

STATUS REVIEW & RECOVERY OUTLINE
for the OSPREY (*Pandion haliaetus*)

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Reviewed by the Illinois Endangered Species Protection Board at its 137th meeting held February 22, 2008, but there is no record in the minutes of that meeting that action was taken for approval. In the interest of housekeeping, Board Director, Anne Mankowski, proposed review of changes made to replace reference to the ESTAC reviewing the status of the species with reference to the Board reviewing the status of the species and recommended approval by the Board at its 145th meeting to be held February 19, 2010.

Approved by the Illinois Endangered Species Protection Board, at its 145th meeting, February 19, 2010.

Current Status

Osprey are a rare nesting species within the state and are listed as **ENDANGERED** in Illinois. From 1999-2005, 5 active nest sites were reported to the Illinois Department of Natural Resources' Biotics 4 Database (T. Kienenger, pers. comm.). Unreported nests apparently exist: 3 active nests and 5 locations with adults were reported in the 2004 breeding season (Kleen 2005). Considering reports in the Biotics 4 database, and *The Meadowlark: A Journal of Illinois Birds* (Volumes 9-14), 8 nest sites in 5 counties were active at least one year from 1999-2005 (Figure 1). Osprey are uncommon spring and fall migrants along rivers, lakes and reservoirs throughout Illinois (Bohlen 1989).

Osprey are not and have not been listed as federally threatened or endangered. Robust populations, estimated at 16,000-19,000 nesting pairs in the contiguous 48 states in 2001, represent a 25% increase from the estimated 1994 population (Poole et al. 2001). The North American Breeding Bird Survey recorded a trend of +6.3% per year from 1966-2004 (Sauer et al. 2005).

Historical Status

Throughout the past 100 years or longer, osprey have been a rare or uncommon nesting species within Illinois (Bohlen 1989). There was a well-documented decline in the continental abundance of ospreys in mid-20th century that has been directly linked to exposure to DDT/DDE (Weimeyer et al. 1975, 1978, 1988, Spitzer et al. 1978).

Proposed Status Review Criteria for the Grassland Raptors

The proposed status review criteria represent measures of distribution and abundance to prompt the Endangered Species Protection Board to review the status of the species and consider a change in status. Status review criteria do not prompt an 'automatic' change in status, and the Endangered Species Protection Board may review the status or status review criteria of the species at any time.

Evaluate Change in Status to Threatened - Over the past 10 years, there are records of an average or 10 or more nests per year in the Natural Heritage database.

Evaluate Removal from the List of Threatened or Endangered Species - Over the past 10 years, there are records of an average or 25 or more nests per year in the Natural Heritage database.

Reasons for Decline

The osprey's well-documented decline in abundance during the mid-20th century has been directly linked to exposure to DDT/DDE, which caused egg shell thinning, leading to reproductive failure (Weimeyer et al. 1975, 1978, 1988, Spitzer et al. 1978). Following reduced use and banning of DDT and other chlorinated hydrocarbon pesticides, populations have recovered dramatically since 1970.

Osprey, especially fledglings at nests near highways, are vulnerable to collisions with automobiles. Some birds are electrocuted when they land or attempt to nest on crossarm utility

poles with transformers, which offer prominent perches near water. Osprey are generally tolerant of human activity, including boat traffic near nests (Poole et al. 2002), though response to jet skis warrants more study.

Recovery Actions

The primary tool for increasing osprey populations in Illinois, as elsewhere in the Midwest and Great Lakes regions (Poole et al. 2002), will be providing nesting platforms. Though osprey accept a variety of platform designs, a robust model developed in Kentucky (Kentucky Environmental Education Projects, Inc.) is recommended for Illinois (Figures 2, 3). An osprey population dependent upon nesting platforms requires a long-term commitment from managers to maintain the platforms. However, nesting platforms support roughly twice the production of young osprey as natural nests (Poole et al. 2002), due to their durability, predator-d discouraging placement and design. Nesting platforms may be usurped by earlier-nesting birds (e.g., bald eagles, Canada geese, great blue herons, great horned owls), precluding use by osprey (Ewins et al. 1995). Hacking (releasing juveniles in suitable unoccupied habitat) has been successfully used for osprey (Poole 1989), and is currently underway or was recently completed in Iowa, Missouri, Indiana, and Ohio.

Action 1: Provide Nesting Platforms at Suitable Locations. Osprey exhibit high nest site fidelity, and nesting platforms should be provided or maintained at or near sites occupied within the past 10 years (Figure 1). Given that >80% of osprey return to nest within 50 km of where they were fledged (Poole et al. 2002), rivers and impoundments near existing nests should be targeted for installation of nesting platforms.

Though osprey are known to be tolerant of human activity, nesting platforms should be placed where disturbance will be less, and where osprey will not be a nuisance. Nesting platforms should be as near as possible to foraging areas. All nesting platforms should be safe from ground predators: equipped with predator guards, placed on islands, or in standing water >40 cm deep. Platforms should offer an open approach for birds arriving at and leaving the nest. Sites taller than surrounding vegetation and structures are generally preferred (see Figure 4). Spacing of nest platforms depends on local foraging habitat (water, especially shallow areas <2 m where fish are most accessible to osprey) and prey abundance. Osprey may commute 10 km

or more from foraging areas to nests, but also may nest as close as 100 m to other pairs when prey is abundant (Poole et al. 2002). It is appropriate to place a nesting platform in or near any river or large impoundment (>40 ha) statewide.

Action 2: Monitor Osprey Nesting Efforts and Maintain Platforms. Though the KEEP, Inc., Osprey nesting platform design is robust, platforms and supporting poles are subject to deterioration and other damage, and will require periodic maintenance or replacement. Monitoring the occupancy and productivity of osprey nest platforms in Illinois will inform future status reviews of the species.

Recovery Timing and Estimated Costs

Action 1: Provide Nesting Platforms at Suitable Locations. The costs of constructing, installing, and maintaining an osprey nesting platform are modest (typically under \$200), and may be willingly adopted by a variety of agencies and conservation or education groups. Public utility companies often have a ready supply of used or surplus poles, the equipment to place poles and platforms, and may be willing to donate poles and equipment usage as a community service.

Expected Response

Recent and current hacking efforts in neighboring states (Iowa, Indiana, Missouri) and large populations in Wisconsin and at Kentucky Lake and Lake Barkley in western Kentucky (i.e., juvenile birds may be dispersing into Illinois in search of nest sites) suggest that the Illinois Osprey population may expand rapidly. Also, osprey readily adopt nesting platforms: within one year of construction, 95% are used by osprey in Wisconsin (Gieck 1991) and western Kentucky (E. Ray, pers. comm.). Suggesting a slower rate of increase is that >80% of osprey returning to nest within 50 km of where they fledged (Poole et al. 2002). With current low population size, colonization of suitable nesting habitat throughout Illinois may require several years. Nonetheless, population growth, warranting a review in status is realistic within 10 years.

Osprey have the potential to become a local nuisance. Osprey can damage infrastructure

by building nests on utility poles and towers. Generally, biologists have successfully alleviated problem osprey nests by offering a taller nearby alternate nest site (Olendorff et al. 1981, Austin-Smith and Rhodenizer 1983). Osprey consume fish, including game species. Though some studies show no dietary preference (Flook and Forbes 1983), others have shown osprey disproportionately take bullheads (Idaho; Van Daele and Van Daele 1982) and sunfish. In Florida, bass (*Micropterus salmoides* and *Morone saxtilis*) were taken in proportion to abundance. Two studies have estimated that a pair of adult osprey and three nestlings require 1,048 g of fish/day (Van Daele and Van Daele 1982) and 1,250 g of fish/day (Poole 1984).

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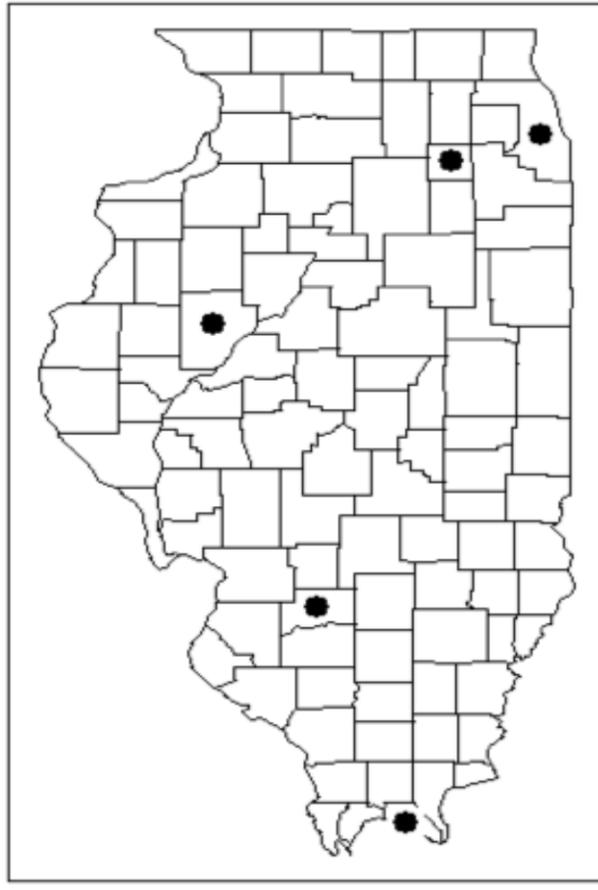


Figure 1. Illinois counties with reported osprey nests, 1999-2005 (from Illinois Dept. of Natural Resources Biotics 4 database and Meadowlark: a Journal of Illinois Birds, Vol. 9-14).

Steel Osprey Platform Plans

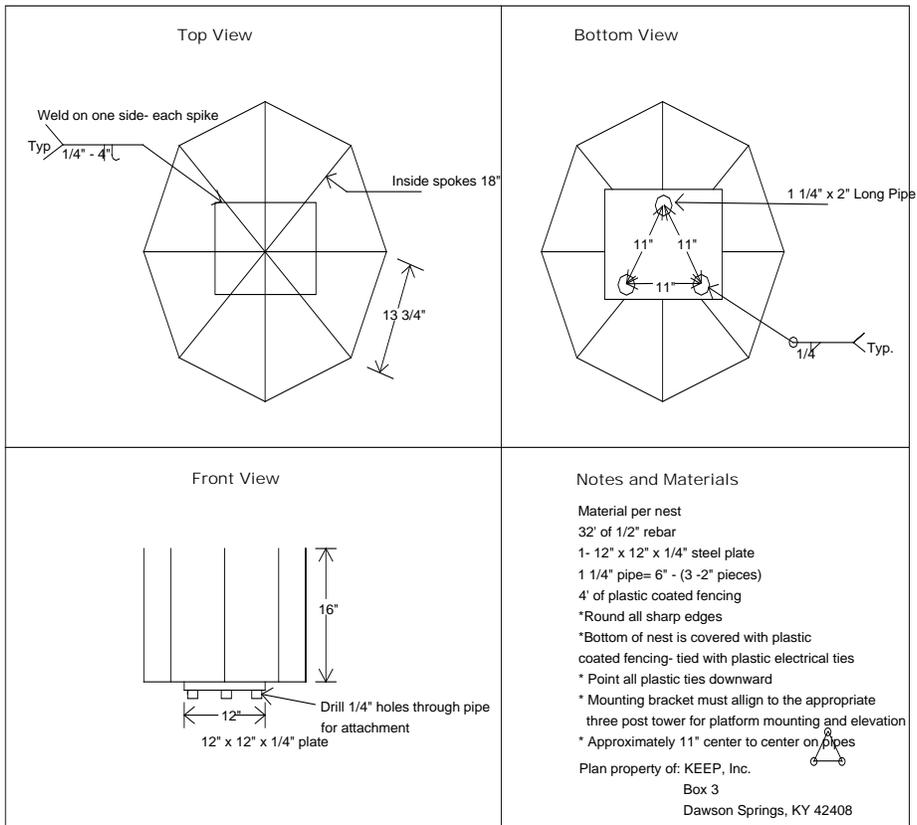


Figure 2. Diagram for a steel osprey nesting platform, courtesy of KEEP, Inc.



Figure 3. An osprey nesting platform. Note the desirable features of (1) robust, durable construction, (2) protection from mammalian predators, (3) elevation above surrounding features and unobstructed access for osprey to arrive and depart from the structure, (4) proximity to foraging areas, and (5) relative security from roadways, utility lines and other potential hazards.