

Fish Stock Sustainability Index (FSSI)

2008 Quarter 4 Update through December 31, 2008

Overview

The FSSI is a performance measure for the sustainability of 230 U.S. fish stocks¹ selected for their importance to commercial and recreational fisheries. The FSSI will increase as overfishing is ended and stocks rebuild 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}) ² (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 230 individual stock scores. The maximum total FSSI score is 920, achieved if all 230 stocks were to each receive a score of 4.

Current FSSI Score

2008 Quarter 4 Score = 555.5 (October 1, 2008 to December 31, 2008)

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: 45 Not Overfished: 128	173	86.5	115	Determine the "overfished" status for the remaining 57 stocks	28.5
2. "Overfishing" status is known Overfishing: 40 Not subject to overfishing: 148	188	94	115	Determine the "overfishing" status for the remaining 42 stocks	21
3. Overfishing is not occurring (for stocks with known "overfishing" status)	148	148	230	End overfishing on the 40 stocks subject to overfishing. Ensure the 42 stocks (see #2 above) are not subject to overfishing.	82
4. Stock biomass is above the "overfished" level defined for the stock (for stocks with a known "overfished" status and that are "not overfished")	128	128	230	Increase the biomass above the overfished level for the 45 overfished stocks. Ensure the biomass for the 57 stocks (see #1 above) is above the overfished level.	102
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)	99	99	230	For the 45 overfished stocks and the 29 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 57 stocks (see #1 above) is at or above 80% of B_{MSY} .	131
TOTAL		555.5	920		364.5

¹ 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.

² 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.

Summary of Stock Status Determination Changes from October 1, 2008 through December 31, 2008

NOTE: The results of the Groundfish Assessment Review Meeting III (GARM III, published September 2008) are not included in this quarterly update. The new reference points must be adopted through an amendment to the Northeast Multispecies FMP before the results can be reported. The unofficial results of the GARM are footnoted, along with the official current status in the stock status table. As soon as the FMP is amended, the results will be incorporated in the quarterly update.

Overview of overfished status of FSSI stocks through December 31, 2008

- 173 stocks or stock complexes are known with respect to their overfished status. Of these:
 - 128 stocks or stock complexes are not overfished (4 of these stocks are approaching an overfished condition).
 - 45 stocks or stock complexes are overfished.
- 57 stocks or stock complexes have overfished thresholds not defined or applicable, or are unknown with respect to their overfished status.

Overview of overfishing status of FSSI stocks through December 31, 2008

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

Summary of Overfishing and Overfished Changes of FSSI Stocks

<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>
Vermilion snapper - Southern Atlantic Coast	SE	Unknown – Overfished B/Bmsy not estimated	Not Overfished B/Bmsy > 80%	0.5	3
King mackerel - Gulf of Mexico	SE	Not Overfished – Rebuilding	Rebuilt	3	4
Pink shrimp - Gulf of Mexico	SE	Not Subject to Overfishing B/Bmsy > 80%	Subject to Overfishing B/Bmsy < 80%	4	2
Royal red shrimp - Gulf of Mexico	SE	Unknown – Overfished	Not Overfished	1.5	3
California scorpionfish - Southern California	NW	Unknown – Overfishing	Not Subject to Overfishing	2.5	4
Gopher rockfish - Northern California	NW	Unknown – Overfishing	Not Subject to Overfishing	2.5	4
Starry flounder - Pacific Coast	NW	Unknown – Overfishing	Not Subject to Overfishing	2.5	4
Hawaiian Archipelago Bottomfish Multi-species Complex	PI	Subject to Overfishing B/Bmsy <80%	No Longer Subject to Overfishing B/Bmsy > 80%	2	4
Red king crab - Norton Sound	AK	Unknown – Overfishing Unknown – Overfished B/Bmsy not estimated	Not Subject to Overfishing Not Overfished B/Bmsy > 80%	0	4
Southern Tanner crab - Bering Sea	AK	B/Bmsy > 80%	B/Bmsy < 80%	4	3
Rougheye rockfish - Bering Sea / Aleutian Islands	AK	Unknown – Overfished B/Bmsy not estimated	Not Overfished B/Bmsy > 80%	1.5	4
Rex sole - Gulf of Alaska	AK	Not Overfished B/Bmsy > 80%	Unknown – Overfished B/Bmsy not estimated	4	1.5
Blue shark – Atlantic	HMS	Unknown – Overfishing Unknown – Overfished B/Bmsy not estimated	Not Subject to Overfishing Not Overfished B/Bmsy > 80%	0	4
Shortfin mako - Atlantic	HMS	Unknown – Overfishing Unknown – Overfished B/Bmsy not estimated	Subject to Overfishing Not Overfished, Approaching an Overfished Condition B/Bmsy > 80%	0	3
Yellowfin tuna - Western Atlantic	HMS	B/Bmsy < 80%	B/Bmsy > 80%	3	4
TOTAL FSSI SCORE				535	555.5

Overview of overfishing status of non-FSSI stocks through December 31, 2008

- 63³ stocks or stock complexes are known with respect to their overfishing status. Of these:
 - 62 stocks or stock complexes are not subject to overfishing.
 - 1 stock has a fishing mortality rate that exceeds the overfishing threshold (i.e., is subject to overfishing).
- 238 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 Southeast Region –
 - *Red drum - Southern Atlantic Coast*, which is subject to overfishing, has had management authority transferred to the Atlantic States Marine Fisheries Commission (ASMFC). It is no longer under federal management jurisdiction so the overfishing status is now reported under stocks contained in non-Federal FMPs.
- In the Highly Migratory Species Division –
 - *Skipjack tuna - Western Atlantic* is not subject to overfishing (was previously unknown).
- There are no changes to the other Regions.

Overview of overfished status of non-FSSI stocks through December 31, 2008

- 26³ stocks or stock complexes are known with respect to their overfished status. Of these:
 - 25 stocks or stock complexes are not overfished (1 of these stocks are approaching an overfished condition).
 - 1 stock is overfished.
- 275 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

- In the Southeast Region –
 - *Red drum - Southern Atlantic Coast*, whose overfished status was unknown, has had management authority transferred to the Atlantic States Marine Fisheries Commission (ASMFC). It is no longer under federal management jurisdiction so the overfishing status is now reported under stocks contained in non-Federal FMPs.

³ This number includes Pacific halibut, which is managed by the International Pacific Halibut Commission.

- In the Highly Migratory Species Division –
 - *Skipjack tuna - Western Atlantic* is not overfished (was previously unknown).
- There are no changes to the other Regions.

FSSI stock status updates are posted quarterly at:

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

