



# NOAA FISHERIES

## Science and Technology

**Stock assessments provide the scientific basis for fisheries management. At the end of FY2014 Quarter 2, 137 FSSI stocks (59.6%) 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.

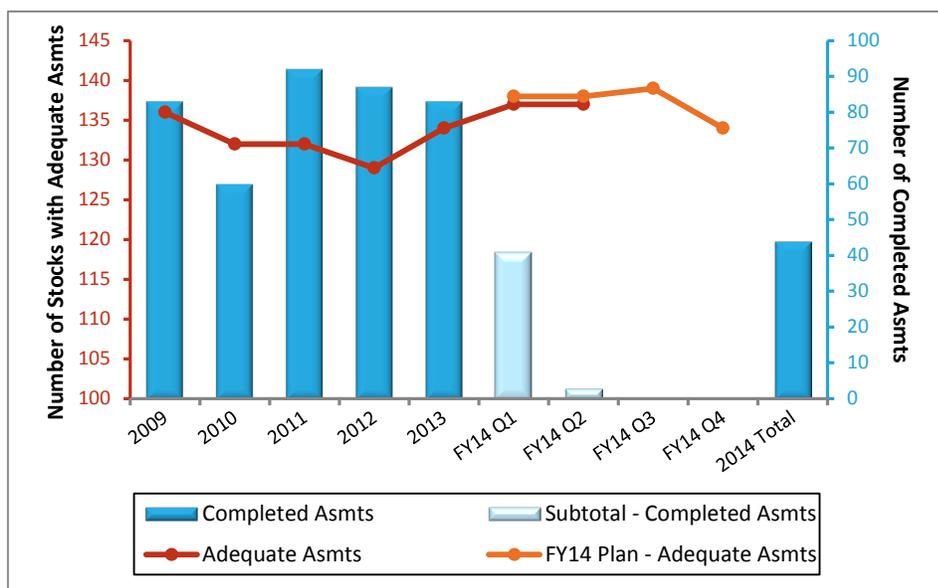
# Fish Assessment Report

## Fiscal Year 2014 Quarter 2 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) 2014 began in October 2013 with 58.3% of FSSI stocks (134/230) with adequate assessments. This number is anticipated to remain level in FY2014, with several new or improved stock assessments throughout the year offsetting losses due to expiring assessment adequacy at year's end. Around 100 stock assessments of FSSI stocks are planned for FY2014 to support fisheries management (including annual catch limits) and status determinations. Additional assessments will 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 FY2014, please see Table 1. Assessment activity for FSSI stocks in FY2014 is listed in Appendix A, Appendix B lists the current assessment status for all FSSI stocks, and Appendix C lists assessments completed for non-FSSI stocks.



Recent assessment activity for FSSI stocks through the end of FY2014, Quarter 2.

## 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.

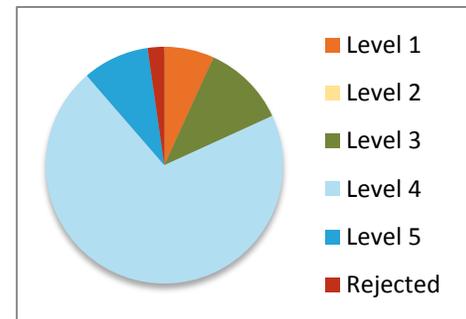
Although any assessment effort provides important information to resource managers, assessments must meet minimum standards of data availability and modeling complexity to be considered adequate. Generally, a minimally adequate assessment can be conducted where there is good information on the level 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](#)).

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, 2013)

At the end of Quarter 1, 137 FSSI stocks had assessments considered adequate. 41 assessments were completed in Quarter 1 for FSSI stocks (Appendix A), along with 28 additional assessments of non-FSSI stocks and stock complexes. A majority (90%) of these assessments were completed at an adequate level (i.e. Assessment Level 3 or above). Many (32/41) of the assessments completed in Quarter 1 are annual assessment updates for Alaska stocks. Assessment improvements for Alaska stocks included splitting the Bering Sea / Aleutian Islands stock of Pacific cod into two separate stocks, enabling refined spatial analyses in the assessments. Additional assessments completed in Quarter 1 included annual



Level of assessments completed (44 as of the end of FY2014, Quarter 2) for FSSI stocks. 91% of the stock assessments completed so far in FY2014 are 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 details, see the [Marine Fisheries Stock Assessment Improvement Plan](#).

## Highlight: Pacific Coast Salmon Assessments

Salmon are critically important species on the Pacific Coast. These species are highly prized by commercial, sport, and subsistence fishers, an important source of spiritual and physical sustenance to Northwest Indian tribes, symbolically important to many other Pacific Coast residents, and important in determining coastal fisheries. Several stocks are also listed or proposed for listing as at risk for extinction under the Endangered Species Act. Management of salmon stocks is complex because they are affected by a wide variety of factors in the ocean and on land.

Estimating the size of salmon populations is necessary to help managers sustainably manage these stocks, but this can be a constant challenge. Because salmon populations may be affected by such a wide variety of factors, their numbers can vary widely from year to year. Each year, scientists from federal, state, and tribal fisheries management agencies work together to produce assessments of around 30 salmon stocks, in addition to status reviews conducted under the Endangered Species Act. A range of information is important to the stock assessment process for salmon:

- *Pre-season forecasts* - Provides abundance forecasts, analyzes impacts of the past year's management measures on projected abundance, and identifies longer-term trends in abundance
- *In-season monitoring* - Provides information on run timing, stock composition, stock abundance, and age structure
- *Post-season reviews* - An evaluation of salmon fishery management and stock status, including information on catch and fishing effort, spawning escapement, and economics of the fisheries

All of this information is combined into a series of four reports prepared by the Salmon Technical Team and presented to the Pacific Fishery Management Council every year starting in February to guide ocean salmon fisheries management. Several opportunities are available during the process for public review and comment.

**Table 1: Assessments affecting the number of FSSI stocks with adequate assessments in FY2014**

Quarter	Fishery Council	Fishery Management Plan	Stock Name and Area	Adequate?		Change	Notes on Assessment
				Previous	Current		
1	HMS	Consolidated Atlantic Highly Migratory Species	Albacore - North Atlantic	Yes	Yes	0	ICCAT assessment maintains adequacy
1	HMS	Consolidated Atlantic Highly Migratory Species	Atlantic sharpnose shark - Atlantic	No	Yes	+1	Previous assessment expired FY2013
1	HMS	Consolidated Atlantic Highly Migratory Species	Swordfish - North Atlantic	Yes	Yes	0	ICCAT assessment maintains adequacy
1	NPFMC	Groundfish of the Gulf of Alaska	Gulf of Alaska Demersal Shelf Rockfish Complex	No	Yes	+1	Review of existing model elevates to adequate
1	PFMC	Pacific Coast Groundfish	Brown rockfish - Pacific Coast	No	Yes	+1	New assessment
<b>Quarter 1 Projected Number of Stocks with Adequate Assessments = 138; Actual = 137<sup>a</sup></b>							
2	MAFMC	Tilefish	Tilefish - Mid-Atlantic Coast	Yes	Yes	0	Assessment maintains adequacy
<b>Quarter 2 Projected Number of Stocks with Adequate Assessments = 138; Actual = 137<sup>a</sup></b>							
<sup>a</sup> The number of adequate assessments was impacted in Quarters 1 and 2 by the government shutdown, which delayed completion of an assessment for South Atlantic snowy grouper. Additionally, the assessment of Atlantic bonnethead shark was expected to be adequate in Quarter 1, but rejected due to reviewer concerns over stock boundaries; this was offset by the unanticipated addition of the Gulf of Alaska Demersal Shelf Rockfish Complex to the list of stocks with adequate assessments.							

updates for Gulf of Mexico shrimp stocks; updated assessments for goosefish and several Atlantic highly migratory species; and completion of an assessment of brown rockfish on the west coast, the first ever assessment for that stock. Several of these assessments contributed to an increase in the total number of stocks with adequate assessments from 134 at the beginning of Quarter 1 to 137 at the end (Table 1). This is one short of the Quarter 1 target, due to delays resulting from the government shutdown in October 2013.

#### Quarter 2 (January–March, 2014)

The number of FSSI stocks with adequate assessments remains unchanged at 137 at the end of Quarter 2. A total of three assessments of FSSI stocks were completed during the second quarter, along with 27 assessments of Pacific Coast salmon stocks. Although there are typically few assessments completed during the early months of the calendar year, these months are a busy time for assessment scientists as they work towards completion of assessments for review in the spring and summer months, and work with survey scientists to prepare for the upcoming field season.

#### For more information contact::

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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/>

