

**APPENDIX 1. **REPORT FORMAT AND DESCRIPTION OF
METHODOLOGY FOR DETERMINING OVERFISHING
AND OVERFISHED STATUS****

The general format of this report remains the same as previous reports. The printed copy of the report provides an overview of status determinations made for stocks subject to overfishing, overfished, or approaching an overfished condition. Information related to necessary management actions to be taken and progress being made in rebuilding overfished stocks is provided in the supporting tables.

Overfishing determinations (the current fishing mortality rate compared to an identified threshold) or other proxy and overfished determinations (the current biomass compared to an identified threshold) or other proxy in the supporting tables are presented separately. Overfishing determinations (the current fishing mortality rate compared to an identified threshold) and overfished determinations (the current biomass compared to an identified threshold) - or their proxies- are presented separately in the supporting tables. Overfishing and overfished determinations should not be added together, as this would result in double counting for some stocks. Summaries should always be made of numbers of overfished stocks and numbers of stocks subject to overfishing, but not a combined status of the stocks. The categories not overfished and approaching an overfished condition are mutually exclusive. Any stock listed as approaching an overfished condition (estimated to become overfished within 2 years) is not included in the not overfished category, even though it is currently not overfished, to eliminate double counting. Overfishing and overfished definitions are provided in Appendix 2.

The Fish Stock Sustainability Index

NMFS developed the FSSI to track the outcome of building and maintaining fish stocks and complexes at productive levels and to incorporate the critical components of managing fish harvest rates and increasing knowledge about the status of fish stocks and complexes. The FSSI is based on a set of fish stocks and complexes selected for their importance to commercial and recreational fisheries. Stocks and complexes were selected for the FSSI using various criteria, including (1) the stock is a major stock (with landings greater than 200,000 pounds), (2) the stock was either overfished or subject to overfishing, (3) the stock was scheduled to be assessed within the next 5 years, and (4) the stock had been identified previously as important.¹ The FSSI tracks 230 stocks and complexes.

¹ *Some stocks identified in previous reports as “major” were excluded from the FSSI for one or more of the following: (1) they are managed under the Endangered Species Act; (2) they are managed on the basis of escapement rates, not biomass targets; (3) the overfishing and/or overfished status are unknown and are not likely to become known in the next 5 years; (4) determinations were made using pre-SFA status determination criteria and they are not likely to be reassessed in the next 5 years; (5) they are managed by state fisheries managers; or (6) no status determination criteria exist to assess the overfishing or overfished status nor will they likely exist in the next 5 years. Most of the minor stocks were not included in the FSSI because these species co-occur with other stocks but are not landed in large quantities, and they are not important to the targeted fishery.*

The FSSI is calculated by assigning a score for each fish stock or complex based on the following rules:

<u>Rule</u>	<u>Score</u>
1. Stock has <i>known</i> status determinations	
a) <i>overfishing</i> status known	0.5
b) <i>overfished</i> status known	0.5
2. Fishing mortality rate is below the <i>overfishing</i> level defined for the stock (i.e., is not subject to overfishing)	1.0
3. Biomass is above the <i>overfished</i> level defined for the stock (i.e., is not overfished)	1.0
4. Biomass is at or above 80% of maximum sustainable yield (B_{MSY}) ² (this point is in addition to the point awarded for being above the <i>overfished</i> level).	1.0
<i>Total possible score:</i>	<i>4</i>

The total score for each stock is obtained by adding the score from each rule, and the FSSI is computed by summing the individual stock scores. The maximum score a stock may have is 4, and the maximum value for the index is 920 (230 x 4). The information used to generate the FSSI score comes from the status determinations made in this report (i.e., overfishing/no overfishing, overfished/not overfished), as well as more detailed information on biomass levels (i.e., B relative to B_{MSY}). The biomass information is used to determine when stocks are managed at sustainable levels (for the purpose of FSSI, a stock with biomass at least 80 percent of B_{MSY} is considered “sustainably managed”), except for stocks that are rebuilding which must first achieve a biomass that is at least 100 percent of B_{MSY} .

The FSSI measures the outputs of NMFS’ efforts in several ways. First, it captures increased knowledge of our stocks. When assessments are conducted on stocks with a previously unknown status, the change to a known from an unknown determination ensures that management actions are based on a better scientific understanding of the stocks. Second, it reflects the management goals of maintaining the fishing mortality within target levels. Third, although more indirectly, the FSSI captures information about increasing abundance of the stocks, reflected in biomass levels. Restricting fishing effort (F) should result in increasing biomass levels. Over time, the increasing stock should (1) no longer be overfished, and (2) reach its target biomass level. Thus, both positive outputs and outcomes are reflected in the score of a stock.

² A stock rebuilding from a previously overfished condition is not awarded the fourth point until it reaches B_{MSY} -- the largest potential long-term average catch or yield that can be taken from a core stock or stock assemblage under prevailing conditions -- as mandated by the Magnuson-Stevens Act. After a stock has been fully rebuilt, it may fluctuate within the 80% parameter and retain the score of 4 like the other non-rebuilding stocks.

Determining Status of Stocks

Section 303 (a)(10) of the Act requires that FMPs specify objective and measurable criteria for identifying when the fishery to which the plan applies is overfished. Further, under Section Sec. 304(e)(1) of the Act, the overfishing criteria specified in the FMP is used to determine the stock status. NSI guidelines clarify that status determination criteria (SDC) shall specify both a maximum fishing mortality threshold (MFMT) and a minimum stock size threshold (MSST), or reasonable proxies. MFMT means the level of fishing mortality (F), on an annual basis, above which overfishing is occurring. MSST means the level of biomass below which the stock or stock complex is considered to be overfished. If the current fishing mortality rate (F) is above the MFMT, then overfishing is occurring. If the stock size is below the MSST, then the stock is overfished. A stock or stock complex is approaching an overfished condition when it is projected that there is more than a 50 percent chance that the biomass of the stock or stock complex will decline below the MSST within two years. The definition for the biomass threshold in the FMP, along with trends in fishing effort, is usually the basis for determining whether a stock is approaching an overfished condition.

Stock assessments or Stock Assessment and Fishery Evaluation (SAFE) Reports typically provide information on fishing mortality and biomass estimates, and should be used to make status determinations for overfishing, overfished, and approaching an overfished condition. All three of these determinations should be made concurrent with the stock assessment or SAFE Report, whenever possible.

Year-to-year Comparisons

Prior to 2000, if stocks were either subject to overfishing or overfished, they were listed in the Status of Fisheries report as overfished. For this reason, results of reports prior to 2000 are not generally comparable with results after 2000. In addition, there have been some changes to the number of stocks subject to overfishing and overfished, based solely as a result of listing at the stock or complex level. This should be carefully considered when making year-to-year comparisons.

Rebuilding Progress

The supporting tables provide additional information on those stocks for which rebuilding programs are required. By identifying the type of management action required when overfishing is occurring or when a stock is overfished, it is possible to correctly identify which stocks require reduction of the fishing mortality rate and which stocks require rebuilding plans. The progress of each rebuilding plan is indicated in the table, giving information about the number of years the program has been in place and the current target number of years for the rebuilding plan. Some plans do not have a target time to rebuild because they lack the data necessary for rebuilding projections. For purposes of this report, December 31, 2011 is used as the cutoff date for determining the current year of the rebuilding plan.

Any stock that has previously been listed, or is currently listed, as overfished is required to have a rebuilding program until the stock has been rebuilt to levels consistent with supporting MSY on a sustainable basis. Overfished stocks that do not have a rebuilding program are listed as *rebuilding program* in the Management Action Required column, indicating that a rebuilding program is required for this stock. Overfished stocks listed as *continue rebuilding* in the Management Action Required column are currently rebuilding under an approved rebuilding program. Stocks listed as *not overfished - rebuilding* were previously below the MSST, are now above that level, but have not yet rebuilt to the target levels specified in their rebuilding plans. These stocks are currently rebuilding under an approved rebuilding plan, and are listed as *continue rebuilding* in the Management Action Required column.. These stocks are footnoted to indicate when the Council was notified of their overfished status, and – under the Magnuson Act - the Council has one year from that date to submit a rebuilding plan.

Many of the stocks listed as overfished in this report have experienced excessive levels of fishing effort in recent years, and appropriate measures have been taken to reduce fishing mortality on these stocks. Other stocks may be listed as *overfished* because of prevailing environmental conditions, habitat degradation, or natural fluctuations in the stocks. These factors may have reduced the stock biomass to levels below that necessary to produce MSY on a continuing basis. Sometimes, management measures have little impact on the status of the stocks. For example, many of the Pacific salmon stocks under the PFMC jurisdiction are not significantly impacted in fisheries within the Council’s jurisdiction. Other stocks are listed as threatened or endangered under the ESA, and management for these stocks is conducted under the ESA. Fishing effort has been appropriately reduced or eliminated, but the stocks remain overfished due to factors beyond the Council’s control. Although the Councils, NMFS, and any management regime will make every effort to implement appropriate management measures, rebuilding programs may not necessarily restore some stocks to a healthy level, until these other factors are effectively handled.

METHODOLOGY FOR STATUS DETERMINATIONS

Basis for Determining Status of Overfishing

Section 304 (e)(1) of the MSA specifies that, for those stocks in a FMP or international agreement, the status shall be determined using the criteria specified in the FMP or agreement. Many stocks have defined SDC that have been used to determine stock status. Other stocks have defined SDC, but have never been assessed relative to these SDC or the assessment failed to provide a conclusive determination about stock status; these stocks will be listed as *unknown*. Still others may have no SDC (neither a benchmark nor numerical estimate of the biological reference points), but are not classified as ecosystem component species; these stocks will be listed as *undefined* because there is no basis for determining status, but they must still be accounted for when reporting the number of stocks / stock complexes in the FMP.

Determinations for Stocks, Assemblages, or Complexes that do not use Approved SDC Contained in the FMP but use Best Scientific Information Available

Guidelines to comply with National Standard 2 indicate that FMPs – including criteria for determining stock status - must take into account the best scientific information available (BSIA) at the time of preparation. Many FMPs adopt and implement revisions to SDC or revised estimates of numerical reference points coincident with new assessments so that the SDC in the FMP is the BSIA. For those FMPs that do not automatically adopt new SDC coincident with a new stock assessment deemed the BSIA, as determined by the Scientific and Statistical Committee (SSC) (where applicable), stock status listed in the Report will be based on the BSIA. This policy ensures that stock status is always based on the most recent information.

The FMP should be amended as soon as possible to adopt the new reference points determined to be the BSIA. Until this is done, the official status will be based on BSIA and footnoted to indicate status relative to SDC in the FMP.

Reporting Level – Stocks and Stock Complexes

The status of all stocks managed under an FMP implemented under the MSA, or under an international agreement, for which there are criteria, will be reported in the annual Status of U.S. Fisheries Report to Congress. Stock status will also be updated quarterly on the NOAA Office of Sustainable Fisheries web site. The status of all managed species contained in an FMP will be reported at the level for which the SDC are specified in the FMP. For stocks that do not have measurable SDC, there is no basis for reporting stock status.

A single species in an FMP may have multiple stocks, and each stock may be reported separately. Multiple species may be grouped into stock complexes, and the status of the stock complex is reported as a single unit. In each case, the reporting unit is determined by the SDC within the stock's FMP. For some stock complexes, an individual stock is assessed and serves as the proxy stock for all stocks within the stock complex. Although it is the proxy stock that is assessed, the SDC apply to the stock complex, so that is the unit for which stock status is reported. Wherever stock complexes are reported, the names of all individual stocks within that complex are provided as a footnote to the listing table.

Determinations based on Stock Assessments that Result in Known Determinations but Fail to Provide Management Advice

In rare cases, a stock assessment may provide a conclusion about stock status, but falls short of providing adequate information for management advice to fisheries managers. This could include, but not be limited to, failure to provide target fishing levels or rebuilding projections. For example, a stock assessment report may conclude that it is highly likely a stock is overfished, but lacks the data necessary to provide a rebuilding

target. As long as the results from the assessment were accepted, the status determinations must still be reported as the official stock status. This procedure does not apply to cases where the stock assessment is rejected, but only to cases where the results of the assessment have been accepted, which may include assessments with a high level of uncertainty.

Determinations based on Stock Assessments that Result in Unknown Determinations

Sometimes, a stock assessment is rejected because the data were insufficient . and it fails to provide a known conclusion about the overfishing and/or overfished status. The conclusion of an unknown determination by a stock assessment must be reported by the RA; statements about uncertainty can often confuse what the final conclusion was, so the status determination must be clearly articulated.

For purposes of reporting stock status to the public, where a known determination had previously been provided and a new assessment is either rejected or is accepted, but the results are inconclusive, the known stock status will continue to be the official stock status. The most recent assessment that concluded unknown status will be communicated to the public in a footnote. Measures to end overfishing for stocks that were previously found to be subject to overfishing and rebuild overfished stocks for stocks found to be overfished must continue even if the most recent assessment could not determine stock status. The only exception is if an assessment is later determined to be invalid. Invalidating a stock assessment is a formal process that must be executed in order to void the results (see Section 3.4 below).

Determinations based on Stock Assessments that are later Invalidated

In rare cases, it may be found that an error was made in a previous stock assessment that would have resulted in a different stock status *at that time*. For example, if it is determined that the wrong data were used, a miscalculation occurred, or the basis for the determination was never valid to begin with, this would serve as the basis for invalidating a stock assessment.

Knowledge of fish stocks and the procedures used to assess them are constantly changing and evolving. As long as the basis for the determination was valid, there were no errors in calculations or methodology, and the best available science at the time was used, the results of previous stock assessments will not be invalidated even if the new assessment revises what is now known about past stock status.

Formally invalidating a stock assessment requires a memorandum from the Regional Science Center and Regional Office to the NMFS Office of Sustainable Fisheries (Headquarters or HQ), providing a detailed explanation of why the stock assessment and/or status determination is not valid, including what errors were made in the earlier assessment. HQ will review the memorandum and determine if the basis for invalidating

the assessment is valid, and will inform the Region of its decision. If accepted, this memorandum shall be available wherever the stock assessment report is publicly posted.

A stock assessment cannot be later invalidated simply because updated information results in a different conclusion about past stock status. What scientists and managers know about fish stocks is constantly evolving and there will always be changes to what is defined as the best scientific information. As long as the best available information was used at the time and the basis was valid, however rudimentary it may have been, the determination that was reported will remain the official stock status for that assessment.

Status Determinations based on Citable Evaluation Documents

Rarely, a stock status determination is made where a formal (i.e., peer reviewed) assessment is lacking, but may be appropriate in very limited cases. For example, a stock in which the fishery is closed can reasonably be expected to be not subject to overfishing, provided that no extenuating circumstances exist (i.e., bycatch in other fisheries, state water fishery). In such cases, a determination will be made on the basis of a Citable Evaluation Document (CED). A CED is typically used as the basis for an overfishing determination, but in rare cases, can be used as the basis for an overfished determination.

The Science Center should produce the CED and the Region will review and submit the document to HQ. A CED must be updated and submitted annually for each stock whose status is based on this type of analysis. Appendix 2 provides basic elements that should be discussed and analyzed in a CED.

Overfished Status Determinations using Time Series Data

Section 304(e)(2) of the MSA states the following:

If the Secretary determines at any time that a fishery is overfished, the Secretary shall immediately notify the appropriate Council and request that action be taken to end overfishing in the fishery and to implement conservation and management measures to rebuild affected stocks of fish.

Overfished determinations are typically made by using the last year for which data are available (hereafter referred to as the “terminal year”); however data from a non-terminal year can provide useful information about past stock status. Most stock assessments include previous years’ estimates of stock size, referred to as a time series. Sometimes the time series from the new assessment provides a different conclusion about stock status in a non-terminal year compared to stock status in the terminal year.

Whenever a time series is used to update stock status and revise management actions, all of the years in the time series may be considered, but only as far back as the last assessment. Thus, the time series cannot be used to formally change status determinations *that have already been made* in an earlier year, using a different assessment as the basis. The only exception to reversing a status determination is if the

assessment for which the determination is based is invalidated (see section 3.4). Setting a time limit as far back as the last assessment ensures that an indefinite time series cannot be used to revise stock status or change management requirements. Without setting an appropriate time limit, constant revisions to stock status would continue to be made, confounding the current management of the stock. Since the MSA requires that stocks be managed at sustainable levels, if the stock has not increased to this level since being declared overfished, management measures must be maintained until the stock is rebuilt. This requirement ensures that stocks will be maintained at the higher long-term sustainable level required under the Act.

The following are the only two types of changes where a non-terminal year can be used to update stock status or trigger a change in management action, but only using the time series *as far back as the last assessment*:

- Rebuilding stock meets rebuilding target in a non-terminal year, but is below rebuilding target / not overfished in the terminal year. In this example, the stock will be considered rebuilt.
- Stock is found to be overfished in a non-terminal year, but not overfished / below Bmsy in the terminal year – In this example, the stock will be listed as not overfished - rebuilding and a rebuilding plan will be required to ensure the stock achieves Bmsy.

Revising SDC

Status determination criteria are likely to be revised over time, as scientists refine their estimates of biological reference points. The SDC may be revised in terms of the benchmark used to assess the stock, such as using spawning stock biomass in lieu of total spawning biomass, or total catch instead of direct fishing mortality estimates. In addition, numerical estimates of the biological reference points (BRPs), such as Fmsy, Bmsy, or related proxies, may also be re-estimated, resulting in different threshold levels for determining stock status.

The FMP directs how the SDC will be updated. For example, some FMPs allow both the benchmarks and numerical estimates of BRPs to be revised concurrent with the acceptance of a stock assessment or SAFE Report. Other FMPs require an FMP amendment to revise the benchmarks only, but allow numerical estimates of BRPs to be updated concurrent with an assessment.

Although no standard exists for the time between assessments, a full benchmark assessment (in which SDC may be revised) is generally conducted every 2-6 years, although some stocks may not be reassessed for 10 years or more. An agency performance measure, Percentage of Living Marine Resources (LMRs) with Adequate Population Assessments and Forecasts, was developed to: (1) produce new adequate assessments for species and stocks that do not currently have one; and, (2) maintain the adequacy of existing assessments by periodically refreshing them with new data and analyses. For fish stocks, an assessment is deemed adequate if it meets or exceeds the Stock Assessment Improvement Plan (SAIP) level 3 data standards and has been done or

updated within the past 5 years. This performance measure only includes the stocks contained in the Fish Stock Sustainability Index (FSSI).

Stock Status Determination Process

Section 304 (e)(2) of the Act states if the Secretary determines at any time that a fishery is overfished, the Secretary shall immediately notify the appropriate Council and request that action be taken to end overfishing in the fishery and to implement conservation and management measures to rebuild affected stocks of fish. Within NMFS, the task of making the determinations of overfishing and overfished has been delegated to the

In the Fishery
Stocks that are actively targeted

Ecosystem Component
A non-target stock that is not subject to overfishing or overfished (or likely to become so), and generally not retained for sale or personal use

Assistant Administrator (AA) for Fisheries. Once a stock assessment or other accepted basis is peer reviewed and accepted as Best Scientific Information Available (BSIA), the Regional Administrator (RA) submits an Issues Advisory/Decision Memo (DM) requesting that the AA concur with the status indicated in the DM. Informing the Councils of stocks subject to overfishing or overfished stocks is the duty of the RA and will be communicated by a formal letter notifying them of such status.

Stock Removed from FMPs

To comply with the ACL requirement, some Councils adjusted the number of stocks contained in the management unit of their FMPs. These changes were done to more accurately account for stocks within a fishery versus those that are not. The MSA gives Councils considerable discretion in defining a “fishery” under their FMPs. Some FMPs include one or a few stocks, whereas others include hundreds of species in an effort to incorporate ecosystem approaches to management. NMFS considers all stocks in an FMP to be “in the fishery” unless a stock has been specifically identified through an FMP or FMP amendment as an “ecosystem component species.” Ecosystem component (EC) species are not in the management unit and are not required to have ACLs. Data collection only complexes are currently treated as de facto EC species and do not have ACLs specified.

The net effect of these adjustments is to better comply with the intent of the MSA to apply ACLs to stocks for which there is targeted or non-targeted catch. These adjustments can be seen in the numbers of stocks and complexes contained in the report, as well as by the inclusion of those listed as “ecosystem component” species in the report tables.

National Marine Fisheries Service - 2011 Status of U.S. Fisheries

For 2011, the following stocks were removed or otherwise revised.

Jurisdiction	FMP	Stock
SAFMC	Golden Crab Fishery of the South Atlantic Region	Jonah crab - Southern Atlantic Coast
SAFMC	Golden Crab Fishery of the South Atlantic Region	Red deepsea crab - Southern Atlantic Coast
SAFMC	Reef Fish Resources of the Gulf of Mexico	Nassau grouper - Gulf of Mexico (combined with Southern Atlantic Coast to form one stock managed under the Snapper-Grouper FMP)
SAFMC / GMFMC	Coastal Migratory Pelagic Resources of the Gulf of Mexico and South Atlantic	Cero - Southern Atlantic Coast / Gulf of Mexico
SAFMC / GMFMC	Spiny Lobster in the Gulf of Mexico and South Atlantic	Ridged slipper lobster - Gulf of Mexico
GMFMC	Shrimp Fishery of the Gulf of Mexico	Brown rock shrimp - Gulf of Mexico
GMFMC	Shrimp Fishery of the Gulf of Mexico	Seabob - Gulf of Mexico
GMFMC	Coastal Migratory Pelagic Resources of the Gulf of Mexico and South Atlantic	Bluefish - Gulf of Mexico
GMFMC	Coral and Coral Reefs of the Gulf of Mexico	Soft corals (Octocorallia) - Gulf of Mexico
GMFMC	Reef Fish Resources of the Gulf of Mexico	Anchor tilefish - Gulf of Mexico
GMFMC	Reef Fish Resources of the Gulf of Mexico	Blackline tilefish - Gulf of Mexico
GMFMC	Reef Fish Resources of the Gulf of Mexico	Dog snapper - Gulf of Mexico
GMFMC	Reef Fish Resources of the Gulf of Mexico	Dwarf sand perch - Gulf of Mexico
GMFMC	Reef Fish Resources of the Gulf of Mexico	Mahogany snapper - Gulf of Mexico
GMFMC	Reef Fish Resources of the Gulf of Mexico	Misty grouper - Gulf of Mexico
GMFMC	Reef Fish Resources of the Gulf of Mexico	Red hind - Gulf of Mexico
GMFMC	Reef Fish Resources of the Gulf of Mexico	Rock hind - Gulf of Mexico
GMFMC	Reef Fish Resources of the Gulf of Mexico	Sand perch - Gulf of Mexico

National Marine Fisheries Service - 2011 Status of U.S. Fisheries

Jurisdiction	FMP	Stock
GMFMC	Reef Fish Resources of the Gulf of Mexico	Schoolmaster - Gulf of Mexico
PFMC	Pacific Coast Salmon	Chinook salmon - Columbia River Basin: Klickitat, Warm Springs, John Day, and Yakima (spring)
PFMC	Pacific Coast Salmon	Chinook salmon - Southern British Columbia: Coastal
PFMC	Pacific Coast Salmon	Chinook salmon - Southern British Columbia: Fraser
PFMC	Pacific Coast Salmon	Coho salmon - Puget Sound: Eastern Strait of Juan de Fuca (combined with Western Strait of Juan de Fuca to form one stock)
PFMC	Pacific Coast Salmon	Coho salmon - Southern British Columbia: Coastal
PFMC	Pacific Coast Salmon	Coho salmon - Southern British Columbia: Fraser
PFMC	Pacific Coast Salmon	Pink salmon - Southern British Columbia: Fraser (odd-numbered years)
HMS	Consolidated Atlantic Highly Migratory Species	Atlantic Deepwater Shark Data Collection Species Complex
CFMC	Queen Conch Resources of Puerto Rico and the United States Virgin Islands	Caribbean Conch Data Collection Species Complex
CFMC	Corals and Reef Associated Plants and Invertebrates of Puerto Rico and the United States Virgin Islands	Caribbean Corals and Reef Associated Plants and Invertebrates Data Collection Species Complex
WPFMC	Pacific Pelagic Fisheries of the Western Pacific Region Ecosystem	Western Pacific Squid Complex
PFMC	Coastal Pelagic Species	Coastal Pelagic Species Ecosystem Component Species
NPFMC	Fish Resources of the Arctic Management Area	Fish Resources of the Arctic Management Area Ecosystem Component Species*
PFMC / WPFMC	U.S. West Coast Fisheries for Highly Migratory Species / Pacific Pelagic Fisheries of the Western Pacific Region Ecosystem	U.S. West Coast Fisheries for Highly Migratory Species / Pacific Pelagic Fisheries of the Western Pacific Region Ecosystem Component Species*
NPFMC	Scallop Fishery off Alaska	Scallop Fishery off Alaska Ecosystem Component Species*

APPENDIX 2. ACRONYMS USED IN THE TEXT AND APPENDICES

V - The relative stock size at which the overfishing level falls to zero, set at a default value of 0.05 with the understanding that the SSC may establish a different value for a specific stock or stock complex as merited by the best available scientific information.

ABC - Allowable Biological Catch - A term that refers to the range of allowable catch for a species or species group. It is set each year by a scientific group. The ABC estimates are used to set the annual total allowable catch (TAC). This term is also referred to as Acceptable Biological Catch.

ACL – Annual Catch Limit – A term that refers to the amount of fish allowed to be caught in a year.

AM – Accountability Measures – A term that refers to measures designed to prevent annual catch limits from being exceeded, and to address such a situation quickly if it does occur.

ASMFC - Atlantic States Marine Fisheries Commission - Serves as a deliberative body of the Atlantic coastal states, coordinating the conservation and management of nearshore fishery resources, including marine, shell, and anadromous species.

B - The weight (biomass) of a group of fish.

B_{MSY} - The weight (biomass) of a group of fish necessary to produce MSY on a continuing basis.

CFMC - Caribbean Fishery Management Council.

CPUE - Catch Per Unit of Effort - The number of fish caught by an amount of effort. Typically, effort is a combination of gear type, gear size, and length of time gear is used. Catch per unit of effort is often used as a measurement of relative abundance.

EEZ - Exclusive Economic Zone - All waters from the seaward boundary of coastal states out to 200 nautical miles.

EPR – Eggs Per Recruit - The average number of eggs produced by an individual fish that has been recruited, i.e., that moved into a certain class, such as the spawning class or fishing-size class. Used as an index of abundance.

ESA - Endangered Species Act.

F - Fishing Mortality Rate - A measurement of the rate of removal of fish from a population by fishing. Fishing mortality rate can be reported as either discrete or instantaneous. Discrete mortality is the percentage of fish dying in one year. Instantaneous mortality is the rate at which fish are dying at a point in time.

F_{ABC} - The level of fishing mortality that results in the allowable biological catch.

F_{MAX} - The level of fishing mortality that results in the greatest yield from the fishery.

F_{MSY} - The level of fishing mortality that results in the maximum sustainable yield.

F_{OF} - The level of fishing mortality defined as overfishing.

F_{OFL} - The level of fishing mortality associated with overfishing.

$F_{20\%}$ - The level of fishing mortality that results in a spawning potential ratio of 20% of the maximum.

$F_{25\%}$ - The level of fishing mortality that results in a spawning potential ratio of 25% of the maximum.

$F_{30\%}$ - The level of fishing mortality that results in a spawning potential ratio of 30% of the maximum.

$F_{35\%}$ - The level of fishing mortality that results in a spawning potential ratio of 30% of the maximum.

$F_{40\%}$ - The level of fishing mortality that results in a spawning potential ratio of 40% of the maximum.

$F_{0.1}$ - The point on the spawning per recruit curve at which the level of spawning per recruit is 35% of 40% of the maximum.

$FAKR$ - NMFS, Alaska Region.

FMP - Fishery Management Plan - A plan to achieve specified management goals for a fishery.

$FSSI$ - Fish Stock Sustainability Index.

$GARM$ - Groundfish Assessment Review Meeting. A review of stock status for groundfish stocks under the Northeast Multispecies Fishery Management Plan.

$GMFMC$ - Gulf of Mexico Fishery Management Council.

$GSMFC$ - Gulf States Marine Fisheries Commission - Serves as a deliberative body for the Gulf of Mexico coastal states, coordinating the conservation and management of nearshore fishery resources, including marine, shell, and anadromous species.

HMS - Highly migratory species including tunas, marlins, oceanic sharks, sailfishes, and

swordfish; the HMS Management Division develops fishery policies designed to manage any Atlantic highly migratory species.

LTPY - Long-Term Potential Yield - The maximum long-term average catch that can be achieved from a resource.

MAFMC - Mid-Atlantic Fishery Management Council.

MFMT – Maximum Fishing Mortality Threshold – The level or rate of fishing mortality, that if exceeded, constitutes overfishing because it jeopardizes the capacity of a stock or stock complex to produce MSY on a continuing basis.

MSA – Magnuson-Stevens Fishery Conservation and Management Act.

MSRA – Magnuson-Stevens Fishery Conservation and Management Reauthorization Act of 2006.

MSP₁ - Maximum Spawning Potential - See SPR.

MSP₂ - Maximum Sustainable Production - The adult spawning population that will, on average, maximize the biomass of juvenile outmigrants with average environmental conditions. Conservation objectives for specific salmon stocks managed under the Pacific Coast Salmon Plan are currently based on either MSP principles for stocks managed primarily for natural production or on hatchery escapement needs for stocks managed for artificial production.

MSST – Minimum Stock Size Threshold – The minimum size of the stock or stock complex that is required to produce MSY, the size below which the stock or stock complex is determined to be overfished. The threshold should equal whichever of the following is greater: ½ the MSY stock size, or the minimum stock size at which rebuilding to the MSY level would be expected to occur within 10 years if the stock or stock were exploited at the maximum fishing mortality threshold.

MSY - Maximum Sustainable Yield - The largest long-term average catch or yield that can be taken from a stock or stock complex under prevailing ecological and environmental conditions.

NEFMC - New England Fishery Management Council.

NEFSC - NMFS, Northeast Fisheries Science Center.

NPFMC - North Pacific Fishery Management Council.

OLO - *Our Living Oceans* - A report on the status of U.S. living marine resources.

OY - Optimum Yield - The amount of fish that: (1) will provide the greatest overall

benefit to the Nation, particularly with respect to food production and recreational opportunities, and taking into account the protection of marine ecosystems; (2) is prescribed on the basis of the MSY from the fishery, as reduced by any relevant economic, social, or ecological factors; (3) in the case of an overfished fishery, provides for rebuilding to a level consistent with producing the MSY in such fishery.

pdf - Probability Density Function - A description of the probability that a variable takes a specified value.

PFMC - Pacific Fishery Management Council.

SAFE - Stock Assessment and Fishery Evaluation - A document or set of documents that provides Councils with a summary of the most recent biological condition of species in the fishery management unit, and the social and economic condition of the recreational and commercial fishing interests and the fish processing industries. It summarizes, on a periodic basis, the best available scientific information concerning the past, present, and possible future condition of the stocks and fisheries being managed under federal regulation.

SAFMC - South Atlantic Fishery Management Council.

Salmon FMP - Pacific Coast Salmon Plan.

SARC - Stock Assessment Review Committee.

SEDAR - Southeast Data, Assessment and Review.

SEFSC - Southeast Fishery Science Center.

SFA - Sustainable Fisheries Act - Amended the Magnuson-Stevens Fishery Conservation and Management Act, on October 11, 1996.

SPR - Spawning Potential Ratio - The number of eggs that could be produced by an average recruit in a fished stock, divided by the number of eggs that could be produced by an average recruit in an unfished stock. SPR can also be expressed as the spawning stock biomass per recruit (SSBR) of a fished stock divided by the SSBR of the stock before it was fished.

SSB - Spawning Stock Biomass - The total weight of the fish in a stock that are old enough to spawn.

SSBR - Spawning Stock Biomass Per Recruit - The spawning stock biomass divided by the number of recruits to the stock, or how much spawning biomass an average recruit would be expected to produce.

SSC - Scientific and Statistical Advisory Committee - A group of scientific and technical

people giving advice to a Council.

TAC – Total Allowable Catch.

T coho - The average coho life span that would be expected over the long term in the absence of exploitation. The default of T coho is 4 years, but the SSC may set T coho at a different value without an FMP amendment on the basis of the best scientific information.

TRAC - Transboundary Resources Assessment Committee - A committee established in 1998 to peer review assessments of transboundary resources in the Georges Bank area and thus to ensure that the management efforts of both Canada and the United States, pursued either independently or cooperatively, are founded on a common understanding of resource status.

WPFMC - Western Pacific Fishery Management Council.