

Update Report

Period: 2/1/2014 - 1/31/2015

Project: R/LME/N-4 - Planning for Sustainable Shellfish Aquaculture: Identifying Current Activities, Public Perceptions, Conflicts, and Compatibilities

STUDENTS SUPPORTED

No Students Reported This Period

CONFERENCES / PRESENTATIONS

Hudson, Bobbi. 2014. Fact or Fiction: Public Perceptions of Shellfish Farming in the Pacific Northwest. Pacific Coast Shellfish Growers Association/National Shellfisheries Association meeting, September 22, 2014 in Vancouver, WA. Professional presentation., public/profession presentation, 275 attendees, 2014-09-22

Suhrbier, Andrew. 2014. Wanted: Compiled West Coast Shellfish Resources and Farms on GIS. Pacific Coast Shellfish Growers Association/National Shellfisheries Association meeting, September 23, 2014 in Vancouver, WA. Professional presentation., public/profession presentation, 275 attendees, 2014-09-23

Bobbi Hudson. Washington Sea Grant 21st Conference for Shellfish Growers, Union, WA, public/professional presentation titled: "What's All the Fuss About? Gauging Public Perceptions of Shellfish Farming.", SG-sponsored, 100 attendees, 2014-03-03

ADDITIONAL METRICS

P-12 Students Reached:

P-12 Educators Trained:

Participants in Informal Education Programs:

Volunteer Hours:

Acres of coastal habitat protected, enhanced or restored:

Resource Managers who use Ecosystem-Based Approaches to Management:

Annual Clean Marina Program - certifications:

HACCP - Number of people with new certifications:

ECONOMIC IMPACTS

No Economic Impacts Reported This Period

SEA GRANT PRODUCTS

Description	Developed?	Used?	ELWD?	Number of Managers	Names of Managers
Data from surveys of residents and shellfish	Yes	Yes	No	0	

stakeholders
about perceptions
of shellfish
farming and
tideland usage.

GIS map layers of shellfish activities in the nearshore, relevant infrastructure, and federal, state and local regulations in WA, OR, and CA.	Yes	Yes	No	0
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HAZARD RESILIENCE IN COASTAL COMMUNITIES

No Communities Reported This Period

ADDITIONAL MEASURES

Number of stakeholders modifying practices:

Sustainable Coastal Development

of coastal communities:

PARTNERS

Partner Name: California Sea Grant

Partner Name: Northwest Indian Fisheries Commission

Partner Name: Oregon Sea Grant

Partner Name: Washington Department of Ecology

Partner Name: Washington State University Social & Economic Sciences Research Center

IMPACTS AND ACCOMPLISHMENTS

Title: **Sea Grant's national aquaculture initiative creates an integrated socioeconomic and ecological database on West Coast shellfish aquaculture**

Type: accomplishment

Description:

Relevance: Shellfish aquaculture supplies a small but important portion of U.S. seafood demand, and state and national shellfish initiatives demonstrate government commitment to its expansion. Bivalve species culture also can be important for coastal restoration by filtering marine waters and rebuilding estuarine habitat function

while supporting sustainable local businesses. Increasingly, however, aquaculture operations are competing with other coastal development activities. Decision makers must understand economic, ecological, and cultural values associated with aquaculture to balance it against multiple other coastal uses.

Response: A national initiative funded through Washington Sea Grant is gathering and analyzing data to illuminate such complex relationships in ten West Coast counties. Building on an initial survey of community attitudes toward aquaculture, researchers asked government, shellfish-industry, and conservation-group stakeholders about operations and development. They coordinated with relevant management agencies to gather and create metadata for 32 geospatial data layers representing shellfish production, recreation, and governmental regulation.

Results: Both stakeholder and community surveys elicited high response rates and more than half rated shellfish aquaculture “very important” or “extremely important” for creating and maintaining jobs. Many also cited water quality as a probable positive effect of shellfish aquaculture expansion. Project data will be incorporated into a coast-wide management application for spill response; they were shared with Oregon, Washington, and California coastal atlas programs. Findings have been widely cited and discussed by state policymakers.

Recap:

Recap: Washington-Sea Grant-supported research combines geospatial and survey data on shellfish aquaculture to support coastal management and marine spatial planning on the West Coast.

Comments:

Primary Focus Area: LME (SSSS)

Secondary Focus Areas: COCC (SCD)

Associated Goals: Support conservation and sustainable use of living marine resources through effective and responsible approaches, tools, models and information for harvesting wild and cultured stocks and preserving protected species. (SSSS Industry)

Assist coastal communities and marine-dependent businesses in planning and making decisions that provide local and regional economic benefits, increase resilience and foster stewardship of social, economic and natural resources. (SCD Inter-relationships)

Partners:

California Sea Grant

Northwest Indian Fisheries Commission

Oregon Sea Grant

Washington Department of Ecology

Washington State University, Social and Economic Sciences Research Center

Related Partners: California Sea Grant, Northwest Indian Fisheries Commission, Oregon Sea Grant, Washington Department of Ecology, Washington State University Social & Economic Sciences Research Center

PUBLICATIONS

Title: **Planning for sustainable shellfish aquaculture: identifying current activities, public perceptions, conflicts, and compatibilities**

Type: Promotional brochures Publication Year: 2014

Uploaded File: [GIS.pdf](#), 252 kb

URL: *none*

Abstract:

N/A 1 page fact sheet only

Citation:

N/A 1 page fact sheet only

Copyright Restrictions + Other Notes:

Print version provided at 2014 conferences, including PCSGA/NSA and South Sound Science Symposium.

Journal Title: *none*

OTHER DOCUMENTS

No Documents Reported This Period

LEVERAGED FUNDS

No Leveraged Funds Reported This Period

UPDATE NARRATIVE

Uploaded File: [Rasmussen_2553_update_....7.pdf](#), 571 kb

WASHINGTON SEA GRANT ANNUAL PROGRESS REPORT
February 1, 2014 through January 31, 2015

Project Title

NOAA Sea Grant Aquaculture Research Program--
Planning for Sustainable Shellfish Aquaculture: Identifying Current Activities, Public Perceptions, Conflicts, and Compatibilities

Principal Investigator(s) and Affiliation

Bobbi Hudson, Pacific Shellfish Institute

Project Partners

Teri King, WA Sea Grant/University of Washington
David Landkamer, OR Sea Grant/Oregon State University
Paul Olin, CA Sea Grant/Scripps Institution of Oceanography
Danna Moore, WSU Social & Economic Research Center
David Fyfe, Northwest Indian Fisheries Commission
Bill Dewey, Taylor Shellfish

Project Accomplishments

Description: This project combines geospatial data of commercial aquaculture and related activities with research and outreach on the social dimensions of shellfish aquaculture to support coastal and marine spatial planning (CMSP) activities along the West Coast. To achieve these goals, this project aims to: 1) facilitate visualizations of the status and needs of shellfish aquaculture operations for marine and coastal planning efforts; 2) increase understanding of the range of public perspectives held about shellfish aquaculture; and 3) provide relevant shellfish aquaculture information that is responsive to a wide range of needs and interests.

Relevance: Aquaculture has the potential to significantly contribute toward the growing demand for seafood in the U.S. and abroad. Bivalve shellfish are of particular interest because they provide cultural value, recreation, food, jobs and revenue. Bivalves also play a vital role in maintaining healthy estuaries, cleansing local waters and providing a complex habitat structure for other species. The recent NOAA National Shellfish Initiative and the Washington Shellfish Initiative both demonstrate a state and national commitment to expanding shellfish aquaculture. This project addresses three pressing needs related to planning for and expanding shellfish aquaculture along the West Coast: human use data, social research, outreach and education. The outcome will help West Coast decision-makers understand the interrelationships among social, economic, and ecological values and multiple uses of ocean and coastal areas. Long-term goals of the project are to enhance ecologically and socially sustainable development of West Coast shellfish aquaculture and increase public understanding and support for shellfish related activities. Research goals directly support the National Oceanic & Atmospheric Administration's (NOAA) National Shellfish Initiative and commitment to state and regional spatial planning and efficient permitting for shellfish aquaculture.

Response: This project has assembled GIS map layers of shellfish activities in nearshore areas (commercial farms, classified shellfish growing areas, established tribal harvest areas), relevant infrastructure (docks, ramps refrigeration, storage, processing, and export-ready cargo facilities), and federal, state, and local regulations (georegulations) in WA, OR, and CA. Additionally, two separate surveys were prepared to explore two overarching research questions: “Are these communities opposed to or supportive of continued or expanded shellfish aquaculture?” and “What are the implications for aquaculture planning and development?” The surveys were sent during fall 2013, to 1) residents of ten counties in WA, OR, and CA; and 2) shellfish stakeholders representing federal, state, local government, private industry and conservation groups spanning the three states and the ten counties targeted for the residential survey (#1).

Results: PSI coordinated with relevant agencies in WA, OR, and CA to gather thirty-two data layers covering shellfish production, recreation and regulatory dimensions. Metadata was created for each layer. When only paper maps or data were available PSI staff converted those resources into a GIS platform. Data has been shared with the Oregon Coastal Atlas, a multi-group project dedicated to disseminating data on Oregon’s Coast. Washington and California Ocean Use Atlases are slated to ingest their state specific layers as well. As a side development, data will be shared with west coast ERMA’s (Environmental Response Management Application) so shellfish resources are included in spill response in Oregon, California and Washington. A summary of the layers combined and created was shared at conferences and in private conversations with stakeholders.

Of 4,000 social questionnaires posted to residents in WA, OR, and CA, we achieved a 34% response rate (Table 1), and an excellent suite of answers for a wide range of issues. A sample question and responses are shown in Figure 1. Of 865 social questionnaires posted to stakeholders in WA, OR, and CA, we achieved a 25% response rate, and an extensive collection of written responses to a wide range of shellfish farming and tideland usage questions. Two presentations describing the survey findings were delivered during 2014 at meetings sponsored by 1) Washington Sea Grant and 2) the Pacific Coast Shellfish Growers Association/National Shellfisheries Association Pacific Coast Section. In general, residential results revealed the opinion that shellfish aquaculture farms “neither enhance nor detract from the scenery of coastal areas.” When asked to rate various benefits of shellfish farming, respondents’ selected “greatest benefit” associated with “Providing locally produced seafood.” Among stakeholders surveyed, more than half of the respondents rated the importance of shellfish aquaculture for creating and maintaining jobs as “very important” or “extremely important.” Also of notable importance was the frequency with which jobs and water quality were included in written responses querying the probable positive impact of shellfish aquaculture expansion.

Table 1. Response rate for the "Shellfish Farming and Your Community" survey.

Study Area	Sample size	Completed Surveys	Response Rate	Sample Error*
Total Study Area	4,000	1,250	34%	±3%
Washington Area	2,400	770	35%	±4%
Skagit	400	129	34%	±9%
Kitsap	400	131	36%	±9%
Pacific	400	150	42%	±9%
Thurston	400	125	33%	±9%
Pierce	400	109	29%	±9%
Mason	400	126	35%	±9%
Oregon Area	800	282	38%	±6%
Tillamook	400	145	39%	±9%
Coos	400	137	37%	±9%
California Area	800	198	26%	±7%
Humboldt	400	103	27%	±9%
Marin	400	95	24%	±9%

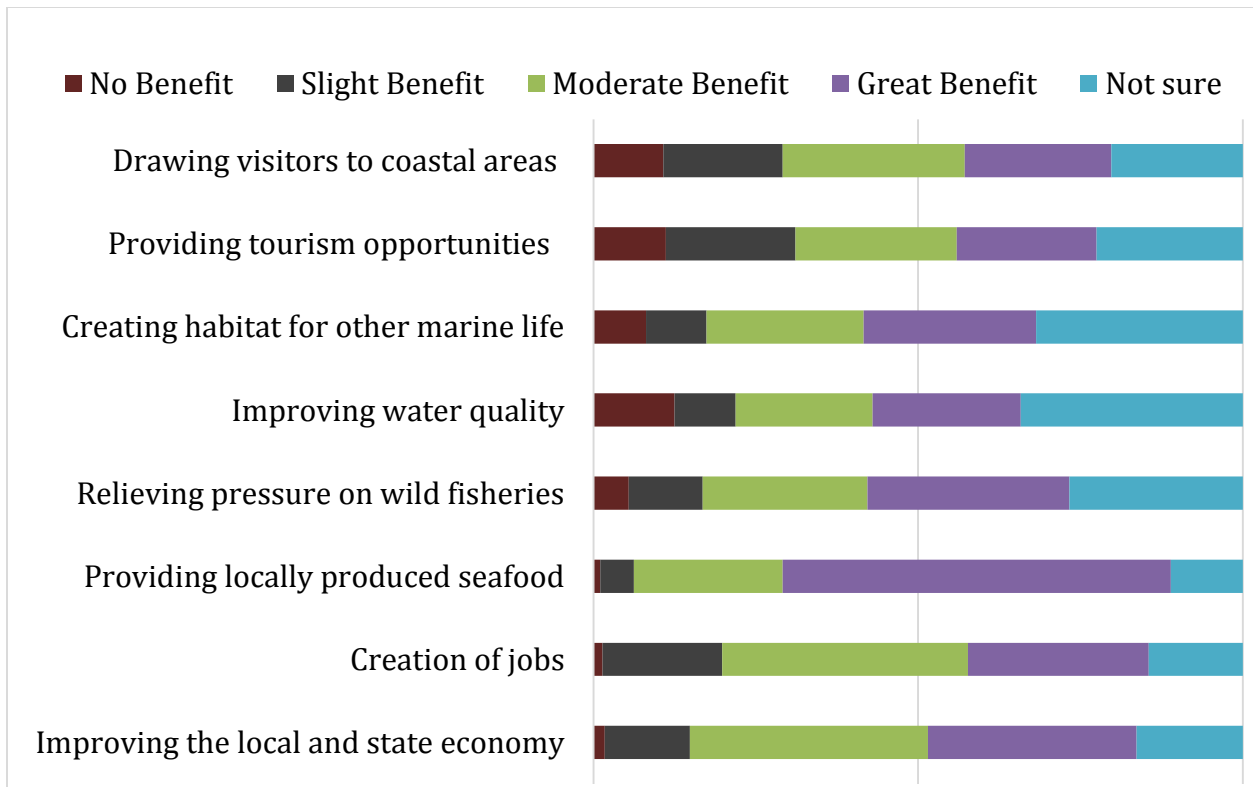


Figure 1. Citizen responses (pooled, all counties) when asked: "How much benefit to you believe shellfish aquaculture brings to each of the following?"