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**50 CFR Part 600
Magnuson-Stevens Act Provisions;
National Standard Guidelines; Proposed
Rule**

DEPARTMENT OF COMMERCE**National Oceanic and Atmospheric Administration****50 CFR Part 600**

[Docket No. 030128024–5027–02; I.D. 121002A]

RIN 0648–AQ63

Magnuson-Stevens Act Provisions; National Standard Guidelines

AGENCY: National Marine Fisheries Service (NMFS); National Oceanic and Atmospheric Administration (NOAA); Commerce.

ACTION: Proposed rule; request for comments.

SUMMARY: NMFS proposes revisions to the guidelines for National Standard 1 (NS1) of the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act). This action is necessary to clarify, amplify, and simplify the guidelines so that the Regional Fishery Management Councils (Councils) and the public can have a better understanding of how to establish status determination criteria (SDC) for stocks that vary in quality of available data, and how to construct and revise rebuilding plans. The intent of this action is to facilitate compliance with requirements of the Magnuson-Stevens Act.

DATES: Comments will be accepted through August 22, 2005.

ADDRESSES: You may submit comments by any of the following methods: E-mail comments should be sent to nationalstandard1@noaa.gov; or to Mark R. Millikin, National Marine Fisheries Service, NOAA, Office of Sustainable Fisheries, 1315 East-West Highway, Room 13357, Silver Spring, MD 20910 (Mark the outside of the envelope “Comments on National Standard 1 proposed rule”); or to the Federal e-Rulemaking Portal: <http://www.regulations.gov>. Include in the subject line the following: “Comments on proposed rule for National Standard 1.” Copies of the Environmental Assessment/Regulatory Impact Review (EA/RIR) for this proposed rule are available from Mark R. Millikin, at the address listed above. The EA/RIR document is also available via the Internet at: <http://www.nmfs.noaa.gov/sfa/sfweb/index.htm>.

FOR FURTHER INFORMATION CONTACT:

Mark R. Millikin, Senior Fishery Management Specialist, 301–713–2341, e-mail mark.millikin@noaa.gov.

SUPPLEMENTARY INFORMATION: Proposed revisions in this rule include: (1)

Rename “minimum stock size threshold (MSST)” as “minimum biomass limit (B_{lim}),” “maximum fishing mortality threshold (MFMT)” as “maximum fishing mortality limit (F_{lim}),” and “overfished” as “depleted”; (2) specify that fishery management plans (FMPs) may be revised so that species/stocks may be classified as “core” stocks or stocks falling within a “stock assemblage” for each FMP; (3) reinforce the requirement that the annual fishing mortality rate (F) for a given fishery must prevent overfishing, by (a) requiring optimum yield (OY) control rules for core stocks to set F_{target} below F_{lim} if adequate data are available, and (b) that any new or revised rebuilding plans specify that the target level of fishing mortality (F_{target}) must be less than F_{lim} , beginning in the first year of the rebuilding plan, except in certain circumstances; (4) specify that B_{lim} should equal one half of the biomass that produces maximum sustainable yield (B_{msy}) as a default value, and clarify when exceptions greater than or less than the $\frac{1}{2}B_{msy}$ amount are appropriate; (5) revise the maximum rebuilding time horizon formula to remove the discontinuity that results from the formula in the current NS1 guidelines; (6) establish a default value for target time to rebuild (T_{target}); (7) clarify how to use the fishing mortality rate that produces maximum sustainable yield (F_{msy}) to determine when a fish stock is rebuilt, when and only when it is not possible to calculate B_{msy} or other necessary factors; (8) clarify what aspects of rebuilding plans should be changed when such plans need to be revised; (9) specify appropriate limitations for F when a stock is not rebuilt at the end of its rebuilding plan; and (10) elaborate on how to manage “straddling stocks” and international highly migratory stocks (HMS).

Background

The Magnuson-Stevens Act serves as the chief authority for fisheries management in the U.S. Exclusive Economic Zone. Section 301(a) of the Magnuson-Stevens Act contains 10 national standards with which all FMPs and their amendments must be consistent. Section 301(b) of the Magnuson-Stevens Act 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 50 CFR part 600. The guidelines for the national standards were last revised through a final rule published in the

Federal Register on May 1, 1998 (63 FR 24212), by adding revisions to the guidelines for National Standards 1 (OY), 2 (scientific information), 4 (allocations), 5 (efficiency), and 7 (costs and benefits), and adding new guidelines for National Standards 8 (communities), 9 (bycatch), and 10 (safety of life at sea).

The guidelines for NS1 were revised extensively in the final rule published on May 1, 1998, to bring them into conformance to revisions to the Magnuson-Stevens Act, as amended in 1996 by the Sustainable Fisheries Act (SFA). In particular, the 1998 revisions to the NS1 guidelines addressed new requirements for FMPs brought about by SFA amendments to section 304(e) (rebuilding overfished fisheries).

NMFS’s Advance Notice of Proposed Rulemaking (ANPR) for NS1 Guidelines

NMFS published an ANPR in the **Federal Register** on February 14, 2003 (68 FR 7492), to announce that it was considering revisions to the NS1 guidelines. Having worked with the current version of the NS1 guidelines since June 1, 1998 (the effective date of the May 1, 1998, final rule), NMFS has become aware of issues and problems regarding the application of the guidelines that were not apparent when the existing guidelines were prepared. The ANPR identified several areas being considered for revision, as follows:

1. The definition and use of 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 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; and
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 NS1 guidelines should be revised; (2) if revisions are desired, what part(s) of the NS1 guidelines should be revised; and (3) how should they be revised, and why. The comment period for the ANPR was extended through April 16, 2003 (March 3, 2003, 68 FR 9967).

Public Comments Received on the ANPR

NMFS received extensive public comments on the ANPR. NMFS received 46 letters that had unique content. Also,

NMFS received more than 6,900 similar letters, in several different formats.

The 6,900 similar letters contained one or more of following recommendations:

1. The NS1 guidelines should not be weakened; rather, they should be made more effective in carrying out the mandate of the Magnuson-Stevens Act to end overfishing and rebuild 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. The definition of overfished populations should be maintained or even strengthened, and strict, enforceable deadlines of plans to rebuild these overfished populations should be established.

4. Changing environmental conditions should not be used as an excuse to continue overfishing. NMFS should not allow fishermen to exceed target fishing levels, including in New England, where cod catches have exceeded target fishing levels by two to four times the amount of the target total allowable catch (TAC).

A brief summary of recommendations in the 46 unique letters follows:

B_{lim} (Currently Known as MSST)

1. MSST (B_{lim}) should be retained because it is an essential parameter for fishery management, being the only biological portion of the criteria used to determine when a stock is overfished.

2. Better guidance is needed for designation of MSST in inadequate data situations. For some fisheries where there are little or no data, the guidelines should allow the use of controls on fishing effort, and landings and data collection, without the requirement to designate SDC.

3. Current MSST guidance should be implemented to see whether or not that guidance is effective before revising guidance related to MSST.

4. A better and broader range of advice is needed as to what would be a reasonable proxy for MSST in the absence of an available estimate of biomass.

5. Better guidance is needed on how to address population characteristics of crustaceans, mollusks, and plants, compared with those of bony and cartilaginous fishes.

6. Better guidance is needed on how MSY and OY should be addressed for short-lived species (e.g., 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 be considered overfished when it falls below MSST in a single year should be changed (e.g., when a stock falls below MSST due to high variability in recruitment).

9. Sometimes a Council prohibits possession of a fish stock having an unknown status that is believed to be overfished. What else should the Council do to comply with NS1?

10. For stocks having an unknown status in terms of MSST, spawning potential ratio-based values for the currently required biomass-based SDC should be recognized, until data are sufficient to specify the biomass-based criteria. This would apply to most of the South Atlantic Council's fisheries other than the Coral, Shrimp, Calico Scallop, and Sargassum FMPs.

11. MSSTs should be made on a more precautionary basis. MSST should equal B_{msy} .

12. MSST requirement could be removed 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; this is 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. Specification of MSST should be optional. For some stocks, there is no information on MSST.

14. Councils need criteria to determine the minimum level of data needed to define biological reference points.

15. The Magnuson-Stevens Act does not provide a mechanism for resolving differences that result when a stock is incorrectly declared overfished, but is later found not to be overfished. A process is needed to reconcile such differences.

16. The guidelines fall short of defining or providing advice on a reasonable proxy for MSST.

17. The guidelines do not address how to determine MSST for a stock complex.

18. The term, "overfished" is a misnomer, implying an unproven link between fishing and depleted status.

19. Uncertainty, risk, and precaution have to be built into estimates of SDC.

20. How are highly variable species that can become overfished due to oceanographic shifts (e.g., Pacific whiting, northern anchovy, Pacific sardine, and market squid) to be treated?

Environmental Regime Change

1. Environmental regime changes must be considered when adjusting rebuilding targets.

A. Environmental regimes must be built into the calculation of reasonable rebuilding periods.

B. The NS1 guidelines need to take into account a continuously changing environment.

C. Because of 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.

D. The guidelines need to better describe when a shift in environmental conditions indicates that a rebuilding target should be revised.

2. Environmental regime shifts must not be used to adjust rebuilding targets.

A. It is premature and inappropriate to address environmental changes in the NS1 guidelines.

B. No well-known or well-supported case appears to exist of a currently exploited and depleted fish population whose productivity has been 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 from 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 Rebuilding Time and Target Rebuilding Time Horizons

1. A minimum amount of time should be taken to rebuild a fishery (as short a time as possible).

A. The one-generation time exception should be removed from the guidelines; leave the guidelines to say, "rebuild in as short a time as possible."

B. The guidelines should be revised to provide that rebuilding be completed as soon as possible, even if it cannot be accomplished in 10 years.

C. The guidelines should be revised to avoid balloon payments in rebuilding plans (greater restrictions in the final years of the rebuilding plan).

2. The maximum permissible time should be taken 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, which results in unnecessary hardship and losses to consumers, communities, and industry.

C. Time limits for rebuilding fisheries should be removed. Time limits for rebuilding should be replaced with a requirement to fish consistently at a rate that allows for stock growth in "normal" environmental conditions.

3. More flexibility is needed in the NS1 guidelines to accommodate variations and contingencies in overfishing definitions to comply with National Standard 6.

4. Under existing guidelines (that contain a discontinuity in rebuilding time horizon formula), a fishery is less restricted if the condition of a fish stock is so poor in abundance that it takes more than 10 years to rebuild than if the stock is in better condition and must be rebuilt in less than 10 years. This is the opposite of normal fishery management practices, which are the more restrictive when the condition of the stock is worse.

Definition of Overfishing Relating to the Fishery as a Whole

1. The existing definitions of overfishing relating to the fishery as a whole should remain unchanged.

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 SDC for assemblages of minor stocks is problematic because that 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. Individual species should not be combined 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 unknown status.

2. Guidelines on management of interrelated stocks should be revised.

A. Guidelines should mandate an assessment of aggregated stocks. When stocks are harvested as part of a fishery

in conjunction with one another, overfishing of a single stock 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 Magnuson-Stevens Act for any exception to the prohibition of overfishing in 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. Guidelines should be revised to rely upon vulnerable stock criteria prepared by the American Fisheries Society to identify weak stocks.

F. Both a "representative species" and a "weakest species" should be used as indicator stocks to determine status of assemblages that contain unknown status stocks.

G. Better guidance on flexibility under NS1 is needed. For example, the New England Council should have the flexibility to rebuild to B_{msy} for groundfish and $\frac{1}{2}B_{msy}$ for spiny dogfish, based on ecosystem function and common sense.

H. Guidelines should be revised 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.

Rebuilding Plans and Rebuilding Targets Requiring Revision

1. Revisions to rebuilding plans should be the exception, and should only be 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 Magnuson-Stevens Act clearly provides that NMFS shall review rebuilding plans at "routine intervals 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) there is no additional risk to a stock, and (3) 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 be extended only 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 and virtually guarantee the permanent non-participation of some fishing communities.

B. Changes in targets should necessitate minor adjustments in F to ensure that progress is always made in rebuilding the stock.

C. Guidelines need to clarify when the precautionary approach is appropriate. Is it appropriate to use the precautionary approach for conservative assumptions for model inputs, or for policies regarding conservative harvest outputs? Or for both?

D. Small adjustments in F would require immediate action; larger adjustments would be phased in over a multi-year schedule.

E. The guidelines need to be revised to better explain whether rebuilding periods should be lengthened/shortened in reaction to unusually high or low recruitment.

F. The guidelines need to consider how to give fishery managers more flexible options when stocks rebuild more quickly than forecast.

3. The guidelines need to be revised to describe when revisions to rebuilding targets are necessary and appropriate.

4. The guidelines need to provide explicit advice about the level of management action required for a stock that is not overfished (but not rebuilt), that is not in a required rebuilding program, and for which F is less than the F_{lim} . In such a case, the guidelines should state that such a stock may be managed under the appropriate F that will result in the stock achieving the B_{msy} on a long-term average basis without a rebuilding period.

F_{lim} (Currently Known as MFMT)

1. Alternative approaches to establishing allowable threshold levels and guidance encouraging the use of other indicators of overfishing (e.g., declining fish catch size or skewed sex ratios) must be provided.

2. Guidance for NS1 should allow for a number of years (rather than immediately) for fishing effort (i.e., fishing mortality) to be brought down to required levels.

3. Better and more specific guidance is needed as to when overfishing of reef fish species occurs.

4. Guidance is needed for addressing MFMT when estimates for that value are not available.

5. Current guidelines should be revised such that management can evaluate rebuilding with regard to a target F , rather than MFMT (*i.e.*, F_{lim}).

OY and OY Control Rules

1. Further guidance is needed on the definition of OY and its definition in a mixed-stock fishery.

2. Further guidance is needed on the difference between a single-year OY and long-term OY.

3. Fishery management should be based on OY control rules, rather than MSY control rules.

4. The use of control rules must be defined in the context of broad biological, social, and economic goals of a fishery.

5. The aim of NS1 should be to operate a fishery around an MSY stock size and an F value similarly fluctuating around the fishing mortality rate that produces OY (F_{OY}), not a biomass above B_{msy} and an 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 when F is less than $F_{threshold}$.

7. Guidance is needed to address MSY and OY when estimates of those parameters are not available.

International Fisheries

1. Guidance is needed to explain what kinds of responses are required for U.S. fisheries that comprise a small portion of a larger, basin-scale pelagic fishery for HMS such as tuna and billfish. For example, the U.S. Hawaiian longline fishery accounts for only 1.4 percent of the total Pacific-wide catch of bigeye tuna, thus any response by the Hawaii fishery should be weighted by its contribution to the total fishing mortality on the stock or by some other relevant factor.

2. How would a recovery plan be developed for a longline fishery or any of the pelagic fisheries managed by a Council where any action, no matter how conservative, will have little or no effect on stock recovery? NMFS needs to develop policies and guidelines for rebuilding plans that reflect the U.S. contribution to total fishing mortality, rather than exacting punitive measures on fisheries that have negligible effects on the entire stock.

3. NS1 guidelines should take into account the management measures of neighboring countries for management of transboundary 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?

Miscellaneous

1. Guidelines need to describe how and when to incorporate uncertainty, risk, and precaution.

2. MSY, MSST, and MFMT are not targets, rather they are limits—they are upper limits of a range of safe fishing. Targets should remain in a safe zone above the B_{msy} and below the F_{msy} .

3. National standards should be applied equally during the development of an FMP. No one standard should override “supplementary standards” that are of the same importance.

4. Fishery management actions taken in state waters should not impair compliance with NS1.

5. When annual TACs are used, confidence intervals (greater than 50-percent chance of success) need to be set to better ensure that the limit (TAC) chosen will not be exceeded.

6. A new term should be established for the state of 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. In the calculation of rebuilding targets, such factors as predator/prey relationships, competition for habitat, and carrying capacity need to be examined. These factors can affect the time to rebuilding and the level to which a stock can be rebuilt.

10. How can multispecies biological reference points for substantially interdependent stocks be determined?

11. Is MSY a cap, or not? NMFS has advised the Councils that MSY can be exceeded for several years before the Council takes action. Are we required to have measures in place to prevent the harvest from exceeding MSY?

12. Given limited scientific and economic information, how should precautionary management be balanced against economic impacts? In unknown status situations, current guidance for determining stock status can result in very constraining management, which causes significant economic impacts to the fishery.

13. If the NS1 guidelines are revised, will the Councils be asked to revise all rebuilding plans at once? Will the current rebuilding plans be valid during the conversion period?

NMFS NS1 Guidelines Working Group

A NMFS NS1 Guidelines Working Group (Working Group) consisting of NMFS fishery scientists and fishery managers and a NOAA General Counsel attorney advisor was formed in April 2003, to develop recommendations to

the Assistant Administrator for Fisheries, NOAA (AA), as to the following: (1) Whether or not the NS1 guidelines should be revised at all; (2) if revisions are recommended, what parts of the NS1 guidelines should have priority for revision; and (3) whether all suggested revisions are consistent with the objectives 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.

Working Group's Recommendations

The Working Group recommended revisions to the NS1 guidelines to the AA, following: (1) Review of public comments that NMFS received on the ANPR regarding the usefulness of the existing NS1 guidelines, (2) an agency workshop in April 2003, and (3) further discussions by the Working Group. The Working Group believes that the proposed revisions contained in this proposed rule and described herein will improve the ability of Councils to develop meaningful SDC for definitions of “depleted” and “overfishing” and for rebuilding plans that facilitate compliance with the Magnuson-Stevens Act. Several of the proposed revisions would also provide flexibility in rebuilding programs, to the extent possible, to take into account the needs of fishing communities and fishing industry infrastructure.

The most substantive proposed changes to the NS1 guidelines, in terms of changes to fishery management practices, would be more emphasis on the requirements for quickly ending overfishing and for the need to manage using OY control rules when data are sufficient to do so, but, at the same time, to simplify and, within limits, to relax requirements for rebuilding time horizons. However, relaxed constraints on requirements for rebuilding time horizons could not be used to justify continued overfishing. NMFS proposes to emphasize better control of current F (thus preventing overfishing) because F is more within the control of fishery managers than the rate of rebuilding, which is much more subject to variable environmental conditions, especially over the long term. Elimination of overfishing is a precursor to rebuilding overfished stocks.

Proposed Revisions to the NS1 Guidelines

NMFS proposes the following changes to the NS1 guidelines:

Terminology

In the NS1 guidelines, the term “depleted” would replace the term “overfished,” the term “biomass limit (B_{lim})” would replace the term “minimum stock size threshold,” and the term “maximum fishing mortality limit (F_{lim})” would replace the term “maximum fishing mortality threshold.”

The NS1 guidelines currently use the term “threshold” to indicate a property of control rules that is usually defined as a “limit” in much of the published scientific literature and in other fisheries fora, including international fisheries organizations. To bring the NS1 guidelines into conformance with common usage, “threshold,” if used at all, should denote a “red flag” or “warning zone” that is reached before a “limit.” In this context, a biomass threshold would be a larger biomass value than its corresponding biomass limit, and a fishing mortality threshold would be a lower value than its corresponding fishing mortality limit.

The term “overfished” is used in both the Magnuson-Stevens Act and NS1 guidelines to denote a stock in need of rebuilding. “Overfished” is also used in the Magnuson-Stevens Act in the context of any stock or stock complex that is subjected to a rate or level of fishing mortality that constitutes “overfishing.” However, stocks can become depleted for reasons other than, or in addition to, overfishing, such as environmental changes, pollution, and habitat destruction. The best available scientific information typically does not enable NMFS to distinguish among these factors, or between fishing and these factors. NMFS believes that using the less specific term “depleted” is appropriate to clarify the usage of “overfished” in the NS1 guidelines. “Depleted” would be used to indicate that a stock or stock complex must be rebuilt, regardless of the cause of depletion. Recognizing that factors other than fishing can lead to depleted stocks does not imply any changes in fishery management obligations or measures to address the depleted status.

Core Stocks and Stock Assemblages

Fishery Management Units and Regulated Stocks.

A fishery means one or more stocks of fish that can be treated as a unit for purposes of conservation and management. Fishery Management Plans (FMP) are developed to regulate fisheries that have been determined to be in need of conservation and management. Each FMP will contain one to several Fishery Management Units (FMU) (see section 600.320(d))

and each FMU will contain and/or affect one to several stocks. The SDC requirements of NS1 are intended to apply to the regulated stocks specifically listed in these FMUs. Generally, these are stocks that are the target of the fishery or are commonly caught in the fishery. It is only the regulated stocks in the FMUs for which the NS1 requirement to establish MSY, OY and SDC pertain. Other stocks may be mentioned and/or listed in the FMP because of interest in data collection for these stocks, their importance as part of the marine ecosystem, or other reasons not necessarily related to conservation and management.

Two categories of regulated stocks would be exempt from the requirement to specify SDC: stocks primarily dependent on hatchery production, and stocks listed as “endangered” or “threatened” under the Endangered Species Act.

Core Stocks and Stock Assemblages

For the regulated stocks, the terms “stock or stock complex” would be replaced with “core stock or stock assemblage” in the NS1 guidelines, and FMPs could be revised so as to manage regulated stocks, to the extent possible as core stocks and stock assemblages. The status of core stocks with respect to SDC should be measured on a stock-specific basis, and the status of assemblages could be measured either on the basis of an aggregate SDC for the assemblage or on the basis of a suitable indicator stock within the assemblage.

“Core” stocks may include key target species (stocks) historically important species that may now be relatively low in abundance, important bycatch species, or highly vulnerable species. Councils usually have adequate data to measure the status of core stocks relative to their SDC. Core stocks can also be a member of an assemblage and can serve as an indicator stock for that assemblage.

A “stock assemblage” would be a group of fish stocks that are geographically related, are caught by the same gear, and have sufficiently similar life history so they can be managed together based on an aggregate F_{lim} , B_{lim} , and OY, or on stock-specific $F_{lim,S}$, $B_{lim,S}$, and OYs for indicator stocks. It is possible that some stocks having unknown status could not be assigned to a stock assemblage due to their lack of conformity to stocks in a given FMP’s stock assemblages. The selection of an indicator stock(s) for an assemblage would need to include documentation for the suitability of that selection to serve as a representative for the status of the assemblage.

This recommendation for SDC determination of assemblages is based on the practical aspects of measuring the status of every regulated stock. In the “NMFS 2003 Report to Congress on the Status of the U.S. Fisheries,” 503 of the 909 stocks reported had an unknown status regarding “overfishing,” and 541 of the 909 stocks had an unknown status regarding “overfished.” Because funding priorities require that stocks in the most important commercial and recreational fisheries continue to receive priority in terms of research, surveys, and stock assessments, many of the stocks in the unknown status category will likely remain that way for some time. Because many of these unknown status stocks co-occur with stocks of known status in multi-stock fisheries, monitoring and controlling the fishing mortality for at least one stock in the multi-stock fishery provides some knowledge and protection for the other stocks. Therefore, NMFS recommends that the Councils should group stocks for each FMP, to the extent possible, into stock assemblages in order to improve status determinations for stocks that currently have an unknown status with respect to their SDC.

Fishing Mortality Thresholds

The definition for F_{lim} would remain the same as the current definition of MFMT but, where appropriate, requirements for maintaining or reducing F below F_{lim} would be strengthened to provide a lower tolerance for overfishing. Later, the general requirement for OY control rules that set F_{target} below F_{lim} will be described as a mechanism to prevent overfishing. But OY control rules are not sufficient to address the special circumstances of depleted stocks.

Current guidelines state: “In cases where overfishing is occurring, Council action must be sufficient to end overfishing.” However, the guidelines don’t specify the timeframe for ending overfishing. The NMFS Working Group proposed the following specific guidance to address the requirements of section 304(e)(4)(A) of the Magnuson-Stevens Act: “In cases where overfishing is occurring, Council action must be sufficient to end overfishing as soon as practicable [should be as short a time as possible]. The Council action must include a rationale for the time period selected for ending overfishing. The appropriate time period for ending overfishing may be influenced by considerations including those related to mixed-stock fisheries. Phase-in periods for reducing the fishing mortality rate down to the level of F_{lim}

should be permitted only if the following two conditions are met: (A) For stocks that are depleted or are under a rebuilding plan, the maximum allowable rebuilding time is no greater than it would have been without the phase-in period; and (B) fishing mortality rate levels must, at the least, be reduced by a substantial and measurable amount each year.” NMFS invites public comment on the Working Group’s recommended measure, as well as the proposed measure pertaining to section 304(e)(4)(A) of the Magnuson-Stevens Act contained in this proposed rule. The measure being proposed in this proposed rule is that, whenever a new FMP with one or more rebuilding plans, or an action to amend a current FMP to revise an existing rebuilding plan is submitted for Secretarial review, the F_{target} for any stock in that FMP that is overfished must be less than F_{lim} , beginning in the first year and thereafter, except under circumstances listed in section 304(e)(4)(A) of the Magnuson-Stevens Act (also see section 600.310(f)(4)(ii)(A) of this proposed rule). Rebuilding plans already in place would not be affected by this proposed revision to the NS1 guidelines, unless a revision to such a rebuilding plan is made for other reasons and submitted for Secretarial review, in which case the revised rebuilding plan would need to prevent overfishing beginning in the first year of the revised rebuilding plan, unless the factors in section 304(e)(4)(A) of the Magnuson-Stevens Act are taken into account (see § 600.310(f)(4)(1)).

Stock Size Thresholds

NMFS believes that there is a need to (1) simplify the requirements for specifying and calculating B_{lim} and (2) emphasize its role as a secondary, rather than a primary, consideration relative to the need to reduce F and end overfishing.

NMFS proposes that a B_{lim} or proxy continue to be required, either at the level of individual stocks, for core stocks, or at the level of indicator stocks or of an assemblage-wide aggregate amount for stock assemblages, with limited exceptions. A core stock, indicator stock, or stock assemblage that falls below the B_{lim} would be deemed to be “depleted” and would require a rebuilding plan.

The NS1 guidelines would be simplified to define the default B_{lim} as $\frac{1}{2}B_{\text{msy}}$. In rare cases, it would be possible to justify a B_{lim} below $\frac{1}{2}B_{\text{msy}}$ (e.g., for stocks with high natural fluctuations that result in biomass frequently falling below $\frac{1}{2}B_{\text{msy}}$, even when overfishing does not occur); in this case, the B_{lim} could be set near the

lower end of some appropriate range (e.g., the lower 95-percent confidence interval) of natural fluctuations that would result if the stock or assemblage was not subjected to overfishing. On the other hand, the B_{lim} could be set higher than $\frac{1}{2}B_{\text{msy}}$ for stocks that are rarely expected to fall below some level appreciably higher than $\frac{1}{2}B_{\text{msy}}$.

A B_{lim} or proxy should be specified with the following exceptions: If an implemented OY control rule results in an F at least as conservative as would have been the case if B_{lim} had been used, then explicit use of a B_{lim} would not be required. If NMFS determines that existing data are grossly inadequate or insufficient for providing a defensible estimate of B_{lim} or a reasonable proxy thereof, specification of such would not be required. Such cases should be relatively rare, particularly for core stocks, and explicit justification must always be provided whenever a B_{lim} or proxy is not specified. Guidance on how to address the lack of a B_{lim} or proxy in unknown status fisheries is further described under “Rebuilding Targets” below.

Rebuilding Time Horizons

NMFS proposes to modify the rebuilding time horizon so that it still must be as short a time as possible, taking into account the appropriate factors, and by removing the current discontinuity. Under this proposed modification, if $T_{\text{min}} + \text{one generation time (GT)}$ exceeds 10 years, then $T_{\text{max}} = T_{\text{min}} + \text{one GT}$; otherwise T_{max} is 10 years. For example, if $T_{\text{min}} = 6$ years and $\text{GT} = 5$ years, then $T_{\text{max}} = 11$ years. If $T_{\text{min}} + \text{one GT} \leq 10$ years, then T_{max} is 10 years. For example, if $T_{\text{min}} = 4$ or 5 years and $\text{GT} = 5$ years, then $T_{\text{max}} = 10$ years.

The definition of the maximum rebuilding time horizon in the current NS1 guidelines, while consistent with the Magnuson-Stevens Act, contains an inherent discontinuity, which can prove problematic to implement due to biological uncertainties in calculation of the minimum time to rebuild. NMFS currently defines T_{min} in its technical guidance as the minimum rebuilding time based on the number of years it takes to achieve a 50-percent probability that biomass will equal or exceed B_{msy} at least once, when $F = 0$, and T_{max} is the maximum permissible target rebuilding time. Under 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. This creates a discontinuity. For example, if $\text{GT} = 5$ years and T_{min} equals 9 years, then GT

is not a factor and T_{max} equals 10 years. But if T_{min} is just 1 year longer (i.e., 10 years), then T_{max} equals $T_{\text{min}} + \text{GT} = 15$ years, so that T_{max} is considerably longer for a fish stock having a T_{min} of 10 years and a $\text{GT} = 5$ years compared to a stock having a T_{min} of 9 years and a $\text{GT} = 5$ years. The best scientific estimate of T_{min} always has a probability distribution due to the expected variability in biological stock productivity during the rebuilding period. Experience has shown that it is unreasonable use of this best scientific information to have a sharp difference in management response, and resultant impact on the fishery, when, for example, T_{min} has a 49-percent chance of exceeding 10 years, versus the management response when T_{min} has a 51-percent chance of exceeding 10 years. Accounting for this biological uncertainty in T_{min} , while taking into account the biological specifics of a stock or stock complex, requires a smoother transition in T_{max} calculation. The proposed modification to T_{max} described above would not alter the general requirement to rebuild a stock in as short a time as possible while taking into account various factors, including the needs of fishing communities. In cases where the needs of fishing communities merit extending the rebuilding time horizon beyond T_{min} , the target time to rebuild, T_{target} , would be bounded by T_{min} and T_{max} . The best scientific information available typically will not allow precise measurement of the needs of fishing communities or economic benefits of a particular T_{target} value. Because of these difficulties, a reasonable default value for setting T_{target} should be midway between T_{min} and T_{max} . This presumptive value should be used unless an analysis is available that demonstrates that the status and biology of the stocks in question or the needs of fishing communities require application of an earlier or later target time to rebuild.

Rebuilding Targets

NMFS proposes that, when it is determined that data are inadequate to estimate rebuilding targets in terms of B_{msy} , or its proxy, and T_{min} , it would be permissible to rely solely on F_{lim} . In such instances, keeping F below F_{lim} to produce at least a 50-percent chance that the stock would increase in abundance would be considered a rebuilding F proxy. It would also be permissible to declare the stock to be rebuilt if the realized average F has been substantially below the F_{lim} (default is 75 percent of F_{lim}) for at least two generation times, provided there is no

other scientific evidence that biomass is still “depleted.”

Under the current NS1 guidelines, once any stock or assemblage has been declared to be “overfished” (*i.e.*, below its B_{lim}), it must be rebuilt to B_{msy} or its proxy before being declared to be fully rebuilt and to no longer require a rebuilding plan. The reason for requiring rebuilding to B_{msy} is that the Magnuson-Stevens Act requires restoration of the stock’s capacity to produce MSY; this can only be assured if the stock is returned to that level of abundance.

Revision of Rebuilding Plans

Because any approved rebuilding plan was determined to be based upon the best available scientific information and to take into account the expected variability in future stock productivity, NMFS proposes that rebuilding plans need not be adjusted in response to each minor stock assessment update. However, if a rebuilding plan needs to be adjusted, then NMFS proposes new guidance to clarify when different parameters (*e.g.*, the sequence of rebuilding $F_{targets}$ or the time horizon (T_{target})) can be revised. Note that the $F_{targets}$ can be the same or different for each year of a rebuilding plan, but they should be listed in sequence, year-by-year, or specified by a formula (control rule).

The Magnuson-Stevens Act requires that progress toward ending overfishing and rebuilding affected fish stocks be evaluated for adequacy at least every 2 years, but does not define “adequate progress.” Also, the current guidelines do not include guidance on procedures to follow when rebuilding plans require revision after initiation. NMFS proposes specifying two circumstances for revising a rebuilding plan: (1) Rebuilding is occurring much faster or slower than expected due to natural fluctuations in stock productivity, or (2) a new stock assessment indicates that the best scientific estimate of one or more parameters in the rebuilding calculations (*i.e.*, generation time, T_{min} , B_{msy} , etc.) has changed substantially.

NMFS proposes that, if the rate of rebuilding of a stock (*i.e.*, the amount of biomass attained for a given year compared to projected biomass for that year under a rebuilding plan) is occurring substantially faster than projected, the former sequence of $F_{targets}$ for that stock should be retained in order to rebuild the stock in as short a time as possible, and to allow transition to an OY control rule. If rebuilding is occurring substantially slower than initially projected, even though $F_{targets}$ for that stock have not been exceeded,

the rebuilding plan should be revised by reducing the rebuilding $F_{targets}$ and/or by lengthening the rebuilding time horizon T_{target} . In the case of slower rebuilding, if the existing $F_{targets}$ have been exceeded, future $F_{targets}$ should be reduced to the extent necessary to compensate for previous overruns (years when $F_{targets}$ were exceeded) before considering any lengthening of the former rebuilding time horizon. If rebuilding to B_{msy} with at least a 50-percent probability is no longer deemed possible by the rebuilding time horizon, even at $F=0$, then a new rebuilding plan must be prepared (new rebuilding time horizon and sequence of $F_{targets}$).

If a new stock assessment indicates that current stock abundance or any of the rebuilding parameters have changed in such a way as to allow substantial increases in the sequence of $F_{targets}$ in the existing rebuilding plan, then the rebuilding plan may be maintained or may be revised by increasing the rebuilding $F_{targets}$ and/or by shortening the rebuilding time horizon.

Maintaining the current F_{target} and T_{target} would simply allow for faster rebuilding and sooner transition to an OY control rule. If scientific estimates of stock abundance or rebuilding parameters change in such a way as to suggest that substantial reductions in $F_{targets}$ would be necessary to rebuild the core stock or stock assemblages within the specified time horizon, and if rebuilding $F_{targets}$ have not been exceeded, then the rebuilding plan should be revised by reducing the rebuilding $F_{targets}$ and/or by lengthening the rebuilding time horizon. If the existing rebuilding $F_{targets}$ have been exceeded, the existing former T_{target} must be maintained to the extent possible, and future $F_{targets}$ must be reduced to the extent necessary to compensate for previous overruns (years when F_{target} was exceeded).

NMFS proposes specific guidance to be added to the NS1 guidelines in § 600.310(f)(5)(v) to cover the circumstance when a stock is no longer overfished at the end of its maximum rebuilding period, but the stock is not yet rebuilt. In such cases, F should not be increased until the stock has been demonstrated to be rebuilt. If the rebuilding F is at F_{lim} and the stock is not rebuilt by T_{max} , then the rebuilding F should be reduced to 75 percent of F_{lim} until the stock is rebuilt.

OY Control Rules

NMFS proposes that the current requirement to develop “target” (OY) control rules, in addition to “limit” (MSY) control rules, be strengthened, so that the current wording of “may” would be changed to “must.” OY and

MSY control rules would have to be developed for each core stock and stock assemblage (either through one or more indicator stocks for the stock assemblage or an assemblage-wide control rule), unless NMFS determines that data are inadequate to do so for a given stock. Targets are set with the intention that they typically will be achieved. OY control rules must be less than the MSY control rule for all levels of stock abundance. To the extent possible, the OY control rule should incorporate social, economic, and ecological factors.

Control rules are harvest strategies, such as (1) remove a constant catch in each year such that the estimated stock size exceeds an appropriate lower bound; (2) remove a constant fraction of the biomass each year; (3) allow a constant escapement level each year; or (4) vary F as a continuous function of stock size. Many existing FMPs have no OY control rules (target control rules); some existing FMPs have MSY control rules (limit control rules); and some existing FMPs set the OY control rules equal to the MSY control rule.

Although these proposed revisions to the NS1 guidelines clearly establish a general rule that the target (OY control rule) is to be set safely below the limit (MSY control rule) in order to prevent overfishing and to take into account social, economic, and ecological factors, such an approach may not be feasible when there is insufficient knowledge to establish either OY control rules or MSY control rules. In circumstances where there is no meaningful estimate or proxy for MSY, it may be satisfactory to set OY directly on the basis of available social, economic, and biological information, rather than to set OY at less than a measured MSY, but the underlying science and supporting administrative record would need to clearly support the individual and the fact-specific determination and OY must still prevent overfishing and stock depletion.

International Fisheries

NMFS proposes that the NS1 guidelines be amplified with respect to international HMS and straddling stocks in which the United States has an interest. Principles to be applied would be the following: (1) To generally rely on international organizations in which the United States participates to determine the status of HMS stocks or assemblages under their purview, including specification of SDC and the process to apply to them; (2) if the international organization in which the United States is a 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 rebuilding plans by a Council or NMFS to be promoted in the international organization or arrangement; and (3) to develop appropriate domestic fishery regulations to implement internationally agreed upon measures or appropriate U.S. 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.

Transitional Steps To Implement Proposed Revisions to NS1 Guidelines

If the proposed revisions to terminology are adopted, NMFS proposes that the Councils and NMFS, on behalf of the Secretary of Commerce (Secretary), in the case of Atlantic HMS, begin using the new terms in place of the old terms and revise FMP language the next time a Council submits an FMP amendment for Secretarial review. NMFS would begin using the new terms in its first Annual Report to Congress on the Status of U.S. Fisheries after the effective date of the revised NS1 guidelines. Any codified text in 50 CFR part 600 that contains the old terminology, such as "overfished," "minimum stock size threshold," or "maximum fishing mortality threshold," would be revised by NMFS.

For the proposed revisions to the NS1 guidelines other than terminology, the new guidelines would apply to some, but not all, new actions submitted by a Council. Any new action submitted by a Council that includes new or revised SDC, OY control rules, or rebuilding plans would need to be developed and evaluated according to the revised NS1 guidelines. However, if a Council action that includes new or revised SDC, OY control rules, or rebuilding plans is already under development and is at the stage that a draft environmental impact statement (DEIS) notice of availability has already been published in the **Federal Register**, when the revised NS1 guidelines become effective, then a Council could submit the action under the "old" or "new" NS1 guidelines. If an FMP, FMP amendment, or other regulatory action not accompanied by an EIS has already been adopted by a Council for Secretarial review before the new NS1 guidelines become effective, then the Council could submit the action under the "old" or "new" NS1 guidelines.

After any final rule implementing revisions to the NS1 guidelines becomes effective, if a Council submits an action (e.g., annual specifications, an FMP amendment, interim rulemaking, or a regulatory amendment) that does not

involve new or revised SDC, OY control rules, or rebuilding plans for a stock, then that action could be reviewed and approved without the FMP being amended to bring existing SDC, OY control rules, and rebuilding plans into conformance with the new guidelines. The proposed action would still need to be in conformance with all of the national standard guidelines to be approvable. Any FMP amendment or other regulatory action that involves: (1) Proposed SDC, an OY control rule, or a rebuilding plan for a stock not previously managed by SDC or by a rebuilding plan; or (2) proposed revisions to SDC, an OY control rule, or a rebuilding plan for a stock already managed under SDC or by a rebuilding plan, then the proposed SDC, OY control rule, and/or rebuilding plan would need to comply with the new NS1 guidelines.

Regarding the proposed recommendation that stocks in FMPs be managed according to core stocks and stock assemblages, if a Council determines that a given FMP has only core stocks (e.g., the Mid-Atlantic Council's Spiny Dogfish FMP, the New England Council's Atlantic Sea Scallops FMP, and the Gulf of Mexico Council's Stone Crab FMP), then the Council should make such a determination with accompanying rationale in its next FMP amendment.

In the case of an FMP that has a mixture of SDC known stocks and stocks having an unknown status related to SDC (e.g., Snapper-Grouper FMP), when a Council begins to align its management under "core stocks" and "stock assemblages," the Council could begin such realignment in a stepwise fashion (in a series of separate FMP actions) for given core stocks or stock assemblages, once new or revised SDC, OY control rules, or rebuilding plans are developed. If a Council determines that the stepwise method is problematic, it could take action to realign all of the FMP's stocks into core stocks and stock assemblages in one action.

If some stocks are not being effectively managed under a given FMP because their status relative to SDC is unknown, and the proposed revisions to the NS1 guidelines are approved, then the Council should re-evaluate those stocks as soon as possible, to decide whether or not any grouping of some or all of the unknown status stocks could be managed by SDC under one or more indicator stocks, or through stock assemblage-wide SDC. A Council should clearly designate which stocks in the FMP are in the FMUs and thus are subject to SDC and to inclusion in the NMFS Annual Report to Congress on

the Status of U.S. Fisheries. Stocks that are listed as threatened or endangered under the Endangered Species Act would be exempt from being evaluated according to SDC, but must be evaluated against SDC within 1 year of being delisted. Finally, stocks that are primarily dependent on artificial propagation from hatcheries would be exempt from being evaluated according to SDC. If any stocks are currently undergoing overfishing as part of an approved rebuilding plan (e.g., reductions in F are being phased in over a number of years until F is less than or equal to F_{lim}), then, the first time that the Council submits a revised rebuilding plan for those stocks, overfishing must be prevented, beginning in the first year of the revised rebuilding plan, except under circumstances listed under section 304(e)(4)(A) of the Magnuson-Stevens Act.

In general, the Councils would not be required to amend their existing SDC and rebuilding plans approved under the SFA by any date certain, with the following exceptions. In the event that NMFS, on behalf of the Secretary, determines that a fishery is overfished, or approaching an overfished condition under section 304(e)(1) or (2) of the Magnuson-Stevens Act, or that a rebuilding plan needs revision as described under section 304(e)(7) of the Magnuson-Stevens Act, then the Council would need to take action consistent with the revised NS1 guidelines.

Proposed Changes in Codified Text Listed by Issues/Categories

For clarity and convenience of the reader, this proposed rule would revise § 600.310 in its entirety. The following describes the specific changes to § 600.310 that are being proposed.

In the proposed revisions to § 600.310, current paragraph (d) would become paragraph (e), current paragraph (e) would become paragraph (f), and current paragraph (f) would become paragraph (d). The newly numbered paragraphs would cover these headings: Paragraph (a) *National Standard 1*, paragraph (b) *General*, paragraph (c) *MSY*, paragraph (d) *OY*, paragraph (e) *Overfishing*, and paragraph (f) *Ending overfishing and rebuilding depleted stocks*.

A new paragraph (b)(3) would be added to list "Definition of terms" for terms used frequently in § 600.310. These terms would be defined briefly in paragraph (b)(3) for the convenience of the reader which is not intended to supersede more detailed descriptions of the terms elsewhere in § 600.310.

The following are the proposed changes to § 600.310.

Terminology and Definitions

Throughout § 600.310, “minimum stock size threshold” and “MSST” would be replaced with “minimum biomass limit” and “ B_{lim} ”; “maximum fishing mortality threshold” and “MFMT” would be replaced with “maximum fishing mortality limit” and “ F_{lim} ”; and “overfished” would be replaced with “depleted.”

In § 600.310, paragraph (b) would be divided into paragraph (b) introductory text and paragraph (b)(1); paragraph (b)(2) would be added to provide an overview of the relationship between MSY, OY, SDC, and rebuilding; and paragraph (b)(3) would be added to define briefly terms used in § 600.310.

In § 600.310, under the newly redesignated paragraph (e), paragraph (e)(1)(iii) would be revised to explain why the term “overfished,” used to describe a condition of low abundance of a fish stock, should be replaced with the term “depleted.”

Core Stocks, Fisheries, and Stock Assemblages

In § 600.310, paragraphs (b)(4), (b)(4)(i), (b)(4)(ii), and (b)(4)(iii) would be added to describe core stocks and stock assemblages.

The phrase “stock or stock complex” would be replaced with “core stock or stock assemblage” throughout § 600.310.

In § 600.310, paragraph (c)(2)(iii) would be revised to remove the term “mixed stock,” add the term “stock assemblages,” and clarify that a stock assemblage’s MSY and SDC may be specified for the stock assemblage as a whole, or may be listed as unknown if the assemblage is managed on the basis of one or more indicator stocks that do have stock-specific MSY and SDC.

Fishing Mortality Limits

In § 600.310, under paragraph (c):

1. Paragraph (c)(1)(ii) would be revised by adding two sentences to further describe the “MSY control rule.”

2. The first sentence in paragraph (c)(3) would be revised to indicate that other measures could serve as reasonable proxies for the “MSY fishing mortality rate (F_{msy}).” A sentence would also be added at the end of paragraph (c)(3) to indicate that there is greater risk when setting OY close to a proxy-based MSY estimate than when setting OY against MSY, itself.

In § 600.310, under the newly redesignated paragraph (d), paragraph (d)(4)(iii) would be revised by further clarifying that all forms of fishing

mortality must be accounted for when evaluating overfishing.

In § 600.310, under the newly redesignated paragraph (e):

1. Two sentences would be added to paragraph (e)(1)(ii) to further explain the role that fishing at an excessive fishing mortality rate has in reducing the capacity of a stock to produce MSY.

2. A new sentence would be added to paragraph (e)(2)(i) to explain the relationship between F_{lim} and the OY control rule.

3. Paragraph (e)(6)(iii) would be revised by removing the reference to “ESA,” meaning the “Endangered Species Act,” and adding more specific language about expectations for management of fish stocks caught together (*i.e.*, no core stocks should fall below their B_{lim} more than 50 percent of the time in the long-term, even though overfishing of the stock occurs sometimes in a fishery consisting of more than one stock).

In § 600.310, the newly redesignated paragraph (f)(4)(i) would be revised to require that overfishing be prevented beginning in the first year of any new or revised rebuilding plans and thereafter, except under certain circumstances.

Biomass Limits

In § 600.310, paragraph (c)(1)(iii) would be revised by adding a sentence to clarify that “MSY stock size” is the target level of abundance when rebuilding depleted stocks.

In § 600.310, under the newly redesignated paragraph (e):

1. Paragraph (e)(2)(ii) would be revised to simplify the default value for B_{lim} and refer to new paragraph (e)(2)(ii)(A), which would be added to describe exceptions to the default value.

2. Paragraph (e)(2)(ii)(B) would be added to describe conditions under which a Council would not have to manage explicitly using a B_{lim} specification when certain conditions of the OY control rule apply.

3. Paragraph (e)(2)(ii)(C) would be added to explain that, if a stock’s status with respect to B_{lim} or a proxy is unknown, then it is necessary to rely on F_{lim} as the primary SDC. In this case, it would be especially prudent to set the OY control rule below the F_{lim} . For example, OY could be set equal to 75 percent of the catch corresponding to F_{lim} .

4. Paragraph (e)(2)(ii)(D) would be added to explain that the determination of “depleted” may be based on more than 1 year of breaching B_{lim} for certain stocks with very short life spans.

Rebuilding Time Horizons

In § 600.310, under the newly redesignated paragraph (f):

1. The phrase “is as short as possible” would be added to newly redesignated paragraph (f)(4)(ii) for emphasis regarding the goal for time for rebuilding.

2. Paragraph (f)(4)(ii)(B)(1) would be revised to explain that the starting year for calculation of T_{min} is “the first year after a stock is determined to be depleted that a final rule to implement the rebuilding plan becomes effective.”

3. Paragraph (f)(4)(ii)(B)(2) would be revised to explain the term “generation time.”

4. New paragraph (f)(4)(ii)(B)(4) would be added to clarify that T_{target} , the target time to rebuild for a given fishery, would generally be between T_{min} and T_{max} and, under most circumstances, it should be less than T_{max} to satisfy the Magnuson-Stevens Act’s intent to rebuild “in as short a time as possible” and to help ensure that there will be at least a 50-percent chance of actually rebuilding by T_{max} . A default value for T_{target} should be set midway between T_{min} and T_{max} unless there is an analysis demonstrating that the status and biology of the stocks in question, or the needs of the fishing community, require application of an earlier or later target time to rebuild.

5. Paragraphs (f)(4)(ii)(C) and (D) would be removed because the language associated with May 1, 1998, no longer applies.

Rebuilding Targets

In § 600.310, under the newly designated paragraph (f), paragraph (f)(4)(ii)(B)(5) would be added to explain how to use a fraction of F_{lim} as an alternative for a rebuilding target when it is not possible to estimate B_{msy} , T_{min} , or other factors needed to establish a rebuilding target and time frame.

Revision of Rebuilding Plans

In § 600.310, under newly redesignated paragraph (f):

1. New paragraphs (f)(5), (f)(5)(i), (f)(5)(ii), (f)(5)(ii)(A), (f)(5)(ii)(B), (f)(5)(iii), (f)(5)(iii)(A), (f)(5)(iii)(B), and (f)(5)(iv) would be added to describe what management approach to take if rebuilding occurs substantially slower or faster than expected, or if the best scientific estimate of the rebuilding target changes.

OY Control Rules

In § 600.310, paragraph (b)(2)(iv) would be added to define and describe OY, and would state that the target F should be below F_{lim} to account for economic, social, and ecological factors,

and to have at least a 50-percent chance of keeping the actual F below F_{lim} , to reduce the chance of the stock size falling below B_{lim} , to rebuild the stock(s) to B_{msy} , and to achieve a large fraction of MSY.

In § 600.310, paragraph (b)(2)(v) would be added to describe issues related to uncertainty and the benefits of setting an OY control rule more conservatively than the MSY control rule, and of setting the target time to rebuild a depleted stock at less than the maximum allowable time. In § 600.310, paragraph (c)(2)(ii) would be revised by adding a sentence that reads as follows: "All estimates should be accompanied by an evaluation of uncertainty, to the extent possible, to assist in setting OY sufficiently below the MSY level to avoid overfishing and stock depletion."

In § 600.310, under the newly redesignated paragraph (d):

1. A sentence would be added to paragraph (d)(1)(ii) to explain that an OY control rule that adjusts annual catch levels in response to changes in stock abundance would better ensure that OY is achieved.

2. Paragraph (d)(4)(i) would be revised extensively by explaining that core stocks must have an OY control rule associated with them, and describing in detail the purpose of OY and the function of OY control rules in fishery management.

3. Paragraph (d)(4)(iii) would be revised to explain that F_{lim} must also take into account mortality of fish as a result of scientific research.

4. Paragraph (d)(4)(v) would be revised to explain that, in circumstances where there is no meaningful estimate or proxy for MSY, it may be satisfactory to set OY directly on the basis of available social, economic, and biological information, rather than to set OY less than a measured MSY. However, the science and administrative record would need to clearly support such a determination, and OY must still prevent overfishing and stock depletion.

5. Paragraph (d)(4)(vi) would be removed because it was redundant with other sections.

6. Paragraph (d)(5)(i) would be revised by adding a new sentence, "For stocks determined to be depleted and in need of rebuilding, the OY needs to satisfy the rebuilding time frame requirements in paragraph (e) of this section." Also, near the end of newly designated paragraph (d)(5)(i), the phrase "because there should be a buffer between the OY F value and F_{lim} " would be added to the end of the sentence "Exceeding OY does not necessarily constitute overfishing."

7. A sentence would be added to paragraph (d)(5)(ii): "This is intended to reduce the chance that stock abundance would fall below B_{lim} ."

8. Paragraph (d)(5)(iii) would be divided into paragraphs (d)(5)(iii)(iv), so that paragraph (d)(5)(iv) would solely explain how to hold part of OY in reserve.

In § 600.310, under the newly redesignated paragraph (e):

1. Paragraph (e)(1)(ii) is revised by adding a sentence stating that bycatch and mortality caused by scientific research are also forms of fishing mortality).

2. Paragraph (e)(3)(iii) would be revised by adding the phrase "and OY control rules."

3. Paragraph (e)(3)(iv) would be added to explain that specification of OY needs to take into account National Standard 8. Also, a new paragraph (e)(3)(v) would be added to explain that SDC need to take into account National Standard 9.

4. Paragraph (e)(4)(ii) would be revised to explain the basis for determining that an environmental change has occurred.

International Fisheries

In § 600.310, the newly redesignated paragraph (f)(4)(iii) would be revised to further clarify how to manage international HMS or straddling stocks for which the United States shares part of the fishery.

Miscellaneous Issues

In § 600.310, paragraph (c)(2)(iv) would be revised to clarify that original establishment of MSY and SDC should be part of an FMP or FMP amendment. Numerical updates to these values need not be codified and could be made through annual specifications or framework rulemaking, as long as any new management measures are accompanied by the appropriate environmental, economic, and social impact analyses and are implemented through procedures in the FMP.

In § 600.310, newly redesignated paragraph (d)(1)(ii) would be revised to better explain the phrase "achieving the OY on a continuing basis" and how use of an OY control rule that adjusts the annual target harvest level according to changes in estimated stock abundance can be especially useful in fishery management. In the newly designated paragraph (d)(3), the sentences "One of these is MSY. Moreover, various factors can constrain the optimum level of catch to a value less than MSY." would be replaced with "In particular, the degree to which OY is less than MSY depends upon several factors."

In § 600.310, under the newly redesignated paragraph (e):

1. The term "reproductive potential" in paragraph (e)(2) would be replaced with "the capacity of the stock to produce MSY," to be more descriptive. Also, in paragraph (e)(2) of this section, the sentence "As a general rule, these determinations should be updated annually to satisfy the requirements of section 304(e)(1) of the Magnuson-Stevens Act." would be added near the end of the paragraph. Lastly, the phrase "In all cases" in paragraph (e)(2) of this section would be replaced with "Unless sufficient data are unavailable or unless otherwise excepted in this paragraph (e)(2)," to better address the fact that NMFS does not have sufficient data to measure SDC for every stock or to evaluate the status of every stock relative to its SDC.

2. Paragraph (e)(4)(ii) would be revised to describe circumstances under which SDC should be re-specified due to environmental change.

3. Paragraph (e)(6) would be revised to mention that harvesting of one stock may result in overfishing of another stock when two stocks are caught together, even if the stocks are not both in the same FMP.

In § 600.310, under the newly redesignated paragraph (f):

1. In paragraph (f)(1), the term "threshold" would be replaced with the term "limit," the term "stock size" would be replaced with the term "biomass," and the term "fishery resource size" would be replaced by the term "stock abundance."

2. The phrase "as short a time as possible, subject to the constraints and conditions in paragraph (f)(4)(ii)" would be added to the newly designated paragraph (f)(3)(ii).

3. Paragraph (f)(5)(v) would be added to provide guidance about what steps should be taken when a stock has not rebuilt to B_{msy} at the end of the rebuilding period (T_{max}).

Classification

This proposed rule has been determined to be significant for purposes of Executive Order 12866.

The Chief Counsel for Regulation of the Department of Commerce's Office of General Counsel certified to the Chief Counsel for Advocacy for the Small Business Administration that this rule would not, if promulgated, have a significant economic impact on a substantial number of small entities. This proposed rule, if adopted, would revise portions of the NS1 guidelines that describe how to derive status determination criteria for overfishing, overfished, and rebuilding periods for

overfished stocks. This rule would not result in any immediate impacts on revenues or costs for small entities because it does not contain any new management measures that would have specific economic impacts on specific fisheries or fisheries in general. Therefore, an initial regulatory flexibility analysis was not prepared as described under section 603 of the Regulatory Flexibility Act (RFA). However, future rulemakings that are promulgated by NMFS on behalf of the Secretary of Commerce may be based in part on the proposed changes to the NS1 guidelines and such actions would likely have specific measurable impacts on fisheries in one or more regions of the United States. Such rulemakings would be done in full compliance with the RFA and all other applicable law.

List of Subjects in 50 CFR Part 600

Fisheries, Fishing, Reporting and recordkeeping requirements.

Dated: June 14, 2005.

Rebecca Lent,

Deputy Assistant Administrator for Regulatory Programs, National Marine Fisheries Service.

For the reasons stated in the preamble, 50 CFR part 600 is proposed to be amended as follows:

PART 600—MAGNUSON-STEVENS ACT PROVISIONS

1. The authority citation for part 600 continues to read as follows:

Authority: 16 U.S.C. 1801 *et seq.*

2. Section 600.310 is revised to read as follows:

§ 600.310 National Standard 1—Optimum Yield.

(a) *Standard 1.* Conservation and management measures shall prevent overfishing while achieving, on a continuing basis, the optimum yield (OY) from each fishery for the U.S. fishing industry.

(b) *General.* (1) The determination of OY (see definitions in § 600.10) is a decisional mechanism for resolving the Magnuson-Stevens Act's multiple purposes and policies, implementing an FMP's objectives, and balancing the various interests that comprise the national welfare. OY is based on Maximum Sustainable Yield (MSY), as it is reduced as provided under paragraphs (d)(3) and (d)(5) of this section. The most important limitation on the specification of OY is that the choice of OY and the conservation and management measures proposed to achieve it must prevent overfishing.

(2) *Definitions—Overview of MSY, OY, Status Determination Criteria*

(*SDC*), and *Rebuilding*. The concepts of MSY, OY, SDC and rebuilding targets (terms used here are defined in paragraph (b)(3) of this section) are closely related:

(i) Compliance with the guidelines requires specification of two SDC: The maximum fishing mortality limit, F_{lim} , and the minimum biomass limit, B_{lim} , to determine when overfishing and stock depletion have occurred. These SDC are related to the abundance and productivity of the managed stocks.

(ii) The fishing mortality rate (F_{msy}) and associated control rule that would produce the maximum long-term average catch (MSY) is the upper limit for F_{lim} . The long-term expected level of biomass (stock abundance) that would result from fishing at F_{msy} is defined as the MSY stock size (B_{msy}), recognizing that natural fluctuations above and below the MSY stock size are normal.

(iii) The National Standard 1 (NS1) guidelines in this section require use of target OY control rules for each core stock to guide setting of annual F and catch levels to achieve OY for the fishery. These targets generally should be set below the limits to avoid exceeding the F_{lim} and to account, to the extent possible, for social, economic, and ecological factors.

(iv) When overfishing is determined to be occurring, corrective management actions to get F below F_{lim} are required to occur the year such regulations will be put into effect, except when certain circumstances apply. When stock depletion is determined to have occurred, a rebuilding plan needs to be developed and implemented to return the stock to B_{msy} in as short a time as possible, while taking into account various factors (see paragraph (f)(3)(ii)(A) of this section). Rebuilding the stock to B_{msy} re-establishes its capacity to produce MSY. The target time to rebuild, T_{target} , must be defined and generally should be less than the maximum time to rebuild, T_{max} , as defined in these guidelines.

(v) *Uncertainty.* None of these limits and levels can be calculated with perfect certainty. Some uncertainty is related to our capability to measure stock status and can be reduced through additional data collection and research. Other uncertainty is related to fluctuations in natural biological and environmental processes that can be characterized, but not reduced. Best scientific estimates of these limits and levels should include evaluation of the uncertainty, to the extent possible. The primary operational response to uncertainty is in setting the OY control rule more conservatively than the MSY control rule, and in setting the target

time to rebuild depleted stocks at less than the maximum allowable time to rebuild those stocks.

(3) *Definitions.* (i) *Approaching overfishing or a depleted condition* means a limit, either maximum fishing mortality or minimum biomass, is projected to be breached within 2 years, based on trends in fishing effort, stock abundance, and other appropriate factors.

(ii) *Assessment* means a stock assessment as defined in § 600.10. Assessments provide quantitative evaluation of a stock's status with respect to established SDC. Assessments also provide the technical basis for implementing the OY control rule.

(iii) *Average* means, in this section, the central tendency of a measure over time, including arithmetic mean, median, and other appropriate statistics as developed through technical guidance.

(iv) *Biomass* means the total quantity of fish in a stock and is used synonymously with stock abundance. For the purposes of SDC under NS1, biomass (B_{msy} and B_{lim}) focuses on reproductive potential of the stock so that "spawning biomass" is used and is commonly measured as mature female biomass. If spawning biomass is not available, total biomass or other proxies are sometimes used. Biomass is usually measured in total tonnage of fish, but could be numbers or other units to be synonymous with stock abundance.

(v) \bar{B}_{lim} means the same as minimum biomass limit.

(vi) B_{msy} means the same as MSY stock size.

(vii) *Core stock* means a stock that is the principal or one of the principal target stocks of a fishery, and may also include historically important stocks, important bycatch stocks, highly vulnerable stocks, and indicator stocks. Core stocks should have sufficient information available to be managed on the basis of stock-specific SDC and OY control rules, or their proxies.

(viii) *Depleted* means a stock or stock assemblage whose biomass has been determined to be below its B_{lim} . Determination of a depleted status triggers the requirement for development of a rebuilding plan. Also see paragraph (e)(1)(iii) of this section.

(ix) *Expected* means a future level of biomass, catch, or fishing mortality, or a time to rebuild, that has at least a 50-percent chance of occurring, given the fishery management approach to be used in the future and taking into account, to the extent possible, the level of certainty in assessment results and natural fluctuations in stock productivity.

(x) *Fishery management plan (FMP)* means a plan developed by a Regional Fishery Management Council, or the Secretary of Commerce in the case of Atlantic highly migratory species, to comply with requirements and management responsibilities described in the Magnuson-Stevens Act.

(xi) *Fishery management unit (FMU)* means a list of fish species or stocks in an FMP that have been determined to be in need of conservation and management. These stocks constitute the FMP's set of regulated stocks and are the stocks for which MSY, OY, and SDC are required.

(xii) *Fishing mortality rate* means the rate of mortality imposed on the stock or stock assemblage due to fishing activities. The term *F* is an abbreviation for fishing mortality rate.

(xiii) *Fishing mortality target* means the level of fishing mortality that corresponds to the OY control rule.

(xiv) F_{lim} means the same as maximum fishing mortality rate limit.

(xv) *Generation time* means the average age of spawners for a fish stock or species. This biological factor is related to the time scale for stock rebuilding. Generation time is calculated as the average age of spawners, under constant recruitment, when individuals in a stock are subjected to only natural mortality and weighted by the amount of spawn production at each age.

(xvi) *Indicator stock* means a stock that has been selected as a representative for a stock assemblage because of similarity in geographic distribution, occurrence in fisheries (e.g., caught by the same gear) and life history to other assemblage members. Indicator stocks must have SDC and sufficient data to measure their status relative to SDC. Indicator stocks should be managed as a core stock while also serving as an indicator for the assemblage.

(xvii) *Maximum fishing mortality limit* means the level of *F*, on an annual basis, above which overfishing is occurring. This level is abbreviated as F_{lim} and must be set to be no greater than the MSY control rule.

(xviii) *Minimum biomass limit* means the level of biomass below which the stock is considered to be depleted. The default level is $\frac{1}{2}B_{msy}$ and the abbreviated term is B_{lim} . Stock-specific determinations of B_{lim} should take into account the expected range of natural fluctuations in biomass while fishing according to the MSY control rule, and scientific evidence regarding the biomass level below which stock productivity is more impaired.

(xix) *MSY* means the Maximum Sustainable Yield and is calculated as the largest long-term potential average catch or yield that can be taken from a core stock or stock assemblage under prevailing (e.g., generally current) ecological, environmental and fishery conditions while fishing according to a MSY control rule. Also see paragraph (c)(1)(i) of this section.

(xx) *MSY control rule* means a harvest strategy that, if implemented, would be expected to result in a long-term future potential average catch approximating MSY. F_{lim} , above which overfishing occurs, must be set at or below the *F* corresponding to the MSY control rule and typically will be set at the level of the MSY control rule. Because stocks naturally fluctuate in abundance, the annual result of applying the MSY control rule may be an annual catch level that fluctuates above and below the MSY which is the long-term average.

(xxi) *MSY stock size (B_{msy})* means the long-term average stock abundance level of the core stock or stock assemblage, measured in terms of spawning biomass or other appropriate, that would occur while fishing according to the MSY control rule. The MSY stock size is the target stock size to which depleted stocks must be rebuilt.

(xxii) *Natural mortality rate (*M*)* means the rate at which fish die from non-fishery related causes such as disease and predation. This rate is used directly in the calculation of generation time, and influences the values of T_{min} and F_{msy} .

(xxiii) *Overfishing* means to fish at a level that jeopardizes the capacity of the stock to produce MSY. Also, see paragraph (e)(1)(ii) of this section.

(xxiv) *OY (Optimum Yield)*, as defined in § 600.10, means the amount of fish that:

(A) Will provide the greatest overall benefit to the Nation, particularly with respect to food production and recreational opportunities and taking into account the protection of marine ecosystems;

(B) Is prescribed on the basis of MSY from the fishery, as reduced by any relevant economic, social, or ecological factor; and

(C) In the case of an overfished (i.e., depleted) fishery, that provides for rebuilding to a stock size level consistent with producing the MSY in such fishery.

(xxv) *OY control rule* means a specified approach to setting the target annual level of catch or *F* for each stock or stock assemblage such that overfishing is prevented and OY is achieved for the fishery as a whole. Also

see paragraphs (d)(1)(ii) and (d)(4)(i) of this section.

(xxvi) *Rebuilding plan* means a revision of an OY control rule that addresses the management objective to rebuild a depleted (i.e., previously called "overfished") stock's abundance until it reaches B_{msy} (or its proxy), in as short a time as possible, taking into account circumstances described under section 304(e)(4)(A) of the Magnuson-Stevens Act. A rebuilding plan should contain: A target time for rebuilding to be completed (T_{target}) based upon a calculation of T_{min} and T_{max} , the stock abundance (B_{msy} or proxy) to be reached before a stock is considered "rebuilt," a control rule that specifies how the target fishing mortality would change during the course of the rebuilding plan, and sufficient information to track the progress towards controlling *F* and rebuilding the stock abundance. In the case of a fish stock for which B_{msy} or a proxy is unknown, but F_{lim} or a good estimate is known, a "rebuilding plan" would consist of keeping *F* less than the default value of 75 percent of F_{lim} for at least two generation times, after which the stock would be considered "rebuilt."

(xxvii) *Rebuilding target* means the target biomass for rebuilding depleted stocks. This target is set equal to B_{msy} or a suitable proxy.

(xxviii) *Rebuilt* means that an assessment or other analysis finds that a previously depleted stock has at least a 50-percent probability of being at or above B_{msy} in the current year.

(xxix) *SDC-known* means the status of a stock is known relative to F_{lim} , B_{lim} , or both.

(xxx) *Status determination criteria (SDC)* means the quantifiable factors, F_{lim} and B_{lim} , or their proxies, that are used to determine if overfishing or stock depletion, respectively, has occurred.

(xxxi) *Stock abundance often* means the total quantity of fish in a stock, but sometimes refers to spawning biomass. The term is used synonymously with total or spawning biomass in this section. Stock abundance is usually measured as total tonnage of fish, but could be expressed in numbers or other units.

(xxxii) *Stock assemblage* means a group of stocks in an FMP that are sufficiently similar in geographic distribution, co-occurrence in fisheries, and life history so that SDC measured on an assemblage-wide basis or for an indicator stock will satisfy the Magnuson-Stevens Act requirements to achieve OY and prevent overfishing of a fishery. Not all stocks in an assemblage will *not* have sufficient

information to measure stock-specific SDC.

(xxxiii) T_{max} means the latest year that can be used as the target time to rebuild a depleted stock. If T_{min} plus one generation time is greater than 10 years, then T_{max} is equal to T_{min} plus one generation time; otherwise, T_{max} equals 10 years.

(xxxiv) T_{min} means the earliest year with a 50-percent chance that the stock will have rebuilt to B_{msy} . T_{min} is calculated under the conditions of zero fishing mortality, beginning the first year of a rebuilding plan.

(xxxv) T_{target} means the year by which there is a 50-percent chance that the stock will have reached B_{msy} while being fished according to the fishing mortality rate prescribed by the rebuilding plan.

(xxxvi) *Unknown status* means that the status of the stock relative to its B_{lim} , F_{lim} , or both is unknown. This includes two situations:

(A) The actual numeric level of B_{lim} or F_{lim} or their proxies cannot be calculated; or

(B) The numeric level of B_{lim} or F_{lim} or their proxies can be calculated, but the current level of the stock's F or its proxy, or biomass or its proxy, is not known relative to the SDC.

(4) *Core stocks and stock assemblages*. A fishery means one or more stocks of fish that can be treated as a unit for purposes of conservation and management. National Standard 3 provides several approaches to defining Fishery Management Units (FMU) for all or part of a fishery. The SDC of NS1 are applied to the regulated stocks listed in the FMUs of an FMP. A stock identified as a regulated stock should be designated as a core stock and/or a member of a stock assemblage based on its degree of importance to the fishery or Nation, and on the availability of data sufficient to make reliable estimates of SDC for that stock. Although not all stocks have a known status, it is the goal to acquire sufficient scientific information to attain a known status for each core stock and to assign all other managed stocks to a stock assemblage.

(i) *Core stocks*. Core stocks are the principal target stocks of the fishery and may also include historically important stocks, important bycatch stocks, highly vulnerable stocks, and indicator stocks (see paragraph (b)(4)(ii) of this section). Quantitative SDC and OY control rules, or suitable proxies, must be developed for core stocks, with the rare exception of those core stocks that have insufficient information to develop or implement SDC. Core stocks that co-occur in a fishery may be identified as members of an assemblage, and

assemblage-wide management measures may be implemented, but this does not relieve the requirement to manage each core stock with stock-specific SDC.

(ii) *Stock assemblages*. A stock assemblage is a group of stocks that constitute all or part of a fishery, that typically co-occur geographically, and that tend to have similar productivity, but for some or all of which the available data are insufficient to specify individual SDC or control rules. A stock assemblage may be assessed and managed as a group, using SDC, MSY and OY control rules, and other benchmarks based upon an indicator stock(s) or the entire assemblage. Whenever possible, an assessed core stock should serve as an indicator stock for a stock assemblage's SDC, although management measures, such as fishery days-at-sea or recreational bag limits, could apply to the entire assemblage. When an indicator stock is chosen, it is intended to be representative of the typical status of each stock within the assemblage. More than one indicator stock can be selected to provide more information about the status of the assemblage. Assemblages should be managed in a way that is more conservative than the management of SDC-known core stocks, because there is less information available on stocks in assemblages than there is for core stocks. For individual stocks that are important, but for which data are inadequate to measure the stock's status relative to its SDC, data collection should be improved so that sufficient data become available to make them core stocks. Individual stocks within assemblages should be examined periodically using available quantitative or qualitative information to warn of depletion of these stocks. Some stocks may not even have enough data that they can be assigned confidently to an assemblage. These should remain identified as "unknown status" until sufficient information is available to classify them into an assemblage.

(iii) *Exempted stocks*. Two categories of stocks are exempt from the requirement to specify SDC or reasonable proxies. First, stocks that are primarily dependent on hatchery production, such as some Pacific salmon stocks, do not require SDC because they are not primarily dependent on natural ecosystem production. However, this exemption from SDC requirements does not exempt fisheries for these hatchery stocks from other national standards. Second, stocks that are listed as threatened or endangered are exempt from SDC requirements until they are no longer listed under the Endangered Species

Act. After de-listing, these stocks would become subject to NS1 considerations and a determination of SDC and stock status would need to be made within 1 year of de-listing.

(c) *MSY*. Each FMP should include an estimate of MSY, as explained in this paragraph (c), with the numeric value of MSY specified and modified according to paragraph (c)(2)(iv) of this section.

(1) *Definitions*. (i) *MSY* is defined in paragraph (b)(3)(xviii) of this section.

(ii) *MSY control rule* is defined in paragraph (b)(3)(xix) of this section.

(iii) *MSY stock size* (B_{msy}) is defined in paragraph (b)(3)(xx) of this section.

(2) *Options in specifying MSY*. (i) Because MSY is a long-term average, its estimation can be conditional on the choice of an MSY control rule. In choosing an MSY control rule, Councils should be guided by the characteristics of the stock and fishery, the FMP's objectives, and the best scientific information available. A simple MSY control rule is to remove a constant catch in each year that the estimated stock size exceeds an appropriate lower bound, where this catch is chosen so as to maximize the resulting long-term average yield (this strategy causes a higher F as the stock size approaches the chosen lower bound therefore the constant catch level must be set cautiously). A more commonly used MSY control rule is to remove a constant fraction of the biomass each year, where this fraction is chosen so as to maximize the resulting long-term average yield. Other examples include: Remove a constant fraction of the biomass in each year, where this fraction is chosen so as to maximize the resulting long-term average yield; allow a constant level of escapement in each year, where this level is chosen so as to maximize the resulting long-term average yield; or, vary the fishing mortality rate as a continuous function of stock size, where the parameters of this function are constant and chosen so as to maximize the resulting long-term average yield. In any MSY control rule, a given stock size is associated with a given level of F and a given level of potential harvest, where the long-term average of these potential harvests provides an estimate of MSY.

(ii) Any MSY value used in determining OY will necessarily be an estimate, and will typically be associated with some level of uncertainty. Such estimates must be based on the best scientific information available (see § 600.315). All estimates should be accompanied by an evaluation of uncertainty, to the extent possible, to assist in setting OY sufficiently below the MSY level to

avoid overfishing and stock depletion. Beyond these requirements, however, Councils, with the technical guidance of their Scientific and Statistical Committees, have a reasonable degree of latitude in determining which estimates to use and how these estimates, and associated uncertainty, are to be expressed.

(iii) *MSY for stock assemblages.* MSY is specified on a stock-by-stock basis for each core stock. For stock assemblages, when indicator stocks are not used as the primary basis for management, MSY may be specified for the stock assemblage as a whole and calculated relative to the total catch of the assemblage. When indicator stocks are used, the assemblage's MSY could be listed as "unknown," while noting that the assemblage is managed on the basis of one or more indicator stocks that do have known, stock-specific MSYs or suitable proxies.

(iv) *MSY numerical values.* Because MSY is a long-term average, its value need not be updated annually, but it must be based on the best scientific information available, and should be re-estimated as required by changes in environmental or ecological conditions or new scientific information. See paragraph (e)(4) of this section for more guidance on responding to environmental change. Original determinations of MSY and related quantities (*i.e.*, OY and SDC) for fisheries in an FMP should be established through an FMP, FMP amendment, or other appropriate regulatory action. Numerical updates to these values can be made through annual specifications or framework rulemaking, if allowed by the respective FMP, or temporarily by emergency or interim rulemaking, as long as any new management measures resulting from such measures are accompanied by the appropriate environmental, economic, and social impact analyses. The numeric level of MSY and related quantities need not be codified in regulatory text.

(3) *Alternatives to specifying MSY.* When data are insufficient to estimate MSY directly, Councils should adopt other measures of productive capacity that can serve as reasonable proxies for MSY or F_{msy} , to the extent possible; *e.g.*, fishing mortality reference points defined in terms of relative spawn production per recruit (SPR). For some stocks, the F that reduces the long-term average level of SPR to 30–40 percent of the long-term average that would be expected in the absence of fishing may be a reasonable proxy for F_{msy} . The long-term average stock size that results from fishing year after year at this rate, under

average recruitment, may thus be a reasonable proxy for the MSY stock size, and the long-term average catch so obtained may be a reasonable proxy for MSY. The natural mortality rate (M) or some fraction of M may also be a reasonable proxy for F_{msy} . If a reliable estimate of pristine stock size (*i.e.*, the long-term average stock size that would be expected in the absence of fishing) is available, a stock size approximately 40 percent of this value may be a reasonable proxy for the MSY stock size, and the product of this stock size and the M may be a reasonable proxy for MSY. Because proxies may not represent MSY exactly, this added uncertainty should be taken into account when setting OY below MSY (also see paragraph (d)(4)(v) of this section).

(d) *OY—(1) Definitions.* (i) As defined in the Magnuson-Stevens Act, see paragraph (b)(3)(xxiii) of this section.

(ii) *OY control rule.* The phrase "achieving, on a continuing basis, the OY from each fishery" means producing, from each fishery, a long-term series of catches such that the average catch is equal to the OY and such that SDC (F_{lim} and B_{lim}) for each stock in the fishery are not breached. Achieving OY on a continuing basis is not the same as obtaining the same level of catch each year. Rather, OY for the fishery is best achieved by following an OY control rule for each stock or stock assemblage that provides direction for adjusting annual target level of catch in response to changes in stock abundance and other factors. When a stock is determined to be depleted, the rebuilding plan represents a temporary modification of the OY control rule to rebuild the stock, at which time the long-term OY control rule is resumed. Also see paragraph (d)(4)(i) of this section.

(2) *Values in determination.* In determining the greatest benefit to the Nation, the values that should be weighed are food production, recreational opportunities, and protection afforded to marine ecosystems. They should receive serious attention when considering the economic, social, or ecological factors used in reducing MSY to obtain OY.

(i) The benefits of food production are derived from providing seafood to consumers; maintaining an economically viable fishery, together with its attendant contributions to the national, regional, and local economies; and utilizing the capacity of the Nation's fishery resources to meet nutritional needs.

(ii) The benefits of recreational opportunities reflect the quality of both

the recreational fishing experience and non-consumptive fishery uses such as ecotourism, fish watching, and recreational diving; and the contribution of recreational fishing to the national, regional, and local economies and food supplies.

(iii) The benefits of protection afforded to marine ecosystems are those resulting from maintaining viable populations (including those of unexploited species), maintaining evolutionary and ecological processes (*e.g.*, disturbance regimes, hydrological processes, nutrient cycles), maintaining the evolutionary potential of species and ecosystems, and accommodating human use.

(3) *Factors relevant to OY.* Because fisheries have finite capacities, any attempt to maximize the benefits described in paragraph (d)(2) of this section will inevitably encounter practical constraints. In particular, the degree to which OY is less than MSY depends upon several factors. The Magnuson-Stevens Act's definition of OY identifies three categories of such factors: Social, economic, and ecological. Not every factor will be relevant in every fishery. For some fisheries, insufficient information may be available with respect to some factors to provide a basis for establishing the degree to which OY is less than MSY.

(i) *Social factors.* Examples are enjoyment gained from recreational fishing, avoidance of gear conflicts and resulting disputes, preservation of a way of life for fishermen and their families, and dependence of local communities on a fishery. Other factors that may be considered include the cultural place of subsistence fishing, obligations under Indian treaties, and worldwide nutritional needs.

(ii) *Economic factors.* Examples are prudent consideration of the risk of overfishing or stock depletion when a stock's size or productive capacity is uncertain (also see paragraph (d)(5) of this section), satisfaction of consumer and recreational needs, and encouragement of domestic and export markets for U.S.-harvested fish. Other factors that may be considered include the value of fisheries, the level of capitalization, the decrease in cost per unit of catch afforded by an increase in stock size and the attendant increase in catch per unit of effort, alternate employment opportunities, and economies of coastal areas.

(iii) *Ecological factors.* Examples are stock size and age composition, the vulnerability of incidental stocks in a mixed-stock fishery, predator-prey or competitive interactions, and dependence of marine mammals and

birds or endangered species on a stock of fish. Also important are ecological or environmental conditions that stress marine organisms, such as natural and manmade changes in wetlands or nursery grounds, and effects of pollutants on habitat and stocks.

(4) *Specification.* (i) The amount of fish that constitutes the OY for the fishery should be expressed in terms of numbers or weight of fish. Like MSY, OY is a long-term average that is the result of fishing according to a harvest policy. The long-term level of OY need not be adjusted annually as stock abundance and other factors fluctuate, although an FMP could adjust OY to changing conditions if these adjustments were beneficial to achieving the FMP's goals. To assist in specifying OY and preventing overfishing, each FMP must include an OY control rule for each core stock to provide an annual specification of the target F (or catch) level. These OY control rules constitute a harvest strategy which, when implemented, would be expected to result in a long-term average catch approximating OY while preventing overfishing and stock depletion. The target annual F (or catch) associated with the OY control rule must be less than the F (or catch) associated with the fishing mortality limit (F_{lim}). Management measures that implement the control rule should be designed with the intent of achieving at least a 50-percent chance that the actual F (or catch) will not exceed the F (or catch) associated with the control rule. To the extent possible, the OY control rule for each core stock or stock assemblage should quantify the relevant social, economic and ecological factors used to reduce MSY to get to OY. In most cases, only a few factors can be quantified in the OY control rule, but the FMP still must address all relevant factors in its demonstration that the targeted management actions will achieve OY for the fishery while preventing overfishing. To the extent that the OY control rule is less than the MSY control rule, the resulting long-term average biomass while fishing at the OY control rule will be correspondingly greater than B_{msy} , but the rebuilding target remains at B_{msy} because this is the level that specifically has the capacity to produce MSY. Assemblages can have either an OY control rule for the entire assemblage, or they can contain an indicator stock(s) with an OY control rule. See paragraph (d)(4)(v) of this section for more guidance on situations in which OY must be established without having an estimate of MSY.

(ii) In addition to the OY control rule, or in cases where an OY control rule cannot be implemented, the OY may specify annual harvest of fish having a minimum weight, length, or other measurement; or an amount of fish taken only in certain areas, in certain seasons, with particular gear; or a specified amount of fishing effort.

(iii) All fishing mortality must be counted against F_{lim} , including that resulting from bycatch and other fishing activities. Mortality caused by scientific research also needs to be counted towards F_{lim} .

(iv) The OY specification should be translatable into an annual numerical estimate for the purposes of establishing any Total Allowable Level of Foreign Fishing (TALFF) and analyzing impacts of the management regime. There should be a mechanism in the FMP for periodic reassessment of the OY specification, so that it is responsive to changing circumstances in the fishery.

(v) The determination of OY requires a specification of MSY, directly or through a proxy. Where sufficient scientific data as to the biological characteristics of the stock do not exist, or where the period of exploitation or investigation has not been long enough for adequate understanding of stock dynamics, or where frequent large-scale fluctuations in stock size diminish the meaningfulness of the MSY concept, OY must still be based on the best scientific information available. When data are insufficient to estimate MSY directly, Councils should adopt other measures of productive capacity that can serve as reasonable proxies for MSY to the extent possible (see paragraph (c)(3) of this section). In circumstances where there is no meaningful estimate or proxy for MSY, it may be satisfactory to set OY directly on the basis of available social, economic, and biological information, rather than to set OY less than a measured MSY, but the underlying science and supporting administrative record must clearly support the individual and fact-specific determination, and OY must still prevent overfishing and stock depletion.

(5) *OY and the precautionary approach.* In general, Councils should adopt a precautionary approach to specification of OY. A precautionary approach has the following features:

(i) Target reference points, such as OY, should be set safely below limit reference points, taking into account social, economic, and ecological factors as defined in paragraph (d)(1) of this section. For stocks determined to be depleted and in need of rebuilding, the OY also needs to satisfy the rebuilding timeframe requirements in paragraph (e)

of this section. Because OY is a target reference point, it does not constitute an absolute ceiling or limit, but rather a desired result. An FMP must contain conservation and management measures to achieve OY, and provisions for information collection that are designed to determine the degree to which OY is achieved on a continuing basis—that is, a long-term average catch that is equal to the long-term average OY, while meeting the SDC. These measures should allow for practical and effective implementation and enforcement of the management regime, so that the harvest is allowed to achieve OY, but should result in at least a 50-percent probability of the fishing mortality being below F_{lim} . The Secretary has an obligation to implement and enforce the FMP so that OY is achieved. If management measures prove unenforceable or too restrictive, or not rigorous enough to realize OY, they should be modified; an alternative is to reexamine the adequacy of the OY specification. Exceeding OY on a short-term basis does not necessarily constitute overfishing, because there should be a buffer between the F resulting from the OY control rule and F_{lim} . However, even if no overfishing results from exceeding OY, continual harvest at a level above OY would violate NS1, because OY is not being achieved on a continuing basis.

(ii) The OY control rule should be designed so that a core stock, or a stock assemblage that has an OY control rule, that is below the stock size that would produce MSY (B_{msy}) is harvested at a lower rate of fishing mortality than if the core stock or stock assemblage were above B_{msy} . This is intended to reduce the chance that the stock abundance would fall below B_{lim} .

(iii) Criteria used to set target catch levels should be explicitly risk averse, so that greater uncertainty regarding the status or productive capacity of a core stock or stock assemblage corresponds to a greater buffer between the target F level and the F_{lim} level.

(iv) Part of the OY may be held as a reserve to allow for factors such as uncertainties in estimates of stock size and Domestic Annual Harvest (DAH). If an OY reserve is established, an adequate mechanism should be included in the FMP to permit timely release of the reserve to domestic or foreign fishermen, if necessary.

(6) *Analysis.* An FMP must contain an assessment of how its OY specification was determined (section 303(a)(3) of the Magnuson-Stevens Act). It should relate the explanation of overfishing in paragraph (e) of this section to conditions in the particular fishery and

explain how its choice of OY and conservation and management measures will prevent overfishing in that fishery. A Council must identify those economic, social, and/or ecological factors relevant to management of a particular fishery, then evaluate them to determine the amount by which OY should be set below MSY. The choice of a particular OY must be carefully defined and documented to show that the OY selected will produce the greatest benefit to the Nation. If overfishing is permitted under paragraph (e)(6) of this section, the assessment must contain a justification in terms of overall benefits, including a comparison of benefits under alternative management measures, and an analysis of the risk of any species, or ecologically significant unit thereof, reaching a threatened or endangered status, as well as the risk of any core stock or stock assemblage falling below its B_{lim} .

(7) *OY and foreign fishing.* Section 201(d) of the Magnuson-Stevens Act provides that fishing by foreign nations is limited to that portion of the OY that will not be harvested by vessels of the United States.

(i) *DAH.* Councils must consider the capacity of, and the extent to which, U.S. vessels will harvest the OY on an annual basis. Estimating the amount that U.S. fishing vessels will actually harvest is required to determine the surplus.

(ii) *Domestic annual processing (DAP).* Each FMP must assess the capacity of U.S. processors. It must also assess the amount of DAP, which is the sum of two estimates: The estimated amount of U.S. harvest that domestic processors will process, which may be based on historical performance or on surveys of the expressed intention of manufacturers to process, supported by evidence of contracts, plant expansion, or other relevant information; and the estimated amount of fish that will be harvested by domestic vessels, but not processed (e.g., marketed as fresh whole fish, used for private consumption, or used for bait).

(iii) *Joint venture processing (JVP).* When DAH exceeds DAP, the surplus is available for JVP. JVP is derived from DAH.

(e) *Overfishing—(1) Definitions.* (i) *To overfish* means to fish at a rate that jeopardizes the capacity of a core stock or stock assemblage to produce MSY on a continuing basis.

(ii) *Overfishing* means a core stock or stock assemblage is subjected to a rate of fishing mortality that jeopardizes the capacity of a core stock or stock assemblage to produce MSY on a continuing basis. The capacity of a stock

to produce MSY depends upon the reproductive potential of the stock when its abundance is near B_{msy} . Thus, jeopardizing the capacity to produce MSY means to fish at an annual rate that would reduce the long-term future average stock abundance below B_{msy} . Fishing mortality must include all mortality resulting from bycatch and other fishing activities, and must also account for mortality caused by scientific research.

(iii) In the Magnuson-Stevens Act, the term “overfished” is used in two senses: First, to describe any core stock or stock assemblage that is subjected to a rate of fishing mortality meeting the criterion in paragraph (e)(1)(i) of this section and, second, to describe any core stock or stock assemblage whose abundance is sufficiently small that a change in management practices is required to achieve an appropriate level and rate of rebuilding. This second usage can cause confusion because it implies that any severe decline in stock size is necessarily caused by an excessive rate of fishing. While excessive fishing may be the only contributing factor in stock decline, the severe decline in stock size could also be caused by a number of other factors, including abnormal fluctuations in prevailing environmental factors. In most cases, multiple causes will affect the stock’s abundance. Rebuilding is necessary, whatever the cause, unless it is also determined, according to paragraph (e)(4) of this section, that the shift in environmental conditions represents a long-term, persistent shift in conditions that has caused a change in the SDC such that the stock is not depleted relative to the updated SDC. To avoid an incorrect implication of the cause of a severe decline in stock size, the term “depleted” is used rather than “overfished” (see paragraph (b)(2)(ii) of this section) throughout these guidelines to describe a condition in which the stock size has become sufficiently small, for whatever reason, that a change in fishery management practices is required in order to rebuild the stock to B_{msy} .

(2) *Specification of SDC.* Each FMP must specify objective and measurable SDC for each core stock or stock assemblage covered by that FMP, and provide an analysis of how the SDC were chosen and how they relate to the capacity of the stock to produce MSY. SDC must be expressed in a way that enables the Council and the Secretary to monitor the core stock or stock assemblage and to determine whether overfishing is occurring and whether the core stock or stock assemblage is depleted. As a general rule, these

determinations should be re-examined at least annually and updated, as necessary, to satisfy the requirements of section 304(e)(1) of the Magnuson-Stevens Act. In all cases, SDC (both F_{lim} and B_{lim} or their proxies) should be specified while recognizing that, for some stocks, their actual stock status in relation to an SDC might be unknown, at least for the time being, because of insufficient data.

(i) *F_{lim} or reasonable proxy thereof.* The F_{lim} may be expressed either as a single number or as a function of spawning biomass or other measure of productive capacity. The F_{lim} must not exceed the F associated with the relevant MSY control rule, and F_{lim} may be set equal to F_{msy} . Overfishing has occurred when it is demonstrated that the best scientific estimate of annual F has exceeded F_{lim} . Operationally, this generally means that a stock assessment or other analysis has found that the F in the most recent fishing year has more than a 50-percent probability of having exceeded F_{lim} . The fishery must be managed by setting annual targets and implementation of effective regulations, such that there is at least a 50-percent chance that the actual F , on an annual basis, will be below F_{lim} , while achieving OY.

(ii) *B_{lim} or reasonable proxy thereof.* The minimum biomass limit (B_{lim}) is the level of stock abundance below which there is increased concern regarding potential impairment of stock productivity, delayed rebuilding to B_{msy} , and potential ecosystem harm. B_{lim} should be expressed in terms of spawning biomass or other measure of productive capacity. As a default, in the absence of other information and analysis, B_{lim} should equal one-half the MSY stock size, except as described in paragraphs (e)(2)(ii)(A), (B), and (C) of this section. Should the actual size of the core stock or stock assemblage in a given year fall below B_{lim} , the core stock or stock assemblage is considered depleted, except as described in paragraph (e)(2)(ii)(D) of this section, in which case more than 1 year of information may need to be examined before declaring a stock to be depleted.

(A) Use of values higher or lower than $\frac{1}{2}B_{msy}$ as the B_{lim} may be justified based on the expected range of natural fluctuations in the stock size when the stock is not subjected to overfishing, and while taking into account protection of the reproductive potential of the stock.

(B) B_{lim} does not have to be specified if a fishery is being managed with a sufficiently conservative OY control rule, such that target and actual levels of F are at least as conservative as would

have been the case if a B_{lim} had been specified and used to trigger a rebuilding plan. This generally means that the F values associated with the OY control rule are sufficiently low that, in the event the stock falls below $\frac{1}{2}B_{msy}$, continued management of the stock according to the OY control rule is expected to rebuild the stock to B_{msy} within the maximum allowable time period for rebuilding (see paragraph (f)(4)(ii)(B) of this section). If B_{lim} is not specified explicitly by a Council, NMFS, nevertheless, would retain estimates of $\frac{1}{2}B_{msy}$ for fish stocks managed in the manner described in this paragraph (e)(2)(ii)(B) to help ensure that the control rule is effective and in line with productivity estimates for the stocks. If such a stock is found to fall below $\frac{1}{2}B_{msy}$, it would be prudent to conduct a scientific evaluation of the adequacy of the OY control rule.

(C) In the case of fisheries for which status of a stock as it relates to its B_{lim} or a suitable proxy is unknown, then status determination must rely solely on F_{lim} . In this case, it is prudent to set the OY control rule safely below the F_{lim} . For example, the OY control rule could be set at 75 percent of F_{lim} . The 75 percent of F_{lim} level is also used as a determination that a stock has rebuilt, as described in paragraph (f)(4)(ii)(B)(5) of this section.

(D) In the case of some species, such as some penaeid shrimp, squid, and Pacific salmon, that have very short life spans and may have extreme year-to-year fluctuations in stock abundance, the definition of B_{lim} can be based on the stock abundance level in more than 1 consecutive year.

(3) *Relationship of SDC to other national standards*—(i) *National Standard 2*. SDC must be based on the best scientific information available (see § 600.315). When data are insufficient to estimate MSY, Councils should base SDC on reasonable proxies thereof, to the extent possible (also see paragraph (c)(3) of this section). In cases where scientific data are severely limited, effort should also be directed to identifying and gathering the needed data.

(ii) *National Standard 3*. The requirement to manage interrelated stocks of fish as a unit or in close coordination notwithstanding (see § 600.320), SDC should generally be specified in terms of the level of stock aggregation for which the best scientific information is available (also see paragraph (c)(2)(iii) of this section).

(iii) *National Standard 6*. Councils must build into the OY appropriate consideration of risk, taking into account uncertainties in estimating

harvest, stock conditions, life history parameters, and the SDC (see § 600.335).

(iv) *National Standard 8*. Councils must build into the specification of OY and OY control rules available data on the fishing communities affected by the specific fishery being considered (see § 600.345).

(v) *National Standard 9*. Evaluation of stock status with respect to specification of SDC and overfishing must take into account mortality caused by bycatch (see § 600.350).

(4) *Relationship of SDC to environmental change*. Some short-term environmental changes can alter the current size of a core stock or stock assemblage without affecting the long-term productive capacity of the core stock or stock assemblage. Other environmental changes affect both the current size and long-term productivity of the core stock or stock assemblage. MSY and OY control rules must be designed and calculated for prevailing environmental, ecosystem, and habitat conditions, taking into account the scale and frequency of fluctuations in these conditions, as follows:

(i) If environmental changes contribute to a core stock or stock assemblage falling below the B_{lim} without affecting the long-term productive capacity of the core stock or stock assemblage, F must be constrained sufficiently to allow rebuilding within an acceptable time frame (also see paragraph (f)(4)(ii) of this section). SDC should not be respecified in this situation.

(ii) If environmental changes affect the long-term productive capacity of the core stock or stock assemblage, one or more components of the SDC must be respecified. The determination of a long-term change in environmental conditions must be based on the best available scientific information and cannot be based solely on a decline in stock productivity. Such a decline in productivity could be due to low stock abundance, which is exactly the situation that NS1 seeks to avoid. Suitable evidence for a relevant environmental shift could include scientific information for a long-term change in an environmental, ecosystem, or habitat condition that has been demonstrated to directly and plausibly relate to stock productivity. The duration of “long-term” cannot be precisely specified in these guidelines, but the justification for an environmentally based change in the SDC must adequately demonstrate that the environmental change is substantially more persistent than the environmental fluctuations normally experienced by each generation of fish.

Once SDC have been respecified, fishing mortality may or may not have to be changed, depending on the status of the core stock or stock assemblage with respect to the new criteria.

(iii) If anthropogenic environmental changes are partially responsible for a core stock or stock assemblage being in a depleted condition, in addition to controlling effort, Councils should recommend restoration of habitat and other ameliorative programs, to the extent possible (see also the guidelines issued pursuant to section 305(b) of the Magnuson-Stevens Act for Council actions concerning essential fish habitat at subparts J and K of this part).

(5) *Secretarial approval of SDC*. Secretarial approval or disapproval of proposed SDC will be based on consideration of whether the proposal:

- (i) Has sufficient scientific merit;
- (ii) Contains the elements described in paragraph (e)(2) of this section;
- (iii) Provides a basis for objective measurement of the status of the core stock or stock assemblage against the criteria;
- (iv) Is operationally feasible; and
- (v) Is accompanied by sufficient analyses that explains how the SDC were chosen and how they relate to the capacity of the stock to produce MSY.

(6) *Exceptions*. There are certain limited exceptions to the requirement to prevent overfishing. Harvesting one stock at its optimum level may result in overfishing of another stock when the two stocks tend to be caught together (This can occur when the two stocks are part of the same fishery and assemblage, or if one is bycatch in the other's fishery, even if the stocks are not in the same FMP). A Council may decide to allow this type of overfishing only if analysis (pursuant to paragraph (e)(6) of this section) demonstrates that all of the following conditions are satisfied:

- (i) Such action will result in long-term net benefits to the Nation;
- (ii) Mitigating measures have been considered and it has been demonstrated that a similar level of long-term net benefits cannot be achieved by modifying fleet behavior, gear selection/configuration, or other technical characteristic in a manner such that no overfishing would occur; and
- (iii) The resulting rate of fishing mortality will not cause any core stock or stock assemblage to fall below its B_{lim} more than 50 percent of the time in the long term, although it is recognized that persistent overfishing is expected to cause the affected stock to fall below its B_{msy} more than 50 percent of the time in the long term.

(f) *Ending overfishing and rebuilding depleted stocks.* Action is to be taken when a fish stock is depleted or undergoing overfishing or approaching a depleted condition or approaching an overfishing condition.

(1) *Definition of approaching a depleted condition or an overfishing condition.* Approaching a depleted condition (a biomass amount less than B_{lim}) or approaching an overfishing condition (an annual F value greater than F_{lim}) is occurring whenever the limit is projected to be breached within 2 years, based on trends in fishing effort, stock abundance, and other appropriate factors.

(2) *Notification.* The Secretary will immediately notify a Council and request that remedial action be taken whenever the Secretary determines that:

(i) A core stock's F or stock assemblage's F is above its F_{lim} (*i.e.*, overfishing is occurring);

(ii) A core stock's biomass or stock assemblage's biomass is below its B_{lim} (*i.e.*, the stock or stock assemblage is depleted);

(iii) The rate of fishing mortality for a core stock or stock assemblage is approaching its F_{lim} ;

(iv) A core stock or stock assemblage is approaching its B_{lim} ; or

(v) Existing remedial action taken for the purpose of ending previously identified overfishing or rebuilding a previously identified depleted core stock or stock assemblage has not resulted in adequate progress.

(3) *Council action.* Within 1 year of such time as the Secretary identifies that overfishing is occurring, that a core stock or stock assemblage is depleted, or that a limit is being approached, or of such time as a Council may be notified of the same under paragraph (f)(2) of this section, the Council must take remedial action by preparing an FMP, FMP amendment, or proposed regulations, as appropriate. This remedial action must be designed to accomplish all of the following purposes that apply:

(i) If overfishing is occurring, the purpose of the action is to end overfishing in as short a time as possible, except under circumstances listed under section 304 (e)(4)(A) of the Magnuson-Stevens Act.

(ii) If the core stock or stock assemblage is depleted, the purpose of the action is to rebuild the core stock or stock assemblage to the MSY stock size in as short a time as possible, subject to the constraints and conditions in paragraph (f)(4)(ii) of this section. Operationally, the determination of stock depletion generally means that an assessment or other analysis has found

at least a 50-percent chance that the biomass fell below B_{lim} in the most recent year.

(iii) If the rate of fishing mortality is approaching the F_{lim} (from below), the purpose of the action is to prevent this limit from being exceeded.

(iv) If the biomass of a core stock or stock assemblage is approaching the B_{lim} (from above), the purpose of the action is to prevent this limit from being reached.

(v) *Inadequate data situations.* When the Secretary determines that data are inadequate to estimate biomass-based rebuilding factors (B_{msy} and T_{min}) reliably, it is permissible to rely solely on appropriate F values for developing rebuilding plans, in certain situations. In cases where the available quantitative or qualitative evidence indicates that a core stock or stock assemblage is in need of rebuilding because it appears to be depleted, but reasonable estimates or proxies of B_{msy} and T_{min} are unknown, it is permissible to establish a rebuilding F , at or below the F_{lim} , that will result in at least a 50-percent chance that the stock will increase in abundance. See paragraph (f)(3)(ii)(B)(5) of this section for related information about determining that the stock has been rebuilt when F_{lim} is known and B_{msy} and T_{min} are not known.

(4) *Constraints on Council action.* (i) In cases where overfishing is occurring, Council action must be sufficient to end overfishing beginning in the first year of any new or revised rebuilding plans and thereafter, except under circumstances listed under section 304(e)(4)(A) of the Magnuson-Stevens Act.

(ii) In cases where a core stock or stock assemblage is depleted, the Council action must specify a time period for rebuilding the core stock or stock assemblage that is as short as possible, taking into consideration the factors listed in paragraph (f)(4)(ii)(A) of this section, and that otherwise satisfies the requirements of section 304(e)(4)(A) of the Magnuson-Stevens Act. The rebuilding plan represents a temporary modification of the long-term OY control rule in order to rebuild the stock to B_{msy} ; at which time the target fishing mortality level of the fishery would switch to that determined by the long-term OY control rule.

(A) A number of factors may be taken into account in the specification of the time period for rebuilding:

(1) The status and biology of the core stock or stock assemblage;

(2) Interactions between the core stock or stock assemblage and other components of the marine ecosystem (also referred to as "other environmental conditions");

(3) The needs of fishing communities;

(4) Recommendations by international organizations in which the United States participates;

(5) Management measures under an international agreement in which the United States participates; and

(6) 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 United States participates dictate otherwise.

(B) These factors enter into the specification of the maximum allowable time period for rebuilding (T_{max}) as follows:

(1) The "minimum time for rebuilding a stock" (T_{min}) means the amount of time the stock is expected to take to rebuild to its MSY biomass level in the absence of any fishing mortality. In this context, the term "expected" means to have a 50-percent probability of attaining the B_{msy} . The starting year for T_{min} calculation is the first year that a final rule to implement the rebuilding plan becomes effective. Additionally, interim actions may be taken that are authorized under section 304(e)(6) of the Magnuson-Stevens Act to reduce overfishing prior to implementation of the final rule.

(2) If T_{min} plus one generation time for the stock is 10 years or less, then the maximum time allowable for rebuilding (T_{max}) that stock to its B_{msy} is 10 years, taking into account the factors listed in paragraph (e)(4)(ii)(A) of this section.

(3) If T_{min} plus one generation time for the stock exceeds 10 years, then the maximum time allowable for rebuilding a stock to its B_{msy} is the minimum time for rebuilding that stock, plus the length of time associated with one generation time for that stock.

(4) The target time to rebuild (T_{target}) is between, or equal to, T_{min} and T_{max} . T_{target} should generally be less than T_{max} to rebuild the stock or assemblage in as short a time as possible, taking into account the factors listed in section 304(e)(4)(A) of the Magnuson-Stevens Act, and to help assure that there will be at least a 50-percent chance of rebuilding by T_{max} . It is expected that the target time will generally be greater than T_{min} because the needs of the fishing community generally require some opportunity to fish during the rebuilding period. If the best scientific information available will not allow precise measurement of the needs of fishing communities or the economic benefits of a particular T_{target} value, a reasonable default value of T_{target} is presumed to be midway between T_{min} and T_{max} . This presumptive value

should be applied unless there is available a specific analysis demonstrating that the status and biology of the stocks in question, or the needs of the fishing community, require application of an earlier or later target time to rebuild.

(5) Under the circumstances where B_{msy} and T_{min} are unknown, but F_{lim} is known, a stock assemblage may be considered to be rebuilt if the average F has been substantially below the F_{lim} for at least two generation times, provided there is no other scientific information that biomass is still depleted. Absent a stock-specific analysis that calculates the level of F that would be most effective at rebuilding the stock in as short a time as possible, the default level for substantially below F_{lim} should be set at 75 percent of F_{lim} . In addition, paragraph (f)(3)(v) of this section requires that the rebuilding F has at least a 50-percent chance that the stock will increase in abundance. Setting the rebuilding F much closer to F_{lim} would simply be following the requirement to set the OY harvest rate below F_{lim} and would do little to rebuild the stock in as short a time as possible.

(iii) *Fisheries managed by the United States and other nations.* (A) For fisheries being managed by international fisheries organizations to which the United States is a party, the international fisheries organization has the primary authority to determine the status of stocks or assemblages under its purview, as well as to specify the stock SDC.

(B) For fisheries managed under an international agreement, any rebuilding plan must reflect traditional participation in the fishery, relative to other nations, by fishermen of the United States.

(C) If a relevant international fisheries organization does not have a process for developing a formal plan to rebuild a depleted stock or assemblage, the provisions of the Magnuson-Stevens Act and these guidelines will be given strong consideration by the United States for promotion in the international fisheries organization.

(D) In fisheries that are also engaged in by fishermen from other countries, management measures shall 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.

(5) *Revision of rebuilding plans.* (i) Fishing mortality targets and other measures of progress in rebuilding a core stock or stock assemblage are expected to be achieved, on average,

over the rebuilding period. Rebuilding plans need not be adjusted in response to each minor stock assessment update. This is especially true when initial rebuilding plans have target times to rebuild that are sooner than the maximum permissible time to rebuild, which provides a buffer to absorb some slower than anticipated pace of rebuilding. When T_{min} is updated, it must nevertheless be applied retrospectively, assuming the same starting date for the rebuilding plan. When rebuilding plans that have not included a buffer between the target and maximum time for rebuilding need to be revised to lower F or increase the rebuilding time, the choice must be to lower F , in order to meet the requirement that rebuilding should occur in as short a time as possible.

(ii) *Change in the pace of rebuilding.* This occurs when the actual rate of rebuilding deviates substantially from the expected rate of rebuilding, but other aspects of the stock's status and productivity remain close to the levels used in the current rebuilding plan.

(A) If rebuilding occurs faster than the rebuilding plan anticipated, then the rebuilding plan should be maintained in order to rebuild the stock or assemblage in as short a time as possible.

(B) If rebuilding occurs substantially slower than the rebuilding plan anticipated, despite the rebuilding $F_{targets}$ having been achieved, then the rebuilding plan should be revised by reducing the rebuilding $F_{targets}$ and/or lengthening the rebuilding time horizon.

(iii) *Change in estimate of rebuilding parameters.* This occurs when new scientific information substantially revises the stock status, SDC, or other rebuilding parameters used in the current rebuilding plan.

(A) If the best scientific estimate of stock abundance or rebuilding parameters change in such a way as to indicate that an increased F would be consistent with rebuilding the stock or assemblage within the specified time horizon, then the rebuilding plan may be maintained or be revised by increasing the rebuilding $F_{targets}$ and/or shortening the rebuilding time horizon consistent with the new information. The benefits of such changes should be considered in the context of the possibility that making these changes to the rebuilding plan could result in the need for future changes in F in the opposite direction.

(B) If the scientific estimates of stock abundance or rebuilding parameters change in such a way as to indicate that substantial reductions in F would be necessary to rebuild the core stock or stock assemblage within the specified

time horizon, and if rebuilding $F_{targets}$ have been achieved, then the rebuilding plan should be revised by reducing the rebuilding $F_{targets}$ and/or lengthening the rebuilding time horizon. If the rebuilding $F_{targets}$ in the existing rebuilding plan have been exceeded, the existing T_{target} must be maintained, and future $F_{targets}$ must be reduced to the extent necessary to compensate for previous overruns in fishing mortality (years when F_{target} was exceeded).

(iv) Any revision to a rebuilding plan must be accomplished either by an amendment to the FMP or by some other action authorized by the FMP, such as a framework adjustment, with accompanying analyses required by the Magnuson-Stevens Act and other applicable law.

(v) If, at the end of the maximum rebuilding period, T_{max} , the stock has not rebuilt to B_{msy} , then the rebuilding F should not be increased until the stock has been demonstrated to be rebuilt. However, if the rebuilding F is at F_{lim} and the stock has not rebuilt by T_{max} , then the rebuilding F should be reduced to 75 percent of F_{lim} until the stock has been demonstrated to be rebuilt.

(6) *Interim measures.* The Secretary, on his/her own initiative or in response to a Council request, may implement interim measures to reduce overfishing under section 305(c) of the Magnuson-Stevens Act, until such measures can be replaced by an FMP, FMP amendment, or regulations taking remedial action.

(i) These measures may remain in effect for no more than 180 days, but may be extended for an additional 180 days if the public has had an opportunity to comment on the measures and, in the case of Council-recommended measures, the Council is actively preparing an FMP, FMP amendment, or proposed regulations to address overfishing on a permanent basis. Such measures, if otherwise in compliance with the provisions of the Magnuson-Stevens Act, may be implemented even though they are not sufficient by themselves to stop overfishing.

(ii) Interim measures made effective without prior notice and opportunity for comment should be reserved for exceptional situations, because they affect fishermen without providing the usual procedural safeguards. A Council recommendation for interim measures without notice-and-comment rulemaking will be considered favorably if the short-term benefits of the measures in reducing overfishing outweigh the value of advance notice, public comment, and deliberative

consideration of the impacts on
participants in the fishery.

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