

Fish Stock Sustainability Index (FSSI)

2012 Quarter 4 Update through December 31, 2012

Overview

The FSSI is a performance measure for the sustainability of 227¹ U.S. fish stocks² selected for their importance to commercial and recreational fisheries. The FSSI will increase as stock status becomes known, overfishing is ended, and stocks increase to the level that provides maximum sustainable yield.

FSSI Scoring Method

The FSSI is calculated by assigning a score for each fish stock based on the five following criteria:

<u>Criteria</u>	<u>Points Awarded</u>
1. "Overfished" status is known	0.5
2. "Overfishing" status is known	0.5
3. Overfishing is not occurring (for stocks with known "overfishing" status)	1.0
4. Stock biomass is above the "overfished" level defined for the stock	1.0
5. Stock biomass is at or above 80% of the biomass that produces maximum sustainable yield (B_{MSY}) ³ (this point is in addition to the point awarded for being above the "overfished" level)	1.0

The maximum score each stock may receive is 4. The value of the FSSI is the sum of all 227¹ individual stock scores. The maximum total FSSI score is 920, achieved if all 227¹ stocks were to each receive a score of 4.

Current FSSI Score

2012 Quarter 4 Score = 616 (October 1, 2012 to December 31, 2012)

The following table summarizes the current FSSI score and where additional points can be gained to raise the score in the future.

<u>Criteria</u>	<u># Stocks</u>	<u>Current Points</u>	<u>Total Points Possible</u>	<u>Actions that Can Increase the Score</u>	<u>Potential Points to Gain</u>
1. "Overfished" status is known Overfished: 37 Not Overfished: 140	177	88.5	115	Determine the "overfished" status for the remaining 53 stocks	26.5
2. "Overfishing" status is known Overfishing: 27 Not subject to overfishing: 170	197	98.5	115	Determine the "overfishing" status for the remaining 33 stocks	16.5
3. Overfishing is not occurring (for stocks with known "overfishing" status)	170	170	230	End overfishing on the 27 stocks subject to overfishing. Ensure the 33 stocks (see #2 above) are not subject to overfishing.	60
4. Stock biomass is above the "overfished" level defined for the stock (for stocks with a known "overfished" status and that are "not overfished")	140	140	230	Increase the biomass above the overfished level for the 37 overfished stocks. Ensure the biomass for the 53 stocks (see #1 above) is above the overfished level.	90
5. Stock biomass is at or above 80% of B_{MSY} (this point is in addition to the point awarded for being above the "overfished" level, criteria #4)	119	119	230	For the 37 overfished stocks and the 21 stocks that are not overfished (but biomass is not at or above 80% of B_{MSY}), increase biomass to at or above 80% of B_{MSY} . Ensure the biomass for the 53 stocks (see #1 above) is at or above 80% of B_{MSY} .	111
TOTAL		616	920		304

¹ The FSSI previously contained 230 stocks. Gulf of Mexico stone crab and little tunny are no longer managed under federal fishery management plans (FMPs), and Gulf of Mexico black grouper is now managed as a combined Gulf of Mexico/South Atlantic stock under the Gulf of Mexico Reef Fish and Snapper-Grouper FMPs. To provide continuity in the FSSI, the final point score for these 3 stocks remains in the index until FY 2015.

² The majority of species are assessed as a single stock; however, there are a few that are assessed as a stock complex, which contain a group of species with similar geographic distribution, co-occurrence in fisheries, and life history.

³ Stocks rebuilding from a previously overfished condition are not awarded the fourth point until they reach B_{MSY} , as mandated by the Magnuson-Stevens Act. After they have been fully rebuilt, they may fluctuate within the 80% parameter and retain the score of 4 like the other non-rebuilding stocks.

Overview of FSSI stocks through December 31, 2012

<u>Overfishing Status</u>	<u>Number of Stocks/Stock Complexes</u>	<u>Overfished Status</u>	<u>Number of Stocks/Stock Complexes</u>
Known Status	197	Known Status	177
Not Subject to Overfishing	170	Not Overfished (includes 4 stocks approaching an overfished condition)	140
Subject to Overfishing	27	Overfished	37
Unknown Status	33	Unknown Status	53

Summary of Overfishing and Overfished Changes of FSSI Stocks from October 1, 2012 through December 31, 2012

<u>Stock</u>	<u>Region</u>	<u>Previous Status</u>	<u>Current Status</u>	<u>Previous Total FSSI Score</u>	<u>Current Total FSSI Score</u>
Queen conch - Caribbean	CFMC	Subject to Overfishing	Not Subject to Overfishing	1	2
Caribbean Grouper Unit 1	CFMC	Subject to Overfishing	Not Subject to Overfishing	1	2
Caribbean Grouper Unit 4	CFMC	Subject to Overfishing	Not Subject to Overfishing	1	2
Caribbean Snapper Unit 1	CFMC	Subject to Overfishing	Not Subject to Overfishing	2	3
Caribbean Snapper Unit 3	CFMC	Overfishing – Unknown	Not Subject to Overfishing	0	1.5
Caribbean Snapper Unit 4	CFMC	Overfishing – Unknown	Not Subject to Overfishing	0	1.5
Caribbean spiny lobster - Caribbean	CFMC	Overfishing – Unknown	Not Subject to Overfishing	0	1.5
Shortfin mako – Atlantic	HMS	Subject to Overfishing Approaching an Overfished Condition	Not Subject to Overfishing No Longer Approaching an Overfished Condition	3	4
Yellowtail flounder - Georges Bank	NEFMC	Not Subject to Overfishing	Subject to Overfishing	2	1
Bering Sea / Aleutian Islands Blackspotted and Roughey Rockfish Complex	NPFMC	B/Bmsy > 80%	B/Bmsy < 80%	4	3
Greenland halibut - Bering Sea / Aleutian Islands	NPFMC	B/Bmsy > 80%	B/Bmsy < 80%	4	3
Southern Tanner crab - Bering Sea	NPFMC	Overfished	Not Overfished Rebuilt	2	4
Brown rock shrimp - Southern Atlantic Coast*	SAFMC	Not Overfished	Overfished – Unknown	3	1.5
Pink shrimp - Southern Atlantic Coast	SAFMC	Overfished	Not Overfished Rebuilt	2	4
Vermilion snapper - Southern Atlantic Coast	SAFMC	Subject to Overfishing	Not Subject to Overfishing	3	4
TOTAL FSSI SCORE				606	616

* The overfished status of brown rock shrimp is unknown because there are no criteria to estimate stock size.

Changes to the Number of Stocks contained in FMPs

- In the Southeast Region – Individual stocks are now listed at the stock complex level:
 - Gulf of Mexico Jacks Complex - contains Almaco jack, banded rudderfish, and lesser amberjack.
 - Gulf of Mexico Mid-Water Snapper Complex - contains blackfin snapper, Queen snapper, silk snapper, and wenchman.
 - Gulf of Mexico Tilefishes Complex - contains blueline tilefish and goldface tilefish.
 - Gulf of Mexico Deep Water Grouper Complex - contains speckled hind and Warsaw grouper.
 - Gulf of Mexico Shallow Water Grouper Complex - contains scamp, yellowfin grouper, and yellowmouth grouper.
 - South Atlantic Jacks Complex - contains Almaco jack, banded rudderfish, and lesser amberjack.
 - South Atlantic Deepwater Grouper Complex - contains black snapper, blackfin snapper, blueline tilefish, misty grouper, Queen snapper, sand tilefish, and silk snapper.
 - South Atlantic Shallow Water Grouper Complex - contains coney, graysby, red hind, rock hind, yellowfin grouper, and yellowmouth grouper.
 - South Atlantic Snappers Complex - contains Cubera snapper, dog snapper, and mahogany snapper.
 - South Atlantic Grunts Complex - contains margate, sailor's choice, and tomtate.
 - South Atlantic Porgy Complex - contains jolthead porgy, knobbed porgy, saucereye porgy, scup, and whitebone porgy.

Overview of overfishing status of non-FSSI stocks through December 31, 2012

- 87 stocks or stock complexes are known with respect to their overfishing status. Of these:
 - 85 stocks or stock complexes are not subject to overfishing.
 - 2 stocks have a fishing mortality rate that exceeds the overfishing threshold (i.e., is subject to overfishing).
- 132 stocks or stock complexes have overfishing thresholds not defined or applicable, or are unknown with respect to their overfishing status.

Changes in overfishing status of non-FSSI stocks

- In the Alaska Region –
 - Bering Sea / Aleutian Islands Octopus Complex – subject to overfishing (overfishing status was previously unknown).
 - Bering Sea / Aleutian Islands Sculpin Complex, Bering Sea / Aleutian Islands Shark Complex, Kamchatka flounder - Bering Sea / Aleutian Islands, Gulf of Alaska Octopus Complex, Gulf of Alaska Sculpin Complex, Gulf of Alaska Shark Complex, Gulf of Alaska Squid Complex – not subject to overfishing (overfishing status was previously unknown).

- In the Southeast Region –
 - Caribbean Parrotfishes Complex – no longer subject to overfishing.
 - Caribbean Aquarium Trade Species Complex, Caribbean Boxfishes Complex, Caribbean Goatfishes Complex, Caribbean Grouper Unit 3, Caribbean Grouper Unit 5, Caribbean Grunts Complex, Caribbean Jacks Complex, Caribbean Porgies Complex, Caribbean Snapper Unit 2, Caribbean Surgeonfishes Complex, Caribbean Tilefishes Complex, Caribbean Triggerfishes and Filefishes Complex – not subject to overfishing (overfishing status was previously unknown).

There are no other changes to the other Regions.

Overview of overfished status of non-FSSI stocks through December 31, 2012

- 42 stocks or stock complexes are known with respect to their overfished status. Of these:
 - 38 stocks or stock complexes are not overfished (1 of these stocks is approaching an overfished condition).
 - 4 stocks are overfished.
- 177 stocks or stock complexes have overfished thresholds not defined or applicable, or are unknown with respect to their overfished status.

Changes in overfished status of non-FSSI stocks

There are no changes to any of the Regions.

NOTE: For both overfishing and overfished status determinations, all stocks previously listed as either undefined or unknown are now listed as unknown. Stocks previously listed as unknown include those that had status determination criteria, but had never been assessed relative to the criteria. Stocks previously listed as undefined did not have status determination criteria, and also had not been assessed. Since a stock that has not been assessed, whether or not it has status determination criteria, is of unknown status, NMFS determined that it is more clear to users to list all such stocks as unknown.

FSSI stock status updates are posted quarterly at:

<http://www.nmfs.noaa.gov/sfa/statusoffisheries/SOSmain.htm#07>