



U.S. Fish & Wildlife Service

Habitat and Population Evaluation Team

A Strategic Approach to Conservation in the Midwest Region

The Prairie Pothole Region

The Prairie Pothole landscape of the upper Midwest and southern Canada is a 10,000 year-old remnant of the Glacial Period. The 300,000 square mile region covers portions of western Minnesota, Iowa, the Dakotas and central Canada. The Region's eastern wetlands and grasslands are two of the most endangered habitats in North America. Due to intensive farming and drainage, more than 70 percent of the native grasslands and wetlands have been lost across the entire region.

Conservationists, waterfowl hunters and migratory bird experts call the expanse of scattered shallow wetlands called "potholes" the "Duck Factory" of North America because more than 50% of the continent's waterfowl may be produced here during favorable periods. More than 200 species of migratory birds use the region for breeding.

HAPET's Mission

A team of U.S. Fish and Wildlife Service researchers and biologists have been dedicated to developing strategic guidelines for restoring and preserving this critical habitat to ensure sustainable populations wetland and grassland wildlife for the future.

The Habitat and Population Evaluation Team (HAPET), stationed in Fergus Falls, Minnesota, conducts scientific evaluation and monitoring projects to support strategic conservation efforts in the Prairie Pothole Region. The team collects and analyzes scientific data that informs on-the-ground conservation action not only for the U.S. Fish and Wildlife Service, but also partner agencies including the U.S. Department of Agriculture, U.S. Army Corps of Engineers, state natural resources agencies, and non-governmental organizations.



Photo by Stan Bousson

Science in Action

Among many other scientific activities, HAPET biologists use a scientific model to estimate duck-pair potential, or breeding potential, within 40-acre tracts of land. Using models based on data collected from annual waterfowl surveys, the team is able to estimate production potential of a landscape, both before and after wetland and grassland restoration.

to develop landscape models for some species, including migratory shorebirds and grassland songbirds, while existing data and expert knowledge has been tapped to locate and map important areas for other species in the absence of survey data. The HAPET has been instrumental in working with partners to develop new surveys and methods of monitoring non-game migratory birds.

HAPET provides cutting-edge research that can be adapted and expanded upon to estimate breeding potential in certain habitats for other species, like those that are threatened or endangered.

The HAPET also evaluates the potential of the landscape for other wetland and grassland dependent species including shorebirds, secretive marsh birds such as bitterns and rails, and grassland nesting songbirds. Special surveys are used

Informing Refuge Activities

The National Wildlife Refuge System uses the data analysis provided by HAPET to strategize land acquisition opportunities. In particular, the Service's Small Wetlands Acquisitions Program benefits breeding waterfowl through the acquisition of small wetlands and associated upland habitats. These Waterfowl Production Areas, or WPAs, in addition to conservation easements, are selected for restoration and conservation efforts, based on the integrity of their existing wetland complexes, landscape context, and predicted nesting success.

In late spring, the HAPET coordinates a survey of waterfowl pairs and wetland conditions on more than 200 4-square-mile plots, including more than 1800 ponds. The survey generates the Breeding Pair and Production Estimate Report, which evaluates how National Wildlife Refuge lands are doing in terms of supporting waterfowl production.

Refuges stay informed on which pieces of land are most valuable for waterfowl breeding habitat, informing us on where we can get the biggest conservation return.

Ensuring Long-Term Sustainability

The upper Midwest is known for its strong outdoor ethic – hunting, fishing and outdoor recreations are important elements of the Midwestern lifestyle. The HAPET team not only contributes to science-based conservation, but also contributes to the long-term sustainability of the outdoor tradition that defines the region.

Evaluating On-the-Ground Conservation

In addition to assessing waterfowl production capabilities on certain tracts of land, HAPET biologists also determine the effect of on-the-ground management activities predicted to benefit others birds of concern. For example, HAPET researchers are leading a study that examines the effects of woody vegetation removal on grassland nesting birds. Grassland birds are declining more rapidly than any other bird group in the U.S., so understanding the effectiveness of tree removal is critical to evaluating the management activity.

Contributing to Citizen Science

HAPET also contributes to the region's conservation ethic by providing opportunities for children to become "citizen scientists." HAPET bands upwards of 1,000 ducks annually, and recruits the help of students to get the job done. Duck banding alongside HAPET biologists engages children in the principles of natural resources management and scientific design, while giving them a hands-on opportunity to learn wildlife biology.

The natural resource profession will be responsible for addressing the conservation issues affecting the Prairie Pothole Region for many years into the future. Educating future generations on how sound science can help save a species is critical. They will have our jobs one day, and the more experience we can provide them early on the better.

Restoration of the wetlands and grasslands of the Prairie Pothole Region, and the wildlife dependent on these habitats, remains a top priority for the U.S. Fish and Wildlife Service. As a practitioner of strategic conservation, the HAPET works closely with multiple conservation partners to expand the knowledge base to address conservation challenges in the Prairie Pothole Region.

From strategic planning and evaluation for migratory birds, to monitoring for wetland waterfowl, the HAPET conducts key surveys and analyses to help inform landscape level decision making by other Service and partner programs.

Efficiently restoring habitat complexes demands a targeted and coordinated approach to conservation. The technical assistance that HAPET provides to the Service and its partners strengthens our scientific credibility. The data that comes out of this office directly benefits the species and habitats that require our efforts to survive.



For more information on HAPET activities in the Midwest Region, visit <http://www.fws.gov/midwest/HAPET>