



Mr. Chris Heydon
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Ministry of Natural Resources
Policy Division, Biodiversity Branch
Wildlife Policy Section
300 Water Street, PO Box 7000
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29 January, 2015

Re: Ontario's White-nose Syndrome Response Plan (EBR Registry Number: 012-1474)

Dear Chris,

Thank you for the opportunity to provide comments on Ontario's draft White-nose Syndrome Response Plan. As the first jurisdictions in Canada to devise a plan of this nature, we are highly supportive of this initiative, and interested in assisting with implementation in the service of the conservation of Ontario's bats.

We are submitting this letter in our respective capacities as scientists specializing in fish and wildlife ecology (particularly bats) and conservation biology on behalf of Wildlife Conservation Society Canada (www.wcscaanada.org). In addition to research and conservation activities in this province, we have been involved in both the development and implementation of Ontario's Endangered Species Act (ESA) through participation in the Minister's Ontario Endangered Species Act Legislative Review Advisory Panel and membership on COSSARO. We have also been engaged in the process of species recovery through research, participating in species at risk recovery planning (reviewers and recovery team members), as well as recovery and conservation activities associated with a number of fish and wildlife species. Most importantly for this issue, we have significant bat expertise in WCS Canada through our western bat conservation initiative (Dr. C. Lausen) and leadership of COSEWIC and CSSARO assessments of these bat species at risk (Dr. J. Ray). Dr. Lausen has also been directly involved in the development of the Canadian White-Nose Syndrome Strategy and is a member of the North American Bat Monitoring Program.

We are very supportive of the release of this strategy, and consider the present draft to be a solid starting point. We offer the following comments to help maximize its effectiveness.

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Our chief concern relates to the lack of context provided in the strategy about the role of bat conservation and recovery to combat White-Nose Syndrome (WNS).

- The goal of the plan is focused on WNS itself, but we presume the ultimate goal is for conservation of hibernating bats, in particular those that are listed under SARO, and should be stated as such.
- It is odd that the endangered status of bats as species at risk directly affected by WNS are not even mentioned until p. 9 of the strategy. Additionally, no information is provided about the role this strategy will in the context of their recovery efforts in the province. We are unaware of any plans for the formulation of a recovery strategy/government response statement, and are unclear why this strategy is being led from the policy section of MNRF, and how this relates to Species at Risk activities that will be undertaken in the same Ministry.
- Section 2.4 in the document under WNS Prevention is focused on “Species At Risk”, yet this section contains only an explanation of the process by which these species were listed and a generic description of “protections” under the Act. Although the purpose of the WNS Prevention section is to outline “the public awareness communications strategy, management considerations and outreach actions to be taken by the collaborating agencies to limit the spread of WNS”, section 2.4 contains no mention of any actions. There is no information provided about how the essential species at risk recovery process will work actively to combat the largest threat to listed bat species in the province.
- The executive summary refers to “multi-agency coordination in three key areas: prevention, surveillance and research”. The absence of conservation or species recovery as an area of focus is perplexing.
- Accordingly, we suggest strongly that missing from this strategy is some attention to the facilitation of population recovery and disease survival of affected endangered bats through actions such as reducing hibernation disturbance, securing significant hibernation habitat, and protecting and enhancing habitats to provide optimal conditions for maximal reproduction or ideal hibernation conditions (e.g. warm predator-free maternity roosts, where bats do not face eviction/persecution). In addition, given the high mortality from WNS, additive mortality from other disturbances (e.g., wind turbines) must be carefully managed. Although we recognize that the WNS Strategy has a different scope from a Recovery Strategy, the ultimate measure of the success of the former will be condition of the bat populations themselves. Therefore, this strategy needs be explicitly aligned with recovery efforts in order to succeed.

Other remarks (in general order of their appearance in the draft document):

- 1) Regarding MNRM’s role in the “prevention of entry into old underground mine workings” (Section 1.4), it is important to qualify this by specifying that these closures should be designed to keep people out but still allow bats in (i.e., bat-friendly closures).

- 2) The section on “WNS Prevention” (Section 2) really describes actions that may mitigate the spread of the *Pseudogymnoascus destructans* (Pd) fungus. If the Strategy is actually serious about preventing the disease, then this section would be better focused on building ‘safe hibernacula’ that are routinely maintained to remove Pd from bats and the hibernating surfaces. In the absence of this, the strategy should clear on what it really expects to be able to accomplish.
- 3) In “Public Awareness and Reporting” (section 2.1), the goal of “communications strategies and dissemination of information” is weak. What information should be disseminated? Bat conservation? Importance of bats? How to help prevent WNS spread? How to help bats? Etc. Similarly, what is the “source of general information” Someone gathering data on their laptop? A publicly accessible website?

Addition activities should include:

- Educate truck drivers, RV owners, etc, who could possibly transport infected bats as stow-aways within Ontario or between provinces. Stress the need for vigilance and be aware of the possibility this could transport infected bats long distances.
 - Convey that bats may overwinter in buildings, and that eviction needs to occur during late summer or early fall months only. Public should be educated to construct buildings in ways that do not encourage use by bats in the first place. Special structures built for bats, such as bat houses, can provide safe suitable habitats that can be monitored and potentially decontaminated of Pd fungus between seasons.
 - If habitats for bats are behind enhanced through structures such as bat houses, keep abreast of current recommendations, such as regular fungal decontamination of such structures.
- 5) “WNS Containment” (section 2.2) is not about containment, but again about slowing the spread by reducing the risk of humans acting as vectors. As such, it is unclear how it differs from the Public Education section above.
 - 6) The strategy contains some outdated information. For example:
 - The number of states where WNS has been confirmed
 - Website where information on decontamination can be found (<http://whitenosesyndrome.org/resource/revised-decontamination-protocol-june-25-2012>) is old and should be replaced by guidelines on the CCWHC website: http://www.ccwhc.ca/wns_decontamination.php
 - 7) Outreach and Stakeholder Collaboration (Section 2.3).
 - Section 2.3.1 (Entry to Caves and Old Underground Mine Workings) 4x4 groups/clubs and mine enthusiasts and geocachers should be added to the list of those receiving information notices.
 - Section 2.3.2 (Prospectors and Mining Industry) speaks to mineral exploration specifically, yet these areas are entered by anthropologists, archaeologists, microbiologists, and cavers, who should be subject to the same guidance and targeted communication efforts.
 - Section 2.3.3 (Wildlife Removal Operators). Bats may not be evicted, harassed, or live-captured during winter months. Wildlife removal operators should also have to abide by this.

- 8) The Surveillance (section 3) is less about watching for the presence of the disease than it is about monitoring impacts to the disease, which is also important. Disease surveillance and bat population should be distinguished from one another in this strategy, with careful attention paid to appropriate techniques for each.

Detecting the presence of WNS at unconfirmed sites requires one of the following:

- Seeing bats with fungus
- Swabbing suspect bats and testing for Pd
- Swabbing surfaces near bats and testing for Pd
- Testing carcasses for WNS
- Observing hibernacula entrances for carcasses.

Moreover, given the lack of detail in this section about any real techniques, We would be inclined to change this to say there are 3 types of surveys that can be done that will provide a level of surveillance for changes in the bat populations that may be indicative of WNS.

- *Maternity roost surveys* are not necessarily associated with hibernacula, and therefore it is not possible to conclude that any detected declines are associated with WNS. Declines at maternity colonies happen regularly, sometimes they can plummet to zero and yet this has nothing to do with WNS. There needs to be more detail on how one would do these surveys and how one would tease apart WNS impacts from other impacts such as seasonal roost switching, influence of the presence of predators, devastation to the population from other sources of mortality, etc.
- Under *Hibernacula entrance surveys*, no techniques are actually listed despite the title of the heading. This can be accomplished by: examining the entrances for dead bats, gathering these carcasses, and submitting them for testing. Bat detectors should also be employed to determine whether activity patterns have changed (in the case where baseline activity data are already in place), or if day-flying bats are recorded (to specifically test to see if a known hibernation site is infected). Although the swabbing/visualizing bats inside hibernacula would be best, the statement “entrance surveys” implies no entry to caves/mines which we understand may be the policy in ON for all government workers. So how does the strategy propose to “identify potential WNS sites and the extent of it”?
- *Acoustic transect surveys*. to potentially document potential declines in relation to bat acoustic activity that could result from WNS impacts. These data will be important on regional and provincial levels. Data should also be submitted to USGS Bat Population Database to contribute to continent-wide population monitoring (NABAT program).

A key part of both WNS surveillance and monitoring for population impacts is also to locate and monitor new bat hibernacula in the province, which is not mentioned. This strategy appears to be limited to known hibernacula, but there are likely others, particularly in the Far North.

- 9) The Data Management and Reporting section (3.6) is far too vague to be of any benefit. What role will CCWHC disease database play? What information will be passed along and to whom? What is the nature of the collaboration with the North American Bat Monitoring Program (if any)
- <https://www.fort.usgs.gov/science-tasks/2457>.

10) With respect to the statement “No existing evidence suggests that the disease has been or can be transmitted to humans” (executive summary) and similar statements throughout the document, the wording indicates that this is even a possibility. The fungus can only grow on cold live tissue. Our bodies don’t get that cold unless we are dead. This fungus cannot grow on humans. We suggest this be reworded to say that the fungus only grows on mammals that can hibernate, reaching cold body temperatures. To date, bats are the only hibernating mammals known to be inflicted with this disease.

Finally, we find it important to note that the effective implementation of this strategy will not only require coordination with recovery efforts for the three endangered bats, but investment at appropriate levels in bat population monitoring and disease surveillance methods in the province.

We welcome the opportunity to discuss ways in which we may contribute to a positive WNS Strategy development process and product.

Sincerely yours,



Justina C. Ray, Ph.D.



Cori L. Lausen, Ph.D.



Cheryl Chetkiewicz, Ph.D.