



Questions and Answers Concerning Developers and Northern Long-Eared Bat

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There are many questions surrounding the proposed listing of the northern long-eared bat (NLEB - *Myotis septentrionalis*) under the Endangered Species Act. The purpose of this paper is to answer questions developers may have about why the NLEB is being listed, the process of listing an endangered species, and how the listing will affect your project.

Federal Listing of the NLEB

Why are the U.S. Fish and Wildlife Service (USFWS) considering listing the NLEB as federally endangered? The predominant threat to NLEB is White-Nose Syndrome (WNS), a fungal disease known to affect bats during hibernation. White-Nose Syndrome was first observed in New York in 2006 and has spread rapidly across the Northeast (also into Canada) reaching as far as the Southeast and Midwest by September 2013. WNS has been confirmed in 22 of the 39 states where NLEB are found. Approximately 99 percent of the NLEB known to populate the Northeast have died as a result of WNS. Other threats to the species include wind energy development, climate change, contaminants, and habitat destruction or disturbance. Although none of these other threats have been attributed to significant population declines of the NLEB, they may become greater threats due to the presence of WNS.

When will USFWS list the NLEB as endangered? On June 30, 2014 USFWS announced that the final listing determination for the NLEB will be extended six months with a reopening of the comment period in the Federal Register for 60 days. A final decision will be made by USFWS no later than April 2, 2015 (the original date was October 2, 2013). The NLEB will be listed after a 12 month review and the protection for the species will go into effect 30 days from that day.

How does the listing of the NLEB as federally endangered affect how you approach development of projects? The NLEB is currently proposed for listing and does not receive the protection afforded to listed species, but USFWS encourages project proponents to implement measures to avoid and minimize impacts. Once USFWS lists the NLEB then the full protection of the endangered species act will become applicable.

Ecology and Behavior of the NLEB

How does the ecology and behavior of the NLEB affect your project and what do you need to know to make the right decisions to avoid or lessen the impacts to the NLEB? To answer this question we need to discuss the ecology and behavior of the NLEB in more detail. Most developers in the eastern United States either know of the Indiana bat (*Myotis sodalis*), which has been listed since the Endangered Species Act was signed into law in 1967, or have had to determine if their projects would impact the Indiana bat. Generally speaking, the habitat, range and behavior of the NLEB overlaps with the Indiana bat. The Indiana bat summer roosting habitat is characterized by the presence of roost trees which include live trees or snags (dead trees) greater than five inches in diameter at breast height (DBH), that have exfoliating bark, and that are located within 1,000 feet of other forested habitat. Indiana bat summer foraging and commuting habitats include forests, riparian forest, linear windrows, and can also include

non-forested habitats that are adjacent to wooded habitats (e.g. agricultural fields, wetlands, old fields, pasture). Both Indiana bats and NLEB use caves and mines to hibernate during the winter. In the spring and fall both bat species use forested areas.

Although there is overlap between the NLEB and the Indiana bat there are many differences between the two species. Some of these differences are important to highlight because they could affect the development of your project. The NLEB are known to use a wider variety of roost trees and snags than the Indiana bat (e.g. cracks, crevices, cavities, under slabs of bark). USFWS considers the minimum size of roost trees for NLEB to be three inches DBH. NLEB are also known to use artificial roosts (e.g. bat boxes, buildings, bridges) more frequently than the Indiana bat. USFWS has not established average size of maternity roosts and there may be a greater degree of variation as compared to Indiana bats.

So, what does the above mean for a developer? Basically this means that a larger variety of habitats will be considered NLEB habitat compared to what would be considered as Indiana bat habitat. Roost trees for NLEB are more varied and likely more prevalent on the landscape, which may increase the mitigation of potential roosts. This poses a problem for many developers since there will always be some impact to the NLEB on any project that has some trees or forest. A solution would be to keep the definition of roosting habitat as is but use existing and future data or research and determine high quality roosts for mitigation. This will provide a reasonable approach where developers are not afraid to develop sites and the NLEB is protected.

The known range of the NLEB includes a total of 39 states and covers a larger area than the Indiana bat (20 states), from Maine to Montana and from Canada to just north of Florida. Although critical habitat is identified and prioritized for Indiana bats (caves and mines), USFWS has not identified where or what is critical NLEB habitat. It is likely that USFWS will release critical habitat information once the NLEB is listed. In the meantime USFWS will protect any cave or mine that NLEB have been known to utilize during hibernation and surrounding habitat (likely up to five mile diameter).

Again, what does the above mean to developers? The larger range of the NLEB will broaden from 20 states to 39 states where **developers will have to determine impacts to an endangered species of bat**. For areas where the Indiana bat and NLEB ranges overlap there may not be any difference in impacts, but there could be site specific difference depending on the resources impacted. The definition of NLEB critical habitat is important to the whole process of the listing of the species; without this definition, mitigation and management efforts will not be focused and it will be more difficult to de-list the species by stabilizing their population and protecting their habitats from further degradation, which is ultimately the goal of the Endangered Species Act.

Overall, more information is needed about the ecology of the NLEB to further understand how projects could impact important resources. Although there is a body of research on the ecology of the NLEB, the focus of most bat research has been on the Indiana bat. Once more information is collected, the USFWS will incorporate new data, hopefully providing more focused guidance concerning critical habitat for developers to avoid impacting, and allowing for better mitigation of the resources that are impacted.

NLEB and Projects

As a developer how do you know if your project will impact NLEB once it is listed? As we discussed above, the NLEB will likely be listed by April 2015. If your project is completed **before** the USFWS lists the NLEB, you can continue the project as planned but if your project will impact the NLEB **after** it is listed then consultation with USFWS is warranted.

What are the steps a developer needs to take to determine impacts to NLEB? It is important to communicate with regulators at a state and federal level to identify any sensitive environmental issues. The USFWS is a primary source of information about endangered species and their habitats. This initial consultation with USFWS is considered informal and does not obligate you as a developer to provide any information other than a general location of your project. If there are records of NLEB in the area, then it is up to you to determine whether to proceed with the project. If there are not records for endangered species, you still will need to determine if the project may impact the NLEB or its habitat. Evaluation of the habitat within the project and presence/absence surveys will need to be conducted. It is prudent to use someone who can interpret the data and can provide help with endangered bats issues. **That is where we, Orbis Environmental Consulting (Orbis), can provide the tools and expertise to help you complete your project by avoiding detrimental impacts to the NLEB.**

What services does Orbis provide when a project may impact the NLEB? Orbis can provide desktop or onsite surveys and guidance if NLEB or its habitat may be impacted by your project. We can help you communicate with USFWS and help you interpret the data and discuss the findings. Orbis can also provide a clear and concise study plan that provides the information required while not breaking your project development budget.

What does the future hold for developers when the NLEB is listed? Absent a crystal ball, it's impossible to say with precision. However, the future will likely involve looking at how projects will impact NLEB and possibly other bat species. Developers need to work with regulators early and have open communication that will provide all parties with the information needed to determine how to proceed with the project for the mutual benefit of all. There is a need for more information so developers can avoid impacting the NLEB, and hopefully that information will be provided, but as more research is conducted that information will be refined. **Orbis is in a position to help developers** navigate the uncertain waters of the listing of the NLEB with our expertise and understanding of both regulations and the ecology of the NLEB to achieve developer's goals - all while protecting sensitive environmental resources.

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