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Management Objectives for Atlantic Salmon in the United States

Summary

Currently, within the West Greenland and North American Commissions of NASCO the stated management objective for Atlantic salmon stocks in the United States and the Scotia-Fundy Region of Canada is a 25% increase in returns of 2SW salmon from the average returns in 1992-1996. This rebuilding objective was established in light of the extremely depleted state of these endangered populations. However, selection of this management objective is inconsistent with NASCO's Agreement on the Adoption of the Precautionary Approach, Action Plan for the Application of the Precautionary Approach, NASCO Guidelines for the Management of Salmon Fisheries, scientific advice from ICES, and interim recovery criteria for U.S. stocks protected by the Endangered Species Act. We are, therefore, recommending aligning the management objectives for the U.S. stock complex with the recovery criteria for the remnant stocks currently under protection of the Endangered Species Act. This change will better align the inclusion of U.S. demographic data used in the management of the Greenland fishery with federal obligations and NASCO and ICES advice. As stock status improves and the remnant stocks are removed from the ESA, these management objectives could be revised to include other U.S. populations under restoration.

Background

NASCO has on many previous occasions stated a clear management objective of maintaining all stocks above their conservation limit (CL). Some key examples are listed below:

Agreement on Adoption of the Precautionary Approach (CNL(98)46)

- An objective for the management of salmon fisheries for NASCO and its Contracting Parties is to promote the diversity and abundance of salmon stocks. For this purpose, management measures, taking account of uncertainty, should be aimed at maintaining all salmon stocks in the NASCO Convention area above their CL (currently defined by NASCO as the spawning stock level that produces maximum sustainable yield), taking into account the best available information, and socio-economic factors including the interests of communities which are particularly dependent on salmon fisheries and the other factors identified in Article 9 of the Convention.
- The application of the Precautionary Approach to salmon fishery management is an integrated process which requires the following (below is a subset of what is contained in the Precautionary Approach Agreement):
 - a. that stocks be maintained above the CLs by the use of management targets;
 - b. that CLs and management targets be set for each river and combined as appropriate for the management of different stock groupings defined by managers;
 - c. stock rebuilding programs (including, as appropriate, habitat improvement, stock enhancement and fishery management actions) be developed for stocks that are below their CLs.

Action Plan for the Application of the Precautionary Approach (CNL(99)48)

- Management objectives should be aimed at maintaining all stocks above their CLs by the use of management targets.

NASCO Guidelines for the Management of Salmon Fisheries - 2009

- Fishing on stocks that are below CLs should not be permitted. If a decision is made to allow fishing on a stock that is below its CL, on the basis of overriding socio-economic factors, fishing should clearly be limited to a level that will still permit stock recovery within a stated timeframe.
- Mixed Stock Fisheries Management - actions should aim to protect the weakest of the contributing stocks.

In addition, ICES, the scientific advisor to NASCO, has offered the following:

- ICES considers that to be consistent with the maximum sustainable yield (MSY) and the precautionary approach, fisheries should only take place on salmon stocks that have been shown to be at full reproductive capacity.
- CLs for North Atlantic salmon stocks have been defined by ICES as the level of stock (number of spawners) that will achieve long-term average maximum sustainable yield. These CLs are limit reference points; having populations fall below these limits should be avoided with high probability.
- ICES considers that to be consistent with the MSY and the precautionary approach, fisheries should only take place on salmon stocks that have been shown to be at full reproductive capacity.

Current Management Objectives for the North American stock complex

- Provision of catch advice on fish exploited at West Greenland – 75% probability of simultaneous attainment of seven management objectives
 - Meet the 2SW CLs for the 4 northern areas of NAC (Labrador, Newfoundland, Quebec, Gulf)
 - Achieve a 25% increase in returns of 2SW salmon from the average returns in 1992-1996 for the Scotia-Fundy and USA regions
 - Meet the MSW southern NEAC CL
- Provision of catch advice on fish exploited within the NAC – 75% probability of simultaneous attainment of six management objectives
 - Meet the 2SW CLs for the 4 northern areas of NAC (Labrador, Newfoundland, Quebec, Gulf)
 - Achieve a 25% increase in returns of 2SW salmon from the average returns in 1992-1996 for the Scotia-Fundy and USA region

Region	Unit	Management objective (number of fish)	CL	Management Objective as % of CL
Scotia-Fundy	2SW Returns	10,976	24,705	44.4%
USA	2SW Returns	2,548	29,199	8.7%

ICES predicted that the probability that the 2SW returns to the United States would meet or exceed management objectives in 2012 were 89%. Regardless of the probability however, if 2,548 2SW adults returned it would only represent 8.7% of the CL. This falls very short of the NASCO and ICES objective of having all stocks above CLs.

NASCO and ICES clearly agree that conservation and rational management of Atlantic salmon stocks require establishing CLs and only allow fishing on stocks (individually or as part of a mixed stock) which are above their CLs. Atlantic salmon in the United States and in the Scotia-Fundy region of Canada are extremely depleted and are listed on the Endangered Species Act and the Species at Risk Act, respectively. Fifteen years ago, returns were so low relative to CLs, the decision was made to establish management objectives for rebuilding. As noted above, rebuilding targets of a 25% increase in returns were established for the U.S. and Scotia Fundy regions. While these may have been acceptable interim targets, they ultimately are not consistent with the precautionary approach, ICES advice, and previous agreements of NASCO.

Proposed Management Objectives for the United States

In developing this proposal, we would first underscore its intended use. It is strictly to help guide ICES with respect to the catch advice for the West Greenland fishery. It has no binding authority with respect to how domestic agencies may pursue salmon recovery and restoration work in the United States. Whatever is proposed and agreed to, will be used as an input into the analysis of catch options for the West Greenland Commission and North American Commission. In short, these management objectives will provide guidance to ICES for years to come as ICES develops catch advice.

We strived to provide an option that would be fair and equitable, consistent with the previous NASCO agreements on the precautionary approach and fisheries management, and ultimately consistent with open and transparent management called for in the Next Steps process. In developing the following proposal, we considered a number of alternatives using criteria for inclusion such as presence of an active management program, CLs for rivers without dams, CLs for Critical Habitat (designated under the U.S. Endangered Species Act), among others. After considering a variety of options, we are recommending that the management objectives for the U.S. should be consistent with the draft recovery criteria for the Gulf of Maine Distinct Population Segment (i.e., GOM DPS, the U.S. stocks protected by the Endangered Species Act).

The Draft Recovery Criteria are found in Appendix A of the final rule designating Critical Habitat for the GOM DPS (http://www.nero.noaa.gov/prot_res/altsalmon/Appendix%20A%20-%20Recovery%20Criteria%20Final.pdf). For the purposes of developing management objectives, our interpretation of the draft recovery criteria are that roughly 6,000 adults would need to be equally distributed across each of the three recovery units (see Figure 1). Based on the 2003-2012 proportion of 2SW fish in U.S. returns (75.8%), this would equate to a total of 4549 2SW returns.



Figure 1. Recovery units of the Gulf of Maine DPS.

We conclude that this threshold is rational, is consistent with NASCO agreements, and sets a sufficiently protective threshold for all U.S. stocks in the near future for several reasons. First, one premise of the recovery criteria is that marine survival must improve before Atlantic salmon can recover. Without substantial improvements in marine survival, the prospects for recovery are unlikely. Second, very significant management measures (dam removals, conservation hatchery operations, etc.) are being taken domestically to enhance recovery prospects for the GOM DPS. These steps are difficult but necessary to ensure the last remaining native stock of salmon does not become extirpated from the U.S. Thus, the management measures are also consistent with the concepts of fairness and balance in distant-water fisheries alluded to in the Action Plan for Application of the Precautionary approach (CNL(99)48) and contained in Article 9(c) of the Convention. Finally, we also concluded that it is unlikely that salmon programs outside the GOM DPS would recover any faster than the GOM DPS particularly in light of substantial reductions in stocking efforts in the Southern New England Programs that are currently occurring. We note that these restoration programs may increase in the future. If this occurs, the management objectives presented in this paper may require re-assessment at that point. For the foreseeable future, however, the management objectives presented in this paper (based on the recovery criteria of the GOM DPS) are likely to be the focus of efforts in the U.S.

Recommendation in brief

- 1) The draft recovery criteria for the GOM DPS should be the basis for revised management objective for the U.S. within the North American Commission and the West Greenland Commission. This would equate to a management objective of 4549 2SW returns.