



MEASURING the EFFECTS of CATCH SHARES



Northeast Multispecies Sector Program

Methods of Analysis: May 2015

Economic Indicators:

- Landings
- Revenues
- Number of Active Vessels
- Access and Exclusion Effects
- Fishery Diversification
- Cost of Fishery Management to the Private Sector

Has the financial viability of the fishery changed?

Has the number of active vessels in the fishery changed?

Have opportunities or barriers to entering the fishery changed?

Are fishing vessels participating in a different mix of fisheries?

Has the cost of fishery management to the private sector changed?

The following outlines the calculations and data sources used to update economic indicators on the Northeast Multispecies Sector Program.

Data Sources

Data used for analysis were pulled from two main data sources:

- NMFS Greater Atlantic Regional Fisheries Office's (GARFO) Year-End Groundfish Catch Accounting reports
(<http://www.greateratlantic.fisheries.noaa.gov/ro/fso/MultiMonReports.htm>)
- NOAA's Office of Science and Technology (OST) commercial fisheries statistics
(<http://www.st.nmfs.noaa.gov/commercial-fisheries/commercial-landings/annual-landings/index>)

Although these two data sources contain some overlapping data, they also contain data that are unique to each source and required different calculations before they could be formatted in a single normalized data table for graphing and analysis.

GARFO Year- End Groundfish Catch Accounting Reports

The GARFO Year-End Catch Accounting reports display landings by port, management area and stock made under NE Multispecies Groundfish permits by fishing year (May-April). In order to calculate the value of the landings reported in the GARFO dataset, the study team used prices from the 2013 Final Report on the Performance of Northeast Multispecies Fishery (<http://www.nefsc.noaa.gov/nefsc/publications/crd/crd1502/crd1502.pdf>).

The price data from this source are reported by fishing year and displayed in 2010 dollars. To adjust these prices to the most recent complete fishing year (FY 2013) the study team created a fishing year GDP inflation index using the quarterly GDP index. The fishing year index uses the average of the quarterly indexes that fall within each fishing year. For example, the inflation index for fishing year 2013 is the average of the Q2 2013 –Q1 2014 quarterly GDP indexes. Once the prices from the 2013 Final Performance Report were adjusted to fishing year (FY) 2013 dollars they were then combined with the GARFO landings data to generate the inflation adjusted value of the reported landings.

OST Commercial Fisheries Statistics

Data available from the NOAA Fisheries Office of Science and Technology (OST) contains calendar year (1980-1989) and monthly (1990-2013) revenues and landings by species and state under all permit types. In order to make the OST data compatible with the GARFO data, the study team calculated the fishing year using the monthly data starting in 1990. To convert the OST data from calendar year to fishing years the study team slowly transitioned the data to the fishing year timeframe between 1990 and 1994. The table below outlines how the transition from calendar year to fishing year was executed. It also should be noted that OST data was only available through calendar year 2013, so FY 2013 is incomplete (May 2013-December 2013).

Fishing Year	Start	End	Unassigned month
FY 1990	February 1990	January 1991	January 1990
FY 1991	March 1991	February 1992	February 1991
FY 1992	April 1992	March 1993	March 1992
FY 1993	May 1993	April 1994	April 1993

The revenues in the OST data are reported in nominal dollars. The calendar year revenues (1980-1989) were adjusted to 2013 dollars using the average quarterly GDP index for the calendar year (Q1-Q4). The revenues for the monthly data that had been converted into fishing years (1990-2013) were adjusted to 2013 dollars using the average quarterly GDP index for the fishing year (Q2-Q1).