

Zonal Workshop

DFO data review on redfish (*Sebaste sp.*) for COSEWIC status report

Redfish stock discrimination between Units 1 and 2

Review of the index fishery

19-20 September 2007
Maurice Lamontagne Institute, Mont-Joli

Chairperson : Dominique Gascon

This Zonal Workshop includes three sections:

I DFO data review on redfish (*Sebaste sp.*) for COSEWIC status report

Context

The implementation of the federal Species at Risk Act (SARA), proclaimed in June 2003, begins with an assessment of a species' risk of extinction by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC). COSEWIC is a non-government scientific advisory body that has been established under Section 14(1) of SARA to perform species assessments which provide the scientific foundation for listing species under SARA. Therefore, an assessment initiates the regulatory process whereby the competent Minister must decide whether to accept COSEWIC's assessment and add a species to Schedule 1 of SARA, which would result in legal protection for the species under the Act.

DFO, as the primary generator and archivist of information on aquatic species, is to provide COSEWIC with the best information available to ensure that an accurate assessment of the status of a species can be undertaken.

Redfish (*Sebastes fasciatus* and *Sebastes mentella*) were listed on COSEWIC's fall 2006 Call for Bids to produce a status report and thus has commenced the assessment process for this species.

Objectives

The overall objective of the meeting is to peer-review DFO information relevant to the COSEWIC status assessment for redfish, considering data related to the status and trends of, and threats to redfish inside and outside of Canadian waters, and the strengths and limitations of the information. This information will be available to COSEWIC, the authors of the status report, and the Chairs of the Marine Fishes COSEWIC Species Specialist Subcommittee.

DFO Science information relevant to the following will be reviewed to the extent possible:

1. Life history characteristics

- Growth parameters: age and/or length at maturity, maximum age and/or length
- Fecundity
- Generation time
- Early life history patterns
- Specialised niche or habitat requirements, including residence description.

2. Review of designatable units - See COSEWIC 2005 "Guidelines for Recognizing Designatable Units below the Species Level" Discussion on the species will consider available information on population differentiation, which could support a COSEWIC decision of which populations below the species' level would be suitable for assessment and designation.

3. Apply COSEWIC criteria for species in Canada as a whole, and for designatable units identified (if any), using information in the most recent assessment:

COSEWIC Criterion - Declining Total Population

- a. Summarize overall trends in population size (both number of mature individuals and total numbers in the population) over as long a period as possible and in particular for the past three generations (taken as mean age of spawners). Additionally, present data on a scale appropriate to the data to clarify the rate of decline.
- b. Identify threats to abundance— where declines have occurred over the past three generations, summarize the degree to which the causes of the declines are understood, and the evidence that the declines are a result of natural variability, habitat loss, fishing, or other human activity
- c. Where declines have occurred over the past three generations, summarize the evidence that the declines have ceased, are reversible, and the likely time scales for reversibility.

COSEWIC Criterion - Small Distribution and Decline or Fluctuation: by stock, for species in Canada as a whole, and for designatable units identified, using information in the most recent assessments:

- a. Summarise the current extent of occurrence (in km²) in Canadian waters
- b. Summarise the current area of occupancy (in km²) in Canadian waters
- c. Summarise changes in extent of occurrence and area of occupancy over as long a time as possible, and in particular, over the past three generations.
- d. Summarise any evidence that there have been changes in the degree of fragmentation of the overall population, or a reduction in the number of metapopulation units.

- e. Summarise the proportion of the population that resides in Canadian waters, migration patterns (if any), and known breeding areas.

COSEWIC Criterion - Small Total Population Size and Decline and Very Small and Restricted: by stock, for species in Canada as a whole, and for designatable units identified, using information in the most recent assessments:

- a. Tabulate the best scientific estimates of the number of mature individuals;
- b. If there are likely to be fewer than 10,000 mature individuals, summarize trends in numbers of mature individuals over the past 10 years or three generations, and, to the extent possible, causes for the trends.

Summarise the options for combining indicators to provide an assessment of status, and the caveats and uncertainties associated with each option.

For transboundary stocks, summarise the status of the population(s) outside of Canadian waters. State whether rescue from outside populations is likely.

As time allows, review status and trends in other indicators that would be relevant to evaluating the risk of extinction of the species. This includes the likelihood of imminent or continuing decline in the abundance or distribution of the species, or that would otherwise be of value in preparation of COSEWIC Status Reports.

II Redfish stock discrimination between Units 1 and 2

Context

A one-day zonal workshop was held on February 9th, 2006 at Maurice Lamontagne Institute in Mont-Joli, Qc in order to examine new elements concerning the distinction of redfish stocks in Units 1 and 2 within the context of the current management approach. During the meeting, participants examined the most recent data concerning population structure of Northwest Atlantic redfish stocks. Specifically, genetic and geometric morphometric data as well as data on the elemental composition of otoliths were reviewed. The discussions held during the workshop were not entirely conclusive as to the biological relevance of the management units currently used for redfish. Nevertheless, it was agreed that this point would be added to the agenda of a future workshop, which should be held within a few months. The present workshop aims at finalizing the work started during the previous workshop.

Objectives

Complete the examination of the most recent data relative to the structure of redfish stock of the Northwest Atlantic. This examination shall include:

1. An evaluation of the structure of the redfish population based on the most recent data on genetic, morphometry and the elementary composition of otolith.
2. The perspectives and/or recommendations concerning the biological relevance of the actual management units.

III Review of the index fishery

Context

The redfish fishery in the Gulf is under moratorium since 1995. A grid survey was set up by the Industry at the end of 1990s. In addition, an index fishery serving partially for financing the grid survey was jointly authorized to the grid survey. However, the grid survey did not take place since 2003. Therefore, it is now necessary to review the relevance of this index fishery.

Objectif

To examine the relevance of the redfish index fishery in Unit 1.

Outputs

The meeting will produce:

1. One Research Document for redfish, summarising the overall status of the species and the data and information held by DFO which could be used by COSEWIC in making status designations.
2. A Science Advisory Report (SAR) summarizing the advices and conclusions of the section on Redfish stock discrimination between Units 1 and 2
3. Proceedings summarizing the decisions, recommendations, and major points of discussion at the meeting, including reflection of the diversity of opinion.

Participation

Participation will be solicited from the following:

- DFO Science from different regions of the country
- DFO Fishery and aquaculture management and Oceans staff
- COSEWIC author
- COSEWIC Marine Fish Co-Chair
- Provincial representatives
- Fishing industry representatives