

BOBCATS REGAINING A FOOTHOLD IN IOWA

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Bobcats (*Lynx rufus*) were once widespread in the prairie-woodland complexes of the Midwest, but by the mid-1900s were considered rare throughout the Cornbelt region. The loss of bobcats from this region is attributed primarily to habitat loss and unregulated harvest. Iowa was one of the states that suffered a near loss of the species. Bobcats were listed as endangered in Iowa when the first state list was created in 1977 and legal harvest of the species was banned. Since then there have been sporadic reports of bobcat occurrences, such as sightings, automobile kills, and incidental trappings. During the 1990s there was a noticeable increase in these reports so that the status of the bobcat in Iowa was changed to Threatened in 2001 and then to Protected in 2003.

In 2003, the Iowa Department of Natural Resources and Iowa State University began research on the population and landscape ecology of bobcats in Iowa. Dr. Todd Gosselink from the Iowa DNR and Dr. William Clark from ISU are the principal investigators. Research objectives include determining the distribution of bobcats in Iowa, evaluating population monitoring techniques, estimating reproduction and survival rates, determining habitat selection, and conducting genetic analysis. An overarching motivation for this research is the question "Will

bobcats maintain viable populations in the agriculturally-dominated landscape of Iowa?" The ultimate research goal is the development of a conservation and management plan for the species that insures their continued presence in Iowa. Not only will this research be useful to wildlife managers in Iowa, but to biologists in the Midwest who are faced with similar questions about the conservation of bobcats. This research is also providing scientists with a unique opportunity to study a carnivore population as it expands back into an area of its former range, and may provide insights into the ecological mechanisms that enable dispersal and persistence.

Distribution

Data collected from a bow hunter observation survey, as well as reported sightings and carcass collections, indicate that the largest numbers of bobcats are in southern Iowa, especially the southwestern region of the state. Not surprisingly, few bobcats are sighted in the heavily farmed areas of central and northern Iowa. Bobcats have been confirmed along the Missouri river corridor in western Iowa, however very few have been documented along the Mississippi river corridor in eastern Iowa.

Habitat Use and Survival

The most time-consuming component of the research includes the

live-capture and radio-collaring of bobcats in a focal study area in south-central Iowa. Researchers capture bobcats with live-traps as well as respond to calls from private trappers who have incidentally live-captured a bobcat while trapping for other furbearers. Upon capture, the bobcats are anesthetized, measured, weighed, and individually ear-tagged. A tooth is extracted for an age determination and blood is drawn for DNA and disease testing. Between 2003 and early 2006, 69 bobcats were captured and fitted with radio collars, 53 of which received standard VHF collars and 16 received GPS collars. Each bobcat is located twice per week using vehicle-mounted yagi antennas, and missing bobcats are tracked from a fixed-wing airplane. To date, over 10,500 ground and aerial locations have been collected on them and an additional 1,399 GPS locations have been recovered. Annual survival of the radio-collared bobcats is 82% and appears to be similar between males and females. Causes of mortality have included automobile collision (5), incidental trapping (5), illegal shooting (2), drowning (2), train collision (1), other predators (1), and unknown causes (1). The average home range size of male bobcats (57 km²) is more than twice the size of females (20 km²). Female bobcats maintain con-



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