

# Aquaculture Regulations and Research Goals



Organized by the  
Pacific Aquaculture  
Caucus

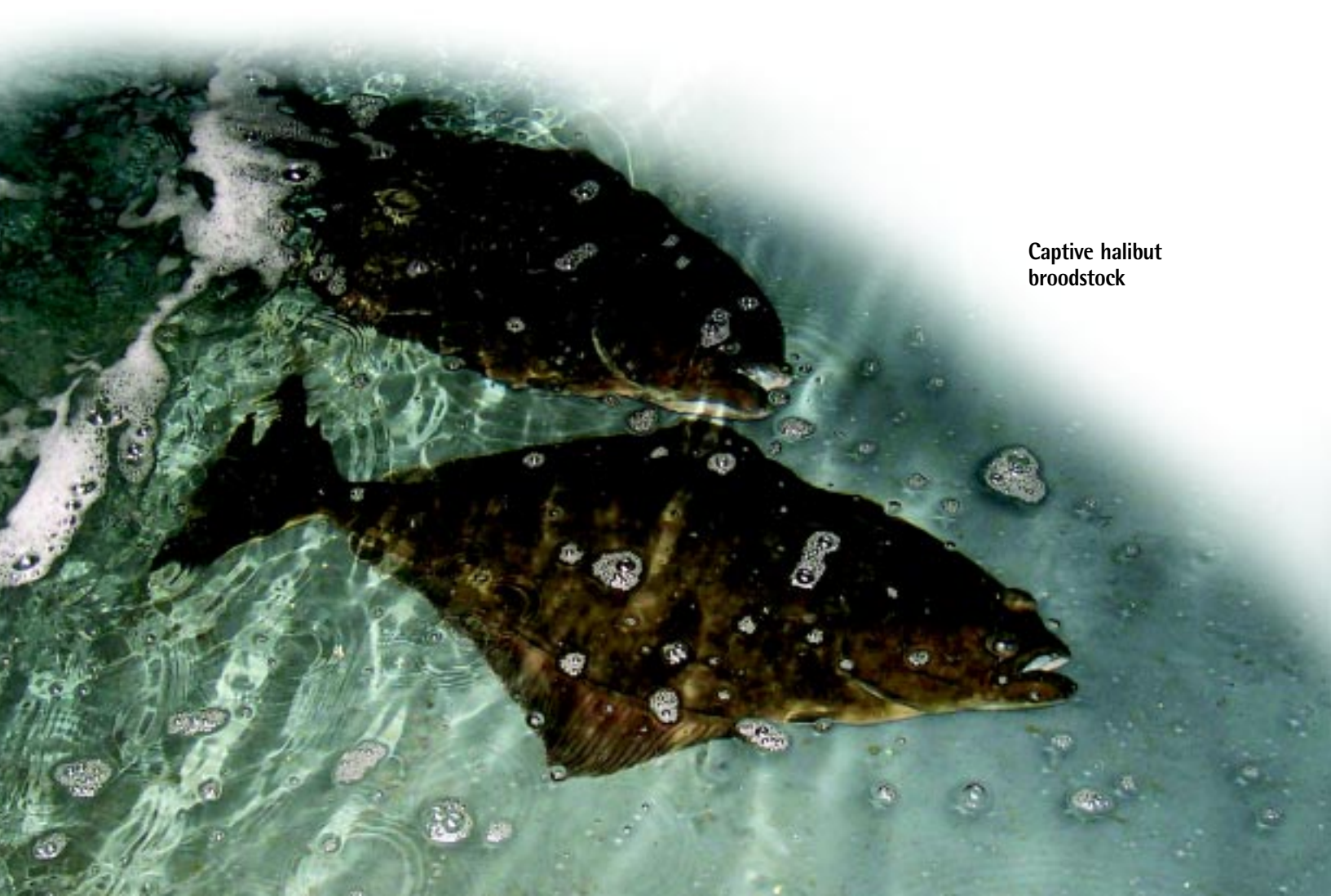
John Wayne  
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Sequim, Washington

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[www.pacaqua.org](http://www.pacaqua.org)

A WEST COAST AQUACULTURE PERSPECTIVE

**I**n March 2002, industry leaders, researchers, technicians, and regulators gathered in Sequim, Washington to discuss the issues facing aquaculture on the West Coast. The crucial findings of this group are described in this publication.



Captive halibut  
broodstock

The following six points are the principal components of these findings. They are not intended to be exclusive, but are presented here to increase the dialog on the development of sustainable aquaculture on the West Coast.

The aquaculture industry in the United States and all stakeholders will benefit from:

1

**A code of conduct for global aquaculture**  
Industry organizations must pursue international cooperation and action to draft such a document.

- Supporting development of aquaculture training centers at institutions of higher learning
- Encouraging capital development and research on appropriate aquaculture technologies through government grants, institutional funding, and guaranteed loan programs

2

**A strong public voice**  
This is vital to enable the industry to work with policy-makers and administrators to help fulfill the goals of the National Aquaculture Act and the National Aquaculture Plan, and to work with the public to address issues of concern.

4

**Education of legislators, agency administrators, and the public in all aspects of the national aquaculture industry**  
Industry organizations and aquaculture state coordinators must produce informative programs that are focused and factual.

3

**Increased effectiveness of State aquaculture coordinators through national program coordination and core funding**  
State aquaculture coordinators have diverse responsibilities and can benefit from interstate cooperation. These responsibilities include:

- Promoting sustainable aquaculture development
- Pursuing national and international marketing for all aquaculture products
- Coordinating and streamlining aquaculture permitting
- Working with Native American organizations to promote mutual development of aquaculture potential

5

**New federal funding to complement private investment for offshore and coastal development**  
This is paramount if the economic and social goals of current government policies are to be met by the year 2025.

6

**Greater participation by the industry in the formulation of regulations**  
To prevent inappropriate development constraints, any ad hoc groups of experts assembled to discuss aquaculture issues or advise standards and norms that may lead to regulation must routinely include individuals from the private sector.

Hand-harvesting  
oysters





# INTRODUCTION

The Pacific Aquaculture Caucus (PAC) hosted a two-day workshop on aquaculture regulations and research goals as they relate to the West Coast region of the United States. The workshop was supported by the National Oceanic and Atmospheric Administration (NOAA) Fisheries, the Port Angeles Port Commission, and members and friends of the Pacific Aquaculture Caucus.

Over 60 people participated in the workshop, representing the aquaculture industry, academic and applied research, government and nongovernment agencies and authorities, and Native American tribal interests. Each person was provided with a comprehensive collection of background materials, including national policies, regulations, and other documents relevant to the industry. Keynote speakers helped focus the attention of the group on the goal of constructing a pathway toward development of a unified and effective regulatory environment to support an economically viable and environmentally sustainable aquaculture industry on the West Coast. Drawing on experiences from the existing arenas of international, national, state, and tribal aquaculture, the group set out to envision a legal and administrative framework to enable the West Coast industry to preserve cultural and social values, while expanding to meet challenging production goals identified in new national policies. The problems, solutions, and research topics required to achieve these goals were identified, prioritized, and summarized as findings of the workshop. Those findings are presented in this document.

Diver's view of salmon in a commercial net pen

## THE FINDINGS OF THE WORKSHOP

1. All aquaculture organizations in the United States should pursue international cooperation and action on behalf of the national aquaculture industry to draft a code of conduct for global aquaculture.

A framework for a global industry, developed by the industry, is needed to provide guidelines for self-regulation. The *Code of Conduct for European Aquaculture* developed by the Federation of European Aquaculture Producers (FEAP) is a suitable model for an international code that would reinforce the principles and standards expected of a sustainable global industry.

2. Greater participation and representation by the aquaculture industry is necessary at international conventions and on committees where policy issues relevant to aquaculture are discussed and standards for the industry are often formulated.

Policies and standards formulated at international conventions are frequently unworkable because the appointed experts have little or no experience with current industrial operations. The United Nations Food and Agriculture Organization (FAO) Joint Subcommittee on Aquaculture, and the Office International des Epizooties (OIE) are two international forums where United States delegations can insist that policies and plans embrace international standards and that producer organizations have greater representation and participation throughout the process. Similarly, policies and regulations formulated and proposed at meetings of groups such as the Fisheries Commissions and Councils frequently ignore aquaculture interests altogether or make impractical decisions. The aquaculture industry is greatly under-represented at all of these events. A single focal point for the national aquaculture industry, such as a national association or federation, can elevate the status of its members in their own political arenas and obtain fair representation on national and regional advisory bodies.

3. The aquaculture industry in the United States needs strong national leadership and a political voice to provide direct input to policy-makers, to ensure that the government fulfills the terms of both the National Aquaculture Act and Plan, and interface with the public in addressing issues of concern.

The collective impact of the FEAP on the aquaculture policy of the European Commission is a model for the United States. National organizations and producer associations need to unify into a new or existing body, such as the National Aquaculture Association, to support key policies and maintain a central focal point of information on regional and association issues.

4. Greater cooperation among the aquaculture sectors in the states is essential to unify leadership. A single political voice is necessary for the broad-based and effective education of decision-makers and managers at all levels.

Legislative frameworks both within and between the states are highly inconsistent. There are conflicts among the jurisdictions of government agencies, organizations, and the legislature. Inadequate information and the lack of leadership have led to aquaculture legislation that is overly restrictive and even obstructive, and government policies are more risk-averse than supportive of aquaculture development.

5. A high priority for the industry is the establishment, in each state, of an office of aquaculture coordinator, which will, among other responsibilities, advocate the development of a sustainable aquaculture industry. To be viable, the office must have the support of and funding from the administration, and, if necessary, the private sector.

Each state needs a vital focal point for administrative information and dialogue between state and local government agencies. The administrative framework for aquaculture throughout most states is essentially unsupportive for constructive aquaculture development; it can also be suspicious of aquaculture technologies altogether. There is a general lack of understanding of aquaculture and its impacts by the regulatory authorities at both state and local levels, and this is becoming further exacerbated as the few experienced managers retire and new, untrained managers take over. Without a clear administrative framework and knowledgeable personnel, the local government interface can be dysfunctional and difficult to navigate.

Adjusting netting on a salmon farm





6. Additional roles for a state aquaculture coordinator are (a) to promote aquaculture as an opportunity for traditional fishermen and coastal residents, and (b) to organize and provide training in the most appropriate technologies for the state's particular coastal environments.

Several countries have greatly revitalized the economic and social livelihoods of small coastal communities, particularly those on remote islands. In the United States, the economic benefits of aquaculture development are not adequately analyzed and explained to the public, and detailed economic data about the advantages and disadvantages to the states, and the region are neither readily available nor current.

7. Other roles for an aquaculture state coordinator are (a) to promote aquaculture products produced in the state, and (b) to organize marketing programs, both locally and nationally.

The sale of aquaculture products by many countries, particularly those producing salmon and shellfish, has been greatly helped by organized marketing and coordination within the sector.

8. A further role for an aquaculture state coordinator is to organize economic and social studies that provide information to benefit the industry at large.

Many permitting decisions for aquaculture projects are unfavorable under an administrative policy of zero risk. Decisions based on economic and social data can be complex; although benefits of aquaculture to some states are substantial, market competition can impact prices for other fisheries-related activities.

9. Aquaculture organizations can work with aquaculture state coordinators to obtain financial help to increase the capital and technical support for research and development of appropriate aquaculture technologies.

Aquaculture development is a positive strategy for the new government policy for national food security. However, development of marine aquaculture is particularly costly, and few of the states encourage investment by contributing directly to research and development. There is also a noticeable lack of political support for coastal infrastructure to support new development in coastal and offshore waters because of conflicting use of resources.





10. Legislators in the United States and the general public must be made more aware of the enormous trade deficit in seafood, and of its cost. A strong national aquaculture industry will support new policies of national food security and, accordingly, of national defense, in addition to providing significant economic and social benefits to remote coastal communities and export opportunities for goods and services.

A large part of the deficit (\$6 billion - \$11 billion) in seafood trade in the United States is from the importation of foreign aquaculture products that could be produced domestically. Increased domestic production of seafood is the most effective way of reducing the trade imbalance. However, national development is constrained by the lack of a firm national policy toward the importation and exportation of food products and an uneven regulatory playing field with regard to non-conforming practices of seafood trade and safety that still exist.

11. The aquaculture industry in the United States needs an organized program to educate legislators, regulators, and the general public about itself. It must be science-based, focused and proactive in outlook, and counter the sometimes biased and inaccurate material in the media.

Regulators, public policy-makers, and elected officials frequently do not understand aquaculture and, consequently, apply inappropriate rules and standards developed for other industries. Key federal and state legislators have to be targeted and educated with information. FEAP produced an educational tool called *Aquamedia* ([www.feap.org](http://www.feap.org)), which contains accurate, relevant, and interesting facts and data about aquaculture for use of the public and influential institutions or other groups. Only approved sources can contribute to *Aquamedia*. This could be an excellent opportunity for the Sea Grant Extension Service and regional aquaculture centers to make contributions to the existing educational site and to provide the Internet audience in the United States with links to it, to promote its use. Alternatively, these American organizations could create similar Web sites of their own.

12. The production of education materials, including workshops and training courses, is a high priority for the industry in every state. The materials should target a number of different groups and at different levels: (a) administrators from the public sector, (b) managers from the private sector dealing in loans and insurance, (c) reporters and journalists from all media, (d) the general public, and (e) others. State industries can coordinate efforts to market their message by networking and developing crosscutting issues for broad discussion.

The education of government administrators through workshops and courses is an effective tool to develop the capacity of state and local infrastructure that is responsible for the development of the aquaculture sector. The interface between the aquaculture industry and the general public is small and mostly concerns issues that continue to constrain development throughout the region. Continuing conflicts among resource users are commonplace, and there is popular opposition to most aquaculture development activities. In contrast, when environmental conflicts come before the courts, and facts are presented to an objective reviewer, decisions are often made in favor of the aquaculture industry. Litigation costs are particularly prohibitive. Therefore, education of public officials, the general public, the media and others is important for overcoming the constraint to aquaculture development caused by misinformation or mistaken perceptions of both technical and nontechnical issues in the public view.

15. Realistic environmental discharge regulations for many aquaculture practices require wider promotion, and allowable levels still need to be defined and adapted to the reality of different receiving environments.

Regulatory requirements expected of aquaculture activities are often unrealistic because they are adopted from other semi-related industries, and treatment requirements cannot be met cost-effectively using existing technologies.

16. State agencies need to exercise a more liberal policy toward increased shellfish production by either enhancement or culture and to support development by surveying beaches, identifying zones for development, and approving shellfish hatcheries.

Native Americans consider subsistence a principal goal. Therefore, the strategies of shellfish enhancement and shellfish aquaculture are both acceptable and appealing to different tribes, particularly in Alaska.



17. Aquaculture organizations can contribute to the preparation and publication of training manuals and courses for Native Americans. Shellfish enhancement and shellfish aquaculture are good industries for Native Americans, and there is enormous potential for shellfish production in Alaska. Considerable training is still required, together with adequate resources, to enable them to sustain projects.

18. Hawaiians can be more actively involved in aquaculture themselves, rather than profit only from leases. The state of Hawaii would benefit by providing longer leases for aquaculture producers.

Issues for aquaculture development in Hawaii and the Island Territories are frequently more cultural than legal.

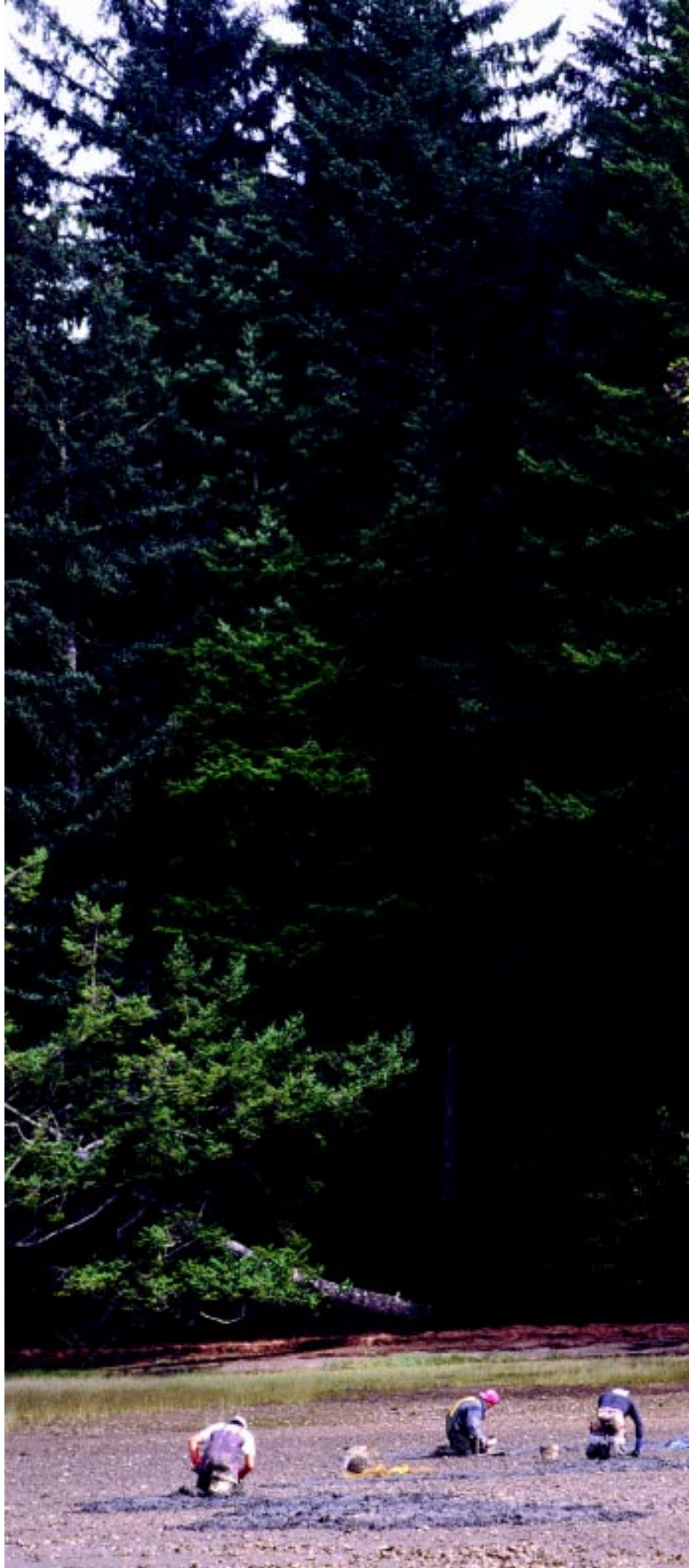
19. Native American tribes can benefit from greater involvement in the aquaculture community, and aquaculture organizations can reach out to include the tribes on both technical and business levels.

When tribal or native lands are involved, the process of aquaculture development can be complex, and issues are often peculiar to each indigenous group. Many projects are frequently controversial and litigious. Most tribes have a positive outlook toward aquaculture and agree that management of tideland resources through enhancement could contribute to more efficient and increased production.

20. National aquaculture organizations can be an effective and appropriate mechanism to discuss and resolve transboundary issues or conflicts.

Projects that impact tribal lands and tidelands can benefit from broader review to maximize the opportunities for each Native American group, as not all are staffed with resource managers and technical experts. Cooperation can be enhanced if the aquaculture community works together with the tribal groups to respect concerns such as the impact of projects on the local habitat, escape of farmed species, and restrictions on fishing.

Working a shellfish bed at low tide

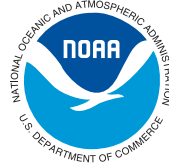




# PROMOTING ECONOMICALLY VIABLE AND ENVIRONMENTALLY RESPONSIBLE AQUACULTURE



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Bottom-cultured  
Pacific oysters

