



NOAA
FISHERIES

Northeast
Fisheries
Science Center

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The Challenges of Allocating Joint and Common Fixed Costs

An Example from the Northeast U.S.

IIFET
Aberdeen, Scotland
July 14, 2016

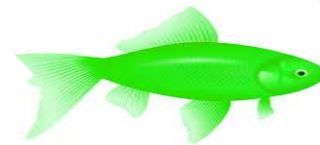
¹National Marine Fisheries Service: Northeast Fisheries Science Center, Social Sciences Branch

²Integrated Statistics

Fixed Costs: Why Bother?

- Northeast Fisheries Science Center (NEFSC)
 - Maine to North Carolina
 - 9 Fishery Management Plans
- What do we want?
 - The ability to communicate to decision makers the total costs fishermen face
 - Profitability analysis of segments of the Northeast commercial fleet

Joint and Common Fixed Costs: What's The Problem?

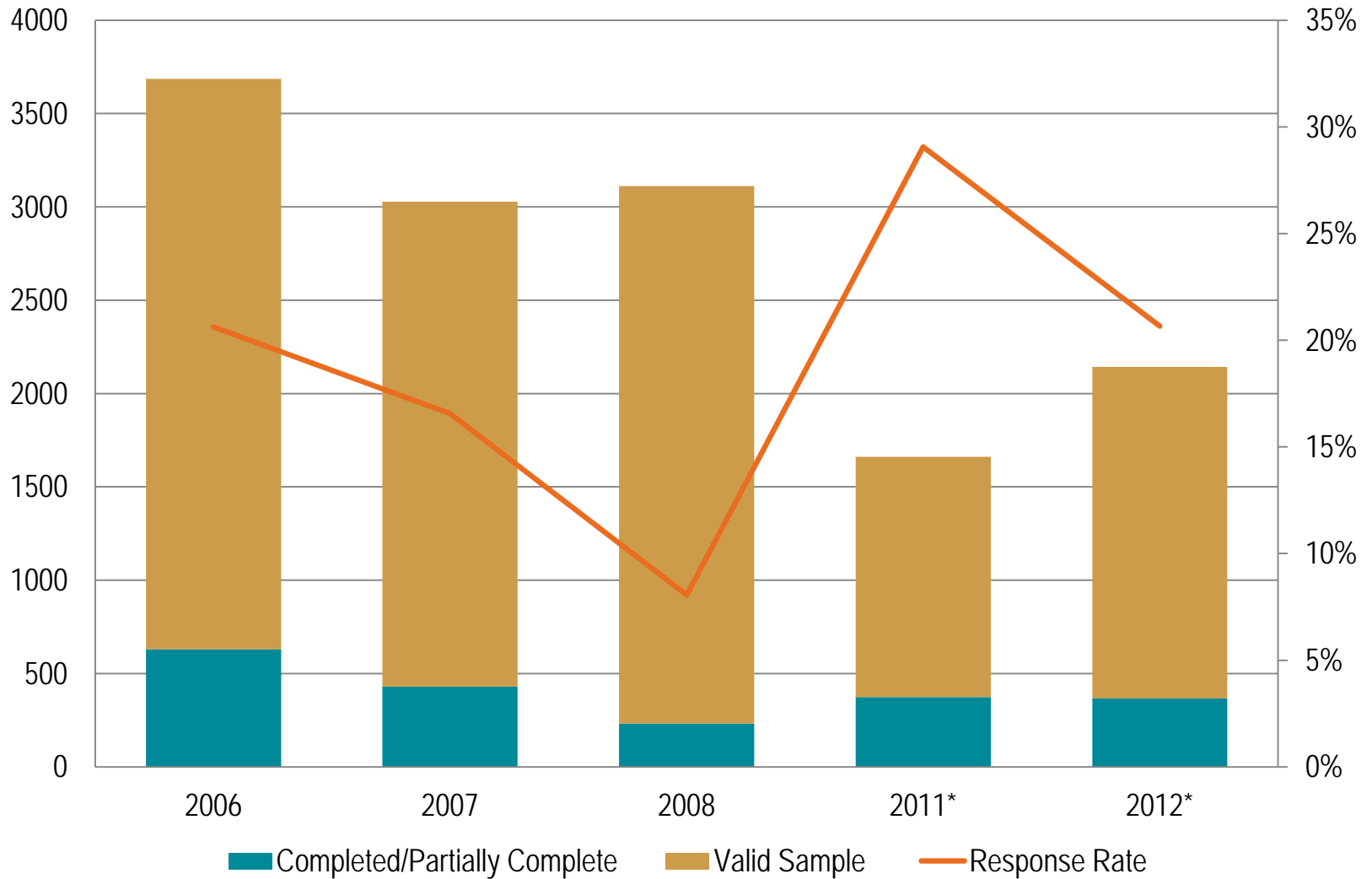


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NEFSC Data Collection Efforts for the Total Costs of Commercial Fishing

- 2006 – 2008
 - Sent each year to the entire population of fishing vessel owners with permit applications
- 2011-2012
 - Sent to a stratified random sample of commercial fishing businesses
 - Strata defined by gear type and vessel size

Survey Response Rates



What Does the NEFSC Cost Survey Collect?

- Vessel Information

- Repair/Maintenance & Upgrade/Improvement Costs

- Fishing Business Costs

- Operating Costs

- Crew Payment/Lay Systems

What's Included in These Cost Categories?

- Repair/Maintenance & Upgrade/Improvement Costs:
 - Engine
 - Deck equipment
 - Hull
 - Gear
 - Wheelhouse and gear electronics,
 - Processing/refrigeration
 - Safety equipment

What's Included in These Cost Categories?

- Fishing Business Costs:

- Mooring/dockage fees
- Workshop/storage
- Office expenses
- Permit and/or license fees
- Business vehicle usage
- Business travel
- Association fees
- Professional fees
- Insurance Premiums
- Quota or DAS lease
- Business loans
- Vessel activity/quota monitoring costs
- Advertising costs

How Has The Survey Cost Data Been Used?

- Economic impact of shifting at sea monitoring costs from NMFS to groundfish sectors
- Modeling of profitability, capacity utilization and efficiencies associated with scale
- Three-year performance review for the general access IFQ scallop fishery
- Estimation of fixed costs for the limited access general category scallop fishery for the 2015 SAFE report

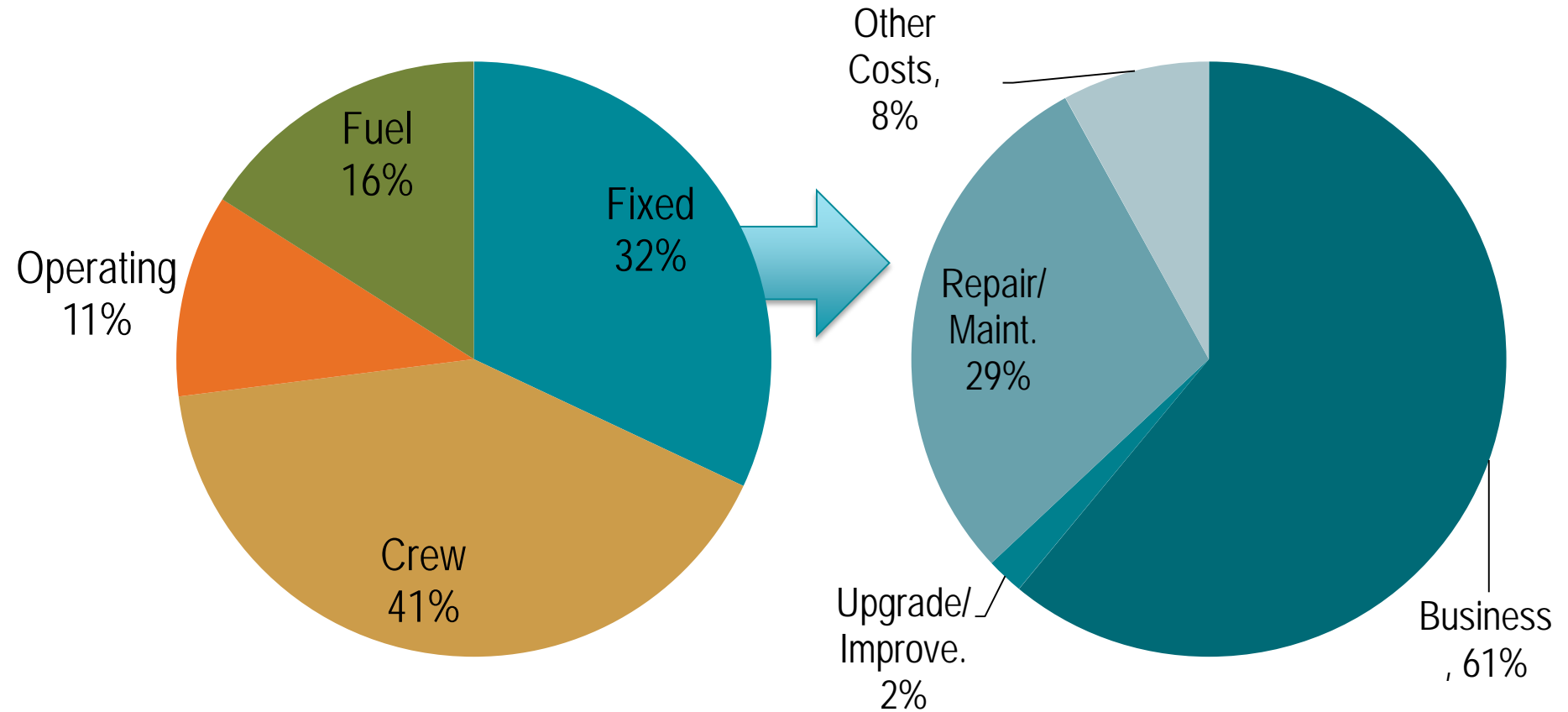
Allocation Aggravation: Multiple Vessels

- To assess overall impacts of costs on owner(s) may need to take into account multiple vessels
 - Data is convoluted and it's often difficult to determine relationships
 - Construct measures at vessel level and aggregate

Allocation Methods: Multiple Vessels

- For RM/UI and Crew data, prompt respondent to focus on one of their vessels (identified in survey)
- Fishing Business Costs: distributed equally
 - **2011:** Respondents were asked to divide costs by their number of vessels
 - **2012:** We did the division for them

Allocation Method: Average Costs Per Vessel (2012)



Allocation Aggravation: Multiple Fisheries

- Poses more potential management/policy implications
- Variety of potential methods:
 - Volume of landings
 - Value of landings
 - Days at Sea
 - Some combination

Continuing the Data Collection....

- Survey for 2015 costs is currently under way
- Lengthened (but simplified!) the survey
 - Divided into “vessel” and “overall business” sections
 - Asked about top fisheries by value and time spent in those fisheries
- Altered sampling strategy
 - One vessel per affiliate

Main Takeaways & Management Implications

- Tradeoff between more detailed information and high reporting burden for fishermen
 - non-mandatory survey
- Must provide guidance and caution as to
 - Known data collection problems & quality challenges
 - How data users apply these data in analyses
 - Interpretations and conclusions drawn from data and analyses by decision makers

Thank you!

For more information please contact the NEFSC SSB Cost Survey Team at:

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