

4 September 2012

Hon. Mr. Peter Kent
Minister of the Environment and MP for Thornhill.
Les Terrasses de la Chaudière
10 Wellington Street, 28th Floor
Gatineau, QC K1A 0H3

Dear Minister Kent:

I write as a former member of COSEWIC (Committee on the Status of Endangered Wildlife in Canada) and co-chair of COSEWIC's Terrestrial Mammals Species Specialist sub-committee from 2005-10. The co-signatories to this letter are also Canadian biologists with recognized expertise in the biology of bats.

We write to urge you to expedite the emergency assessment of COSEWIC that concludes that three species of bats with ranges in Canada (the Little Brown Myotis (*Myotis lucifugus*), Northern Myotis (*Myotis septentrionalis*) and Tri-colored Bat (*Perimyotis subflavus*)) should be listed as Endangered. These species have experienced the most rapid declines of any wild Canadian mammals in recorded history due to the spread of a fungal disease called White-nose Syndrome (WNS). The disease was first recorded near Albany, NY in March 2006 and is caused by an invasive fungus that attacks these bats during hibernation. The fungus was introduced by humans (either tourists/cavers or, less likely, international shipping).

Canadian researchers are heavily involved in the effort to understand WNS in bats, and first showed what the fungus does to hibernating bats, and that it is an invasive species. Further, the Canadian Cooperative Wildlife Health Centre is leading a Canada-wide effort to deal with the disease.

While often perceived poorly by the public, these species, and bats in general, perform an important ecological function, namely the consumption of vast numbers of night-flying insects. This has potential economic benefit for agriculture and forestry. Dramatic declines in summer bat activity have been recorded and there is the potential for an ecological disaster that would completely change ecosystems, in a manner similar to the virtual elimination of Atlantic cod.

Regional extirpations are predicted under all current scenarios within 16-20 years of WNS arrival for Little Brown bats, the most common species in Canada. New data (Landwig et al. 2012 Ecology Letters) predicts extinction of the Northern Myotis because population declines appear independent of host density. This means that the fungal pathogen will spread just as fast, whether there are many or few hosts (like an STD or a disease with an environmental reservoir). The fungal pathogen that causes WNS could thus readily drive these bats to extinction.

As biologists who know bats, we strongly believe that the COSEWIC emergency listing criteria have been met for all three species. Aside from meeting the COSEWIC criteria, by listing these species on schedule 1 under SARA, the following possibilities arise which will help:

- 1) With increased protection of existing habitat (e.g., roosting habitat used in summer), there will be increased summer survival and reproductive success which will help the species.
- 2) Reductions to the disturbance of bats during winter hibernation would result from gating mines and caves. This could reduce starvation and thus mortality of more bats. It will also ensure that mineral-rights holders and mining companies deal with both public safety and wildlife protection at abandoned

mine sites on crown lands. Most abandoned mines (tens of thousands) in Canada have not been surveyed, but a significant proportion are likely used by hibernating bats;

3) There will be stimulation of additional needed research. One management option suggested by current research is that extra protection should be given to dry, cold hibernacula. Landwig et al. (2012) showed that population declines are fastest in the warmest and wettest caves, and slower in cold, dry caves;

4) Listing will provide opportunities to raise public awareness about the important ecological role of bats and encourage people to protect bat habitat, put up bat houses to help summer populations, while also encouraging cavers to clean their equipment.

In summary, we urge you to follow the recommendations of COSEWIC and immediately list these three bat species as endangered.

Most sincerely,



R. Mark Brigham
Professor and Department Head,
Biology, University of Regina

Craig K. R. Willis
Associate Professor and Chancellor's Research Chair
Biology, University of Winnipeg

Robert M.R. Barclay
Professor and Department Head,
Department of Biological Sciences,
University of Calgary

Cc – Dr. Brock Fenton – Chair COSSARO
Dr. Marty Leonard – Chair COSEWIC
Dr. Justina Ray - Co-Chair COSEWIC Terrestrial Mammals sub-committee
Dr. Graham Forbes - Co-Chair COSEWIC Terrestrial Mammals sub-committee
Leslie Hale – OMNR
Ted Leighton - CCWHC