



NOAA FISHERIES

Science and Technology

Stock assessments provide the scientific basis for fisheries management. At the end of FY2012 Quarter 4, 129 FSSI stocks (56.1%) have adequate assessments.

What is a stock assessment?

A stock assessment is the process of collecting, analyzing, and reporting information about fish stocks to determine changes in the stocks due to fishing and, to the extent possible, predict future trends in abundance and catch. NOAA Fisheries' scientists work with other scientists, fishermen, resource managers and others from around the country and world to ensure NOAA stock assessments represent the best science information available.

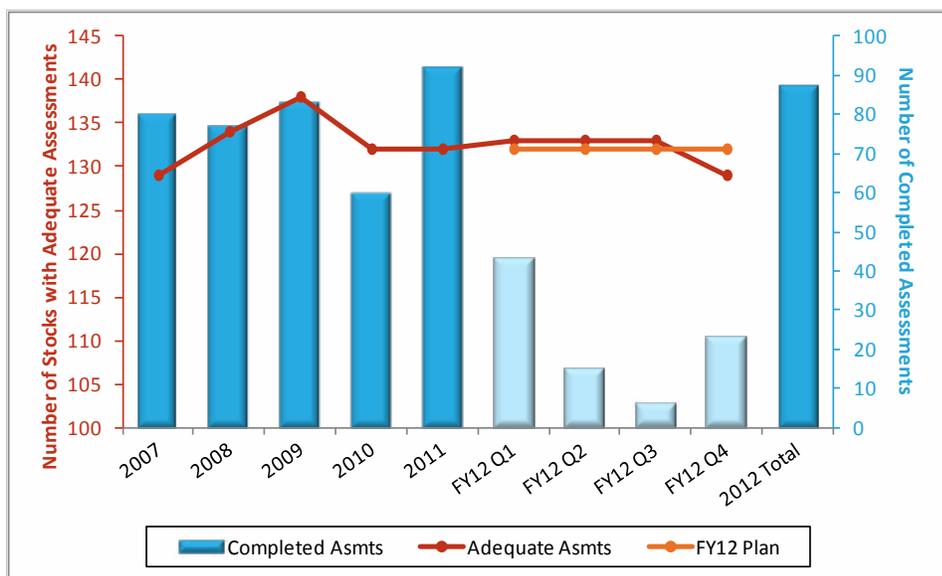
Fish Assessment Report

Fiscal Year 2012 Quarter 4 Update

Assessment Overview

Stock assessments provide important science information necessary for the conservation and management of fish stocks. NOAA Fisheries' stock assessments are used as the scientific basis for determining the status of Federally-managed fish stocks and to guide the setting of annual catch limits that will prevent overfishing and attain optimum yield from our Nation's fisheries. This report summarizes NOAA Fisheries' stock assessment efforts for stocks listed on the Fish Stock Sustainability Index (FSSI; represents 230 of the country's top fishery stocks). Counts of FSSI stocks with adequate assessments are updated on a quarterly and annual basis to track performance of the national stock assessment program.

During Fiscal Year (FY) 2012, a total of 87 stock assessments were completed for FSSI stocks. An additional 60 assessments were completed for non-FSSI stocks to support status determinations, annual catch limits, and additional fisheries management requirements. Stock assessment results were reported to all eight of the regional Fishery Management Councils, the NOAA Atlantic Highly Migratory Species Management Division, state agencies, and Fisheries and Oceans Canada. Additional assessment activity during FY2012 included development of, collaboration on, or review of stock assessment reports for international regional fisheries management organizations including the International Pacific Halibut Commission, the Commission for the Conservation of Antarctic LMR, the Inter-American Tropical Tuna Commission, and the International Commission for the Conservation of Atlantic Tunas.



Recent assessment activity for FSSI stocks through the end of FY2012.



Why assess stocks?

NOAA Fisheries' stock assessments are key to marine resource management. They provide high-quality science information to managers to answer importance questions such as:

- What is the current status of a stock relative to established targets?
- How much catch is sustainable while maintaining a healthy stock?
- If a stock becomes depleted, what steps are necessary to rebuild it to healthy abundance levels?

Answers to these questions help managers make the best decisions to ensure sustainable fisheries, healthy ecosystems, and productive coastal communities.

FY2012 began in October 2011 with 57.4% of FSSI stocks (132/230) with adequate assessments. The target at the end of the FY (September 2012) was to remain level at 132 stocks with adequate assessments through a combination of updated and new stock assessments to balance out assessments aging past the 5-year mark. Unfortunately, some delays and unanticipated assessment results prevented achievement of the annual target. FY2012 closed out with a total of 129 stocks with adequate assessments. Continued improvements to fish stock assessments are critical to support newly implemented annual catch limit regulations throughout the country in FY2012 and beyond. For a summary of changes (both positive and negative) to the list of FSSI stocks with adequate assessments in FY2012, please see Table 1. All assessment activity for FSSI stocks in FY2012 is listed in Appendix A, and Appendix B lists the current assessment status for all FSSI stocks.

Quarter 1 (October–December, 2011)

Quarter 1 ended with 133 stocks with adequate assessments. Forty-three

assessments were completed for FSSI stocks during the first quarter of FY2012 (Appendix A). A majority of these assessments were at the adequate level. Many Quarter 1 assessments were annual updates for stocks in the Alaska Region, several of which led to changes in stock/ assemblage structure and accompanying changes in stock management. Several stocks on both the Atlantic and Pacific Coasts were assessed in Quarter 1 as well, including updated assessments for black sea bass and tilefish on the Southern Atlantic Coast, which replaces expired assessments for both stocks and restores assessment adequacy.

Quarter 2 (January–March, 2012)

A total of 15 assessments were completed during the second quarter of FY2012, which ended with 133 stocks with adequate assessments. Eleven update stock assessments were completed by the Northeast Fisheries Science Center (NEFSC) under the new assessment framework recently developed in the Northeast Region. This framework allows for conducting and peer reviewing operational stock assessments more

Highlight: Supporting Assessments with Advanced Sampling Technologies

NOAA Fisheries increasingly utilizes advanced sampling technologies to improve the collection of fisheries-independent data that supports stock assessments and fisheries management. Two recent notable uses of advanced sampling technologies include:

2012 Summer Coastwide Tri-National Sardine-Hake Survey: A joint effort between the Northwest and Southwest Fishery Science Centers, industry, Canada and Mexico, this survey utilized an integrated acoustic-trawl approach to sample both Pacific hake and Pacific sardine. Distributions and abundance of sardine and hake, as well as other coastal pelagic species, were measured along with oceanographic and environmental variables, using a mix of both traditional (trawl and plankton nets) and advanced (acoustics, cameras, CTD) sampling gears. Results of the 2012 pilot survey will provide a basis for the development of a long-term joint sardine-hake survey to meet management and industry needs.

2012 Northeast Sea Scallop Survey: This is the first year that the sea scallop survey has used both traditional dredge sampling and the latest version of the HabCam concurrently. The HabCam is a multisensory, integrated benthic ecosystem sampler which resulted from years of cooperative research and development by NOAA Fisheries, industry, and academic partners. HabCam is equipped with a variety of instruments to measure multiple ecosystem variables in addition to scallop abundance and distribution. Area-based management of the sea scallop fishery relies heavily on survey data, and combining traditional and advanced sampling gives scientists an improved understanding of scallop populations and how they are affected by their environment.

Adequate assessments

Fish stock assessments provide the technical basis for determining stock status and forecasting the level of acceptable biological catch (ABC) that will prevent overfishing. The amount of data available to conduct stock assessments varies tremendously across the ~500 Federally-managed stocks and even within the 230 FSSI stocks.

Although any assessment effort provides important information to resource managers, assessments must meet minimum standards of data availability and modeling complexity to be considered adequate. Generally, a minimally adequate assessment can be conducted where there is good information on the level of annual catch and an indicator of the degree of change in stock abundance over time (for more information, see the *Marine Fisheries Stock Assessment Improvement Plan*, NMFS, 2001).

Assessments also need to be updated periodically to track natural fluctuations and ensure timely management advice. For the purposes of this report, five years is used as a nominal window beyond which the adequacy of an assessment is considered to have expired. In reality, many important stocks are updated more frequently.

Lastly, all assessments are expected to be validated by a regional review system before being considered as the best scientific information available regarding the status of the stock.



rapidly and at greater frequency. Additionally, the NEFSC completed a benchmark assessment for Gulf of Maine Atlantic cod, which led to new management measures for the stock developed in collaboration with industry partners and other stakeholders.

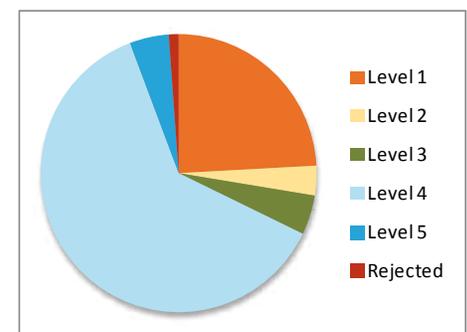
Quarter 3 (April–June, 2012)

A total of 133 stocks had adequate assessments at the end of Quarter 3. Six assessments were completed during the quarter, and many additional assessments are underway and expected to be completed during the final quarter of the FY. The spring and summer months are also a busy time for field collection of fishery-independent survey data, which provides vital data inputs on abundance and life history for stock assessments.

Quarter 4 (July–September, 2012)

Quarter 4 closed out with 129 stocks with adequate assessments. This fell short of the annual target of 132 stocks due to a combination of some stocks with assessments aging past the 5 year mark and some unanticipated delays in ongoing assessment work. A total of 23 assessments were completed for FSSI stocks during the fourth quarter, and an additional nine assessments were in

progress and scheduled for final review early in FY2013.



Level of assessments completed (87 total) for FSSI stocks in FY2012. A total of 71% of FSSI stock assessments completed in FY2012 were at an adequate level (i.e. Level 3 or greater).

Table 1: Assessments Expected to Impact the Number of FSSI Stocks with Adequate Assessments in FY2012

Quarter	Fishery Council	Fishery Management Plan	Stock Name and Area	Adequate?		Change ¹	Notes on Assessment
				Previous	Current		
1	SAFMC	Snapper-Grouper Fishery of the South Atlantic Region	Black sea bass - Southern Atlantic Coast	No	Yes	+1	Replaces assessment that sunset in 2010
1	SAFMC	Snapper-Grouper Fishery of the South Atlantic Region	Tilefish - Southern Atlantic Coast	No	Yes	+1	Replaces assessment that sunset in 2009
1	NPFMC	Bering Sea/Aleutian Islands King and Tanner Crabs	Blue king crab - Saint Matthews Island	Yes	No	-1	Previous methodology rejected; new model in FY13
Quarter 1 Projected Number of Stocks with Adequate Assessments = 132; Actual = 133							
Quarter 2 Projected Number of Stocks with Adequate Assessments = 132; Actual = 133							
3	PFMC	U.S. West Coast Fisheries for Highly Migratory Species	Skipjack tuna - Eastern Tropical Pacific	No	No	0	IATTC assessment; indicator methods only
3	WPFMC	American Samoa Archipelago Ecosystem	American Samoa Bottomfish Multi-species Complex	Yes	Yes	0	Replaces sunseting assessment
3	WPFMC	Mariana Archipelago Ecosystem	Guam Bottomfish Multi-species Complex	Yes	Yes	0	Replaces sunseting assessment
Quarter 3 Projected Number of Stocks with Adequate Assessments = 132; Actual = 133							
4	HMS	Consolidated Atlantic Highly Migratory Species	Blacktip shark - Gulf of Mexico	No	Yes	+1	Replaces assessment that sunset in 2010
4	GMFMC	Shrimp Fishery of the Gulf of Mexico	Pink shrimp - Gulf of Mexico	No	Yes	+1	New assessment model
4	SAFMC/ GMFMC	Coastal Migratory Pelagic Resources of the Gulf of Mexico and South Atlantic	Cobia - Gulf of Mexico	No	No	0	SEDAR 28 benchmark assessment; delayed to FY13
4	SAFMC/ GMFMC	Coastal Migratory Pelagic Resources of the Gulf of Mexico and South Atlantic	Spanish mackerel - Gulf of Mexico	No	No	0	SEDAR 28 benchmark assessment; delayed to FY13
4	PFMC	Pacific Coast Groundfish	Arrowtooth flounder - Pacific Coast	Yes	No	-1	Sunset of previous asmt
4	PFMC	Pacific Coast Groundfish	Black rockfish - Northern Pacific Coast	Yes	No	-1	Sunset of previous asmt
4	PFMC	Pacific Coast Groundfish	Chilipepper - Southern Pacific Coast	Yes	No	-1	Sunset of previous asmt
4	PFMC	Pacific Coast Groundfish	English sole - Pacific Coast	Yes	No	-1	Sunset of previous asmt
4	PFMC	Pacific Coast Groundfish	Longnose skate - Pacific Coast	Yes	No	-1	Sunset of previous asmt
4	PFMC	Pacific Coast Groundfish	Shortbelly rockfish - Pacific Coast	Yes	No	-1	Sunset of previous asmt
Quarter 4 Projected Number of Stocks with Adequate Assessments = 132; Actual = 129							

¹Includes stocks that were due to sunset in FY2012, and stocks that were expected to change adequacy but did not. See notes on assessment for additional information.

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For more detailed information on the fish stock assessments, please visit:

<http://www.st.nmfs.noaa.gov/stock-assessment/index>

<https://www.st.nmfs.noaa.gov/sisPortal/sisPortalMain.jsp>

