Clatsop Beach Razor Clam Fishery
Public Meeting
Oct 22, 2018

Matt Hunter, Shellfish Biologist / Astoria
Oregon Department of Fish and Wildlife
Marine Resources Program
Meeting Agenda

Present:

• Pacific razor clam life history
• Past and current fishery monitoring work
• Past and current Clatsop Beach stock assessment
• Situation analysis for the delay in season opening for 2018
• Gather public feedback to protect juvenile razor clams and provide better harvest opportunities (=decrease wastage)

All input is valuable
Please sign in
Pacific Razor Clam
*Siliqua patula*

*In a clam-shell*

- Range from Aleutian Islands of Alaska to the central coast of California
- Genetically singular population
- Prefer flat, low sloped sandy ocean beaches and inlets
- Uniform sediment = stability
- Require high oxygen and salinity
- Highly mobile vertically
- Similar life history with other PNW bivalves
  - Broadcast spawning
  - Veliger larvae
  - Rapid first year of growth
  - Mature by second year
  - Max age varies along range

- Grow up to 3.5 inches in YR 1
- Growth occurs in the spring / summer
- Growth slows = produce gametes
- Historic harvest primarily aged 1-2 YR
Oregon Distribution

*Coast to coast*

- Found along entire coast with suitable habitat
- Over 90% of population on northern most 18 miles known as Clatsop Beach
- Southern populations are spatially sporadic and temporally episodic
  - Lack of sediment uniformity
  - Increased recruitment mortality
- Consistent abundance on Clatsop Beach
  - Native American middens
  - Late 1800’s settler wagon trails
  - Infrastructure development increased opportunity
- Economically and culturally important to the PNW
Resource Monitoring

Science on the sand

- Clatsop Beach has commercial and recreational fisheries
  - Commercial monitored 1941
  - Recreational monitored 1955
- Numerous regulation changes
  - Commercial size limits
    - Down-up-down (3.75”)
  - Recreational bag limits
    - Continual decrease to 15
  - Season structure
    - Summer conservation
  - Harvest implement restriction
    - Commercial-shovel
    - Recreational-tube size
- License/Permits
  - Commercial-permit
  - Recreational-license
Annual Total Harvest

Data on the sand

- Cyclical in nature
  - Abundance driven
  - Set strength

- El Nino relationship
  - Increase harvest
    - Multiple lag year
  - Decrease harvest
    - Shorter lag

- Other factors
  - Smaller geographic anomalies
    - Wind stress
    - Currents

- Biotoxin closures
  - More frequent
  - During large abundance
Harvest Use

*Where the clams go*

- Change of use through time
  - Commercial until 1950s
- Drastic switch to Recreational
  - Infrastructure improved
  - Priority to leisure time
    - Baby boom generation
- Increase in visitors
  - Tourist destination
  - Economic value
- Consistent thru time
  - High abundance increases commercial

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**Average Razor Clam Harvest (1958-2018):**
- 85% Recreational
- 15% Commercial
Abundance Assessment

Science in the sand

- The standard process used to assess razor clam populations in the PNW

- Initiated in 2004
  - Clatsop Beach only
  - 10-12 transects annually
  - Informational
    ✓ Recruitment
    ✓ Cohort survival

- Abundance is cyclical and dependent upon juvenile cohort.

- Historic abundance
  - Ranges from .17 to 2.5 clams/m²

- Large abundance 2014-15
  - Record effort and harvest 2016
Abundance on the Beach: Where are the clams?

- Spatially abundance is significantly different
  - North and south ends of Clatsop beach exhibit high abundance
- Overall robust abundance equally distributed
- Depressed abundance is unequally distributed
- Average size is fairly consistent
What did 2018 provide?

Show us the clams!

- Average abundance
- Unequal distribution
Clatsop Beach Razor Clam Population Distribution 2018

Razor clams/m²

Transect

Peter Iredale
Camp Rilea
Sunset
Del Rey
Gearhart
Seaside

North

Razor clams/m²

 Transect

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18

☐ All Clams
What did 2018 provide?

Show us the clams!

- Average abundance
- Unequal distribution
- **Small size frequency distribution**
Oregon Clatsop Beach Razor Clam
Assessment Size Frequency Distribution-2018

n=204
Ave. Size (mm) = 67.6
Ave. Size (in.) = 2.66

2007-2018
Ave. Rec. Harvest Size (mm) = 109.8
Ave. Rec. Harvest Size (in) = 4.32

Commercial Min. Size

2018
Ave. Size (mm) = 115.0
Ave. Size (in) = 4.5
What did 2018 provide?

*Show us the clams!*

- Average abundance
- Unequal distribution
- Small size frequency distribution

- **Late but successful spawning event in 2017**
Modeled a simulation of expected catch for all 4 years

100 harvesters digging the first 15 clams in October

Results were very similar to size frequencies

Harvest would be dominated by 2-3 inch clams

2015 and 2016 populations were robust with equal size distribution

2017 showed a lack of recruitment and a population skewed heavily to larger clams

2018 is highly skewed to smaller clams with very few moderate or large clams

How 2018 Stacks Up
To recent memory
Modeled a simulation of expected catch for all 4 years

100 harvesters digging the first 15 clams in October

Results were very similar to size frequencies

Harvest would be dominated by 2-3 inch clams
Current Season Status for 2018

Management steps

• ODFW identified unusual size distribution
  • Population dominated by 2-3 inch clams

• Analyzed data and modeled potential harvest
  • Estimated harvest was low vs. spring - but not insignificant
## 2018 Oct thru Dec Estimated Harvest

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<th>Fishery Monitoring 2002-2018</th>
<th>Recreational Catch</th>
<th>Commercial Catch</th>
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<td><strong>Average Harvest</strong></td>
<td>99,286 clams</td>
<td>2,385 lbs</td>
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<td><strong>Average Effort</strong></td>
<td>10,578 trips</td>
<td>197 landings</td>
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Current Season Status for 2018

**Management steps**

- ODFW identified unusual size distribution
  - Population dominated by 2-3 inch clams
- Analyzed data and modeled potential harvest
  - Estimated harvest was low vs. spring – but not insignificant
  - Potential for wastage was very high
Clatsop Beach Show Diameter to Razor Clam Shell Length, 9/25/18

- n = 50
- Average Shell Length (mm) = 79.3
- Average Show Diameter (mm) = 9.7
Current Season Status for 2018

Management steps

- ODFW identified unusual size distribution
  - Population dominated by 2-3 inch clams
- Analyzed data and modeled potential harvest
  - Estimated harvest was low vs. spring – but not insignificant
  - Potential for wastage was very high
- WDFW Long Beach fishery closed until late Dec
- ODFW Enacted temporary rule to delay opening
- Season opening delayed until at least Nov 1st, 2018
- Meeting for feedback on how to proceed

2018 Oct thru Dec Estimated Harvest

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Devising a Plan

*What's Next?*

- Razor clams won’t be bigger by Nov. 1
- Most will still not be over 3.5 inches by Jan. 1
- By Mar 1, most will be 3.5 inches
- By Apr 1, will be between 3.5-4 inches

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<th>Est. Age (month)</th>
<th>Shell Length (mm)</th>
<th>Shell Length (in)</th>
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<tbody>
<tr>
<td>3</td>
<td>10-20</td>
<td>.4-.8</td>
</tr>
<tr>
<td>6</td>
<td>35</td>
<td>1.4</td>
</tr>
<tr>
<td>12</td>
<td>90</td>
<td>3.5</td>
</tr>
<tr>
<td>18</td>
<td>100</td>
<td>3.9</td>
</tr>
<tr>
<td>24</td>
<td>110</td>
<td>4.3</td>
</tr>
<tr>
<td>30</td>
<td>115</td>
<td>4.5</td>
</tr>
<tr>
<td>36</td>
<td>130</td>
<td>5.1</td>
</tr>
<tr>
<td>48</td>
<td>135</td>
<td>5.3</td>
</tr>
<tr>
<td>60</td>
<td>140</td>
<td>5.5</td>
</tr>
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The Future

The world is our clam!

ODFW Temporary Rule Expires

Option 1: Open the season November 1\textsuperscript{st}

Option 2: Further delay after November 1\textsuperscript{st}
If so, for how long?

\textit{Staff Recommendation: March 1, 2019 for bigger clams}

Option 3: Other suggestions

\textit{Please provide your input}