Community Elements in North Pacific Catch Share Plans

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Overview of North Pacific Community Elements and BSAI Crab Rationalization Example

• Background of the BSAI crab fishery

• North Pacific context of catch share community elements

• Pre- and post-implementation measures of change

• Initial allocation and most recent season measures of change

• Efficacy of community measures

• Other social impact issues
Bering Sea and Aleutian Islands (BSAI) Fishery Management Plan Areas
Multiple Crab Fisheries – 2 Major Species

• Bristol Bay red king crab (*Paralithodes camtschaticus*)
• Bering Sea snow crab (*Chionoecetes opilio*)
BSAI Crab Rationalization Context

• Management trend: Shift from common quota to rationalized (aka “catch share”) management systems in the North Pacific region:
  – Halibut
  – Sablefish
  – Pollock
  – Crab

• Substantial fleet consolidation

• Changes in community engagement and dependency
  – Landing patterns
  – Vessel ownership/homeport/activity
  – Crew engagement
  – Support services
BSAI Crab Rationalization Context

Community elements in other North Pacific catch share plans:

• Western Alaska Community Development Quota program (initially pollock, later multispecies)

• Gulf community quota share purchase program (halibut, sablefish)

• Adak Aleutian Islands pollock fishery allocation

• Others
  – American Fisheries Act
  – Amendment 80
  – Gulf of Alaska Rockfish
How was BSAI crab rationalized?

• Transition from “Derby” or “Olympic” style to a catch share system

• Traditionally vessel owners/fishermen (IFQ), but also processors (PQ) and captains/crew (“C” shares)

• Includes Community Development Quota (CDQ)

• Complex relationship between IFQ, PQ, CDQ, and the different types of shares provided to each entity
BSAI Crab Rationalization: Community Protection Measures

• Focused largely on processing location

• Regionalization of landings
  – Northern region
  – Western region

• Restrictions on processing quota share movement
  – Cooling off period
  – Rights of first refusal

• Direct golden king crab allocation to Adak

• Kodiak GOA based quota sweep up
Alaska BSAI Crab-Dependent Communities (Pre-implementation)
Regionalization Measures
BSAI Crab Rationalization: Community and Crew Protection Measures

Five year outcomes:

• Nature of fishery has changed

• Communities experience these impacts differently

• “All rationalization is local”
Patterns of BSAI Crab Vessel Participation by Community of Ownership: Pre-Rationalization

• Alaska (1991-2000 annual average ≥ 2.0 vessels)
  – Kodiak (20.9)
  – Homer (8.3)
  – Anchorage (6.1)
  – Petersburg (4.0)
  – Sand Point (3.8)
  – King Cove (3.1)
  – Unalaska (3.0)
  – Cordova (2.0)

  – Less than 2.0 vessels/year: Kenai, Seldovia, Yakutat, Seward, Sitka, Akutan, and Soldotna
Patterns of BSAI Crab Vessel Participation by Community of Ownership: Pre-Rationalization

• Oregon (1991-2000 annual average ≥ 2.0)
  – Newport (9.4)

• Washington (1991-2000 annual average ≥ 2.0)
  – Seattle-Tacoma CMSA (146.0)
  – Bellingham (2.3)
Key Crab Community Trends: Total Vessel Changes in Study Communities
Changing Nature of Bristol Bay Red King Crab (BBR) Fishery

<table>
<thead>
<tr>
<th>Phase</th>
<th>Pounds</th>
<th>Value</th>
<th>Vessels</th>
<th>Value per Pound</th>
<th>Value per Vessel</th>
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</thead>
<tbody>
<tr>
<td>Pre-Rationalization</td>
<td>11,165,019</td>
<td>$52,936,158</td>
<td>249</td>
<td>$4.74</td>
<td>$212,230</td>
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<tr>
<td>3-Year Post-Rationalization</td>
<td>15,266,528</td>
<td>$61,625,275</td>
<td>85</td>
<td>$4.04</td>
<td>$725,003</td>
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<tr>
<td>5-Year Post-Rationalization</td>
<td>17,312,411</td>
<td>$75,690,248</td>
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<td>$4.37</td>
<td>$982,990</td>
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</table>
Alaska Regions

[Map of Alaska regions with cities: Anchorage, Kodiak, Juneau, Dutch Harbor, Aleutians, KODIAK, SOUTH-CENTRAL, SOUTHEAST, ALASKA]
Vessel Ownership Numbers by Region (BBR)

<table>
<thead>
<tr>
<th>Phase</th>
<th>South-Central AK</th>
<th>Southeast AK</th>
<th>Aleutians</th>
<th>Kodiak</th>
<th>Washington</th>
<th>Oregon</th>
<th>Other US</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-Rationalization</td>
<td>15.6</td>
<td>5.6</td>
<td>5.6</td>
<td>33.6</td>
<td>157.9</td>
<td>20.0</td>
<td>6.3</td>
</tr>
<tr>
<td>3-Year Post-Rationalization</td>
<td>7.0</td>
<td>0.5</td>
<td>1.0</td>
<td>12.5</td>
<td>51.0</td>
<td>8.5</td>
<td>1.5</td>
</tr>
<tr>
<td>5-Year Post-Rationalization</td>
<td>7.8</td>
<td>0.4</td>
<td>1.0</td>
<td>10.4</td>
<td>47.6</td>
<td>8.4</td>
<td>1.2</td>
</tr>
</tbody>
</table>

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# Vessel Ownership Percentage by Region (BBR)

The table below shows the vessel ownership percentage by region for different phases:

<table>
<thead>
<tr>
<th>Phase</th>
<th>South-Central AK</th>
<th>Southeast AK</th>
<th>Aleutians</th>
<th>Kodiak</th>
<th>Washington</th>
<th>Oregon</th>
<th>Other US</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-Rationalization</td>
<td>6.4%</td>
<td>2.3%</td>
<td>2.3%</td>
<td>13.7%</td>
<td>64.6%</td>
<td>8.2%</td>
<td>2.6%</td>
</tr>
<tr>
<td>3-Year Post-Rationalization</td>
<td>8.5%</td>
<td>0.6%</td>
<td>1.2%</td>
<td>15.2%</td>
<td>62.2%</td>
<td>10.4%</td>
<td>1.8%</td>
</tr>
<tr>
<td>5-Year Post-Rationalization</td>
<td>10.2%</td>
<td>0.5%</td>
<td>1.3%</td>
<td>13.5%</td>
<td>62.0%</td>
<td>10.9%</td>
<td>1.6%</td>
</tr>
</tbody>
</table>

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Vessel Ownership Pre-Rationalization (BBR)
Vessel Ownership All Years Post-Rationalization (BBR)
Vessel Ownership Most Recent Year (BBR)
Geographic Distribution of Vessel Ownership

- Regional concentration of vessel ownership
- Consolidation into fewer communities within regions
- Consolidation into larger communities within regions
Catcher Vessel Owner Shares: Initial Allocation, 2008/09, and 2010/11 Shareholders (BBR South)

<table>
<thead>
<tr>
<th>Phase</th>
<th>Alaska</th>
<th>Washington</th>
<th>Oregon</th>
<th>Other U.S.</th>
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</thead>
<tbody>
<tr>
<td>Initial Allocation</td>
<td>16.2%</td>
<td>69.3%</td>
<td>11.9%</td>
<td>2.6%</td>
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<tr>
<td>2008-2009</td>
<td>22.8%</td>
<td>64.8%</td>
<td>9.0%</td>
<td>3.5%</td>
</tr>
<tr>
<td>2010-2011</td>
<td>25.6%</td>
<td>62.6%</td>
<td>7.5%</td>
<td>4.3%</td>
</tr>
</tbody>
</table>
Catcher Vessel Owner Shares: Initial Allocation, 2008/09, and 2010/11 Shareholders (BBR South)

<table>
<thead>
<tr>
<th>Phase</th>
<th>Anchorage</th>
<th>Dillingham</th>
<th>Homer</th>
<th>King Cove</th>
<th>Kodiak</th>
<th>Petersburg</th>
<th>St. Paul</th>
<th>Seldovia</th>
<th>Soldotna</th>
<th>Unalaska</th>
<th>Wasilla</th>
<th>Yakutat</th>
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</thead>
<tbody>
<tr>
<td>Initial Allocation</td>
<td>8</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>20</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>2008-2009</td>
<td>9</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>28</td>
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<td>2010-2011</td>
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<td>1</td>
<td>1</td>
<td>1</td>
<td>2</td>
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</tr>
</tbody>
</table>

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Catcher Vessel Crew Shares: Initial Allocation, 2008/09, and 2010/11 Shareholders (BBR South)

<table>
<thead>
<tr>
<th>Phase</th>
<th>Alaska</th>
<th>Washington</th>
<th>Oregon</th>
<th>Other U.S.</th>
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</thead>
<tbody>
<tr>
<td>Initial Allocation</td>
<td>20.2%</td>
<td>63.7%</td>
<td>7.9%</td>
<td>8.2%</td>
</tr>
<tr>
<td>2008-2009</td>
<td>23.6%</td>
<td>61.0%</td>
<td>9.2%</td>
<td>6.2%</td>
</tr>
<tr>
<td>2010-2011</td>
<td>22.5%</td>
<td>61.7%</td>
<td>7.7%</td>
<td>8.1%</td>
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</tbody>
</table>
Catcher Vessel Crew Shares: Initial Allocation, 2008/09, and 2010/11 Shareholders (BBR South)

<table>
<thead>
<tr>
<th>Phase</th>
<th>Anchorage</th>
<th>Cordova</th>
<th>Homer</th>
<th>Kenai</th>
<th>King Cove</th>
<th>Kodiak</th>
<th>Petersburg</th>
<th>Sand Point</th>
<th>Soldotna</th>
<th>Unalaska</th>
<th>Valdez</th>
<th>Wasilla</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial Allocation</td>
<td>9</td>
<td>0</td>
<td>5</td>
<td>1</td>
<td>4</td>
<td>20</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
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<tr>
<td>2008-2009</td>
<td>8</td>
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<td>10</td>
<td>1</td>
<td>4</td>
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<tr>
<td>2010-2011</td>
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<td>6</td>
<td>0</td>
<td>2</td>
<td>15</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>1</td>
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</table>
Harvest Comparison of BSAI Crab Vessels In/Out of the Rationalized Crab Fisheries, Value per Vessel

In Rationalized Crab

- Kodiak
- Other Alaska
- WA
- OR and Other US
- All States

Out Rationalized Crab

- Kodiak
- Other Alaska
- WA
- OR and Other US
- All States
Other Issues: Nature of Crew and Community Engagement

• Captain and crew issues salient in few communities
  – Kodiak
  – King Cove

• Employment and economic plurality
  – Employment plurality remains a key strategy in rural communities with few steady opportunities
  – Economic plurality seen as key strategy for communities given short- and long-term resource fluctuations

• Employment incompatibility
  – includes participation in local commercial fisheries, among other income producing activities
  – extends to non-employment activity conflicts, including subsistence and family/community obligations
**Other Issues: Efficacy of Community Protection Measures**

- **Regionalization**
  - Northern Region: landing requirements (Pribilof Islands)
  - Western Region: Adak
    - Landings requirement
    - Community allocation
  - Gulf of Alaska: Kodiak quota sweep-up

- **Processing quota transfer restrictions**
  - Few transfers through formal ROFR process
  - Forced divestitures have largely stayed local
  - Community definition: False Pass

- **Community Development Quota**
  - Expansion of quota percentage
  - Investments in crab fisheries
Other Issues

• Processing employment not a substantial issue

• Arbitration system apparently functioning as designed

• Community protection measures were designed to protect then-participating entities
  – Community preclusion a concern, but difficult to measure

• C-share modification proposals would benefit current participants
  – Historical participants who would have benefitted from a different initial allocation would not benefit

• Philosophical opposition to rationalization in some communities, independent of material benefit considerations