PRELIMINARY DRAFT OF

ENVIRONMENTAL ASSESSMENT AND REGULATORY IMPACT REVIEW FOR REVISIONS TO GUIDELINES FOR NATIONAL STANDARD ONE TO THE MAGNUSON-STEVENS FISHERY CONSERVATION AND MANAGEMENT ACT

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U.S. Department of Commerce

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Acronyms used in this document:
B - biomass
B_{lim} - minimum biomass limit
EFH - essential fish habitat
EIS - environmental impact statement
ESA - Endangeres Species Act
F - fishing mortality rate
F_{lim} - maximum fishing mortality limit
Magnuson-Stevens Act -- M-S Act
MFMT - maximum fishing mortality threshold
MSST - minimum stock size threshold
MSY - maximum sustainable yield
NMFS - National Marine Fisheries Service; NOAA Fisheries
NOAA - National Oceanic and Atmospheric Administration

OY - optimum yield
SDC- status determination criteria (Flim and Blim)
SFA- Sustainable Fisheries Act
SPR - spawning potential ratio

1.0 Introduction

1.1 Executive Summary

The National Marine Fisheries Service (NMFS), NOAA, is proposing to revise the guidelines for national standard 1 as described in 50 CFR part 600. The intent of this action is to clarify, amplify, and simplify the guidelines in several instances, so that fishery management councils and the public have a better understanding of (1) how to establish better status determination criteria (SDCs) for stocks that vary in data quality, (2) how to construct and when to revise rebuilding plans, and (3) improve the ability of fishery management councils and NMFS to comply with the requirements of section 304 of the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act).

The proposed revisions include: 1) rename "minimum stock size threshold" to be "minimum biomass limit (B_{lim})", "maximum fishing mortality threshold" to be "fishing mortality rate limit (F_{lim})", and "overfished" to be "depleted";(2) Require that fishery management plans (FMPs) be revised so that species/stocks can be classified as "core" stock and/or as a stock falling within a "stock assemblage" for each FMP; (3) specify that B_{lim} should equal ½ B_{msy} and clarify when exceptions to the ½ B_{msy} amount are appropriate; (4) reinforce the requirement that annual fishing mortality rate (F) prevents overfishing; (5) revise the rebuilding time horizon formula to remove discontinuity in current version; (6) clarify how to use F in managing a fishery when it is not possible to calculate B_{msy}; (7) clarify when rebuilding plans need to be revised; clarify and confirm the requirement for optimum yield (OY) control rules; and (8) clarify how to manage "straddling stocks" and highly migratory stocks.

The proposed revisions should not result in any immediate (upon publication of the final rule in the Federal Register), in the short term (i.e., 30 days after date of publication of the final rule for this action in the Federal Register) or medium term (the first year or so after the final rule would become effective) biological, economic or social impacts in fisheries in the EEZ.

The proposed revision that would require that management be conducted by an OY control rule (rather than an MSY control rule) for fisheries that are not data poor, may result in smaller annual allowable harvest amounts for one or a few years once an OY control rule is implemented. A similar reduction in catch will occur in those fisheries that now have overfishing occurring and the revised NS1 guidelines will require more definitive progress in eliminating overfishing.

Impacts of OY control rules would only be known when an FMP amendment is prepared that contains an OY control rule and accompanying new management measures or an FMP amendment explains how current measures would accomplish the OY control rule's objectives, if such is the case.

If NMFS does proceed with a proposed and final rule to revise portions of the NS1 guidelines, it intends to implement the revisions as described below. For the proposed revisons other than the "Terminology," issue, the new guidelines would apply to any new actions submitted by a regional fishery management council (Council). NMFS would not require a Council to take any action relative to provisions already in place. Any new action that a Council submits that includes issues or management measures associated with status determination criteria (SDCs), overfishing definitions, or rebuilding plans must be evaluated according to the revised NS1 guidelines. However, if an action is already "in the pipeline" and a draft environmental impact statement's notice of availability has already been published in the Federal Register before a final rule for the revised NS1 guidelines is effective, then a Council may submit an FMP or FMP amendment under either the "old" or "new" NS1 guidelines. In general, Councils would not be required to amend their SDCs. overfishing definitions, and rebuilding plans by any date certain, unless NMFS, on behalf of the Secretary of Commerce, determines under section 304(e)(7) of the Magnuson-Stevens Act that a rebuilding plan needs to be revised.

If the proposed revisions to terminology are adopted, NMFS would request that fishery management councils begin using the new terms in place of the old terms, revise FMP language the next time the Council submits an FMP amendment for Secretarial review, and NMFS would begin using the new terms

in its Annual Report to Congress of the Status of U.S. Fisheries (formerly called the Status of the Stocks Report). If any codified language exists under 50 CFR part 600 for fisheries managed under the Magnuson-Stevens Act related to "overfished" or "minimum stock size threshold" or "maximum fishing mortality threshold," the appropriate NMFS Regional Office should submit a "final rule technical amendment" to the NMFS Office of Sustainable Fisheries in Headquarters for publication in the Federal Register. In the case of Atlantic highly migratory species, the NMFS Office of Sustainable Fisheries would prepare a final rule technical amendment.

For the most part, aspects of the proposed revisions to the NS1 guidelines, other than the OY control rule provision and the accelerated phasing-out of overfishing, will not often result in substantive changes to management measures currently in place for various fishery management plans (i.e., for the majority of stocks currently having overfished and overfishing definitions and rebuilding plans that have already been approved under SFA). For FMPs that are data poor and still operate under pre-SFA overfished or overfishing definitions, some of the proposed revisions to the NS1 guidelines should enhance the likelihood that overfished or overfishing definitions can be developed that achieve the objectives of section 304 of the Magnuson-Stevens Act.

1.2 Purpose and Need for Action

NMFS and the fishery management councils are charged with the difficult, but important task of balancing the need to prevent overfishing, rebuild overfished stocks as soon as possible, take into account the needs of fishing communities and fishing industry infrastructure, and examine actions in terms of overall benefits to the nation. The overall intent of the Magnuson-Stevens Act is to prevent overfishing and rebuild overfished stocks in as short a time as possible.

NMFS decided in November 2003, after receiving public comment on the current usefulness of the guidelines for national standard 1, and convening a NMFS Working Group (Working Group) to review the guidelines, that it would propose revisions to the guidelines. NMFS believes that the revisions contained in the proposed alternatives described

herein will improve the ability of fishery management councils to establish meaningful SDCs for overfishing definitions and rebuilding plans that comply better with the Magnuson-Stevens Act. Further, the proposed revisions would provide additional guidance concerning rebuilding plans and rebuilding time horizons.

1.3 History and development of national standard 1

The Magnuson-Stevens Act serves as the chief authority for fisheries management in the exclusive economic zone of the United States. Section 301(a) contains 10 national standards with which all fishery management plans (FMP) and their amendments must comply. In other words, the national standards are statutory principles that must be followed in any FMP. Section 301(b) requires that "the Secretary establish advisory guidelines (which shall not have the force and effect of law), based on the national standards, to assist in the development of fishery management plans." Guidelines for the national standards are codified in Subpart D of Title 50 CFR Part 600 (includes 50 CFR 600.5 through 600.355). The guidelines for the national standards were last revised in a final rule published in the Federal Register on May 1, 1998 (63 FR 24212), when guidelines for national standards 1 (optimum yield), 2 (scientific information), 4 (allocations), 5 (efficiency), and 7 (costs and benefits) were revised, and guidelines for new national standards 8 (communities), 9 (bycatch), and 10 (safety of life at sea) were added.

National Standard 1 is "Conservation and management measures shall prevent overfishing while achieving on a continuing basis, the optimum yield from each fishery for the United States fishing industry," according to section 301(a)(1) of the Magnuson-Stevens Act. Section 303(a)(10) requires that each FMP shall "specify objective and measurable criteria for identifying when the fishery to which the plan applies is overfished (with an analysis of how criteria were determined and the relationship of the criteria to the reproductive potential of stocks of fish in that fishery) and, in the case of a fishery which the Council or Secretary has determined is approaching an overfished condition or is overfished, contain conservation and management measures to prevent overfishing or end overfishing and rebuild the fishery."

For any fishery that is overfished, section 304(e)(4)(A) requires that an FMP shall "specify a time period for ending overfishing and rebuilding the fishery that shall–(i) be as short as possible, taking into account the status and biology of any overfished stocks of fish, the needs of fishing communities, recommendations by international organizations in which the United States participates, and the interaction of the overfished stock within the marine ecosystem; and (ii) not exceed 10 years, except in cases where the biology of the stock of fish, other environmental conditions, or management measures under an international agreement in which the U.S. participates, dictate otherwise.

The guidelines for national standard 1 (NS1) were revised extensively in the May 1, 1998, final rule to make the guidelines conform to revisions to the Magnuson-Stevens Act, as amended by the Sustainable Fisheries Act on October 11, 1996. In particular, the guidelines for NS1 addressed new requirements for FMPs brought about by section 304 (rebuilding overfished fisheries) being added to the Magnuson-Stevens Act.

1.4 Advance notice of proposed rulemaking for NS1

1.4.1 The ANPR

NMFS issued an advance notice of proposed rulemaking (ANPR) in the Federal Register on February 14, 2003 (68 FR 7492), to announce that it was considering revisions to the guidelines for NS1 that specify the criteria for overfishing and establish rebuilding schedules. After working with the current version of the guidelines for NS1 since June 1, 1998 (the effective date of the final rule published in the Federal Register on May 1, 1998), NMFS has refined its perspectives, and become aware of new issues and problems regarding the application of the guidelines. NMFS identified several concerns for revision in the ANPR, but did not limit what sections of the NS1 guidelines could be revised.

The five concerns listed in the ANPR were as follows:

1. The definition and use of the minimum stock size threshold for determining when a stock is overfished.
2. Calculation of the rebuilding targets appropriate to the environmental regime.

3. Calculation of the maximum permissible rebuilding times for overfished fisheries.

4. The definitions of overfishing as they relate to a fishery as a whole, or a stock of fish within that fishery.

5. Procedures to follow when rebuilding plans require revision after initiation, especially with regard to modification of a rebuilding schedule.

In the ANPR, NMFS also solicited comments from the public related to: (1) whether or not the national standard 1 guidelines should be revised, and (2) if revisions are desired, what parts of the national standard 1 guidelines should be revised, how they should be revised, and why.

The comment period for the ANPR was extended through April 16, 2003, when NMFS issued an extension of the comment period in the Federal Register on March 3, 2003 (68 FR 9967).

1.4.2 Public comments received on the ANPR

NMFS received extensive public comments on the ANPR for guidelines for national standard 1. Members of the public submitted more than 6,900 letters containing recommendations in one of five forms. Also, NMFS received 46 letters that had unique content, and one of those letters was also sent duplicate by a different individual/firm indicating that the two firms sending the same letter had the same concerns.

Within the group of 6,900 letters, comments contained one or more of following recommendations:

1) Do not weaken the NS1 guidelines, rather, make them more effective in carrying out the mandate of the Magnuson-Stevens Act to end overfishing and rebuild our stocks.

2) The issues in the ANPR are troubling because they suggest NMFS is considering weakening the definition of when a stock is overfished, extending the time frames for rebuilding overfished populations and allowing environmental degradation to be used as an excuse not to rebuild depleted fish stocks to previous levels.

3) Maintain or strengthen the definition of overfished populations and strict, enforceable deadlines of plans to rebuild these overfished populations in the current guidelines.

4) NMFS should not use flexibility or changing environmental conditions to excuse continued overfishing. NMFS should not

allow fishermen to exceed target fishing levels, including New England where cod catches have exceeded target fishing levels by 2-4 times the amount of the target TAC.

Within the group of 47 letters, a brief summary of recommendations were as follows:

Minimum stock size threshold (MSST)

1) Keep MSST; give better guidance for designation of MSST in data poor situations.
2) MSST is essential, as it is the only biological portion of the criteria used to determine when a stock is overfished.
3) NMFS should first try to implement current MSST guidance to see if that guidance is effective.
4) Give better advice and a broader range as to what would be a reasonable proxy for MSST in the absence of a biomass value
5) Give better guidance in terms of how to address different population characteristics for crustaceans, mollusks, and plants compared to bony fishes and cartilaginous fishes
6) Provide better guidance to address how MSY and OY should be addressed for species that are annual crops (should MSSTs and other criteria be point estimates or a range of estimates?)
7) MSST calculations should take into account that for long-lived species, recruitment varies considerably under changing environmental conditions
8) The requirement that a stock is considered overfished when it falls below MSST in a single year should be changed due to high variability in recruitment.
9) Sometimes a Council prohibits possession for a data-poor stock that is believed to be overfished. What else should the Council do to comply with NS1?
10) For data poor species, recognize spawning potential ratio-based values for now required biomass-based parameters.
11) Make MSSTs more precautionary. MSSTs should be set at levels that equal 100% of the stock size (Bmsy) capable of producing MSY. MSST should equal Bmsy.
12) Remove the MSST requirement for some or all stocks. Consider the utility of the North Pacific Council's automatic rebuilding algorithm (harvest control rule (HCR) tiers 1 through 3) as a family of HCRs for managing vulnerable species. F is increasingly reduced as population size decreases as a viable management alternative to a MSST

control rule. Guidelines should allow development of an FMP without reference points if landings are capped and a data collection program is instituted.
13) MSST should be optional. For some stocks we have no information on MSST.

Environmental regime change

1) Use environmental regime changes to adjust rebuilding targets.
A) Environmental regimes must be built into the calculation of reasonable rebuilding periods.
B) The NS1 guidelines need to take into account continuously changing environment.
C) Due to the paucity of specific knowledge about environmental conditions and their effects on fish population abundance, rebuilding targets and MSY control rules should be specified in terms of ranges rather than a peak value.
2) Do not use environmental regime shifts to adjust rebuilding targets.
A) It is premature and inappropriate to consider the guidelines as to this concern.
B) There does not appear to be any well-known or well-supported case of a currently exploited and depleted fish population whose productivity is reduced because of environmental change unrelated to the adverse effects of fishing on the ecosystem.
C) A policy should be adopted that no adjustments be based on an environmental regime change when setting overfished stock rebuilding plans.
D) A reduction in F is appropriate whether or not a reduction in abundance occurred from fishing or an environmental regime shift—management still has to take what action it can to protect the fish stock and provide an opportunity for rebuilding.

Maximum permissible rebuilding time

1) Take a minimum amount of time to rebuild a fishery (as short a time as possible).
A) The one mean generation time exception in the guidelines must be removed; leave the guidelines to say "rebuild in as short a time as possible."
B) Revise the guidelines to provide that rebuilding be completed as soon as possible, even if it cannot be accomplished in 10 years.

C) Revise the guidelines to avoid balloon payments in rebuilding plans (greater restrictions in the final years of the rebuilding plan).
2) Take maximum permissible time to rebuild a fish stock
A) Overzealous rebuilding strategies are likely to violate all the other provisions of OY relating to preservation of the industry, supply of food, maximum benefit to the environment and preservation of cultural and economic aspects of commercial fishing.
B) There should be maximum flexibility in calculating maximum rebuilding times. Goals should not be set too high resulting in unnecessary hardship and losses to consumers, communities, and industry.
C) Remove time limits for rebuilding fisheries. Replace time limits for rebuilding with a requirement to always fish at a rate that allows for stock growth in "normal" environmental conditions.

<u>Definition of overfishing relating to the fishery as a whole</u>
1) Keep guidelines unrevised regarding definitions of overfishing relating to the fishery as a whole.
A) Until now, NMFS has developed a clear, implementable vision as to how to manage ecosystems; it is premature to visit its overfishing definitions concerning a "fishery as a whole."
B) Combining assessments and SDCs for assemblages of minor stocks may be problematic because the approach risks overfishing, extirpation and extinction for some stocks. A stronger stock of a mix might be managed to the detriment of a weaker stock of a mix.
C) Recommend not combining individual species into complexes for the purpose of management aimed at achieving NS1. There is too much risk associated with choosing indicator species among stocks that are data poor.
2) Revise guidelines on management of interrelated stocks
A) Guidelines should mandate an assessment of aggregated stocks. When stocks are harvested in conjunction with one another, overfishing is permissible by law.
B) Guidelines should allow for bycatch when multiple stocks are harvested together to avoid wasteful discarding.
C) There is no basis in the M-S Act for any exception to the prohibition against overfishing of NS1. The guideline for generating that exception should be eliminated.
D) NMFS should not allow overfishing of individual stocks in a mixed stock fishery.

E) Revise guidelines to rely upon vulnerable stock criteria prepared by th the American Fisheries Society to identify weak stocks.
F) Use both a "representative species" and a "weakest species" as indicator stocks to determine status of assemblages that are data poor.
G) Better guidance on flexibility under NS1 is needed–for example, the NE Council should have the flexibility to rebuild to B_{msy} for groundfish and ½ B_{msy} for spiny dogfish, based on ecosystem function and common sense.
H) Revise the guidelines so that Councils do not have to rebuild each stock to B_{msy}, rather they can rebuild their stocks to a biomass that produces OY. B_{msy} cannot be attained for an entire complex of stocks at once.

<u>Rebuilding plans requiring revision</u>
1) Revisions to rebuilding plans should be the exception and only developed under certain circumstances.
A) Only in limited and well defined circumstances should a rebuilding plan be allowed to exceed the original time limit.
B) The Act clearly provides that NMFS shall review rebuilding plans at "routine levels not to exceed two years."
C) Rebuilding plans can be adjusted as long as (1) no plan is less protective as a result of overfishing, and (2) measures do not allow overfishing on stocks being rebuilt.
D) It may be reasonable to shorten or lengthen a rebuilding period (due to scientific information showing that a biomass target should be changed) as long as: (1) specific limits for how much the rebuilding period is adjusted are addressed, (2) ensure that there is no additional risk to a stock, (3) ensure that rebuilding is maintained at least to the original trajectory. Overages in a given year, would have to be subtracted in the subsequent year.
E) Rebuilding plans should only be extended when the biomass targets are increased by more than 100 percent.
2) There should be maximum flexibility for making revisions to rebuilding plans.
A) many current rebuilding targets are too draconian–so as to virtually guarantee the permanent non-participation of some fishing communities.
B) Changes in targets should necessitate minor adjustments in F to ensure forward progress is always made on the rebuilding stock.

C) Guidelines need to clarify when is the precautionary approach appropriate to use–for conservative assumptions for model inputs or conservative harvest policies for outputs? Both?
D) Small adjustments in F would require immediate action; larger adjustments would be phased in over a multi-year schedule.

Maximum fishing mortality (MFMT)
1) Provide alternative approaches to establishing allowable threshold levels–provide guidance encouraging the use of other indicators of overfishing (declining fish catch size or skewed sex ratios)
2) Guidance for NS1 should allow for a number of years (rather than immediately) for fishing effort to be brought down to required levels.

OY and OY control rules
1) Further guidance is needed on: definition of OY, and how it can be defined in a mixed stock fishery.
2) Further guidance is needed on the difference between a single-year OY and long-term OY.
3) Fisheries management should be based on OY control rules, rather than MSY control rules.
4) Define the use of control rules in the context of broad biological, social and economic goals of a fishery.
5) The aim of NS1 should be operate a fishery around a MSY stock size and a F value similarly fluctuating around $F_{OY,}$ not a biomass above B_{msy} and a F value below F_{OY}.
6) Guidelines need to make very clear what is required for management when biomass is greater than MSST, but less than B_{msy}, and F is less than F threshold.

Miscellaneous
1) Guidelines need to describe how and when to incorporate uncertainty, risk, and precaution.
2) NS1 guidelines should take into account the management measures of neighboring countries for management of trans-boundary stocks. A Council's share in the stock and U.S. fishermen's share in total landings might be quite small, so what would be the U.S. role in management?
3) National standards should be applied equally when developing an FMP. No one standard should override "supplementary standards" that are of the same importance

4) Ensure that fishery management actions taken in state waters do not impair compliance with national standard 1.
5) When using annual total allowable catches (TACs), confidence intervals (greater than 50 % chance of success) need to be set to better ensure that the limit (TAC) chosen will not be exceeded.
6) Establish a new term for the state of a resource abundance when it is too low (other than overfished).
7) Is OY the optimum for a given year or an average over many years?
8) Is MSY dynamic or a maximum average yield?
9) Calculation of rebuilding targets: factors such as predator/prey relationships, competition for habitat, carrying capacity, need to be examined. These factors can affect the time to rebuilding and the amount to which a stock can be rebuilt.

1.5 NMFS National Standard 1 Working Group

1.5.1 Formation of Working Group and Terms of Reference

A NMFS NS1 Working Group (Working Group) was formed in April 2003, with "Terms of Reference" to develop recommendations as to: (1) Whether the NS1 guidelines should be revised at all; (2) if revisions are desired, what parts of the NS1 guidelines should have priority for revision, and why; (3) suggested revisions be consistent with the objectives of NS1, and that they be technically sound, increase comprehensiveness (i.e., provide guidance for a broader range of situations), add specificity (i.e., provide more guidance on how to handle particular situations), improve clarity (i.e., are easier for non scientists to understand), and recognize scientific and biological constraints.

1.5.2 Working Group's Recommendations

The Working Group submitted a Report to the Assistant Administrator for Fisheries, NOAA, that contained its recommendations for changes to the NS1 Guidelines on November 10, 2003 (see Appendix 5). The most substantive recommended changes to the guidelines for NS1 in terms of changes to fishery management practices are to strengthen the requirements for quickly ending overfishing, but at the same time to simplify and, within limits, to increase the flexibility of rebuilding time horizons. The WG cautioned that relaxed constraints on requirements for rebuilding time horizons should not be used to justify continued

overfishing. The WG recommended emphasis on better control of current F (preventing overfishing), because F is within our control more so than rate of rebuilding which might vary more than anticipated over the long term due to environmental conditions. Besides, elimination of overfishing is a precursor to rebuilding overfished stocks.

2.0 Alternatives

2.1 Terminology.

2.1.1 Alternative 1 (No action): Retain the terms: overfished, minimum stock size threshold, and maximum fishing mortality threshold. This alternative was not recommended because the United States should conform with current usage to avoid confusion and misunderstandings.

2.1.2 Alternative 2 (Proposed): Several terms in the NS1 guidelines should be changed. "Overfished" should be renamed "depleted", "minimum stock size threshold" should be renamed "minimum biomass limit" or B_{lim}, and "maximum fishing mortality threshold" should be renamed "fishing mortality limit" or F_{lim}. Limits should be reference levels to be avoided with high probability. This alternative is the proposed action because it would enable the U.S. to conform with common usage of limits, thresholds and targets by other countries, thus avoiding confusion and misunderstandings. This alternative (use of the term "depleted" rather than "overfished") would also better reflect our current knowledge of the relative contribution of different factors when considering a stock that is in low abundance.

Because the term "overfished" implies that a stock is low in abundance mostly or only because of overfishing, it ignores or doesn't take into account any reduction in a stock's abundance due to environmental and ecosystem factors. Data for a given fishery hardly ever exists that is accurate enough that it can enable fishery managers to partition the relative contribution of any overfishing compared to environmental and ecosystem factors.

2.1.3 Alternative considered but rejected: The fishing mortality reference point should be a *limit*, while the biomass reference point should be a *threshold*. This is not

recommended because NMFS maintains that threshold values for F or B should serve as a red flag or warning that a fishery is approaching but has not reached the minimum biomass limit or the maximum fishing mortality limit. A $B_{threshold}$ would be greater than a B_{limit}.

2.2 Stocks, fisheries and species assemblages.

2.2.1 Alternative 1 (No action): Current guidelines use the term "stock or stock complex" to denote that either an aggregate or an assemblage of fish (i.e., stock complex) or a single stock of a species can be managed under the SDCs. Each FMP must specify objective and measurable criteria for each stock or stock complex and provide an analysis for how those SDCs were chosen. The current guidelines are problematic when considering "stock complex" because they do not provide guidance as to how to manage (i.e., establish SDCs) for a group of fish stocks.

2.2.2 Alternative 2 (Proposed): The guidelines for NS1 would be revised to require each FMP to classify stocks into two categories: (i) core stocks (which may include key target species, historically-important species that may now be relatively rare, important bycatch species and highly vulnerable species) that have sufficient data, and will be assessed and managed based on individual F_{lims}, B_{lims}, and optimum yields (OYs), and (ii) stock assemblages that will be assessed and managed based on either aggregate F_{lims}, B_{lims}, and OYs, or stock-specific measures for one or more indicator stocks. Therefore, the proposed alternative is more specific and explicit about how to classify stocks and the basis for such a classification than the current guidelines that mention "stock or stock complex" but don't provide any basis for classification.

An indicator stock, while also considered a core stock because SDCs are determinable, could serve as the basis of management for a group of stocks (assemblage) for which data is especially poor. In this sense, the indicator stock would be considered a member of the stock assemblage and should generally have similar productivity as the other stocks in the assemblage and be caught by the same gear.

2.2.3 Alternatives considered but rejected

Establish an F_{lim} for multispecies assemblages. F_{lim} can be greater than the MSY control rule for minor components of the assemblage as long as it does not drive any stock in the assemblage below its specific B_{lim}. This approach is not precluded in the Recommended Solution (proposed action 2.2.2).

Manage all multispecies fisheries as assemblages with overall F_{lims} and B_{lims}, or F_{lims} and B_{lims} except that individual stocks must satisfy the current requirements in the NS1 guidelines (e.g., do not become subject to listing under ESA). This alternative was not recommended because it could result in important target species remaining in a depleted state indefinitely, an action that would compromise the long-term benefits to the Nation. If such an action did actually result in increased long-term benefits to the Nation, it would be covered by the mixed species exception.

Manage to the weakest stock in an assemblage. Not recommended because this alternative would compromise long-term net benefits to the Nation; however, it is recognized that weak stocks require special consideration and this is included in the Recommended Solution.

Manage to the economically or biologically most important stock in an assemblage. Not recommended because this alternative would likely lead to numerous stocks becoming overfished and likely compromise long-term net benefits to the Nation.

Increase the flexibility of the current "mixed stock exception" in the guidelines. NMFS was unable to determine how to accomplish this objective without compromising the long-term viability of ecologically important stocks and assemblages.

2.3 Fishing mortality limits.

2.3.1 Alternative 1 (No action): The NS1 guidelines do not currently provide guidance as to what, if any circumstances would be sufficient for overfishing to continue in the short term.

2.3.2 Alternative 2 (Proposed): F_{lim} should remain as it is in the current guidelines but, where appropriate, requirements for maintaining or reducing fishing mortality below the F_{lim} should be strengthened, i.e., there should be a lower tolerance for overfishing. Overfishing should be eliminated as soon as possible to promote stock rebuilding and prevent further stock depletion. Phase-in periods for reducing fishing mortality down to the level of the F_{lim} should only be permitted if the following conditions are met: (i) the maximum permissible rebuilding time is no greater than it would have been without the phase-in period, and (ii) fishing mortality rates must, at the least, be reduced by a substantial (e.g., measurable) amount each year. Progress toward eliminating overfishing should not await approval of a formal rebuilding plan.

2.4 Biomass (Stock size) limits.

2.4.1 Alternative 1 (No action): Each FMP must specify, to the extent possible, an objective and measurable B_{lim} or B_{lim} proxy for each stock or stock complex (new terms would be core stock and stock assemblages) covered in the FMP, and provide an analysis of how the B_{lim} or B_{lim} proxy was chosen and how they relate to reproduction potential. The B_{lim} or B_{lim} proxy must be expressed in such a way that enables the Council and the Secretary of Commerce to monitor the stock or stock complex and determine annually whether the stock is overfished. To the extent possible, B_{lim} should be whichever of the following is greater: ½ B_{msy}, or the minimum stock size at which rebuilding to B_{msy} would be expected to occur within 10 years while fishing at the F_{lim} level, whichever is greater.

2.4.2 Alternative 2 (Proposed): A B_{lim} or proxy would be required for each individual core stock and at the level of an aggregate number for a stock assemblage unless a stock assemblage is to be evaluated or monitored according to one or more indicator stocks, with limited exceptions. A B_{lim} or proxy should always be specified with the following exceptions. If an OY control rule is implemented that results in fishing mortality rates at least as conservative as would have been the case if B_{lim} had been used, then explicit *use* of a B_{lim} is not required. Even in these circumstances, use of a B_{lim} is encouraged. If the

Secretary determines that existing data are so grossly inadequate or insufficient for providing a defensible, albeit approximate estimate of B_{lim} or reasonable proxy thereof, specification of a B_{lim} is not required and is replaced by the expectation of stricter control of fishing mortality. See Alternative 2.7 for a related issue.

The default B_{lim} should be ½ B_{msy}, with limited exceptions. In rare cases, it may be possible to justify a B_{lim} level below ½ B_{msy} (e.g., for stocks with high natural fluctuations that result in biomass frequently falling below ½ B_{msy}, even when overfishing does not occur). In this case, it may be reasonable to set the B_{lim} near the lower end of some appropriate range (e.g., the lower 95% confidence interval) of natural fluctuations that should result if a stock assemblage was not subjected to overfishing. On the other hand, the B_{lim} could be set higher than ½ B_{msy} for stocks that are rarely expected to fall below some biomass level appreciably higher than ½ B_{msy}.

For short-lived stocks with high annual fluctuations in productivity and abundance, it is permissible to define B_{lim} relative to stock abundance over a multi-year period (as is currently done for Pacific salmon).

2.4.3 Alternatives considered but rejected

Modify the current B_{lim} definition to the greater of ½ of the MSY stock size or the minimum stock size at which rebuilding to the MSY stock size would be expected to occur within 10 years if the stock or stock complex were exploited at the target F appropriate to that biomass level. This is unnecessarily complex, particularly when one considers the details of how to conduct the analysis (e.g., effect of the initial age structure on the result); however, the Recommended Solution would not prevent this approach if it was desired.

Set B_{lim} equal to B_{msy}. This alternative was not selected because, in most cases, this would be unnecessarily conservative and could result in flip-flops between the states of overfished and not overfished (and therefore frequent flip flops between needing a rebuilding plan and not needing a rebuilding plan).

Set B_{lim} equal to (1-M)B_{msy}. This may be too conservative relative to the expected range of natural fluctuation; more stock-specific analysis is needed. However, the Recommended Solution does not preclude this option.

Disassociate the definition of B_{lim} from B_{msy}, particularly in cases where MSY-based reference points cannot be estimated or are unreliable. An example would be adopt B_{lim} approaches as per ICES and NAFO. More analysis is needed to determine the relationship between B_{lim} and B_{msy}. However, the Recommended Solution does not preclude this option.

B_{lim} would not be required for any fisheries. This alternative is not recommended because experience has clearly demonstrated that a B_{lim} is necessary to ensure a rebuilding response if a stock has become depleted. Even in well-managed fisheries, where overfishing is a rare or non-existent occurrence, there are possibilities of assessment errors or environmental changes that can cause a rapid decrease in the abundance of fish stocks under otherwise good management. Withou a B_{lim} to trigger a formal rebuilding program, remedial management has tended to be late and inadequate. Therefore, at the least, a B_{lim} is needed as a "second line of defense" for a stock or assemblage that has either not been managed so as to prevent overfishing. or has become depleted for other reasons, or a combination of these. If B_{lims} were not required, it would probably be necessary to develop some sort of proxy to use to trigger a rebuilding plan.

2.5 Rebuilding time horizons.

2.5.1 Alternative 1 (no action): The definition of the maximum rebuilding time horizon (T_{max}) in the current guidelines contains an inherent discontinuity. T_{max} is the maximum permissible number of years it takes to achieve at least a 50% probability that biomass will equal or exceed Bmsy while fishing under a rebuilding plan. T_{min} is the minimum rebuilding time based on the number of years it takes to achieve a 50% probability that biomass will equal or exceed B_{msy} at least once when F=0 (Figure 1). In the current NS1 guidelines T_{max} may not exceed 10 years if T_{min}

is less than 10 years, and T_{max} may not exceed T_{min} plus one generation time if T_{min} is greater than or equal to 10 years. The problem is that this results in a discontinuity in rebuilding times when T_{min} is near 10 years. For example, T_{max} equals 10 years when T_{min} equals 9.5 years, but T_{max} equals 15 years if T_{min} equaled 10.5 years and the mean generation time was five years.

2.5.2 Alternative 2 (proposed): If T_{min} plus one generation time exceeds 10 years, then T_{max} =T_{min} plus one generation time; otherwise T_{max} can be up to 10 years. For example, if T_{min} equals 9.5 years and the mean generation time equals five years, the T_{max} would equal 14 years (Figure 1). T_{max} is the upper limit for the 50% probability of rebuilding. It is expected that a target time to rebuild be set that is sooner than T_{max} so that there is at least a 50% probability of rebuilding T_{max}.

2.5.3 Alternatives considered but rejected

Emphasize stock biology constraints rather than the MSA's 10-year guideline by setting T_{max}=2 generation times across the board (see response in discussion below for section 2.5).

Emphasize stock biology constraints rather than the MSA's 10-year guideline by setting T_{max}=1.5 generation times across the board (see response in discussion below in section 2.5).

Set T_{max}=2 * T_{min} across the board (see response in discussion below in section 2.5).

Set T_{max}=T_{min} plus p* generation time, where p is <1 (see response in discussion below in section 2.5).

Set T_{max}=the time it takes to rebuild if fishing at a constant rate of ½ F_{msy} across the board. Not recommended for severely depleted stocks where depleted stocks where depensatory effects may be important, ½ F_{msy} may not be low enough to enable the stock to rebound above the depensatory threshold, below which its long-term viability is jeopardized. (also see response in discussion below in section 2.5.

If T_{min} is greater than 10, then T_{max}= 10 plus 2*(T_{min}-10); i.e., 2 rebuilding years are allowed for each year greater than 10 that it would take to rebuild at F=0.0. There is no need to invoke generation time, and the discontinuity problem is reduced. This alternative is not recommended because while the discontinuity is not as s strong as it is in the current NS1 guidelines, it still exists (also see Response in discussion below in section 2.5)

T_{min} is defined based on minimum feasible levels of F, rather than F=0.0. This alternative is not recommended because any definition of "minimum feasible levels" would be too subjective. Zero F should mean zero F. In any case, T_{min} is only one part of the calculation of T_{max}. The Recommended Solution will generally result in rebuilding F greater than zero.

Discussion for section 2.5: There are many possible variations to the alternatives that were considered but rejected, a number of which were discussed by the Working Group. However, they can all be boiled down to alternatives that contain one or both of T_{min} and life history parameters. Inclusion of the T_{min} makes the T_{max} responsive to the degree of depletion and the expected rate of recovery. Inclusion of the mean generation time allows the T_{max} to be responsive to the life span of the subject stock. Both are highly relevant factors to consider, although alternatives that contain T_{min} are problematic because each new stock assessment is likely to result in a new estimate of this quantity due to changes that have accrued with stock size and age distribution since the last assessment, and other factors.

2.6 Rebuilding targets.

2.6.1 Alternative 1 (no action): Currently, the NS1 guidelines do not offer alternative methods to conclude that a stock is rebuilt when biomass-based values are data-poor for a given stock.

2.6.2 Alternative 2 (proposed): When the Secretary determines that there are inadequate data to estimate biomass-based reference points reliably, it should be permissible to use appropriate fishing mortality rates as proxies in certain situations. For example, when there are inadequate data to estimate B_{lim} and/or a B_{msy} rebuilding target reliably, but the available quantitative and qualitative evidence suggests that a core stock or stock assemblage is sufficiently depleted that it requires rebuilding, then it should be permissible to set a rebuilding F below F_{lim} that will result in a very low probability of the stock or assemblage declining further, the rebuilding F will be maintained for two mean generation times so that effects of past overfishing are diluted out of the stock, and to evaluate rebuilding performance every two years as required by the Magnuson-Stevens Act.

2.6.3 Alternatives considered but rejected

The rebuilding F must result in at least a 95% probability of annual increases in stock size for the foreseeable future (e.g., over the next ten years). This alternative is not recommended because a requirement for stock increases in each and every year might require an unnecessarily restrictive rebuilding F due to natural variation in stock size, particularly if it is known that one or more poor year classes will soon recruit to the stock.

The rebuilding F must be set below some fraction of the Flim (e.g., below 0.75*Flim). This alternative is not recommended because it is not possible to specify a fraction of Flim that will work for every situation.

It may be permissible to declare a stock or assemblage to be rebuilt if the running average F has been less than 0.75*Flim for at least two generation times, provided that there is no other evidence that biomass may still be depleted. This alternative is not recommended because the Working Group determined that adding an arbitrary constant did not make this alternative superior to the Recommended Solution. Although it is possible that F at the beginning of the rebuilding period may need to be much lower than the Flim, they could potentially be quite close to the Flim through much of the two generation time periods.

2.7 Revision of rebuilding plans.

2.7.1 Alternative 1 (no action): The Magnuson-Stevens Act requires that progress towards ending overfishing and rebuilding affected fish stocks be evaluated for adequacy at least every two years, but does not define "adequate progress." Current guidelines do not include additional guidance (beyond the two-year review requirement) on procedures to follow when rebuilding plans require revision after initiation.

2.7.2 Alternative 2 (proposed alternative): There are two different situations to address. The first situation is where rebuilding has occurred substantially faster or slower than expected, and the second is the situation where estimates of assessment variables, such as the rebuilding target are substantially modified based on a new or revised stock assessment.

The NMFS Working Group noted that by definition, fishing mortality targets should be achieved on average; therefore it recommended that rebuilding plans should not be adjusted in response to each minor stock assessment update. However, if rebuilding plans are to be adjusted, then it may be permissible in some circumstances to modify either the sequence of rebuilding fishing mortalities, or the time horizon, but not both. Rebuilding must continue until the biomass target is met.

If rebuilding occurs substantially faster or slower than expected (but estimates of stock assessment parameters and variables have not been substantially modified based on a new or revised stock assessment), NMFS recommends that the NS1 guidelines provide the following: (1) If rebuilding proves to have occurred substantially faster than initially projected, the former (i.e., something previously approved through the FMP process) sequence of rebuilding fishing mortalities should be retained until the core stock or stock assemblage is rebuilt; or (2) If rebuilding proves to have occurred substantially slower than initially projected, even though the former rebuilding fishing mortalities have not been exceeded on average, it is permissible to either retain the former rebuilding time horizon and reduce the former sequence of rebuilding fishing mortalities to meet it, or to keep the former sequence of rebuilding fishing mortalities and lengthen the time horizon accordingly. If the former

fishing mortality have been exceeded, the former rebuilding time horizon must be maintained to the extent biologically feasible, and future fishing mortalities must be reduced to the extent necessary to compensate for previous overruns.

If estimates of stock assessment parameters and variables such as the rebuilding target, have been substantially modified based on a new or revised stock assessment, NMFS recommends that NS1 guidelines should also provide the following: (1) If estimates of assessment parameters and variables, such as the rebuilding target, change in such a way as to allow substantial increases in the former sequence of rebuilding fishing mortalities in order to rebuild within the former time horizon, it is permissible to either retain the former rebuilding time horizon and increase the former sequence of rebuilding fishing mortalities to keep it, or keep the former sequence of rebuilding fishing mortalities and either retain the time horizon or shorten it accordingly; or (2) if estimates of assessment parameters and variables such as the rebuilding target change in such a way as to require substantial reductions in the former sequence of rebuilding fishing mortalities in order to rebuild within the former time horizon, even though the former sequence of fishing mortalities have not been exceeded, it is permissible to either retain the former rebuilding time horizon and reduce the former sequence of rebuilding fishing mortalities to meet it, or to keep the former sequence of rebuilding fishing mortalities (provided these are no greater than Flim) and lengthen the time horizon accordingly (provided there is no greater than any new estimate of Tmax). If the former rebuilding fishing mortalities have been exceeded, the former rebuilding time horizon must be maintained, and future fishing mortalities must be reduced to the extent necessary to compensate for previous overruns.

2.7.3 Alternative considered but rejected

Regarding the situation where rebuilding has occurred substantially faster or slower than expected: If rebuilding proves to have occurred substantially faster than initially projected, it is permissible to either retain the former rebuilding time horizon and increase the former F to meet it, or keep the former F and shorten the time horizon accordingly. This alternative is not recommended because rebuilding F should not be increased just because for example, there has been a run of fortuitously good

recruitments. A run of poor recruitments may follow and the rate of rebuilding will fall behind schedule. It is important to remember that rebuilding projections are usually averages or medians of a large number of alternative plausible scenarios.

2.8 OY Control Rules.

2.8.1 Alternative 1 (No action): Almost all of the current FMPs have no OY control rules; only a few have MSY control rules.

2.8.2 Alternative 2 (Proposed): OY target control rules need to be developed and must satisfy the condition that they are less than the MSY control rule over their entire range. The requirement for a MSY control rule that sets the limit of F_{lim}, needs to strengthened. The requirement for an OY control rule needs to be changed from "should" to "must." The OY control rule sets the target level for th fishery. It is intended to be achieved on average; e.g., with a 50 percent probability. Setting the OY control rule below the Flim means that there will be less than a 50 percent chance of exceeding the F_{lim} due to uncertain assessments and imprecise fishery management controls.

2.9 International Fisheries

2.9.1 Alternative 1 (No Action): Several Magnuson-Stevens Act and NS1 guidelines (particularly responsibility for determining overfished status, the need for rebuilding plans, and the process for implementing rebuilding plans), are difficult to apply in international fisheries for straddling stocks, and for highly migratory species (HMS) such as tuna, swordfish, marlins and sharks. The greatest difficulties arise in cases where (i) there is no responsible international authority, and (ii) the U.S. catches only a small portion of a stock or assemblage.

2.9.2 Alternative 2 (Proposed): Proposed revised guidelines would: (i) generally rely on international organizations in which the U.S. participates to determine the status of HMS stocks or assemblages under their purview, including specification of status determination criteria and the process to apply to them; (ii) if the international organization in which the U.S. participant does not have a process for developing a formal plan to rebuild a specific

overfished HMS stock or assemblage, to use the Magnuson-Stevens Act process for development of a rebuilding plan by a regional fishery management council or NMFS to be promoted in the international organization or arrangement; and (iii) to develop appropriate domestic fishery regulations to implement internationally agreed upon measures or appropriate U.S. fishery measures consistent with a rebuilding plan giving due consideration to the position of the U.S. domestic fleet relative to other participants in the fishery.

3.0 Description of the affected environment

3.1 Biological environment--Description of the stocks.

Fish stocks that would or could eventually be affected by any changes to the guidelines for national standard 1 include stocks within the management units for FMPs already implemented by final rule and FMPs under Secretarial review for possible approval. Also, fish stocks being contemplated for management by the various fishery management councils could also be affected by the current guidelines or any changes to the NS1 guidelines. This is because the SDCs (i.e., overfished and overfishing) chosen for a stock will affect the rebuilding plan chosen and what management measures are used in the fishery for that stock.

Sometime "Species" is equivalent to a "stock" within a given FMP; some species have more than one stock for a given FMP. The management unit for some stocks managed under an FMP often range beyond the normal jurisdiction of a given fishery management council. For example, the bluefish and spiny dogfish stocks managed by the Mid-Atlantic Council actually range as far north as the New England Council jurisdiction and as far south as the South Atlantic Council's jurisdiction.

The stock status information listed in Appendices 1 through 8 are based on the NMFS 2003 Report to Congress: Status of the U.S. Fisheries (June 2004).

The NMFS 2003 Report defines "major" stocks as those with total landings in 2001 (commercial and recreational) equaling or exceeding 200,000 pounds. For "minor" stocks, total landings in 2001 were less than 200,000 pounds. Most of the major stocks in the NMFS 2003 Report would be

classified as "core stocks" and most of the minor stocks would be classified as stocks in a stock assemblage under one of the proposed revisions to the NS1 guidelines (see section 2.2.2). This is because most of the minor stocks are data poor. Brief descriptions of overfished and overfishing definitions for most stocks or groups of fish stocks approved under the SFA are listed by FMP in the NMFS 2003 Status of U.S. Fisheries Report (May 2004).

The original FMPs and their associated FMP amendments contain detailed descriptions of their biological environment (species and stocks in the FMPs' management unit and life history of those species and stocks); therefore that information is not repeated here. Copies of FMPs and their Amendments are available from their respective fishery management councils. Addresses of the fishery management councils and NMFS' Office of Sustainable Fisheries that is responsible for management of Atlantic highly migratory species on behalf of the Secretary of Commerce are listed in Appendix 8.

As of May 31, 2004, FMPs were approved or partially approved, and in most cases implemented, for the following as listed by fishery management council or the Secretary of Commerce for Atlantic highly migratory species:

3.1.1 New England FMC
3.1.1.1 Northeast Multispecies Fishery FMP
3.1.1.2 Atlantic Sea Scallop FMP
3.1.1.3 Atlantic Salmon FMP
3.1.1.4 Atlantic Monkfiah FMP
3.1.1.5 Atlantic Herring FMP
3.1.1.6 Atlantic Deep-Sea Red Crab
3.1.1.7 Skates of the Northeast Region FMP

3.1.2 Mid-Atlantic FMC
3.1.2.1 Atlantic Mackerel, Squids, and Butterfish FMP
3.1.2.2 Atlantic Surf Clams and Ocean Quahogs
3.1.2.3 Summer Flounder, Scup, and Black Sea Bass
3.1.2.4 Atlantic Bluefish
3.1.2.5 Spiny Dogfish
3.1.2.6 Golden Tilefish

3.1.3 South Atlantic FMC
3.1.3.1 Snapper-Grouper Fishery of the South Atlantic Region

3.1.3.2 Atlantic Coast Red Drum FMP
3.1.3.3 FMP for the Shrimp Fishery
3.1.3.4 FMP for Coral, Coral Reefs, and Live Hard Bottom Habitats of the South Atlantic Region
3.1.3.5 FMP for the Golden Crab Fishery of the South Atlantic
3.1.3.6 FMP for the Dolphin and Wahoo Fishery of the South Atlantic

3.1.4 South Atlantic FMC and Gulf of Mexico FMC (Joint FMPs)
3.1.4.1 FMP for the Spiny Lobster Fishery of the Gulf of Mexico and South Atlantic
3.1.4.2 FMP for Coastal Migratory Pelagic Resources of the Gulf of Mexico and South Atlantic

3.1.5 Gulf of Mexico FMC
3.1.5.1 FMP for Coral, and Coral Reefs Managemnent of the Gulf of Mexico
3.1.5.2 FMP for the Red Drum Fishery
3.1.5.3 FMP for the Stone Crab Fishery
3.1.5.4 FMP for the Shrimp Fishery of the Gulf of Mexico
3.1.5.5 FMP for the Reef Fish Resources of the Gulf of Mexico

3.1.6 Caribbean FMC
3.1.6.1 FMP for the Spiny Lobster Fishery of Puerto Rico and the U.S. Virgin Islands
3.1.6.2 FMP for the Shallow Water Reeffish Fishery of Puerto Rico and the U.S. Virgin Islands
3.1.6.3 FMP for Corals and Reef Associated Invertebrates of Puerto Rico and the U.S. Virgin Islands
3.1.6.4 FMP for the Queen conch resources of Puerto Rico and the U.S. Virgin Islands

3.1.7 Pacific Fishery Management Council
3.1.7.1 Pacific Coast Groundfish FMP
3.1.7.2 FMP for Commercial and Recreational Salmon Fisheries off the Coasts of Washington, Oregon, and California
3.1.7.3 Coastal Pelagic Fisheries FMP
3.1.7.4 FMP for West Coast Fisheries for Highly Migratory Species

3.1.8 Western Pacific FMC

3.1.8.1 FMP for Crustacean Fisheries of the Western Pacific region
3.1.8.2 FMP for Precious Corals Fisheries of the Western Pacific Region
3.1.8.3 FMP for Bottomfish and Seamount Groundfish Fisheries
3.1.8.4 FMP for Pelagic Fisheries of the Western Pacific Region
3.1.8.5 FMP for Coral Reef Ecosystems of the Western Pacific Region

3.1.9 North Pacific FMC
3.1.9.1 FMP for Groundfish Fishery of Bering Sea and Aleutian Islands
3.1.9.2 FMP for Groundfish Fishery of the Gulf of Alaska
3.1.9.3 FMP for Bering Sea and Aleutian Islands King and Tanner Crab Fishery
3.1.9.4 FMP for the Weathervane Scallop Fishery off Alaska
3.1.9.5 FMP for High Seas Salmon

3.1.10 Secretary of Commerce
3.1.10.1 FMP for Atlantic Tunas, Swordfish and Sharks
3.1.10.2 FMP for Atlantic Billfishes

3.2 Physical environment. The physical environment for each of the aforementioned fisheries is described in their respective FMPs. The Councils and the Secretary of Commerce are required by the Magnuson-Stevens Act to describe and identify essential fish habitat (EFH) for each of the fisheries being managed in the EEZ, and to minimize to the extent practicable adverse effects on such habitat caused by fishing, and identify other actions to encourage the conservation and enhancement of such habitat. The identification and designation of essential fish habitat (EFH) for each of the following FMPs is contained in the following FMP amendments (or the original FMP itself):

3.2.1 New England FMC
Northeast Multispecies - Amendment 11(approved 3/8/99)
Atlantic Sea Scallops - Amendment 9 (approved 3/8/99)
Atlantic Salmon - Amendment 1 (approved 3/8/99)
Monkfish - Amendment 1 (approved 4/22/99)
Atlantic Herring - Amendment 1 (approved 10/27/99)
Atlantic Deep Sea Red Crab - the FMP itself (effective 10/21/02)

Skates of the Northeast Region - the FMP itself (effective 9/18/03)

3.2.2 Mid-Atlantic FMC

Atlantic Mackerel, Squids and Butterfish - Amendment 8 (approved EFH designations on 4/28/99; disapproved fishing impacts on EFH)
Atlantic Surf Clams and Ocean Quahogs - Amendment 12 (approved 4/28/99; disapproved fishing impacts on EFH)
Summer Flounder, Scup, and Black Sea Bass (Mid-Atl) Amendment 12 (approved 4/28/99; disapproved fishing impacts on EFH); Amendment 13 addressed fishing impacts on EFH (effective 3/31/03)
Atlantic Bluefish - Amendment 1 (approved EFH designations on 7/29/99; disapproved fishing impacts on EFH)
Spiny Dogfish - the FMP itself (approved on 9/29/99)
Golden Tilefish (Mid Atlantic Region) - the FMP itself (approved on 5/10/01 and effective on 11/1/01)

3.2.3 South Atlantic FMC

Snapper-Grouper - Amendment 10 (approved 6/3/99)
Atlantic Coast Red Drum - Amendment 1 (approved 6/3/99)
Shrimp Fishery of the South Atl. Region - Amendment 3 (approved 6/3/99)
Coral, Coral Reefs, and Live Hard Bottom Habitats of the South Atl. Region - Amendment 4 (approved 6/3/99)
Golden Crab of South Atlantic Region - Amendment 1 (approved 6/3/99)
Pelagic Sargassum Habitat of the South Atlantic Region - the FMP itself (effective 11/03/03)
Dolphin and Wahoo Fishery of the Atlantic - the FMP itself - approved 12/23/03

3.2.4 South Atlantic and Gulf of Mexico FMCs (joint)

Spiny Lobster Fishery of the Gulf of Mexico and South Atlantic - Amendment 5 (approved on 6/3/99)
Coastal Migratory Pelagic Resources of the Gulf of Mexico and South Atlantic (king mackerel, Spanish mackerel, cobia, dolphin, bluefish, and little tunny) - Amendment 10 (approved on 6/3/99)

3.2.5 Gulf of Mexico FMC

Coral and Coral Reefs Management of the Gulf of Mexico - approved 2/8/99

Red Drum Fishery of the Gulf of Mexico - red drum: approved 2/8/99
Stone Crab Fishery of the Gulf of Mexico - stone crab: approved 2/8/99
Shrimp Fishery of the Gulf of Mexico - brown, white, pink, and royal red shrimp: approved 2/8/99
Reef Fish Resources of the Gulf of Mexico - red grouper, gag, scamp, black grouper, red snapper, vermilion snapper, gray snapper, yellowtail snapper, lane snapper, greater amberjack, lesser amberjack, tilefish, gray triggerfish: approved 2/8/99

3.2.6 Caribbean FMC

Spiny Lobster Fishery of Puerto Rico and U.S. Virgin Islands - spiny lobster: approved 2/8/99
Shallow Water Reeffish Fishery of Puerto Rico and the U.S. Virgin Islands - coney, red hind, Nassau grouper, mutton snapper, schoolmaster, gray snapper, silk snapper, yellowtail snapper, white grunt, banded butterfly fish, queen triggerfish, squirrelfish, sand tile fish, redtail parrotfish: approved 2/8/99
Corals and Reef Associated Invertebrates of Puerto Rico and U.S. Virgin Islands - approved 2/8/99
Queen conch Resources of Puerto Rico and U.S. Virgin Islands - queen conch: approved 2/8/99

3.2.7 Pacific FMC

Pacific Coast Groundfish - Amendment 11 (approved 3/3/99)
Ocean Salmon - Amendment 14 (approved 9/27/00)
Coastal Pelagics - Amendment 8 (approved 6/10/99)
West Coast Fisheries for Highly Migratory Species - the FMP itself (approved 2/4/04)

3.2.8 Western Pacific FMC

Crustacean Fisheries of Western Pacific Region - Amendment 9 (approved 2/3/99)
Precious Corals Fisheries of the Western Pacific Region - Amendment 4 (approved 2/3/99)
Bottomfish and Seamount Groundfish Fisheries - Amendment 6 (approved 2/3/99)
Pelagic Fisheries of Western Pacific Region - Amendment 8 (approved 2/3/99)
Coral Reef Ecosystems of the Western Pacific Region - the FMP itself (approved 6/14/02)

3.2.9 North Pacific FMC

Groundfish Fishery of the Bering Sea and Aleutian Islands (BSAI)-Amendment 55 approved on 1/20/99
Groundfish Fishery of the Gulf of Alaska - Amendment 55 approved on 1/20/99)
BSAI King and Tanner Crab Fishery -Amendment 8 approved on 1/20/99)
Weathervane Scallop Fishery off Alaska - Amendment 5 approved 1/20/99
High Seas Salmon -Amendment 5 approved 1/20/99

3.2.10 Secretary of Commerce
Atlantic Tuna, Swordfish and Shark Fisheries - the FMP's final rule was published in May 1999. The final rule for Amendment 1 to the FMP was published in December 2003. Amendment 1 included updated EFH identifications for five species of sharks (approved 4/15/99).
Atlantic Billfish Fisheries - the final rule for Amendment 1 that identified EFH for billfishes was published in May 1999 (approved 4/15/99).

4.0 Environmental consequences. Biological, environmental, economic and social impacts in the *longer term* in this section and Table One (Part One) and Table One (Part Two), means impacts that will be known at the time a new FMP amendment or other rulemaking authorized by a given FMP is submitted for Secretarial review with accompanying analyses. Such an action, on average, would not begin to have any impacts until "in the longer term" (i.e., on average not before two to three years after the effective date of the final rule for any revisions to the NS1 guidelines). "In the longer term" should not be confused with "long term effects." "Long-term effects or impacts relates more to duration of the effects or impacts (i.e., the effects or impacts would continue for a long period of time).

4.1 Biological impacts

4.1.1 Terminology.

4.1.1.1 No action alternative: Overfished and overfishing definitions and rebuilding plans would not be affected if the no action alternative is adopted (i.e., current terminology is retained). Keeping the terms "overfished," "minimum stock size threshold" and "maximum fishing mortality threshold" would have no biological effect on

target and non-target species in fisheries managed by the U.S. in the Exclusive economic zone (EEZ). Likewise, the no action alternative would have no effect on marine mammals or endangered or threatened species under the Endangered Species Act.

However, this alternative is not recommended because the United States would still not conform with common usage by other countries of limits, thresholds, and targets, and the use of "overfished" rather than "depleted" is misleading and does not reflect our current knowledge of relative contribution of different factors to low abundance of fish stocks, in most cases.

4.1.1.2 Proposed action:
Replacing "overfished" with "depleted", "minimum stock size threshold" with "minimum biomass limit" (B_{lim}), and "maximum fishing mortality threshold" with "fishing mortality limit" (F_{lim}) would have no biological effect on target and non-target species in fisheries managed by the U.S. in the Exclusive economic zone (EEZ). Likewise, it would have no effect on marine mammals or endangered or threatened species under the Endangered Species Act.

The proposed new term "depleted" better reflects our lack of knowledge about the relative contribution of overfishing, and environmental factors as they affect most of our fishery resources that are in a state of low abundance. "Limits" rather than "thresholds" are used more often in fisheries worldwide, to denote a stock size at its lowest abundance that is still considered not overfished, and a fishing mortality rate that is the highest value that is still not considered overfishing for a given stock.

Note: The Working Group concluded that the term "thresholds" should be used more as a warning or red flag that a fishery is approaching a biomass or fishing mortality limit, rather than having already reached it, but the use of such thresholds is not required. Remember that $B_{threshold}$ is greater than B_{lim}, unlike $F_{threshold}$ which is less than F_{lim}.

4.1.2 Stock, fisheries and species assemblages.

4.1.2.1 No action alternative: While the current guidelines state that each "stock or stock complex" should

be managed under status determination criteria, they do not provide specific guidance on the basis for aligning fisheries within an FMP so as to manage some stocks individually and others as a group. Under this alternative, management of a group of fish stocks would continue to be inconsistent between FMPs and FMCs due to lack of specific guidance. In many cases, some groups of fish stocks continue to be unmanaged because of the lack of specific guidance about how to manage stock complexes in the NS1 guidelines.

In Table One (Part One), the working assumptions for the no action alternative (NA) for the "stocks" (ST) proposed revision are: (1) for FMPs that contain major stocks, only, the projected biological impacts in the longer term would be none (N), and (2) for FMPs that are made up of major and minor stocks, the projected biological impacts in the longer term also would be none (N), due to the lack of specific guidance in the current NS1 guidelines on how to manage stock complexes.

4.1.2.2 Proposed action: Under the proposed revised guidelines, this alternative would clarify and amplify the current guidelines by providing more specific guidance about how to realign fisheries by core stocks and stock assemblages (i.e., how to manage stock complexes).

Under the proposed action, no immediate (upon publication of the NS1 final rule) or near term (30 days after publication of the NS1 final rule) biological impacts would occur on target and non-target species in fisheries managed by the U.S. in the Exclusive economic zone (EEZ). Likewise, it would have no effect on marine mammals or endangered or threatened species under the Endangered Species Act.

It is difficult to predict how many changes will occur eventually in management of fisheries under the various FMPs. Therefore, biological impacts in the longer term are difficult to predict for some FMPs. Refer to Table One (Part One).

Many FMPs pertain only to core stocks. First, a substantial number of FMPs are currently very limited in terms of the number of stocks in the management unit, to the point that all the stocks would likely be designated as core stocks under the proposed revision (e.g., many of the FMPs for

stocks along New England, the Mid Atlantic, South Atlantic, and Gulf of Mexico). These FMPs would not be likely affected by the proposed action (See Table One (Part One).

Core stocks are usually data-rich compared to stocks in stock assemblages other than indicator stocks. However, in some instances, core stocks are data poor (e.g., deep sea red crab; skates in the NE Region; Sargassum), but fishery managers decided it was time to manage such stocks, because the available indicated that they are probably overfished, or approaching an overfished condition (see Table One (Part One)).

Stock assemblages could be managed by an aggregate MSY and OY. For some especially data-poor stocks (e.g., many stocks in coral reefs or stocks that are relatively scarce or only encountered rarely with fishing gear or sampling gear), one or more indicator stocks may be used to manage a stock assemblage and provide guidance as to when fishery management of one or more stocks or the entire assemblage needs to be managed differently than before.

Some FMPs would likely have a mixture of core stocks and stock assemblages such as: South Atlantic Snapper-Grouper; Reef Fish Resources of the Gulf of Mexico; Caribbean Reef Fish; West coast salmon; Pacific Coast groundfish; Western Pacific Pelagics; West Coast Pelagics; Groundfish of the Gulf of Alaska; Groundfish of the Bering Sea and Aleutian Islands; Alaskan Scallops; and Atlantic Tunas, swordfish and sharks (see Table One (Part One)).

Some FMPs would likely be managed only as stock assemblages under aggregate SDCs and MSY and OY or based on indicator stocks. Examples might be: South Atlantic corals, Gulf of Mexico corals, Western Pacific precious corals, and the Coral Reef Ecosystem of the Western Pacific (see Table One (Part One)).

Some core stocks may be data poor, or a minor stock in terms of landings, but not easily combined with other stocks in an assemblage. Some minor stocks in terms of annual landings could still be a core stock or indicator stock because our quantitative or qualitative knowledge (e.g., ocean pout) about that stock's abundance over a time series is good.

Using indicator stocks in the proposed manner for management of stock assemblage should not result in immediate changes in management; however, reduction in abundance of an indicator stock later, could result in a change of management measures for a stock assemblage, but even this is no substantive change from the current guidelines' requirement for SDC for each stock or stock complex.

The additional specific guidance that the proposed revision contains should provide for a more orderly method to determine which stocks should have their own control rules and which stocks should be grouped together for management purposes. NMFS believes that the specific guidance contained in the proposed action would result in some realignment of how particular stocks are managed (especially some data-poor stocks).

Stocks that are realigned into stock assemblages and managed formally for the first time by indicator stocks or stock aggregate SDCs or proxies would likely be afforded protection by management measures in the longer term. Data-poor stocks that are managed for the first time would likely benefit from indicator stocks or the aggregate stock assemblage having SDCs or proxies and possibly OY control rules. Management measures would be accompanied by analyses that describe biological impacts on target species, non target species, and protected species.

In Table One (Part One), the working assumptions for the proposed action alternative (PA) for the "stocks" (ST) proposed revision are: (1) for FMPs that contain major stocks, only, and would likely be made up of core stocks, only, the projected biological impacts in the longer term would be none (N); and for FMPs that contain major and minor stocks, and would likely contain core stocks and stock assemblages, the projected biological impacts in the longer term would be positive (Pos) because stocks grouped in stock assemblages would likely include some that were not previously managed directly, and indicator stocks for stock assemblages will often benefit from better data management (improved data and information).

4.1.3 Fishing mortality limits.

4.1.3.1 No action alternative: The current guidelines provide that overfishing of a given stock should be

prevented as soon as possible. Therefore, overfishing is still occurring for some fish stocks.

In Table One (Part One), the working assumptions under fishing mortality limits (FML) for the no action alterative (NA) are: (1) for stocks not undergoing overfishing (see Appendices 2 through 7), there will be no biological impact in the longer term, (2) for stocks undergoing overfishing, it is unknown (U) how quickly measures would be implemented to prevent overfishing.

4.1.3.2. Proposed action: An objective of the Magnuson-Stevens Act as described in section 304(e) is to end overfishing in a fishery and rebuild affected stocks of fish, and any such overfished fishery should have a plan and regulations that specify a time period when overfishing ends and rebuilding occurs.

Therefore, NMFS proposes to limit the conditions under which overfishing is allowed to continue for a short period versus being stopped immediately, as provided by the proposed action. Under the proposed action, F should be prevented from exceeding Flim immediately, except if the following conditions are met: (1) the maximum permissible rebuilding time is no greater than it would have been without the phase-in period, and (ii) fishing mortality rates must, at least, be reduced by a substantial (measurable) amount each year. Progress toward eliminating overfishing should not await approval of a formal rebuilding plan. This proposed revision may accelerate rebuilding of some overfished stocks and prevent other stocks from becoming depleted.

If the proposed revision for fishing mortality limits is implemented, there would be no immediate or near-term biological impacts on target species, non-target species, or protected species. In the longer term (e.g., beginning about 2 years after the effective date of the NS1 final rule), NMFS believes that the specific guidance contained in the proposed revision would likely reduce the number of instances when fish stocks are allowed to be harvested above F_{lim}, all other factors being equal. According to the 2003 Status of U.S. Fisheries Report (June 2004), there are 60 major fish stocks that are still experiencing overfishing. The number of stocks found to be ***not*** subject to overfishing in 2003 is 232, compared to 208 in 2002. It is difficult to predict how many changes will occur in management of

fisheries under the various FMPs. Therefore, biological impacts in the longer term, are difficult to predict for some FMPs.

In Table One (Part One), the working assumptions under fishing mortality limits (FML) for the proposed alterative (PA) are: (1) for stocks not undergoing overfishing (see Appendices 2 through 7), there will be no (N) biological impact in the longer term, and (2) for stocks undergoing overfishing, the biological impacts in the longer term *could* be positive (Pos) if an FMP amendment that contains revisions to SDCs, overfishing definitions or rebuilding plans is submitted by a Council for Secretarial review--overfishing will undergo closer scrutiny and can no longer continue unless the conditions in this proposed revision are met. Therefore, measures would be developed to end overfishing unless conditions in the proposed action to allow overfishing to continue in the short term are met.

4.1.4 Stock size limits.

4.1.4.1 No action alternative: The current definition of B_{lim} (½ B_{msy} or the minimum stock size to which rebuilding to B_{msy} would be expected within 10 years while fishing at the F_{lim} level, whichever is greater) is perceived by some as being too complex, and by others as being unnecessarily restrictive since fishing is supposed to be targeted at the OY level which should be below F_{lim}.

In Table One (Part One), under the no action alternative (NA), the working assumptions for the biological impacts in the longer term are none (N); except for FMPs that don't have SFA approved overfished definitions yet, for which the designation is Positive (Pos).

4.1.4.2 Proposed action: The Working Group decided that there is a need to (i) simplify the requirements for specifying and calculating B_{lim}, and (ii) emphasize B_{lim}'s role as a secondary, rather than a primary consideration relative to the need to bringing fishing mortality under control.

Under the revised guidelines, B_{lim} or its proxy would still be required, either at the level of individual stocks for core stocks, or the level of assemblages or indicator

species for assemblage stocks, with limited exceptions below. The revised guidelines would be simplified to define the default B_{lim} as ½ B_{msy}. A stock or assemblage that falls below the B_{lim}, should be deemed depleted and require a rebuilding plan.

It does not make sense to set B_{lim} at, or above, B_{msy} because fish stocks fluctuate naturally even if fished at an optimal fishing mortality rate (i.e., under this scenario a stock would "flip" back and forth between overfished and rebuilt). Stocks for which overfishing does not occur would rarely fall below ½ B_{msy} , except in cases of very high natural mortality, or very high recruitment variability, or are prone to runs of unusually low recruitment. Based on empirical evidence, it appears that stocks are typically able to rebound from ½ B_{msy} to B_{msy} with little difficulty so long as F is suitably constrained.

The ½ B_{msy} value for B_{lim} is a reasonable proxy, but can be replaced by a stock-specific determination, if appropriate. For instance, it may be possible to justify B_{lim} levels below ½ B_{msy}, because some stocks with high natural fluctuations result in biomass frequently falling below B_{msy}, even when overfishing does not occur. In this case, it may be reasonable to set the B_{lim} near the lower end of some appropriate range (e.g., the lower 95% confidence interval) of natural fluctuations that would result if the stock or assemblage was not subjected to overfishing. On the other hand, B_{lim} could be set higher than ½ B_{msy} for stocks that are rarely expected to fall below some biomass level appreciably higher than ½ B_{msy}.

For short-lived stocks with high annual fluctuations in productivity and abundance, it would be permissible to define B_{lim} relative to stock abundance over a multi-year period.

A B_{lim} or proxy should always be specified, if possible, with the following exceptions. First, if an OY control rule is implemented that results in F values at least as conservative as would have been the case if a B_{lim} had been used, then explicit use of the B_{lim} is not required (currently the case for Gulf of Alaska groundfish and Bering Sea and Aleutian Islands groundfish). Second, if the Secretary determined that existing data are grossly

inadequate or insufficient for providing a defensible, albeit approximate, estimate of B_{lim} or a reasonable proxy thereof, specification of such would not be required. Occasionally, it may be necessary to rely on qualitative evidence that the stock or assemblage is, or is not sufficiently depleted as to require rebuilding. Also, see section 4.1.6.

These clarifications would provide a more practical approach for using B_{lim} in fishery management and complying with the Magnuson-Stevens Act. The clarifications actually reflect methods that some fishery management councils have begun using for management of fish stocks in special cases. For instance, for short-lived stocks with high annual fluctuations in productivity and abundance (some species of squid and Pacific salmon), it would be permissible to define B_{lim} relative to stock abundance over a multi-year period (currently done with Pacific salmon). By recommending the addition of this information/clarification to the guidelines, the Working Group has certified that these principles for fishery management are based on sound science. Therefore, the revised guidelines would promote the use of these methods when appropriate for other fisheries.

If the proposed revision is implemented by a final rule, no immediate or near term biological impacts will occur on target species, non-target species, or protected species. If any biological impacts occur in the longer term, they will be known when changes are made to B_{lim} or its proxy, with accompanying management measures and analyses.

In Table One (Part One), under the proposed action alternative (PA), the working assumptions for the biological impacts in the longer term are none (N); except for FMPs that don't have SFA approved overfished definitions yet, for which the designation is Positive (Pos). *Nevertheless, The proposed action alternative provides reasonable exceptions to the current overfishing definition default of ½ Bmsy* and *describes under what conditions OY control rules can be used as a proxy for ½ Bmsy (i.e., OY control rules that are implemented that result in F at least as conservative as would have been the case if a Blim was used).*

4.1.5 Rebuilding time horizons.

4.1.5.1 No action alternative: The minimum rebuilding time (T_{min}) is the number of years it takes to achieve a 50 percent probability that biomass will equal or exceed Bmsy at least once when F = 0.0, during that time period. Also, T_{max} is defined as the maximum allowable number of years it takes to achieve at least a 50 percent probability that biomass will equal or exceed B_{msy} while fishing under a rebuilding plan.

The definition of T_{max} in the current guidelines contains an inherent discontinuity. In the current NS1 guidelines, T_{max} may not exceed 10 years if T_{min} is less than 10 years, and T_{max} may not exceed T_{min} plus one generation time if T_{min} is greater than or equal to 10 years. The problem is that this results in a discontinuity in rebuilding times when T_{min} is near 10 years. For example, T_{max} equals 10 years when T_{min} equals 9.5 years, but T_{max} equals 15 years if T_{min} equals 10.5 years and the mean generation time is 5 years.

In Table One (Part One), the working assumptions for the no action alternative (NA) under RTH are none (N), except that for stocks with Tmin less than 10 years and Tmin plus one mean generation time greater tahn 10 years will experience a decrease in RTH compared to the proposed alternative action. *Note: Due circumstances concerning the rebuilding time calculations for fish stocks around the country at any particular time if Tmin is not close enough to 10 years to trigger the "discontinuity" discussed above.*

4.1.5.2 Proposed action: The proposed action removes the discontinuity for T_{max} by revising the NS1 guidelines as follows: If T_{min} plus one generation time exceeds 10 years, then T_{max} =T_{min} plus one generation time; otherwise T_{max} can be up to 10 years. There is no effect for stocks with T_{min} that is at least 10 years, and there could be a lengthened rebuilding time, depending on the mean generation time, for some stocks that have a T_{min} of less than 10 years.

If the proposed revision is implemented by a final rule, no immediate biological impacts will occur on target species, non-target species, or protected species. The biological impacts of the discontinuity for T_{max} would mean that occasionally the T_{max} value would be more than the value

calculated under the current guidelines. This might or might not result in a longer rebuilding T_{max} for one or more species in a fishery that have a large number of overfished stocks for which data are good enough to calculate Btarget and SDCs for depleted and overfishing (e.g. the Northeast multispecies fishery and the Pacific coast groundfish fishery). Such fish stocks might not have to be rebuilt as quickly under the proposed revision compared to under the no action alternative. However, the Magnuson-Stevens Act calls for rebuilding to be as rapid as practicable and this change only affects the maximum limit. The target can still be set sooner. It seems doubtful that the removal of the discontinuity will affect fisheries that are data poor. The greatest chance of effect is for some stocks off New England and the Pacific coast.

In Table One (Part One), the working assumptions for the proposed action (PA) under RTH are slightly negative (Neg) in the short term for fisheries that have more than one rebuilding plan, one or more of which may have a T_{min} less than 10 years and a T_{min} plus one mean generation time and a T_{min} plus one MGT greater than 10 years will experience an increase in RTH from 10 years to T_{min} plus one mean generation time. Otherwise, the designation for a given FMP is none (N).

Note: Due circumstances concerning the rebuilding time calculations for fish stocks around the country at any particular time if Tmin is not close enough to 10 years to trigger the "discontinuity" discussed in the first paragraph of section 4.1.5.1 above.

4.1.6 Rebuilding targets.

4.1.6.1 No action alternative: Currently, the NS1 guidelines do not offer alternative methods to conclude that a stock is rebuilt when biomass-based values are unavailable, such as for some data-poor stocks.

In Table One (Part Two), under the no action alternative (NA), the working assumptions are that (1) for FMPs with data rich stocks, only, this issue is not pertinent so that potential biological impacts in the long term are none (N), and for FMPs with data poor stocks the potential biological impacts in the long term are none (N) because the current

guidelines offer no alternatives to a rebuilding target of Bmsy or a biomass based proxy.

4.1.6.2 Proposed Action: The proposed revisions would provide that when the Secretary determines that there are inadequate data to estimate biomass-based reference points reliably, it would be permissible to use appropriate fishing mortality rates as proxies in certain situations. For example, when there are inadequate data to estimate B_{lim} and/or a B_{msy} rebuilding target reliably, but the available quantitative and qualitative evidence suggests that a core stock or stock assemblage is sufficiently depleted that it requires rebuilding, then it should be permissible to set a rebuilding F below F_{lim} that will result in very low probability of the stock or assemblage declining further, and to evaluate rebuilding performance every two years as required by the Magnuson-Stevens Act. In these circumstances, it may be reasonable to declare a stock or assemblage to be rebuilt if the realized running average F has been below the F_{lim} for at least two generation times, provided there is no other strong evidence that the biomass is still depleted.

Some FMPs could adopt this approach towards rebuilding a stock in a data-poor fishery, as long as an F value and generation time could be estimated. For example, if an F value and generation time can be estimated for Nassau grouper and Goliath grouper of the Gulf of Mexico, then these stocks might be candidates for using this approach for managing for a rebuilt fishery in the absence of reasonable estimates of current biomass and historical high estimates of biomass (see Table One (Part Two).

If the proposed revision is implemented by a final rule, no immediate or near-term biological impacts will occur on target species, non-target species, or protected species. If any longer term biological impacts occur, they will be known once the FMP is revised and accompanied by specific analyses and implemented by a final rule.

In Table One (Part Two), under the proposed action alternative (PA), the working assumptions are that (1) for FMPs with data rich stocks, only, this issue is not pertinent so that potential biological impacts in the long term are none (N) and (2) for FMPs with data poor stocks (in

this case, stocks for which we cannot estimate B_{lim} or its proxy and B_{msy}) the potential biological impacts in the long term are positive (Pos) because the proposed revisions offer another method (keeping F below F_{lim} for two mean generation times for a given fish stock) as a method to estimate that rebuilding has occurred.

4.1.7 Revision of rebuilding plans.

4.1.7.1 No action alternative: Section 304(e)(7) of the Magnuson-Stevens Act requires that progress towards ending overfishing and rebuilding affected fish stocks be evaluated for adequate progress at least every two years, but does not define "adequate progress." Current guidelines do not include additional guidance (beyond the two-year review requirement) on procedures to follow when evaluating the effectiveness of a rebuilding plan or deciding what parameters of rebuilding plan should be modified under different circumstances.

In Table One (Part Two), the working assumptions for revision of rebuilding plans (RRB) under the no action alternative (NA) are: If the stock is not overfished, then the potential biological impact in the longer term is none (N). If one or more stocks in an FMP are in a rebuilding phase of a plan and review of the plan indicates that revision of the rebuilding plan is necessary, then the likelihood of revising a successful rebuilding plan is designated as unknown (U) because of the lack of specific guidance in the guidelines about how to revise rebuilding plans.

4.1.7.2 Proposed action: The Working Group noted that by definition, fishing mortality targets should be achieved on average; therefore it recommended that rebuilding plans should not be adjusted in response to each minor stock assessment update. However, if rebuilding plans are to be adjusted, then it may be permissible in some circumstances to modify either the sequence of rebuilding fishing mortalities, or the time horizon, or both. Rebuilding must continue until the biomass target is met.

It is unknown how often rebuilding plans would be modified in the future using the proposed revisions compared to using the current guidance which is less specific. Impacts of

adjusting a rebuilding plan with a given set of new measures will have to be evaluated and analyzed, in either case (regardless of alternative, current or proposed), before any additional measures to implement such a revised plan are approved and made effective.

If the proposed revision is implemented by a final rule, no immediate or near term biological impacts will occur on target species, non-target species, or protected species. It is unknown how often rebuilding plans would be modified in the future using the proposed revisions compared to using the current guidance which is less specific. With this new guidance, it will be easier for such revisions to be made in a consistent manner across regions. Impacts of adjusting a rebuilding plan with a given set of new measures will have to be evaluated and analyzed in either case (regardless of alternative, current or proposed) before any additional measures to implement such a revised plan are approved and made effective. New rebuilding plans would probably take about two years to implement (time for preparation of the FMP amendment and analyses, Secretarial review of FMP amendment and final rulemaking).

In Table One (Part Two), the working assumptions for revision of rebuilding plans (RRB) under the proposed action are as follows: If the stock is not overfished, then the potential biological impact in the longer term is none (N). If one or more stocks in an FMP are in a rebuilding phase of a plan and review of the plan indicates that revision of the rebuilding plan is necessary, then the likelihood of constructing a successful rebuilding plan is designated as positive (Pos). This is because the likelihood of revising a rebuilding plan that becomes successful is greater under the PA because guidance for revising rebuilding plans is more specific.

4.1.8 OY control rules.

4.1.8.1 No action alternative: Few current FMPs have explicit MSY control rules, although many have maximum fishing mortality limits, and fewer have explicit OY control rules. The current guidelines state that FMPs should have OY control rules.

In Table One (Part Two) the working assumptions for describing potential biological impacts in the long term for the no action alternative for OY control rules are: (1) there would be no (N) biological impacts for FMPs that do not currently have OY control rules, because preparation and implementation of OY control rules has not been occurring for most FMPs other than Alaskan groundfish in the absence of an absolute requirement to do so. Also, there would be no *additional* biological impacts under the no action alternative for OY control rules for FMPs that already have an OY control rule.

4.1.8.2 Proposed action alternative: If both an MSY control rule and an OY control rule are required then NMFS could determine compliance with the Magnuson-Stevens Act's requirement that OY be less than MSY. OY control rules need to be developed and must satisfy the condition that they are less than their respective MSY control rule over their entire range. The requirement for MSY and OY control rules need to strengthened by stating in the NS1 guidelines that they must be developed for fisheries that have sufficient data. Targets such as the OY control rule need to be achieved on average; e.g., with a 50 percent probability.

This proposed change in how to manage our fisheries could have a positive long-term (for many years after the OY control rule is implemented) economic effect, marginally negative short-term (for the first few years after the OY control rule is implemented) economic effect, depending on the degree to which the OY control rule is set less than the MSY control rule, and the extent to which current fishing rates exceed the OY control rule, if any, and a positive biological effect. For stocks that currently are being harvested at F_{msy} (F_{lim}) or higher, there will be a short-term reduction in annual catch approximately equal to the ratio of the OY control rule to the current F. The lower F from the OY control rule will allow the biomass to grow larger at a rate dependent on the biology of the stock. The product of the lower OY-based F and this higher biomass will produce a long-term average catch that may be only slightly below the theoretical MSY. The larger biomass will have additional possible benefits, including: less fluctuation in biomass because there will be more age groups in the stock, less cost of fishing due to higher stock density, larger

bodied fish, and less potential negative impact on the ecosystem.

If the proposed revision in the NS1 guidelines is implemented by a final rule, no immediate or near term biological impacts will occur on target species, non-target species, or protected species. It is difficult to predict the extent of any changes that will occur if OY control rules are required and become the chief method for management and the basis for management measures for data rich stocks. It will depend upon the extent to which the OY control rule is set below the MSY control rule. Therefore, biological impacts in the longer term for various fisheries are difficult to predict. Such impacts will be analyzed at the time an OY control rule and its accompanying management measures are proposed as the basis for managing a given fishery.

In Table One (Part Two) the working assumptions for describing potential biological impacts in the long term for the proposed action alternative (PA) for OY control rules are: (1) there would be positive (Pos) biological impacts for FMPs that do not currently have OY control rules, because preparation and implementation of OY control rules would be required and fish stocks would probably begin rebuilding or rebuild more quickly than in the absence of OY control rules. There would be no *additional* biological impacts under the proposed action alternative for OY control rules for FMPs that already have an OY control rule.

4.1.9 International fisheries.

4.1.9.1 No action alternative: Several Magnuson-Stevensd Act and NS1 requirements (particularly responsibility for determining overfished status, the need for rebuilding plans, and the process for implementation of rebuilding plans) are difficult to apply in international fisheries for straddling stocks, and for highly migratory species (HMS), such as tuna, swordfish, marlins and sharks. The greatest difficulties arise in cases where (i) there is no responsible international management authority, and (ii) the U.S. catches only a small portion of a stock or assemblage.

4.1.9.2 Proposed action: Proposed revised guidelines provide more specific guidance than current guidelines about

how to manage the U.S. portion of a stock shared with other countries depending upon whether an international organization manages such a stock throughout its range. Principles to be incorporated that are more specific than current guidelines would: (i) generally rely on international organizations in which the U.S. participates to determine the status of HMS stocks or assemblages under their purview, including specification of status determination criteria and the process to apply to them; (ii) if the international organization in which the U.S. participant does not have a process for developing a formal plan to rebuild a specific overfished HMS stock or assemblage, to use the Magnuson-Stevens Act process for development of a rebuilding plan by a regional fishery management council or NMFS to be promoted in the international organization or arrangement; and (iii) to develop appropriate domestic fishery regulations to implement internationally agreed upon measures or appropriate U.S. fishery measures consistent with a rebuilding plan giving due consideration to the position of the U.S. domestic fleet relative to other participants in the fishery.

It is difficult to predict the extent of any changes that would occur in management of a domestic fisheries that are also part of a straddling stock or are managed by an international agreement as a result of the proposed clarifications. Eventual biological impacts in the longer term are difficult to predict; such impacts would be analyzed at the time that new management measures are proposed to manage such a fish stock. No immediate or near term biological impacts will occur, if the proposed revision to NS1 guidelines is implemented by a final rule.

4.2 Physical environment (habitat) impacts

4.2.1 Terminology.

4.2.1.1 No action alternative. There should be no impacts on EFH in the short term or in the long term.

4.2.1.2 Proposed action alternative. There should be no impacts on EFH in the short term or long term.

4.2.2 Stock, fisheries, and species assemblages.

4.2.2.1 No action alternative: Current guidelines state that each "stock or stock complex" should be managed under status determination criteria. In terms of impacts on the physical environment in the longer term, stocks that cannot be assigned individual SDCs due to lack of sufficient data, will likely continue to suffer from our lack of knowledge of EFH for stock complexes.

4.2.2.2 Proposed action alternative: The proposed revised guidelines clarify and amplify the current guidelines by providing more specific guidance about how to realign fisheries by core stocks and stock assemblages.

This clarification and amplification of the amount and type of guidance that the proposed revision contains compared to the current guidelines, could result in changes to current management of some fisheries as discussed in section 4.1.2.

This proposed revision should have no immediate or near-term impacts on EFH. Any impacts on EFH in the longer-term will be analyzed when specific new management measures are proposed to manage such a fish stock or stock assemblage. In terms of impacts on the physical environment in the longer term, stocks that cannot be assigned individual SDCs due to lack of sufficient data, could benefit from an increase in our knowledge of EFH for stock assemblages, by studying the EFH of the indicator stocks of a stock assemblage.

4.2.3 Fishing mortality limits. See first two paragraphs of section 4.1.3.

4.2.3.1 No action alternative: It's conceivable that in a few instances, if fishing mortality is not reduced as quickly as it would be under the proposed action, there could be minor impacts on EFH (e.g., more fishing activity and gear use on habitat).

4.2.3.2 Proposed action alternative: Under this alternative, F would be reduced more quickly for some fisheries compared to the no action alternative; therefore, the physical environment and presumably EFH would benefit from reduced gear use. This proposed revision would have no

immediate or near-term impacts on EFH. Any impacts on EFH in the longer-term will be analyzed at the time that new management measures are proposed to manage such a fish stock or stock assemblage.

4.2.4 Stock size limits. See first eight paragraphs of section 4.1.4.

4.2.4.1 No action alternative. There are no known impacts in the longer term on the physical environment or EFH.

4.2.4.2 Proposed action alterative. This proposed revision should have no immediate or near-term impacts on EFH. Any impacts on EFH in the longer-term (e.g., beginning about 2 to 3 years after the effective date of the NS1 final rule), will be analyzed at the time that new management measures are proposed to manage such a fish stock with a revised stock size thresholds.

4.2.5 Rebuilding time horizons. See the first three paragraphs of section 4.1.5.

4.2.5.1 No action alternative. If a given stock is rebuilt more rapidly under the method for calculating a rebuilding time horizon that has a discontinuity but a shorter rebuilding period, there could be some benefits for the physical environment or EFH.

4.2.5.2 Propose action alternative. This proposed revision should have no immediate or near-term impacts on EFH. Any impacts on EFH in the longer-term will be analyzed at the time that new management measures are proposed to manage such a fish stock with a revised rebuilding time horizon. If a given stock is rebuilt more slowly under the method for calculating a rebuilding time horizon that has no discontinuity but a longer rebuilding period, there could be more impacts of the fishing gear on the physical environment or EFH.

4.2.6 Rebuilding targets. See the first three paragraphs in section 4.1.6.

4.2.6.1 No action alternative. There are no known impacts of the no action alternative in the longer term on the physical environment or EFH.

4.2.6.2 Proposed action alternative. This proposed revision should have no immediate or near-term impacts on EFH. Any impacts on EFH in the longer-term will be analyzed at the time that new management measures are proposed to manage such a fish stock because of a decision to control F below Flim for two mean generation times.

4.2.7 Revision of rebuilding plans. See the first three paragraphs of section 4.1.7.

4.2.7.1 No action alternative. Under this alternative, some rebuilding plans could undergo revision because of the Magnuson-Stevens Act's requirement to review rebuilding plans every two years for their adequacy of progress. It is unknown how often any rebuilding plans would be revised and what their effects would be on the physical environment and EFH.

4.2.7.2 Proposed action alternative. This proposed revision should have no immediate or near-term impacts on EFH. Any impacts on EFH in the longer-term will be analyzed at the time that new management measures are proposed to manage such a fish stock because of a change in the rebuilding plan.

In the longer term, it is unknown how often rebuilding plans would be revised, but the more specific guidance on how to revise a rebuilding plan when the stock is not rebuilding as rapidly as expected, could result in some benefits for the physical environment and EFH, if stricter measures are made effective when the rebuilding plan is revised.

4.2.8 OY control rules. See first two paragraphs for section 4.1.8.

4.2.8.1 No action alternative. Under this alternative. it does not seem likely that many or any new OY control rules would be implemented in the near future. There should be no impacts on EFH in the short term on long term.

4.2.8.2 Proposed action alternative. This proposed revision would have no immediate or near-term impacts on EFH. However, it is believed that generally, implementation of OY control rules in place of MSY control rules, would

result in a small reduction in fishing effort and less of an impact on EFH from reduced fishing activity compared to the "no action alternative." Any impacts on EFH in the longer term will be analyzed once an FMP amendment is prepared that contains a specific OY control rule, and accompanying management measures and analyses.

4.2.9 International fisheries. Proposed revised guidelines provide more specific guidance than current guidelines about how to manage the U.S. portion of a stock shared with other countries depending upon whether an international organization manages such a stock throughout its range.

4.2.9.1 No action alternative. There are no known impacts in the longer term on the physical environment or EFH.

4.2.9.2 Proposed action alternative. This proposed revision should not have any immediate or near-term impacts on EFH. Any impacts on EFH in the longer-term will be analyzed at the time that new management measures are proposed to manage such a fish stock or stock assemblage.

4.3 Economic impacts

4.3.1 Terminology.

4.3.1.1 No action alternative. There should be no economic impacts on fishermen or dealers and processors in the short term on long term if the terminology remains unchanged.

4.3.1.2 Proposed action alternative. There should be no impacts on fishermen or dealers and processors in the short term on long term if the terminology is changed.

4.3.2 Stock, fisheries and species assemblages. See the first two paragraphs in section 4.2.2.

4.3.2.1 No action alternative. There should be no economic impacts on fishermen or dealers and processors in the immediate or near term. In the longer term, the lack of additional management of some data-poor stocks could result in foregone revenues.

4.3.2.2 Proposed action alternative. This proposed revision should have no short- or near-term economic impacts

on vessel owners and dealers. Any economic impacts on vessel owners and dealers in the longer-term will be analyzed at the time that new management measures are proposed to manage such a fish stock or stock assemblage.

Some data-poor fish stocks that would become managed directly for the first time (e.g., control of fishing effort), if they are grouped in a stock assemblage under this proposed revision, might have a smaller allowable seasonal or annual harvest. In such cases, revenues might be reduced once management measures are implemented related to stock assemblages. Possibly, several years after the measures are first in place, annual revenues for commercial and recreational vessels and dealers and processors would actually be larger or an annual basis, compared to the scenario under which the data poor stocks had never been managed directly.

4.3.3 Fishing mortality limits. See first two paragraphs of section 4.1.3.

4.3.3.1 No action alternative. Under this alternative compared to the proposed action, some fish stocks might continue to undergo overfishing longer (and the beginning rebuilding would be postponed). Short-term revenues might be greater, but higher average annual yields would be postponed.

4.3.3.2 The proposed action alternative. This proposed revision should have no immediate or near-term economic impacts on vessel owners and dealers. Any economic impacts on vessel owners or dealers in the longer-term will be analyzed at the time that new management measures are proposed to manage such a fish stock or stock assemblage.

If overfishing is ended sooner for some fish stocks, because conditions under which overfishing can continue are more limited, then rebuilding of some fish stocks would begin sooner, and higher annual yields would also occur sooner.

4.3.4 Stock size limits. See first eight paragraphs of section 4.1.4.

4.3.4.1 No action alternative. There are no known economic impacts under the no action alternative. However,

the default B_{lim} is less flexible in terms of dealing in practical terms with stocks that have different life history characteristics (e.g., very short life spans or high natural fluctuations in abundance).

4.3.4.2 Proposed action alternative. This proposed revision should have no immediate or near-term economic impacts on vessel owners and dealers. Any economic impacts on vessel owners and dealers in the longer-term will be analyzed at the time that new management measures are proposed to manage such a fish stock or stock assemblage as a result of revision of SDCs such as B_{lim}.

4.3.5 Rebuilding time horizons. See the first three paragraphs of section 4.1.5.

4.3.5.1 No action alternative. If a given stock is rebuilt more rapidly under the method for calculating a rebuilding time horizon that has a discontinuity, but a shorter rebuilding period, there could be a decrease in annual revenues in the first few years of the plan, but a sustained increases in revenues earlier, because rebuilding of the fish stock would occur more rapidly than under a slower pace of rebuilding.

4.3.5.2 Proposed action alternative. This proposed revision should have no immediate or near-term economic impacts on vessel owners, dealers or processors. Any economic impacts on vessel owners and and dealers and processors in the longer-term will be analyzed at the time that new management measures are proposed to manage such a fish stock with a revised rebuilding time horizon.

If a given stock is rebuilt more slowly under the method for calculating a rebuilding time horizon that has no discontinuity but a longer rebuilding period, there could be less economic impacts on vessel owners during the beginning of a rebuilding plan. This feature of the proposed action would provide some flexibility (e.g., for mixed stock fisheries), thereby addressing concerns by members of Congress for the need of more flexibility in fisheries management under the SFA.

4.3.6 Rebuilding targets. See the first three paragraphs in section 4.1.6.

4.3.6.1 No action alternative. Under the no action alternative, it's possible that for some data-poor stocks, there would be foregone revenues until fishery managers better understand the biology of such stocks and their ability to withstand fishing effort.

4.3.6.2 Proposed action alternative. This proposed revision should have no immediate or near-term economic impacts on vessel owners or dealers. Any economic impacts on vessel owners or dealers in the longer-term will be analyzed at the time that new management measures are proposed as a result of revisions to a rebuilding target, or later, at such time that a fishery is determined to be rebuilt, and greater harvest of a given stock is finally allowed.

4.3.7 Revision of rebuilding plans. See the first two paragraphs of section 4.1.7.

4.3.7.1 No action alternative. If some rebuilding plans are not revised due to the lack of specific guidance in the NS1 guidelines, then a higher annual yield in a given fishery might be postponed.

4.3.7.2 Proposed action alternative. This proposed revision should have no immediate or near-term economic impacts on vessel owners and dealers. Any economic impacts on vessel owners and dealers in the longer-term will be analyzed at the time that new management measures are proposed to manage such a fish stock because of a change in the rebuilding plan. If rebuilding plans are revised so that F is reduced, then fishermen and processors would experience losses in revenues in the short term, but increases in revenues annually, in the longer term.

4.3.8 OY control rules. See first two paragraphs of section 4.1.8.

4.3.8.1 No action alternative. Under this alternative, it does not seem likely that many, or any, new OY control rules would be implemented in the future. There should be no economic impacts on owners of fishing vessels and dealers and processors in the short term on long term.

4.3.8.2 Proposed action alternative. This proposed revision would have no immediate or near-term economic impacts on vessel owners and dealers and processors. It is difficult to predict the extent of any economic impacts that might occur later, if an OY control rule is adopted and implemented for a given fishery. Minor losses in revenues at the outset of implementing an OY control rule would be offset by more rapid rebuilding of the fish stock, followed by more stable annual and greater revenues earlier, than would occur without an OY control rule. Any economic impacts on vessel owners or dealers in the longer term will be analyzed at the time that an OY control rule and accompanying measures are adopted.

4.3.9 International fisheries.

4.3.9.1 No action alternative. There no known economic impacts in the short or long term.

4.3.9.2 Proposed action alternative. Proposed revised guidelines provide more specific guidance than current guidelines about how to manage the U.S. portion of a stock shared with other countries depending upon whether an international organization manages such a stock throughout its range.

This proposed revision should have no immediate or near-term economic impacts on vessel owners and dealers. Any economic impacts on vessel owners or dealers in the longer-term will be analyzed at the time that new management measures are proposed to manage such a fish stock or stock assemblage.

4.4 Social impacts

4.4.1 Terminology.

4.4.1.1 No action alternative. There should be no social impacts on fishing communities in the short term on long term as a result of keeping the terminology unchanged.

4.4.1.2 Proposed action alternative. There should be no social impacts on fishing communities in the short term on long term as a result of changing the terminology.

4.4.2 Stock, fisheries and species assemblages. See the first two paragraphs in section 4.2.2.

4.4.2.1 No action alternative. There should be no social impacts on fishing communities in the immediate or near term. In the longer term, the lack of additional management of some data-poor stocks could result in foregone revenues.

4.4.2.2 Proposed action alternative. This proposed revision should have no short- or near-term social impacts on fishing communities. Any social impacts on fishing communities in the longer-term will be analyzed at the time that new management measures are proposed to manage such a fish stock or stock assemblage.

Some data-poor fish stocks that would become managed directly for the first time (e.g., control of fishing effort), if they are grouped in a stock assemblage under this proposed revision, might have a smaller allowable seasonal or annual harvest. In such cases, there might be some social impacts from lower revenues once management measures are implemented related to stock assemblages. Possibly, several years after the measures are first in place, annual revenues for commercial and recreational vessels and dealers and process would actually be larger or an annual basis, compared to the scenario under which the data poor stocks had never been managed directly; therefore, social impacts on a fishing community would be positive at this point.

4.4.3 Fishing mortality limits. See first two paragraphs of section 4.1.3.

This proposed revision should have no immediate or near-term social impacts on fishing communities. Any social impacts on fishing communities in the longer-term (e.g., beginning about one and one-half to two years after the effective date of the NS1 final rule), will be analyzed at the time that new management measures are proposed to manage such a fish stock or stock assemblage.

4.4.3.1 No action alternative. Under this alternative compared to the proposed action, some fish stocks might continue to undergo overfishing longer (and the beginning of

rebuilding would be postponed). Positive social impacts might be greater in the interim period, but higher average annual yields, in the long term, and greater positive social impacts would be postponed.

4.4.3.2 The proposed action alternative. This proposed revision should have no immediate or near-term social impacts on fishing communities. Any social impacts on fishing communities in the longer-term will be analyzed at the time that new management measures are proposed to manage such a fish stock or stock assemblage.

If overfishing is ended sooner for some fish stocks, because conditions under which overfishing can continue are more limited, then rebuilding of some stocks would begin sooner, and higher annual yields would also occur sooner.

4.4.4 Stock size limits. See first eight paragraphs of section 4.1.4.

This proposed revision should have no immediate or near-term social impacts on fishing communities. Any social impacts on fishing communities in the longer-term will be analyzed at the time that new management measures are proposed to manage such a fish stock or stock assemblage.

4.4.5 Rebuilding time horizons. See the first three paragraphs of section 4.1.5.

4.4.5.1 No action alternative. If a given stock is rebuilt more rapidly under the method for calculating a rebuilding time horizon that has a discontinuity, but a shorter rebuilding period, there could be a decrease in annual revenues (i.e., some negative social impacts on fishing communities in the first few years of the plan), but sustained increases in revenues earlier, because rebuilding of the fish stock would occur more rapidly than under a slower pace of rebuilding.

4.4.5.2 Proposed action alternative. This proposed revision should have no immediate or near-term social impacts on fishing communities. Any social impacts on fishing communities in the longer-term (will be analyzed at the time that new management measures are proposed to manage such a fish stock with a revised rebuilding time horizon.

If a given stock is rebuilt more slowly under the method for calculating a rebuilding time horizon that has no discontinuity but a longer rebuilding period, there could be less negative social impacts on fishing communities during the beginning of a rebuilding plan. This feature of the proposed action would provide some flexibility (e.g., for mixed stock fisheries), thereby addressing concerns by members of Congress for the need of more flexibility in fisheries management under the SFA.

4.4.6 Rebuilding targets. See the first three paragraphs in section 4.1.6.

4.4.6.1 No action alternative. Under the no action alternative, it's possible that for some data-poor stocks, there would be foregone revenues (some negative social impacts for fishing communities) until fishery managers better understand the biology of such stocks and their ability to withstand fishing effort.

4.4.6.2 Proposed action alternative. This proposed revision should have no immediate or near-term social impacts on fishing communities. Any social impacts on fishing communities in the longer-term will be analyzed at the time that new management measures are proposed as a result of revisions to a rebuilding target, or later, at such time that a fishery is determined to be rebuilt, and greater harvest of a given stock is finally allowed.

4.4.7 Revision of rebuilding plans. See first three paragraphs of section 4.1.7.

4.4.7.1 No action alternative. If some rebuilding plans are not revised due to the lack of specific guidance in the NS1 guidelines, then a higher annual yield (i.e., positive social impacts in the long term) in a given fishery might be postponed.

4.4.7.2 Proposed action alternative. This proposed revision should have no immediate or near-term economic impacts on vessel owners and dealers. Any economic impacts on vessel owners and dealers in the longer-term will be analyzed at the time that new management measures are proposed to manage such a fish stock because of a change in the rebuilding plan.

If rebuilding plans are revised so that F is reduced, then fishermen and processors would experience losses in revenues (i.e., negative social impacts) in the first few years of the plan, but they would benefit from greater revenues annually, at an earlier point in the rebuilding plan. On the other hand, it's possible that a fishery rebuilding plan may be designed to rebuild more slowly than originally planned, to try to some extent to preserve the fishing industry infrastructure and some degree of economic stability of the fishing community.

4.4.8 OY control rules. See first two paragraphs of section 4.1.8.

4.4.8.1 No action alternative. Under this alternative, it does not seem likely that many, or any, new OY control rules would be implemented in the future. There should be no social impacts on fishing communities in the short term on long term.

4.4.8.2 Proposed action alternative. This proposed revision would have no immediate or near-term social impacts on fishing communities. It is difficult to predict the extent of any social impacts that might occur later, if an OY control rule is adopted and implemented for a given fishery. Minor losses in revenues (negative social impacts) at the outset of implementing an OY control rule would be offset by more rapid rebuilding of the fish stock, followed by more stable annual and greater revenues (positive social impacts) earlier in the rebuilding plan, than would occur without an OY control rule. Any social impacts on fishing communities in the longer term will be analyzed at the time that an OY control rule and accompanying measures are adopted.

4.4.9 International fisheries.

4.4.9.1 No action alternative. There no known social impacts on fishing communities in the short or long term.

4.4.9.2 Proposed action alternative. Proposed revised guidelines provide more specific guidance than current guidelines about how to manage the U.S. portion of a stock shared with other countries depending upon whether an

international organization manages such a stock throughout its range.

This proposed revision should have no immediate or near-term social impacts on fishing communities. Any social impacts on fishing communities in the longer-term will be analyzed at the time that new management measures are proposed to manage such a fish stock or stock assemblage.

This alternative is likely to have positive social impacts since it directs the U.S. to lead international efforts to rebuild, but does not put the onus or burden on U.S. fisheries.

5.0 Consistency with other applicable laws

5.1 Coastal Zone Management Act

NMFS will be sending letters to determine if this action is consistent to the maximum extent practicable with the enforceable policies of the approved coastal management programs of Maine, New Hampshire, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Delaware, Maryland, Virginia, North Carolina, South Carolina, Georgia, Florida, the Commonwealth of Puerto Rico, U.S. Virgin Islands, Alabama, Mississippi, Louisiana, Texas, California, Oregon, Washington, Alaska, Hawaii, American Samoa, and Guam.

5.2 Data Quality Act

The proposed alternative has been evaluated under Section 515 of the Data Quality Act.

5.3 Executive Order 12866

The National Marine Fisheries Service requires that a regulatory impact review (RIR) be prepared for actions that will have a proposed and final rule and actions that have a final rule only, to address requirements of the Executive Order (E.O.) 12866.

5.3.1 Description of management objectives - see section 1.2

5.3.2 Description of the fishery - the fisheries for each FMP are described in detail in those FMPs. For more detailed information about a fishery, a copy of a given FMP can be obtained from the councils as listed in Appendix 8. Often, the most recent Amendment to a given FMP contains the most updated information for that fishery.

5.3.3 A Statement of the Problem - see section 1.2.

5.3.4 A description of each alternative, including the no action alternative - see section 2.0.

5.3.5 An economic analysis of the expected effects of each selected alternative relative to the baseline.

As described in section 5.4.2, the proposed revisions to the NS1 guidelines would not have any economic impacts on fishermen or dealers, immediately or in the near term.

Economic effects or impacts in the longer term, can only be discussed on a qualitative basis because none of the actual management measures that could eventually result from these proposed revisions is known, with the possible exception of alternative 2.8.2 (OY control rules). Requiring that OY control rules be used for managing each fishery that has adequate data is likely to have the greatest economic impacts, beginning in the longer term. If such management measures are proposed at a later date, an economic analysis will accompany the proposed action at that time.

Several of the proposed action alternatives, Stocks, fisheries and species assemblages (section 2.2.2), Rebuilding targets (section 2.6.2), International fisheries (section 2.9.2) could eventually result in changes to current management measures, but only in the longer term. These alternatives clarify when it is appropriate to manage with a stock assemblage and when to manage a stock assemblage with one or more minor stocks (section 2.2.2), provide another method to manage a stock with a goal towards rebuilding when it is impossible to estimate biomass-based reference points reliably (section 2.6.2), clarify what parameters should be adjusted when rebuilding plans need to be adjusted (section 2.7.2), and clarify how to manage U.S. fisheries (section 2.9.2) that are also managed by an

International organization or straddling stocks not currently managed by an International organization.

For several other proposed revisions, it appears that current management measures would be revised in the longer term in only a few instances. Examples would be proposed alternatives 2.3.2, 2.4.2 and 2.5.2.

Proposed alternative 2.3.2 clarifies conditions under which phase-in periods of reduction in F are acceptable, instead of prevention of overfishing "immediately." It is hoped that by establishing these conditions, the incidence of not preventing overfishing will be reduced and the conditions listed in alternative 2.3.2 would provide much needed clarification. It is not possible to predict how often F would be reduced under the proposed revision compared to the no action alternative; therefore, economic impacts are very difficult to predict at this time.

Proposed alternative 2.4.2 would revise the default minimum biomass limit (MBL) to be ½ B_{msy}. Until recently, sea scallops and some New England groundfish stocks had an MBL of 1/4 B_{msy}; however, those stocks' MBLs were revised to be ½ B_{msy} by Amendment 10 to the Sea Scallop FMP and Amendment 13 to the Northeast Multispecies FMP. The proposed alternative provides guidance as to when exceptions to the ½ B_{msy} value or its proxy are acceptable. It does not appear that these revisions will result in changes to many, if any current values. Some FMPs in the Southeast have set Blim equal to $(1-M)*B_{msy}$ which could be more than ½ Bmsy. These definitions could be revised to ½ B_{msy}, or could be kept at their current, more conservative, level. The proposed exceptions to the ½ B_{msy} value encompass current management strategy for stocks such as Illex squid and Pacific salmon.

Proposed alternative 2.5.2 would remove the discontinuity that currently exists in the formula for calculating maximum permissible rebuilding time (T_{max}). It seems likely that a few fish stocks would have a longer T_{max} under Alternative 2.5.2 than the no action alternative. In such an instance, the rebuilding F could be increased compared to the current F, so rebuilding of that fish stock could occur more slowly. Such an action would likely cause less short-term losses in revenue, but the beginning of higher average yield of that stock over an extended period of time would be delayed. Any

changes in F to accommodate a longer T_{max} in the future, will be accompanied by economic analyses for those specific actions.

The proposed action alternative for Terminology (section 2.1.2) would not result in any changes to current management measures.

5.3.6 Changes in Net Benefits

Proposed alternative 2.8.2 would require that FMPs designate OY control rules which would likely result in lower allowable annual harvests of fish stocks in the short-term (for a short time period after the OY control rule is first implemented), especially for stocks that are managed by total allowable landings (TALs)and total allowable catches (TACs). For stocks not managed by TALs and TACs, annual management measures would still have the goal of attaining a harvest level that corresponds to an OY control rule, rather than an MSY control rule. It is not known what the difference in allowable harvest would be for various stocks managed under an OY control rule, instead of an MSY control rule because the proposed NS1 guidelines do not specify the degree to which the OY control rule must be set below the MSY control rule. The better the database for a given stock, the more likely the OY control rule would have an allowable harvest level that is closer to the allowable harvest provided if the stock was managed under the MSY control rule. Any changes in management measures and TALs and TACs in the future, would be accompanied by economic analyses for those specific actions.

Section 3(f)(1) through (4) of E.O. 12866 defines a "significant regulatory action". The Office of Management and Budget determined during the advance notice of proposed rule stage that this action is significant for purposes of E.O. 12866. This is because the proposed action is likely to result in a rule that may "raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in E.O. 12866." Because the NS1 guidelines form the basis for how to construct overfishing definitions and rebuilding plans, any proposed revisions quickly become a great concern to various members of the public, the fishing industry and environmental organizations. It is not known whether or not

OMB would change this determination after the proposed rule.

5.4 Regulatory Flexibility Act (RFA)

5.4.1 Requirements of the RFA. Section 603 of the Regulatory Flexibility Act (RFA) requires that whenever an agency is required to publish general notice of proposed rulemaking for any proposed rule, the agency shall prepare and make available for public comment an initial regulatory flexibility analysis (IRFA). Such an analysis shall describe the impact of the proposed rule on small entities. However, under section 605(b) of the RFA, an agency can certify that a rule will not, if promulgated, have a significant economic impact on a substantial number of small entities. In such a case, it is not necessary to prepare an IRFA for the proposed rule and a final regulatory flexibility analysis for the final rule.

5.4.2 Certification of this action under the RFA. The proposed rule for the revisions for national standard 1, if promulgated, would not have any significant economic impact on a substantial number of small entities, because the rule would not have economic impacts on small entities in the immediate (upon publication of the final rule for NS1) nor in the near term (up to about 1½ to 2 years after publication of the final rule for NS1). Upon the effective date of the final rule for the proposed alternatives, no management measures for any fisheries would change immediately. This is because the NS1 guidelines are general in nature, in that they provide guidance on how to address requirements to designate depleted fisheries and develop rebuilding plans for such fisheries under section 304 of the Magnuson-Stevens Act. The NS1 guidelines do not directly result in management measures for fisheries, in general, or specific fisheries.

After the final rule containing revisions to the NS1 guidelines is effective, Councils would use the revised NS1 guidelines if they are preparing FMP amendments that contain SDCs, overfishing definitions, or revising rebuilding plans. The process for development and preparation of an FMP amendment and submission for Secretarial review would take on average, at least two to three years. If such an FMP amendment was approved by NMFS on behalf of the Secretary,

the FMP amendment would take an average of another four to five months to implement from the date that Secretarial review begins. Any such FMP amendments or other regulatory actions that implement management measures associated with new definitions for depleted or overfishing and new or revised rebuilding plans, would be accompanied by economic and environmental analyses by the time that a Council adopts the amendment and sends it to NMFS for Secretarial review. Therefore, an IRFA would also accompany such an action.

NMFS will recommend to the Department of Commerce's Office of the General Counsel that it certify to the Chief Counsel for Advocacy of the Small Business Administration that the proposed rule containing the revisions to the NS1 guidelines contained herein would not have a significant economic impact on a substantial number of small entities. Following NMFS Guidelines for Economic Analysis of Fishery Management Actions, the information in section 5.4.3 provides factual basis for the certification.

5.4.3 Information for this action related to sections 605(b) of the RFA.

5.4.3.1 A description of the reasons why agency action is being considered:

After working with the NS1 guidelines since June 1, 1998, NMFS has developed new perspectives, and become aware of new issues and problems regarding the application of the guidelines.

NMFS announced in an advance notice of proposed rulemaking (ANPR) in the Federal Register on February 14, 2003, that it was considering revisions to the guidelines for national standard 1 that specify criteria for overfishing and establishing rebuilding schedules. The ANPR identified several concerns for revision, but did not limit what portion of the NS1 guidelines could be revised. The five concerns listed in the ANPR were as follows:

1. The definition and use of the minimum stock size threshold (MSST) for determining when a stock is overfished.
2. calculation of the rebuilding targets appropriate to the environmental regime.
3. Calculation of the maximum permissible rebuilding time for overfished fisheries.

4. The definitions of overfishing as they relate to a fishery as a whole, or a stock of fish within that fishery.

5. Procedures to follow when rebuilding plans require revision after initiation, especially with regard to modification of a rebuilding schedule.

In the ANPR, NMFS also solicited comments from the public related to: (1) whether or not the national standard 1 guidelines should be revised, (2) if revisions are desired, what parts of the NS1 guidelines should be revised, how they should be revised, and why.

A NMFS Working Group made recommendations (see the proposed alternatives in section 2 of the environmental assessment for this action) to the Assistant Administrator for Fisheries in November 2003, following: (1) review of public comments received through the ANPR on the current usefulness of the guidelines for NS1, (2) conducting an agency workshop in April 2003, and (3) further discussions by the Working Group.

5.4.3.2 A succinct statement of the objectives of, and the legal basis for, the proposed rule

NMFS believes that the proposed revisions will improve the ability of fishery management councils to choose meaningful status determination criteria for definitions of "depleted" and "overfishing" and rebuilding plans that comply better with the requirements of section 304 of the Magnuson-Stevens Act. In some instances, the proposed guidelines also provide better flexibility in determining SDCs and rebuilding plans that balance the requirements to prevent overfishing and rebuild fish stocks along with the need to consider impacts of fishery management actions on fishing communities. The authority of this action is the Magnuson-Stevens Act.

5.4.3.3 A description of and, where feasible, an estimate of small entities to which the proposed rule will apply

A list of estimated Federal vessel permits by fishery management plan are listed in Table 2. Dealer permits are not included in this listing. All the vessels included in the counts towards total vessel permits for each fishery are considered to be small entities for the purposes of the Regulatory Flexibility Analysis. The data for fisheries

listed in Table 2 are not further subdivided to describe instances that commercial vessel permits are actually divided into one of several categories (e.g., full-time, part-time and occasional), because such information is not necessary for this discussion.

5.4.3.4 A description of the projected reporting, recordkeeping and other compliance requirements of the proposed rule

This proposed rule does not contain any new record keeping or reporting requirements.

5.4.3.5 Identification, to the extent practicable, of all relevant Federal rules which may duplicate, overlap or conflict with the proposed rule

NMFS is not aware of any other relevant Federal rules which may duplicate, overlap or conflict with the proposed rule.

5.4.3.6 An estimate of economic impacts on small entities by entity size and industry

As indicated earlier in section 5.3.5, the proposed revisions to the NS1 guidelines would not have any immediate or near-term economic impact on small entities. Any economic impacts on vessel owners or dealers in the longer term, will be analyzed when management measures are proposed to implement the proposed guidelines. If such management measures are proposed in the future, economic analyses to assess impact on small entities will accompany the proposed actions.

5.5 Magnuson-Stevens Act

Section 305(b)(2) of the Magnuson-Stevens Act requires each federal agency to consult with the Secretary of Commerce (delegated to NMFS) with respect to any action authorized, funded, or undertaken, by such agency that may adversely affect any essential fish habitat. This includes NMFS. NMFS had determined that the proposed revisions to NS1 would not adversely affect EFH.

5.6 Paperwork Reduction Act

The proposed revisions to NS1 guidelines would not result in any new collection-of-information requirements subject to the Paperwork Reduction Act. Beginning approximately two to three years after the effective date of the final rule for this action, some FMP amendments could conceivably revise some overfishing definitions and rebuilding schedules or implement OY control rules. It is not known if such actions would sometimes result in any proposed new collection-of-information requirements. In the event that new collection-of-information requirements are proposed, a specific analysis regarding the public's reportoing burden would accompany such an action.

6.0 Finding of no significant impacts

National Oceanic and Atmospheric Administration Order (NAO) 216-6 (revised May 20, 1999) provides nine criteria for determining significance of the impacts of a proposed action. These criteria are discussed below:

1. Can the proposed action be reasonably expected to jeopardize the sustainability of any target species that may be affected by the action? The proposed action is not expected to have any immediate effect on the sustainability of any target species in any of the FMPs managed under the Magnuson-Stevens Act. However, by requiring management through OY control rules, FMPs would eventually be amended and probably provide slightly greater stock protection on average, than the level of protection provided by MSY control rules. The extent of those impacts would only be known at that time. For the most part, this action is designed to clarify the guidelines for NS1 (e.g., provide more specific guidance) to assist the fishery management councils and NMFS in developing or revising overfishing definitions and rebuilding schedules when necessary. Prevention of overfishing is highlighted in the revised guidelines as a primary goal for fishery management; better guidance is provided as to when exceptions to this "rule" apply with emphasis that such exceptions should be rare and well justified and that significant progress towards preventing overfishing should be made each successive year on an incremental basis. The revised overfishing definitions would remove a discontinuity in the formula for calculating maximum permissible rebuilding time. The revised guidelines provide more specific guidance than

currently exists concerning how (increase or decrease) and what (rebuilding time frame) to adjust when a biomass target needs to be adjusted because of new data or rebuilding over several years occurs much faster or much slower than expected.

2. Can the proposed action be reasonably expected to allow substantial damage to the ocean and coastal habitats and/or EFH as defined under the Magnuson-Stevens Act and identified in the FMP? Essential fish habitat has been approved for most FMPs and is being re-evaluated and identified and described for several FMPs. This action compared to the current NS1 guidelines is not expected to allow substantially more or less damage to the ocean and coastal habitats and/or EFH as identified in the various FMPs. This action is designed to clarify the guidelines (e.g., provide more specific guidance) for NS1 to assist the fishery management councils and NMFS in developing or revising overfishing definitions and rebuilding schedules when necessary.

3. Can the proposed action reasonably be expected to have a substantial adverse impact on public health or safety? This action is not expected to have a substantial adverse impact on public health and safety. NMFS is not aware of any difference between the current NS1 guidelines and the proposed NS1 guidelines in terms of their impacst on public health and safety.

4. Can the proposed action be reasonably expected to have an adverse impact on endangered or threatened species, marine mammals, or critical habitat of these species? This proposed action is not expected to have an adverse impact on endangered and threatened species, marine mammals, or critical habitat of these species. Fisheries that become managed under an OY control rule, would on average allow less harvest of target species than under management by an MSY control rule. Fisheries managed under an OY control might have less interaction with threatened or endangered species.

5. Can the proposed action be reasonably expected to result in cumulative adverse effects that have substantial effect on target species or non-target species? This proposed action is not expected to result in cumulative adverse

effects that have substantial effect on target species or non-target species. This action for the most part improves the guidelines for NS1 by clarifying under what conditions stocks should be managed as core stocks or stock assemblages; what would be the basis for stock assemblage SDCs (an aggregate SDC or indicator stock(s) SDC); the conditions under which overfishing would not have to be prevented immediately; how to use Flim as the basis for determining a rebuilt stock when data is not available to calculate B target for a depleted stock (data poor stock); a new formula for calculating Tmax for a depleted stock; how to revise a rebuilding plan (when to change F or rebuilding time) when it becomes apparent that the value for B target needs to be changed or rebuilding is occurring much faster or slower than expected; clarifies what management strategies are available for domestic fisheries that are also internationally managed or are straddling stocks; and the need to manage by OY (target) control rules, instead of MSY (limit) control rules.

6. Can the proposed action be reasonably expected to jeopardize the sustainability of any non-target species? The proposed action is not expected to jeopardize the sustainability of any non-target species. Non-target species are comparable in vulnerability to the data-poor species contained in assemblages. The improved guidance on control of fishing mortality for target species and the better identification of approaches for assemblages will also provide greater protection for non-target species.

7. Can the proposed action be expected to have a substantial impact on biodiversity and ecosystem function within the affected area (e.g., benthic productivity, predator-prey relationships, etc.)? The proposed action is not expected to have a substantial impact on biodiversity and ecosystem function within the affected area. A small beneficial ecosystem impact may result when fisheries are controlled with OY control rules that are set lower than MSY control rules, but the magnitude of the future benefit will depend upon the degree to which OY is less than MSY.

8. Are significant social or economic impacts interrelated with significant natural or physical environmental effects? This action is not likely to result in any significant

social or economic impacts interrelated with significant natural or physical environmental effects.

9. To what degree are the effects on the quality of the human environment expected to be highly controversial? The proposed action is expected to be highly controversial. Because the NS1 guidelines form the basis for how to construct overfishing definitions and rebuilding plans, any proposed revisions have already become a great concern to various members of the public, the fishing industry and environmental organizations included. However, upon the effective date of the final rule, no management measures would change immediately in any fisheries. This is because the NS1 guidelines are general in nature in that they provide guidance on how to address requirements to designate depleted fisheries and develop rebuilding plans for such fisheries under section 304 of the Magnuson-Stevens Act. These revisions to the NS1 guidelines are clarifications for how to develop SDCs, revise rebuilding plans when necessary, how to address requirements of NS1 in data poor fisheries, and methods for managing a domestic fishery that is part of a straddling stock or a fishery that is also managed under an international fishery agreement. Once the final rule containing revisions to the NS1 guidelines is effective, Councils would need to comply with the new NS1 guidelines for any new FMP actions that contain any new or revised SDCs, overfishing definitions or rebuilding plans. Any such FMP amendments or other regulatory actions that implement management measures associated with new or revised SDCs, overfishing definitions or rebuilding plans would be accompanied by economic and environmental analyses by the time a Council adopts the amendment and sends it to NMFS for Secretarial review.

6.1 FONSI Statement

In view of the analysis presented in this document, and the environmental impact statements and environmental assessments for previous FMPs and FMP amendments and regulatory amendments that revised overfishing definitions and rebuilding schedules with resultant changes in management measures in those fisheries, the changes proposed in this action to clarify, amplify or simplify the guidelines for national standard 1 will not significantly affect the quality of the human environment. This finding takes into account cumulative impacts and the criteria in

NAO 216-6 related to evaluating whether an action is significant under the National Environmental Policy Act.

Assistant Administrator for Fisheries, NOAA	Date

7.0 List of Preparers

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Dr. Pamela Mace served as Chairperson of the NMFS NS1 Working Group from April 2003 through December 2003. In that capacity she drafted the Working Group Report thereby providing the foundation for most of the material in this environmental assessment. Dr. Mace has been employed by the New Zealand Ministry of Fisheries since January 2004.

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Table 1 (Part One). Qualitative Summary of Potential Longer-term[1] Biological Impacts of Current Guidelines (NA) Compared to Proposed Revisions (PA) for Various FMPs (Stocks (ST), Fishing mortality limits (FML), Biomass limits (BL) and Rebuilding time horizons(RTH)).

	ST		FML		BL		RTH	
	NA	PA	NA	PA	NA	PA	NA	PA
<u>New England FMC</u>								
NE Multispecies	N	N	U	Pos	N	N	Pos	Neg
Atl. Sea Scallops	N	N	N	N	N	N	N	N
Atl. Salmon	N	N	N	N	N	N	N	N
Monkfish	N	N	U	Pos	N	N	Pos	Neg
Atl. Herring	N	N	N	N	N	N	N	N
Atl. Red Crab	N	N	N	N	U	U	U	U
Skates NE Reg	N	N	N	N	U	U	U	U
<u>Mid-Atlantic FMC</u>								
Atl. MSB	N	N	N	N	N	N	N	N
Atl. SC and OC	N	N	N	N	N	N	N	N
SF, Scup, and BSB	N	N	U	Pos	N	N	N	U
Atl. Bluefish	N	N	N	N	N	N	N	N
Spiny Dogfish	N	N	U	Pos	Pos	Pos	N	U
Golden Tilefish	N	N	U	Pos	N	N	N	U
<u>South Atlantic FMC</u>								
Snapper-Grouper	N	Pos	U	Pos	Pos	Pos	Pos	Neg
Atl. Coast Red Drum	N	N	U	Pos	Pos	Pos	N	U
Shrimp Fishery	N	N	N	N	Pos	Pos	N	N
Coral, Coral Reefs, & Live Hard Bottom	N	Pos	N	N	N	N	N	N
Golden Crab	N	N	N	N	N	N	N	N
Sargassum	N	N	N	N	N	N	N	N
Dolphin and Wahoo	N	N	N	N	N	Pos	Pos	N

Gulf of Mexico FMC and South Atlantic FMC Joint								
Spiny Lobster (GOM and SA)	N	N	N	N	Pos	Pos	N	N
Coastal Migratory Pelagic GOM and SA	N	N	N	N	N	N	N	N
Gulf of Mexico FMC								
Coral and Coral Reefs	N	Pos	N	N	N	N	N	N
Red Drum	N	N	U	Pos	N	N	N	N
Stone Crab	N	N	N	N	Pos	Pos	N	N
Shrimp	N	N	N	N	N	N	N	N
Reef Fish	N	Pos	U	Pos	Pos	Pos	N	N
Caribbean FMC								
Spiny Lobster (PR and USVI)	N	N	N	N	Pos	Pos	N	N
Shallow Water Reeffish (PR and USVI)	N	Pos	N	N	Pos	Pos	N	N
Corals and Reef Invert. (PR and VI)	N	Pos	N	N	Pos	Pos	N	N
Queen Conch (PR and VI)	N	Pos	U	Pos	Pos	Pos	N	N
Pacific FMC								
Pac Coast Grdfish	N	Pos	N	N	N	N	Pos	Neg
Ocean Salmon	N	Pos	N	N	N	N	N	U
Coastal Pelagics	N	N	N	N	N	N	N	N
West Coast HMS	N	Pos	N	N	Pos	Pos	N	N
Western Pacific FMC								
Crustacean	N	Pos	N	N	N	N	N	N
Precious Corals	N	Pos	N	N	N	N	N	N
Bottomfish & Seamount Grdfish	N	Pos	N	N	Pos	Pos	N	N
Pelagics	N	Pos	U	Pos	Pos	Pos	N	N
Coral Reef Ecosystems	N	Pos	N	N	N	N	N	N

North Pacific FMC

Grdfish BSAI	N	Pos	N	N	N	N	N	N
Grdfish GOA	N	Pos	N	N	N	N	N	N
BSAI King & Tanner Crab	N	Pos	N	N	N	N	N	U
Weathervane Scallop	N	Pos	N	N	N	N	N	N
High Seas Salmon	N	Pos	N	N	N	N	N	N

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Atl. Tunas, Swordfish & Sharks	N	Pos	U	Pos	N	N	Pos	Neg
Atl. Billfish	N	N	N	N	N	N	N	N

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[1] Biological impacts in the *longer term* in this section and Table One (Part One) and Table One (Part Two), means impacts that will be known at the time a new FMP amendment or other rulemaking authorized by a given FMP is submitted for Secretarial review with accompanying analyses. Such an action, on average, would not occur before two to three years after the effective date of the final rule for any revisions to the NS1 guidelines.

Note: Independent of the biological impacts predicted in this table for each alternative, most PA measures are likely to improve the ability of fishery managers/scientists to develop SDCs appropriate for a given stock dependent upon the quality of data available for that stock and related stocks

NA means No action alternative
PA means Proposed action
N means no biological impact
U means unknown, but possible impact
Pos means positive biological impact, that is, a likely increase in stock abundance and greater likelihood that stock abundance will remain stable if already at Bmsy, or likely that abundance will remain stable once it reaches Bmsy

Working assumptions

ST: The working assumptions for the no action alternative (NA) for the "stocks" (ST) proposed revision are: (1) for FMPs that contain major stocks, only, the projected biological impacts in the longer term would be none (N), and (2) for FMPs that are made up of major and minor stocks, the projected biological impacts in the longer term also would be none (N), due to the lack of specific guidance in the current NS1 guidelines on how to manage stock complexes.

The working assumptions for the proposed action alternative (PA) for the "stocks" (ST) proposed revision are: (1) for FMPs that contain major stocks, only, and would likely be made up of core stocks, only, the projected biological impacts in the longer term would be none (N); and for FMPs that contain major and minor stocks, and would likely contain core stocks and stock assemblages, the projected biological impacts in the longer term would be positive (Pos) because stocks grouped in stock assemblages would likely include some that were not previously managed directly, and indicator stocks for stock assemblages will often benefit from better data management (improved data and information).

FML: The working assumptions under fishing mortality limits (FML) for the no action alterative (NA) are: (1) for stocks not undergoing overfishing (see Appendices 2 through 7), there will be no biological impact in the longer term, (2) for stocks undergoing overfishing, it is unknown (U) how quickly measures would be implemented to prevent overfishing. The working assumptions under fishing mortality limits (FML) for the proposed alterative (PA) are: (1) for stocks not undergoing overfishing (see Appendices 2 through 7), there will be no (N) biological impact in the longer term, and (2) for stocks undergoing overfishing, the biological impacts in the longer term are *could* be positive (Pos) because overfishing will undergo closer scrutiny and can no longer continue unless the conditions in this proposed revision are met. Therefore, measures would be developed to end overfishing unless conditions in the proposed action to allow overfishing to continue in the short term are met.

BL: The working assumptions under the no action alternative (NA) for the biological impacts in the longer term (beginning 2 to 3 years after the effective date of the final rule) are: none (N); except for FMPs that don't have SFA-approved overfished definitions yet, for which the designation is Positive (Pos). The working assumptions under the proposed action alternative (PA), are: the biological impacts in the longer term are: none (N); except for FMPs that don't have SFA-approved overfished (B_{lim}) definitions yet, for which the designation is Positive (Pos). *Nevertheless, the proposed action alternative provides reasonable exceptions to the current overfishing definition default of ½ Bmsy for FMPs that already have SFA approved* overfishing definitions, and *FMPs that don't have SFA approved overfishing definitions. The PA describes under what conditions OY control rules can be used as a proxy for ½ Bmsy (i.e., OY control rules that are implemented that result in F at least as conservative as would have been the case if a Blim was used) and under what conditions the* B_{lim} *can be a value different from* $1/2B_{msy}$.

RTH: "Neg" if it is likely that one or more stocks in the FMP's management unit will be effected by the removal of the discontinuity (i.e., rebuilding period will be longer than under the NA). Stocks with a short Tmin (say 1-5 years) and a short mean generation time (MGT) say 1-5 years will be unaffected and remain constrained by the 10-year RTH. Stocks with Tmin greater than 10 years will be unaffected and remain constrained by a RTH of Tmin minus one MGT. Only stocks with Tmin less than 10 years and Tmin plus one MGT greater than 10 years will experience an increase in RTH from 10 years to Tmin plus one MGT.

Table 1 (Part Two). Qualitative Summary of Potential Longer-Term[1] Biological Impacts of Current Guidelines (NA) Compared to Proposed Revisions (PA) for Various FMPs (Rebuilding targets (RT), revision of rebuilding plans (RRB), OY control rules (OY), and International fisheries (IF)).

	RT		RRB		OY		IF	
	NA	PA	NA	PA	NA	PA	NA	PA
<u>New England FMC</u>								
NE Multispecies	N	N	U	Pos	N	Pos	N	N
Atl. Sea Scallops	N	N	N	N	N	Pos	N	N
Atl. Salmon	N	N	N	N	N	N	N	U
Monkfish	N	N	U	Pos	N	Pos	N	N
Atl. Herring	N	N	N	N	N	Pos	N	U
Atl. Red Crab	N	N	N	N	N	U	N	N
Skates NE Reg	N	N	N	N	N	U	N	N
<u>Mid-Atlantic FMC</u>								
Atl. MSB	N	N	N	N	N	Pos	N	N
Atl. SC and OC	N	N	N	N	N	Pos	N	N
SF, Scup, and BSB	N	N	U	Pos	N	Pos	N	N
Atl. Bluefish	N	N	U	Pos	N	Pos	N	N
Spiny Dogfish	N	N	U	Pos	N	Pos	N	N
Golden Tilefish	N	N	U	Pos	N	U	N	N
<u>South Atlantic FMC</u>								
Snapper-Grouper	N	Pos	U	Pos	N	Pos	N	N
Atl. Coast Red Drum	N	Pos	U	Pos	N	U	N	N
Shrimp Fishery	N	N	U	Pos	N	Pos	N	N
Coral, Coral Reefs, & Live Hard Bottom	N	N	N	N	N	N	N	N
Golden Crab	N	U	U	Pos	N	U	N	N
Sargassum	N	N	N	N	N	N	N	N
Dolphin and Wahoo	N	U	N	N	N	Pos	N	N

Gulf of Mexico FMC and South Atlantic FMC Joint								
Spiny Lobster (GOM and SA)	N	U	N	N	N	U	N	N
Coastal Migratory Pelagic (GOM and SA)	N	U	U	Pos	N	Pos	N	N
Gulf of Mexico FMC								
Coral & Coral Reefs	N	N	N	N	N	N	N	N
Red Drum	N	U	U	Pos	N	Pos	N	N
Stone Crab	N	N	N	N	N	Pos	N	N
Shrimp	N	N	N	N	N	Pos	N	N
Reef Fish	N	N	U	Pos	N	Pos	N	N
Caribbean FMC								
Spiny Lobster (PR and USVI)	N	N	N	N	N	Pos	N	N
Shallow Water Reeffish PR and USVI	N	U	U	Pos	N	Pos	N	N
Corals and Reef Invert. PR and VI	N	N	N	N	N	N	N	N
Queen Conch PR and VI	N	U	U	Pos	N	Pos	N	N
Pacific FMC								
Pac Coast Grdfish	N	U	U	Pos	N	N	N	Pos
Ocean Salmon	N	U	U	Pos	N	N	N	Pos
Coastal Pelagics	N	U	N	N	N	N	N	N
West Coast HMS	N	Pos	N	Pos	N	Pos	N	N
Western Pacific FMC								
Crustacean	N	Pos	N	N	N	U	N	N
Precious Corals	N	N	N	N	N	N	N	N
Bottomfish and Seamount Grdfish	N	N	U	Pos	N	N	N	N
Pelagics	N	N	N	N	N	Pos	N	N
Coral Reef Ecosystems	N	N	N	N	N	N	N	N

North Pacific FMC

Grdfish BSAI	N	N	N	N	N	N	N	N
Grdfish GOA	N	N	N	N	N	N	N	N
BSAI King & Tanner Crab	N	N	U	Pos	N	N	N	N
Weathervane Scallop	N	N	N	N	N	N	N	N
High Seas Salmon	N	N	N	N	N	N	N	N

Secretary of Commerce

Atl. Tunas, Swordfish & Sharks	N	U	U	Pos	N	Pos	N	Pos
Atl. Billfish	N	U	U	Pos	N	Pos	N	Pos

[1] Biological impacts in the *longer term* in this section and Table One (Part One) and Table One (Part Two), means impacts that will be known at the time a new FMP amendment or other rulemaking authorized by a given FMP is submitted for Secretarial review with accompanying analyses. Such an action, on average, would not occur before two to three years after the effective date of the final rule for any revisions to the NS1 guidelines.

Note: Independent of the biological impacts predicted in this table for each alternative, most PA measures are likely to improve the ability of fishery managers/scientists to develop SDCs appropriate for a given stock dependent upon the quality of data available for that stock and related stocks

NA means No action alternative

PA means Proposed action

N means no biological impact

U means unknown, but possible impact

Pos means positive biological impact, that is, a likely increase in stock abundance and greater likelihood that stock abundance will remain stable if already at Bmsy, or likely that abundance will remain stable once it reaches Bmsy

Working assumptions:

RT: Under the no action alternative (NA), the working assumptions are that (1) for FMPs with data rich stocks, only, this issue is not pertinent so that potential biological impacts in the long term are none (N), and for FMPs with data poor stocks the potential biological impacts in the long term are none (N) because the current guidelines offer no alternatives to a rebuilding target of Bmsy or a biomass based proxy. Under the proposed action alternative (PA), the working assumptions are that (1) for FMPs with data rich stocks, only, this issue is not pertinent so that potential biological impacts in the long term are none (N) and (2) for FMPs with data poor stocks (in this case, stocks for which we cannot estimate B_{lim} or its proxy and B_{msy}) the potential biological impacts in the long term are positive (Pos) because the proposed revisions offer another method (keeping F below F_{lim} for two mean generation times for a given fish stock) as a method to estimate that rebuilding has occurred.

RRB: The working assumptions for revision of rebuilding plans (RRB) under the no action alternative (NA) are: If the stock is not overfished, then the potential biological impact in the longer term is none (N). If one or more stocks in an FMP are in a rebuilding phase of a plan and review of the plan

indicates that revision of the rebuilding plan is necessary, then the likelihood of revising a successful rebuilding plan is designated as unknown (U) because of the lack of specific guidance in the guidelines about how to revise rebuilding plans. The working assumptions for revision of rebuilding plans (RRB) under the proposed action are as follows: If the stock is not overfished, then the potential biological impact in the longer term is none (N). If one or more stocks in an FMP are in a rebuilding phase of a plan and review of the plan indicates that revision of the rebuilding plan is necessary, then the likelihood of constructing a successful rebuilding plan is designated as positive (Pos). This is because the likelihood of revising a rebuilding plan that becomes successful is greater under the PA because guidance for revising rebuilding plans is more specific.

OY: The working assumptions for describing potential biological impacts in the long term for the no action alternative (NA) for OY control rules are: (1) there would be no (N) biological impacts for FMPs that do not currently have OY control rules, because preparation and implementation of OY control rules has not been occurring for most FMPs other than Alaskan groundfish in the absence of an absolute requirement to do so. Also, there would be no *additional* biological impacts under the no action alternative for OY control rules for FMPs that already have an OY control rule. In Table One (Part Two) the working assumptions for describing potential biological impacts in the long term for the proposed action alternative (PA) for OY control rules are: (1) there would be positive (Pos) biological impacts for FMPs that do not currently have OY control rules, because preparation and implementation of OY control rules would be required and fish stocks would probably begin rebuilding or rebuild more quickly than in the absence of OY control rules. There would be no *additional* biological impacts under the proposed action alternative for OY control rules for FMPs that already have an OY control rule.

IF: If an FMP is not involved in management of straddling stocks or highly migratory stocks then the designation for NA and PA is N. If the FMP is involved in management of straddling stocks or highly migratory stocks then the designation is Pos for “potentially” positive.

Table 2. Federal Commercial Vessel Permits by Fishery Management Plan.

Council/FMP	Vessels/permits	Gear
New England Council		
Northeast multispecies		
Commercial	3,772	Trawl, Longline, gillnet H&L
Recreational	687	H&L
Atl. Sea Scallops (C)	2,837	Dredge and trawl
Atl. salmon	None	None
Deep-sea red crab (C)	879	Traps
Atl. herring (C)	2,197	Mid-water trawls Purse seines
Monkfish (C)	2,855	Gillnets, trawls, dredges
Mid-Atlantic Council		
Mackerel, squids and butterfish		
Atl. mackerel		
Commercial	2,805	Otter trawl, trap, gillnet
Recreational	641	
Squids (C)		Otter trawl?
Butterfish (C)		Otter trawl?
Surf clams and ocean quahogs(C)		
Surf clams	1,745	Dredge
Ocean quahogs	1,711	Dredge
Summer flounder, scup and black sea bass		
Commercial		
Summer flounder	982	Trawl, H&L, trap, gillnet
Scup	866	Trawl, H&L, trap, gillnet
Black sea bass	938	Trawl, H&L, trap, gillnet
Recreational		
Summer flounder	711	
Scup	627	
Black sea bass	667	
Tilefish (C)	1,749	Longline, H&L
Bluefish		
Commercial	3,424	H&L, gillnet, otter trawl
Recreational	805	H&L
Spiny dogfish (C)	3,055	Trawl, gillnet
South Atlantic Council		
Red drum	None	None
Golden crab (C)	12	Traps
Snapper/Grouper		
Commercial	998	Rod and reel, Bandit gear, longline, handline
Recreational	1,228	Handline, rod and reel, bandit, spear, powerhead

Shrimp (C)	None (State only)	Trawls
Coral, Coral reefs and Live Hard Bottoms		
Commercial	Florida-35	Hand harvest
Gulf of Mexico Council		
Spiny lobster (joint w/SA Council)		
Commercial	132 comm.	Traps, trawl, scuba
Recreational	353 tailing	
Coastal Migratory Pelagics		
Commercial		
King mackerel	1,822	Gillnets, H&L
Spanish mackerel	1,531	Gillnets, H&L
Recreational		
King mackerel	None	H&L
Spanish mackerel	None (1,657 for-hire vessels)	H&L
Stone crab		
Commercial	1,358	Traps
Recreational	None (State only)	Traps, scuba
Red drum		
Commercial	None	None
Recreational	None	None
Reef Fish Fishery (C)	1,161	Longline, fish trap, H&L
Red snapper	618	
Shrimp fishery		
Commercial	2,283	Otter trawls
Recreational	None (State only)	Cast and dip nets
Coral and Coral reefs		
Commercial		
Octocorals	FL: 35	Scuba
Recreational	None	
Caribbean Council		
Spiny Lobster		
Commercial	None	Trap, pot, dip net, trammel net, Hand harvest, snare
Recreational	None	(Same as commercial)
Reef fish		
Commercial	None	Longline, H&L, traps pot, gillnet, trammel
Recreational	None	Dip net, handline, rod and reel, slurp gun, spear
Coral Reef		
Commercial	None	Dip net, slurp gun, hand harvest
Recreational	None	Dip net, slurp gun, hand harvest
Queen conch		
Commercial	None	Hand harvest
Recreational	None	Hand harvest

Pacific Council

Ocean salmon		
Commercial (Chinook, coho, and pink salmon)	1,240	troll
Recreational (Chinook, coho, and pink salmon)	403,500	H&L
Groundfish		
Commercial	Limited entry:410	trawl, H&L, pots, set nets
	Open access: 1,150	
Coastal Pelagic Species (C)		
	Limited entry (s. Cal): 65 purse seine	
	Open access (north): 20	

North Pacific Council

Groundfish of Gulf of Alaska (C)		
	1,849 Federal fishing permits	trawl, pots, H&L, jigs
	1,755 LLP permits	
Groundfish of the Bering Sea and Aleutian Islands (C)		
	879 Federal fishing permits	trawl, pots, H&L, jigs
	580 LLP permits	
Commercial King and Tanner crab (C)		
	383 LLP permits	pots
Salmon off Alaska (C)		
	2,098 permit holders	troll
Scallop off Alaska (C)		
	9 LLP permits	dredge

Western Pacific Council

Bottomfish and seamount groundfish (C)	3,600	handline, rod and reel
Crustaceans (C)	15	traps
Pelagics (C)	8,000	troll, handline, longline
Precious Corals	None	manned submersible

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Billfishes (R)	Charter and recreational	rod and reel, longline
Atlantic Tunas, Swordfish, and Sharks		
Tunas		
Commercial	5,725	rod and reel, handline, bandit gear, longline harpoon, purse seine pound nets, weirs
Recreational	13,263	rod and reel, handline
Sharks		
Commercial	251 directed 359 incidental	longline, gillnets, rod and reel
Recreational	Charter Recreational	rod and reel
Swordfish		
Commercial	206 directed 99 incidental 95 handgear	handline, harpoon, longline, rod and reel, otter trawl (incidental)
Recreational	Charter Recreational	Rod and reel only

(C) means commercial only
(State only) means no Federal permits, just state permits for this fishery
LLP means license limitation program

Appendix 1. Northeast Region stocks that are subject to overfishing, overfished, or approaching an overfished condition (from NMFS 2003 Status of the Fisheries, May 2004).

FMP	Stock	Overfishing?	Overfished?	Approaching?
Northeast Multispecies	*Gulf of Maine cod*	Y	Y	-
Northeast Multispecies	*Georges Bank cod*	Y	Y	-
Northeast Multispecies	*Gulf of Maine haddock*	-	Y	-
Northeast Multispecies	*Georges Bank haddock*	-	Y	-
Northeast Multispecies	*American plaice*	Y	Y	-
Northeast Multispecies	*witch flounder*	Y	-	-
Northeast Multispecies	*Southern New England/Mid-Atlantic yellowtail flounder*	Y	Y	-
Northeast Multispecies	*Cape Cod/Gulf of Maine yellowtail flounder*	Y	Y	-
Northeast Multispecies	*white hake*	Y	Y	-
Northeast Multispecies	*Southern New England/Mid-Atlantic windowpane flounder*	-	Y	-
Northeast Multispecies	*Southern New England winter flounder*	Y	Y	-
Northeast Multispecies	*ocean pout*	-	Y	-
Northeast Multispecies	*Atlantic halibut*	-	Y	-
Northeast Skate	*barndoor skate*	-	Y	-
Northeast Skate	*thorny skate*	-	Y	-
Monkfish	*northern monkfish*[a]	Y	-	-
Monkfish	*southern monkfish*[a]	Y	-	-
Summer Flounder, Scup and Black Sea Bass	*scup*[b]	Y	-	-
Summer Flounders, Scup, and Black Sea Bass	*black sea bass*	Y	Y	-
Bluefish	*bluefish*	-	Y	-
Tilefish	*golden tilefish*	Y	Y	-
Atlantic salmon	*Atlantic salmon*	-	Y	-
Non-federal FMPs	*American lobster*	Y	-	-
Non-federal FMPs	*northern shrimp*	Y	-	-

Non-federal FMPs	*tautog*	Y	-	-
Non-federal FMPs	*American shad*	Y	Y	-
Non-federal FMPs	*river herring*	Y	Y	-
Non-federal FMPs	*Atlantic sturgeon*	-	Y	-

[a] -The most recent assessment (SAW-34) was not able to precisely determine current exploitation rates (although all candidate values were above a candidate $F_{threshold}$). Accordingly, the status of this stock with respect to F is unchanged, pending an updated stock assessment.

[b] - The most recent assessment (SAW-35) could not make a quantitative estimate of the current F; therefore, no comparison with the F threshold specified in the FMP could be made.

Appendix 2. Southeast Region stocks that are subject to overfishing, overfished, or approaching an overfished condition (from NMFS 2003 Status of the Fisheries Report, May 2004).

FMP	Stock	Overfishing ?	Overfished ?	Approaching ?
South Atlantic Snapper Grouper	*vermilion snapper*	Y	-	-
South Atlantic Snapper Grouper	*red snapper*	Y	Y	-
South Atlantic Snapper Grouper	*snowy grouper*	Y	Y	-
South Atlantic Snapper Grouper	*golden tilefish*	Y	Y	-
South Atlantic Snapper Grouper	*red grouper*	Y	Y	-
South Atlantic Snapper Grouper	*black sea bass*	Y	Y	-
South Atlantic Snapper Grouper	*gag*	Y	-	-
South Atlantic Snapper Grouper	*speckled hind*	Y	Y	-
South Atlantic Snapper Grouper	*Warsaw grouper*	Y	Y	-
South Atlantic Snapper Grouper	*black grouper*	Y	Y	-
South Atlantic Snapper Grouper	*goliath grouper (Jewfish)*	-	Y	-
South Atlantic Snapper Grouper	*Nassau grouper*	-	Y	-
South Atlantic Snapper Grouper	*red porgy*	-	Y	-
Atlantic Coast Red Drum	*red drum*	Y	Y	-
Coastal Migratory Pelagics of the Gulf of Mexico and South Atlantic	*Gulf group king mackerel*	-	Y	-
Reef Fish Resources of the Gulf of Mexico	*red snapper*	Y	Y	-
Reef Fish Resources of the Gulf of Mexico	*red grouper*	Y	-	-
Reef Fish Resources of the Gulf of Mexico	*vermilion snapper*	Y	Y	-
Reef Fish Resources of the Gulf of Mexico	*greater amberjack*	-	Y	-
Reef Fish Resources of the Gulf of Mexico	*Nassau grouper*	-	Y	-
Reef Fish Resources of the Gulf of Mexico	*goliath grouper (Jewfish)*	-	Y	-
Gulf of Mexico Red Drum	*red drum*	Y	Y	-
Reef Fish Fishery of Puerto Rico and the USVI	*Nassau grouper*	-	Y	-
Reef Fish Fishery of Puerto Rico and the USVI	*goliath grouper (Jewfish)*	-	Y	-

FMP	Stock	Overfishing ?	Overfished ?	Approaching ?
Queen Conch Resources of Puerto Rico and the USVI	*queen conch*	Y	Y	-

Appendix 3. Northwest Region stocks that are subject to overfishing, overfished, or approaching an overfished condition (from NMFS 2003 Status of the Fisheries Report, May 2004).

FMP	Stock	Overfishing?	Overfished ?	Approaching?
Pacific Coast Groundfish	*Pacific whiting*	Y[5]	Y[5]	-
Pacific Coast Groundfish	*lingcod*	Y	Y	-
Pacific Coast Groundfish	*Pacific ocean perch*	-	Y	-
Pacific Coast Groundfish	*bocaccio*	-	Y	-
Pacific Coast Groundfish	*canary rockfish*	-	Y	-
Pacific Coast Groundfish	*darkblotched rockfish*	-	Y	-
Pacific Coast Groundfish	*widow rockfish*	-	Y	-
Pacific Coast Groundfish	*cowcod*	-	Y	-
Pacific Coast Groundfish	*yelloweye rockfish*	-	Y	-

Pacific whiting is designated as subject to overfishing and overfished in this report, as that was its status prior to the December 31, 2003, cut-off date for status determinations. However, an assessment completed March, 2004, indicates that overfishing was eliminated in 2002 and no longer overfished in 2003. In a final rule published on April 30, 2004 (69 FR 23667), NMFS announced that Pacific whiting was above the target rebuilding biomass in 2003 and is no longer considered overfished.

Appendix 4. Pacific Islands Region stocks that are subject to overfishing, overfished, or approaching an overfished condition (from NMFS 2003 Status of the Fisheries Report, May 2004).

FMP	Stock	Overfishing?	Overfished?	Approaching?
Western Pacific Pelagics	*Pacific bigeye tuna*	Y	-	-
Bottomfish and Seamount Groundfish of the Western Pacific	*pelagic armorhead*	-	Y	-

Appendix 5. Alaska Region stocks that are subject to overfishing, overfished, or approaching an overfished condition (from NMFS 2003 Status of the Fisheries Report, May 2004).

FMP	Stock	Overfishing?	Overfished?	Approaching?
BSAI King and Tanner Crab	*Bering Sea snow crab*	-	Y	-
BSAI King and Tanner Crab	*Pribilof Islands blue king crab*	-	Y	-

Appendix 6. Highly Migratory stocks that are subject to overfishing, overfished, or approaching an overfished condition (from NMFS 2003 Status of the Fisheries Report, May 2004).

FMP	Stock	Overfishing?	Overfished?	Approaching?
Atlantic Billfish	*Atlantic white marlin*	Y	Y	-
Atlantic Billfish	*Atlantic blue marlin*	Y	Y	-
Atlantic Billfish	*West Atlantic sailfish*	Y	Y	-
Atlantic Tunas, Swordfish, and Sharks	*Atlantic bigeye tuna*	Y	Y	-
Atlantic Tunas, Swordfish, and Sharks	*North Atlantic albacore*	Y	Y	-
Atlantic Tunas, Swordfish, and Sharks	*West Atlantic bluefin tuna*	Y	Y	-
Atlantic Tunas, Swordfish, and Sharks	*bull shark*	Y	Y	-
Atlantic Tunas, Swordfish, and Sharks	*sandbar shark*	Y	-	-
Atlantic Tunas, Swordfish, and Sharks	*finetooth shark*	Y	-	-
Atlantic Tunas, Swordfish, and Sharks	*spinner shark*	Y	Y	-
Atlantic Tunas, Swordfish, and Sharks	*silky shark*	Y	Y	-
Atlantic Tunas, Swordfish, and Sharks	*dusky shark*	Y	Y	-
Atlantic Tunas, Swordfish, and Sharks	*bignose shark*	Y	Y	-
Atlantic Tunas, Swordfish, and Sharks	*night shark*	Y	Y	-
Atlantic Tunas, Swordfish, and Sharks	*Caribbean reef shark*	Y	Y	-
Atlantic Tunas, Swordfish, and Sharks	*tiger shark*	Y	Y	-
Atlantic Tunas, Swordfish, and Sharks	*lemon shark*	Y	Y	-
Atlantic Tunas, Swordfish, and Sharks	*sand tiger shark*	Y	Y	-
Atlantic Tunas, Swordfish, and Sharks	*nurse shark*	Y	Y	-
Atlantic Tunas, Swordfish, and Sharks	*scalloped hammerhead shark*	Y	Y	-
Atlantic Tunas, Swordfish, and Sharks	*great hammerhead shark*	Y	Y	-

FMP	Stock	Overfishing?	Overfished?	Approaching?
Atlantic Tunas, Swordfish, and Sharks	*smooth hammerhead shark*	Y	Y	-
Atlantic Tunas, Swordfish, and Sharks	*white shark*	Y	Y	-
Atlantic Tunas, Swordfish, and Sharks	*Atlantic yellowfin tuna*	-	-	Y

Appendix 7. Addresses of Fishery Management Councils and NMFS Office of Sustainable Fisheries

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Mid-Atlantic Fishery Management Council
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Robert K. Mahood, Executive Director
South Atlantic Fishery Management Council
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Miguel A. Rolon, Executive Director
Caribbean Fishery Management Council
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San Juan, Puerto Rico 00918-2577

Wayne E. Swingle, Executive Director
Gulf of Mexico Fishery Management Council
The Commons at Rivergate
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Tampa, Florida 33619-2266

Donald McIsaac, Executive Director
Pacific Fishery Management Council
7700 NE Ambassador Place, Suite 200
Portland, Oregon 97220-1384

Chris Oliver, Executive Director
North Pacific Fishery Management Council
605 West 4th, Suite 306
Anchorage, Alaska 99501-2252

Kitty M. Simonds, Executive Director
Western Pacific Fishery Management Council
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For Atlantic highly migratory species:
Mr. Jack Dunnigan
NMFS Office of Sustainable Fisheries
Silver Spring Metro Center III
1315 East West Highway
Room 13362
Silver Spring, Maryland 20910

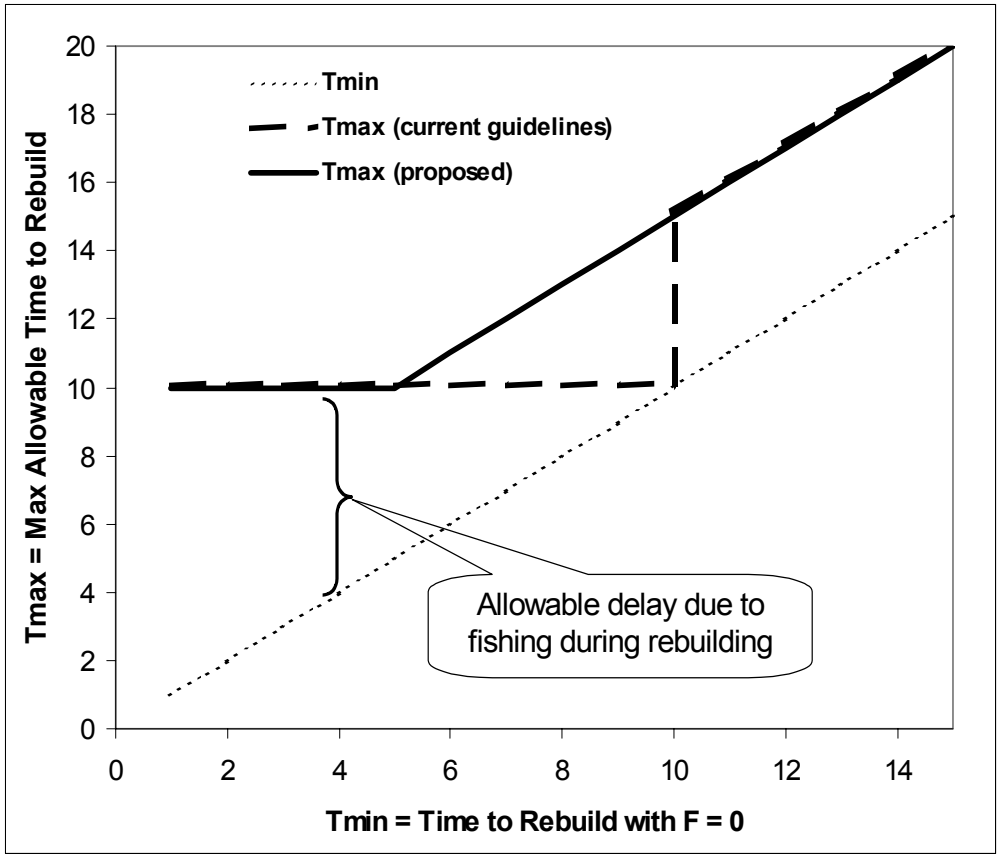

Figure 1. Comparison of calculated maximum time to rebuild under current and proposed guidelines. The offset between Tmin and Tmax is one mean generation time, 5 years in this example.

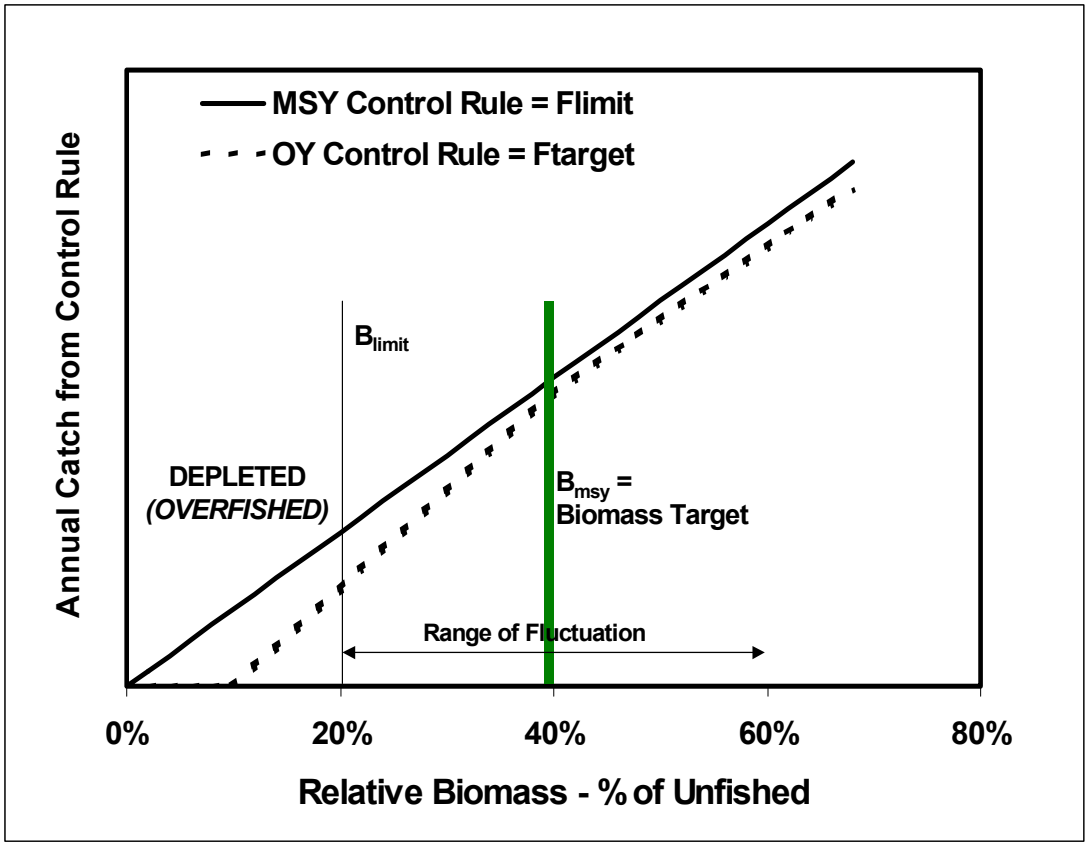

Figure 2 Relationship of limits, targets, and control rules. If annual fishing rate was at the MSY control rule, the expected level of biomass would be Bmsy and the lower range of expected biomass fluctuation would be the Blim (default is at 50% of Bmsy). The Flimit is set at or below the MSY control rule. The OY control rule sets the target for the fishery and should be set below the Flimit so that the annual chance of exceeding the Flimit is less than 50% (level of offset shown here is example only). The OY control rule should be set progressively below the MSY control rule as biomass declines below the Btarget in order to reduce chance of biomass falling below the Blimit. If biomass falls below the Blimit, then the stock is determined to be Depleted and the OY control rule is temporarily replaced with a Rebuilding Plan that will set OY sufficiently below the MSY control rule to allow the stock to have a 50% chance of rebuilding to Btarget in a specified period of time (see Figure 1).