

Shellfish Aquaculture



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Shellfish in WA

- Oysters
 - Olympia oyster
 - Pacific
 - Kumo
 - Virginica
- Clams
 - Manilla
 - Razor
- Mussels
- Pacific Geoduck
- Scallops





Importance of Shellfish Aquaculture in WA

- Culturally important to Tribes
- Important food resource for a variety of terrestrial and aquatic organisms
- Pacific Coast shellfish growers:
 - produce more than 106,000,000 pounds of shellfish each year
 - contribute more than \$110 million a year to the region's economy.
 - provide thousands of family-wage jobs in coastal communities
- Shellfish are exported around the world.





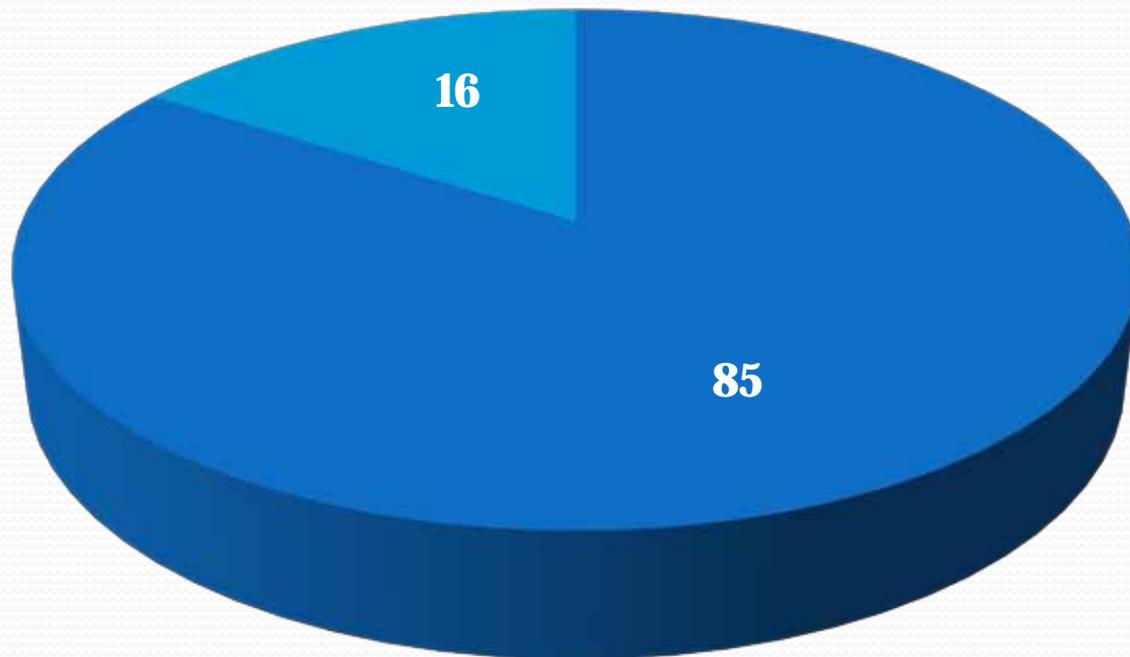


Shellfish production on the West Coast - 2000 figures

- **Washington:**
 - Oysters 77 million pounds
 - Clams 7 million pounds
 - Mussels 1.5 million Pounds
- **West Coast (WA, ORE, CA, Alaska)**
 - Oysters 92 million pounds
 - Clams 7 million pounds
 - Mussels 2 million pounds

Shellfish production on the West Coast - 2000 figures

101 million pounds total



■ Washington ■ Rest of West Coast



Shellfish Farming :

- **85% of shellfish industry in WA located on private intershore area:**
 - **Willapa Bay/ Grays Harbor**
 - **Hood Canal**
 - **South Sound**
 - **Skagit Bay**
 - **Bellingham Bay/Lummi Bay**

Reason WA State is the lead, Bush and Callow Acts 1895, allowed sale of tidelands for shellfish production.





NRCS Aquaculture Efforts

- Rhode Island and Massachusetts ongoing.
- Roylene Rides at the Door, State Conservationist , has been doing outreach with the Tribal shellfish growers and Tribes.
- NRCS staff has also been working with shellfish growers, PCSGA, State DNR and Dept. of Health to try to understand the issues that growers are facing.
- NRCS needs to really understand the issues and resource concerns before establishing a shellfish program.



Shellfish Issues in WA

- Pacific Coast Shellfish Growers Association (and Tribes) – nationwide permit 48 from ACOE and working with NMFS and USFWS for ESA assurances – allows existing growers to have environmental certainty – want us to step in with Standards and Specs for growers to follow.
- DNR permits all shellfish farms – State growers only – DNR is currently setting very high standards, sometimes higher than regulatory agency requirements. Growers and Tribes are trying to work with DNR to come up with reasonable Standards and BMPs.
- Jim Jesernig – lobbyist for PCSGA (used to work for Conservation Commission) – last 3 companies which tried to establish themselves here in WA, went to BC. Standards & permitting are issues right now. (Eel Grass buffer issue controversy))
- Rafiedee decision



Resource Concerns

In our planning process we identify and treat resource Concerns with Conservation Practices.

During our meetings and tours we are trying to understand the Resource Concerns the growers are struggling with.



















NRCS Efforts in Other States

- Rhode Island and Massachusetts
 - Developed EQIP sign-ups, used interim practice 706, now moving to practice 400
 - Gear Recycling-provide cages and floating bags for the purpose of rotating for the reduction of biofouling inputs into the marine environment in shallow areas.
 - Disease Monitoring – histology samples, trying to locate and maintain native stock, annual pathology tests for disease.
 - Buffers between beds.
 - Monitoring and record keeping of pests, interaction with endangered species and wildlife and boat maintenance. Spill kit required to be maintained on all vessels. Water quality testing and invasive species record keeping.

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- RI is mostly deep water aquaculture floating platforms and MA is intertidal shallow water farming.
 - Two shellfish conservation practices used mainly:
 - (400) Bivalve Aquaculture Gear and Biofouling Control
 - (706) Shellfish Aquaculture Management
 - Also
 - (472) Access Control
 - (595) Pest Management

Massachusetts

- (400) Bivalve Aquaculture Gear/Biofouling Control
- Epifaunal Culture (near bottom, oysters) \$2,319 acre - mostly providing extra gear (20% extra) that can be cleaned on land, and record keeping.
- In faunal (In the substrate, clams) \$1,530 acre - mostly pays for the cost of the waste removal for recycling predator netting, sweeping and cleaning of nets, but not the cost to purchase the nets also includes record keeping.

Typical size of bed is 1-4 acres in MA

Massachusetts - Other practices

- (595) Pest Management: Work with the university to conduct pathology tests for disease, and to purchase data loggers to test water quality. Data is given to Extension that has a water quality monitoring program. Cost scenario pays \$1,000 acre with a cap.



Massachusetts - Other practices

- (472) Access Control: Almost all the farmed beds are public leased lands that have high amounts of public recreation through boating. Navigational delineation. Cost Scenario \$42 each float





Rhode Island:

- (706) Shellfish Aquaculture Management
- Disease Monitoring \$1,574 per farm, X50 samples
- Float Bags \$17.67 each
- Shellfish Cage \$104 each
- Shellfish bags \$4.60 each
- Shellfish Record Keeping (environmental conditions, endangered species interaction, spill kits on all vessels, invasive species) \$874 per farm
- Shellfish Markers \$255 each



WA Shellfish Program

- For 2013 program need the pieces in place by July 2012
- Identify resource concerns and Conservation Practices
 - Bivalve Aquaculture Gear & Biofouling Control
 - Pest Management – disease issues for shellfish
 - Heavy Use Areas – ingress and egress from beaches
 - Access Control – control with navigation aids for harvesting
- Develop practice payment scenarios
- Provide training to NRCS field employees on shellfish and shellfish aquaculture
- Public outreach / media releases
- Other items?
- Assistance – Tribes, WCSGA, State and Federal government



