Indiana Bat Recovery at the Iowa Army Ammunition Plant, IA

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A cooperative project between the military and the Environmental Contaminants Program of the U.S. Fish and Wildlife Service is helping to recover an endangered bat species. Summer populations of Indiana bats (*Myotis sodalis*) at the Iowa Army Ammunition Plant are at risk from exposure to hazardous substances, including heavy metals and explosive compounds released into the environment. This coordination between federal agencies helps ensure that sensitive species like the Indiana bat are protected during the environmental clean-up activities. [Photo by Rich Fields]

In 1941, the Iowa Army Ammunition Plant was constructed in southeastern Iowa to load, assemble, and pack various ammunition and fusing systems. The installation is still very active today. However, during installation operations, industrial wastewaters and by-products were disposed at the installation. In 1989, the installation was listed under CERCLA's National Priorities List for remediation and environmental restoration. In the late 1990's, the Army and U.S. Environmental Protection Agency contacted the U.S. Fish and Wildlife Service to coordinate over the remediation processes. Contaminants biologists stationed at the Rock Island, IL Ecological Services Field Office responded to the request for coordination.

A coordination team was formed of scientists from the Army, the U.S. Environmental Protection Agency, and the U.S. Fish and Wildlife Service. The team decided to develop protective clean-up criteria for Indiana bats because they were found using the old-growth forests on the installation. Adult bats and their young fed on insects from the streams and open fields within the installation property. Insects that come from soil and sediments containing hazardous substances can accumulate contaminants in their tissues. Bats may be harmed through the ingestion of the contaminated food.

The team generated food chain exposure models for the Indiana bat. The results of the exposure models were used to derive soil clean-up concentrations that are protective of the Indiana bat's food resources. This threshold is being used to design how much contaminated soil needs to be removed for the clean-up action. In addition, coordination is necessary for the response actions to avoid cutting down certain trees in the soil clean-up areas which are used by the bats as

roosts during the summer months. Coordination team activities started in about 1997 and lasted through 2006 to cover all of the areas and habitats in this large Army installation.

The Indiana bat is found in Iowa only during the summer months now. During the summer, females form small maternity colonies in cavities or under loose bark of mature trees for rearing their single pup. Most of the Indiana bats from Iowa are believed to hibernate within caves in the State of Missouri during the winter months. About 85% of all Indiana bats hibernate in a total of eight caves because they require specific conditions. Region 3 of the U.S. Fish and Wildlife Service has the lead for updating the species recovery plan. It is important to recover imperiled bat species like the Indiana bat because they balance insect populations and higher diversity of species including bats helps to stabilize the ecosystems in the United States.

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Downloads:

Iowa Army Ammunition Plant CERCLA newsletter

Links:

For more information on Indiana bats in the Midwest, see

http://www.fws.gov/midwest/Endangered/mammals/ind_bat.html

For more information on Indiana bats in Missouri, see

http://mdc.mo.gov/nathis/endangered/endanger/bat/

For more information on CERCLA, see:
http://www.fws.gov/contaminants/Issues/Superfund.cfm