

## ACTIVITIES OF THE FORT DRUM FISH & WILDLIFE MANAGEMENT PROGRAM: BIRD 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.

Surveys and monitoring activities are fundamental to any effort to manage migratory birds, because without a good understanding of what birds are present, where they occur, and in what numbers, any management effort is doomed to failure. Surveying and monitoring migratory birds is just one activity of the Fish & Wildlife Management Program.



A biologist removing a Cedar Waxwing from a mist net.



A Yellow Warbler being banded.



A banded Baltimore Oriole ready to be released.

Through agreements between the Department of Defense and the U.S. Fish & Wildlife Service, military installations are expected to monitor migratory bird populations. Fort Drum has been fortunate to have had a biologist monitoring birds since 1995, although the first bird surveys were done in 1991. To date, biologists on Fort Drum have recorded 249 species of birds.

Biologists employ a variety of methods to monitor bird populations. Perhaps the most frequently used method involves counting individuals birds calling or singing at specific locations. The "fixed radius point count" is one example commonly used on Fort Drum in which all birds seen or heard within a given distance from a central point are counted. Birds can also be monitored using capture and marking techniques in which birds are caught in nets or traps and then banded. In recent years more technological methods have been developed, including the use of radar to monitor large scale movements of birds, and automated recording units that record the calls of migrants as they fly overhead during the night.

Fort Drum biologists have used many methods to monitor birds, although we have relied primarily on point counts and mist netting surveys. Point counts have been used both to develop a general inventory of what species occur on the installation, and also for long-term monitoring which has been done on Fort Drum for more than 18 years.

From 1992 to 2001 Fort Drum participated in a nation-wide program called Monitoring Avian Productivity and Survivorship, a mist-netting project in which repeated captures of adult and immature birds were used to calculate the ratio of young to adult birds to estimate production of offspring. The proportion of individual birds that were captured in successive years was used to estimate survival from one year to the next. These two indicators—productivity and survival—are critical to understanding the health of bird populations, but are extremely difficult to accurately determine.

Beginning in 2009 and continuing in 2010, Fort Drum biologists are using mistnetting to monitor migrating birds. Each day, 10 mist nets are opened at sunrise and checked regularly for 5-6 hours. These nets have very fine mesh that is virtually invisible at any distance, and birds typically fly into them unaware. Once a bird flies into a net and becomes entangled, a biologist removes it and records certain information including species, sex and age, presence of stored fat (which indicates migratory condition and health), amount of flight feather wear, feather generation for several individual tracts of feathers, wing length, and weight. Finally, the bird receives a uniquely numbered U.S. Fish and Wildlife Service aluminum band on its right leg. This entire process

typically takes just a minute or two, and then the bird is released unharmed.

A popular misconception is that the primary purpose of banding is to find out where banded birds go when they migrate. Although knowing where birds migrate is important, only a tiny fraction of banded birds are ever captured away from the site where they were initially banded. Fort Drum is banding birds primarily to document the timing and intensity of migration for particular species, especially those that often slip through quietly and may avoid detection by other means. Bands are placed on these birds primarily to establish individual identity. For example, if 5 Ovenbirds are captured in a day and each one banded, we know they are 5 different individuals because each subsequent capture lacks a band. Any banded birds captured elsewhere, particularly on the wintering grounds, is a bonus to biologists!