

ACTIVITIES OF THE FORT DRUM FISH & WILDLIFE MANAGEMENT PROGRAM: AMPHIBIAN SURVEYS & MONITORING

Fort Drum's Fish & Wildlife Management Program is responsible for all fish and wildlife resources on the installation. The primary focus is to support and sustain the military mission, but supporting the mission takes many forms. We ensure compliance with state and federal regulations; review proposed actions for potential impacts to fish, wildlife and their habitats; monitor various environmental parameters to maintain healthy ecosystems; promote and manage outdoor recreation; and ensure good stewardship of lands for military training and the public in perpetuity. Conducting surveys and monitoring amphibian populations is just one activity of the Fish & Wildlife Management Program.



American Toad

Baseline information about the species of amphibians (and reptiles) found on Fort Drum is lacking and mostly derived from anecdotal observations. To better understand what species exist and where they occur, the Fort Drum Fish & Wildlife Management Program has initiated a Herpetological Inventory and Monitoring Program.

Establishing an inventory and monitoring program is essential to assess biodiversity of a landscape and using standardized methods will allow data collected on Fort Drum to be compared to data collected from other areas and ecosystems to assess habitat conditions and amphibian communities. The two primary goals of this project are: (1) establish a scientifically derived list of species found on Fort Drum and their distribution on the installation, and (2) establish a long-term data set for Fort Drum to assist managers in assessing health and vigor of native amphibian/reptile communities, species assemblages and habitat quality.



Green Frog

One widely-used standardized survey method is Frog Call Surveys. Since 1995, the US Geological Survey (USGS) have established and coordinated the North American Amphibian Monitoring Program to assess and monitor local amphibian populations across broad landscapes. Scientists and volunteers throughout North America have established these routes as an effective and relatively easy means of monitoring the relative abundance and distribution of frog populations.



Spring Peeper

A typical Frog Call Survey is conducted along a predetermined route of 10 miles or less stopping for 5 minutes at 10 predetermined locations or listening points. These routes are run 3 to 4 times throughout the year because different frogs have different breeding seasons. For example, wood frogs begin calling as early as March while bullfrogs call in the summer. Fort Drum has four established frog call survey routes.

Why Frogs? First, frogs are amphibians. Because amphibians (i.e. frogs, toads, and salamanders) have the ability to “breathe” through their skin and exchange gases between their blood vessels and the outer environment, they are particularly sensitive to environmental changes. For this reason, amphibians are often considered biological indicators — the proverbial “canaries in the coal mine.” Second, frogs can be readily located during their respective breeding seasons (i.e., wetland areas). Third, frogs have species-specific vocalizations that can be easily learned by surveyors. Salamanders do not make sounds whereas most frogs and toads make calls that are very loud and easy to hear.



Bullfrog

Understanding frog populations has taken on added significance lately as more than 1/3 of all amphibian species—1,856 out of over 6,300 known species—are in imminent danger of extinction. Factors for the decline of some species include habitat loss and fragmentation, overuse of chemicals, disease and parasites, and invasive species. Yet in many cases, scientists are struggling to understand the cause of population declines. Because of their sensitivity, amphibians are the first species we would expect to show adverse reactions to climate change and to emerging diseases which may ultimately impact humans.



Leopard Frog

To learn more about frogs and toads in New York State, see the NYSDEC web site: <http://www.dec.ny.gov/animals/7487.html>. To learn more about the North American Amphibian Monitoring Program, see the USGS web site: <http://www.pwrc.usgs.gov/naamp/>. To hear frog calls, see the USGS web site: <http://www.pwrc.usgs.gov/frogquiz/index.cfm?fuseaction=main.lookup>.

Stay tuned for the next installment about Fort Drum's Fish & Wildlife Management Program!