



NOAA FISHERIES

Science and Technology

Stock assessments provide the scientific basis for fisheries management. At the end of FY2013 Quarter 1, 134 FSSI stocks (58.3%) 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.

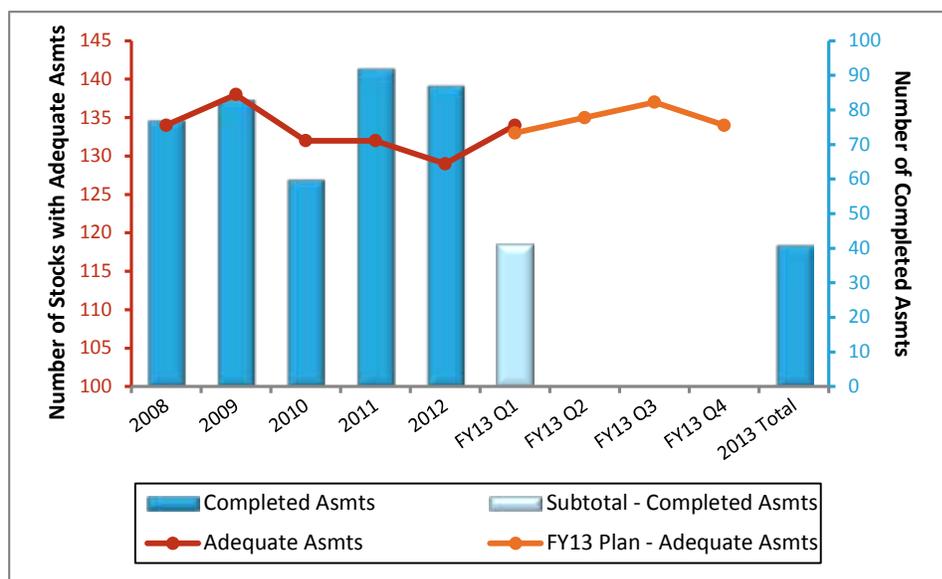
Fish Assessment Report

Fiscal Year 2013 Quarter 1 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). The FSSI represents 230 of the country's top fishery stocks, selected for inclusion based on their importance to commercial and recreational fisheries. Counts of FSSI stocks with adequate assessments are updated on a quarterly and annual basis to track performance of the national stock assessment program.

Fiscal Year (FY) 2013 began in October 2012 with 56.1% of FSSI stocks (129/230) with adequate assessments. By the end of FY2013, a combination of updated and improved assessments is expected to bring this number up to 58.3% of FSSI stocks (134/230) with adequate assessments. Over 80 stock assessments of FSSI stocks are planned in FY2013 to support fisheries management (including annual catch limits) and status determinations. Additional assessments will also be conducted to improve the scientific basis of management for selected non-FSSI stocks. For a summary of changes (both positive and negative) to the list of FSSI stocks with adequate assessments in FY2013, please see Table 1. Assessment activity for all FSSI stocks in FY2013 is listed in Appendix A, and Appendix B lists the current assessment status for all FSSI stocks.



Recent assessment activity for FSSI stocks through the end of FY2013, Quarter 1.

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.

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.

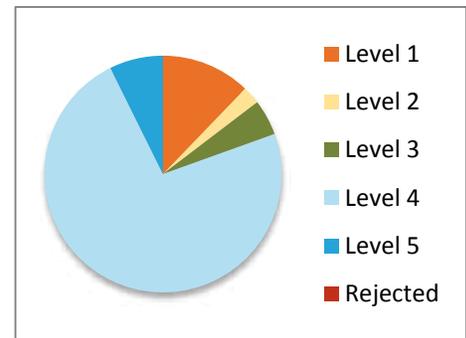
Although any assessment effort provides important information to resource managers, assessments must meet minimum standards of data availability and modeling complexity to be considered adequate. Generally, a minimally adequate assessment can be conducted where there is good information on the level 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*, <http://www.st.nmfs.noaa.gov/stock-assessment/improvement-plan/index>).

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.

Quarter 1 (October–December, 2012)

At the end of Quarter 1, 134 FSSI stocks have assessments considered adequate. A total of 41 assessments were completed in Quarter 1 for FSSI stocks (Appendix A), complemented by an additional 34 assessments of non-FSSI stocks. A majority (85%) of these assessments were completed at an adequate level. Many Quarter 1 assessments were annual updates for stocks in the Alaska Region. Two Alaska crab stocks were assessed using new and improved assessment models, resulting in an improvement of their assessment status. Additional assessments were completed for Atlantic and Pacific Coast stocks, as well as two Atlantic Highly Migratory Species in cooperation with the International Commission for the Conservation of Atlantic Tunas (ICCAT). Several of the assessments completed in Quarter 1 contributed to an increase in the total number of stocks with adequate assessments (Table 1).



Level of assessments completed (41 total) for FSSI stocks at the end of FY2013 Quarter 1. A total of 85% of FSSI stock assessments completed so far in FY2013 have been at an adequate level (i.e. Level 3 or greater). Assessment levels are defined as: 1=index only (commercial or research CPUE); 2=simple life history equilibrium models; 3=aggregated production models; 4=size/age/stage-structured models; and 5=models incorporating ecosystem considerations and spatial and seasonal analyses. For more information, see the Marine Fisheries Stock Assessment Improvement Plan, <http://www.st.nmfs.noaa.gov/stock-assessment/improvement-plan/index>.

Highlight: Alaska Crab Stock Assessment Improvements

Scientists from the Alaska Fisheries Science Center and Alaska Department of Fish and Game, in cooperation with staff from the North Pacific Fishery Management Council, produced improved stock assessment models for two important Alaska crab stocks during the 2012/13 assessment cycle. The improved analytical assessment methods will provide a stronger scientific basis for management of both stocks in the coming fishing year.

Blue king crab – Saint Matthew Island: Following a scientific review of assessment methods in 2011, assessment of this stock reverted to a survey-based approach while scientists prepared a new assessment model to address the issues raised during the review. The new 3-stage, length-based assessment model was introduced in May 2012 and went through several rounds of review with the Crab Plan Team and Scientific and Statistical Committee of the North Pacific Fishery Management Council. After appropriate revisions based on the reviews, the new model was accepted for use in the 2012/13 assessment cycle.

Southern Tanner crab – Bering Sea: This stock has been assessed in recent years using survey-based methods. A new length-based assessment model was initially presented for review in 2011 and revisions to fine-tune the model continued through 2012, when the new model was accepted for management of the stock in the 2012/13 cycle. On the basis of the new assessment methodology, the stock was promoted to a higher management tier. The new assessment model also provided scientists and managers with the tools necessary to reconsider the productivity of the stock, which led to a positive change in stock status.

Table 1: Assessments Impacting the Number of FSSI Stocks with Adequate Assessments in FY2013

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	Red porgy - Southern Atlantic Coast	No	Yes	+1	Replaces assessment that sunset in FY2011
1	SAFMC/ GMFMC	Snapper-Grouper Fishery of the South Atlantic Region/Reef Fish Resources of the Gulf of Mexico	Yellowtail snapper - Southern Atlantic Coast / Gulf of Mexico	No	Yes	+1	Assessment completed in FY2012 by State of Florida
1	NPFMC	Bering Sea/Aleutian Islands King and Tanner Crabs	Blue king crab - Saint Matthew Island	No	Yes	+1	New assessment model
1	NPFMC	Bering Sea/Aleutian Islands King and Tanner Crabs	Southern Tanner crab - Bering Sea	No	Yes	+1	New assessment model
1	HMS	Consolidated Atlantic Highly Migratory Species	White marlin - Atlantic	No	Yes	+1	ICCAT assessment
Quarter 1 Projected Number of Stocks with Adequate Assessments = 133; Actual = 134							

¹Includes all FSSI stocks that were expected to change adequate assessment status (including stocks with sunsetting assessments) in FY2013, regardless of whether a change actually occurred. See notes on assessment for additional information.

For more information contact:

Kristan Blackhart, kristan.blackhart@noaa.gov

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

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

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

