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NASCO
NORTH ATLANTIC SALMON CONSERVATION ORGANIZATION
ORGANISATION POUR LA CONSERVATION DU SAUMON DE L'ATLANTIQUE NORD

Mr Miguel de Serpa Soares
Under Secretary-General for Legal Affairs
And United Nations Legal Counsel
United Nations Headquarters
New York
NY10017
US

Dear Mr de Serpa Soares,

Thank you for your letter of 16 December requesting information on, *inter alia*: (i) key interactions between oceans and climate change; (ii) effects of climate change on the oceans, including environmental, social and economic implications; (iii) actions and activities that have been undertaken to address the effects of climate change on the oceans and foster climate-resilient sustainable development of the oceans and seas; and (iv) any suggestions in this regard to address the effects of climate change on the oceans.

The North Atlantic Salmon Conservation Organization (NASCO) is a single-species intergovernmental RFMO with the objective of contributing through consultation and cooperation to the conservation, restoration, enhancement and rational management of salmon in the North Atlantic Ocean. A brief report on NASCO activities relevant to the report by the Secretary General follows. We note that this report will focus on the effects of climate change on oceans but it should be noted that for anadromous species, such as the Atlantic salmon, there are anticipated to be effects on freshwater and estuarine environments as well as the ocean.

Background

Over the last 40 years, increased mortality of Atlantic salmon at sea, linked to a warming climate, has resulted in a dramatic decline in abundance of salmon prior to any fisheries from around 8 million salmon in the 1980s to around 3 million salmon in recent years. The decline has been most marked for populations in the southern parts of the range in both Europe and North America and for multi-sea-winter stocks. Some populations are critically endangered risking loss of diversity. In North America, the southern edge of the range of Atlantic salmon is known to have shrunk by 2 degrees and there are warnings from scientists that the species could become extinct in the southern parts of its range in less than 30 years' time.

Management measures

In response to declining abundance of salmon highlighted in the advice provided to NASCO by the International Council for the Exploration of the Sea (ICES), increasingly restrictive management measures have been adopted by NASCO through internationally agreed

regulatory measures/decisions. As a consequence, there has been no salmon fishery around the Faroe Islands since 2000 and the fishery at West Greenland has been restricted to an internal consumption fishery in most years since 1998. The total combined catch for these fisheries has declined from more than 1,000 tonnes when NASCO was established to an average of 45 tonnes in the last five years. There have been major reductions in fishing effort by States of Origin all around the North Atlantic, increasing use of catch and release in recreational fisheries and an increasing proportion of the catch is being taken in rivers rather than in coastal waters so that exploitation is increasing focused on harvestable surpluses. These measures by States of Origin have been taken in part because of international obligations under the NASCO Convention.

Research

In 2005, NASCO's International Atlantic Salmon Research Board adopted the SALSEA Programme. This international programme of co-operative research was designed to improve understanding of the causes of mortality of salmon at sea and the opportunities to counteract this mortality. Under this programme, marine surveys were conducted in the North-East and Northwest Atlantic together with an enhanced sampling programme at West Greenland and other major research initiatives. Further information can be found in the attached brochure and at www.nasco.int/sas/salsea.htm. This research provided new insights into the ecology, migration and distribution of salmon at sea and provided new tools to support management including genetic baselines, genetic assignment protocols and migration models.

Research carried out during the SALSEA Programme indicated that there have been marked changes in the composition and production of plankton and salmon abundance in the North Atlantic, particularly since the late 1980s. There is also evidence that some prey species of high nutritional status to the salmon have been replaced by species of lower nutritional value. Further, a northward movement of some fish species, including Atlantic salmon, and plankton species that are important prey of salmon has been detected in the North Atlantic and appears to be linked to warming.

The International Atlantic Salmon Research Board's current research priority is to partition mortality along the salmon's marine migration routes through a telemetry-based programme of research, SALSEA - Track. This innovative research programme will use acoustic and other tagging of salmon in order to track them along their migration routes and identify sources of mortality. Recognising that the opportunities to manage salmon in the marine environment are limited, the goal is to maximise the number of healthy wild salmon that go to sea by focusing actions on impact factors in fresh, estuarine and coastal waters. NASCO has developed agreements relating to: management of salmon fisheries; habitat protection and restoration; and aquaculture and related activities. Each NASCO Party/jurisdiction has developed an Implementation Plan detailing the measures to be taken to implement these agreements. Annual Progress Reports are subject to critical evaluation.

I hope this is of assistance; further details of our work are available at www.nasco.int.

Yours sincerely

Peter Hutchinson
Secretary