

NOAA FISHERIES

Science and Technology

Stock assessments provide the scientific basis for fisheries management. At the end of FY2014 Quarter 3, 140 FSSI stocks (60.9%) 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.

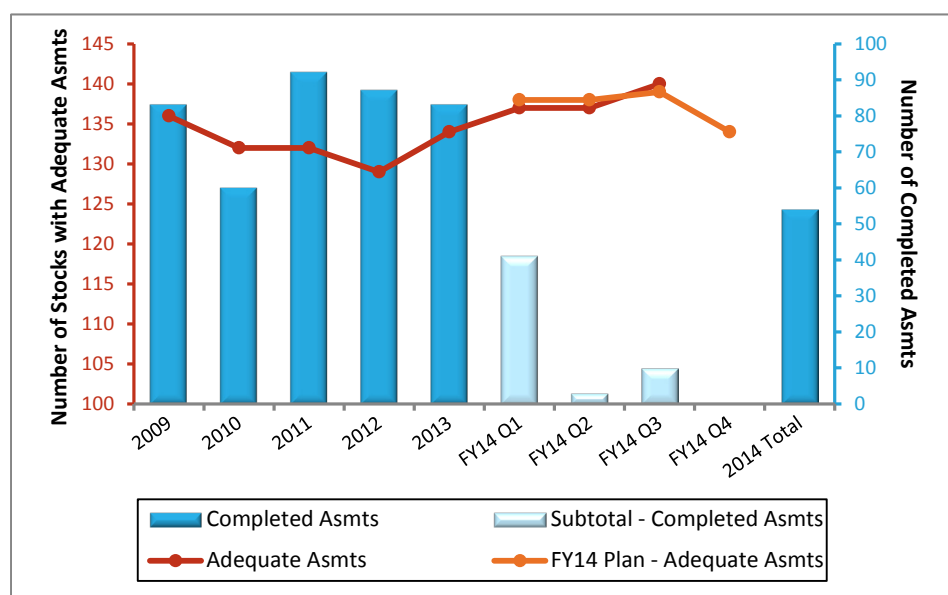
Fish Assessment Report

Fiscal Year 2014 Quarter 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) 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 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.

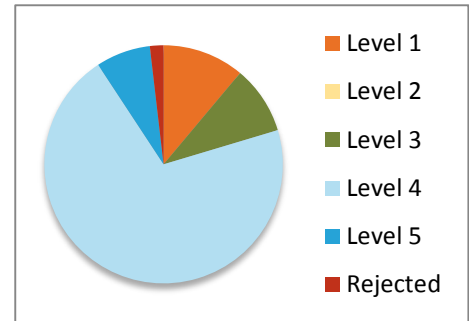
Although any assessment effort provides important information to resource managers, assessments must meet minimum standards of data availability and modeling complexity to be considered adequate. Generally, a minimally adequate assessment can be conducted where there is good information on the level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

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. Other notable assessments completed in Quarter 1 include an assessment of brown rockfish on the West Coast, the first ever assessment for that stock. Several first quarter assessments contributed to an increase in the total number of stocks with



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: Prioritizing Fish Stock Assessments

NOAA Fisheries collects data and produces stock assessments to provide fisheries managers with the best scientific information available and satisfy requirements under the Magnuson-Stevens Act (MSA). Stock assessments range in complexity from simple time series of catch or survey data to complex assessment models that incorporate spatial and seasonal analyses in addition to ecosystem or multispecies considerations. The level of complexity of a stock assessment has a large impact on the amount of data and effort required to complete the assessment, and also the extensiveness of review required of assessment results.

Some stocks require frequent and complex assessments because they have high fishery importance, play an important ecosystem role, or are vulnerable to overexploitation. But other stocks do not need such comprehensive monitoring. Scientists and managers need a standardized way to prioritize stock assessments to ensure the most important needs are met.

A new system has been developed to help prioritize stock assessment activities for NOAA Fisheries. This system takes into account factors such as fishery value, ecosystem importance, biological vulnerability to overfishing, stock biology, and available information on stock status. Summarizing this information across stocks that have never before been fully assessed helps to identify which stocks are high priorities for first time assessments. For stocks that have been assessed before, the prioritization system can help to identify: 1) the target assessment level (how comprehensive an assessment is needed), and 2) the target assessment frequency (how often the stock should be assessed).

By developing stock-specific targets, the prioritization system allows scientists to work with managers to prioritize assessments to achieve those targets, given available data and assessment capacity. It also helps identify where assessments can be developed using data-limited approaches or as updates, saving time and effort for when benchmark assessments or more comprehensive methods are really required.

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
Quarter 1 Projected Number of Stocks with Adequate Assessments = 138; Actual = 137^a							
2	MAFMC	Tilefish	Tilefish - Mid-Atlantic Coast	Yes	Yes	0	Assessment maintains adequacy
Quarter 2 Projected Number of Stocks with Adequate Assessments = 138; Actual = 137^a							
3	SAFMC	Snapper-Grouper Fishery of the South Atlantic Region	Gag - Southern Atlantic Coast	No	Yes	+1	Last assessed 2006
3	SAFMC	Snapper-Grouper Fishery of the South Atlantic Region	Snowy grouper - Southern Atlantic Coast	No	Yes	+1	Delayed due to government shutdown last October
3	SAFMC	Snapper-Grouper Fishery of the South Atlantic Region	Wreckfish - Southern Atlantic Coast	No	Yes	+1	Assessment completed external to SEFSC/SEDAR
Quarter 3 Projected Number of Stocks with Adequate Assessments = 139; Actual = 140^a							
^a 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 until Q3. 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, and an unscheduled assessment of wreckfish.							

adequate assessments from 134 to 137 (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. Only three assessments of FSSI stocks were completed during the second quarter, along with 64 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.

Quarter 3 (April–June, 2014)

Quarter 3 ended with a total of 140 FSSI stocks with adequate assessments, just above the projection of 139 stocks. The assessments of three stocks managed under the South Atlantic Snapper-

Grouper FMP (gag, snowy grouper, and wreckfish) were finalized during the third quarter, allowing these three stocks to regain adequate status and providing much needed updated management information on status and allowable catch levels. The assessment of snowy grouper, initially planned for completion at the beginning of the fiscal year but delayed due to the government shutdown in October, is now complete and available to support 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/>

