

# Species Risk Designation at the Canadian Federal Level: A Changing Role for the Committee on the Status of Endangered Wildlife in Canada

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## ABSTRACT

COSEWIC, the Committee on the Status of Endangered Wildlife in Canada, has for more than 20 years determined the national status of wild species considered to be at risk of extirpation or extinction in Canada. Status determinations are best judgements based upon available scientific information embodied in detailed status reports. They are predictions of a species' probable fate if present trends and conditions continue. The contracting, editing, and preparation of status reports are in the hands of taxonomically-based subcommittees of COSEWIC and their chairs. COSEWIC currently has a permanent membership consisting of the subcommittee chairs plus federal, provincial, and territorial jurisdictions and agencies, and non-governmental organizations, each of which sends delegates. COSEWIC has considered 456 species since 1978; 307 species are now on a respected national "List of Species at Risk," which grows each year. Pending federal legislation will necessitate a number of changes to COSEWIC, including new formal terms of reference, criteria for determining status, credentials for members, and procedures for appointment of members as individuals. Amid much debate, a new and different COSEWIC is emerging, which will report directly to government ministers. Preservation of an impartial scientific process of status designation and the continued independence of the committee are being questioned. An independent, scientific, and apolitical COSEWIC is the cornerstone of a workable and worthwhile Canadian Species at Risk Act.

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**Key words:** Committee on the Status of Endangered Wildlife in Canada, COSEWIC.

The extinction risk for a species (its level of endangerment) is a probability that all the populations of that particular species will go extinct within a certain period of time. The probability, for instance, might be a 10% chance of extinction in 100 years, or 20% in 50 years, or 50% in 10 years, in order of increasing pessimism. In practice, computation of such probabilities is extremely difficult, both because the analyses are complex and fraught with assumptions, and because data are usually limited in scope and accuracy. Consequently, population viability analyses have only been done on a small group of species. Nevertheless, endangered species lists are produced by a number of agencies, using broadly subjective categories of risk (endangered, threatened, vulnerable) rather than probabilities. Status designations are predictions, not descriptions, and constitute judgements on the probable fate of a species if present trends and conditions continue.

Endangered species lists are produced and circulated by 2

different sorts of organizations, largely for 2 different purposes. Conservation groups make lists for publicity and public awareness of endangered species, and to identify causes for concern. Governments make lists also, to demonstrate their action and concern, and to incorporate levels of necessary action and prohibition into laws and regulations. In Canada at the federal level, the agency that determines species extinction risk is COSEWIC, the Committee on the Status of Endangered Wildlife in Canada (or, in French, CSEMDC, le Comité sur le Statut des Espèces Menacées de Disparition au Canada). In its official parlance, COSEWIC determines the national status of wild species, subspecies, varieties, and nationally significant populations of all native fish, amphibians, reptiles, birds, mammals, molluscs, lepidoptera, vascular plants, mosses, and lichens that are considered to be at risk in Canada, based on the best available scientific information. Uniquely, COSEWIC incorporates the goals both of governments and of non-governmental organizations and independent scientists to achieve its ends.

COSEWIC was conceived in May 1976, with the proposal that the Federal-Provincial Wildlife Conference, composed of

**Table 1.** Chairpersons of COSEWIC

Years	Name	Affiliation
1977–1987	J. A. (Tony) Keith	Canadian Wildlife Service
1988–1991	W. T. (Bill) Munro	British Columbia Wildlife Branch
1992–1995	Christopher Shank	Northwest Territories Renewable Resources
1996–1997	Dr. Erich Haber	Canadian Museum of Nature
1998–	Dr. David M. Green	McGill University

the wildlife directors, strike a standing committee consisting of federal and provincial government representatives, as well as conservation and scientific organizations, in order to establish the status of endangered and threatened species and habitats in Canada. That proposed standing committee was COSEWIC, which was formed in September 1977 and made its first designations in May of the following year.

Currently, and in effect for its 1999 annual meeting, COSEWIC is a committee of 26 voting members, which are, in effect, not people but jurisdictions, agencies, and organizations, who send representatives, plus the chair (Table 1), who is elected from the membership. These members are COSEWIC's 6 taxonomically-based subcommittees (Birds; Terrestrial Mammals; Fish and Marine Mammals; Reptiles and Amphibians; Vascular Plants, Lichens and Mosses; and Invertebrates [Lepidoptera and Mollusca]), the 10 provinces and 3 territories (including the new territory of Nunavut), 4 federal agencies (Canadian Wildlife Service, Parks Canada, the Canadian Museum of Nature, and the Department of Fisheries and Oceans), and 3 non-governmental organizations (World Wildlife Fund Canada, Canadian Nature Federation, and Canadian Wildlife Federation).

The subcommittees are usually represented by their chairs or, in the case of most of the subcommittees, their co-chairs. The chairs and co-chairs are the most independent of COSEWIC members. They do not necessarily have organizational affiliations, and they include university academics and independent scientists chosen to represent their particular taxonomic groups based upon their expertise and biological knowledge. Scheduled for next year, the Fish and Marine Mammals subcommittee will be divided into 3 new subcommittees: Marine Fish; Freshwater Fish; and Marine Mammals. This will bring the number of subcommittees (to be redubbed Species Specialist Groups) to 8, and thus bring the voting membership of COSEWIC to 28, plus the chair.

Aside from the voting membership representatives, COSEWIC also consists of: the taxonomic subcommittees themselves; a Standing Committee composed of the subcommittee chairs, which coordinates activities of the subcommittees; and a Secretariat, which is staffed by the Canadian Wildlife Service and looks after operations.

The assessment process followed by COSEWIC begins with the subcommittee chairs/co-chairs, whose responsibilities include: identifying species to investigate; finding

authors to write species status reports; preparing the contracts for the reports and forwarding them to the Secretariat; editing the reports when they come in; and presenting the reports and status recommendations to the COSEWIC committee. The subcommittee chairs/co-chairs thus shoulder most of the responsibility for making COSEWIC work. The Species Status Reports that are commissioned by the subcommittee chairs contain, as much as possible, best available information on species, including range, habitat, general biology, protection, special significance, changes and trends in population size and distribution, limiting factors, and actual and potential threats. Each report, written by a knowledgeable expert on the species, also includes an evaluation and proposed status. Once received, a draft report is reviewed by appropriate subcommittee and range jurisdiction(s), and by members of COSEWIC. If a species has been previously reviewed, a Status Report Update must be commissioned, ideally every 10 years, or when information indicates that its status may have changed. An update may conclude 1 of several possible outcomes: status reconfirmed; an uplisting into a more serious category of risk; a downlisting into a less serious category of risk; or a delisting, which removes the species from the List of Species at Risk.

In the assessment process, the taxonomic subcommittees are there to provide scientific expertise on taxonomic groups and review draft reports for scientific accuracy and completeness, rather like an editorial board. The subcommittee may recommend acceptance or rejection of the report and also recommend a status designation. Taxonomic Subcommittee members perform other functions, as well, in helping to develop candidate species lists, commission status reports, and in accepting reports from interested third parties.

Reports that have been approved by the subcommittees and vetted by the relevant jurisdictions are brought by the subcommittee chairs/co-chairs to COSEWIC's annual general meeting, held every April. This is a closed meeting of members and observers held to evaluate species of concern. Precise and detailed information is often presented, and so, to protect the species, that information is not made public. Instead, a public forum is held to announce the results after the decisions are made. During the meeting, for each species, the relevant subcommittee chair presents the species status report and a status designation is put to a motion. The motion may be debated, but decisions are reached, as much as possible, by

**Table 2.** COSEWIC endangerment risk categories. Endangered, Threatened, and Vulnerable comprise the “At Risk” list.

Category	Definition
Endangered (E)	species faces imminent extirpation or extinction
Threatened (T)	species is likely to become endangered if limiting factors are not reversed
Vulnerable (V)	species is sensitive to human activities or natural events
Not at Risk (NAR)	species is secure
Extirpated (XT)	species no longer exists in the wild in Canada
Extinct (X)	species no longer exists
Indeterminate (I)	insufficient scientific information on which to judge

consensus. If the committee's opinion is not initially unanimous a vote may be taken; a two-thirds majority is required for acceptance of a motion. If the proposed status is not accepted, a motion for a different status is proposed, debated, and voted upon. Controversies usually arise because risk levels are somewhere along a continuum of probabilities, but designations are discrete categories. It often requires discussion to determine on which side of the line between categories a species' risk level may actually lie. There may still not be unanimity, but a two-thirds majority win also means that no member of the committee can have a veto over designations.

The National List of Species at Risk in Canada, produced by COSEWIC, now has 307 species on it, out of the 456 species COSEWIC has considered since 1978. Ten species are considered Extinct, 12 Extirpated, 73 Endangered, 72 Threatened, and 140 Vulnerable; a further 121 are currently considered Not at Risk, and 19 are considered Indeterminate (see definitions in Table 2). Out of the 67 species re-examined with status report updates, 9 have been delisted. This year (1999) some 80 reports, about half of which are updates, will be considered by COSEWIC and the list will grow. This, of course, does not reflect the speed at which species are becoming at risk. It reflects the pace at which COSEWIC can investigate them. Hundreds of candidate species remain to be assessed and each species takes time to assess, report on, and review. Mainly because of updates, the number of reports considered by COSEWIC grows each year, and that is expected to continue.

The result of COSEWIC's work, the National List, is understood and respected by all jurisdictions and conservation groups. There are good reasons for this influence. It is scientifically based and produced in a climate relatively free from political shenanigans. All members' views are aired, and it remains independent, at arm's length from governments. Its particular strength is its inclusiveness, incorporating government, non-government, and independent scientists, such that no single group can unduly influence the outcome.

Thus, COSEWIC works. It works because of its broad range of expertise with wildlife. It works because it is cost effective, being the result of mostly volunteer effort. It works because it is respected for integrity, impartiality, and independence. It works because it is inclusive and enjoys “buy-in” from governments, non-government organizations, and the

scientific community. It works because of its continuity and effective consensus building. It also has a public education role and makes its status reports freely available once approved.

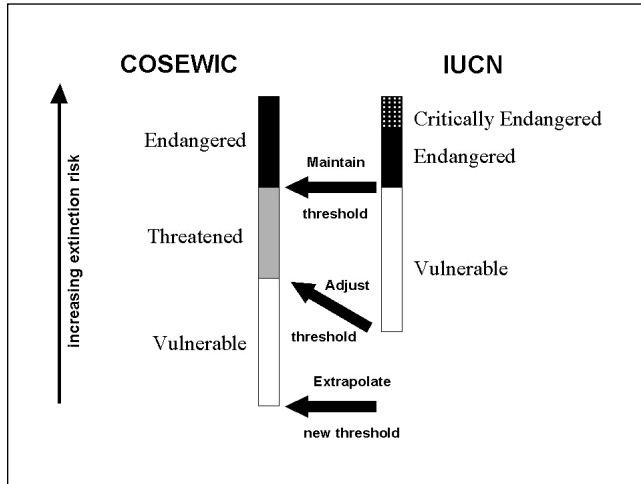
There is room for improvement, though, and there are limits on what COSEWIC can do. It cannot be held responsible for provincial designations, and not all wildlife in Canada is represented on its subcommittees. COSEWIC does not currently have a subcommittee for crustaceans, for example. COSEWIC could be castigated for being ineffective in publicizing and promoting itself in the past. And COSEWIC's increasing workload will require solutions.

One improvement currently being debated by COSEWIC is adoption of a rigorous system of standardized criteria. Criteria for designations need to be defensible, and they are helpful if they can act as consistent guidelines for evaluating the evidence contained in status reports. This will aid in yielding consistent and readily understood justifications for categorization of extinction risk. To that end, the IUCN (International Union for the Conservation of Nature) evaluation system was adopted 1998, but the COSEWIC categories, rather than the IUCN categories of risk, were retained. COSEWIC's designations and the categories of Endangered, Threatened, and Vulnerable, as COSEWIC uses them, are well understood in Canada and are used in current and pending regulations and legislation. To abandon them would be a mistake. So, it remains to reconcile the IUCN method with the COSEWIC nomenclature (Fig. 1).

Impending federal endangered species legislation will mean increased importance for COSEWIC. The original Canadian Endangered Species Protection Act (CESPA, or Bill C-65) died on the order paper in 1997, and new legislation—a “Species at Risk Act”—is to be introduced this spring in harmony with a National Accord reached with the provinces and territories. COSEWIC henceforth will report to a newly established Canadian Endangered Species Co-ordinating Council (CESCC), composed of ministers of wildlife from the provinces and territories and the federal government. This will raise the stakes for COSEWIC, as all action on endangered species at the federal level will start with COSEWIC's designations. COSEWIC will report directly to the ministers and its designations will (eventually) carry legal force.

Tinkering with COSEWIC has already begun. The 6

subcommittees will become 8 Species Specialist Groups. Appointment of members has not yet been determined; many models are under consideration. The non-governmental representatives have not yet been clarified. There has



**Figure 1.** Alignment of IUCN (International Union for the Conservation of Nature) and COSEWIC risk categories showing the adjustments to criteria threshold values that may reconcile the 2 systems for COSEWIC's use.

been pressure from aboriginal groups to include traditional ecological knowledge (ATEK) at all levels, and assorted stakeholders' views argue for a stronger or a weaker COSEWIC. COSEWIC designations will have legislative implications, so it is logical to expect jurisdictions to aim to influence COSEWIC's behaviour. Tensions arise because, fundamentally, conservation organizations and governments do not have the same goals in creating endangered species lists.

Some points, however, are clear. Politics cannot be avoided, because designating status is itself a political act, aiming to influence human awareness and behaviour. But COSEWIC has no legislative powers, nor can it, because legality is the constitutionally mandated responsibility of governments. This is not a weakness for COSEWIC because, freed from legislative onus, COSEWIC can consider species solely on the facts and keep the politics out of the process. The ability to publish its list gives COSEWIC its clout.

Can COSEWIC continue to be independent and scientific under legislation? Despite competing pressures, it has to be, for if not, it will become irrelevant. The determination of species status must not be done under external political pressure or political control; the facts alone should rule in COSEWIC. An independent, scientific, and apolitical COSEWIC is the cornerstone of a workable and worthwhile Canadian Species at Risk Protection Act.