# Fact Sheet

Summary of Mammalian Predator Distribution Assessment, 2003 - 2005.

Predation is a major factor influencing the productivity of waterfowl in the prairie pothole region and mammals have been identified as the principal predators affecting duck production in the region. There are a variety of methods being used or suggested for reducing the effects of predation on nesting ducks. Typically, methods fall into 3 general categories: (1) restoration and protection of habitats critical to nesting ducks, (2) isolation of nests from predators, and (3) removal of predators by lethal methods. Determining which method or combination of methods to apply to achieve desired results is dependant on habitat conditions, landscape configuration, and the composition of the predator community affecting the breeding population being managed.

We know that variations in predation rates of duck nests can be caused by differences in predator species composition, especially differences in canid community composition and densities. This presents another option for predation management; that is, managing canid populations to favor coyotes and reduce red fox populations. Management to favor coyote establishment in new areas and maintain low density coyote populations is passively applied by some managers in parts of the region (e.g., not controlling coyotes on refuges). This approach has potential to positively affect nest success over large areas of the landscape. Clearly, no matter what targeted or combined approach to predation management is employed, successful management of predation to enhance nest success depends on knowledge of the predator community underlying low nest success. Because different management approaches are appropriate for different situations, knowledge of the predator community is an important contribution to management planning.

Between 2003 and 2005, USFWS HAPET partnered with Northern Prairie Wildlife Research Center to assess the distribution of predators in representative landscapes across the Prairie Pothole Region in a band extending from northwestern Minnesota to northern Iowa. We conducted systematic track surveys to detect the presence of mammalian predator species, with 4 mi x 4 mi blocks in a checkerboard pattern. Alternate blocks were searched twice annually for
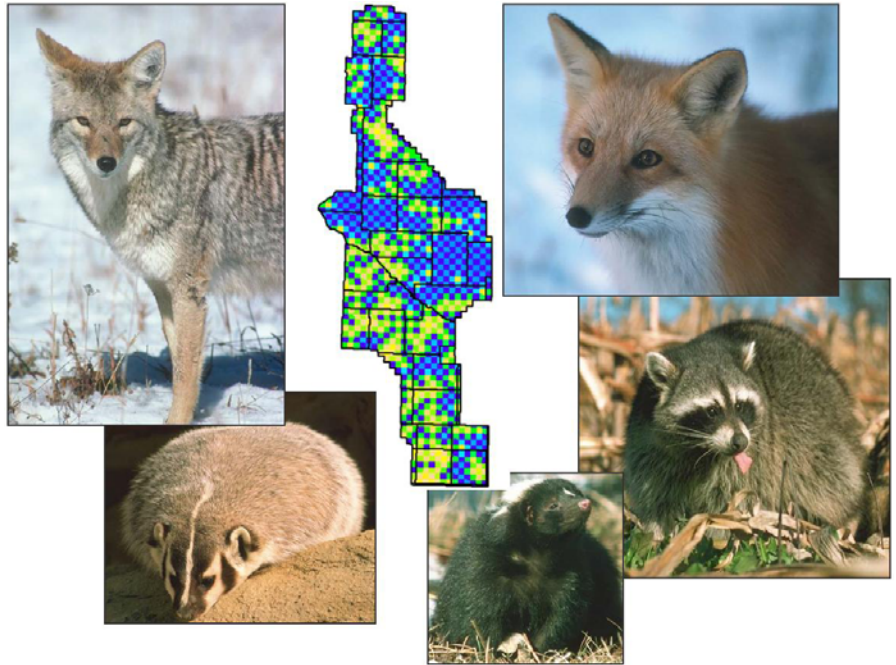
tracks with observers focusing on secondary and low-maintenance roads, section lines, and other suitable areas where tracks could be observed without having to obtain permission to access private property.   The first survey period was approximately 20 April – 31 May and the second survey period was approximately 1 June – 15 July. Blocks were surveyed for a minimum of 30 min and a maximum of 75 min. For each block, observers recorded the period of time between the start of the survey and the first observation of a track for individual species, and the number of sites that tracks of individual species were observed.

Analysis of field data in 2006 and 2007, indicated predator distributions were similar among years, creating the expectation that further data analysis may result in models relating landscape structure to predator relative abundance and community composition. In brief, some of the most significant findings to date have been that:

- Distribution patterns differed among species suggesting some sort of landscape or habitat effect on predator community composition.
- Raccoons were ubiquitous throughout the entire study area.
- Badgers occurred at low densities in isolated areas throughout the study area.
- Stripped skunks occurred throughout the study area but there were large isolated gaps in skunk occurrence, possibly due to poor tracking substrates and limited movements by females during the first sampling period.
- Red foxes were common throughout the study area.
- Foxes and coyotes often occupied the same landscapes, but foxes tended to avoid core areas of coyote home ranges.
- Regulating coyote harvest may be an effective tool for reducing red fox abundance and may result in increased ground nesting bird (e.g., ducks and pheasants, etc.) nesting success.

Future research may help refine models of habitat and landscape factors affecting predator presence and abundance, and may help determine if nesting success is higher in the core areas of coyote home ranges where foxes are often absent.