US Marine Aquaculture: The Federal Perspective

Michael Rubino
Manager
NOAA Aquaculture Program

Workshop on Offshore Aquaculture
New Orleans
October 7, 2008
U.S. Marine Aquaculture is ... 

~ 1.5% of U.S. seafood supply, or 20% of entire U.S. aquaculture industry

http://aquaculture.noaa.gov
Shellfish
Maine Finfish
Salmon Farming in Maine
**Hypothetical 1 MMT Production Increase in U.S. Aquaculture**


<table>
<thead>
<tr>
<th>Group</th>
<th>Sub-group</th>
<th>Current U.S. Production</th>
<th>Increase</th>
<th>Target for 2025</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mollusks</strong></td>
<td>All</td>
<td>100,000</td>
<td>245,000</td>
<td>345,000</td>
</tr>
<tr>
<td><strong>Crustaceans</strong></td>
<td>All</td>
<td>18,000</td>
<td>47,000</td>
<td>65,000</td>
</tr>
<tr>
<td></td>
<td>Crayfish</td>
<td>14,000</td>
<td>35,000</td>
<td>49,000</td>
</tr>
<tr>
<td></td>
<td>Shrimp and Prawns</td>
<td>5,000</td>
<td>11,000</td>
<td>16,000</td>
</tr>
<tr>
<td><strong>Fish</strong></td>
<td>All</td>
<td>340,000</td>
<td>760,000</td>
<td>1,100,000</td>
</tr>
<tr>
<td></td>
<td>Freshwater</td>
<td>315,000</td>
<td>70,000</td>
<td>385,000</td>
</tr>
<tr>
<td></td>
<td>Anadromous</td>
<td>25,000</td>
<td>100,000</td>
<td>125,000</td>
</tr>
<tr>
<td></td>
<td><strong>Saltwater</strong></td>
<td>&lt; 1,000</td>
<td>590,000</td>
<td>590,000</td>
</tr>
<tr>
<td><strong>TOTALS</strong></td>
<td></td>
<td>458,000</td>
<td>1,052,000</td>
<td>1,510,000</td>
</tr>
</tbody>
</table>
Stock Enhancement & Restoration Aquaculture

Commercial: Salmon, oysters
Recreational: Pacific rockfishes, Gulf redfish
Habitat: Oysters

http://aquaculture.noaa.gov
Constraints
Federal Perspective: Drivers

Legislation
Directives
Stakeholders
Markets
Science
Rationale for Marine Aquaculture

Increase domestic supply to complement wild catch
Regional food supply and security
Health benefits
Jobs, maintain working waterfronts
Ecosystem management
International role
Stock replenishment

http://aquaculture.noaa.gov
NOAA’s Aquaculture Program

Regulation
Science, R&D
Outreach and Education
International

http://aquaculture.noaa.gov
Legal & Regulatory Context for Offshore Aquaculture

Jurisdiction
- State v. federal
- Multiple federal agencies
- Multiple mandates

Regulatory Development
- New legislation
- Improvements under current law

http://aquaculture.noaa.gov
National Offshore Aquaculture Act
(H.R. 2010, S. 1609)

Grant NOAA authority to issue offshore permits
NOAA coordinates federal process
Provide environmental and other safeguards
Consultation with states

http://aquaculture.noaa.gov
Steps to Develop Offshore Regulations

- Environmental/social analysis
- Regional mapping
- State, Fishery Management Council, stakeholder & expert consultations
- Interagency consultations
- Draft permit requirements
- Federal Register process

http://aquaculture.noaa.gov
National Offshore Aquaculture Act
(H.R. 2010, S. 1609)

Research: support development of ALL marine aquaculture
- R&D industry partnerships
- Biological, social, production and economic data collection
- Alternative feeds research

http://aquaculture.noaa.gov
Concerns: Technology, Economics, Environment
US Offshore Technologies

culture
Economic, Competition Concerns

- Financial viability
- Economic impact
- Competition and synergies with fishing
Hawaii
New Hampshire
Offshore Mussels in NE
North Carolina

http://aquaculture.noaa.gov
North Carolina’s Research Hub

http://aquaculture.noaa.gov
Alaska
Environment - Science - Innovation

- NOAA/USDA Aquaculture Feeds Initiative
- Shellfish and Environment Symposium
- National Aquatic Animal Health Plan
- Offshore aquaculture water quality effects
- Regional siting studies for aquaculture in federal waters (Gulf, NE, CA)
- Genetics

http://aquaculture.noaa.gov
Pilot Projects: NOAA Grants

- Mussels and cod in Northeast
- Pacific NW species
- California yellowtail
- King crab in Alaska
- Cobia
- Black sea bass
- Hawaiian species
- Hatchery technology
- IMTA

http://aquaculture.noaa.gov
Next for Gulf?
To Find Out More ...

Michael Rubino – Program Manager
Susan Bunsick – Policy
David O’Brien – Strategic Planning
Kate Naughten – Outreach
Kevin Amos – Aquatic Animal Health
Andy Lazur – Sea Grant
Paul Sandifer – National Ocean Service

PHONE:  (301) 713-9079

http://aquaculture.noaa.gov