraged to augment food supplies ...Any agency of the state owning or managing land in the coastal zone for public purposes shall be an active participant in the selection of suitable sites for aquaculture facilities and shall make the land available for use when feasible and consistent with other policies...” The Initiative seeks to fulfill the expectations of this legislative mandate by identifying other areas in the state suitable for expanded shellfish cultivation and restoration projects.

### Nearshore and Offshore Mapping and Policy Considerations

Beyond the Humboldt Bay, Tomales Bay and Morro Bay estuaries, there may be other nearshore areas that would be ideal for shellfish aquaculture in California. The Initiative proposes a public-private partnership to identify such areas.

Offshore California provides another possible option for expansion of shellfish aquaculture. Before sustainable shellfish operations can succeed offshore, there are many significant science, engineering, planning, monitoring, and public policy implications that must be considered. Some of these issues are already being explored, as one such operation already exists offshore Santa Barbara and another major project proposed for offshore Long Beach is now pending before the California Coastal Commission. Strong science and data is the necessary foundation for any effort to address the policy issues of offshore shellfish aquaculture

California’s new Geoportal provides a single access point for shellfish growers, the public, and resource agencies to access natural resource maps and data bases in a statewide Geographic Information System. The Geoportal offers a tool for regulators, planners, and the public to provide key data and mapping needed to evaluate expanded shellfish aquaculture in California. A statewide assessment of potential nearshore and offshore shellfish aquaculture may provide an ideal platform to utilize the Geoportal and other planning tools. The Initiative proposes that shellfish growers partner with resource agencies, scientists and NGOs in a public assessment of the opportunities and challenges for new shellfish operations along California’s coastal and offshore ocean waters. From this effort, local, state, and federal entities might also identify how an interagency team might anticipate, evaluate, and respond to new nearshore and offshore aquaculture proposals. This effort might also identify where new natural restoration programs would benefit local communities and support shoreline habitats.



## Department of Fish & Wildlife Marine Aquaculture Programmatic EIR

The Ocean Protection Council in collaboration with Department of Fish & Wildlife are in the process of drafting a Marine Aquaculture Programmatic Environmental Impact Report (PEIR) that reviews and analyzes environmental issues concerning the expansion of aquaculture operations on the California coast. The Department of Fish and Wildlife is required under the Sustainable Oceans Act to prepare the PEIR and develop a management framework to present to the Fish and Game Commission for possible approval. The Commission has the authority to lease state water bottoms for aquaculture and to adopt rules governing the lease terms. While the PEIR concerns the entire aquaculture industry, it considers some issues relevant to the expansion of shellfish farming in coastal areas, particularly for areas that could be leased by the Commission and Fish & Wildlife for shellfish farming.

While any shellfish project will be reviewed based on the details of a specific proposal and location, the PEIR can be an effective starting point for scientific analysis of shellfish projects. The PEIR considers the environmental effects of shellfish generally on many topics germane to new proposals throughout the state. If successfully implemented, agencies and shellfish applicants may be able to “tier off” the PEIR’s more general environmental analysis and apply it to the unique features of each project and location. Similar to the Pre-Permitting Project, a goal of the Initiative is to support the PEIR as a useful tool to address general environmental issues relevant to shellfish operations. A strong and comprehensive PEIR can be used by both project applicants and state agencies to efficiently resolve issues that do not involve site-specific or project-specific issues.

## Building on the Success of U.S. and State Initiatives

The proposed Initiative is intended to build on the success of other recent national and state initiatives that have sought to promote the expansion of sustainable shellfish aquaculture. While the proposed Initiative will be different than the policies identified below, California can build on other successful federal and state shellfish policies and incorporate elements that support California’s unique ecological, regulatory, political and economic environment.

### The National Ocean Policy, National Aquaculture Policy, and National Shellfish Initiative

The federal government has recently adopted several policies and initiatives to support the expansion of shellfish aquaculture. In 2011, the U.S. Department of Commerce and NOAA issued National Aquaculture Policies and NOAA also issued a National Shellfish Initiative.<sup>10</sup> These two federal initiatives are intended to meet the growing demand for healthy seafood, to create jobs in coastal communities, and restore vital ecosystems. They acknowledged that foreign aquaculture accounts for about half of the 84 percent of seafood imported by the United States, contributing to the \$9 billion trade deficit in seafood.

*Foreign aquaculture accounts for about half of the 84% of seafood imported by the United States.*

In 2012, President Obama and NOAA followed up with the release of a National Ocean Policy. In 2013, the White House released an Implementation Plan for the National Ocean Policy. The four major principles of the Implementation Plan are very similar to the goals of the Initiative:

1. Improving coordination to speed Federal permitting decisions,
2. Better coast and ocean management to support coastal economies,
3. Providing sound scientific information needed by local communities and industries, and
4. Improving collaboration between all coast and ocean stakeholders.

<sup>10</sup> See [http://www.noaanews.noaa.gov/stories2011/20110609\\_aquaculture.html](http://www.noaanews.noaa.gov/stories2011/20110609_aquaculture.html) for the National Aquaculture Policies and [http://www.nmfs.noaa.gov/aquaculture/policy/shellfish\\_initiative\\_homepage.html](http://www.nmfs.noaa.gov/aquaculture/policy/shellfish_initiative_homepage.html) for the National Shellfish Initiative



The Implementation Plan notes that the “aquaculture industry will benefit from streamlined Federal permitting and coordinated research efforts to support sustainable aquaculture.” A key goal of the Implementation Plan is to “identify opportunities to streamline processes and reduce duplicative efforts while ensuring appropriate environmental and other required safeguards.” Under this plan, the top priority for federal action is an effort to improve the efficiency of the federal review and approval process for shellfish aquaculture operations. That effort is now underway.

## Washington Shellfish Initiative

In 2011, the Pacific Coast Shellfish Growers Association collaborated with Washington Governor Chris Gregoire, NOAA Administrator Jane Lubchenco, and major environmental NGOs to produce the Washington Shellfish Initiative. This effort began with a stakeholder process which brought together Native American tribes, state and federal agencies, shellfish growers, and the restoration community to discuss what

actions could be taken to support shellfish production in Washington State. The WSI, which was finalized through an implementation plan released in April 2012, mirrors the goals of the National Shellfish Initiative and includes actions to:

- Produce a multi-agency permitting program
- Implement restoration pilot projects
- Promote Native American shellfish restoration and recreational shellfish harvest
- Support shellfish aquaculture research
- Improve understanding of ecosystem services provided by shellfish
- Direct EPA funding to protect and improve near shore water quality
- Improve shellfish growing area protection and restoration efforts
- Take steps to address ocean acidification, including formation of Washington’s Ocean Acidification Blue Ribbon Panel, which has resulted in \$1.8 million in funding to establish the Ocean Acidification Center at the University of Washington

## Maryland Shellfish Aquaculture Plan

Maryland’s initiative has been very successful in expanding opportunities for additional leased areas for shellfish cultivation. Based on the analysis in a comprehensive environmental impact study, Maryland adopted legislation to identify aquaculture enterprise zones (AEZs) in Chesapeake Bay and other areas for new aquaculture leases, which included extensive GIS coastline mapping of opportunities and constraints along the Chesapeake Bay shoreline to identify and rank high priority coastal segments for possible commercial shellfish operations.

The development of AEZs by the state included review by the appropriate agencies of certain required permits; therefore individual permit applicants in AEZs were preapproved for both state water quality permits and federal wetlands and Coastal Zone Management Act permits. Further legislation improved the efficiency of the permitting process by consolidating all state aquaculture permitting authority under the state’s Department of Natural Resources.



## Conclusion

The proposed California Shellfish Initiative is intended to be a collaborative process between shellfish farmers, state agencies, NGOs and environmental organizations, and scientific and research organizations, to take advantage of a key opportunity to responsibly expand sustainable shellfish production and wild shellfish restoration in California. While this paper discusses issues identified by shellfish farmers and potential avenues for expansion and more efficient regulation, it is intended as a starting point for additional input from stakeholders and the public. We look forward to working with the stakeholders to create a strong and comprehensive shellfish initiative for California. We welcome your comments on this paper at the Pacific Coast Shellfish Growers Association website. Please send your comments or questions to the PCSGA Executive Director Margaret Barrette at: [margaretbarrette@pscga.org](mailto:margaretbarrette@pscga.org).

## APPENDICES

- A) Rules & Permits Needed for CA Shellfish Production or Restoration
- B) Estimated Current Permit Timeline for New Shellfish Projects
- C) California Statutes Affecting Aquaculture

**CREDITS:** This paper prepared by Warner Chabot on behalf of the Pacific Shellfish Growers Association (PCSGA). Appreciation for the generous assistance of Robert Smith, Plauché & Carr LLP, and members of the PCSGA. Graphic design by the excellent Edi Berton, [www.ediberton.com](http://www.ediberton.com)

# ATTACHMENT A FEDERAL, STATE, LOCAL RULES & NEEDED PERMITS FOR CA SHELLFISH PRODUCTION OR RESTORATION\*

\*Source: CA Dept. of Fish and Wildlife Marine PEIR, 2013

AGENCY	JURISDICTION	PERMIT OR STATUTORY AUTHORITY	SUBJECT
Federal			
<b>U.S. Army Corps of Engineers (Corps)</b>	Waters of the United States	Section 404, Clean Water Act (CWA) Nationwide Permit 48, Existing Commercial Shellfish Aquaculture Activities	Placement of dredge or fill material, including structures, in jurisdictional waters of the United States
<b>U.S. Fish and Wildlife Service (USFWS)</b>	Federally listed wildlife and plant species	Section 10, Rivers and Harbors Act Federal Endangered Species Act (ESA)	Placement of structures or work in navigable waters Section 7 consultation regarding harm to or take of listed wildlife and plant species, including certain marine species and/or their designated critical habitat
<b>NOAA National Marine Fisheries Service (NMFS)</b>	Federally listed marine and anadromous fish, sea turtles and marine mammals	ESA Marine Mammal Protection Act Magnuson-Stevens Act	Section 7 consultation regarding harm to or take of listed wildlife and plant species, including certain marine species and/or their designated critical habitat Incidental harassment authorization or letter of authorization regarding harm of marine mammals Designates and protects essential fish habitat via a requirement for interagency consultation.
<b>NOAA National Ocean Service</b>	National marine sanctuaries	National Marine Sanctuaries Act	Consultation requirement (similar to ESA Section 7) regarding management and trust responsibilities for National Marine Sanctuaries
<b>U.S. Coast Guard</b>	Navigable waters of the United States	Private Aids to Navigation Permit	Responsible for obstructions or aids to navigation in waters of the United States

AGENCY	JURISDICTION	PERMIT OR STATUTORY AUTHORITY	SUBJECT
State			
<b>California Fish and Game Commission</b>	State water bottoms	Lease of State Water Bottom, Fish and Game Code	Use of state-owned tidelands (Sovereign Lands)
<b>CA Dept. of Fish and Wildlife (CDFW)</b>	Fish and wildlife	Aquaculture Registration, Fish and Game Code	Culture and husbandry of aquatic organisms
	State-listed fish and wildlife species	California Endangered Species Act (CESA)	Take of state-listed species
		Standard Live Fish Importation Permit, Title 14 California Code of Regulations (CCR)	Importation of most live aquatic species
		Long-Term Live Fish Importation Permits, CCR	Importation of aquatic species on an ongoing basis that do not represent a significant concern for potential impacts on state wildlife resources
			Importation of aquatic species
<b>CA Dept. of Fish and Wildlife (CDFW)</b>	State-listed fish and wildlife species	Health Inspections for importation of live organisms into California Certificate	For importation of live organisms into California, except for sales between aquaculturists registered with CDFW for the species in question
		Wild Broodstock Collection Permit	Permission to collect wild stock for use in developing a domestic broodstock
		Permit for Exotic or Restricted Species	Species not established in California or listed as detrimental
		Addition of species to individual certificates of registration	Adding species to current registration list
		Aquarium Dealers Permit	Aquarium dealers wishing to sell sturgeon or abalone; must be obtained from registered aquaculturists and sold as pets
		Incidental Take Permit (CESA)	Take of state listed species
		Marine Life Protection Act	Designates marine protected areas; develops plans for their management; reviews proposed developments for consistency

AGENCY	JURISDICTION	PERMIT OR STATUTORY AUTHORITY	SUBJECT
State			
<b>CA Coastal Commission</b>	Coastal zone	Coastal development permit, California Coastal Act	Plans and regulates activities on land and water within California's coastal zone
	Federal waters beyond coastal zone	Coastal Zone Management Act, federal consistency determination or certification (in the case of a federal activity)	Activities beyond the coastal zone
<b>Regional Water Quality Control Boards (RWQCBs)</b>	Waters of the state	Section 401 Water Quality Certification, CWA	As part of Section 401 certification 404 process, ensure that project would meet state water quality standards
<b>&amp; California State Water Resources Control Board (SWRCB)</b>		Section 402 National Pollutant Discharge Elimination System (NPDES) Permit, CWA	Section 402 established the NPDES permit program to regulate point source discharges of pollutants to waters of the United States
		Waste Discharge Requirements, Porter-Cologne Act	Regulates point discharges to land, groundwater, or from diffused sources
		Approvals specific to Areas of Special Biological Significance	Areas of Special Biological Significance are 34 ocean areas monitored and maintained for water quality by SWRCB. Within these areas, NPDES permits are not issued unless the RWQCB grants a special exemption.
<b>CA Department of Health Services</b>	Health of California residents	Classification and Certification of Growing Waters	Establish sanitary requirements for all shellfish harvested commercially for human consumption
<b>CA Department of Food and Agriculture</b>	Agricultural operations	Shellfish Handling and Marketing Certificate	Handling, processing, and distribution of shellfish after harvest
<b>CA State Lands Commission (SLC)</b>	State-owned submerged tidelands	Weighmaster Registration	Those selling aquaculture products by weight
<b>CA State Historic Preservation Office</b>	Historic structures	Review of CDFW leases	Ensure lands leased by CDFW for aquaculture are not otherwise used
		Compliance with Section 106 of National Historic Preservation Act (NHPA) as part of Corps Section 404 permit	As part of Section 404 permit process, ensure that project would not adversely affect historic properties

AGENCY	JURISDICTION	PERMIT OR STATUTORY AUTHORITY	SUBJECT
Local or Regional  <b>Cities, Counties, Special Districts</b>	Program area	Land Use Permit and/or CEQA review	Compliance with local regulations and state environmental review requirements Type of approval varies by planning area

## ATTACHMENT B

### ESTIMATED PERMIT TIMELINE FOR NEW SHELLFISH PROJECTS

*This matrix is intended to provide an estimated permitting schedule for a new shellfish farm. The estimated time for review is based on previous applications approved in the last 10 years. This represents an average time for review and approval without assistance from a permit expeditor or attorney. Particular projects may require more or less time for review based on the specific project design, size and location, and agency workload. Because the schedule varies greatly based on whether the lead agency prepares a mitigated negative declaration (MND) or environmental impact report (EIR) pursuant to CEQA, schedules for both are provided below.*

ACTION	PROJECTED DATE (MND)	PROJECTED DATE (EIR)
Project applicant submits application and Initial Study to Harbor District <sup>1</sup>	Day 1	Day 1
Review of Initial Study by Harbor District and other responsible agencies	5 months	5 months
Scoping Meeting	5 months after submission	5 months after submission
District circulates Initial Study/Notice of Intent to Adopt MND for public/agency review	3 months after scoping meeting	N/A
District circulates Notice of Preparation of EIR	N/A	3 months after scoping meeting
30-day period ends for responsible agency comments re: scope of EIR	N/A	4 months after scoping meeting
Complete Draft EIR and circulated for public comment	N/A	9 months after scoping meeting
MND/Draft EIR Public Comment Period Ends	30 days after circulation	45 days after circulation
Submit Coastal Commission, Army Corps Section 10, and Regional Water Quality Control Board Applications	Two weeks after end of public comment	2 weeks after end of public comment
Submit responses to MND comments/submit final EIR	1 month after end of public comment	2 months after end of public comment
Corps requests consultation from NMFS	2 months after submission of application	2 months after submission of application
Harbor District hearing to approve MND/EIR, use permit, and lease	1 month after submit responses to comments	1 month after submit FEIR
Corps issues determination	6 months after initial submission of application	6 months after initial submission of application
Coastal Commission hearing	10 months after initial submission of application	10 months after initial submission of application
<b>Amount of Time Required for Approval</b>	<b>20-24 months</b>	<b>2 to 3 years</b>

<sup>1</sup> The Humboldt Bay Harbor, Recreation, and Conservation District is used in this example because they have been the lead agency that has approved the most shellfish aquaculture projects in California in the last 10 years, thereby providing the best sample size. Given the Harbor District's familiarity with aquaculture projects, this timeline likely underestimates the time needed for approval in other areas of the state.



## ATTACHMENT C

# CALIFORNIA STATUTES AFFECTING AQUACULTURE

### CA Public Resources Code

#### § 826-828 - **Aquaculture Development Act**

The Legislature finds and declares that it is in the interest of the people of the state that the practice of aquaculture be encouraged in order to augment food supplies, expand employment, promote economic activity, increase native fish stocks, enhance commercial and recreational fishing, and protect and better use the land and water resources of the state.

The purpose of this chapter is to establish a policy and program toward improving the science and practice of aquaculture as a means of expanding aquaculture industry and related economic activity in the state.

As used in this chapter, “aquaculture” means the culture and husbandry of aquatic organisms, including, but not limited to, fish, shellfish, mollusks, crustaceans, kelp, and algae. Aquaculture shall not mean the culture and husbandry of commercially utilized inland crops, including, but not limited to, rice, watercress, and bean sprouts.

### Fish & Game Code

#### § 17 - **Aquaculture Defined**

“Aquaculture” means that form of agriculture devoted to the propagation, cultivation, maintenance, and harvesting of aquatic plants and animals in marine, brackish, and fresh water. “Aquaculture” does not include species of ornamental marine or fresh-water plants and animals not utilized for human consumption or bait purposes that are maintained in closed systems for personal, pet industry, or hobby purposes, however, these species continue to be regulated under Chapter 2 (commencing with Section 2116) of Division 3.

### Fish & Game Code

#### § 1700 **Policy - To Encourage Conservation, Etc. of Living Resources**

It is hereby declared to be the policy of the state to encourage the conservation, maintenance, and utilization of the living resources of the ocean and other waters under the jurisdiction and influence of the state for the benefit of all the citizens of the state and to promote the development of local fisheries and distant-water fisheries based in California in harmony with international law respecting fishing and the conservation of the living resources of the oceans and other waters under the jurisdiction and influence of the state. This policy shall include all of the following objectives:

... (f) The development of commercial aquaculture.

### Fish & Game Code

#### § 15100 - **Duties of Aquaculture Coordinator**

There is within the department an aquaculture coordinator who shall perform all of the following duties:

- (a) Promote understanding of aquaculture among public agencies and the general public.
- (b) Propose methods of reducing the negative impact of public regulation at all levels of government on the aquaculture industry.
- (c) Provide information on all aspects of regulatory compliance to the various sectors of the aquaculture industry.
- (d) Provide such advice to aquaculturists on project siting and facility design that may be needed to comply with regulatory requirements.

## Food and Agriculture Code

FAC §23.5 (1983)

Ch. 1300 sec.28

The commercial production of fish propagated and raised by a registered aquaculturist pursuant to Section 15101 of the Fish and Game Code in the State is a growing industry and provides a healthful and nutritious food product and, as a commercial operation, utilizes management, land, water, and feed as do other agricultural enterprises. Therefore, the commercial production of that fish and marine life shall be considered a branch of the agricultural industry of the State for the purpose of any law which provides for the benefit or protection of the agricultural industry of the State except those laws relating to plant quarantine or pest control. (Amended by Stats. 1983, Ch. 1300, Sec. 28)

FAC §25.5 (1983)

“Aquaculture” means that form of agriculture devoted to the propagation, cultivation, maintenance, harvesting, processing, distribution, and marketing of aquatic plants and animals in marine, brackish, and fresh water. “Aquaculture” does not include species of ornamental marine or freshwater plants and animals not utilized for human consumption or bait purposes that are maintained in closed systems for personal, pet industry, or hobby purposes.

### CA FGC. CODE §15502 - **Aquaculture Disease Committee**

The director, in consultation with the Aquaculture Industry Advisory Committee and the Interagency Committee for Aquaculture Development, shall appoint an 11-member Aquaculture Disease Committee consisting of at least six industry producers selected to represent geographic, specie, and other diverse aspects of the industry; two to represent the department; one to represent the Department of Food and Agriculture; an academic scientist who is an expert in aquatic diseases; and one representative of the University of California Cooperative Extension. Members of the committee shall serve without compensation, but shall be paid their necessary expenses.

## AQUACULTURE DEVELOPMENT COMMITTEE

(Statutes describing duties & membership)

### CA FGC. CODE § 15700 - **Appointment of Members**

The director shall appoint an Aquaculture Development Committee consisting of the following persons:

- (a) At least 12 members representing all sectors of the fresh and salt water aquaculture industry.
- (b) One member representing the department, two members from and chosen by the University of California, one with expertise in aquaculture science and one with expertise in outreach to the fisheries community, and one member each from and chosen by the Department of Food and Agriculture, the California Coastal Commission, the State Lands Commission, the State Water Resources Control Board, the State Department of Health Services, and the Joint Legislative Committee on Fisheries and Aquaculture. The member of the committee appointed by the Joint Legislative Committee on Fisheries and Aquaculture shall meet and, except as otherwise provided by the California Constitution, advise the committee to the extent that this advisory participation is not incompatible with his or her position as a Member of the Legislature.

### CA FGC. CODE § 15701 - **Term of Membership & Compensation**

- (a) The term of membership for members other than representatives of public agencies shall be three years. The representatives of public agencies shall serve at the pleasure of the agency that the member represents.
- (b) Members of the committee shall serve without compensation.

### CA FGC. CODE § 15702 - **Duty of Committee**

- (a) The committee shall be advisory to the director on all matters pertaining to aquaculture and shall coordinate activities among public entities.
- (b) The committee shall assist the director in developing and implementing a state aquaculture plan, identify the opportunities

for regulatory relief, assist in development of research and development priorities, assist in the development of criteria to assure that publicly financed pilot programs are compatible with industry needs, and identify other opportunities for industrial development.

CA FGC. CODE § 15703 - **Committee Meetings: frequency**

The committee shall meet on the call of the director, but not less than twice each year.

(re: CA Coastal Commission)

§ 30100.2 - **Aquaculture a form of agriculture**

“Aquaculture” means a form of agriculture as defined in Section 17 of the Fish and Game Code. Aquaculture products are agricultural products, and aquaculture facilities and land uses shall be treated as agricultural facilities and land uses in all planning and permit-issuing decisions governed by this division.

§ 30222.5 - **Oceanfront lands & aquaculture sites**

Oceanfront land that is suitable for coastal dependent aquaculture shall be protected for that use, and proposals for aquaculture facilities located on those sites shall be given priority, except over other coastal dependent developments or uses.

§ 30411 - **Coastal Aquaculture Sites recognition**

- (a) The Department of Fish and Game and the Fish and Game Commission are the principal state agencies responsible for the establishment and control of wildlife and fishery management programs and the commission shall not establish or impose any controls with respect thereto that duplicate or exceed regulatory controls established by these agencies pursuant to specific statutory requirements or authorization.
- (b) (having to do with boating facilities)
- (c) The Legislature finds and declares that salt water or brackish water aquaculture is a coastal- dependent use which should be encouraged to augment food supplies and to further the policies set forth in Chapter 4 (commencing with Section 825) of Division 1. The Department of Fish and Game may identify coastal sites it determines to be appropriate for aquaculture facilities. If the department identifies these sites, it shall transmit information identifying the sites to the commission and the relevant local government agency. The commission, and where appropriate, local governments, shall, consistent with the coastal planning requirements of this division, provide for as many coastal sites identified by the Department of Fish and Game for any uses that are consistent with the policies of Chapter 3 (commencing with Section 30200) of this division.
- (d) Any agency of the state owning or managing land in the coastal zone for public purposes shall be an active participant in the selection of suitable sites for aquaculture facilities and shall make the land available for use in aquaculture when feasible and consistent with other policies of this division and other provisions of law.

**PCSGA**



PACIFIC COAST SHELLFISH GROWERS ASSOCIATION

---

For more information on the California Shellfish Initiative, go to the Pacific Coast Shellfish Growers Association at:

<http://pcsga.net/california-shellfish-initiative>