Osprey

Pandion haliaetus

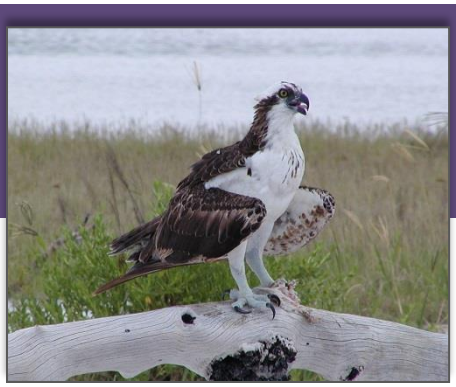


Photo by Ricardo Zambrano, FWC.

Species Overview

Status: Removed from Florida's Endangered and Threatened Species list in 2018.

Current Protections

- 68A-4.001, F.A.C., General Prohibitions — No wildlife or freshwater fish or their nests, eggs, young, homes or dens shall be taken, transported, stored, served, bought, sold, or possessed in any manner or quantity at any time except as specifically permitted by these rules nor shall anyone take, poison, store, buy, sell, possess or wantonly or willfully waste the same except as specifically permitted by these rules.
- 68A-1.004, F.A.C., Take—The term shall include taking, attempting to take, pursuing, hunting, molesting, capturing, or killing any wildlife or freshwater fish, or their nests or eggs by any means whether or not such actions result in obtaining possession of such wildlife or freshwater fish or their nests or eggs.
- Osprey, active nests, eggs, and young are also protected under the Federal Migratory Bird Treaty Act and state Rule 68A-16.001, F.A.C.

Biological Background

This section describes the biological background for this species and provides context for the following sections. It focuses on the habitats that support osprey, and the threats faced by the species.

Ospreys occurring in Monroe County are not genetically distinct from ospreys elsewhere in Florida, and this information led to the removal of the osprey of Monroe County from Florida's Endangered and Threatened Species list in 2018. *Pandion haliaetus* species was not previously listed.

Figure 1: Osprey nest on channel marker in Florida Bay. Photograph by Heather Henkel, USGS.

The osprey is found in temperate and subtropical areas that contain permanent fresh, brackish, or salt water for foraging (Henny 1988). Ospreys typically utilize canals, ponds, lakes, bays and man-made impoundments. Ospreys prefer areas with clear, shallow waters (0.5 to 2 m [1.6 to 6.6 ft] deep) for hunting that is within 10 to 20 km (6.2 to 12.4 mi) of nest sites. The osprey diet is made up almost entirely of live fish. Bierregaard et al. (2016) report that live fish make up 99% of prey items reported in all publications addressing osprey's diet; ospreys rarely take small birds, mammals, and reptiles.

Ospreys prefer to nest near shallow water but will fly long distances if a breeding site is desirable (Bierregaard et al. 2016). Nests (Figure 1, Figure 2) are large and primarily made up of sticks, historically in trees, but commonly found on artificial structures such as channel markers, utility poles, cell phone

towers and platforms constructed for nests (e.g., Schreiber and Schreiber 1977).

Although ospreys are found throughout the state of Florida, a nonmigratory subpopulation resides in the southern coastal area, primarily Monroe county. In south Florida, osprey breed from late November through March (Bass and Kushlan 1982), which is about a month earlier than osprey across the state.

Figure 2: Osprey nests are typically located off the ground to deter predators. Photograph by FWRI.

The female incubates eggs for about 37 days and broods the young chicks continually until about two weeks, and after that in inclement weather until four weeks of age. Young fledge approximately eight to nine weeks after hatching (Bierregaard et al. 2016).

Threats

A Biological Status Review (BSR) in 2017 evaluated the osprey of Monroe County and concluded that ospreys in Monroe County are not genetically distinct from ospreys elsewhere in Florida, and that the overall Florida population is stable or increasing. Therefore, the BRG determined that the osprey did not meet Florida's listing criteria, and the Florida Fish and Wildlife Conservation Commission (FWC) staff recommended the osprey of Monroe County be removed from the Species of Special Concern list (68A-27.005, F.A.C.). Because the biology, protections, and conservation practices for osprey in Monroe county are the same for all osprey in Florida, this document addresses the needs of the species statewide.

Osprey populations suffered a decline in the 1950s through the 1970s from the effects of high levels of contaminants that caused thinning of eggshells and resulted in poor hatching success. With the reduction of the use of these chemicals (primarily dichlorodiphenyltrichloroethane [DDT] and DDT derivatives), populations recovered rapidly. Currently, the osprey is a common and widespread breeding bird in Florida; Florida may contain about 20% of the nesting population in the lower 48 states (Henry 1983).

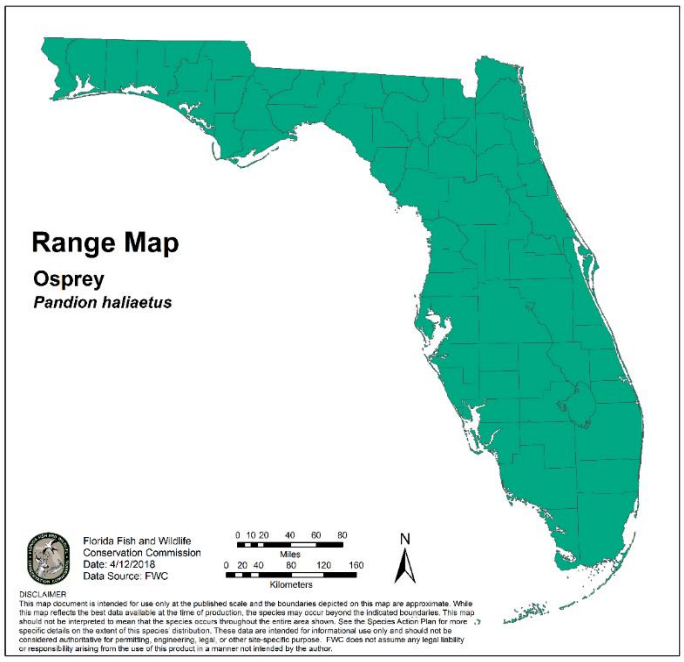
Ospreys are vulnerable to exposure to heavy metals, especially methylmercury, due to biomagnification in prey items. Mercury has been measured in tissues of juvenile and adult osprey from Florida Bay at levels associated with possible reduced reproductive success (Lounsbury-Billie et al. 2008, Rumbold et al. 2017). Compared to the rest of Florida, nestlings in Monroe County had higher mercury concentrations, however, mercury was found in nestlings and adults throughout the Florida peninsula (Rumbold et al. 2017).

Ospreys face threats associated with living near humans such as a risk of collisions with objects (Poole and Agler 1987, Deem et al. 1998) and electrocution (Washburn 2014). However, ospreys are relatively adaptable and tolerant of human disturbance when desensitized (Rodgers and Schwikert 2003) and readily utilize artificial nesting structures (e.g., Schrieber and Schreiber 1977).

Because ospreys are obligate piscivores (a primarily fish-eating species), threats from human recreational fishing include entanglement on monofilament, leading to injury or drowning, injury by hooks, and ingestion of lead weights or plastics. These dangers also pose a potential risk to young birds if adults bring these materials to the nest.

Distribution and Survey Methodology

Ospreys can be found in all counties in Florida and breeding pairs occur along both the Atlantic and Gulf of Mexico coasts, and in the central lakes region of the state (FWC 2003).



County List: All counties in Florida.

Recommended Survey Methodology

Surveys are not required but can be used to determine if nests contain eggs or young. Nests are large, conspicuous, and usually in a tree or man-made structure that provides a site high off the ground to deter predators (Figure 2). When a nest is present, it is important to distinguish if it is an eagle nest or an osprey nest and to document observations of the nest and surrounding area. Indications of an active osprey nest include fish bones and parts on the ground, an osprey bringing fish to the nest, a pair of ospreys in or around the nest, and aggressive behavior of an osprey towards other birds in the surrounding area. Adults may continue building the nest (bring sticks) even if eggs are present and incubation has begun (Bierregaard et al. 2016).

Bald eagles and ospreys nest in similar habitat and both construct large nests made up of sticks. Ospreys occasionally utilize old eagle nests (Ellis 1993); if you are unsure if the nest is an osprey or eagle nest, you may contact FWC regional offices or the U.S. Fish and Wildlife Service (USFWS).

Unmanned aerial systems (UAS, i.e., drones) can be a useful tool for confirming nest status. Before commencing aerial surveys, carefully observe from the ground for the presence of adults, young, or other signs of breeding activity. Ospreys aggressively defend active nests, and have been documented colliding with an UAS and knocking it out of the air, which can result in both injuries to the bird and damage to the equipment (Junda et al. 2015). Two operators are recommended to conduct an aerial survey; one to operate the UAS and the other to lookout for adult ospreys. There are no recommendations on altitude or duration, however, if you find that the nest is active or adults are seen in the area, immediately cease the aerial survey.

Recommended Conservation Practices

Recommendations are general measures that could benefit the species but are not required. No FWC permit is required to conduct these activities.

General Conservation Recommendations

- Dispose of monofilaments properly to minimize entanglements or swallowing of hooks, weights, and plastics that may be attached to the line. Information on the FWC's Monofilament Recovery and Recycling Program can be found at mrrp.myfwc.com.
- After removal of an osprey nest, replace with a structure of comparable or better quality. Ospreys

are strongly attached to nest sites, and will often rebuild a nest in the undesirable location unless a superior site is proved near-by.

- Incorporate these artificial nest structure characteristics (can be applied to a new nest structure as well as a replacement):
  - The alternative nest structure should be at least 15 feet above ground and taller than surrounding structures and at least as tall or taller than original nest site.
  - Locate the replacement site as close as possible to the original nest site (no further than 300 feet, and preferably less than 150 feet).
  - The platform should be structurally sound and mounted securely on an adequate support structure. The platform and structure should be able to support a nest that may weigh 100 to 200 pounds. The platform can be circular or rectangular. Rectangular platforms should have side dimensions no less than 2 feet on any side, with a minimal 3-foot diagonal. Circular platforms should have a diameter of at least 3 feet.
  - If possible, relocate the old nest onto the new platform. If this is not feasible or the structure is not replacing an old nest, arrange sticks in the shape of the nest on the platform.
  - Platforms mounted on top of independent poles are preferred replacements for nests on power transmission poles, light poles, etc. If this is not a viable option, pole-top mounted nest platforms on existing poles may provide a reasonable alternative for nest relocation.
  - If the support structure for the original nest is left intact, modify it to discourage ospreys from rebuilding by covering it with material that will prevent ospreys from perching. Flexible rubber highway detour cones work well on open structures (such as power pole crossarms) if they are placed close together and cover all potential nesting surface.
  - Many websites offer resources with detailed instructions for designing an osprey nest platform. Circular platforms, made explicitly for large raptors, may also be purchased.

Guidance for Working Near an Active Osprey Nest

In most cases, work near an active osprey nests should be avoided. When such work is not avoidable, climbers performing job duties should take precautions and may need to defend themselves from an osprey. Some osprey pairs will be more accepting of human disturbance than others, and an experienced site worker or contract biologist will need to observe the behavior of the birds. Ospreys are known to defend their nests aggressively and can pose a formidable threat to anyone close to their nests. Osprey may use their large talons when protecting their nest by puncturing the skin of the trespasser. They will attack from behind so as not to be seen before making contact. At a minimum, workers should wear a hard hat for protection.

Working around an active osprey nest is not only potentially hazardous to workers, but also to the osprey eggs and young. Adults regulate the temperature of eggs and young chicks within a relatively narrow range. If the osprey is off the nest for an extended period, eggs or young may become too hot or too cold, causing them to die. The likelihood of osprey chicks hurting themselves or jumping from the nest increase when chicks can see or hear workers near the nest.

Specific guidance for working near an active nest:

- Limit maintenance or construction activities near active nests.
- All work on a tower or pole should be conducted in the morning or evening. To avoid the heat of the day, FWC recommends stopping work from 1½ hour after sunrise to 1½ hour before sunset.
- No work should be conducted during rainy weather.
- Work should be completed within 45 minutes to avoid keeping the adults off the nest for too long.
- No more than 2 work attempts should be performed in 1 day.
- No work should be attempted if chicks are younger than 1 to 2 weeks of age or they will die as a result.

Prohibitions and Permitting

Ospreys are protected by the general prohibitions outlined in Rule 68A-4.001, F.A.C.: no wildlife or freshwater fish or their nests, eggs, young, homes, or dens shall be taken, transported, stored, served, bought, sold or possessed in any manner or quantity at any time except as specifically permitted by these rules nor stall anyone take, poison, store, buy, sell, possess or wantonly or willfully waste the same except as specifically permitted these rules. Take is defined in Rule 68A-1.004, F.A.C., as pursuing, hunting, molesting, capturing, or killing (or attempting to do those things). A permit is required for any other activity that involves the possession, capture, sale, purchase, transport, hunting or killing of osprey. These permits are issued for justifiable purposes as outlined in Rule 68A-9.002, F.A.C. Justifiable purposes are scientific, educational, exhibition, propagation, management or other justifiable purposes.

Osprey nests, eggs and young are also protected by the Migratory Bird Treaty Act (MBTA) and Rule 68A-16.001, F.A.C. A permit may be required to remove an active nest (i.e., contains eggs or flightless young) but is not required to remove an inactive nest.

No Permit Needed

The following activities could cause take, but are authorized to be conducted without an FWC-issued permit:

- Activities within an airport property in accordance with Rule 68A-9.012, F.A.C.
- Osprey nest removal or nest destruction activities covered under a USFWS-issued Migratory Bird Permit do not require a Migratory Bird Nest Removal Permit from FWC, provided:
    - the federal permit specifies a preference for relocation of nests,
    - that a licensed Florida wildlife rehabilitator shall be on call to provide treatment to the chicks, in the event that the adults abandon the nest or if the chicks must be removed from the nest during relocation.
- No take permit is required from the state in cases where there is an immediate danger to the public's health and/or safety, including but not limited to: 1) imminent or existing power outages that threaten public safety, 2) in direct response to an official declaration of a state of emergency by the Governor of Florida or a local governmental entity, and 3) power restoration activities that involve non-routine removal or trimming of vegetation within linear right of way in accordance with a vegetation management plan that meets applicable federal and state standards.

Permits for Justifiable Purposes - Scientific Collecting and Education Use

Any research activity that requires handling, taking biological samples, or capture of an osprey will require a scientific collecting permit. Maintaining ospreys in captivity for educational use also requires a permit.

- Applications should include a clear research plan detailing the purpose, scope, objectives, methodology (including measures taken to reduce the risk of injury or death), duration of the project, disposition, conservation benefit to the species, and qualifications of the applicant to perform the work.
- Educational use applications should include an educational plan and documentation of the facility's wildlife conservation program.
- Federal permits are required from the USFWS to comply with the Migratory Bird Treaty Act and from the USGS Bird Banding Lab for banding, color-marking, specific capture methods, sampling of blood/tissues, collection of feathers, and attachment of transmitters or other data gathering mechanisms. Federal salvage permits are also required to collect any dead individuals (i.e. mortality not due to research activities or take from research activities) or parts of deceased individuals including feathers and tissues.
- A final report should be provided to the FWC in the format specified in the permit conditions.

Other Permits

For any other justifiable purpose permit that does not fall under scientific collecting or educational use, please submit your request to WildlifePermits@myfwc.com.

- Permits to take osprey, their eggs or young will be issued only under limited and specific circumstances, in cases where there is an immediate danger to the public's health and/or safety, including imminent or existing power outages that threaten public safety, or in direct response to an official declaration of a state of emergency by the Governor of Florida or a local governmental entity. Applications submitted for this permit must include all information that is required from any other applicant seeking a permit, along with a copy of the official declaration of a state of emergency, if any. This permit process may be handled after the fact or at least after construction activities have already started. An intentional take permit may be issued for such purposes.

Additional information

Information on the economic impacts assessment of the Species Conservation Measures and Permitting Guidelines for the Osprey can be found at http://myfwc.com/wildlifehabitats/imperiled/managementplans/.

Contact

For more species-specific information or related permitting questions, contact us at (850) 921-5990 or WildlifePermits@myfwc.com. For regional information, visit http://myfwc.com/contact/http://myfwc.com/contact/fwc-staff/regional-offices.

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