



# NOAA FISHERIES

## Science and Technology

**Stock assessments provide the scientific basis for fisheries management. At the end of FY2013 Quarter 3, 138 FSSI stocks (60.0%) 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.

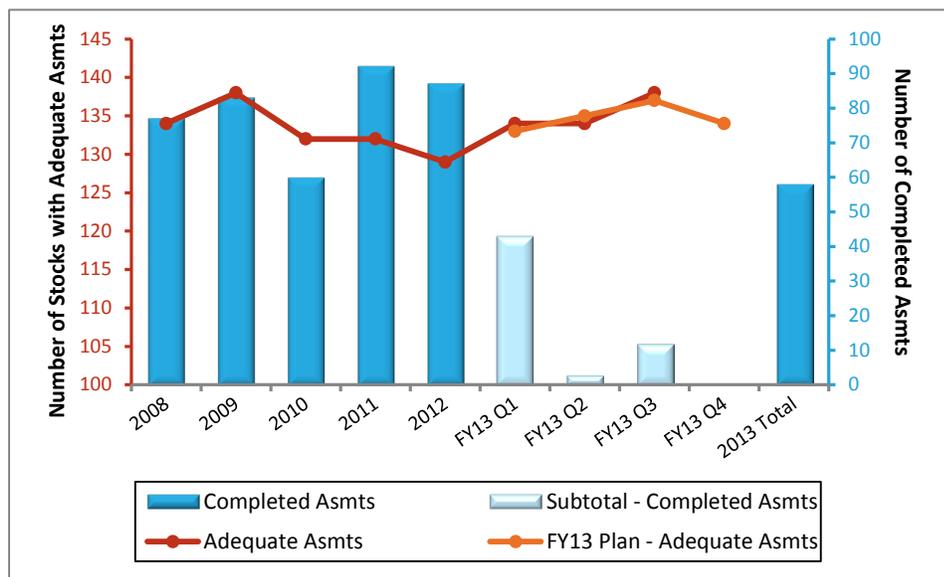
# Fish Assessment Report

## Fiscal Year 2013 Quarter 3 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 3.

## 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.

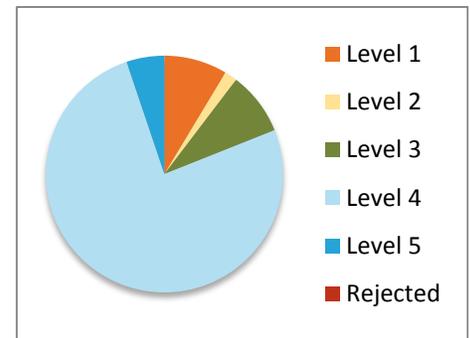
Lastly, all assessments are expected to be validated by a regional review system before being considered as the best scientific information available regarding the status of the stock.

## Quarter 1 (October–December, 2012)

At the end of Quarter 1, 134 FSSI stocks have assessments considered adequate. A total of 43 assessments were completed in Quarter 1 for FSSI stocks (Appendix A), complemented by an additional 34 assessments of non-FSSI stocks. A majority (86%) 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).

## Quarter 2 (January–March, 2013)

Three stock assessments were completed in the second quarter of FY2013



Level of assessments completed (46 total) for FSSI stocks at the end of FY2013 Quarter 2. A total of 87% of the stock assessments completed for FSSI stocks 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>.

(Appendix A), and there was no change in the number of stocks with adequate assessments (134). Several stock assessments were delayed from completion in Quarter 2 due to requests for additional analyses and review in

## Highlight: Data-moderate Assessment Methods

New “data-moderate” assessments have been completed or are under final preparation for a number of stocks managed by the Pacific Fishery Management Council (PFMC). These assessments utilize catch data and abundance trend information from either fishery-independent surveys or fishery-dependent estimates of catch-per-unit-of-effort but exclude length and age composition data by design in order to expedite development and review of the assessments. Data-moderate methods represent extensions of previously adopted data-poor methods (e.g. catch only approaches) used to determine overfishing limits and provide the opportunity to examine available data and determine the feasibility and need for future full assessments.

Scientists from the Northwest and Southwest Fisheries Science Centers, working with staff from the PFMC and others, developed this new assessment approach for Pacific Coast groundfish stocks to expedite the completion and review of stock assessments for a larger number of species each year than would otherwise be possible. Data-moderate assessments are not intended to replace full or benchmark assessments; rather the new methodology represents an opportunity to improve our understanding of the status and sustainable harvest levels of more stocks than can be addressed in the resource- and time-intensive benchmark Stock Assessment Review (STAR) process. A total of eight data-moderate assessments will be completed for PFMC stocks this year, six of which have not been assessed previously. For additional information on these assessments, please visit [http://www.pcouncil.org/wp-content/uploads/F5a\\_ATT1\\_DM\\_ASSMT\\_2013\\_ELECTRIC\\_JUN2013BB.pdf](http://www.pcouncil.org/wp-content/uploads/F5a_ATT1_DM_ASSMT_2013_ELECTRIC_JUN2013BB.pdf)

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 <sup>1</sup>	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
1	WPFMC	Pacific Pelagic Fisheries of the Western Pacific Region Ecosystem	Striped marlin - Central Western Pacific	Yes	Yes	0	International assessment led by PIFSC replaces sunset assessment
<b>Quarter 1 Projected Number of Stocks with Adequate Assessments = 133; Actual = 134</b>							
<b>Quarter 2 Projected Number of Stocks with Adequate Assessments = 135; Actual = 134</b>							
3	NEFMC	Northeast Multispecies	White hake - Gulf of Maine / Georges Bank	Yes	Yes	0	Replaces sunset assessment
3	SAFMC/GMFMC	Coastal Migratory Pelagic Resources of the Gulf of Mexico and South Atlantic	Cobia - Gulf of Mexico	No	Yes	+1	Stock last assessed in 2001
3	PFMC	Pacific Coast Groundfish	English sole - Pacific Coast	No	Yes	+1	Data-moderate assessment replaces sunset assessment
3	PFMC	Pacific Coast Groundfish	Rex sole - Pacific Coast	No	Yes	+1	New assessment using data moderate methods
3	PFMC	Pacific Coast Groundfish	Yellowtail rockfish - Northern Pacific Coast	No	Yes	+1	Data-moderate assessment replaces sunset assessment
<b>Quarter 3 Projected Number of Stocks with Adequate Assessments = 137; Actual = 138</b>							

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

support of management needs. Although few assessments were completed in Quarter 2, the early spring is a busy time for stock assessment scientists as they work on stock assessments scheduled for completion later in the year and collaborate with survey scientists to prepare for a busy field season.

### Quarter 3 (April–June, 2013)

Twelve stock assessments were completed in the third quarter of FY2013 (Appendix A), leading to an increase in the number of stocks with adequate assessments to 138 (60.0%). Several assessments scheduled for completion in Quarter 3 were delayed due to requests from the scientific review panel for additional analyses. Assessments completed this

quarter included a new assessment for rex sole (not previously assessed), an assessment of white hake in the North Atlantic that provided the information necessary to reclassify the stock's status, and new assessments for three non-FSSI stocks to support improved catch limits and other important management measures.

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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/>

