Economic Data Collection (EDC) Program

Presentation to the PFMC

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What is the EDC Program?

- Many people involved (NWFSC, NWR, Enforcement, GC, PSMFC, PFMC, States, Participants, Associations).
- 4 annual data collections
- 4 survey instruments
- 4 data sets
- 2 databases
- 245 participants
- 63,039 non-null, non-zero data points
- 3 years of data
- 1,935 phone calls and emails to date
Background

• Mandatory Economic Data Collection was initiated as part of the West Coast groundfish catch share program
• Baseline data from 2009 and 2010 (collected in Sept 2011)
• Catch share data collection began in Sept 2012 with 2011 data
• Data from:
  • Catcher vessels (previous cost-earnings surveys)
  • Catcher-processors
  • Motherships
  • First receivers and shorebased processors

See matrix on page 42 of O&A Report
Purpose of EDC Program

• Provide economic data that can be used to assess the catch share program
  • Information to the Council, NOAA, participants, NGOs, scientists, and the public
  • MSA requirement of 5 year review, and subsequent reviews
  • NOAA Fisheries catch share performance metrics
• Biennial PFMC Groundfish Specification Process
• Analysis of other FMP amendments
Purpose of Annual EDC Reports

• Solicit feedback from PFMC, other EDC information users, and participants
• Document EDC methods
• Summarize confidential data to provide basic economic information (wide variety of uses)
• Provide economic analysis of catch share fishery
  • Economic performance measures
  • Regional economic impact analysis
• Basis for MSA mandated review
• Expand analysis and scope each year
EDC Program Design

• Meetings with industry members and representatives and input through Council process
• Collect information on all fisheries
  • Spillover effects
  • Accounting/tracking multiple fisheries complicates separation on forms
• In general, variable costs (West Coast) and fixed costs (all fisheries)
Cost Disaggregation

We are interested in West Coast and fishery level economic measures

• Need to disaggregate AK and West Coast costs
• Need to disaggregate tribal activities from Mothership sector
• Need to disaggregate specific fisheries from the West Coast level costs
Protecting Confidential Information

• All data are stored on secure servers
• All paper copies of forms are stored in locked filing cabinets
• Data are only mailed or faxed to address provided on form unless participant gives explicit permission
• Data summary rules
  • Rule of 3
  • 90-10 rule
Types of Information Collected
Vessels - Types of Data Collected

- Vessel physical characteristics (value, length, fuel capacity, and horsepower)
- Vessel operating information by fishery (days at sea, crew size, fuel use, and speed)
- Revenue source not in PacFIN
- Costs (variable, fixed, and permit and quota sales and leases)
- Crew and captain payment information
- Processing and non-processing crew wages

CV Report: page 17
FR and SBP - Types of Data Collected

• Facility value
• Employment by month (production and non-production employees)
• Costs (variable and fixed)
• Fish purchases by species and fishery
• Revenue by species and product type
## Response Rates

<table>
<thead>
<tr>
<th></th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Catcher Vessel</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Received (%)</td>
<td>92%</td>
<td>92%</td>
<td>95%</td>
</tr>
<tr>
<td>Total Forms (N)</td>
<td>168</td>
<td>165</td>
<td>176</td>
</tr>
<tr>
<td><strong>Catcher-processor</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Received (%)</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Total Forms (N)</td>
<td>7</td>
<td>8</td>
<td>10</td>
</tr>
<tr>
<td><strong>Mothership</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Received (%)</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Total Forms (N)</td>
<td>6</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td><strong>First receiver / shorebased processor</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Received (%)</td>
<td>67%</td>
<td>78%</td>
<td>96%</td>
</tr>
<tr>
<td>Total Forms (N)</td>
<td>55</td>
<td>58</td>
<td>52</td>
</tr>
</tbody>
</table>
Measures of Net Revenue

PFMC Goal of Catch Share Program
Create and implement a capacity rationalization plan that increases net economic benefits, creates individual economic stability, provides for full utilization of the trawl sector allocation, considers environmental impacts, and achieves individual accountability of catch and bycatch.
**Net Revenue**

- Measure of economic performance
- Financial measure based on cash flow
- Net Revenue = Monetary Revenue – Monetary Cost
- Attempts to measure annual financial well-being of a business
- Variable Cost Net Revenue and Total Cost Net Revenue
  - Useful to have measures based on variable cost and total costs (variable + fixed)
  - Distinction based on several factors (timeframe, use)
Variable Cost Net Revenue (CV Example)

- VCNR = Revenue – Variable Costs
- Variable costs
  - Wages
  - Fuel
  - Travel
  - Observer fees
  - Fishing association dues and commission costs
  - State licensing and federal fees
  - Food
  - Ice
  - Bait
  - Off-load expenses
  - Freight
  - Other supplies
  - Communications
  - Trucking of fish
Total Cost Net Revenue (CV Example)

• TCNR = Revenue – Variable Costs – Fixed Costs
• Fixed costs
  • Capitalized Expenditures (all charged to year of occurrence)
    • On-board and vessel equipment
    • Fishing gear
    • Processing equipment
  • Expenses
    • On-board and vessel equipment
    • Fishing gear
    • Processing equipment
    • Insurance
    • Moorage
    • Lease or bareboat charter of vessel
Not All Monetary Costs Are Collected

- Office space and equipment
- Storage space (gear)
- Vehicles
- Professional fees and marketing
- Principal and interest
- Some taxes
Variable and total cost net revenue
(2011 - All West Coast)
<table>
<thead>
<tr>
<th></th>
<th>Variable costs</th>
<th>Fixed costs</th>
<th>Total cost net revenue</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>First Receiver and shorebased processor</strong></td>
<td><img src="image1" alt="Graph" /></td>
<td><img src="image2" alt="Graph" /></td>
<td><img src="image3" alt="Graph" /></td>
</tr>
<tr>
<td>2009</td>
<td>2.0</td>
<td>0.2</td>
<td>2.2</td>
</tr>
<tr>
<td>2010</td>
<td>2.0</td>
<td>0.2</td>
<td>2.2</td>
</tr>
<tr>
<td>2011</td>
<td>2.0</td>
<td>0.2</td>
<td>2.2</td>
</tr>
</tbody>
</table>

| **Mothership**      | ![Graph](image4) | ![Graph](image5) | ![Graph](image6) |
| 2009                | 3.0            | 1.0          | 4.0                    |
| 2010                | 3.0            | 1.0          | 4.0                    |
| 2011                | 3.0            | 1.0          | 4.0                    |

| **Catcher processor** | ![Graph](image7) | ![Graph](image8) | ![Graph](image9) |
| 2009                | 1.0            | 1.0          | 2.0                    |
| 2010                | 1.0            | 1.0          | 2.0                    |
| 2011                | 1.0            | 1.0          | 2.0                    |

| **Catcher vessel**  | ![Graph](image10) | ![Graph](image11) | ![Graph](image12) |
| 2009                | 1.0            | 0.6          | 1.6                    |
| 2010                | 1.0            | 0.6          | 1.6                    |
| 2011                | 1.0            | 0.6          | 1.6                    |
CV Examples of Net Revenue by fishery

Figure 10.9: Net revenue in the shoreside Pacific whiting fishery by vessels groups. Revenue, fixed costs, variable costs, variable cost net revenue, and total cost net revenue in the shoreside Pacific whiting fishery. To protect confidentiality, vessels were sorted by revenue and means were calculated on groups of three vessels.

Figure 10.10: Net revenue in the DTS trawl with trawl endorsement fishery by vessels groups. Revenue, fixed costs, variable costs, variable cost net revenue, and total cost net revenue in the DTS trawl with trawl endorsement fishery. To protect confidentiality, vessels were sorted by revenue and means were calculated on groups of three vessels.

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## Rates (CV Example)

<table>
<thead>
<tr>
<th>Description</th>
<th>2009 Mean</th>
<th>2010 Mean</th>
<th>2011 Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenue per day</td>
<td>$5,488</td>
<td>$6,086</td>
<td>$9,672</td>
</tr>
<tr>
<td>Revenue per metric ton landed</td>
<td>$287</td>
<td>$273</td>
<td>$330</td>
</tr>
<tr>
<td>Variable cost per day</td>
<td>$2,557</td>
<td>$2,850</td>
<td>$4,185</td>
</tr>
<tr>
<td>Variable cost per metric</td>
<td>$134</td>
<td>$128</td>
<td>$143</td>
</tr>
<tr>
<td>Variable cost net revenue per day</td>
<td>$2,931</td>
<td>$3,236</td>
<td>$5,486</td>
</tr>
<tr>
<td>Variable cost net revenue metric ton</td>
<td>$154</td>
<td>$145</td>
<td>$187</td>
</tr>
<tr>
<td>Fixed cost per day</td>
<td>$1,684</td>
<td>$1,587</td>
<td>$2,644</td>
</tr>
<tr>
<td>Fixed cost per metric ton</td>
<td>$88</td>
<td>$71</td>
<td>$90</td>
</tr>
<tr>
<td>Total cost net revenue per day</td>
<td>$1,247</td>
<td>$1,649</td>
<td>$2,842</td>
</tr>
<tr>
<td>Total cost net revenue per metric ton</td>
<td>$65</td>
<td>$74</td>
<td>$97</td>
</tr>
</tbody>
</table>

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Fishery Definitions

- At-sea whiting – all deliveries recorded by A-SHOP in NORPAC database
- All trips where the maximum revenue came from:
  - Shoreside Pacific whiting – shoreside landings of whiting
  - DTS trawl – aggregate of dover, thornyheads, sablefish, and blackgill rockfish with trawl gear
  - Non-whiting/non-DST trawl – groundfish other than whiting and DTS
  - Groundfish fixed gear with trawl endorsement – groundfish while using fixed gear with a trawl permit
  - Crab
  - Shrimp
  - Other – includes salmon, halibut, tuna, and groundfish fixed gear with fixed gear endorsement
Economic Profit – Future Work

• Economic measure based on “true” benefits and costs. Attempts to measure net benefit to society
• Economic Profit = Revenue – Opportunity costs
• Opportunity Costs
  • May or may not differ from monetary costs
  • Labor
  • Capital
  • Quota
  • Economic rate of return
• Variable Economic Profit and Total Economic Profit
EDC Data in the Biennial Specification Process

• IO-PAC
• Non-PacFIN revenue
• Costs
• Net Revenue projections

• Note: LE fixed gear and open access economic data from voluntary cost-earnings surveys
Moving Forward

• Feedback on the reports and analysis
• Would the PFMC like to see the reports annually as part of the Council process?
Thanks to:

- Industry members and associations
- Northwest Regional Office
- Northwest Fisheries Science Center
- Office of Law Enforcement
- Office of General Council
- States
- PSMFC
Pacific Coast Catch Share Social Study

Suzanne M. Russell
Social Scientist, NOAA Fisheries,
NWFSC, Seattle, WA

June 20, 2013
Goal
To measure social & cultural changes on the industry & related communities due to the catch shares program.

Participants
Anyone connected directly or indirectly to the trawl fishery.

Data Collection

<table>
<thead>
<tr>
<th></th>
<th>2010</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surveys</td>
<td>240</td>
<td>~262</td>
</tr>
<tr>
<td>Interviews</td>
<td>226</td>
<td>~255</td>
</tr>
</tbody>
</table>
Survey Forms

- **Demographic**
  - Age, education, residence, etc.

- **Individual Participation**
  - Role, job history, satisfaction, etc.

- **Connections (Social Networks)**
  - Communication sources, suppliers, etc.

- **Quota (Catch Share) Perspectives**
  - How well informed, support/not support catch shares, etc.

- **Fishermen**
  - Species fished, gears utilized, relationships in fishery, etc.

- **Processors**
  - Species processed, product transportation, marketing range etc.

- **2012: Quota Allocation Recipients**
  - QP transfer activity, reasons for transfers, outcomes of transfers. etc.
Preliminary Results Example

Age Distribution Results (2010)

Trawl Harvesters
54.2% Over 50 years old

All Participants by State
Over 50 years old:
WA 68.2%, OR 44.8%, CA 59.6%

Response Rate: 100.0%
Harvester Satisfaction Results (2010)

Greatest satisfaction: Relationship with co-workers
Least satisfaction: Standard of Living/Job Stability/Compensation
2010 Research

- Data analysis is approaching its conclusion
- Report expected to be completed by end of 2013
- Will be widely distributed upon completion

2012 Research

- Data collection concluded
- Analysis to commence in 2013

Comparative analysis between 2010 & 2012

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