COSEWIC
Committee on the Status of Endangered Wildlife in Canada

COSEPAC
Comité sur la situation des espèces en péril au Canada

Canada's declining biological wonders focus of species at risk meeting

Twenty-six Canadian wildlife species, from whales to snails, were assessed as at risk at the recent COSEWIC (Committee on the Status of Endangered Wildlife in Canada) meeting held April 28th -May 3rd in Winnipeg, Manitoba. These assessments bring the total number of wildlife species recognized by COSEWIC as at risk to 676. Canada's at risk species include icons like Polar Bear, Caribou and Killer Whale. The species assessed at this meeting highlight that many of our declining species are inconspicuous and largely unknown, yet they remain an important part of our biodiversity. Hidden among these are numerous biological wonders increasingly placed at risk by human activities.

Soapweed, a threatened Yucca found in the prairies of southern Alberta and Saskatchewan

Living at sea

The Sei Whale is one of more than 30 whale and dolphin species in Canadian waters, and one of the least studied of the world's whales. The Pacific population of Sei Whale was assessed as Endangered by COSEWIC, joining 13 other whales at risk in Canada. This species escaped the attention of whalers until preferred species became rare. Most Sei Whales were taken after 1950, with more than 4,000 killed off British Columbia's coast before the species received protection in 1975. Despite increased search effort, there have been only a handful of sightings in the past 35 years. The lack of recovery of Sei Whales is not well understood, and remaining individuals are threatened by ship strikes and shipping noise. Increased tanker traffic on BC's coast may increase the risk to these majestic but rarely observed animals.

Eulachon are small fish that are most visible when they return en masse to spawn in rivers along the west coast of North America, but they are highly dependent on the health of the ocean where they spend most of their lives. Eulachon from the Nass and Skeena rivers were reassessed at this meeting on the basis of new information. Throughout their range, many populations have declined by 90% or more, and both the Central Pacific Coast and Fraser River populations were designated previously as Endangered by COSEWIC. Thus far, the Nass-Skeena population is faring better.

Because Eulachon spend most of their lives at sea, there is still concern that poorly understood threats in the marine environment may lead to declines in the Nass-Skeena population, especially given the declines observed in the other populations of the species. These concerns led to a designation of Special Concern.

Uniquely Canadian biodiversity escaped glaciation

Our biological wonders include many species that are uniquely affected by Canada's recent glacial past. While most of Canada was covered by ice during the repeated glaciations of the last two million years, some exceptional areas escaped glaciation. In these pockets, the flora and fauna reflect ancient diversity.

Unglaciated pockets of diversity are found on the Haida Gwaii peninsula. In 2002, scientists discovered the stunning Haida Gwaii Slug, a species new to science. It was assessed as Special Concern because climate change is expected to shrink its mountain-top habitat. Although this slug was known only from Haida Gwaii, biologists predicted that it might also be found on the northwestern mountains of coastal Vancouver Island because the regions have similar habitat and neither was glaciated. A diverse team of biologists launched an expedition that succeeded in finding a relict population of the slug, thereby expanding its known range and adding to our understanding of the role of past climatic events in shaping patterns of diversity.

Beringia, which includes parts of Alaska, western Yukon and Northwest Territories, also escaped glaciation. This region hosts another uniquely Canadian species, the Hairy Braya. This diminutive plant known only from Cape Bathurst on the Arctic coast of the Northwest Territories, was assessed as Endangered. An expedition was launched to search for more plants and to understand what threatens them. Hairy Braya populations were found growing above coastal bluffs where they are threatened by increasing erosion and storm surges associated with reduced sea ice and a warming climate. Another Beringian plant, the Spiked Saxifrage, is known in Canada from just six creeks in Yukon's Klondike Plateau. This is another ancient glacial survivor, and was assessed as Threatened because of impacts from increased mining activity on its streamside habitat.

Unfamiliar and unassuming indicators of declining habitat

While unfamiliar to most Canadians, eight species of molluscs, including slugs, snails and freshwater mussels, were assessed as at risk by COSEWIC. The four mussel species live in southern Ontario, where run-off from agriculture and other pollution decreases water quality in the streams, rivers and lakes where they live. Mussels are among the most sensitive species to degraded aquatic ecosystems, and their declines raise alarm bells for the many species that share their habitats. Some of these mussels have a bizarre method of reproducing, in which they trick fish into eating bundles of their parasitic offspring, which then feed on their host fish before dropping off to become free living. Many of the potential fish hosts of these mussels are themselves at risk, also due to declining water quality.

No species is an island: The fates of moths and plants are linked

An even more intricate example of interactions among species involves the Soapweed Yucca and its pollinator, the Yucca Moth. Just three populations of this plant are known in Canada, growing in the prairies of southern Alberta and Saskatchewan. Yucca Moths pollinate the flowers before laying eggs in them. Their larvae then feed on developing Yucca seeds. This fascinating mutually beneficial relationship is even more astounding because two additional moth species also depend on the production of Yucca seeds for their offspring. Because of overbrowsing by deer, which eat Yucca flowering stalks, all three moth species were assessed as Endangered, while the Yucca itself was assessed as Threatened. This example underscores the importance of discovering and describing the complex interactions among species in order to help preserve them.

Even in Canada, many species remain undiscovered, and others are known only by name, with their secrets and surprises waiting to be revealed. These biological wonders remind us of their inherent value as unassuming indicators of the state of the environment that we all share.

Next meeting

COSEWIC's next scheduled wildlife species assessment meeting will be held in Ottawa, Ontario in November 2013.

About COSEWIC

COSEWIC assesses the status of wild species, subspecies, varieties, or other important units of biological diversity, considered to be at risk in Canada. To do so, COSEWIC uses scientific, Aboriginal traditional and community knowledge provided by experts from governments, academia and other organizations. Summaries of assessments are currently available to the public on the COSEWIC website (www.cosewic.gc.ca) and will be submitted to the Federal Minister of the Environment in fall 2013 for listing consideration under the *Species at Risk Act* (SARA). At that time, the full status reports and status appraisal summaries will be publicly available on the Species at Risk Public Registry (www.sararegistry.gc.ca).

There are now 676 wildlife species in various COSEWIC risk categories, including 298 Endangered, 164 Threatened, 192 Special Concern, and 22 Extirpated (i.e. no longer found in the wild in Canada). In addition to these wildlife species that are in COSEWIC risk categories, there are 15 wildlife species that are Extinct.

COSEWIC comprises members from each provincial and territorial government wildlife agency, four federal entities (Canadian Wildlife Service, Parks Canada Agency, Fisheries and Oceans Canada, and the Canadian Museum of Nature), three Non-government Science Members, and the Co-chairs of the Species Specialist and the Aboriginal Traditional Knowledge Subcommittees.

Definition of COSEWIC terms and status categories:

Wildlife Species: A species, subspecies, variety, or geographically or genetically distinct population of animal, plant or other organism, other than a bacterium or virus, that is wild by nature and is either native to Canada or has extended its range into Canada without human intervention and has been present in Canada for at least 50 years.
Extinct (X): A wildlife species that no longer exists.
Extirpated (XT): A wildlife species that no longer exists in the wild in Canada, but exists elsewhere.
Endangered (E): A wildlife species facing imminent extirpation or extinction.
Threatened (T): A wildlife species that is likely to become Endangered if nothing is done to reverse the factors leading to its extirpation or extinction.
Special Concern (SC): A wildlife species that may become Threatened or Endangered because of a combination of biological characteristics and identified threats.
Not at Risk (NAR): A wildlife species that has been evaluated and found to be not at risk of extinction given the current circumstances.
Data Deficient (DD): A category that applies when the available information is insufficient (a) to resolve a wildlife species' eligibility for assessment or (b) to permit an assessment of the wildlife species' risk of extinction.
Species at Risk: A wildlife species that has been assessed as Extirpated, Endangered, Threatened or Special Concern.

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Further details on all wildlife species assessed, and the reasons for designations, can be found on the COSEWIC website at: www.cosewic.gc.ca