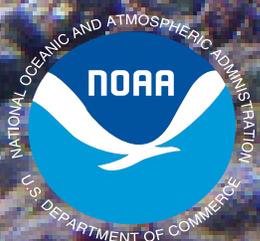


Fish Assessment Report

FY 2018 Quarter 2 Update

2



NOAA
FISHERIES

**Science and
Technology**

Overview

Stock assessments are key to sustainable fisheries management. They provide scientific information to determine the status of fish stocks and to set annual catch limits (ACLs) that prevent overfishing and optimize yield from our Nation’s fisheries. 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.

NOAA Fisheries works with state and federal partners in each management area to conduct 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, stock status, data availability, and assessment capacity. U.S. fish stocks are divided into two general categories for developing national reports. The most commercially and recreationally important domestic stocks are tracked as components of the Fish Stock Sustainability Index (FSSI). These 199 stocks are collectively referred to as ‘FSSI stocks’ and account for 85 percent of total fisheries catch. NOAA Fisheries strives to maintain adequate assessments for all FSSI stocks (see page 7 for a definition of adequate) and anticipates completing 90 assessments of FSSI stocks in FY 2018 in pursuit of this goal. Although we forecast a dip in the percentage of stocks with adequate assessments in FY 2018 (Figure 1), as more regions get into a rhythm of operational assessments according to a prioritized schedule, we expect slow improvement over coming years

There are 275 additional non-FSSI stocks and stock complexes under federal management. While there is often a priority for assessing FSSI stocks, stock status and ACLs must be set for non-FSSI stocks as well. In FY 2018 NOAA Fisheries anticipates completing 117 assessments of non-FSSI stocks, complexes, or stock complex members.

NOAA Fisheries Assessment Trends for FSSI Stocks

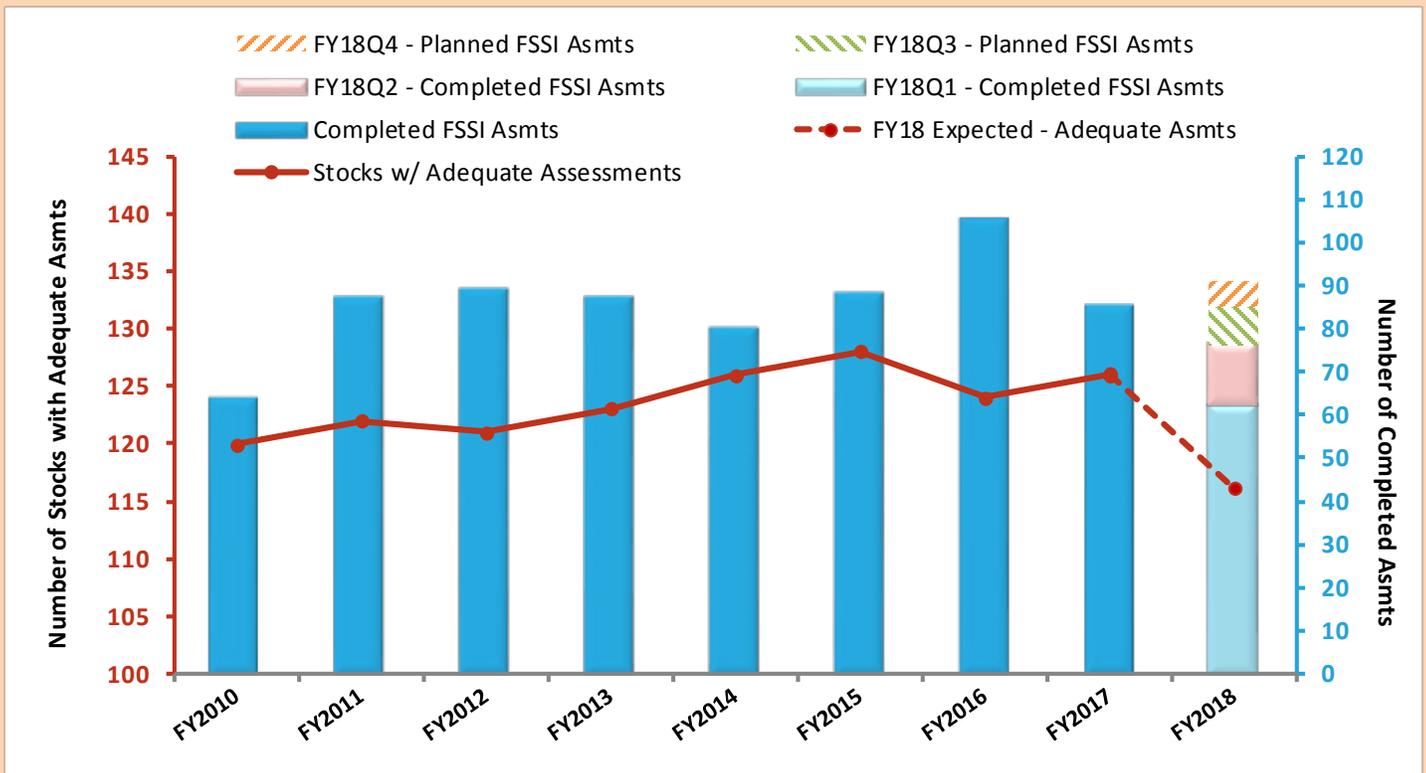


Figure 1: Recent and projected assessment activity for federally managed stocks in the Fish Stock Sustainability Index (FSSI). At the end of Quarter 2 of FY 2018, 127 of 199 (63.8 percent) FSSI stocks had adequate assessments. This is projected to decrease to 116 of 199 (58.3 percent) at the end of FY 2018 due to the sunset of 13 assessments.

Completed and Planned Assessments

During Quarter 2, 77 stocks were assessed, including 14 FSSI and 63 non-FSSI stocks

The majority of this quarter's stock assessment activity occurred within the West Coast Region. The region completed 65 stock assessments during Quarter 2. That work predominately focused upon West Coast salmon stocks, as the region completed 64 stock assessments of salmon stocks. Of those stocks, two were FSSI stocks and 62 were non-FSSI stocks. The other stock assessment completed in the West Coast Region was of Pacific hake off the Pacific Coast.

The Southeast Region completed nine stock assessments this quarter, all of FSSI stocks. Eight of those assessments were of shrimp stocks in the Gulf of Mexico and South Atlantic. The other stock assessment was of sandbar shark in the Atlantic and Gulf of Mexico. Two additional stock assessments were slated for completion in Quarter 2 but encountered delays. The assessment of red snapper in the Gulf of Mexico was delayed to Quarter 3 due to delays encountered during the assessment review process. The assessment of black grouper off the Atlantic Coast and in the Gulf of Mexico was delayed indefinitely due to uncertainty issues encountered in the data used to inform the assessment (Appendix C).

The West Pacific Region completed two stock assessments during Quarter 2. On its original schedule, the region anticipated completing a stock assessment for only the Deep 7 Bottomfish Complex off the Main Hawaiian Islands. In the process of that assessment however, stock assessment scientists at the Pacific Islands Fisheries Science Center developed a separate, species-specific stock assessment for the dominant species in that complex: opakapaka (crimson jobfish, *Pristipomoides filamentosus*).

The Alaska Region completed a stock assessment of red king crab in Norton Sound, an FSSI stock, during Quarter 2. That was the only assessment planned for Quarter 2. One accounting change altered the Alaska Region's count of assessments for Quarter 1. The assessment of the Other Rockfish Complex in the Gulf of Alaska was initially expected as a level 1 assessment, but was

completed at level 0. Level 0 assessments are not considered stock assessments, thus, it was removed from the Quarter 1 count of stock assessments for non-FSSI stocks in the Alaska Region (Table 1, Appendix B).

The Northeast Region did not complete any stock assessments during Quarter 2. One accounting change altered the region's final tally of assessments completed in Quarter 1, however. The stock assessment of Atlantic halibut off the Northwestern Atlantic Coast, was omitted from the Quarter 1 count of completed stock assessments. Its addition raised the count of FSSI stock assessments completed in the Northeast Region by one (Table 1, Appendix A).

This report's appendices provide detailed information on the assessments completed in FY 2018 and planned for the remainder of the year. Appendix A lists FSSI stock assessments completed to-date in FY 2018. Appendix B lists non-FSSI stock assessments completed to-date in FY 2018. Appendix C provides a list of the assessments planned for FSSI and non-FSSI stocks in Quarters 3 and 4 of FY 2018. Appendix D lists the adequacy status and most recent assessment of all FSSI stocks. These appendices provide the best information available at the time of reporting and are subject to change. Changes, other than those related to assessment completion, are shown in bold red text.

Many stock assessments rely on data collected by NOAA's scientific surveys of fish stocks. NOAA Fisheries completed six scientific surveys of fish stocks during Quarter 2 (Table 2).¹ All surveys completed during Quarter 2 were based on NOAA vessels. The total number of surveys planned for FY 2018 is 55.

For more information on NOAA Fisheries' stock assessments, please visit the NOAA Fisheries' National Stock Assessment Program website.²

1 <https://www.st.nmfs.noaa.gov/st4/ifso/faq.html>

2 <https://www.fisheries.noaa.gov/topic/population-assessments>

Completed Assessments and Surveys

Table 1. FY 2018 Completed Assessments

Region	Quarter 1		Quarter 2		Quarter 3*		Quarter 4*		Quarter 2 Highlights
	FSSI	Non - FSSI	FSSI	Non - FSSI	FSSI	Non - FSSI	FSSI	Non - FSSI	
Northeast	23	0	0	0	1	0	5	0	No assessments planned
Southeast	2	2	9	0	4	1	1	0	Sandbar shark in the Atlantic and Gulf of Mexico and eight shrimp stocks
West Coast ¹	3	1	2	63	1	0	0	5	West Coast salmon annual stock assessments and Pacific hake off the Pacific Coast
West Pacific ²	0	2	2	0	0	21	0	0	Main Hawaiian Islands Deep 7 Bottomfish and an assessment of complex member opakapaka
Alaska	34	17	1	0	2	1	0	4	Red king crab in Norton Sound
TOTAL	62	22	14	63	8	23	6	9	FY 2018 total to date / anticipated: 161 / 207

Table 2. FY 2018 Completed Surveys

Region	Quarter 1		Quarter 2		Quarter 3*		Quarter 4*		Quarter 2 Highlights
	NOAA	Charter	NOAA	Charter	NOAA	Charter	NOAA	Charter	
Northeast	2	0	1	0	3	1	3	3	Spring bottom trawl
Southeast	1	0	0	0	2	0	4	1	None planned
West Coast ¹	0	2	3	0	2	1	5	4	Pacific Coast Rockfish, NCC Ecosystem Forecasting, NCC Pelagic Ecosystem
West Pacific ²	1	0	0	0	1	0	1	0	None planned
Alaska	0	0	2	0	2	0	2	6	Walleye Pollock Bering Sea (Bogoslof) Pre-spawning, Walleye Pollock Shumagin / Sanak (GOA) Pre-spawning
TOTAL	4	2	6	0	10	2	15	14	FY 2018 total to date / anticipated: 12 / 55

Footnotes:

¹ The west coast region includes assessments conducted by the northwest and southwest Fisheries Science Centers and by international commissions for the eastern Pacific Ocean in which those centers participate. This includes Pacific coast groundfish, Pacific coast salmon, and highly migratory species.

² The west Pacific region includes assessments conducted by the Pacific Islands Fisheries Science Center and international commissions for the U.S. west coast fisheries for highly migratory species and Pacific pelagic fisheries of the Western Pacific Regional Ecosystem.

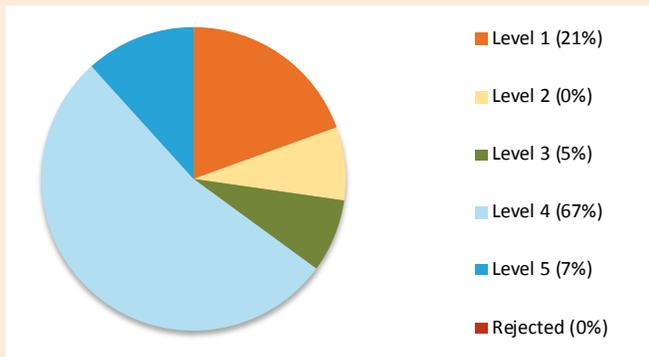
* Denotes planned assessments and surveys.

Model Complexity and Assessment Type

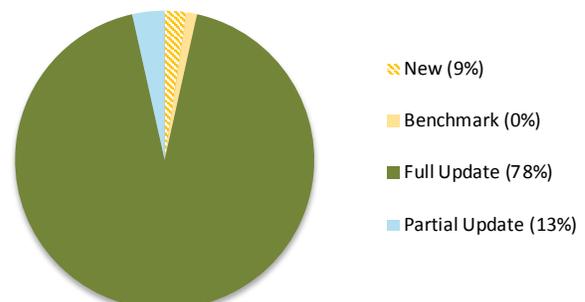
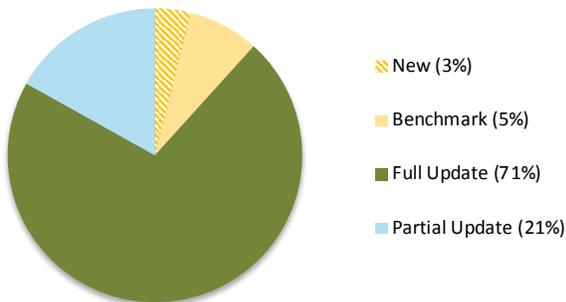
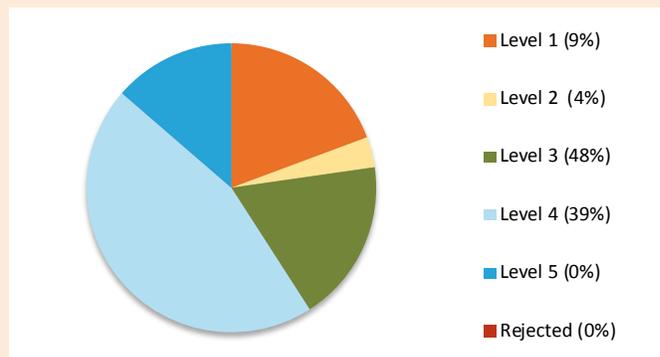
In Quarter 2 of FY 2018, 14 FSSI stocks were assessed. One was a new assessment, one was a benchmark, and 12 were full updates. Of those, eight provide the full suite of advice and are considered adequate (level 3 or higher). Non-FSSI stock assessments were completed for 63 stocks, 48 were completed at level three or higher (“adequacy” is reported only for FSSI stocks). Index-based and simple life history approaches (level 1 and 2) were used in the assessment of six FSSI stocks and 17 non-FSSI stocks. These assessments provide important science-based advice for the management of data-limited stocks but fall below the “adequate” threshold. The level and type of all assessments completed in FY 2018 are displayed in the figures below.

Assessment Levels and Assessment Types for Assessments Completed in FY 2018

FSSI Stocks



Non-FSSI Stocks



Assessment Level	Description
0	No assessment model used, e.g. average recent or historical catch (not considered stock assessments)
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 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 survey data and minor revisions to the assessment model
Partial Update	Assessments that used the latest catch estimates to advance the previous projections by one or more years to develop catch advice

* Data updates are updates of survey indices and catch time series that are tracked for record-keeping purposes, but do not constitute stock assessments.

Quarterly Highlight: The 13th National Stock Assessment Workshop

NOAA Fisheries held its 13th National Stock Assessment Workshop (NSAW) from May 22 – May 24, 2018, at the National Academy of Sciences’ Beckman Center in Irvine, California. NOAA Fisheries holds these workshops to address important, topical, stock assessment-related themes germane to NOAA Fisheries. The NSAWs

also provide a forum for interaction and collaboration among NOAA Fisheries scientists, particularly those who participate in the stock assessment processes around the nation. The overall theme of the 13th NSAW was model stability, model complexity, and ensemble modeling. Throughout the workshop participants heard

presentations from a diverse group of subject matter experts and worked in groups with the goal of identifying good practices for these emerging aspects of the fisheries stock assessment process.

The first half of NSAW focused on the benefits and costs associated with increasingly complex fisheries stock assessment models. These complex models consider a broader range of factors to provide a better approximation of reality; however, their use comes with tradeoffs. Complex models, relative to more simplistic ones, may require additional resource commitments, and can inherently be more complicated to communicate to stakeholders and fishery managers. At NSAW, attendees participated in discussions focused on model structural issues, the ‘optimum’ level of model complexity, and the development of good practices relating to when it is appropriate to add complexity to a stock assessment model.

The second half of NSAW focused on ensemble modeling, an approach commonly used in weather forecast-

ing, for example, where the results of multiple models with alternative plausible hypotheses are combined to generate scientific advice. Most commonly, when stock assessments inform fisheries management decisions, the managers rely upon the output from a single ‘best’ model. This approach can overlook sources



of uncertainty, because structural assumptions made in one model may not capture the range of plausible assumptions. Discussions on this topic ranged from broad discussion on the potential benefits and challenges associated with operationalizing ensemble modeling, to focusing on more specific issues such as how models are selected for inclusion in the ensemble, how results from the ensemble should be combined, and how those results should be communicated to stakeholders and managers.

As with previous NSAWs, NOAA Fisheries will make presentation and poster abstracts, discussion summaries, and workshop recommendations available in a formal proceedings document published as a NOAA Technical Memorandum. That document will provide national strategic advice that cultivates NOAA Fisheries’ growing use of complex and ensemble modeling techniques in the stock assessment process.

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 typically based on models of fish populations that require three primary categories of data inputs: catch, abundance, and biology, although data-limited assessments can be conducted when one or more of these data types are missing. Data inputs must be accurate and timely to ensure the highest quality stock assessments. 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, calculating sustainable harvest rates, and forecasting catch levels 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 a new Stock Assessment Improvement Plan (draft expected by the end of FY 2017).

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?

<https://www.fisheries.noaa.gov/topic/population-assessments/fish-stocks>

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

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

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/>

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Appendix A. Assessment activity for stocks and stock complexes included on the FSSI by quarter for FY2018.

Completed Assessments for FSSI Stocks - FY2018 Quarter 1 (October - December, 2017)						
Science Center(s) ¹	Jurisdiction ²	Stock	Asmt Level ³	Asmt Type ⁴	Adequate	Notes
AFSC	NPFMC	Alaska plaice - Bering Sea / Aleutian Islands	4	Full Update	Y	
AFSC	NPFMC	Arrowtooth flounder - Bering Sea / Aleutian Islands	5	Partial Update	Y	
AFSC	NPFMC	Arrowtooth flounder - Gulf of Alaska	4	Full Update	Y	
AFSC	NPFMC	Atka mackerel - Bering Sea / Aleutian Islands	4	Full Update	Y	
AFSC	NPFMC	Bering Sea / Aleutian Islands Blackspotted and Rougheye Rockfish Complex	4	Partial Update	Y	
AFSC	NPFMC	Flathead sole - Bering Sea / Aleutian Islands	5	Full Update	Y	
AFSC	NPFMC	Northern rock sole - Bering Sea / Aleutian Islands	4	Partial Update	Y	
AFSC	NPFMC	Alaska skate - Bering Sea / Aleutian Islands	4	Partial Update	Y	On initial schedule as non-FSSI
AFSC	NPFMC	Blue king crab - Pribilof Islands	1	Full Update	N	
AFSC	NPFMC	Blue king crab - Saint Matthew Island	4	Full Update	Y	
AFSC	NPFMC	Dusky rockfish - Gulf of Alaska	4	Partial Update	Y	On initial schedule as non-FSSI
AFSC	NPFMC	Flathead sole - Gulf of Alaska	4	Full Update	Y	
AFSC	NPFMC	Greenland halibut - Bering Sea / Aleutian Islands	4	Partial Update	Y	
AFSC	NPFMC	Gulf of Alaska Blackspotted and Rougheye Rockfish Complex	4	Full Update	Y	
AFSC	NPFMC	Dover sole - Gulf of Alaska	4	Partial Update	Y	
AFSC	NPFMC	Yelloweye rockfish - Gulf of Alaska	3	Partial Update	Y	Not on initial schedule
AFSC	NPFMC	Northern rock sole - Gulf of Alaska	4	Full Update	Y	
AFSC	NPFMC	Shortspine thornyhead - Gulf of Alaska	3	Partial Update	Y	Not on initial schedule
AFSC	NPFMC	Northern rockfish - Bering Sea / Aleutian Islands	4	Partial Update	Y	
AFSC	NPFMC	Northern rockfish - Western / Central Gulf of Alaska	4	Partial Update	Y	
AFSC	NPFMC	Pacific cod - Bering Sea	4	Full Update	Y	
AFSC	NPFMC	Pacific cod - Gulf of Alaska	4	Full Update	Y	
AFSC	NPFMC	Pacific ocean perch - Bering Sea / Aleutian Islands	4	Partial Update	Y	
AFSC	NPFMC	Pacific ocean perch - Gulf of Alaska	4	Full Update	Y	

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Completed Assessments for FSSI Stocks - FY2018 Quarter 1 (October - December, 2017)

Science Center(s) ¹	Jurisdiction ²	Stock	Asmt Level ³	Asmt Type ⁴	Adequate	Notes
AFSC	NPFMC	Red king crab - Bristol Bay	4	Full Update	Y	
AFSC	NPFMC	Red king crab - Pribilof Islands	1	Full Update	N	
AFSC	NPFMC	Rex sole - Gulf of Alaska	4	Full Update	Y	
AFSC	NPFMC	Sablefish - Eastern Bering Sea / Aleutian Islands / Gulf of Alaska	5	Full Update	Y	
AFSC	NPFMC	Snow crab - Bering Sea	4	Full Update	Y	
AFSC	NPFMC	Southern Tanner crab - Bering Sea	4	Full Update	Y	
AFSC	NPFMC	Walleye pollock - Aleutian Islands	4	Partial Update	Y	
AFSC	NPFMC	Walleye pollock - Eastern Bering Sea	4	Full Update	Y	
AFSC	NPFMC	Walleye pollock - Western / Central Gulf of Alaska	4	Full Update	Y	
AFSC	NPFMC	Yellowfin sole - Bering Sea / Aleutian Islands	5	Full Update	Y	
NEFMC	NEFMC	Atlantic halibut - Northwestern Atlantic Coast	1	Benchmark	N	Omitted from Q1 report
NEFSC	NEFMC	Acadian redfish - Gulf of Maine / Georges Bank	4	Full Update	Y	
NEFSC	NEFMC	American plaice - Gulf of Maine / Georges Bank	4	Full Update	Y	
NEFSC	NEFMC	Atlantic cod - Georges Bank	4	Full Update	Y	
NEFSC	NEFMC	Atlantic cod - Gulf of Maine	4	Full Update	Y	
NEFSC	NEFMC	Atlantic wolffish - Gulf of Maine / Georges Bank	4	Full Update	Y	
NEFSC	NEFMC	Haddock - Georges Bank	4	Full Update	Y	
NEFSC	NEFMC	Haddock - Gulf of Maine	4	Full Update	Y	
NEFSC	NEFMC	Ocean pout - Northwestern Atlantic Coast	1	Full Update	N	
NEFSC	NEFMC	Pollock - Gulf of Maine / Georges Bank	4	Full Update	Y	
NEFSC	NEFMC	Red hake - Gulf of Maine / Northern Georges Bank	1	Full Update	N	Not on initial schedule
NEFSC	NEFMC	Red hake - Southern Georges Bank / Mid-Atlantic	1	Full Update	N	Not on initial schedule
NEFSC	NEFMC	Silver hake - Gulf of Maine / Northern Georges Bank	1	Full Update	N	Not on initial schedule
NEFSC	NEFMC	Silver hake - Southern Georges Bank / Mid-Atlantic	1	Full Update	N	Not on initial schedule
NEFSC	NEFMC	White hake - Gulf of Maine / Georges Bank	4	Full Update	Y	
NEFSC	NEFMC	Windowpane - Gulf of Maine / Georges Bank	1	Full Update	N	
NEFSC	NEFMC	Windowpane - Southern New England / Mid-Atlantic	1	Full Update	N	
NEFSC	NEFMC	Winter flounder - Georges Bank	4	Full Update	Y	
NEFSC	NEFMC	Winter flounder - Gulf of Maine	1	Full Update	N	

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Completed Assessments for FSSI Stocks - FY2018 Quarter 1 (October - December, 2017)

Science Center(s) ¹	Jurisdiction ²	Stock	Asmt Level ³	Asmt Type ⁴	Adequate	Notes
NEFSC	NEFMC	Winter flounder - Southern New England / Mid-Atlantic	4	Full Update	Y	
NEFSC	NEFMC	Witch flounder - Northwestern Atlantic Coast	1	Full Update	N	
NEFSC	NEFMC	Yellowtail flounder - Cape Cod / Gulf of Maine	4	Full Update	Y	
NEFSC	NEFMC	Yellowtail flounder - Southern New England / Mid-Atlantic	4	Full Update	Y	
NW / SW	PFMC	Pacific ocean perch - Pacific Coast	4	Benchmark	Y	
NW / SW	PFMC	Starry flounder - Northern Pacific Coast	1	New	N	
NW / SW	PFMC	Starry flounder - Southern Pacific Coast	1	New	N	
SEFSC	HMS	Shortfin mako - North Atlantic	4	Benchmark	Y	
SEFSC	SAFMC	Blueline tilefish - Southern Atlantic Coast	4	Benchmark	Y	

Completed Assessments for FSSI Stocks - FY2018 Quarter 2 (January - March, 2018)

Science Center(s) ¹	Jurisdiction ²	Stock	Asmt Level ³	Asmt Type ⁴	Adequate	Notes
AFSC	NPFMC	Red king crab - Norton Sound	4	Full Update	Y	
NW/SW	PFMC	Chinook salmon - California Central Valley: Sacramento (fall)	3	Full Update	Y	
NW/SW	PFMC	Chinook salmon - Northern California Coast: Klamath (fall)	4	Full Update	Y	
PIFSC	WPFMC	Main Hawaiian Islands Deep 7 Bottomfish Multi-species Complex	3	Benchmark	Y	
PIFSC	WPFMC	Opakapaka - Main Hawaiian Islands	3	New	Y	Not on initial schedule
SEFSC	HMS	Sandbar shark - Atlantic and Gulf of Mexico	4	Standard	Y	
SEFSC	GMFMC	Brown shrimp - Gulf of Mexico	4	Full Update	Y	
SEFSC	GMFMC	Pink shrimp - Gulf of Mexico	4	Full Update	Y	
SEFSC	GMFMC	Royal red shrimp - Gulf of Mexico	1	Full Update	N	
SEFSC	GMFMC	White shrimp - Gulf of Mexico	4	Full Update	Y	
SEFSC	SAFMC	Brown rock shrimp - Southern Atlantic Coast	1	Full Update	N	
SEFSC	SAFMC	Brown shrimp - Southern Atlantic Coast	1	Full Update	N	
SEFSC	SAFMC	Pink shrimp - Southern Atlantic Coast	1	Full Update	N	
SEFSC	SAFMC	White shrimp - Southern Atlantic Coast	1	Full Update	N	

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Footnotes

¹NOAA 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).

²Jurisdictions 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).

³Level 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.

⁴Data Updates are not counted as stock assessments.

* Changes in the assessment schedule are indicated by red font.

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Appendix B. Assessment activity for non-FSSI stocks, stock complexes and complex members in FY2018.

Completed Assessments for Non-FSSI Stocks - FY2018 Quarter 1 (October - December, 2017)

Science Center(s) ¹	Jurisdiction ²	Stock	Asmt Level ³	Asmt Type ⁴	Notes on Assessment
AFSC	NPFMC	Coho salmon - Auke Creek	4	Full Update	
AFSC	NPFMC	Coho salmon - Berners River	4	Full Update	
AFSC	NPFMC	Coho salmon - Hugh Smith Lake	4	Full Update	
AFSC	NPFMC	Chinook salmon - Eastern North Pacific Far North Migrating	4	Full Update	
AFSC	NPFMC	Bering Sea / Aleutian Islands Other Skates Complex	3	Partial Update	Not on initial schedule
AFSC	NPFMC	Atka mackerel - Gulf of Alaska	0	Full Update	Level 1 on initial schedule
AFSC	NPFMC	Bering Sea / Aleutian Islands Sculpin Complex	3	Partial Update	
AFSC	NPFMC	Giant octopus - Gulf of Alaska	1	Full Update	
AFSC	NPFMC	Gulf of Alaska Other Rockfish Complex	0	NONE	Reported as level 3 assessment in Q1 in error
AFSC	NPFMC	Gulf of Alaska Sculpin Complex	3	Full Update	
AFSC	NPFMC	Rock sole - Gulf of Alaska	4	Full Update	Not on initial schedule
AFSC	NPFMC	Gulf of Alaska Other Shallow Water Flatfish Complex	3	Full Update	Not on initial schedule
AFSC	NPFMC	Gulf of Alaska Skate Complex	3	Full Update	
AFSC	NPFMC	Big skate - Gulf of Alaska	3	Full Update	Not on initial schedule
AFSC	NPFMC	Gulf of Alaska Squid Complex	0	Full Update	Level 1 on initial schedule
AFSC	NPFMC	Kamchatka flounder - Bering Sea / Aleutian Islands	4	Full Update	
AFSC	NPFMC	Longnose skate - Gulf of Alaska	3	Full Update	Not on initial schedule
AFSC	NPFMC	Pacific cod - Aleutian Islands	3	Full Update	
AFSC	NPFMC	Red king crab - Western Aleutian Islands	0	Full Update	Not on initial schedule
AFSC	NPFMC	Shortraker rockfish - Gulf of Alaska	3	Full Update	
AFSC	NPFMC	Walleye pollock - Southeast Gulf of Alaska	3	Full Update	
NW / SW	PFMC	Cabazon - Washington	1	New	This stock belongs to the Pacific Coast Other Groundfish Complex
PIFSC	HMS	Bigeye tuna - Western and Central Pacific Ocean	4	Full Update	
PIFSC	HMS	Bigeye thresher - Pacific	2	New	On initial schedule for Q2
SEFSC	HMS	Bluefin tuna - Northwest Atlantic	4	Full Update	Not on initial schedule
SEFSC	HMS	Swordfish - North Atlantic	3	Full Update	Not on initial schedule

Completed Assessments for Non-FSSI Stocks - FY2018 Quarter 2 (January - March, 2018)

Science Center(s) ¹	Jurisdiction ²	Stock	Asmt Level ³	Asmt Type ⁴	Notes on Assessment
AFSC	IPHC	Pacific halibut - Pacific Coast / Alaska	4	Full Update	Not counted -- international assessment
NW/SW	PFMC	Pacific hake - Pacific Coast	4	Benchmark	

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Completed Assessments for Non-FSSI Stocks - FY2018 Quarter 2 (January - March, 2018)					
Science Center(s)¹	Jurisdiction²	Stock	Asmt Level³	Asmt Type⁴	Notes on Assessment
NW/SW	PFMC	Chinook salmon - California Central Valley: Sacramento (spring)	1	Full Update	
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	
NW/SW	PFMC	Chinook salmon - Columbia River Basin: Lower River Hatchery (spring)	4	Full Update	
NW/SW	PFMC	Chinook salmon - Columbia River Basin: Mid-River Bright Hatchery (fall)	4	Full Update	
NW/SW	PFMC	Chinook salmon - Columbia River Basin: North Lewis (fall)	4	Full Update	
NW/SW	PFMC	Chinook salmon - Columbia River Basin: Snake (fall)	4	Full Update	
NW/SW	PFMC	Chinook salmon - Columbia River Basin: Snake (spring/summer)	4	Full Update	
NW/SW	PFMC	Chinook salmon - Columbia River Basin: Spring Creek Hatchery (fall)	4	Full Update	
NW/SW	PFMC	Chinook salmon - Columbia River Basin: Upper River (spring)	4	Full Update	
NW/SW	PFMC	Chinook salmon - Columbia River Basin: Upper River (summer)	4	Full Update	
NW/SW	PFMC	Chinook salmon - Columbia River Basin: Upper River Bright (fall)	4	Full Update	
NW/SW	PFMC	Chinook salmon - Columbia River Basin: Upper Willamette (spring)	4	Full Update	
NW/SW	PFMC	Chinook salmon - Northern California Coast: Eel, Mattole, and Mad (fall/spring) (<i>California Coastal</i>)	4	Full Update	
NW/SW	PFMC	Chinook salmon - Oregon Coast: Central and Northern	3	Full Update	
NW/SW	PFMC	Chinook salmon - Oregon Coast: Southern	3	Full Update	
NW/SW	PFMC	Chinook salmon - Puget Sound: Cedar (summer/fall)	4	Full Update	
NW/SW	PFMC	Chinook salmon - Puget Sound: Eastern Strait of Juan de Fuca (summer/fall)	4	Full Update	
NW/SW	PFMC	Chinook salmon - Puget Sound: Green (summer/fall)	4	Full Update	
NW/SW	PFMC	Chinook salmon - Puget Sound: Mid Hood Canal (summer/fall)	1	Full Update	
NW/SW	PFMC	Chinook salmon - Puget Sound: Nisqually (summer/fall)	1	Full Update	
NW/SW	PFMC	Chinook salmon - Puget Sound: Nooksack (spring early)	4	Full Update	

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Completed Assessments for Non-FSSI Stocks - FY2018 Quarter 2 (January - March, 2018)					
Science Center(s)¹	Jurisdiction²	Stock	Asmt Level³	Asmt Type⁴	Notes on Assessment
NW/SW	PFMC	Chinook salmon - Puget Sound: Puyallup (summer/fall)	3	Full Update	
NW/SW	PFMC	Chinook salmon - Puget Sound: Skagit (spring)	3	Full Update	
NW/SW	PFMC	Chinook salmon - Puget Sound: Skagit (summer/fall)	5	Full Update	
NW/SW	PFMC	Chinook salmon - Puget Sound: Skokomish (summer/fall)	1	Full Update	
NW/SW	PFMC	Chinook salmon - Puget Sound: Snohomish (summer/fall)	5	Full Update	
NW/SW	PFMC	Chinook salmon - Puget Sound: Stillaguamish (summer/fall)	5	Full Update	
NW/SW	PFMC	Chinook salmon - Puget Sound: White River (spring)	3	Full Update	
NW/SW	PFMC	Chinook salmon - Washington Coast: Grays Harbor (fall)	1	Full Update	
NW/SW	PFMC	Chinook salmon - Washington Coast: Grays Harbor (spring)	1	Full Update	
NW/SW	PFMC	Chinook salmon - Washington Coast: Hoh (fall)	1	Full Update	
NW/SW	PFMC	Chinook salmon - Washington Coast: Hoh (spring/summer)	1	Full Update	
NW/SW	PFMC	Chinook salmon - Washington Coast: Hoko (summer/fall)	4	Full Update	
NW/SW	PFMC	Chinook salmon - Washington Coast: Queets (fall)	5	Full Update	
NW/SW	PFMC	Chinook salmon - Washington Coast: Queets (spring/summer)	2	Full Update	
NW/SW	PFMC	Chinook salmon - Washington Coast: Quillayute (fall)	2	Full Update	
NW/SW	PFMC	Chinook salmon - Washington Coast: Quillayute (spring/summer)	1	Full Update	
NW/SW	PFMC	Chinook salmon - Washington Coast: Quinault Fall (hatchery)	4	Full Update	
NW/SW	PFMC	Chinook salmon - Washington Coast: Willapa Bay Fall (hatchery)	4	Full Update	
NW/SW	PFMC	Chinook salmon - Washington Coast: Willapa Bay Fall (natural)	4	Full Update	
NW/SW	PFMC	Coho salmon - Oregon Production Index Area: Central California Coast	1	Full Update	
NW/SW	PFMC	Coho salmon - Oregon Production Index Area: Columbia (early hatchery)	4	Full Update	
NW/SW	PFMC	Coho salmon - Oregon Production Index Area: Columbia (late hatchery)	4	Full Update	
NW/SW	PFMC	Coho salmon - Oregon Production Index Area: Columbia (natural)	4	Full Update	

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Completed Assessments for Non-FSSI Stocks - FY2018 Quarter 2 (January - March, 2018)					
Science Center(s)¹	Jurisdiction²	Stock	Asmt Level³	Asmt Type⁴	Notes on Assessment
NW/SW	PFMC	Coho salmon - Oregon Production Index Area: Northern California	1	Full Update	
NW/SW	PFMC	Coho salmon - Oregon Production Index Area: Oregon Coastal (hatchery)	1	Full Update	
NW/SW	PFMC	Coho salmon - Oregon Production Index Area: Oregon Coastal (natural)	5	Full Update	
NW/SW	PFMC	Coho salmon - Puget Sound: Hood Canal	4	Full Update	
NW/SW	PFMC	Coho salmon - Puget Sound: Skagit	5	Full Update	
NW/SW	PFMC	Coho salmon - Puget Sound: Snohomish	4	Full Update	
NW/SW	PFMC	Coho salmon - Puget Sound: South Puget Sound (hatchery)	4	Full Update	
NW/SW	PFMC	Coho salmon - Puget Sound: Stillaguamish	4	Full Update	
NW/SW	PFMC	Coho salmon - Washington Coast: Grays Harbor	5	Full Update	
NW/SW	PFMC	Coho salmon - Washington Coast: Hoh	5	Full Update	
NW/SW	PFMC	Coho salmon - Washington Coast: Queets	5	Full Update	
NW/SW	PFMC	Coho salmon - Washington Coast: Quillayute (fall)	4	Full Update	
NW/SW	PFMC	Coho salmon - Washington Coast: Quillayute (summer)	4	Full Update	
NW/SW	PFMC	Coho salmon - Washington Coast: Quinalt	1	Full Update	
NW/SW	PFMC	Coho salmon - Washington Coast: Strait of Juan de Fuca	5	Full Update	
NW/SW	PFMC	Coho salmon - Washington Coast: Willapa Bay	5	Full Update	
NW/SW	PFMC	Coho salmon - Washington Coast: Willapa Bay (natural)	5	Full Update	

Footnotes

¹NOAA 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).

²Jurisdictions 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).

³Level 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.

⁴Data Updates are not counted as stock assessments.

* Changes in the assessment schedule are indicated by red font.

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Appendix C. Planned assessments for FSSI and non-FSSI stocks for FY 2018. Information is best available provided by NOAA Fisheries Science Centers and subject to change.

Planned Assessments for FSSI and Non-FSSI Stocks - FY 2018 Quarter 3 (April - June, 2018)

Science Center(s) ¹	Jurisdiction ²	FSSI / Non-FSSI ³	Stock	Planned Asmt Level ⁴	Planned Asmt Type ⁵	Notes
AFSC	NPFMC	FSSI	Golden king crab - Eastern Aleutian Islands	4	Full Update	
AFSC	NPFMC	FSSI	Golden king crab - Western Aleutian Islands	4	Full Update	
AFSC	NPFMC	Non - FSSI	Weathervane scallop - Alaska	1	Full Update	
NEFMC	MAFMC	FSSI	Atlantic mackerel - Gulf of Maine / Cape Hatteras	4	Benchmark	Delayed to Quarter 3
PIFSC	WPFMC	Non - FSSI	Guam Coral Reef Ecosystem Multi-species Complex	2	New	Up to 20 individual stocks will be assessed
PIFSC	WPFMC	Non - FSSI	Spanner crab - Main Hawaiian Islands	3	Benchmark	Delayed to Quarter 3
SEFSC	GMFMC	Non - FSSI	Gray snapper - Gulf of Mexico	4	New	
SEFSC	GMFMC	FSSI	Red snapper - Gulf of Mexico	4	Standard	Delayed to Quarter 3
SEFSC	SAFMC	FSSI	Black sea bass - Southern Atlantic Coast	4	Full Update	
SEFSC	SAFMC	FSSI	Hogfish - Southeast Florida	4	Full Update	
SEFSC	SAFMC	FSSI	Vermilion snapper - Southern Atlantic Coast	4	Full Update	
SWFSC	PFMC	FSSI	Pacific sardine - Pacific Coast	4	Full Update	

Planned Assessments for FSSI and Non-FSSI Stocks - FY 2018 Quarter 4 (July - September, 2018)

Science Center(s) ¹	Jurisdiction ²	FSSI / Non-FSSI ³	Stock	Planned Asmt Level ⁴	Planned Asmt Type ⁵	Notes
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 - Hugh Smith Lake	4	Full Update	
AFSC	NPFMC	Non - FSSI	Chinook salmon - Eastern North Pacific Far North Migrating	4	Full Update	
NEFSC	MAFMC	FSSI	Atlantic surfclam - Mid-Atlantic Coast	NA	Data Update	

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Planned Assessments for FSSI and Non-FSSI Stocks - FY 2018 Quarter 4 (July - September, 2018)						
Science Center(s) ¹	Jurisdiction ²	FSSI / Non-FSSI ³	Stock	Planned Asmt Level ⁴	Planned Asmt Type ⁵	Notes
NEFSC	MAFMC	FSSI	Black sea bass - Mid-Atlantic Coast	NA	Data Update	
NEFSC	MAFMC	FSSI	Bluefish - Atlantic Coast	NA	Data Update	
NEFSC	MAFMC	FSSI	Butterfish - Gulf of Maine / Cape Hatteras	NA	Data Update	
NEFSC	MAFMC	FSSI	Longfin inshore squid - Georges Bank / Cape Hatteras	NA	Data Update	
NEFSC	MAFMC	FSSI	Northern shortfin squid - Northwestern Atlantic Coast	NA	Data Update	
NEFSC	MAFMC	FSSI	Ocean quahog - Atlantic Coast	NA	Data Update	
NEFSC	MAFMC	FSSI	Scup - Atlantic Coast	NA	Data Update	
NEFSC	NEFMC	FSSI	Atlantic cod - Eastern Georges bank	4	Full Update	
NEFSC	NEFMC	FSSI	Atlantic herring - Northwestern Atlantic Coast	5	Benchmark	
NEFSC	NEFMC	FSSI	Haddock - Eastern Georges Bank	4	Full Update	
NEFSC	NEFMC	FSSI	Sea scallop - Northwestern Atlantic Coast	4	Benchmark	
NEFSC	NEFMC	FSSI	Yellowtail flounder - Georges Bank	1	Full Update	
NEFSC	NEFMC / MAFMC	FSSI	Spiny dogfish - Atlantic Coast	NA	Data Update	
PIFSC	WPFMC	Non - FSSI	Silky shark - Pacific	4	New	
SEFSC	HMS	FSSI	Blacktip shark - Gulf of Mexico	4	Full Update	
SW/PI	PFMC / WPFMC	Non - FSSI	Pacific bluefin tuna - Pacific	4	Benchmark	
SW/PI	PFMC / WPFMC	Non - FSSI	Shortfin mako - North Pacific	4	Benchmark	
SW/PI	PFMC / WPFMC	Non - FSSI	Swordfish - Eastern Pacific	4	Benchmark	
SW/PI	PFMC / WPFMC	Non - FSSI	Swordfish - Western and Central Pacific	4	Benchmark	
SW/PI	PFMC / WPFMC	Non - FSSI	Yellowfin tuna - Eastern Pacific	4	Full Update	

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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 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.

⁵ Data Updates are not counted as stock assessments.

* Changes in the assessment schedule are indicated by red font.

Appendix D. Assessment status for FSSI stocks and stock complexes at the end of Q1 FY2018. 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
			Fiscal Year	Level ³	Type	Adequate?	
AFSC	NPFMC	Alaska plaice - Bering Sea / Aleutian Islands	2018	4	Full Update	Yes	
AFSC	NPFMC	Arrowtooth flounder - Bering Sea / Aleutian Islands	2018	5	Partial Update	Yes	
AFSC	NPFMC	Arrowtooth flounder - Gulf of Alaska	2018	4	Full Update	Yes	
AFSC	NPFMC	Atka mackerel - Bering Sea / Aleutian Islands	2018	4	Full Update	Yes	
AFSC	NPFMC	Bering Sea / Aleutian Islands Blackspotted and Rougheye Rockfish Complex	2018	4	Partial Update	Yes	
AFSC	NPFMC	Bering Sea / Aleutian Islands Flathead Sole Complex	2018	5	Full Update	Yes	The assessment is for the Flathead Sole Complex indicator stock, flathead sole.
AFSC	NPFMC	Bering Sea / Aleutian Islands Rock Sole Complex	2018	4	Partial Update	Yes	The assessment listed is for the Rock Sole Complex indicator stock, Northern rock sole.
AFSC	NPFMC	Bering Sea / Aleutian Islands Skate Complex	2018	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	2018	1	Full Update	No	
AFSC	NPFMC	Blue king crab - Saint Matthew Island	2018	4	Full Update	Yes	
AFSC	NPFMC	Dusky rockfish - Gulf of Alaska	2018	4	Partial Update	Yes	
AFSC	NPFMC	Flathead sole - Gulf of Alaska	2018	4	Full Update	Yes	
AFSC	NPFMC	Golden king crab - Aleutian Islands	2017	4	Benchmark	Yes	
AFSC	NPFMC	Greenland halibut - Bering Sea / Aleutian Islands	2018	4	Partial Update	Yes	
AFSC	NPFMC	Gulf of Alaska Blackspotted and Rougheye Rockfish Complex	2018	4	Full Update	Yes	
AFSC	NPFMC	Gulf of Alaska Deepwater Flatfish Complex	2018	4	Partial Update	Yes	The assessment is for Deepwater Flatfish Complex indicator stock, Dover sole.

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Science Center(s) ¹	Jurisdiction ²	Stock	Last Assessment				Assessment Notes
			Fiscal Year	Level ³	Type	Adequate?	
AFSC	NPFMC	Gulf of Alaska Demersal Shelf Rockfish Complex	2018	3	Partial Update	Yes	The assessment is for Demersal Shelf Rockfish Complex indicator stock, yelloweye rockfish.
AFSC	NPFMC	Gulf of Alaska Shallow Water Flatfish Complex	2018	4	Full 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	2018	3	Partial Update	Yes	The assessment is for the Thornyhead Rockfish Complex indicator stock, shortspine thornyhead.
AFSC	NPFMC	Northern rockfish - Bering Sea / Aleutian Islands	2018	4	Partial Update	Yes	
AFSC	NPFMC	Northern rockfish - Western / Central Gulf of Alaska	2018	4	Partial Update	Yes	
AFSC	NPFMC	Pacific cod - Bering Sea / Aleutian Islands	2018	4	Full Update	Yes	
AFSC	NPFMC	Pacific cod - Gulf of Alaska	2018	4	Full Update	Yes	
AFSC	NPFMC	Pacific ocean perch - Bering Sea / Aleutian Islands	2018	4	Partial Update	Yes	
AFSC	NPFMC	Pacific ocean perch - Gulf of Alaska	2018	4	Full Update	Yes	
AFSC	NPFMC	Red king crab - Bristol Bay	2018	4	Full Update	Yes	
AFSC	NPFMC	Red king crab - Norton Sound	2018	4	Full Update	Yes	
AFSC	NPFMC	Red king crab - Pribilof Islands	2018	1	Full Update	No	
AFSC	NPFMC	Rex sole - Gulf of Alaska	2018	4	Full Update	Yes	
AFSC	NPFMC	Sablefish - Eastern Bering Sea / Aleutian Islands / Gulf of Alaska	2018	5	Full Update	Yes	
AFSC	NPFMC	Snow crab - Bering Sea	2018	4	Full Update	Yes	
AFSC	NPFMC	Southern Tanner crab - Bering Sea	2018	4	Full Update	Yes	
AFSC	NPFMC	Walleye pollock - Aleutian Islands	2018	4	Partial Update	Yes	
AFSC	NPFMC	Walleye pollock - Eastern Bering Sea	2018	4	Full Update	Yes	
AFSC	NPFMC	Walleye pollock - Western / Central / West Yakutat Gulf of Alaska	2018	4	Full Update	Yes	
AFSC	NPFMC	Yellowfin sole - Bering Sea / Aleutian Islands	2018	5	Full Update	Yes	

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Science Center(s) ¹	Jurisdiction ²	Stock	Last Assessment				Assessment Notes
			Fiscal Year	Level ³	Type	Adequate?	
NEFSC	MAFMC	Atlantic mackerel - Gulf of Maine / Cape Hatteras	2010	(-4)	Full Update	No	
			2016	NA	Data Update		
NEFSC	MAFMC	Atlantic surfclam - Mid-Atlantic Coast	2017	4	Benchmark	Yes	
			2017	NA	Data Update		
NEFSC	MAFMC	Black sea bass - Mid-Atlantic Coast	2017	4	Benchmark	Yes	
			2016	NA	Data Update		
NEFSC	MAFMC	Bluefish - Atlantic Coast	2015	4	Benchmark	Yes	
			2017	NA	Data Update		
NEFSC	MAFMC	Butterfish - Gulf of Maine / Cape Hatteras	2017	5	Full Update	Yes	
			2016	NA	Data Update		
NEFSC	MAFMC	Longfin inshore squid - Georges Bank / Cape Hatteras	2017	1	Full Update	No	
			2016	NA	Data Update		
NEFSC	MAFMC	Northern shortfin squid - Northwestern Atlantic Coast	2005	2	Benchmark	No	
			2017	NA	Data Update		
NEFSC	MAFMC	Ocean quahog - Atlantic Coast	2017	4	Benchmark	Yes	
			2016	NA	Data Update		
NEFSC	MAFMC	Scup - Atlantic Coast	2017	4	Partial Update	Yes	
			2016	NA	Data Update		
NEFSC	MAFMC	Summer flounder - Mid-Atlantic Coast	2016	4	Full Update	Yes	
			2017	NA	Data Update		
NEFSC	MAFMC	Tilefish - Mid-Atlantic Coast	2017	4	Full Update	Yes	
			2016	NA	Data Update		
NEFSC	NEFMC	Acadian redfish - Gulf of Maine / Georges Bank	2018	4	Full Update	Yes	
NEFSC	NEFMC	American plaice - Gulf of Maine / Georges Bank	2018	4	Full Update	Yes	
NEFSC	NEFMC	Atlantic cod - Georges Bank	2018	1	Full Update	Yes	The 2018 assessment of Georges Bank Atlantic Cod was completed at level 1
		Substock: Eastern Georges Bank	2017	4	Full Update		
NEFSC	NEFMC	Atlantic cod - Gulf of Maine	2018	4	Full Update	Yes	
NEFSC	NEFMC	Atlantic halibut - Northwestern Atlantic Coast	2016	-3	Full Update	No	
NEFSC	NEFMC	Atlantic herring - Northwestern Atlantic Coast	2015	5	Full Update	Yes	

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Science Center(s) ¹	Jurisdiction ²	Stock	Last Assessment				Assessment Notes
			Fiscal Year	Level ³	Type	Adequate?	
NEFSC	NEFMC	Atlantic wolffish - Gulf of Maine / Georges Bank	2018	4	Full Update	Yes	
NEFSC	NEFMC	Barndoor skate - Georges Bank / Southern New England	2017	1	Full Update	No	
NEFSC	NEFMC	Clearnose skate - Southern New England / Mid-Atlantic	2017	1	Full Update	No	
NEFSC	NEFMC	Haddock - Georges Bank	2018	4	Full Update	Yes	
		<i>Substock</i> : Eastern Georges Bank	2017	4	Partial Update		
NEFSC	NEFMC	Haddock - Gulf of Maine	2018	4	Full Update	Yes	
NEFSC	NEFMC	Little skate - Georges Bank / Southern New England	2017	1	Full Update	No	
NEFSC	NEFMC	Ocean pout - Northwestern Atlantic Coast	2018	1	Full Update	No	
NEFSC	NEFMC	Offshore hake - Northwestern Atlantic Coast	2011	-1	Benchmark	No	
NEFSC	NEFMC	Pollock - Gulf of Maine / Georges Bank	2018	4	Full Update	Yes	
NEFSC	NEFMC	Red deepsea crab - Northwestern Atlantic	2006	1	Benchmark	No	
NEFSC	NEFMC	Red hake - Gulf of Maine / Northern Georges Bank	2018	1	Full Update	No	
NEFSC	NEFMC	Red hake - Southern Georges Bank / Mid-Atlantic	2018	1	Full Update	No	
NEFSC	NEFMC	Rosette skate - Southern New England / Mid-Atlantic	2017	1	Full Update	No	
NEFSC	NEFMC	Sea scallop - Northwestern Atlantic Coast	2016	4	Partial Update	Yes	No assessment was completed in 2017
NEFSC	NEFMC	Silver hake - Gulf of Maine / Northern Georges Bank	2018	1	Full Update	No	
NEFSC	NEFMC	Silver hake - Southern Georges Bank / Mid-Atlantic	2018	1	Full Update	No	
NEFSC	NEFMC	Smooth skate - Gulf of Maine	2017	1	Full Update	No	
NEFSC	NEFMC	Thorny skate - Gulf of Maine	2017	1	Full Update	No	

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Science Center(s) ¹	Jurisdiction ²	Stock	Last Assessment				Assessment Notes
			Fiscal Year	Level ³	Type	Adequate?	
NEFSC	NEFMC	White hake - Gulf of Maine / Georges Bank	2018	4	Full Update	Yes	
NEFSC	NEFMC	Windowpane - Gulf of Maine / Georges Bank	2018	1	Full Update	No	
NEFSC	NEFMC	Windowpane - Southern New England / Mid-Atlantic	2018	1	Full Update	No	
NEFSC	NEFMC	Winter flounder - Georges Bank	2018	4	Full Update	Yes	
NEFSC	NEFMC	Winter flounder - Gulf of Maine	2018	1	Full Update	No	
NEFSC	NEFMC	Winter flounder - Southern New England / Mid-Atlantic	2018	4	Full Update	Yes	
NEFSC	NEFMC	Winter skate - Georges Bank / Southern New England	2017	1	Full Update	No	
NEFSC	NEFMC	Witch flounder - Northwestern Atlantic Coast	2018	1	Benchmark	No	
NEFSC	NEFMC	Yellowtail flounder - Cape Cod / Gulf of Maine	2018	4	Full Update	Yes	
NEFSC	NEFMC	Yellowtail flounder - Georges Bank	2017	1	Full Update	No	
NEFSC	NEFMC	Yellowtail flounder - Southern New England / Mid-Atlantic	2018	4	Benchmark	Yes	
NEFSC	NEFMC/MAFMC	Goosefish - Gulf of Maine / Northern Georges Bank	2014	4	Full Update	Yes	
			2016	NA	Data Update		
NEFSC	NEFMC/MAFMC	Goosefish - Southern Georges Bank / Mid-Atlantic	2014	4	Full Update	Yes	
			2016	NA	Data Update		
NEFSC	NEFMC/MAFMC	Spiny dogfish - Atlantic Coast	2015	4	Full Update	Yes	
			2017	NA	Data Update		
NWFSC/SWFSC	PFMC	Arrowtooth flounder - Pacific Coast	2017	4	Full Update	Yes	
NWFSC/SWFSC	PFMC	Black rockfish - Northern Pacific Coast	2016	4	Benchmark	Yes	
NWFSC/SWFSC	PFMC	Black rockfish - Southern Pacific Coast	2016	4	Benchmark	Yes	
NWFSC/SWFSC	PFMC	Blackgill rockfish - Southern California	2017	4	Full Update	Yes	
NWFSC/SWFSC	PFMC	Blue rockfish - California	2017	4	Benchmark	Yes	

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Science Center(s) ¹	Jurisdiction ²	Stock	Last Assessment				Assessment Notes
			Fiscal Year	Level ³	Type	Adequate?	
NWFSC/SWFSC	PFMC	Bocaccio - Southern Pacific Coast	2017	4	Full Update	Yes	
NWFSC/SWFSC	PFMC	Brown rockfish - Pacific Coast	2014	3	New	Yes	
NWFSC/SWFSC	PFMC	Cabazon - California	2009	4	Benchmark	No	
NWFSC/SWFSC	PFMC	California scorpionfish - Southern California	2017	4	Benchmark	Yes	
NWFSC/SWFSC	PFMC	Canary rockfish - Pacific Coast	2017	4	Partial Update	Yes	
NWFSC/SWFSC	PFMC	Chilipepper - Southern Pacific Coast	2017	4	Partial Update	Yes	
NWFSC/SWFSC	PFMC	Chinook salmon - Sacramento River Fall	2018	4	Full Update	Yes	
NWFSC/SWFSC	PFMC	Chinook salmon - Klamath River Fall	2018	3	Full Update	Yes	
NWFSC/SWFSC	PFMC	Cowcod - Southern California	2013	3	Benchmark	Yes	
NWFSC/SWFSC	PFMC	Darkblotched rockfish - Pacific Coast	2017	4	Full Update	Yes	
NWFSC/SWFSC	PFMC	Dover sole - Pacific Coast	2011	4	Benchmark	No	
NWFSC/SWFSC	PFMC	English sole - Pacific Coast	2013	3	Benchmark	Yes	
NWFSC/SWFSC	PFMC	Gopher rockfish - Northern California	2006	4	Full Update	No	
NWFSC/SWFSC	PFMC	Greenspotted rockfish - Pacific Coast	2011	3	New	No	
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	2017	4	Benchmark	Yes	
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	2018	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	

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Science Center(s) ¹	Jurisdiction ²	Stock	Last Assessment				Assessment Notes
			Fiscal Year	Level ³	Type	Adequate?	
NWFSC/ SWFSC	PFMC	Shortbelly rockfish - Pacific Coast	2007	4	New	No	
NWFSC/ SWFSC	PFMC	Shortspine thornyhead - Pacific Coast	2013	4	Benchmark	Yes	
NWFSC/ SWFSC	PFMC	Spiny dogfish - Pacific Coast	2011	4	New	No	
NWFSC/ SWFSC	PFMC	Splitnose rockfish - Pacific Coast	2009	4	New	No	
NWFSC/ SWFSC	PFMC	Starry flounder - Pacific Coast	2018	1	New	No	Stock is assessed in Northern and Southern components and treated as a complex
NWFSC/ SWFSC	PFMC	Vermilion rockfish - California	2005	4	New	No	
NWFSC/ SWFSC	PFMC	Widow rockfish - Pacific Coast	2015	4	Benchmark	Yes	
NWFSC/ SWFSC	PFMC	Yelloweye rockfish - Pacific Coast	2017	4	Benchmark	Yes	
NWFSC/ SWFSC	PFMC	Yellowtail rockfish - Northern Pacific Coast	2017	4	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	2018	3	Full Update	Yes	Two assessments, one for the complex and another for the Opakapaka stock
PIFSC	WPFMC	Northern Mariana Islands Bottomfish Multi-species Complex	2015	3	Full Update	Yes	
SEFSC	CFMC	Caribbean Groupers	2015	2	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 silk snapper delayed
SEFSC	CFMC	Caribbean spiny lobster - Puerto Rico	2009	2	New	No	
SEFSC	CFMC	Caribbean spiny lobster - St. Croix	2009	2	New	No	
SEFSC	CFMC	Caribbean spiny lobster - St. Thomas/St. John	2009	2	New	No	
SEFSC	CFMC	Queen conch - Caribbean	2009	2	New	No	
SEFSC	CFMC	Triggerfish and Filefish Complex - Puerto Rico	2013	-1	Benchmark	No	

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SEFSC	CFMC	Triggerfish and Filefish Complex - St. Croix	2013	-1	Benchmark	No	
SEFSC	CFMC	Triggerfish and Filefish Complex - St. Thomas/St. John	2013	-1	Benchmark	No	
SEFSC	GMFMC	Brown shrimp - Gulf of Mexico	2018	4	Full Update	Yes	
SEFSC	GMFMC	Gag - Gulf of Mexico	2014	4	Benchmark	Yes	Assessment planned for FY17 delayed
SEFSC	GMFMC	Gray triggerfish - Gulf of Mexico	2015	4	Full Update	Yes	
SEFSC	GMFMC	Greater amberjack - Gulf of Mexico	2017	4	Benchmark	Yes	
SEFSC	GMFMC	Hogfish - Eastern Gulf of Mexico	2015	4	Benchmark	Yes	
SEFSC	GMFMC	Pink shrimp - Gulf of Mexico	2018	4	Full Update	Yes	
SEFSC	GMFMC	Red grouper - Gulf of Mexico	2016	4	Benchmark	Yes	
SEFSC	GMFMC	Red snapper - Gulf of Mexico	2015	4	Full Update	Yes	
SEFSC	GMFMC	Royal red shrimp - Gulf of Mexico	2018	1	Full Update	No	
SEFSC	GMFMC	Tilefish - Gulf of Mexico	2011	4	Benchmark	No	
SEFSC	GMFMC	Vermilion snapper - Gulf of Mexico	2016	4	Full Update	Yes	
SEFSC	GMFMC	White shrimp - Gulf of Mexico	2018	4	Full Update	Yes	
SEFSC	GMFMC	Yellowedge grouper - Gulf of Mexico	2011	4	Benchmark	No	
SEFSC	HMS	Atlantic sharpnose shark - Atlantic	2014	4	Full Update	Yes	Partial acceptance -- status determinations only
SEFSC	HMS	Atlantic sharpnose shark - Gulf of Mexico	2014	4	Full Update	Yes	Partial acceptance -- status determinations only
SEFSC	HMS	Blacknose shark - Atlantic	2011	4	Full Update	No	
SEFSC	HMS	Blacknose shark - Gulf of Mexico	2011	-4	Full Update	No	
SEFSC	HMS	Blacktip shark - Atlantic	2006	-4	Full Update	No	
SEFSC	HMS	Blacktip shark - Gulf of Mexico	2012	4	Full Update	No	Assessment sunset in FY17
SEFSC	HMS	Blue shark - North Atlantic	2016	4	Benchmark	Yes	
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	2016	4	Full Update	Yes	

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Science Center(s) ¹	Jurisdiction ²	Stock	Last Assessment				Assessment Notes
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SEFSC	HMS	Finetooth shark - Atlantic	2008	3	Benchmark	No	
SEFSC	HMS	Porbeagle - Atlantic	2010	4	New	No	
SEFSC	HMS	Sandbar shark - Atlantic	2018	4	Full Update	Yes	Atlantic and Gulf of Mexico stock
SEFSC	HMS	Scalloped Hammerhead Complex - Atlantic	2010	3	Unknown	No	
SEFSC	HMS	Shortfin mako - Atlantic	2018	4	Benchmark	Yes	
SEFSC	SAFMC	Black grouper - Southern Atlantic Coast	2010	4	Benchmark	No	Assessment planned for FY18 delayed indefinitely
SEFSC	SAFMC	Black sea bass - Southern Atlantic Coast	2013	4	Full Update	Yes	Assessment delayed to FY18
SEFSC	SAFMC	Blueline tilefish - Southern Atlantic Coast	2018	4	Benchmark	Yes	
SEFSC	SAFMC	Brown rock shrimp - Southern Atlantic Coast	2018	1	Full Update	No	
SEFSC	SAFMC	Brown shrimp - Southern Atlantic Coast	2018	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	2016	-4	Benchmark	No	2016 Benchmark was rejected due to poor model fit. 2001 Was last accepted assessment
SEFSC	SAFMC	Greater amberjack - Southern Atlantic Coast	2008	4	Benchmark	No	
SEFSC	SAFMC	Hogfish - Southeast Florida	2015	4	Benchmark	Yes	
SEFSC	SAFMC	Pink shrimp - Southern Atlantic Coast	2018	1	Full Update	No	
SEFSC	SAFMC	Red grouper - Southern Atlantic Coast	2017	4	Standard	Yes	
SEFSC	SAFMC	Red porgy - Southern Atlantic Coast	2013	4	Full Update	Yes	
SEFSC	SAFMC	Red snapper - Southern Atlantic Coast	2016	4	Benchmark	Yes	
SEFSC	SAFMC	Snowy grouper - Southern Atlantic Coast	2014	4	Unknown	Yes	
SEFSC	SAFMC	Speckled hind - Southern Atlantic Coast	2002	2	Unknown	No	

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SEFSC	SAFMC	Tilefish - Southern Atlantic Coast	2016	4	Full Update	Yes	
SEFSC	SAFMC	Vermilion snapper - Southern Atlantic Coast	2013	4	Full Update	Yes	
SEFSC	SAFMC	Warsaw grouper - Southern Atlantic Coast	2002	2	Unknown	No	
SEFSC	SAFMC	White shrimp - Southern Atlantic Coast	2018	1	Full Update	No	
SEFSC	SAFMC/ GMFMC	Caribbean spiny lobster - Southern Atlantic Coast / Gulf of Mexico	2011	(-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	2013	4	Benchmark	Yes	
SWFSC	PFMC	Northern anchovy - Southern Pacific Coast	1995	0	Unknown	No	
SWFSC	PFMC	Opalescent inshore squid - Pacific Coast	2007	2	New	No	
SWFSC	PFMC	Pacific chub mackerel - Pacific Coast	2017	4	Full Update	Yes	
SWFSC	PFMC	Pacific sardine - Pacific Coast	2017	5	Benchmark	Yes	

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			Fiscal Year	Level ³	Type	Adequate?	

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.

* Changes are indicated by red font.



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