

Council Coordination Committee (CCC)
Responses to NS1 Questions
April 2017

The following are responses to the specific questions provided to NOAA Fisheries by the CCC. These responses may not be applicable in all circumstances. Councils are encouraged to discuss fishery-specific issues with their respective regional offices and general counsel.

General

Question 1: What Magnuson-Stevens Fishery Conservation and Management Act (MSA) reauthorization issues does the agency believe it has addressed by these revisions?

Answer: On January 3, 2017, Representative Don Young (R-AK) introduced H.R. 200 – the Strengthening Fishing Communities and Increasing Flexibility in Fisheries Management Act. H.R. 200 and the 2016 National Standard 1 (NS1) guidelines contain provisions that address a number of the same issues, summarized below:

- Clarifications regarding the definition of ecosystem component (EC) species and which stocks require federal management under the annual catch limit (ACL) framework;
- Modifications to the reference point requirements for international/transboundary stocks;
- Provisions to increase the responsiveness/adaptability of the ACL framework;
- Provisions to increase flexibility when designing rebuilding plans; and
- Clarifications regarding the circumstances under which a rebuilding plan may be discontinued.

A more detailed summary and comparison between H.R. 200 and the 2016 NS1 guidelines is available on our website:

<http://www.nmfs.noaa.gov/sfa/management/councils/ccc/2017/feb/tab6-ns1-hr200-2-23-17-acc.pdf>

Stocks in Need of Conservation and Management

Question 2: What process can the Council use in applying the ten criteria to determine if a stock is in need of conservation and management measures? (WPFMC)

Answer: The 2016 NS1 guidelines provide a list of 10 factors for a Regional Fishery Management Council (Council)¹ to use when determining whether a stock requires conservation and management (see 50 CFR 600.305(c)(1)(i)-(x)). The list of 10 factors is non-exhaustive and, as discussed in paragraph 600.305(c)(3), a Council can add a stock to a Fishery Management Plan (FMP) based on any one or more of the 10 factors listed in the guidelines or any other considerations that may be relevant to that particular stock. Conversely, to remove a stock from

¹ For the purposes of this document, the term “Council” includes the Secretary for stocks managed under MSA section 302(a)(3) (Atlantic highly migratory species).

an FMP, a Council must determine the stock is not in need of conservation and management based on a thorough analysis of all 10 factors and any additional considerations that may be relevant to that particular stock (see 50 CFR 600.305(c)(4)).

In general, the process that a Council uses to determine if a stock is in need of conservation and management would be similar to processes that a Council uses to make any other decision. When a Council adds or removes a stock from an FMP, it should document a rationale for its decision in the FMP amendment (see 50 CFR 600.305(c)(7)). Other than the need to follow the public Council/FMP process established in the Act, the record developed in support of the decision is more important than the specific process followed. Our response to Question 3, below, summarizes how the guidelines address weighting the 10 factors listed in 50 CFR 600.305(c)(1). However, because Councils may face a wide range of potential scenarios when evaluating the conservation and management needs of various fisheries, NOAA Fisheries did not provide any additional prescriptive guidance on how to apply the factors (see 81 FR 71864, October 18, 2016).

Question 3: What does ‘consider’ mean in the context of the 10 factors i.e., is there any minimum or weighting implied? How does it relate to ‘in the FMP’ vs. being an EC species? (NPFMC)

Answer: When adding or removing a stock from an FMP, a Council should document the rationale for its decision in the FMP or FMP amendment (see 50 CFR 600.305(c)(7)). If a stock is overfished, subject to overfishing, or likely to become so, and predominately caught in Federal waters, the guidelines are clear that such stocks require conservation and management under an FMP (see 50 CFR 600.305(c)(1)).

When a Council is considering *adding* a stock to an FMP, no single factor is dispositive or required. While a Council should apply the factors in a consistent manner, a particular factor may have more significance in one case than in another, depending on the circumstances of the fishery (see 81 FR 71864, October 18, 2016). The guidelines note that, if the amount and/or type of catch that occurs in Federal waters is a significant contributing factor to the stock's status, such information would weigh heavily in favor of adding a stock to an FMP (see 50 CFR 600.305(c)(3), (c)(1)(iii)). However, in many circumstances, adequate management of a fishery by states, state/Federal programs, etc., would weigh against an FMP action.

When a Council is considering *removing* a stock from an FMP, a “thorough analysis” of all 10 factors should be included as a part of the documentation for such an action. Specifically, when considering removal of a stock, the guidelines describe weighting the ten factors as follows: first consider factors in §§ 600.305(c)(1)(i) – (c)(1)(iii), as they address maintaining the fishery resource and marine environment; then consider factors in §§ 600.305(c)(1)(iv) – (c)(1)(ix), related to economic, social, and other considerations; and lastly, consider the factor listed in 50 CFR 600.305(c)(1)(x). Adequate management by states (50 CFR 600.305(c)(1)(x)) would weigh in favor of removing a stock from an FMP.

If a stock is not in need of conservation and management, the stock does not need to be in an FMP and does not need to be managed using ACLs. However, Councils are free to designate a

stock that does not require conservation and management as an EC species (see 50 CFR 600.305(c)(5)). EC species can be listed within an FMP to achieve ecosystem management objectives; however, because they do not need conservation and management, EC species are not managed using ACLs (see 50 CFR 600.305(d)(13)). Instead, management measures for EC species can be adopted to collect data on the species, minimize bycatch or bycatch mortality of EC species, protect the associated role of EC species in the ecosystem, and/or address other ecosystem issues (see 50 CFR 600.305(c)(5)).

Question 4: How does NOAA Fisheries interpret the clause “any stocks that are predominately caught in federal waters AND overfished or subject to overfishing [or likely to become so], are considered to require conservation and management”? Does it mean in order for a stock to require conservation and management it must conform to the two requirements?

Answer: Councils have broad latitude to determine whether stocks require conservation and management. A stock does not need to conform to those two requirements (i.e., predominately caught in federal waters and are overfished or subject to overfishing, or likely to become overfished or subject to overfishing) in order to be added to an FMP. However, if a stock is both subject to overfishing, overfished, or likely to become so and predominately caught in federal waters, a Council must prepare an FMP for the stock or add it to an existing FMP. Beyond such cases, a Council should determine whether a stock requires conservation and management based on the 10 factors listed in 50 CFR 600.305(c)(1) or other considerations that the Council determines are relevant (see Responses to Questions 2 and 3 above).

Question 5: Regarding stocks requiring management, what is the definition of “predominately” when referring to stocks predominately caught in federal waters? (SAFMC)

Answer: NOAA Fisheries did not provide a definition of “predominately” in the NS1 guidelines. However, the response to comment 6 in the 2016 NS 1 guidelines explains that the word “predominately” is used to mean “mainly, or for the most part” (see 81 FR 71863, October 18, 2016).

Question 6: Response to Comment 7: “With respect to factor (x), NOAA Fisheries continues to believe that MSA section 302(h)(1) does not require preparation of FMPs for all fisheries in the EEZ.” Will NOAA Fisheries revisit this guidance in light of the Court of Appeals for the Ninth Circuit decision in the case of *United Cook Inlet Drift Ass’n (UCIDA) v. NMFS*? (NEFMC)

Answer: NOAA Fisheries does not intend to revisit this guidance because the agency’s determination that MSA section 302(h)(1) does not require preparation of FMPs for all fisheries in the EEZ is still valid under the Ninth Circuit decision in *UCIDA v. NMFS*. In the *UCIDA v. NMFS* case, the North Pacific Fishery Management Council (North Pacific Council) and NOAA Fisheries determined that the salmon fishery in the EEZ required conservation and management and had an FMP in place. However, the FMP had been modified to exclude certain geographic areas of the EEZ where the North Pacific Council and NOAA Fisheries determined the salmon

fishery was being adequately managed by the State of Alaska and Federal management would provide no additional benefits. Here, the Ninth Circuit held that MSA Section 302(h)(1) required the Council to prepare an FMP. Because the North Pacific Council and NMFS determined that the salmon fishery required conservation and management, the Ninth Circuit concluded that the MSA allows a Council to delegate management authority to a state under an FMP, but does not excuse a Council of its obligation to prepare an FMP when it opts for state management of a fishery that has been determined to require conservation and management in the EEZ.

Under MSA section 302(h)(1), an FMP must be prepared for each fishery in the EEZ that requires conservation and management. However, not all fisheries in the EEZ may require conservation and management. The Ninth Circuit's decision in *UCIDA v. NMFS* acknowledges this, noting that "some fisheries might not require conservation and management" and therefore preparation of an FMP would not be required under the MSA. The NS1 guidelines establish that whether there is adequate management (e.g., state, federal, etc.) in place is an important consideration when deciding whether a fishery requires conservation and management and an FMP must be prepared (see 50 CFR 600.305(c)(1)(x)). This consideration continues to be relevant even in light of *UCIDA v. NMFS*. For a fishery where there is not a federal FMP in place, *UCIDA* does not foreclose the ability to consider the extent to which the fishery is already adequately managed as one potential factor when deciding if there is a conservation and management need.

In general, there is a wide range of potential scenarios that Councils may face when evaluating the conservation and management needs of fisheries. Importantly, the Councils and agency should look at specific facts associated with the fishery to see whether the record reflects a conservation and management need for a particular stock.

Stock Complexes and Aggregate Maximum Sustainable Yield (MSY)

Question 7: [50 CFR 600.310(d)(2)(i) states:] "...Stocks may be grouped into complexes for various reasons, including where stocks in a multispecies fishery cannot be targeted independent of one another; where there are insufficient data to measure a stock's status relative to SDC; or when it is not feasible for fishermen to distinguish individual stocks among their catch..." The three examples used for grouping stocks into a stock complex are related to uncertain data or a lack of selective fishing activity. Can stocks be grouped into a stock complex to facilitate EBFM even if data on individual stocks are adequate to allow single-stock management and reference points? (NEFMC)

Answer: Stock complexes are a tool that are typically used to facilitate the management of a group of stocks that cannot be caught independently and/or for which data is not available to specify reference points for individual stocks. Such reference points include status determination criteria (SDC), which are used to monitor and evaluate whether a stock was subject to overfishing or became overfished in the past year, as well as annual catch limits that set future catch at levels that prevent overfishing. The NS1 guidelines explain how stock complexes should be created and managed in a way that is sustainable and prevents individual stocks within a complex from becoming subject to overfishing or overfished (see 50 CFR 600.310(d)(2)). For example, the NS1 guidelines advise that, where practicable, stock complexes should include one

or more indicator stocks (each of which has SDC and ACLs). Otherwise, stock complexes may be comprised of several stocks without an indicator stock (with SDC and an ACL for the complex as a whole), or one or more indicator stocks (each of which has SDC and management objectives) with an ACL for the complex as a whole (see 50 CFR 600.310(d)(2)(ii)(B)).

While the NS1 guidelines focus on using stock complexes to manage “data-poor” stocks and/or stocks that cannot be caught independently of one another, stock complexes can also help facilitate ecosystem based fisheries management (EBFM). However, given the MSA’s requirement to end and prevent overfishing, individual stock SDC should be specified (as opposed to SDC for a complex as a whole), based on the best scientific information available. Further, if Councils are able to manage stocks with individual ACLs, they should do so to prevent overfishing.

That said, even in cases where SDC and ACLs are specified for individual stocks within a stock complex or a functional group of stocks, aggregate MSY may also be estimated for the complex or functional group to advance EBFM or other ecosystem goals. Aggregate MSY estimates may provide information to a Council about multi-species interactions (e.g., predator-prey relationships) and expand a Council’s understanding of management risk and trade-offs between potential management measures based on the differing ecological, economic, and/or social factors affecting individual stocks or fisheries. In data-rich circumstances, reference points for individual stocks that are informed by aggregate MSY estimates are expected to be more precautionary, because they account for ecosystem considerations that could affect stock productivity. When applied, aggregate MSY can serve as a basis to specify OY for a stock complex or a fishery. Such OY specifications could inform how ACLs are specified for individual stocks, such that ACLs prevent overfishing for each stock, and taken together, do not exceed the OY for the complex or fishery. See responses to questions 8 and 9.

Question 8: Response to Comment 17 [of the 2016 NS1 final rule]: “Even when aggregate level MSY is estimated, stock-specific MSY must still be used to inform single stock management. Other annual reference points (within the ACL framework) must also be specified in order to prevent overfishing from occurring in single stocks.” Does this response mean that there must be individual ACLs for every stock that is in a stock complex? For example:

- [8a] Several species are caught in a mixed-fishery. Because of difficulty in identification, industry practice is to identify the catch by product (bait, food, etc.) rather than species. Identification in survey and observer data are at the species level. Survey indices at the species level are used for determining overfished/overfishing. An aggregate MSY is not specified. Are species specific ACLs required? (NEFMC)

Answer: If it is not feasible for fishermen to identify individual species among their catch, those species could be grouped into a stock complex for management purposes and managed using an overall ACL.

NOAA Fisheries understands that this question is referring to the skate complex managed by the New England Fishery Management Council’s (NEFMC) Northeast Skate Complex FMP. The skate complex is managed using complex-level acceptable biological catch

(ABC) values and ACLs because the species-level identifications are difficult, making it difficult to generate species-level stock assessments and species-level ACLs. The individual skate stocks do have SDCs that are survey index-based. The revised NS1 guidelines would not trigger the need for reconsideration of these existing approaches to skate management.

- [8b] **A number of species are caught together in a multispecies fishery. All are identified by species in the catch. Analytic assessments for most species are available, and at present individual OFLs/ABCs/ACLs are specified for each stock. The Council wants to aggregate the species into stock complexes, determine an aggregate MSY for each complex, and specify an ACL for each aggregate group as well as an overall cap. Are individual ACLs required for each species/stock? (NEFMC)**

Answer: Aggregate MSY is an optional tool that Councils can use at their discretion to help facilitate EBFM and inform ACL specifications for managed stocks. The NS1 guidelines allow aggregate MSY to be estimated for a group of stocks (including stock complexes and the fishery as a whole) using models that consider multi-species interactions, composite properties for a group of similar species, biomass (energy) flow and production patterns, and other relevant factors (see 50 CFR 600.310(e)(1)(iv)). Estimating aggregate MSY, especially in “data rich” situations, is beneficial because it accounts for multi-species interactions and other ecosystem considerations that could affect stock productivity. Thus, using aggregate MSY estimates in data-rich circumstances is expected to encourage more precautionary, EBFM-based management measures. An aggregate MSY can also be estimated in relatively data limited situations as well. For example, in some cases, assessment models are used to estimate MSY for a stock complex based on an assumption that all the data in the model comes from one stock.

NOAA Fisheries understands that this question is referring to the stocks managed under the NEFMC’s Northeast Multispecies FMP. Given the MSA’s requirement to end and prevent overfishing, individual stock SDC should be specified (as opposed to SDC for a complex as a whole), based on the best scientific information available. Further, if Councils are able to manage stocks with individual ACLs, they should do so to prevent overfishing. Even in these cases, Councils may still estimate aggregate MSY for a complex or functional group and apply such information to the management of the individual stocks within the complex or group.

- [8c] **A Fisheries Ecosystem Plan (FEP) is developed with an Ecosystem Catch Cap derived from estimates of energy available to caught and/or managed stocks of fish and shellfish. Stocks are managed together by functional group with reference points for stock complexes. Each stock complex has an MSY estimate, an ABC (a mortality limit), and an ACL (annual catch limit) and each individual stock also has a minimum biomass threshold. What other SDCs (if any) would be required by NS1 in this situation? (NEFMC)**

Answer: NOAA Fisheries understands that this question is referring to the example Fishery Ecosystem Plan (eFEP) that the NEFMC is developing. In general, the NS1

guidelines advise that stock complexes should be managed in a way that prevents overfishing on all the stocks in the complex and prevents individual stocks from becoming overfished. The NS1 guidelines require the specification of SDC to determine if stocks or stock complexes are overfished and to determine if overfishing has occurred.

Estimating MSY for an aggregate group of stocks (i.e., aggregate MSY), especially in data rich situations, can inform reference points such as ACLs and SDC by incorporating information about multi-species interactions and ecosystem principles. However, the use of aggregate MSY estimates does not negate the need to use individual stock SDC (based on the best scientific information available), ACLs, and related reference points to ensure that individual stocks do not become overfished or experience overfishing. (see responses to questions 7 and 8b). NOAA Fisheries is happy to continue discussing strategies to apply ecosystem principles to fisheries in a way that prevents stocks from experiencing overfishing and becoming overfished.

Question 9: [Quote from response to comment 17 of NS1 final rule] “Fundamentally, aggregate MSY is an additional limit on the management system that encourages more conservative EBFM-based measures. Even when aggregate level MSY is estimated, stock-specific MSY must still be used to inform single stock management. Other annual reference points (within the ACL framework) must also be specified in order to prevent overfishing from occurring in single stocks.” If there is a basis for determining an aggregate MSY, doesn’t it only make sense to base management on individual species MSYs if they are continuously updated to take account of other species? This is impractical. (NEFMC)

Answer: NOAA Fisheries notes that the NS1 guidelines state that, when aggregate MSY is estimated, single stock MSY estimates “can also be” used to inform single stock management (see 50 CFR 600.310(e)(3)(iv)(C)), while the response to comment 17 on the final guidelines says that stock-specific MSY estimates “must be” used. The intent of the response to comment 17 was to affirm that estimates of aggregate MSY can provide important information about a group of stocks, but, given the MSA’s requirements, each federally-managed stock (whether managed individually or as a complex) should be managed in a way that prevents the stock from becoming overfished or subject to overfishing, based on the best scientific information available.

ACLs are our primary management tool to prevent overfishing, and SDC determine the overfished and overfishing status of stocks. Oftentimes, ACLs, SDC, and other associated reference points are based on stock-specific estimates of MSY, B_{MSY}, or their proxies. As discussed in responses #7 and #8, aggregate MSY estimates are expected to inform more precautionary reference points for individual stocks and advance EBFM, especially in data-rich circumstances. For example, reference points for individual stocks that are informed by aggregate MSY estimates can be more precautionary, because they account for ecosystem considerations that might impact stock productivity. Aggregate MSY estimates may provide information to a Council about multi-species interactions (e.g., predator-prey relationships) and expand a Council’s understanding of management risk and trade-offs between potential management measures (see response 7). When applied, aggregate MSY can serve as a basis to specify OY for a stock complex or fishery. Such OY specifications could inform how ACLs are

specified for individual stocks, such that ACLs prevent overfishing for each stock, and taken together, do not exceed the OY for the complex or fishery.

Response to Overfished/Overfishing Status

Question 10: If only overfishing (i.e., not overfished), how long do we have to end overfishing? (SAFMC)

Answer: All existing FMPs should have established ACL and AM mechanisms to prevent and end overfishing. The NS1 guidelines advise that, upon notification by NOAA Fisheries that a stock is experiencing overfishing, a Council should immediately begin working with its scientific and statistical committee (SSC) (or agency scientists or peer review processes in the case of Secretarially-managed fisheries), to ensure that the ABC is set appropriately to end overfishing and/or their accountability measures are functioning effectively. Councils should evaluate the cause of overfishing, address the issue that caused overfishing, and reevaluate their ACLs and AMs to make sure they are adequate (see 50 CFR 600.310(j)(2)(i)).

Question 11: If overfished and undergoing overfishing, we need to finalize a plan/amendment within two years to immediately end overfishing:

Does “immediately end overfishing” imply that we should always request an emergency/interim rule? This would be the fastest approach to end overfishing but is not immediate. (SAFMC)

Answer: No. An emergency rule is not always needed. If a stock is overfished and subject to overfishing, the requirement in MSA section 304(e)(3)(A) to “end overfishing immediately” does not mean that a Council always needs to request an emergency or interim rule. While MSA section 304(e)(3)(A) provides for up to two years to prepare and implement a plan to, among other things, end overfishing immediately, MSA section 303(a)(15) also requires ACL and AM mechanisms to prevent overfishing. Thus, there should be regulatory actions available to the Council to address overfishing during development of a rebuilding plan (e.g., a Council could adjust the ACL for a stock). Whether interim measures or an emergency rule is appropriate would depend on the specific facts of the situation. MSA section 304(e)(6) provides that a Council may request interim measures to reduce overfishing while developing a rebuilding plan. However, such measures may not be necessary.

In general, we have been advised to get the final amendment to NOAA Fisheries within 18 months so they have 6 months to implement. Is this still the case? (SAFMC)

Answer: If a stock is found to be overfished, MSA section 304(e)(3) requires that a Council prepare and implement an FMP, plan amendment, or proposed regulations to rebuild affected stocks within two years. The NS1 guidelines advise that Council actions should be submitted to NOAA Fisheries within 15 months to ensure sufficient time for the Secretary to implement the measures, if approved (see 50 CFR 600.310(j)(2)(ii)).

Question 12: What is the rationale for the two additional rebuilding time options? (NPFMC)

Answer: The NS1 guidelines provide guidance on determining the minimum (T_{min}), maximum (T_{max}), and target time (T_{target}) to rebuild a stock to a biomass level that supports MSY (B_{MSY}). In

situations when T_{\min} exceeds 10 years, the 2009 version of the NS1 guidelines provided one method to determine T_{\max} : T_{\min} plus 1 generation time. The 2016 NS1 guidelines contain two additional T_{\max} calculation methods to give Councils more flexibility to select a T_{\max} calculation method that is best suited for the information and data available. The two additional methods to determine T_{\max} are: 1) the amount of time the stock is expected to take to rebuild to B_{MSY} if fished at 75% of the maximum fishing mortality threshold (MFMT); or 2) T_{\min} multiplied by two (see 50 CFR 600.310(j)(3)(i)(B)(2)).

The alternative methods of calculating T_{\max} rely on different life history parameters and provide similar timelines for rebuilding when compared to T_{\min} plus 1 generation time. It may be appropriate to use one of the two new methods if, for example, given data availability and life history characteristics, there is high uncertainty in the estimate of generation time, or if generation time does not accurately reflect the productivity of the stock. For example, the method of deriving T_{\max} based on the amount of time the stock is expected to rebuild if fished at 75% of MFMT may be appropriate in some cases as MFMT is highly correlated with the productivity of a stock. Also, this approach is similar to commonly used harvest control rules and is similar to the rebuilding guidance in the 2009 version of the NS1 guidelines. Under both the current and previous guidelines, if a stock is not rebuilt by T_{\max} , fishing mortality rates should be maintained at F_{rebuild} or 75% of MFMT, whichever is less (see 50 CFR 600.310(j)(3)(vi)). The option of determining T_{\max} based on multiplying T_{\min} times two is the most simplistic form of calculating T_{\max} and has been applied elsewhere (e.g., New Zealand).

The guidelines explain that, when selecting a method for determining T_{\max} , a Council, in consultation with its SSC, should consider the relevant biological data and scientific uncertainty of those data, and must provide a rationale for its decision based on the best scientific information available. One of the two new methods may be appropriate, for example, if given data availability and the life history characteristics of the stock, there is high uncertainty in the estimate of generation time, or if generation time does not accurately reflect the productivity of the stock (see 50 CFR 600.310(j)(3)(i)(B)(3)).

Question 13: If the stock is data-limited and there are little data to support determination of MSY and SDCs, do the guidelines allow for the use of Spawning Potential Ratio for data limited stocks? (WPFMC)

Answer: Spawning Potential Ratio (SPR) can be defined as the number of eggs that could be produced by an average recruit in a fished stock, divided by the number of eggs that could be produced by an average recruit in an unfished stock (See [2006 Status of U.S. Fisheries, Appendix 1](#)²). Thus, SPR is a measure of the proportion of fish removed by fishing, which can be used to determine if overfishing is occurring.

The NS1 guidelines do not specifically mention whether SPR can be used for data limited stocks. However, NOAA Fisheries' practice has been that overfishing SDCs can be based on SPR, but overfished SDCs cannot because SPR measures the rate at which fish are removed from a stock,

²http://www.nmfs.noaa.gov/sfa/fisheries_eco/status_of_fisheries/archive/2006/2006_statusof_fisheries_appendix_1-2.pdf

not the amount of fish remaining in the stock. See responses to questions 14 and 15 below for more information.

Question 14: In paragraph (e)(2)(i)(C) [of the NS1 guidelines], it talks about the Maximum Fishing Mortality Threshold (MFMT) and its proxy expressed either as a single number (F value) or as a function of spawning biomass or other measures of reproductive potential. Can the fishing mortality – fishing mortality associated with 30% spawning potential ratio (F/F30) be used as a proxy for MFMT? (WPFMC)

Answer: The Restrepo et al. (1998)³ technical guidance document describes that it is suitable to establish a proxy for MFMT that is based on SPR. Several stocks have overfishing SDCs in the range of fishing mortality (F) at 20% SPR to 50% SPR.

Question 15: In paragraph (e)(2)(ii)(B) [in the NS1 guidelines], it talks about Minimum Stock Size Threshold (MSST) and its proxy expressed in terms of spawning biomass or other reproductive potential. Can SPR30 be used as a proxy for MSST? (WPFMC)

Answer: NOAA Fisheries' practice has been that SPR cannot be used as a proxy for MSST because it measures the rate at which fish are removed from the stock, not the amount of fish remaining in the stock. In 2006, all stocks with an overfished status based on SPR had their overfished status changed to unknown (See [2006 Status of U.S. Fisheries, Appendix 1](#)).

Question 16: Regarding Optimum Yield, in cases where the stock is relatively unfished or close to pristine where the fishery can extract above MSY on a short term because the biomass is so large. The assessment of this stock generated an MSY lower than the OFL, how can a long term OY be specified? OY is a reduction from MSY accounting for ecological, economic, and social factors. (WPFMC)

Answer: OY is a long-term average amount of desired yield from a stock, stock complex, or fishery (see 50 CFR 600.310(e)(3)(ii)), and the MSA defines OY as being based on MSY as reduced by any relevant economic, social, or ecologic factors (16 U.S.C. 1802(33)(B)). In contrast, OFL means the annual amount of catch that corresponds to the estimate of MFMT applied to a stock or stock complex's abundance (See 50 CFR 600.310(e)(2)(i)(D)). Thus, the OFL and other annual reference points (i.e., ABC, ACL, ACT) cannot be defined in terms of OY, which is a long-term average.

NOAA Fisheries understands that the Western Pacific Fishery Management Council has cases, such as the bottomfish resources of American Samoa, Guam, and the Northern Mariana Islands, where a stock's biomass is so large that the OFL is larger than MSY (See Yau et. al. 2016⁴). When a stock's biomass is above B_{MSY} , in theory, it is feasible that an ACL could be set higher than the long-term average MSY and OY values, if supported by the best scientific information available. However, the ACL cannot exceed the ABC or OFL, and frequent stock assessment

³ Restrepo et al. 1998. Technical guidance on the use of precautionary approaches to implementing National Standard 1 of the Magnuson-Stevens Fishery Conservation and Management Act. NOAA Technical Memorandum NMFS-F/SPO-##.

⁴ http://www.cio.noaa.gov/services_programs/prplans/pdfs/ID328_FinalProduct.pdf

updates would be needed to update the level of stock abundance and to ensure that overfishing is not occurring.

The NS1 guidelines provide detailed guidance on potential considerations for economic, social, or ecological factors to determine OY (see 50 CFR 600.310(e)(3)(i)-(iv)). The exact method that a Council uses to consider social, economic, and ecological factors, and the amount that OY is reduced from MSY is at the discretion of the Council. The “OY factors” (i.e., ecological, economic, and social factors) can also be addressed within the ACL framework. For example, an ACL could be reduced from an ABC based on ecological, economic, and social considerations (see 50 CFR 600.310(f)(4)(iv)). Ecological, economic, and social trade-offs can also be evaluated when determining the risk policy for an ABC control rule (see 50 CFR 600.310(f)(2)(i)).

Question 17: Does the ABC control rule need to be modified to include a phase-in provision, with the input from the SSC similar to how the original control rule was developed, and the amendment including the modified control rule approved/effective BEFORE the Councils could use the phase-in provision? (SAFMC)

Answer: Yes. Prior to phasing-in changes to an ABC, the guidelines state that “[t]he Council must articulate within its FMP when the phase-in and/or carry-over provisions of the control rule can and cannot be used and how each provision prevents overfishing, based on a comprehensive analysis” (see 50 CFR 600.310(f)(2)(ii)). Furthermore, the guidelines establish a general definition of the term “control rule” which clarifies that control rules are developed by Councils in consultation with their SSC (see 50 CFR 600.310(f)(1)(iv)). This general definition of the term “control rule” applies to specific types of control rules as well, including phase-in ABC control rules and carry-over ABC control rules.

Carry-Over Provisions

Question 18: The NSGs suggest carry-over should be addressed in the ABC control rule. Can you give an example of how that would be done? (NEFMC)

Answer: The 2016 NS1 guidelines allow Councils to develop carry-over provisions within their ABC control rules. If developed, the guidelines explain that Councils must articulate in their FMP when carry-over provisions in the ABC control rule can and cannot be used and how the provisions prevent overfishing based on a comprehensive analysis (see 50 CFR 600.310(f)(2)(i)). When considering carry-over provisions, Councils should consider the likely reason for ACL underages, and evaluate whether any carry-over is appropriate for stocks that are overfished and/or rebuilding (see 50 CFR 600.310(f)(2)(i)(B)). Similar to regular ABC control rules, the ABC that results from a carry-over ABC control rule must prevent overfishing, and account for scientific uncertainty in the OFL and the Council’s risk policy (see 50 CFR 600.310(f)(2)(i)(B)). A Council’s SSC provides the ABC recommendation to the Council.

There are a number of ways that carry-over provisions within the ABC control rule could be designed. For example, a Council could establish a framework within an FMP that explains how the Council will determine ACL underages in the future, describes the analysis that will be

conducted to examine impacts of ACL underages on stock abundance, and establishes a process for implementing potential changes to the ABC and ACL. Once a framework is established in the FMP, carry-over provisions of the ABC control rule can be implemented in a timely manner. One potential way to examine impacts of ACL underages on stock abundance is through scenario planning within a stock assessment. For example, as part of the stock assessment process, the assessment model could be used to evaluate a wide range of ACL underages, resulting in ranges of OFL and ABC recommendations for each year within each scenario. This analysis could be summarized within the assessment report, and once actual catch levels are known, the SSC can use that information to make or revise their ABC recommendation.

These are a few general examples for designing carry-over provisions; Councils should consult with their SSCs and NOAA Fisheries Science Center and Regional Office counterparts to design provisions that are appropriate for their fisheries. However, it is important to stress that, due to stock dynamics and fishery characteristics, the acceptable amount of carry over may not equal the amount of underage.

Question 19: Can carry-over provisions be adopted in an FMP in ways other than a harvest control rule? As an example of existing provisions, 81 *Federal Register* 26427 describes an existing carry-over provision for NE groundfish that is not incorporated into a harvest control rule. An example for the Atlantic Sea Scallop fishery is in 50 CFR 648.59(c). (NEFMC)

Answer: Yes. The NS1 guidelines describe two general ways to carry-over some of the unused portion of an ACL (i.e., ACL underage) from one year to the next. One way, as described in the answer to question 18, is to develop carry-over provisions within the ABC control rule. Another way is to allow an ACL to be adjusted upwards as long as the revised ACL does not exceed the specified ABC for the stock.

The Northeast Multispecies groundfish sector program's carry-over provision allows up to 10% of a sector's unused quota (annual catch entitlement (ACE)) to be carried over into the next year, as long as the ACL plus carry-over does not exceed the ABC for a stock. The Atlantic scallop fishery has carry-over provisions in both the limited access and limited access general category (LAGC) individual fishing quota (IFQ) fisheries. Limited access vessels are assigned days-at-sea (DAS) to use in open areas as well as an allocation of scallops (in pounds) that can be caught in specific controlled access areas. If they have unused open area DAS at the end of a fishing year, they may carry over a maximum of 10 DAS, not to exceed the total open area DAS allocation by permit category, into the next year. LAGC IFQ vessels that have unused IFQ at the end of a fishing year may carry over up to 15 percent of the vessel's original IFQ into the next fishing year. When the above-referenced regulatory provisions were promulgated, NOAA Fisheries determined that the provisions were consistent with NS1 and other MSA provisions. They do not conflict with the way carry-over is described in the 2016 guidelines.

Question 20: What is envisioned as additional “comprehensive analysis” for the ABC control rule justifying that the carry-over provision will prevent overfishing, given that the phase-in allowance is still bound by MFMT? The MFMT-not overfishing-not exceed OFL

bound means that any phase in landings level must prevent overfishing, so what more is there to say with regards to establishing such provisions in the control rule? (SAFMC)

Answer: In general, the “comprehensive analysis” for phase-in/carry-over provisions of ABC control rules is the same type of analysis that a Council would conduct for standard control rules. As described in the first sentence of 600.305(f)(2)(i), standard ABC control rules should account for scientific uncertainty in the OFL and the Council’s risk policy and include a comprehensive analysis that shows how the control rule prevents overfishing. In addition, the guidelines do state that “The Council must articulate within its FMP when the phase-in and/or carry-over provisions of the control rule can and cannot be used and how each provision prevents overfishing, based on a comprehensive analysis” (see 50 CFR 600.310(f)(2)(ii)). Thus, the comprehensive analysis should support the boundaries outlined in the ABC control rule that establish when phase-in/carry-over provisions can and cannot be used as well as show how the provisions prevent overfishing in a manner similar to what is done for standard ABC control rules (see response to #22 for further discussion).

Question 21: How can you use the carry-over provision of unused ACL to the following fishing year if the ACL is set equal to ABC that will not be too burdensome on the SSC to adjust the ABCs? (PFMC; WPFMC)

Answer: If an ACL is set equal to an ABC, then a Council could consider developing a carry-over provision within the ABC control rule to allow some portion of an ACL underage from one year to be used to increase the ABC in the next year. The response to Question 18 provides a few general examples for designing carry-over provisions that could be practically applied by Councils.

Question 22: Council staff were briefed during new Council member orientation that the ACL underage carry over provision can only be used in situations where the stock biomass is increasing – yet the final rule does not explicitly state this. So, does the stock biomass need to be increasing to carry over unused ACL? Also, how can we be sure that increases in abundance are due to an underage of ACL? (MAFMC)

Answer: The NS1 guidelines explain that an ABC control rule may include provisions for the carry-over of some of the unused portion of an ACL underage from one year to increase the ABC for the next year, based on the increased stock abundance (emphasis added, see 50 CFR 600.310(f)(2)(i)(B)). The premise behind this provision is that an ACL underage has resulted in an increase in stock abundance, which thus would permit an increase in ABC. The guidelines also explain that if a carry-over ABC control rule is developed, the Council must explain in its FMP when the carry-over provisions can and cannot be used and how it prevents overfishing based on a comprehensive analysis (see 50 CFR 600.310(f)(2)(i)). It is expected that a byproduct of this comprehensive analysis would be a generalized process and/or analytical framework for the Council to decide whether and/or how to apply a carry-over provision in specific cases. Such analytical frameworks could include analyses done within an assessment (before an ACL underage) or after-the-fact (after an ACL underage occurs).

ABC control rules are developed based on the best scientific information available. There does not need to be definitive evidence of an increase in stock abundance due to an ACL underage in order to use the above-referenced provision. When considering the amount of underharvest that can be carried over within the ABC control rule, Councils should evaluate stock dynamics and fishery characteristics to understand the potential effect of the carry-over on the stock and whether overfishing may occur as a result. Modeling or assessment techniques can be used to examine impacts of an ACL underage on the abundance of the stock (see response to question 18 for more information).

The NS1 guidelines also allow the use of carry-over provisions to adjust the ACL upwards in cases where the revised ACL does not exceed the previously specified ABC (see 50 CFR 600.310(f)(2)(i)(B)). In these instances, because the ABC is not being increased, it would not be necessary to demonstrate an increase in stock abundance.

Question 23: Another question that arises relates to timing and availability of final catch data. Due to significant time lags in acquiring the final annual catch estimates for a given year (up to 6-12 months), our ability to re-estimate ABC within the time frame necessary to adjust the next year's ABC is severely limited. How would this work in practice, and how would it impact multi-year specifications? Does a rollover of unused ACL have to be applied to the ensuing year in a multi-year specification cycle, or could it be applied to subsequent years in the same specifications cycle? Can the approach work on an annual basis given the year lag in reconciled estimates of annual total mortality (i.e., landings plus dead discards) of groundfish stocks provided by the West Coast Groundfish Observer Program? (MAFMC; PFMC)

Answer: NOAA Fisheries recognizes that there can be time lags in catch reporting. While the NS1 guidelines state that an ABC control rule may include carry-over provisions “from one year to increase the ABC for the next year, based on the increased stock abundance” (see 50 CFR 600.310(f)(2)(i)(B)), the guidelines also acknowledge that not all circumstances may fit the standard approaches in the guidelines (see 50 CFR 600.310(h)(2)). When developing carry-over provisions of the ABC control rule through an FMP amendment, a Council may propose an alternative approach from what is in the NS1 guidelines. For example, a Council might consider an approach under which the ACL underage from year 1 is used to adjust the ABC in year 3. In this case, the Council must document its rationale for taking the alternative approach. NOAA Fisheries will review the approach for consistency with the MSA.

Question 24: The relative uncertainty in estimating the OFL is factored into the Pacific groundfish management framework by designating the size of the ABC buffer through the sigma (σ) designation, which addresses scientific uncertainty in estimating an OFL and the overfishing probability (P^*) designation, which represents the level of risk tolerance in potentially exceeding an OFL (i.e., the risk of future overfishing). Should the inherent uncertainty in estimating the OFL (i.e., σ) or the ABC buffer size be a consideration in developing a carryover provision? (PFMC)

Answer: The NS1 guidelines allow Councils to develop carry-over provisions within their ABC control rules. Similar to regular ABC control rules, the ABC that results from a carry-over ABC

control rule must prevent overfishing, and account for scientific uncertainty in the OFL and the Council's risk policy (see 50 CFR 600.310(f)(2)(i)(B)). The guidelines also explain that when considering carry-over provisions, Councils should consider the likely reason for the ACL underage. ACL underages that result from management uncertainty (e.g., premature fishery closure) may be appropriate circumstances for considering a carry-over provision. ACL underages that occur as a result of poor or unknown stock status may not be appropriate to consider in a carry-over provision. In addition, Councils should consider the appropriateness of carry-over provisions for stocks that are overfished and/or rebuilding, as the overriding goal for such stocks is to rebuild them in as short a time as possible.

Question 25: How do carry-over provisions work with associated bycatch or an OY cap? (NPFMC)

Answer: We recognize that the North Pacific Council operates under a statutorily mandated OY cap. In general, if a fishery is constrained by a bycatch cap, OY cap, or other constraining factors, the amount of carry-over that is allowed would also be constrained by such caps. For example, the amount of an ACL underage that is carried-over could not result in an ABC/ACL that would cause the fishery to exceed its OY cap.

Supplemental Question from WPFMC : “In paragraph (b)(2)(v)(C) that says: “For the Secretary, which does not have an SSC, the peer review process should provide the scientific information necessary.” Can NMFS, as a representative of the Secretary, deviate from the results of the peer-review process in evaluating scientific basis for the fishery management decision? For example, the peer-review deemed the information not best available due to flaws and the SSC concur with the review but the information is the only assessment available for the stock and the alternative is to use average of catch, can NMFS still rule in favor of the rejected assessment because despite the flawed nature of the assessment, is better than using average catch?”

Answer: The quoted text is from 50 CFR 600.310(b)(2)(v)(C), which pertains specifically to the process for Atlantic highly migratory species. However, the underlying question is focused on Council process: when there is an established peer review process for Council managed fisheries, can NOAA Fisheries base management decisions on information that a peer review and SSC do not consider to be the best scientific information available (BSIA)?

Ultimately, it is the responsibility of NOAA Fisheries to certify that management actions are based on BSIA, consistent with National Standard 2 (NS2). For example, when NOAA Fisheries approves harvest recommendations from a Council, it certifies that the action is consistent with NS2 (and therefore is based on BSIA) and other national standards. Even if an SSC and peer review do not consider information to be BSIA, NOAA Fisheries may still use that information as a basis for management action, if the agency determines – and provides support in the record – for why it is BSIA.

NOAA Fisheries is working on a white paper, which summarizes the steps and challenges with certifying BSIA. It will help clarify these issues and provide recommendations for ensuring that

the stock assessment process consistently provides management advice based on a common understanding of the BSIA. NOAA Fisheries plans to present this white paper to the Council Coordination Committee at their May 2017 meeting for review and discussion.