



COSEWIC
Committee on the Status of
Endangered Wildlife in Canada

COSEPAC
Comité sur la situation des
espèces en péril au Canada

Emergency Assessment Concludes that Three Bat Species are Endangered in Canada

On 3 February 2012, an emergency assessment subcommittee of COSEWIC (Committee on the Status of Endangered Wildlife in Canada) assessed the status of Tri-colored Bat (*Perimyotis subflavus*), Little Brown Myotis (*Myotis lucifugus*), and Northern Myotis (*Myotis septentrionalis*) in Canada. All three species were assessed as Endangered. The subcommittee concluded that the unprecedented mortality in Canada's native bat species from *Geomyces destructans*, the pathogen responsible for White-nose Syndrome, poses a serious and imminent threat to the survival of each of these species. Populations of all three species have recently declined precipitously due to the rapid spread of White Nose Syndrome. A recommendation has been made to the Minister of the Environment that an Emergency Order be issued placing these wildlife species on Schedule 1 of the *Species at Risk Act*.

The emergency assessment was based on the best available knowledge for the three bat species and the disease agent in Canada and in the United States. Although information on bats and the fungal disease is somewhat limited, the evidence of population collapse and rapid spread of the disease is clear. This is only the fourth emergency assessment carried out by COSEWIC in about ten years.

White Nose Syndrome

White Nose Syndrome was first identified in a cave in New York State, USA in February 2006. It was discovered in Canada in the winter of 2009/2010 and is now confirmed in Ontario, Quebec, New Brunswick and Nova Scotia and is spreading rapidly at rates of between 200 and 400km/year. It is believed that the fungus is not native to North America, and further human transport may facilitate more rapid spread to western Canada.

Little is known about this syndrome that gets its name from the characteristic white fuzzy fungal growths that can be seen around the nose and on the wings of infected bats. Laboratory studies in 2011 confirm that the syndrome is caused by a fungus called *Geomyces destructans*. White-nose Syndrome interrupts the hibernation of bats and they quickly use up the fat reserves that get them through the winter. Infected bats often emerge early from hibernation and are seen flying around in midwinter. These bats usually dehydrate or starve to death. The disease has now been linked to deaths of more than 5.7 million North American bats.

Three Bat Species Endangered and, Other Bat Species Likely Impacted

In Canada, the ranges of the Tri-colored Bat and *G. destructans* almost completely overlap. This bat is relatively rare, but direct counts of this species at a hibernaculum in Quebec show declines of 94% over two years. The disease risk to Tri-colored Bat is considered exceptionally high because it hibernates at temperatures considered optimal for the pathogen and for relatively long periods of time.

Although the range of Little Brown Myotis has so far only been partially impacted by *G. destructans*, the disease is spreading at rates between 200 and 400km/year and could encompass most of the species' range within two to three generations. Recent population counts of Little Brown Myotis at hibernacula in Canada show declines of 94-99% within two years of exposure.

For Northern Myotis, like Little Brown Myotis, the distribution of *G. destructans* does not include the full range of the species but the evidence indicates rapid spread and very high mortality. Recent counts at hibernacula in Canada show declines of over 90% within two years.

Only three bat species were assessed by COSEWIC in February, however, to date White Nose Syndrome has been identified in nine species of bats in North America and there is conservation concern for these and other species where the disease has not yet been found.

Not Just a Bat Problem, Bats Provide Us with Very Important Ecological Services

Although there are no known links between the syndrome and human health, White Nose Syndrome is more than just a bat problem. Bats provide tremendous value to the economy as natural pest control for farms and forests every year, and may play an important role in helping to control insects that spread disease to people. US researchers have estimated that the bat die-off will cost North American agriculture \$3.7 billion dollars annually.

What is Being Done

Currently there is no treatment for, or means of preventing transmission of White Nose Syndrome. Canadian and United States researchers and conservation biologists are working together to improve data and address important research questions on bats and the disease. An inter-agency team has prepared a draft document; "*A National Plan to Manage White Nose Syndrome in Bats in Canada*" to guide and coordinate actions. Efforts are underway to reduce or remove the possibility of transfer of the fungus by humans through reducing visits to caves and through biosecurity protocols for researchers. We encourage the public to contact their local wildlife agencies and report any caves, mines or other sites used by bats, and any unusual bat behavior, such as bats flying outdoors in deep winter, or sightings of dead bats in winter.

(Note: There has been some recent changes in the scientific and common names of bats: Little Brown Myotis (*Myotis lucifugus*) was previously, Little Brown Bat (*Myotis lucifugus*); Tri-colored Bat (*Perimyotis subflavus*) was previously, Eastern Pipistrelle (*Pipistrellus subflavus*) and Northern Myotis (*Myotis septentrionalis*) was previously, Northern Long-eared Bat (*Myotis septentrionalis*).

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 are submitted to the Federal Minister of the Environment for listing consideration under the *Species at Risk Act* (SARA). Full status reports and status appraisal summaries are also made publicly available on the Species at Risk Public Registry (www.sararegistry.gc.ca).

There are now 643 wildlife species in various COSEWIC risk categories, including 284 Endangered, 158 Threatened, 177 Special Concern, and 24 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 14 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.

Endangered (E)*: A wildlife species facing imminent extirpation or extinction.

**denotes a COSEWIC risk category*

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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