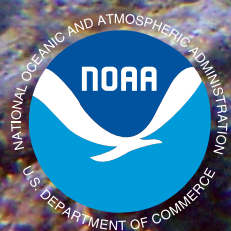


Fish Assessment Report

FY 2016 Quarter 2 Update

2



NOAA
FISHERIES

Science and
Technology

Overview

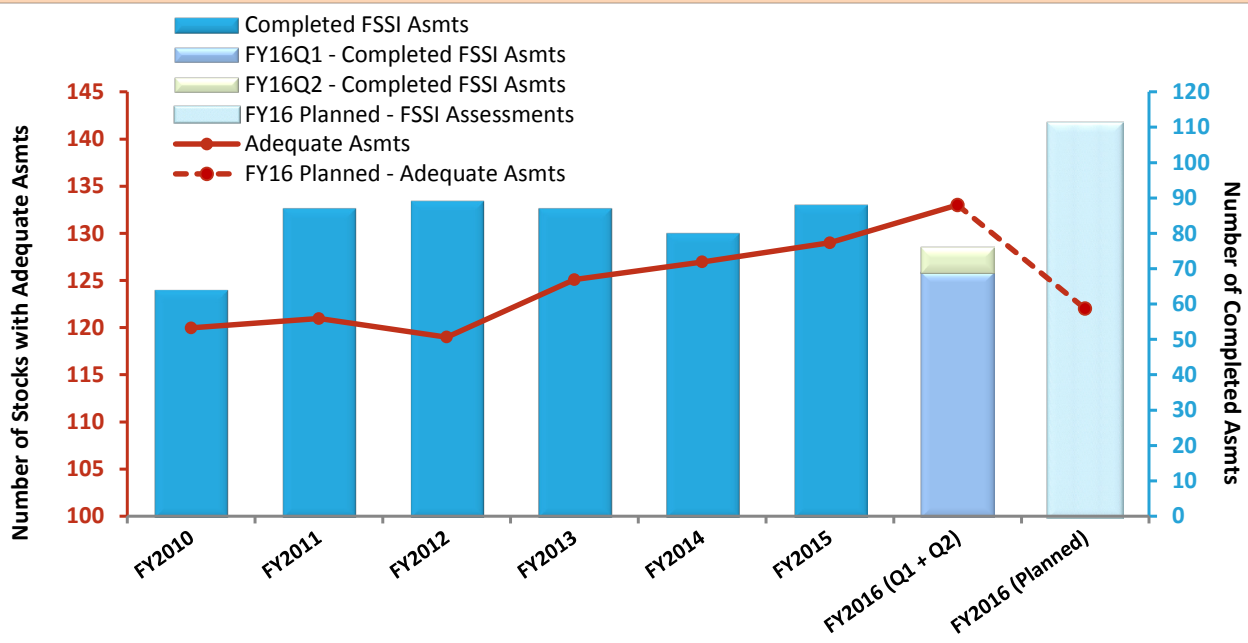
Stock assessments are key to sustainable fisheries management and provide the best scientific information available to determine the status of fish stocks. They are a basis for optimizing yield from our Nation's fisheries by providing information to set annual catch limits (ACLs) that prevent overfishing. NOAA Fisheries works with its partners in each management area to conduct right-sized assessments for each fish stock or stock complex, selecting assessment level, type, and frequency based on a variety of factors such as fishery importance, ecosystem importance, stock biology, status of the stock, data availability, and assessment capacity. This Fish Assessment Report provides a quarterly update on the status of NOAA Fisheries assessment activities for federally managed fish stocks. For more information on stock assessments and how they are conducted please see the FAQ's on page 7 of this report.



Black sea bass, *Centropristis striata*

A stock's importance, whether economic or ecological, is one of many factors that dictate how frequently it is assessed. US fish stocks are divided into two general categories of importance. The most commercially and recreationally important domestic stocks are placed on the Fish Stock Sustainability Index (FSSI). These 199 stocks are collectively referred to as "FSSI stocks" and account for 85% of total fisheries catch. In FY2016 NOAA Fisheries plans to complete assessments of 111 of the 199 FSSI stocks. The remaining (non-FSSI) stocks consist of 274 federally managed stocks and stock complexes. While there is often a high priority for assessing FSSI stocks, stock status and ACLs must be set for non-FSSI stocks as well. In FY2016 NOAA Fisheries has planned 123 assessments for non-FSSI stocks, complexes, or stock complex members, many of which are first time assessments (expected for Q4) and will improve the overall quality of the science provided for fishery management.

NOAA Fisheries Assessment Trends for FSSI Stocks



Recent and projected assessment activity for federally managed stocks in the Fish Stock Sustainability Index (FSSI). The number of FSSI stocks with adequate assessments reached an all-time high at the end of Q2 FY2016 (133/199 or 66.8%). This number is anticipated to decrease at the end of FY2016 due to 11 assessments sunsetting (i.e. will be greater than 5 years old) and an increased effort to provide scientific information for many non-FSSI stocks, for which first time assessments will be conducted.

Assessments this Quarter

During Quarter 2, 71 stocks were assessed, including 7 FSSI and 64 non-FSSI stocks

During Quarter 2, seven assessments were completed for FSSI stocks and stock complexes. In addition, 64 assessments were completed for non-FSSI stocks and stock complexes bringing the total number of assessments conducted during FY2016 to 163. Seventy-one assessments are planned for the remainder of the year including 35 assessments for FSSI stocks and stock complexes and 36 for non-FSSI stocks and stock complexes (see Table 1).

Many of the assessments completed this quarter include annual updates and benchmark assessments for West Coast salmon stocks (see assessment types and descriptions on the following page). The remaining assessments include three indicator analyses conducted at the Northeast Fisheries Science Center, one benchmark completed at the Southeast Fisheries Science Center, and one update assessment completed at the Alaska Fisheries Science Center. All of the assessments completed this quarter were approved by the agency's scientific review processes.

The count of assessments during Q1 FY2016 increased by two from our Q1 report because two stocks were

missed in our initial count. Those stocks, Yelloweye rockfish - Pacific coast and California Scorpionfish - South California, were completed as "partial updates" and presented to the Pacific Fishery Management Council in November, 2015 (Q1 FY2016).

Data-limited assessments for the Main Hawaiian Island coral reef fishes, initially planned for Q1, were further delayed as researchers incorporate recommendations received during the technical review process to improve the scientific information available for management advice. These 19 assessments are anticipated to be completed during Q4 FY2016 and will provide new stock-specific information. Previously, due to limited information, these stocks were combined and assessed as a stock complex, but contemporary data-limited methods are now facilitating individual assessments.

At the end of Q2 FY2016, the percentage of FSSI stocks with adequate assessments increased to an all-time high of 66.8% (133/199). See description of "adequate" on the following page.

Table 1. FY2016 Completed Assessments

Science Center(s)	Quarter 1		Quarter 2		Highlighted Stocks for Quarter 2
	FSSI	Non-FSSI	FSSI	Non-FSSI	
Northeast	19	0	3	0	Atlantic surfclam, Ocean quahog, and Tilefish - Atlantic Coast
Southeast	9	1	1	0	Red grouper - Gulf of Mexico
Northwest and Southwest ¹	4	0	2	64	West Coast salmon stocks
Southwest	0	0	0	0	None planned this quarter
Alaska	37	22	1	0	Red king crab - Norton sound
Pacific Islands	0	0	0	0	Main Hawaiian Island coral reef fishes delayed until Q4
Southwest and Pacific Islands ²	0	0	0	0	None planned this quarter

Footnotes:

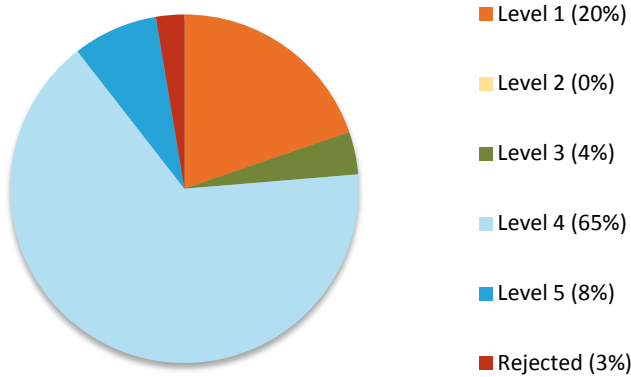
¹ The Northwest and Southwest Fisheries Science Centers jointly conduct assessments for Pacific coast groundfish and Pacific coast salmon.

² The Southwest and Pacific Islands Fisheries Science Centers jointly conduct assessments for U.S. West Coast Fisheries for Highly Migratory Species and Pacific Pelagic Fisheries of the Western Pacific Region Ecosystem.

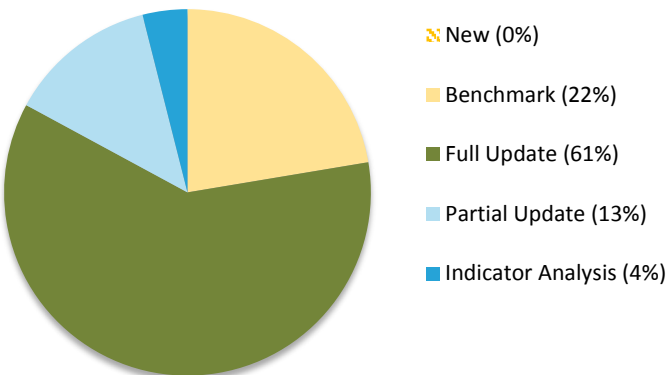
Model Complexity and Assessment Type

In Q2 FY2016, four of the assessments conducted for FSSI stocks were considered adequate (level 3 or higher). Three were full updates and one was a benchmark assessment. For non-FSSI stocks, 73% of the assessments conducted during Q2 FY2016 were completed at a level 3 or higher (“adequacy” is primarily reported for FSSI stocks). Index-based and simple life history approaches (level 1 and 2), along with indicator analyses (level 1), were conducted for 20 stocks (3 FSSI and 17 non-FSSI) providing important science-based advice for the management of data-limited stocks. Ecosystem considerations (level 5) were included in 15 assessments accounting for 21% of all completed assessments during Q2 FY2016. Assessment levels and types for all assessments completed during Q1 and Q2 FY2016 are shown in the charts below.

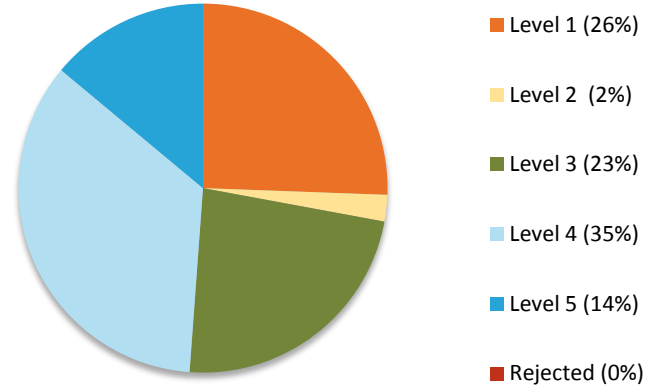
FSSI Assessment Levels



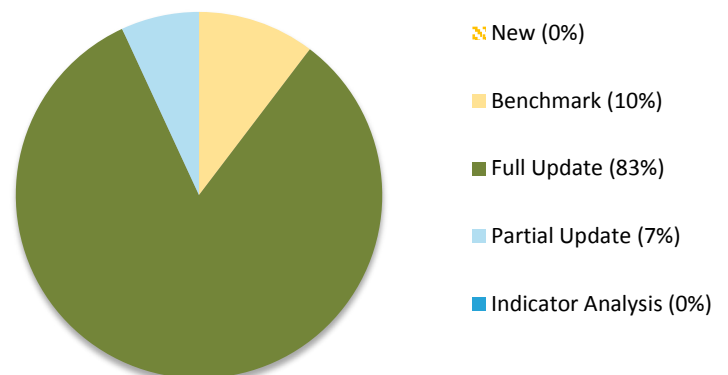
FSSI Assessment Types



Non-FSSI Assessment Levels



Non-FSSI Assessment Types



Assessment Level	Description
1	An indicator analysis using time series of survey data, catch and effort, or a onetime abundance estimate
2	Simple equilibrium models applied to life history information; e.g. yield per recruit based on mortality
3	Equilibrium and non-equilibrium production models aggregated spatially, over age, and/or over size
4	Size, stage, or age structured models
5	Level 3 or 4 models that directly include ecosystem considerations

Assessment Type	Description
New	First assessment conducted for a given stock
Benchmark	Comprehensive investigations using assessment approaches that substantially differ from previous iterations
Full Update	Assessments that include the most recent year of data and minor revisions to the assessment model
Partial Update	Assessments that used the latest survey and/or catch estimates to advance the previous projections by one or more years
Indicator Analysis	Time series analysis of fishery independent survey data or catch estimates

Regional Highlight: Alaska Groundfish

Every year Alaska's commercial fisheries harvest approximately 3 million tons of fish worth upwards of \$1.6 billion. This accounts for more than 50% of the U.S. commercial fishery harvest volume and approximately 30% of its harvest value. Much of this catch is drawn from Alaska's groundfish stocks. Alaska pollock (*Gadus chalcogrammus*) is the principal fishery and 1.4 to 1.5 million tons is harvested annually. This accounts for 45% of Alaska's harvest volume and 33% of its harvest value. The fishery is the third most valuable in the nation.

Alaska's groundfish stocks are managed by a rigorous process that has been in place for over 35 years and ensures that annual quotas are set at conservative and sustainable levels. The foundation for this management scheme are scientifically-based annual catch limits established for each target groundfish stock, species, or species complex. The NOAA Fisheries Alaska Fisheries Science Center (AFSC) provides the necessary scientific information, ranging from research data on life history parameters (e.g. growth rates) to fishery independent surveys (e.g. The Gulf of Alaska Bottom Trawl Survey), and rigorous stock assessments.

All of these data and analyses are reviewed by the North Pacific Fishery Management Council's (NPFMC's) Groundfish Plan Teams and Scientific and Statistical Committee. They use the information to establish total allowable catch levels below the biologically sustainable catch limits set by the AFSC scientists. Catches are closely monitored by the NOAA Fisheries Alaska Regional Office during the season based on data from mandatory electronic reporting by vessels and processing plants, and a comprehensive observer program.

Fisheries management in Alaska is further supported by ecological and economic reports. The Ecosystem Considerations report

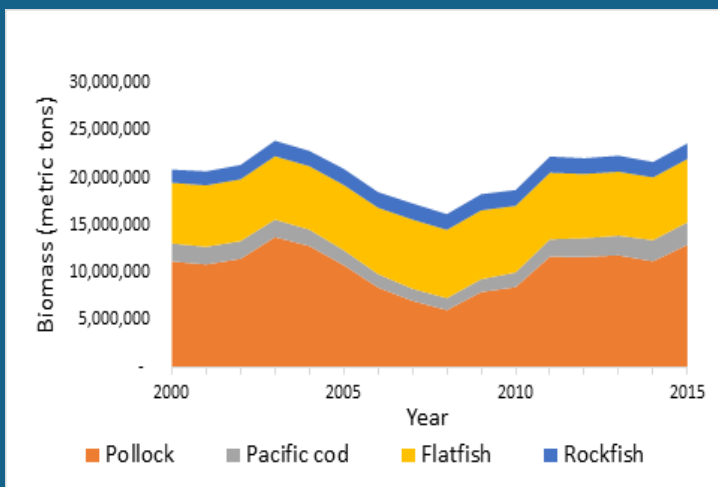


Observers counting Alaska pollock on a fishing boat in Alaska. Photo Credit: NOAA

links ecosystem research and fishery management. It tracks performance with respect to the NPFMC's ecosystem-based management goals. An annual report of the Economic Status of the Groundfish Fisheries off Alaska provides detailed information on the economic aspects of commercial groundfish fisheries. It includes catch share fishery indicators, product price forecasts, market profiles for the most valuable species, and a summary of ongoing economic research.

All of these data and information contribute to managing 28 FSSI groundfish stocks and stock complexes in Alaska. As a result of both the Council's conservative catch limit policies and favorable environmental conditions no Alaska groundfish stocks are overfished or undergoing overfishing. Further, most stocks are well above the target biomass levels for achieving their maximum sustainable yield (see figure below). The status of these stocks continues to appear favorable, and the majority of Alaska's groundfish stocks (based on resource assessment surveys) appear to be relatively stable. This has made Alaska's fisheries a global model for sustainability and responsible management.

Alaska Groundfish Recent Biomass



This figure shows the current biomass estimates for several of Alaska's largest groundfish stocks in metric tons of fish. None of these stocks are overfished or undergoing overfishing. Overall, Alaska's groundfish stocks sustain an annual harvest of approximately 2.2 million metric tons. These four stocks and stock complexes are responsible for over 90% of that harvest in any given year.

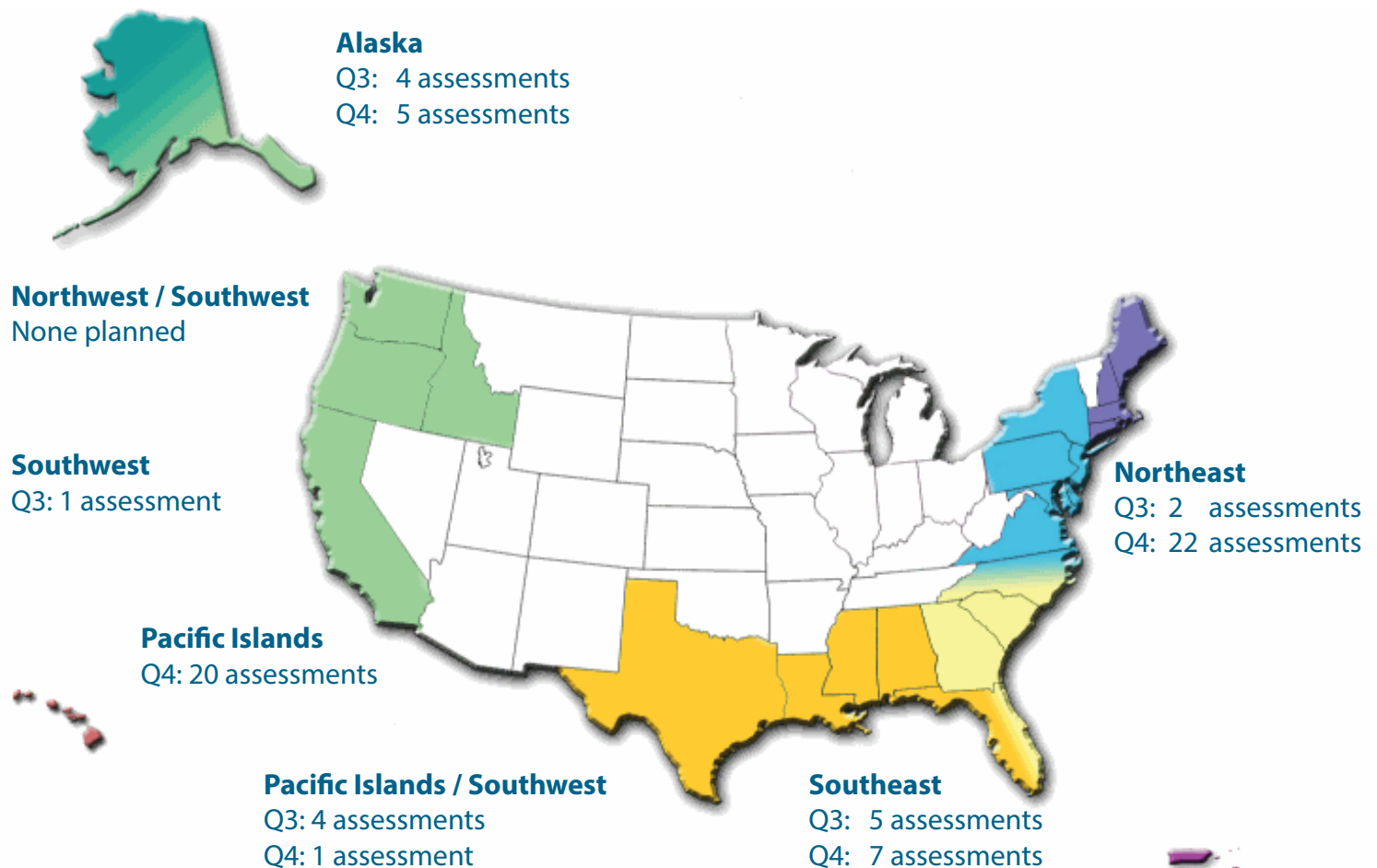
Upcoming Assessments & Survey Activity

During FY2016 NOAA Fisheries plans to complete 111 assessments of FSSI stocks and 123 assessments of non-FSSI stocks, for a total of 234 assessments.

The total number of assessments planned to be completed in each region for the remainder of the year is shown below. Detailed information for the assessments completed during Q1 and Q2 of FY2016 and planned for FY2016 can be found in the supporting appendices of this report. Appendix A includes Q1 and Q2 FY2016 completed assessments for FSSI stocks. Appendix B includes Q1 and Q2 FY2016 completed assessments for non-FSSI stocks. Appendix C includes a list of all assessments planned for the remainder of FY2016, including both FSSI and non-FSSI stocks. Appendix D provides the assessment status of FSSI stocks. The information in these appendices represents the best available at the time of reporting and is subject to change.

NOAA Fisheries completed 8 surveys during Q2FY2016 and plans to complete an additional 49 fishery-independent surveys during the remainder of the FY2016. Many surveys span multiple quarters and a majority of the planned surveys are scheduled to be completed during the second half of the fiscal year (April - September). Three surveys will be conducted jointly between the Northwest and Southwest Fisheries Science Centers including the summer juvenile salmon survey, Pacific hake/Pacific sardine survey and the fall juvenile survey. The abundance and biological data collected during the year will go through extensive processing and analysis to become important inputs for future stock assessments.

For more information on assessment activities, including the assessment status for all FSSI stocks, please visit the NOAA Fisheries National Stock Assessment Enterprise website at <http://www.st.nmfs.noaa.gov/stock-assessment/reports>.



Frequently Asked Questions

What is a Stock Assessment?

A stock assessment is the process of collecting, analyzing, and reporting demographic information to determine the effects of fishing (and other drivers) on fish populations and, to the extent possible, predict future catch and stock status.

What Data are Used in Stock Assessments?

Stock assessments are based on models of fish populations that require three primary categories of data inputs: catch, abundance, and biology. Data inputs must be accurate and timely to ensure the highest quality stock assessments and the best information are provided to resource managers. To the extent feasible, ecosystem and environmental factors that affect fish stocks are included.

Why do we Assess Stocks?

NOAA Fisheries' stock assessments provide high-quality science information needed by managers to support sustainable fisheries as components of resilient ecosystems, communities and economies. Assessments provide the scientific basis for determining if a stock is overfished or experiencing overfishing, to calculate a sustainable harvest rate, and to forecast the catch level that would implement that rate.

What is an Adequate Assessment?

Assessments are considered adequate when they use modeling approaches that are able to address long-term population dynamics of the stock (i.e. assessment level of 3 or above according to the 2001 [Marine Fisheries Stock Assessment Improvement Plan](#)), have been updated within five years, and are recommended as best scientific information available after being subjected to regional peer review processes. The definition of an adequate assessment will change as NOAA Fisheries finalizes and implements the new Stock Assessment Improvement Plan (draft expected by the end of FY16).

Why does the Schedule of Planned Assessments Change?

The schedule of planned assessments is provided by each region at the beginning of the fiscal year and updated in this report as new information becomes available. Changes to the schedule may occur as the feasibility and time needed to conduct assessments are refined, particularly for stocks previously unassessed or assessments using innovative methods, and as assessment needs are updated in coordination with our regional and international partners.

Where Can I Find More Information?

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

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

Alaska Fisheries Science Center --

<http://www.afsc.noaa.gov/>

Northwest Fisheries Science Center --

<https://www.nwfsc.noaa.gov/>

Southwest Fisheries Science Center --

<https://swfsc.noaa.gov/>

Pacific Island Fisheries Science Center --

<http://www.pifsc.noaa.gov/>

Southeast Fisheries Science Center --

<http://www.sefsc.noaa.gov/>

Northeast Fisheries Science Center --

<http://www.nefsc.noaa.gov/>

Appendix A. Assessment activity for stocks and stock complexes included on the FSSI by quarter for FY2016.

Completed Assessments for FSSI Stocks - FY2016 Quarter 1 (October - December, 2015)

Science Center(s) ¹	Jurisdiction ²	Stock	Asmt Level ³	Asmt Type	Adequate	Notes
AFSC	NPFMC	Alaska plaice - Bering Sea / Aleutian Islands	4	Partial Update	Yes	
AFSC	NPFMC	Arrowtooth flounder - Bering Sea / Aleutian Islands	5	Partial Update	Yes	
AFSC	NPFMC	Arrowtooth flounder - Gulf of Alaska	4	Benchmark	Yes	
AFSC	NPFMC	Atka mackerel - Bering Sea / Aleutian Islands	4	Full Update	Yes	
AFSC	NPFMC	Bering Sea / Aleutian Islands Blackspotted and Rougheye Rockfish Complex	4	Partial Update	Yes	
AFSC	NPFMC	Bering Sea / Aleutian Islands Flathead Sole Complex	5	Partial Update	Yes	Flathead sole asmt serves as indicator stock
AFSC	NPFMC	Bering Sea / Aleutian Islands Rock Sole Complex	4	Full Update	Yes	Northern rock sole asmt serves as indicator stock
AFSC	NPFMC	Bering Sea / Aleutian Islands Skate Complex	4	Partial Update	Yes	Two assessments serve as indicators for this stock complex; Alaska skate (level 4) and other skate complex remainder (level 3)
			3	Partial Update	Yes	
AFSC	NPFMC	Dusky rockfish - Gulf of Alaska	4	Benchmark	Yes	
AFSC	NPFMC	Flathead sole - Gulf of Alaska	4	Full Update	Yes	
AFSC	NPFMC	Greenland halibut - Bering Sea / Aleutian Islands	4	Benchmark	Yes	
AFSC	NPFMC	Gulf of Alaska Blackspotted and Rougheye Rockfish Complex	4	Benchmark	Yes	
AFSC	NPFMC	Gulf of Alaska Deepwater Flatfish Complex	4	Benchmark	Yes	Two assessments serve as indicators for stock complex: Dover sole (level 4 benchmark and other deepwater flatfish complex remainder (level 1 full update)
			1	Full Update	Yes	
AFSC	NPFMC	Gulf of Alaska Demersal Shelf Rockfish Complex	3	Full Update	Yes	Yelloweye rockfish asmt serves as indicator stock

National Marine Fisheries Service
Updated FY2016 Quarter 2

Completed Assessments for FSSI Stocks - FY2016 Quarter 1 (October - December, 2015)

Science Center(s) ¹	Jurisdiction ²	Stock	Asmt Level ³	Asmt Type	Adequate	Notes
AFSC	NPFMC	Gulf of Alaska Shallow Water Flatfish Complex	4	Benchmark	Yes	Two benchmark assessments serve as indicators for this stock complex: Northern rock sole (level 4), and rock sole (level 4)
			4	Benchmark	Yes	
AFSC	NPFMC	Gulf of Alaska Thornyhead Rockfish Complex	3	Benchmark	Yes	Shortspine thornyhead asmt serves as indicator stock for stock complex.
AFSC	NPFMC	Northern rockfish - Bering Sea / Aleutian Islands	4	Partial Update	Yes	
AFSC	NPFMC	Northern rockfish - Western / Central Gulf of Alaska	4	Benchmark	Yes	
AFSC	NPFMC	Pacific cod - Bering Sea	4	Full Update	Yes	
AFSC	NPFMC	Pacific cod - Gulf of Alaska	4	Benchmark	Yes	
AFSC	NPFMC	Pacific ocean perch - Bering Sea / Aleutian Islands	4	Partial Update	Yes	
AFSC	NPFMC	Pacific ocean perch - Gulf of Alaska	4	Benchmark	Yes	
AFSC	NPFMC	Rex sole - Gulf of Alaska	4	Benchmark	Yes	
AFSC	NPFMC	Sablefish - Eastern Bering Sea / Aleutian Islands / Gulf of Alaska	4	Full Update	Yes	
AFSC	NPFMC	Walleye pollock - Aleutian Islands	4	Full Update	Yes	
AFSC	NPFMC	Walleye pollock - Eastern Bering Sea	4	Full Update	Yes	
AFSC	NPFMC	Walleye pollock - Western / Central Gulf of Alaska	4	Full Update	Yes	
AFSC	NPFMC	Yellowfin sole - Bering Sea / Aleutian Islands	5	Full Update	Yes	
AFSC	NPFMC	Blue king crab - Pribilof Islands	1	Full Update	No	
AFSC	NPFMC	Blue king crab - Saint Matthew Island	4	Full Update	Yes	
AFSC	NPFMC	Red king crab - Bristol Bay	4	Full Update	Yes	
AFSC	NPFMC	Red king crab - Pribilof Islands	1	Full Update	No	
AFSC	NPFMC	Snow crab - Bering Sea	4	Full Update	Yes	
AFSC	NPFMC	Southern tanner crab - Bering Sea	4	Full Update	Yes	
NEFSC	NEFMC	Acadian redfish - Gulf of Maine / Georges Bank	4	Full Update	Yes	
NEFSC	NEFMC	American plaice - Gulf of Maine / Georges Bank	4	Full Update	Yes	

Completed Assessments for FSSI Stocks - FY2016 Quarter 1 (October - December, 2015)

National Marine Fisheries Service
Updated FY2016 Quarter 2

Science Center(s) ¹	Jurisdiction ²	Stock	Asmt Level ³	Asmt Type	Adequate	Notes
NEFSC	NEFMC	Atlantic cod - Georges Bank	-4	Full Update	No	Assessment results were too uncertain to be considered adequate for management.
NEFSC	NEFMC	Atlantic cod - Gulf of Maine	4	Full Update	Yes	
NEFSC	NEFMC	Atlantic halibut - Northwestern Atlantic Coast	-3	Full Update	No	Assessment results were too uncertain to be considered adequate for management.
NEFSC	NEFMC	Atlantic wolffish - Gulf of Maine / Georges Bank	4	Full Update	Yes	
NEFSC	NEFMC	Haddock - Georges Bank	4	Full Update	Yes	
NEFSC	NEFMC	Haddock - Gulf of Maine	4	Full Update	Yes	
NEFSC	NEFMC	Ocean pout - Northwestern Atlantic Coast	1	Full Update	No	
NEFSC	NEFMC	Pollock - Gulf of Maine / Georges Bank	4	Full Update	Yes	
NEFSC	NEFMC	White hake - Gulf of Maine / Georges Bank	4	Full Update	Yes	
NEFSC	NEFMC	Windowpane - Gulf of Maine / Georges Bank	1	Full Update	No	
NEFSC	NEFMC	Windowpane - Southern New England / Mid-Atlantic	1	Full Update	No	
NEFSC	NEFMC	Winter flounder - Georges Bank	4	Full Update	Yes	
NEFSC	NEFMC	Winter flounder - Gulf of Maine	1	Full Update	No	
NEFSC	NEFMC	Winter flounder - Southern New England / Mid-Atlantic	4	Full Update	Yes	
NEFSC	NEFMC	Witch flounder - Northwestern Atlantic Coast	4	Full Update	Yes	
NEFSC	NEFMC	Yellowtail flounder - Cape Cod / Gulf of Maine	4	Full Update	Yes	
NEFSC	NEFMC	Yellowtail flounder - Southern New England / Mid-Atlantic	4	Benchmark	Yes	
NWFSC	PFMC	Yelloweye rockfish - Pacific Coast	4	Partial Update	Yes	Omitted from Q1 Report
NWFSC	PFMC	California scorpionfish - Southern California	4	Partial Update	Yes	Omitted from Q1 Report
NW/SW	PFMC	Black rockfish - Northern Pacific coast	4	Benchmark	Yes	Black rockfish stocks were assessed using three area models (WA, OR, CA).
NW/SW	PFMC	Black rockfish - Southern Pacific coast	4	Benchmark	Yes	

Completed Assessments for FSSI Stocks - FY2016 Quarter 1 (October - December, 2015)

National Marine Fisheries Service
Updated FY2016 Quarter 2

Science Center(s) ¹	Jurisdiction ²	Stock	Asmt Level ³	Asmt Type	Adequate	Notes
SEFSC	GMFMC	Brown shrimp - Gulf of Mexico	4	Full Update	Yes	
SEFSC	GMFMC	Pink shrimp - Gulf of Mexico	4	Full Update	Yes	
SEFSC	GMFMC	Royal red shrimp - Gulf of Mexico	1	Full Update	Yes	
SEFSC	GMFMC	White shrimp - Gulf of Mexico	4	Full Update	Yes	
SEFSC	HMS	Blue shark - North Atlantic	4	Benchmark	Yes	
SEFSC	SAFMC	Brown rock shrimp - Southern Atlantic Coast	1	Full Update	Yes	
SEFSC	SAFMC	Brown shrimp - Southern Atlantic Coast	1	Full Update	Yes	
SEFSC	SAFMC	Pink shrimp - Southern Atlantic Coast	1	Full Update	Yes	
SEFSC	SAFMC	White shrimp - Southern Atlantic Coast	1	Full Update	Yes	

Completed Assessments for FSSI Stocks - FY2016 Quarter 2 (January - March, 2016)

Science Center(s) ¹	Jurisdiction ²	Stock	Asmt Level ³	Asmt Type	Adequate	Notes
AFSC	NPFMC	Red king crab - Norton Sound	4	Full Update	Yes	
NEFSC	MAFMC	Atlantic surfclam - Mid-Atlantic Coast	1	Indicator Analysis	Yes	Last benchmark was in 2013
NEFSC	MAFMC	Ocean quahog - Atlantic Coast	1	Indicator Analysis	Yes	Last full update was in 2013
NEFSC	MAFMC	Tilefish - Mid-Atlantic Coast	1	Indicator Analysis	Yes	Last benchmark was in 2014
NW/SW	PFMC	Chinook salmon - California Central Valley: Sacramento (fall)	3	Full Update	Yes	
NW/SW	PFMC	Chinook salmon - Northern California Coast: Klamath (fall)	4	Full Update	Yes	
SEFSC	GMFMC	Red grouper - Gulf of Mexico	4	Benchmark	Yes	

**Appendix B. Assessment activity for non-FSSI stocks, stock complexes
and complex members in FY2016.**

Completed Assessments for Non-FSSI Stocks - FY2016 Quarter 1 (October - December, 2015)

Science Center(s) ¹	Jurisdiction ²	Stock	Asmt Level ³	Asmt Type	Notes on Assessment
AFSC	NPFMC	Atka mackerel - Gulf of Alaska	1	Full Update	
AFSC	NPFMC	Bering Sea / Aleutian Islands Octopus Complex	1	Partial Update	Giant octopus - Bering Sea /Aleutian Islands asmt serves as indicator for stock complex
AFSC	NPFMC	Bering Sea / Aleutian Islands Other Flatfish Complex	3	Full Update	
AFSC	NPFMC	Bering Sea / Aleutian Islands Other Rockfish Complex	3	Partial Update	
AFSC	NPFMC	Bering Sea / Aleutian Islands Sculpin Complex	3	Partial Update	
AFSC	NPFMC	Bering Sea / Aleutian Islands Shark Complex	1	Partial Update	
AFSC	NPFMC	Bering Sea / Aleutian Islands Squid Complex	1	Full Update	
AFSC	NPFMC	Gulf of Alaska Octopus Complex	1	Benchmark	Giant Octopus Gulf of Alaska asmt serves as indicator for stock complex
AFSC	NPFMC	Gulf of Alaska Other Rockfish Complex	3	Benchmark	
AFSC	NPFMC	Gulf of Alaska Other Shallow Water Flatfish Complex	3	Benchmark	
AFSC	NPFMC	Gulf of Alaska Sculpin Complex	3	Benchmark	
AFSC	NPFMC	Gulf of Alaska Shark Complex	1	Benchmark	
AFSC	NPFMC	Gulf of Alaska - Big skate	3	Full Update	These three assessments are included one Gulf of Alaska Skate Asmt Chapter in the SAFE
AFSC	NPFMC	Gulf of Alaska - Longnose skate	3	Full Update	
AFSC	NPFMC	Gulf of Alaska Other Skate Complex	3	Full Update	
AFSC	NPFMC	Gulf of Alaska Squid Complex	1	Full Update	
AFSC	NPFMC	Kamchatka flounder - Bering Sea / Aleutian Islands	4	Partial Update	
AFSC	NPFMC	Pacific cod - Aleutian Islands	3	Full Update	
AFSC	NPFMC	Shortraker rockfish - Bering Sea / Aleutian Islands	3	Partial Update	
AFSC	NPFMC	Shortraker rockfish - Gulf of Alaska	3	Benchmark	
AFSC	NPFMC	Walleye pollock - Bogoslof	3	Benchmark	
AFSC	NPFMC	Walleye pollock - Southeast Gulf of Alaska	3	Full Update	
SEFSC	HMS	Bigeye tuna - Atlantic	3	Benchmark	

Completed Assessments for Non-FSSI Stocks - FY2016 Quarter 2 (January - March, 2016)

Science Center(s) ¹	Jurisdiction ²	Stock	Asmt Level ³	Asmt Type	Notes on Assessment
NW/SW	PFMC	Chinook salmon - California Central Valley: Sacramento (spring)	1	Full Update	

National Marine Fisheries Service
Updated FY2016 Quarter 2

Completed Assessments for Non-FSSI Stocks - FY2016 Quarter 2 (January - March, 2016)

Science Center(s) ¹	Jurisdiction ²	Stock	Asmt Level ³	Asmt Type	Notes on Assessment
NW/SW	PFMC	Chinook salmon - California Central Valley: Sacramento (winter)	4	Full Update	
NW/SW	PFMC	Chinook salmon - Columbia River Basin: Lower River Hatchery (fall)	4	Full Update	

National Marine Fisheries Service
Updated FY2016 Quarter 2

Appendix C. Planned assessments for FSSI and non-FSSI stocks in FY2016 by quarter. Information is best available provided by NOAA Fisheries Science Centers and subject to change.

Planned Assessments for FSSI and Non-FSSI Stocks - FY2016 Quarter 3 (April - June, 2016)

Science Center(s) ¹	Jurisdiction ²	FSSI / Non-FSSI ³	Stock	Asmt Level ⁴	Planned Asmt Type	Notes
AFSC	NPFMC	FSSI	Golden king crab - Aleutian Islands	1	Full Update	Asmt conducted annually
AFSC	NPFMC	Non-FSSI	Golden king crab - Pribilof Islands	1	Full Update	Asmt conducted annually
AFSC	NPFMC	Non-FSSI	Red king crab - Western Aleutian Islands	1	Full Update	Asmt conducted annually
AFSC	NPFMC	Non-FSSI	Weathervane scallop - Alaska	1	Full Update	
NEFSC	MAFMC	FSSI	Atlantic mackerel - Gulf of Maine / Cape Hatteras	1	Indicator Analysis	
NEFSC	NEFMC	Non-FSSI	Atlantic salmon - Gulf of Maine	3	Full Update	Asmt conducted through ICES and AS committee
SEFSC	GMFMC	FSSI	Vermilion snapper - Gulf of Mexico	4	Full Update	Delayed from Q2
SEFSC	SAFMC	FSSI	Gray triggerfish - Southern Atlantic Coast	3 or 4	Benchmark	Delayed from FY2015
SEFSC	SAFMC	FSSI	Red snapper - Southern Atlantic Coast	3 or 4	Benchmark	Delayed from FY2015
SEFSC	SAFMC	FSSI	Tilefish - Southern Atlantic Coast	3 or 4	Full Update	
SEFSC	SAFMC / GMFMC	Non-FSSI	Goliath grouper - Southern Atlantic Coast / Gulf of Mexico	3	Benchmark	Asmt led by FI
SW/PI	PFMC / WPFMC	INT	Bigeye tuna - Eastern Pacific	4	Benchmark	IATTC asmt
SW/PI	PFMC / WPFMC	INT	Skipjack tuna - Eastern Pacific	1	Indicator Analysis	IATTC asmt
SW/PI	PFMC / WPFMC	INT	Striped marlin - Eastern Pacific	4	TBD	IATTC is lead
SW/PI	PFMC / WPFMC	INT	Yellowfin tuna - Eastern Pacific	4	Benchmark	IATTC asmt
SWFSC	PFMC	FSSI	Pacific sardine - Pacific Coast	5	Full Update	

Planned Assessments for FSSI and Non-FSSI Stocks - FY2016 Quarter 4 (July - September, 2016)

Science Center(s) ¹	Jurisdiction ²	FSSI / Non-FSSI ³	Stock	Planned Asmt Level ⁴	Planned Asmt Type	Notes
AFSC	NPFMC	Non-FSSI	Chinook salmon - Eastern North Pacific Far North Migrating	4	Full Update	
AFSC	NPFMC	Non-FSSI	Coho salmon - Auke Creek	4	Full Update	
AFSC	NPFMC	Non-FSSI	Coho salmon - Berners River	4	Full Update	
AFSC	NPFMC	Non-FSSI	Coho salmon - Ford Arm Lake	4	Full Update	
AFSC	NPFMC	Non-FSSI	Coho salmon - Hugh Smith Lake	4	Full Update	
NEFSC	MAFMC	FSSI	Atlantic surfclam - Mid-Atlantic Coast	4	Benchmark	

National Marine Fisheries Service
Updated FY2016 Quarter 2

Planned Assessments for FSSI and Non-FSSI Stocks - FY2016 Quarter 4 (July - September, 2016)

Science Center(s) ¹	Jurisdiction ²	FSSI / Non-FSSI ³	Stock	Planned Asmt Level ⁴	Planned Asmt Type	Notes
NEFSC	MAFMC	FSSI	Black sea bass - Mid-Atlantic Coast	1	Indicator analysis	
NEFSC	MAFMC	FSSI	Bluefish - Mid-Atlantic Coast	1	Indicator analysis	
NEFSC	MAFMC	FSSI	Butterfish - Gulf of Maine / Cape Hatteras	1	Indicator analysis	
NEFSC	MAFMC	FSSI	Longfin inshore squid - Georges Bank / Cape Hatteras	1	Indicator analysis	
NEFSC	MAFMC	FSSI	Northern shortfin squid - Northwestern Atlantic Coast	1	Indicator analysis	
NEFSC	MAFMC	FSSI	Scup - Atlantic Coast	1	Indicator analysis	
NEFSC	MAFMC	FSSI	Summer flounder - Mid-Atlantic Coast	4	Full Update	
NEFSC	NEFMC	FSSI	Atlantic cod - Eastern Georges Bank	4	Full Update	Reviewed through the TRAC process
NEFSC	NEFMC	FSSI	Barndoor skate - Georges Bank / Southern New England	1	Full Update	
NEFSC	NEFMC	FSSI	Cleargnose skate - Southern New England / Mid-Atlantic	1	Full Update	
NEFSC	NEFMC	FSSI	Haddock - Eastern Georges Bank	4	Partial Update	Reviewed through the TRAC process
NEFSC	NEFMC	FSSI	Little skate - Georges Bank / Southern New England	1	Full Update	
NEFSC	NEFMC	FSSI	Rosette skate - Southern New England / Mid-Atlantic	1	Full Update	
NEFSC	NEFMC	FSSI	Sea scallop - Northwestern Atlantic Coast	4	Partial Update	
NEFSC	NEFMC	FSSI	Smooth skate - Gulf of Maine	1	Full Update	
NEFSC	NEFMC	FSSI	Thorny skate - Gulf of Maine	1	Full Update	
NEFSC	NEFMC	FSSI	Winter skate - Georges Bank / Southern New England	1	Full Update	
NEFSC	NEFMC	FSSI	Yellowtail flounder - Georges Bank	1	Indicator Analysis	Reviewed through the TRAC process
NEFSC	NEFMC / MAFMC	FSSI	Goosefish - Gulf of Maine / Northern Georges Bank	1	Indicator Analysis	Assessment planned as benchmark
NEFSC	NEFMC / MAFMC	FSSI	Goosefish - Southern Georges Bank / Mid-Atlantic	1	Indicator Analysis	Assessment planned as benchmark
NEFSC	NEFMC / MAFMC	FSSI	Spiny dogfish - Atlantic Coast	1	Indicator Analysis	
PIFSC	WPFMC	Non-FSSI	Acanthurus blochii (Ringtail surgeonfish)	2	New	Coral reef fish stock data poor assessment; delayed from Q1

National Marine Fisheries Service
Updated FY2016 Quarter 2

Planned Assessments for FSSI and Non-FSSI Stocks - FY2016 Quarter 4 (July - September, 2016)

Science Center(s) ¹	Jurisdiction ²	FSSI / Non-FSSI ³	Stock	Planned Asmt Level ⁴	Planned Asmt Type	Notes
PIFSC	WPFMC	Non-FSSI	Acanthurus dussumieri (Eyestripe surgeonfish)	2	New	Coral reef fish stock data poor assessment; delayed from Q1
PIFSC	WPFMC	Non-FSSI	Aprion virescens: Green jobfish (Blue-gray snapper)- Main Hawaiian Islands	2	New	Coral reef fish stock data poor assessment; delayed from Q1
PIFSC	WPFMC	INT	Blue marlin - Pacific	4	Full Update	ISC is lead for asmt.
PIFSC	WPFMC	Non-FSSI	Caranx ignobilis - Main Hawaiian Islands Jack	2	New	Coral reef fish stock data poor assessment; delayed from Q1
PIFSC	WPFMC	Non-FSSI	Caranx melampygus - Main Hawaiian Islands Jack	2	New	Coral reef fish stock data poor assessment; delayed from Q1
PIFSC	WPFMC	Non-FSSI	Cephalopholis argus - Peacock hind - Main Hawaiian Islands	2	New	Coral reef fish stock data poor assessment; delayed from Q1
PIFSC	WPFMC	Non-FSSI	Chlorurus spilurus	2	New	Coral reef fish stock data poor assessment; delayed from Q1
PIFSC	WPFMC	Non-FSSI	Mulloidichthys flavolineatus	2	New	Coral reef fish stock data poor assessment; delayed from Q1
PIFSC	WPFMC	Non-FSSI	Mulloidichthys vanicolensis - Main Hawaiian Islands	2	New	Coral reef fish stock data poor assessment; delayed from Q1
PIFSC	WPFMC	Non-FSSI	Myripristis berndti	2	New	Coral reef fish stock data poor assessment; delayed from Q1
PIFSC	WPFMC	Non-FSSI	Naso brevirostris	2	New	Coral reef fish stock data poor assessment; delayed from Q1

National Marine Fisheries Service
Updated FY2016 Quarter 2

Planned Assessments for FSSI and Non-FSSI Stocks - FY2016 Quarter 4 (July - September, 2016)

Science Center(s) ¹	Jurisdiction ²	FSSI / Non-FSSI ³	Stock	Planned Asmt Level ⁴	Planned Asmt Type	Notes
PIFSC	WPFMC	Non-FSSI	Naso hexacanthus	2	New	Coral reef fish stock data poor assessment; delayed from Q1
PIFSC	WPFMC	Non-FSSI	Naso lituratus	2	New	Coral reef fish stock data poor assessment; delayed from Q1
PIFSC	WPFMC	Non-FSSI	Naso unicornis	2	New	Coral reef fish stock data poor assessment; delayed from Q1
PIFSC	WPFMC	Non-FSSI	Parupeneus porphyreus -Main Hawaiian Islands	2	New	Coral reef fish stock data poor assessment; delayed from Q1
PIFSC	WPFMC	Non-FSSI	Scarus psittacus	2	New	Coral reef fish stock data poor assessment; delayed from Q1
PIFSC	WPFMC	Non-FSSI	Scarus rubroviolaceus	2	New	Coral reef fish stock data poor assessment; delayed from Q1
PIFSC	WPFMC	Non-FSSI	Seriola dumerili	2	New	Coral reef fish stock data poor assessment; delayed from Q1
SEFSC	CFMC	FSSI	Caribbean spiny lobster - St Croix	2	Benchmark	
SEFSC	CFMC	FSSI	Caribbean spiny lobster - St Thomas	2	Benchmark	
SEFSC	CFMC	FSSI	Caribbean Parrotfishes Complex (spotlight parrotfish -- St. Croix)	2	Benchmark	
SEFSC	CFMC	FSSI	Caribbean snappers (yellowtail snapper - Puerto Rico)	2	Benchmark	
SEFSC	CFMC	FSSI	St. Thomas/St. John Triggerfishes and Filefishes Complex (St. Thomas / St. John Queen Triggerfish)	2	New	
SEFSC	CFMC	Non-FSSI	Puerto Rico Wrasses Complex (Hogfish -Puerto Rico)	2	New	
SEFSC	HMS	FSSI	Dusky shark - Atlantic and Gulf of Mexico	4	Full Update	
SW/PI	PFMC / WPFMC	INT	Pacific bluefin tuna - Pacific	4	Benchmark	ISC asmt

Footnotes

¹ NOAA Fisheries Science Centers include Alaska Fisheries Science Center (AFSC), Northeast Fisheries Science Center (NEFSC), Northwest Fisheries Science Center (NWFS), Pacific Islands Fisheries Science Center (PIFSC), Southeast Fisheries Science Center (SEFSC) and Southwest Fisheries Science Center (SWFSC). In some cases, assessments are conducted by multiple science centers (e.g. NW/SW and SW/PI).

² Jurisdictions include Caribbean Fishery Management Council (CFMC), Gulf of Mexico Fishery Management Council (GMFMC), Atlantic Highly Migratory Species Division (HMS), Mid-Atlantic Fishery Management Council (MAFMC), New England Fishery Management Council (NEFMC), North Pacific Fishery Management Council (NPFMC), Pacific Fishery Management Council (PFMC), South Atlantic Fishery Management Council (SAFMC) and Western Pacific Fishery Management Council (WPFMC).

³ FSSI refers to federally managed stocks and stock complexes included on the Fish Stock Sustainability Index. Non-FSSI refers to federally managed stocks and stock complexes not included on the Fish Stock Sustainability Index. INT refers to international stocks.

⁴ Level of complexity of assessment methods used for the particular stock. Generally reflects the availability of data and the value or importance of the fishery. Levels are described in the Stock Assessment Improvement Plan (<http://www.st.nmfs.noaa.gov/StockAssessment/index.html>). A negative level indicates that an assessment was attempted at that level of complexity, but the effort was not accepted in its technical review.

Appendix D. Assessment status for FSSI stocks and stock complexes at the end of Q2 FY2016. Changes in assessment information relative to the previous fish assessment quarterly report are highlighted with red text. For more information, please see the Species Information System Public Portal at www.st.nmfs.noaa.gov/sisPortal/.

Science Center(s) ¹	Jurisdiction ²	Stock	Last Assessment				Assessment Notes
			Year	Level ³	Type	Adequate?	
AFSC	NPFMC	Alaska plaice - Bering Sea / Aleutian Islands	2015	4	Partial Update	Yes	
AFSC	NPFMC	Arrowtooth flounder - Bering Sea / Aleutian Islands	2015	5	Partial Update	Yes	
AFSC	NPFMC	Arrowtooth flounder - Gulf of Alaska	2015	4	Benchmark	Yes	
AFSC	NPFMC	Atka mackerel - Bering Sea / Aleutian Islands	2015	4	Full Update	Yes	
AFSC	NPFMC	Bering Sea / Aleutian Islands Blackspotted and Roughey Rockfish Complex	2015	4	Partial Update	Yes	
AFSC	NPFMC	Bering Sea / Aleutian Islands Flathead Sole Complex	2015	5	Partial Update	Yes	The assessment is for the Flathead Sole Complex indicator stock, flathead sole.
AFSC	NPFMC	Bering Sea / Aleutian Islands Rock Sole Complex	2015	4	Full Update	Yes	The assessment listed is for the Rock Sole Complex indicator stock, Northern rock sole.
AFSC	NPFMC	Bering Sea / Aleutian Islands Skate Complex	2015	4	Partial Update	Yes	The assessment is for the Bering Sea / Aleutian Islands Skate Complex indicator stock, Alaska skate.
AFSC	NPFMC	Blue king crab - Pribilof Islands	2015	1	Full Update	No	
AFSC	NPFMC	Blue king crab - Saint Matthew Island	2015	4	Full Update	Yes	
AFSC	NPFMC	Dusky rockfish - Gulf of Alaska	2015	4	Benchmark	Yes	
AFSC	NPFMC	Flathead sole - Gulf of Alaska	2015	4	Full Update	Yes	
AFSC	NPFMC	Golden king crab - Aleutian Islands	2015	1	Full Update	No	
AFSC	NPFMC	Greenland halibut - Bering Sea / Aleutian Islands	2015	4	Benchmark	Yes	
AFSC	NPFMC	Gulf of Alaska Blackspotted and Roughey Rockfish Complex	2015	4	Benchmark	Yes	
AFSC	NPFMC	Gulf of Alaska Deepwater Flatfish Complex	2015	4	Partial Update	Yes	The assessment is for Deepwater Flatfish Complex indicator stock, Dover sole.

National Marine Fisheries Service
Updated FY2016 Quarter 2

Science Center(s) ¹	Jurisdiction ²	Stock	Last Assessment				Assessment Notes
			Year	Level ³	Type	Adequate?	
AFSC	NPFMC	Gulf of Alaska Demersal Shelf Rockfish Complex	2015	3	Full Update	Yes	The assessment is for Demersal Shelf Rockfish Complex indicator stock, yelloweye rockfish.
AFSC	NPFMC	Gulf of Alaska Shallow Water Flatfish Complex	2015	4	Partial Update	Yes	The assessment is for Gulf of Alaska Shallow Water Flatfish Complex indicator stocks, rock sole and Northern rock sole.
AFSC	NPFMC	Gulf of Alaska Thornyhead Rockfish Complex	2015	3	Full Update	Yes	The assessment is for the Thornyhead Rockfish Complex indicator stock, shortspine thornyhead.
AFSC	NPFMC	Northern rockfish - Bering Sea / Aleutian Islands	2015	4	Partial Update	Yes	
AFSC	NPFMC	Northern rockfish - Western / Central Gulf of Alaska	2015	4	Benchmark	Yes	
AFSC	NPFMC	Pacific cod - Bering Sea / Aleutian Islands	2015	4	Full Update	Yes	
AFSC	NPFMC	Pacific cod - Gulf of Alaska	2015	4	Benchmark	Yes	
AFSC	NPFMC	Pacific ocean perch - Bering Sea / Aleutian Islands	2015	4	Partial Update	Yes	
AFSC	NPFMC	Pacific ocean perch - Gulf of Alaska	2015	4	Benchmark	Yes	
AFSC	NPFMC	Red king crab - Bristol Bay	2015	4	Full Update	Yes	
AFSC	NPFMC	Red king crab - Norton Sound	2016	4	Full Update	Yes	
AFSC	NPFMC	Red king crab - Pribilof Islands	2015	1	Full Update	No	
AFSC	NPFMC	Rex sole - Gulf of Alaska	2015	4	Benchmark	Yes	
AFSC	NPFMC	Sablefish - Eastern Bering Sea / Aleutian Islands / Gulf of Alaska	2015	4	Full Update	Yes	
AFSC	NPFMC	Snow crab - Bering Sea	2015	4	Full Update	Yes	
AFSC	NPFMC	Southern Tanner crab - Bering Sea	2015	4	Full Update	Yes	
AFSC	NPFMC	Walleye pollock - Aleutian Islands	2015	4	Full Update	Yes	
AFSC	NPFMC	Walleye pollock - Eastern Bering Sea	2015	4	Full Update	Yes	
AFSC	NPFMC	Walleye pollock - Western / Central / West Yakutat Gulf of Alaska	2015	4	Full Update	Yes	
AFSC	NPFMC	Yellowfin sole - Bering Sea / Aleutian Islands	2015	5	Full Update	Yes	

National Marine Fisheries Service
Updated FY2016 Quarter 2

Science Center(s) ¹	Jurisdiction ²	Stock	Last Assessment				Assessment Notes
			Year	Level ³	Type	Adequate?	
NEFSC	MAFMC	Atlantic mackerel - Gulf of Maine / Cape Hatteras	2010	(-4)	Full Update	No	2015 indicator analysis now counted as level one assessment
			2015	1	Indicator Analysis		
NEFSC	MAFMC	Atlantic surfclam - Mid-Atlantic Coast	2013	4	Benchmark	Yes	2015 indicator analysis now counted as level one assessment
			2016	1	Indicator Analysis		
NEFSC	MAFMC	Black sea bass - Mid-Atlantic Coast	2012	4	Full Update	Yes	2015 indicator analysis now counted as level one assessment
			2015	1	Indicator Analysis		
NEFSC	MAFMC	Bluefish - Atlantic Coast	2015	4	Benchmark	Yes	
NEFSC	MAFMC	Butterfish - Gulf of Maine / Cape Hatteras	2014	5	Benchmark	Yes	2015 indicator analysis now counted as level one assessment
			2015	1	Indicator Analysis		
NEFSC	MAFMC	Longfin inshore squid - Georges Bank / Cape Hatteras	2015	1	Indicator Analysis	No	2015 indicator analysis counted as level one assessment
NEFSC	MAFMC	Northern shortfin squid - Northwestern Atlantic Coast	2005	2	Benchmark	No	2015 indicator analysis now counted as level one assessment
			2015	1	Indicator Analysis		
NEFSC	MAFMC	Ocean quahog - Atlantic Coast	2013	4	Full Update	Yes	2015 indicator analysis now counted as level one assessment
			2016	1	Indicator Analysis		
NEFSC	MAFMC	Scup - Atlantic Coast	2015	4	Benchmark	Yes	
NEFSC	MAFMC	Summer flounder - Mid-Atlantic Coast	2015	4	Full Update	Yes	
NEFSC	MAFMC	Tilefish - Mid-Atlantic Coast	2014	4	Benchmark	Yes	2015 indicator analysis now counted as level one assessment
			2016	1	Indicator Analysis		
NEFSC	NEFMC	Acadian redfish - Gulf of Maine / Georges Bank	2015	4	Full Update	Yes	
NEFSC	NEFMC	American plaice - Gulf of Maine / Georges Bank	2015	4	Full Update	Yes	
NEFSC	NEFMC	Atlantic cod - Georges Bank	2015	(-4)	Full Update	See note	Asmts conducted on Eastern Georges Bank substock (4) and Georges Bank (-4). Previous asmt for Georges Bank still considered adequate.
NEFSC	NEFMC	Atlantic cod - Gulf of Maine	2015	4	Full Update	Yes	
NEFSC	NEFMC	Atlantic halibut - Northwestern Atlantic Coast	2015	(-3)	Full Update	See note	Previous asmt for Atlantic halibut still considered adequate.
NEFSC	NEFMC	Atlantic herring - Northwestern Atlantic Coast	2015	5	Full Update	Yes	
NEFSC	NEFMC	Atlantic wolffish - Gulf of Maine / Georges Bank	2012	4	Full Update	Yes	

National Marine Fisheries Service
Updated FY2016 Quarter 2

Science Center(s) ¹	Jurisdiction ²	Stock	Last Assessment				Assessment Notes
			Year	Level ³	Type	Adequate?	
NEFSC	NEFMC	Barndoor skate - Georges Bank / Southern New England	2015	1	Full Update	No	
NEFSC	NEFMC	Clearnose skate - Southern New England / Mid-Atlantic	2015	1	Full Update	No	
NEFSC	NEFMC	Haddock - Georges Bank	2015	4	Full Update	Yes	Asmt conducted on Eastern Georges Bank substock
NEFSC	NEFMC	Haddock - Gulf of Maine	2014	4	Full Update	Yes	
NEFSC	NEFMC	Little skate - Georges Bank / Southern New England	2015	1	Full Update	No	
NEFSC	NEFMC	Ocean pout - Northwestern Atlantic Coast	2015	1	Full Update	No	
NEFSC	NEFMC	Offshore hake - Northwestern Atlantic Coast	2011	-1	Benchmark	No	
NEFSC	NEFMC	Pollock - Gulf of Maine / Georges Bank	2015	4	Full Update	Yes	
NEFSC	NEFMC	Red deepsea crab - Northwestern Atlantic	2008	1	Benchmark	No	
NEFSC	NEFMC	Red hake - Gulf of Maine / Northern Georges Bank	2015	1	Full Update	No	
NEFSC	NEFMC	Red hake - Southern Georges Bank / Mid-Atlantic	2015	1	Full Update	No	
NEFSC	NEFMC	Rosette skate - Southern New England / Mid-Atlantic	2015	1	Full Update	No	
NEFSC	NEFMC	Sea scallop - Northwestern Atlantic Coast	2015	4	Partial Update	Yes	
NEFSC	NEFMC	Silver hake - Gulf of Maine / Northern Georges Bank	2014	1	Full Update	No	
NEFSC	NEFMC	Silver hake - Southern Georges Bank / Mid-Atlantic	2014	1	Full Update	No	
NEFSC	NEFMC	Smooth skate - Gulf of Maine	2015	1	Full Update	No	
NEFSC	NEFMC	Thorny skate - Gulf of Maine	2015	1	Full Update	No	
NEFSC	NEFMC	White hake - Gulf of Maine / Georges Bank	2015	4	Full Update	Yes	
NEFSC	NEFMC	Windowpane - Gulf of Maine / Georges Bank	2015	1	Full Update	No	

National Marine Fisheries Service
Updated FY2016 Quarter 2

Science Center(s) ¹	Jurisdiction ²	Stock	Last Assessment				Assessment Notes
			Year	Level ³	Type	Adequate?	
NEFSC	NEFMC	Windowpane - Southern New England / Mid-Atlantic	2015	1	Full Update	No	
NEFSC	NEFMC	Winter flounder - Georges Bank	2015	4	Full Update	Yes	
NEFSC	NEFMC	Winter flounder - Gulf of Maine	2015	1	Full Update	No	
NEFSC	NEFMC	Winter flounder - Southern New England / Mid-Atlantic	2015	4	Full Update	Yes	
NEFSC	NEFMC	Winter skate - Georges Bank / Southern New England	2015	1	Full Update	No	
NEFSC	NEFMC	Witch flounder - Northwestern Atlantic Coast	2015	4	Full Update	Yes	
NEFSC	NEFMC	Yellowtail flounder - Cape Cod / Gulf of Maine	2015	4	Full Update	Yes	
NEFSC	NEFMC	Yellowtail flounder - Georges Bank	2013	4	Full Update	Yes	2015 indicator analysis now counted as level one assessment
			2015	1	Indicator Analysis		
NEFSC	NEFMC	Yellowtail flounder - Southern New England / Mid-Atlantic	2015	4	Benchmark	Yes	
NEFSC	NEFMC/MAFMC	Goosefish - Gulf of Maine / Northern Georges Bank	2013	4	Full Update	Yes	
NEFSC	NEFMC/MAFMC	Goosefish - Southern Georges Bank / Mid-Atlantic	2013	4	Full Update	Yes	
NEFSC	NEFMC/MAFMC	Spiny dogfish - Atlantic Coast	2014	4	Full Update	Yes	
NWFSC/SWFSC	PFMC	Arrowtooth flounder - Pacific Coast	2015	4	Partial Update	Yes	
NWFSC/SWFSC	PFMC	Black rockfish - Northern Pacific Coast	2015	4	Benchmark	No	Benchmark asmt scheduled for FY15 delayed to Q1FY16
NWFSC/SWFSC	PFMC	Black rockfish - Southern Pacific Coast	2015	4	Benchmark	No	Benchmark asmt scheduled for FY15 delayed to Q1FY16
NWFSC/SWFSC	PFMC	Blackgill rockfish - Southern California	2011	4	Benchmark	Yes	
NWFSC/SWFSC	PFMC	Blue rockfish - California	2007	4	New	No	
NWFSC/SWFSC	PFMC	Bocaccio - Southern Pacific Coast	2015	4	Full Update	Yes	
NWFSC/SWFSC	PFMC	Brown rockfish - Pacific Coast	2013	3	New	Yes	
NWFSC/SWFSC	PFMC	Cabezon - California	2009	4	Benchmark	No	

National Marine Fisheries Service
Updated FY2016 Quarter 2

Science Center(s) ¹	Jurisdiction ²	Stock	Last Assessment				Assessment Notes
			Year	Level ³	Type	Adequate?	
NWFSC/ SWFSC	PFMC	California scorpionfish - Southern California	2015	4	Partial Update	Yes	
NWFSC/ SWFSC	PFMC	Canary rockfish - Pacific Coast	2015	4	Benchmark	Yes	
NWFSC/ SWFSC	PFMC	Chilipepper - Southern Pacific Coast	2015	4	Full Update	Yes	
NWFSC/ SWFSC	PFMC	Chinook salmon - Sacramento River Fall	2016	4	Full Update	Yes	Accidentally Reversed
NWFSC/ SWFSC	PFMC	Chinook salmon - Klamath River Fall	2016	3	Full Update	Yes	Accidentally Reversed
NWFSC/ SWFSC	PFMC	Cowcod - Southern California	2013	3	Benchmark	Yes	
NWFSC/ SWFSC	PFMC	Darkblotched rockfish - Pacific Coast	2015	4	Benchmark	Yes	
NWFSC/ SWFSC	PFMC	Dover sole - Pacific Coast	2011	4	Benchmark	Yes	
NWFSC/ SWFSC	PFMC	English sole - Pacific Coast	2013	3	Benchmark	Yes	
NWFSC/ SWFSC	PFMC	Gopher rockfish - Northern California	2005	4	Full Update	No	
NWFSC/ SWFSC	PFMC	Greenspotted rockfish - Pacific Coast	2011	3	New	Yes	
NWFSC/ SWFSC	PFMC	Greenstriped rockfish - Pacific Coast	2009	4	New	No	
NWFSC/ SWFSC	PFMC	Kelp greenling - Oregon	2015	4	Benchmark	Yes	
NWFSC/ SWFSC	PFMC	Lingcod - Pacific Coast	2009	4	Benchmark	No	
NWFSC/ SWFSC	PFMC	Longnose skate - Pacific Coast	2007	4	Full Update	No	
NWFSC/ SWFSC	PFMC	Longspine thornyhead - Pacific Coast	2013	3	Benchmark	Yes	
NWFSC/ SWFSC	PFMC	Pacific ocean perch - Pacific Coast	2011	4	Benchmark	Yes	
NWFSC/ SWFSC	PFMC	Pacific sanddab - Pacific Coast	2013	4	New	Yes	Partial acceptance -- status determinations only
NWFSC/ SWFSC	PFMC	Petrable sole - Pacific Coast	2015	4	Full Update	Yes	
NWFSC/ SWFSC	PFMC	Rex sole - Pacific Coast	2013	3	Full Update	Yes	
NWFSC/ SWFSC	PFMC	Rougheye rockfish - Pacific Coast	2013	4	Full Update	Yes	
NWFSC/ SWFSC	PFMC	Sablefish - Pacific Coast	2015	4	Full Update	Yes	
NWFSC/ SWFSC	PFMC	Shortbelly rockfish - Pacific Coast	2007	4	New	No	
NWFSC/ SWFSC	PFMC	Shortspine thornyhead - Pacific Coast	2013	3	Benchmark	Yes	
NWFSC/ SWFSC	PFMC	Spiny dogfish - Pacific Coast	2011	4	New	Yes	

National Marine Fisheries Service
Updated FY2016 Quarter 2

Science Center(s) ¹	Jurisdiction ²	Stock	Last Assessment				Assessment Notes
			Year	Level ³	Type	Adequate?	
NWFSC/SWFSC	PFMC	Splitnose rockfish - Pacific Coast	2009	4	New	No	
NWFSC/SWFSC	PFMC	Starry flounder - Pacific Coast	2005	4	New	No	
NWFSC/SWFSC	PFMC	Vermilion rockfish - California	2005	-4	New	No	Rejected -- results too uncertain to be considered adequate
NWFSC/SWFSC	PFMC	Widow rockfish - Pacific Coast	2015	4	Benchmark	Yes	
NWFSC/SWFSC	PFMC	Yelloweye rockfish - Pacific Coast	2015	4	Partial Update	Yes	
NWFSC/SWFSC	PFMC	Yellowtail rockfish - Northern Pacific Coast	2013	3	Benchmark	Yes	
PIFSC	WPFMC	American Samoa Bottomfish Multi-species Complex	2015	3	Full Update	Yes	
PIFSC	WPFMC	Guam Bottomfish Multi-species Complex	2015	3	Full Update	Yes	
PIFSC	WPFMC	Main Hawaiian Islands Deep Bottomfish Multi-species Complex	2015	-3	Benchmark	No	The 2015 assessment was not accepted as the best scientific information available for use by management, however, 2011 assessment is still considered adequate.
PIFSC	WPFMC	Northern Mariana Islands Bottomfish Multi-species Complex	2015	3	Full Update	Yes	
SEFSC	CFMC	Caribbean Groupers	2014	1	Benchmark	No	Assessment of complex component red hind
SEFSC	CFMC	Caribbean Parrotfish Complex	NA			No	
SEFSC	CFMC	Caribbean Snappers	2012	2	New	No	Assessment of complex component silk snapper
SEFSC	CFMC	Caribbean spiny lobster - Puerto Rico	2009	2	New	No	Basin-wide assessment of Caribbean spiny lobster.
SEFSC	CFMC	Caribbean spiny lobster - St. Croix	2009	2	New	No	Basin-wide assessment of Caribbean spiny lobster.
SEFSC	CFMC	Caribbean spiny lobster - St. Thomas/St. John	2009	2	New	No	Basin-wide assessment of Caribbean spiny lobster.
SEFSC	CFMC	Queen conch - Caribbean	2009	2	New	No	
SEFSC	CFMC	Triggerfish and Filefish Complex - Puerto Rico	2013	-1	Benchmark	No	Assessment of queen triggerfish in the Caribbean
SEFSC	CFMC	Triggerfish and Filefish Complex - St. Croix	2013	-1	Benchmark	No	Assessment of queen triggerfish in the Caribbean
SEFSC	CFMC	Triggerfish and Filefish Complex - St. Thomas/St. John	2013	-1	Benchmark	No	Assessment of queen triggerfish in the Caribbean
SEFSC	GMFMC	Brown shrimp - Gulf of Mexico	2015	4	Full Update	Yes	

National Marine Fisheries Service
Updated FY2016 Quarter 2

Science Center(s) ¹	Jurisdiction ²	Stock	Last Assessment				Assessment Notes
			Year	Level ³	Type	Adequate?	
SEFSC	GMFMC	Gag - Gulf of Mexico	2014	4	Benchmark	Yes	
SEFSC	GMFMC	Gray triggerfish - Gulf of Mexico	2015	4	Full Update	Yes	
SEFSC	GMFMC	Greater amberjack - Gulf of Mexico	2014	4	Benchmark	Yes	
SEFSC	GMFMC	Hogfish - Eastern Gulf of Mexico	2014	4	Benchmark	Yes	
SEFSC	GMFMC	Pink shrimp - Gulf of Mexico	2015	4	Full Update	Yes	
SEFSC	GMFMC	Red grouper - Gulf of Mexico	2016	4	Benchmark	No	FY15 asmt delayed until FY16.
SEFSC	GMFMC	Red snapper - Gulf of Mexico	2015	4	Full Update	Yes	
SEFSC	GMFMC	Royal red shrimp - Gulf of Mexico	2015	1	Full Update	No	
SEFSC	GMFMC	Tilefish - Gulf of Mexico	2011	4	Benchmark	Yes	
SEFSC	GMFMC	Vermilion snapper - Gulf of Mexico	2011	4	Full Update	Yes	
SEFSC	GMFMC	White shrimp - Gulf of Mexico	2015	4	Full Update	Yes	
SEFSC	GMFMC	Yellowedge grouper - Gulf of Mexico	2010	4	Benchmark	Yes	
SEFSC	HMS	Atlantic sharpnose shark - Atlantic	2013	4	Full Update	Yes	Partial acceptance -- status determinations only
SEFSC	HMS	Atlantic sharpnose shark - Gulf of Mexico	2013	4	Full Update	Yes	Partial acceptance -- status determinations only
SEFSC	HMS	Blacknose shark - Atlantic	2011	4	Full Update	Yes	
SEFSC	HMS	Blacknose shark - Gulf of Mexico	2011	-4	Full Update	No	Assessment previously counted as adequate
SEFSC	HMS	Blacktip shark - Atlantic	2006	-4	Full Update	No	
SEFSC	HMS	Blacktip shark - Gulf of Mexico	2012	4	Full Update	Yes	
SEFSC	HMS	Blue shark - Atlantic	2015	4	Benchmark	No	
SEFSC	HMS	Bonnethead - Atlantic	2013	-4	Full Update	No	Rejected -- results too uncertain to be considered adequate
SEFSC	HMS	Bonnethead - Gulf of Mexico	2013	-4	Full Update	No	Rejected -- results too uncertain to be considered adequate
SEFSC	HMS	Dusky shark - Atlantic	2011	4	Full Update	Yes	
SEFSC	HMS	Finetooth shark - Atlantic	2007	3	Benchmark	No	
SEFSC	HMS	Porbeagle - Atlantic	2009	4	New	No	Asmt sunset at end of FY15
SEFSC	HMS	Sandbar shark - Atlantic	2011	4	Full Update	Yes	
SEFSC	HMS	Scalloped Hammerhead Complex - Atlantic	2009	3	Unknown	No	Asmt sunset at end of FY15
SEFSC	HMS	Shortfin mako - Atlantic	2012	4	Benchmark	Yes	

National Marine Fisheries Service
Updated FY2016 Quarter 2

Science Center(s) ¹	Jurisdiction ²	Stock	Last Assessment				Assessment Notes
			Year	Level ³	Type	Adequate?	
SEFSC	SAFMC	Black grouper - Southern Atlantic Coast	2010	4	Benchmark	No	Asmt sunset at end of FY15
SEFSC	SAFMC	Black sea bass - Southern Atlantic Coast	2013	4	Full Update	Yes	
SEFSC	SAFMC	Blueline tilefish - Southern Atlantic Coast	2013	4	Benchmark	Yes	
SEFSC	SAFMC	Brown rock shrimp - Southern Atlantic Coast	2015	1	Full Update	No	
SEFSC	SAFMC	Brown shrimp - Southern Atlantic Coast	2015	1	Full Update	No	
SEFSC	SAFMC	Dolphinfish - Southern Atlantic Coast	2000	2	Unknown	No	
SEFSC	SAFMC	Gag - Southern Atlantic Coast	2014	4	Full Update	Yes	
SEFSC	SAFMC	Gray triggerfish - Southern Atlantic Coast	2001	-2	Unknown	No	Benchmark planned for FY2015 rescheduled for Q4FY2016
SEFSC	SAFMC	Greater amberjack - Southern Atlantic Coast	2008	4	Benchmark	No	
SEFSC	SAFMC	Hogfish - Southeast Florida	2014	4	Benchmark	Yes	
SEFSC	SAFMC	Pink shrimp - Southern Atlantic Coast	2014	1	Full Update	No	
SEFSC	SAFMC	Red grouper - Southern Atlantic Coast	2010	4	Benchmark	No	Asmt sunset at end of FY15. Next asmt has been rescheduled for FY2017
SEFSC	SAFMC	Red porgy - Southern Atlantic Coast	2012	4	Full Update	Yes	
SEFSC	SAFMC	Red snapper - Southern Atlantic Coast	2010	4	Benchmark	Yes	Planned FY15 asmt delayed until FY16
SEFSC	SAFMC	Snowy grouper - Southern Atlantic Coast	2014	4	Unknown	Yes	
SEFSC	SAFMC	Speckled hind - Southern Atlantic Coast	2001	2	Unknown	No	
SEFSC	SAFMC	Tilefish - Southern Atlantic Coast	2011	4	Benchmark	Yes	
SEFSC	SAFMC	Vermilion snapper - Southern Atlantic Coast	2012	4	Full Update	Yes	
SEFSC	SAFMC	Warsaw grouper - Southern Atlantic Coast	2001	2	Unknown	No	
SEFSC	SAFMC	White shrimp - Southern Atlantic Coast	2015	1	Full Update	No	

National Marine Fisheries Service
Updated FY2016 Quarter 2

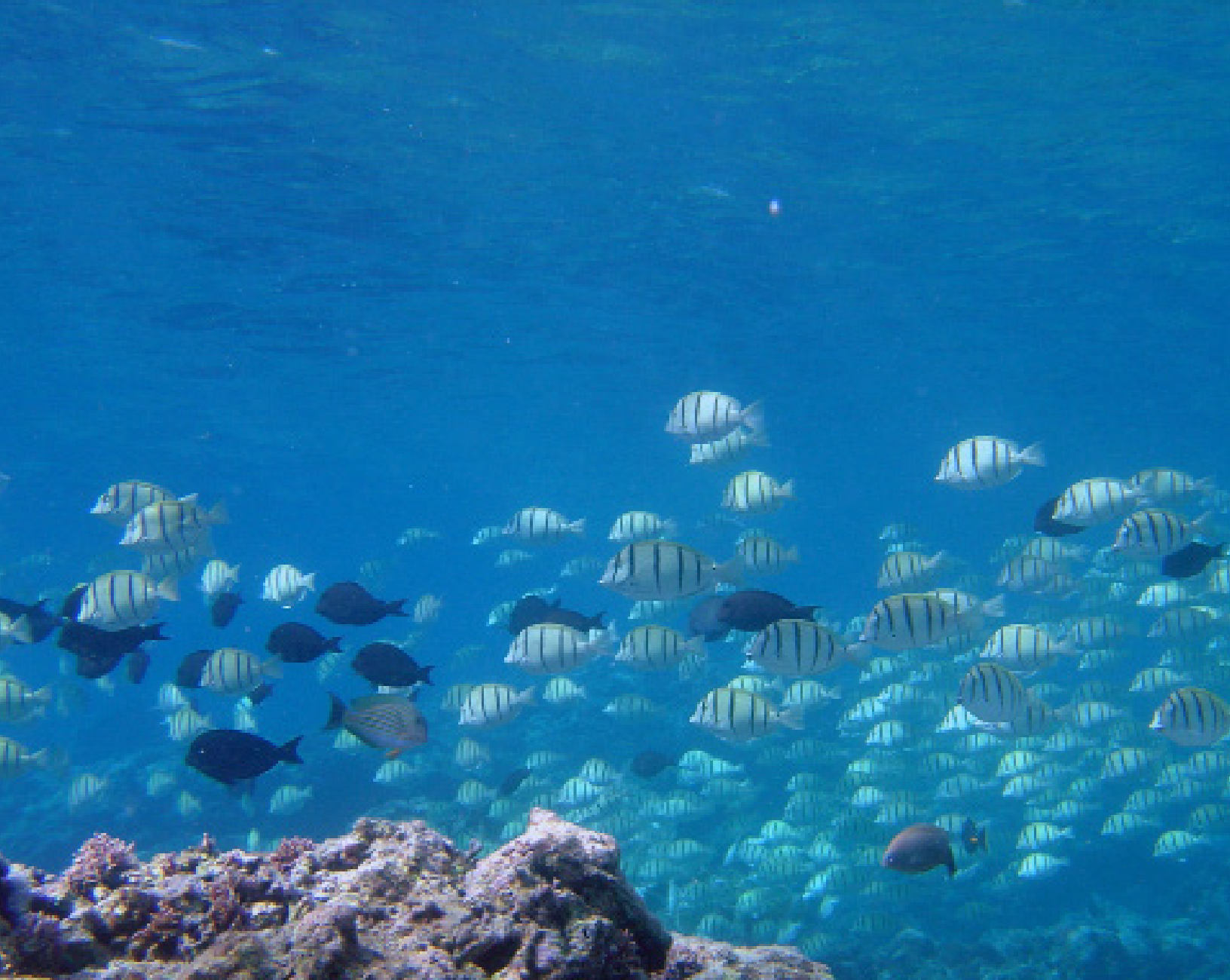
Science Center(s) ¹	Jurisdiction ²	Stock	Last Assessment				Assessment Notes
			Year	Level ³	Type	Adequate?	
SEFSC	SAFMC/ GMFMC	Caribbean spiny lobster - Southern Atlantic Coast / Gulf of Mexico	2010	(-4)	Full Update	No	Rejected -- results too uncertain to be considered adequate
SEFSC	SAFMC/ GMFMC	Cobia - Gulf of Mexico	2013	4	Benchmark	Yes	
SEFSC	SAFMC/ GMFMC	Cobia - Southern Atlantic Coast	2013	4	Benchmark	Yes	
SEFSC	SAFMC/ GMFMC	King mackerel - Gulf of Mexico	2014	4	Benchmark	Yes	
SEFSC	SAFMC/ GMFMC	King mackerel - Southern Atlantic Coast	2014	4	Benchmark	Yes	
SEFSC	SAFMC/ GMFMC	Mutton snapper - Southern Atlantic Coast / Gulf of Mexico	2015	4	Full Update	Yes	
SEFSC	SAFMC/ GMFMC	Spanish mackerel - Gulf of Mexico	2013	4	Benchmark	Yes	
SEFSC	SAFMC/ GMFMC	Spanish mackerel - Southern Atlantic Coast	2013	4	Benchmark	Yes	
SEFSC	SAFMC/ GMFMC	Yellowtail snapper - Southern Atlantic Coast / Gulf of Mexico	2012	4	Benchmark	Yes	
SWFSC	PFMC	Northern anchovy - Southern Pacific Coast	1995	0	Unknown	No	
SWFSC	PFMC	Opalescent inshore squid - Pacific Coast	2006	2	New	No	
SWFSC	PFMC	Pacific chub mackerel - Pacific Coast	2015	4	Benchmark	Yes	
SWFSC	PFMC	Pacific sardine - Pacific Coast	2015	5	Full Update	Yes	

Footnotes

¹ NOAA Fisheries Science Centers include Alaska Fisheries Science Center (AFSC), Northeast Fisheries Science Center (NEFSC), Northwest Fisheries Science Center (NWFSC), Pacific Islands Fisheries Science Center (PIFSC), Southeast Fisheries Science Center (SEFSC) and Southwest Fisheries Science Center (SWFSC). In some cases, assessments are conducted by multiple science centers (e.g. NW/SW and SW/PI).

² Jurisdictions include Caribbean Fishery Management Council (CFMC), Gulf of Mexico Fishery Management Council (GMFMC), Atlantic Highly Migratory Species Division (HMS), Mid-Atlantic Fishery Management Council (MAFMC), New England Fishery Management Council (NEFMC), North Pacific Fishery Management Council (NPFMC), Pacific Fishery Management Council (PFMC), South Atlantic Fishery Management Council (SAFMC) and Western Pacific Fishery Management Council (WPFMC).

³ Level of complexity of assessment methods used for the particular stock. Generally reflects the availability of data and the value or importance of the fishery. Levels are described in the Stock Assessment Improvement Plan <http://www.st.nmfs.noaa.gov/StockAssessment/index.html>). A negative level indicates that an assessment was attempted at that level of complexity, but the effort was not accepted in its technical review.



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