

Terms of Reference (Draft)

Zonal Peer Review Meeting

Review of information for the American eel (*Anguilla rostrata*) prior to assessment by COSEWIC

October 11-12, 2005
Quebec City, Quebec

Chairperson: Nicholas Mandrak

A. Background

The implementation of the federal Species at Risk Act (SARA), proclaimed in June 2003, begins with the assessment of a species' risk of extinction by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC), an arm's-length scientific advisory body. This assessment initiates the regulatory process whereby the competent Minister must decide whether to accept COSEWIC's designation and add a species to Schedule 1 of SARA, which will result in legal protection for the species under the Act.

DFO, as the primary generator and archivist of information on aquatic species, will be expected to support the work of COSEWIC by providing the best information available on the status of a species to be assessed. DFO benefits from this activity as it allows COSEWIC to most accurately assess the status of a species when all relevant information is made available to those undertaking the assessment.

A Zonal Peer Review of the available information for the American eel (*Anguilla rostrata*), recently listed on COSEWIC's Call for Bids (January 2005), is scheduled for October 11-12, 2005 in Quebec City, Quebec.

B. General objectives

This advisory meeting is being held to undertake a science-based peer review of information (both DFO and non-DFO) that would be relevant to determining a COSEWIC status designation for the American eel.

The intent of this meeting is to have on the science record:

- a) What information is available related to the status and trends of, and threats to, American eel in Canadian waters;
- b) The strengths and limitations of the information; and,
- c) What the meeting participants think are legitimate uses of the information, and why.

C. Specific objectives

The purpose of the meeting is to ensure that the species information held by DFO is made available to COSEWIC, including the authors of the status report, and the Chairs of the COSEWIC Freshwater Fishes Species Specialist Subcommittee.

For this species, the meeting will review information on life history characteristics, distribution and abundance, and threats in Canadian waters, which could be used by COSEWIC to determine, following its assessment guidelines and criteria, the appropriate risk category. Discussion will also consider the available information on designatable units (DUs), which could support a COSEWIC decision whether or not to consider DUs below the species' level that would be suitable for assessment and designation.

Documentation produced by this part of the meeting will include Research Documents summarising the available information on these species, and a Proceedings Document summarizing discussions at the meeting.

The following information will be reviewed to the extent that it is available:

1. Review life history characteristics

- Growth parameters: age and/or length at maturity, maximum age and/or length
- Fecundity
- Early life history pattern (e.g. duration of planktonic larval life, and major egg, larval, and juvenile transport mechanisms)
- Specialised niche or habitat requirements

2. Review designatable units — see COSEWIC 2005 “Guidelines for Recognizing Designatable Units below the Species Level” (attached).

3. Apply COSEWIC criteria for species in Canada as a whole, and for designatable units identified in 1 (if any), using information in the most recent assessments:

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. **Calculate rate of decline over last 10 years or three generations, whichever is greater.**
- 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 in 1 (if on a scale finer than stocks) and 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 meta-population 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 in 1 (if on a scale finer than stocks), and 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.
2. Summarise the options for combining surveys to provide an assessment of status, and the caveats and uncertainties associated with each option.
 3. 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 of the status of the species 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.

D. Documentation

The meeting will produce the following documentation:

1. At least one Research Document that summarises the overall status of the species and the data and information held by DFO and the Provinces which manage American eel (Ontario and Quebec), which could be used by COSEWIC in assessing a status designation. Additional Research Documents that focus on regional abundance indices and fisheries will be produced as well. These reports will cover the information identified above.
2. Proceedings summarising the decisions, recommendations and major points of discussion at the meeting, including a reflection of the diversity of opinion present in the discussions.