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20 December 2010

Dr. Jeremy Coleman
National WNS Coordinator
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3817 Luker Road
Cortland, NY 15045 - 9348

Via email to: WhiteNoseBats@fws.gov

RE: Public Comment on Draft National Plan in Managing WNS in Bats [FWS-R5-ES-2010-N261; 50120-1113-0000-C2]

Dear Mr. Coleman:

The Wildlife Society appreciates the opportunity to provide comments on the Draft National Plan for Assisting States, Federal Agencies, and Tribes in Managing White-Nose Syndrome in Bats [FWS-R5-ES-2010-N261; 50120-1113-0000-C2]. The Wildlife Society (TWS) was founded in 1937 and is a non-profit scientific and educational association representing nearly 10,000 professional wildlife biologists and managers, dedicated to excellence in wildlife stewardship through science and education. TWS's mission is to represent and serve the professional community of scientists, managers, educators, technicians, planners, and others who work actively to study, manage, and conserve wildlife and its habitats worldwide.

The unprecedented mortality associated with WNS has caused the most precipitous wildlife decline in the past century in North America, with significant ecological and economic consequences throughout the U.S. The Wildlife Society fully supports the efforts of the Departments of Interior, Agriculture and Defense, the St. Regis Mohawk Tribe, and the coordinated efforts of state fish and wildlife agencies from Kentucky, Missouri, New York, Pennsylvania, Vermont and Virginia in drafting a strategic plan to facilitate collaboration, communication, and strategic financing of research and related activities to counter the spread of WNS.

General Comments

We agree that this plan is necessary and feel it contains most of the important components (as Action Plans) needed for an initial national WNS strategy. However, several elements of the plan appear to overlap, which may lead to confusion. In addition, many of the Action Plans are somewhat vague and lack important details that will need to be clarified and expanded upon as this "living document" develops into a useful, applicable national plan. Considering the need for periodic updating of the plan as the crisis develops, and the necessity for developing a

meaningful national plan that addresses the problems promptly in an effective manner, TWS recommends that timelines be included with the stated action plans.

The overarching goal of the plan should be clarified. If the goal is to create something similar to a recovery plan, then the document should facilitate the assignment of leadership roles and lines of authority as well as plans to communicate among relevant management agencies. If the goal is simply to facilitate coordination among various agencies and entities, then that role should be clearly stated in the plan and referenced throughout the document.

An effective national plan will also need to specify clear management goals and standardize management practices to address regional and national level issues. The plan should emphasize standardization of plans by federal agencies, states and tribes for surveillance, population monitoring, and management actions. While it is understood that there is a clear need for sensitivity when dealing with multiple state, tribal and federal agencies, standardization will be necessary to ensure comparable results.

TWS also notes that the plan appears to ignore existing infrastructure (as provided by the National Avian Influenza Surveillance Plan, among others) that might be instructive. This plan might benefit from the review of, and reference to, previous efforts that are similar in scope.

The title of the plan indicates "tribes" but many of the bullets throughout the document focus on state and federal agencies. The involvement of NGOs is mentioned, but their role is often not clear. The document should be edited carefully to ensure inclusion of these groups wherever appropriate.

Section-by-Section Comments

I. Introduction:

Issues related to attempting to "manage" an unknown, emerging disease in a variety of highly mobile, nocturnal species need to be clarified in the background section. Reference to "chronic disturbance of hibernating bats" (P2, line 9) is vague; if possible, the types and frequencies of problematic disturbance should be identified.

II. WNS Response Strategy:

This section is not well developed and does not contain a detailed discussion. It is unclear whether this plan will lead to a cohesive national surveillance strategy or separate state strategies. TWS supports a national surveillance strategy; a template that has worked previously is the recent national surveillance strategy for H5N1 avian influenza implemented by USGS and USDA National Wildlife Disease Program.

Issues that could be discussed in this section include: (a) development of a sampling frame of known bat caves across the US, (b) development of an appropriate sampling scheme or options (e.g., a rotating panel, etc), (c) integration of covariates in surveillance/monitoring plans that might help elucidate large-factors associated with WNS spread and occurrence at

multiple spatial scales, and (d) use of occupancy estimators to incorporate differences in detectability, etc.

Many of the numbered recommendations under 'General Practices' in this section need more explanation or development. For example:

- **Recommendation 2:** It should be made clear why barriers are necessary. Is this for prevention of human exposure or for disposal/disinfection to prevent disease transmission/spread?
- **Recommendation 4:** Describe the goal of this recommendation. Is this to prevent secondary or subsequent infections?
- **Recommendation 6:** Maintaining "oversight" is vague. Does this mean providing guidelines, setting regulations, and limiting access? Should suspect bat caves be closed for all recreational purposes and only authorized trained professionals be allowed to collect data or handle bats in such caves? Which agency will be responsible for "oversight"?
- **Recommendation 7**: This recommendation currently reads "Adhering to basic hygiene practices that are known to minimize the spread of infectious agents, including use of hot, soapy water for washing hands, clothing, and equipment (with a link to best practices)." Basic hygiene is not an adequate answer to a rapidly emerging devastating disease outbreak. Personnel and gear should be decontaminated/disinfected prior to leaving any cave or handling bats suspected of having WNS. Are the protocols linked to the document "suggested" or are they to become "obligatory?" If the scope of this "plan" is limited to provision of recommendations, then the "plan" has little potential of altering the course of this outbreak. Clear specification of the need to follow the protocol and provision for authority for oversight might help to ensure that disinfection is adequately achieved.

III. Action Plans:

A. *Communication and Outreach*

We recommend partnering with appropriate NGOs on communications and outreach.

B. *Data and Technical Information Management*

There seems to be a lack of awareness of existing large-scale national infrastructure that could be adapted to the needs that they identified. For example, there already exists an on-line national database for avian influenza (e.g., HEDDS http://wildlifedisease.nbii.gov/ai/) that could serve the same role for WNS. In addition, there is already a national system of laboratories (National Animal Health Laboratory Network or NAHLN; http://www.aphis.usda.gov/animal_health/nahln/) that has diagnostic labs in almost every state (total of 60 nationwide) that could be used in such an effort

The literature review (Goal 2) should be assembled into a repository that is available to other interested parties (NGOs, researchers, academia, policy- and decision-makers, etc.).

C. Diagnostics

Diagnostics are required for reliable surveillance and monitoring as well as research. Reliable diagnosis should include both the presence and absence of WNS – this is critical for

the reliable conduct of surveillance, monitoring, and research activities. Secondary diagnostic priorities should be expanded to include other areas that are considered at risk of WNS, especially for confirmation of new cases and for testing for the presence of new disease foci.

Finally, Goal 5 is unclear and should be clarified to avoid overlap and confusion. Does this pertain to research on diagnostic methods or to general ecological or epidemiological research?

D. Disease Management

Management actions should be designed to "prevent or delay" the impacts of WNS. It should be clearly stated that the application of science is a key foundation of management actions and that management actions should be monitored and evaluated to determine their outcomes; this plan should focus on adaptive management throughout.

Goal 2 should not be to minimize or prevent the disease transmission and spread from humans to acceptable levels. We need standards that require disinfection and that do not allow use of contaminated gear. What are acceptable levels? The word "acceptable" needs to be defined. Also in Goal 2, management of cave access (Action 3(b)) needs to be defined or at least clarified. Suspect caves on public lands should be blocked from unnecessary use by the public, and research activities need to be monitored and managed until more information concerning risk is available. Strong recommendations should be provided concerning use of commercial caves, but this will be much more difficult to enforce.

We recommend expanding the title of Goal 3 to read "Reduce inter-/intra-specific transmission and disease spread" to emphasize the goal of limiting this explosive epizootic. This goal also needs to include both field "and laboratory" activities. It is highly doubtful WNS problems will be solved without an integration of both types of studies in a multidisciplinary framework.

We also recommend changing the title of Goal 6 to read "Identify adverse ecological impacts of management actions and reduce these impacts to acceptable limits"

E. Etiology and Epidemiological Research

First, we recommend changing title of this work group to "Research on Etiology, Epidemiology, and Ecology." In addition, the research needs should be expanded to include disease spread and method of treatment/immunization. This group should conduct scientific studies and provide results that facilitate adaptive management strategies.

Goal 2 should include additional actions to (1) develop treatments/immunization for WNS prevention in bats, and (2) develop methods for environmental and animal treatment of the pathogen.

In Goal 3, we recommend including synergistic effects of agents in addition to predisposing and causative effects.

Goal 4 should be substantially expanded to include research to (1) determine the important reservoirs and/or carriers of WNS; (2) determine the importance of bat density and species composition in the epidemiology of WNS; (3) determine if WNS operates in a density-dependent manner, and thus may be self limiting – and how the population threshold for such limitation might vary under different cave conditions or with different bat species; (4) determine the significant biotic and abiotic drives of disease transmission; and (5) conduct

research on bat-pathogen interactions to determine the species-specific infection rates, mortality rates, disease carrier rates, and among species transmission rates.

F. Disease Surveillance

It seems to be a given that different states will have different agendas and vary in the resources available to deal with this epizootic. However, this is exactly why a "national plan" needs to be better defined, wider in scope, and stronger in its language.

Disease surveillance should specifically include monitoring. In general, the goals for this working group seem too vague. The group should develop surveillance strategies and monitoring programs that identify high risk WNS areas, devise appropriate surveillance methods for WNS detection in new areas, and develop standard methods for monitoring changes in disease progression and mortality.

G. Conservation and Recovery (of Affected Bat Species)

This working group substantially overlaps with groups D & F; overlap may lead to unnecessary duplication of work or conflict among the working groups. For simplicity's sake, we recommend removing parentheses from the title.

Species-specific susceptibility is mentioned in Goal 1 and corresponding action items. Does this mean determining susceptibility to WNS, which is an action that should be addressed in the epidemiology and research sections? Does this mean species vulnerability or population viability rather than susceptibility as an epidemiological affect? This seems to overlap extensively with other sections.

In Goal 1 (Action 2) and Goal 3 (Action 3), 'susceptibility' should be clarified, and probably changed to a population level measure such as vulnerability or viability.

Goal 1, Action 3 is vague and its purpose unclear. Is this intended as an effort to establish pre-WNS baseline information? It is not clear what is meant by "implementing protocols". The use of the term "implementation" should be clarified throughout.

In addition to captive propagation, Goal 3, Action 3 should also evaluate potential translocation actions as well as the feasibility of creating new temporary or permanent habitat as a conservation measure.

Thank you for considering the views of wildlife professionals.

Sincerely,

Thomas J. Ryder

President