

# Fish Stock Sustainability Index (FSSI)

## 2009 Quarter 4 Update through December 31, 2009

### Overview

The FSSI is a performance measure for the sustainability of 230 U.S. fish stocks<sup>1</sup> 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 ( $B_{MSY}$ ) <sup>2</sup> (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

**2009 Quarter 4 Score = 573** (October 1, 2009 to December 31, 2009)

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>
<b>1. "Overfished" status is known</b> Overfished: 43 Not Overfished: 133	<b>176</b>	<b>88</b>	<b>115</b>	Determine the "overfished" status for the remaining 54 stocks	<b>27</b>
<b>2. "Overfishing" status is known</b> Overfishing: 37 Not subject to overfishing: 153	<b>190</b>	<b>95</b>	<b>115</b>	Determine the "overfishing" status for the remaining 40 stocks	<b>20</b>
<b>3. Overfishing is not occurring</b> (for stocks with known "overfishing" status)	<b>153</b>	<b>153</b>	<b>230</b>	End overfishing on the 37 stocks subject to overfishing. Ensure the 40 stocks (see #2 above) are not subject to overfishing.	<b>77</b>
<b>4. Stock biomass is above the "overfished" level defined for the stock</b> (for stocks with a known "overfished" status and that are "not overfished")	<b>133</b>	<b>133</b>	<b>230</b>	Increase the biomass above the overfished level for the 43 overfished stocks. Ensure the biomass for the 54 stocks (see #1 above) is above the overfished level.	<b>97</b>
<b>5. Stock biomass is at or above 80% of <math>B_{MSY}</math></b> (this point is in addition to the point awarded for being above the "overfished" level, criteria #4)	<b>104</b>	<b>104</b>	<b>230</b>	For the 43 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 54 stocks (see #1 above) is at or above 80% of $B_{MSY}$ .	<b>126</b>
<b>TOTAL</b>		<b>573</b>	<b>920</b>		<b>347</b>

<sup>1</sup> 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.

<sup>2</sup> 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, 2009 through December 31, 2009

**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 overfishing status of FSSI stocks through December 31, 2009

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

### Overview of overfished status of FSSI stocks through December 31, 2009

- 176 stocks or stock complexes are known with respect to their overfished status. Of these:
  - 133 stocks or stock complexes are not overfished (5 of these stocks are approaching an overfished condition).
  - 43 stocks or stock complexes are overfished.
- 54 stocks or stock complexes have overfished thresholds not defined or applicable, or are unknown with respect to their overfished status.

### Summary of Overfishing and Overfished Changes of FSSI Stocks

Stock	Region	Previous Status	Current Status	Previous Total FSSI Score	Current Total FSSI Score
Petrable sole – Pacific Coast	NW	Not Overfished B/Bmsy > 80%	Overfished B/Bmsy < 80%	4	2
Blue king crab – St. Matthews Island	AK	Not Overfished – Rebuilding	Rebuilt	3	4
Rex sole – Gulf of Alaska	AK	Overfished – Unknown	Not Overfished B/Bmsy > 80%	1.5	4
Golden king crab – Aleutian Islands	AK	Overfishing – Unknown	Not Subject to Overfishing	0	1.5
Red king crab - Western Aleutian Islands	AK	Overfishing – Unknown	Not Subject to Overfishing	0	1.5
Walleye pollock - Western / Central Gulf of Alaska	AK	B/Bmsy < 80%	B/Bmsy > 80%	3	4
Swordfish – North Atlantic	HMS	Not Overfished – Rebuilding	Rebuilt	3	4
Sailfish – Western Atlantic	HMS	Overfished	Not Overfished – Rebuilding	1	2
TOTAL FSSI SCORE				565.5	573

## Overview of overfishing status of non-FSSI stocks through December 31, 2009

- 60<sup>3</sup> stocks or stock complexes are known with respect to their overfishing status. Of these:
  - 59 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).
- 232 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

- There are no changes to any of the Regions.

## Overview of overfished status of non-FSSI stocks through December 31, 2009

- 27<sup>3</sup> stocks or stock complexes are known with respect to their overfished status. Of these:
  - 24 stocks or stock complexes are not overfished (1 of these stocks are approaching an overfished condition).
  - 3 stocks are overfished.
- 265 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.

**FSSI stock status updates are posted quarterly at:**

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

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