NORTH ATLANTIC SALMON CONSERVATION ORGANIZATION

ORGANISATION POUR LA CONSERVATION DU SAUMON DE L'ATLANTIQUE NORD

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For decision

Council

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Summary of Points Arising from the Special Session on Habitat Issues held in 1999 and the Possible Future Role of NASCO in relation to Habitat Issues

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At its Sixteenth Annual Meeting in Westport, the Council held a Special Session on Habitat Issues. A report of this Special Session has been circulated, CNL(00)28. During the presentations and the subsequent discussions, a number of points emerged and we have attempted to summarise these below.

Scale of Losses

1. The historic run of Atlantic salmon in the US was estimated to approach 500,000 individuals (the estimated return in 1999 was 1,600 salmon). By the early 1800's Atlantic salmon runs had been severely depleted and by 1865 salmon had been eliminated from Southern New England rivers. The loss of the Connecticut and Merrimack populations shifted the southern limit of the species range about 2° North in latitude. In 1984 it was estimated that only approximately 35% of the historic salmon habitat in Maine was accessible. There is a proposal to list a distinct population segment of Atlantic salmon in Maine as endangered under the Endangered Species Act.

2. In Canada, it has been estimated that, since 1870, there has been a net loss of the productive capacity of salmon of 16%. There is a possibility that salmon in Inner Bay of Fundy rivers will be listed under a new act, the Species at Risk Act.

3. In Western Europe, there has been a very serious decline in both the extent and quality of salmon habitat, e.g. salmon stocks were lost from all the major catchments in France.

Cause of Losses

4. In the USA, the major cause of decline was the construction of hydro-electric dams with either insufficient or non-existent fish passage facilities. Low head dams, water pollution and over-exploitation were also contributory factors.

5. In Canada loss of habitat has been attributed to: chronic problems associated mainly with agriculture; impoundment, water diversion and obstruction; and acid rain. Dams and causeways represent the most significant cause of loss as a result of disruption of and obstruction to upstream and downstream passage.

6. In Western Europe the demise of salmon stocks has been related principally to two events – the Industrial Revolution of the last century and modern farming practices, including forestry. The effects of the Industrial Revolution are still being felt today with the continuing problem of acid rain.

7. A wide range of activities have adversely affected salmon production. Some of those identified during the Special Session include: urbanization, aquaculture, land drainage, over-grazing, infra-structure developments, water abstraction, sewage

effluents, impacts of non-indigenous species and industrial effluents. It is, therefore, necessary to adopt a catchment management approach in order to safeguard salmon habitat.

8. It is clear that major impacts on salmon are much wider than those related to the fisheries. Habitat management is a key element in salmon management.

9. Two "new" threats were identified for which there are no estimates of loss – the effects of global warming and of endocrine-disrupting chemicals such as nonylphenols, which are widespread in waste water. Nonylphenol ethoxylates (NPEs) are found in a wide range of cleaning products, paints and pesticides and are used in some manufacturing processes.

10. Factors operating in fresh water may affect subsequent survival at sea. These need to be identified if appropriate management action is to be effectively targeted. For example, endocrine-disrupting compounds are thought to interfere with the smolting process, resulting in poor marine survival.

Progress and Challenges in Restoration of Salmon Habitat

11. In the US, progress has been made, and is continuing to be made, in improving upstream and downstream fish passage facilities at dams, in improving water quality and quantity and in restoring habitat. Efforts are now being made to remove outmoded dams for fish habitat reasons. Increased emphasis is being given to riparian buffer zones and watershed habitat protection. Non-indigenous salmon stocks have a low return rate, apparently as a result of loss of local adaptations, but the use of river-specific stocks should aid the restoration programmes. There is a need to address poor forestry and agricultural practices and poor culvert placement; to remove ineffective and inefficient dams; to reduce water withdrawals and institute clear water management plans; to reduce nutrient inputs and to eliminate chronic exposure to insecticides, pesticides, herbicides and endocrine-disrupting chemicals.

12. In Canada, habitat improvements have been made through bank stabilization, establishing pool and riffle sequences and in improving fish passage. Construction of fish passage facilities around natural obstructions has led to a gain in productive capacity of 2% compared to 1870 (overall there has been a net loss of 16% since 1870). Mitigation of the most significant causes of habitat loss continues to be difficult and in many cases economically unfeasible. Inadequate resources have in some cases been allocated for the regular cleaning and maintenance of fish passage facilities required to maintain their efficiency. The effects of acid rain will continue for decades even though emissions have been reduced. Because of the cost involved, liming may only be used to re-establish salmon in selected rivers.

13. In Europe, major salmonid habitat enhancement programmes are underway. However, many hydro-electric installations still do not provide fish passage facilities. In England and Wales there are now more salmon rivers than there were 150 years ago due to improvements in water quality.

14. Bridge aprons, culverts, weirs and micro-hydro electric facilities, though less imposing than large dams, may form obstacles to upstream migration. They may be

very numerous. For example, in just a part of a rural Scottish river catchment over 230 obstructions to fish movement were recorded.

15. As population continues to increase pressures on salmon habitat from domestic, industrial and agricultural demands will increase.

16. There is a need not only to restore damaged habitat but to ensure that future activities do not lead to further deterioration. There are good legislative tools in many countries. For example, in Canada there is the "no net loss of habitat" guiding principle but management of fish habitat is becoming increasing complex and demanding. Additional management tools would be welcome. In this regard, the adoption of a Precautionary Approach by NASCO and its Contracting Parties should be a helpful initiative.

17. Management of fish habitat cannot be implemented in isolation - conservation measures are likely to be more successful and more widely received where the existing and future demands of other resource users are considered. Much has been achieved in restoration of habitat through partnerships.

18. Restoration efforts should be preceded by detailed physical, hydrological and ecological studies on a catchment-wide basis so that resources can be most efficiently targeted. Geographical Information Systems are a valuable tool in restoration programmes.

19. Salmonid habitat improvement work may offer conservation benefits to other species but there may also be conflicts with the conservation of other species, e.g. previously isolated brown trout populations when waterfalls are made passable to salmon.

Future Role for NASCO

20. It is clear that NASCO's objectives of conservation, restoration, enhancement and rational management of salmon can only be achieved if salmon habitat is protected and improved.

21. NASCO could provide a valuable forum for exchange, collation and dissemination of information on habitat issues such as guidelines on best practices.

22. The proposal was made that NASCO and its Contracting Parties should undertake an inventory of how much habitat has been lost, what areas still support salmon and what is being done to restore habitat so as to assist in formulating a long-term management strategy for salmon.

23. NASCO's Agreement on the Precautionary Approach commits NASCO and its Contracting Parties to action on fresh water habitat issues. It will be for the Council and the Standing Committee on the Precautionary Approach (SCPA) to decide on future actions.

Secretary
Edinburgh
30 May, 2000