

# Fish Stock Sustainability Index (FSSI)

2009 Quarter 1 Update through March 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 1 Score = 557.5** (January 1, 2009 to March 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: 44 Not Overfished: 129	<b>173</b>	<b>86.5</b>	<b>115</b>	Determine the "overfished" status for the remaining 57 stocks	<b>28.5</b>
<b>2. "Overfishing" status is known</b> Overfishing: 39 Not subject to overfishing: 149	<b>188</b>	<b>94</b>	<b>115</b>	Determine the "overfishing" status for the remaining 42 stocks	<b>21</b>
<b>3. Overfishing is not occurring</b> (for stocks with known "overfishing" status)	<b>149</b>	<b>149</b>	<b>230</b>	End overfishing on the 39 stocks subject to overfishing. Ensure the 42 stocks (see #2 above) are not subject to overfishing.	<b>81</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>129</b>	<b>129</b>	<b>230</b>	Increase the biomass above the overfished level for the 44 overfished stocks. Ensure the biomass for the 57 stocks (see #1 above) is above the overfished level.	<b>101</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>99</b>	<b>99</b>	<b>230</b>	For the 44 overfished stocks and the 30 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 $B_{MSY}$ .	<b>131</b>
<b>TOTAL</b>		<b>557.5</b>	<b>920</b>		<b>362.5</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 January 1, 2009 through March 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 March 31, 2009

- 188 stocks or stock complexes are known with respect to their overfishing status. Of these:
  - 149 stocks or stock complexes are not subject to overfishing.
  - 39 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.

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

- 173 stocks or stock complexes are known with respect to their overfished status. Of these:
  - 129 stocks or stock complexes are not overfished (4 of these stocks are approaching an overfished condition).
  - 44 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.

## 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>
Scup - Atlantic Coast	NE	Subject to Overfishing Overfished	Not Subject to Overfishing Not Overfished and Rebuilt	1	4
Pacific hake - Pacific Coast	NW	B/Bmsy > 80%	B/Bmsy < 80%	4	3
TOTAL FSSI SCORE				555.5	557.5

**NOTE:** Rex sole – Gulf of Alaska was noted as having changed from not overfished to unknown in quarter 4, 2008. The correct overfished status is undefined.

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

- 57<sup>3</sup> stocks or stock complexes are known with respect to their overfishing status. Of these:
  - 56 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.
  - 12<sup>4</sup> stocks are no longer contained in the *Bering Sea/Aleutian Islands King and Tanner Crabs* FMP (73 FR 33925). The state of Alaska will continue to manage these stocks as they currently do under the deferred management authority of the FMP.
- **Changes in overfishing status of non-FSSI stocks**
- In the Alaska Region –
  - *Pacific halibut - Pacific Coast / Alaska* is now undefined – was previously listed as not subject to overfishing. It was determined that there is no overfishing definition contained in the FMP (only an overfishing target).
- There are no changes to the other Regions.

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

- 26<sup>3</sup> 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.
- 263 stocks or stock complexes have overfished thresholds not defined or applicable, or are unknown with respect to their overfished status.
  - 12<sup>4</sup> stocks are no longer contained in the *Bering Sea/Aleutian Islands King and Tanner Crabs* FMP (73 FR 33925). The state of Alaska will continue to manage these stocks as they currently do under the deferred management authority of the FMP.

## 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.

<sup>4</sup> *Blue king crab - Saint Lawrence Island, Golden king crab - Northern District, Grooved Tanner crab - Bering Sea, Grooved Tanner crab - Eastern Aleutian Islands, Grooved Tanner crab - Western Aleutian Islands, Red king crab - Eastern Aleutian Islands, Scarlet king crab - Aleutian Islands, Scarlet king crab - Bering Sea, Southern Tanner crab - Eastern Aleutian Islands, Southern Tanner crab - Western Aleutian Islands, Triangle Tanner crab - Bering Sea, and Triangle Tanner crab - Eastern Aleutian Islands.*