NEST STRUCTURE REPLACEMENT

When the removal of an inactive nest results in the destruction of the nesting site or is expected to make the nest site unusable (e.g., effective deterrents are employed), ODFW recommends that a replacement nest site be provided. ODFW recommends that an osprey nest that is removed be replaced with a replacement nest structure of comparable or better quality. The reasons for this are two-fold. First, it helps ensure that osprey populations will not decline as a result of nest removal activities. Second, ospreys are strongly attached to nest sites and will often rebuild a nest in the undesirable location unless a superior site is provided nearby.

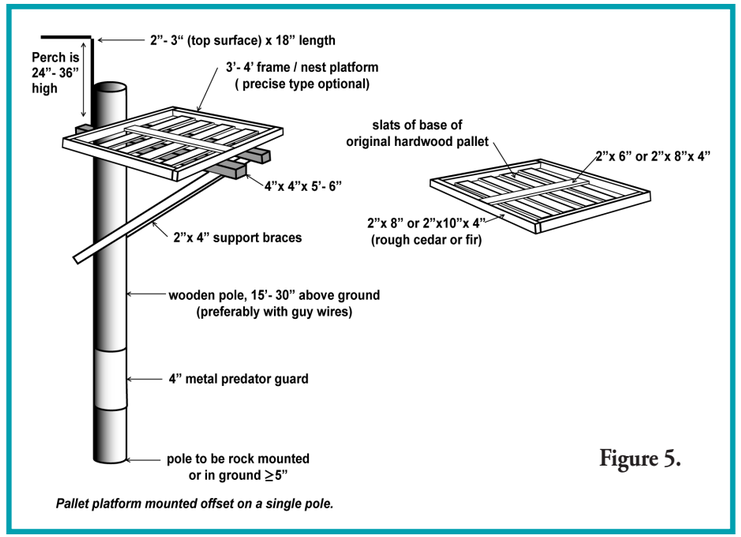

Figure 5.

Pallet platform mounted offset on a single pole.

Nest Structure Replacement Construction Design and Site Selection Guidelines

1. It is as tall as or taller than the original nest site and is as tall as or taller than other surrounding structures, including nearby power lines.

2. The alternative nest structure should be no less than 15 feet above the ground.

3. A predator guard is installed at the base of the nest structure.

4. It is located as close as possible to the original nest site (no further than 300 feet, and preferably less than 150 feet).

5. It is placed in an exposed location (e.g., not under or within the canopy of a tree).

6. It is placed no closer than 600 feet from any known osprey, bald eagle, peregrine falcon or other raptor nest.

7. Is placed about 600 feet from human activity and away from intensively used recreation areas.

8. It consists of a suitable platform mounted securely on an adequate support structure. See Figure 5 for construction guidelines.

Figure 6.

a. The platform and structure should be capable of supporting a nest that may weigh 100 to 200 pounds.

b. The platform may be either circular or rectangular. Rectangular platforms should have side dimensions of 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.

c. Whenever possible, the old nest should be relocated intact onto the new platform. When this is not feasible, arrange sticks and about three armfuls of nest material in the shape of a nest on the platform to attract the osprey pair to the new nest site. Figure 6.

d. Pole-top mounted nest platforms are preferred replacements for nests on power transmission poles, light poles, etc. If the support structure for the original nest is to be left intact, it should be modified to discourage ospreys from rebuilding. This is best accomplished by covering the original nest site 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 the potential nesting surface.

e. Include an elevated perch in the platform design to attract the osprey pair to a new nest site. The elevated perch should be approximately 3-foot vertical height of perch above the nest platform to accommodate future increase in nest height as new nest material is added during successive breeding seasons and to discourage access to the perch by advanced aged nestlings prior to fledging.

f. Inspect the new nest platform every year during late winter or early spring before return of nesting birds. If nest material is more than 1.5 feet deep, remove a layer of sticks.

INFORMATION

Source: USGS Publication on Osprey in Oregon and the Pacific Northwest, USGS 2005
http://fresc.usgs.gov/products/fs/fs-153-02.pdf

USFWS Migratory Bird Permit Office at (503) 872-2715

Effective Osprey Nest Management Practices, Kaiser, 2010
http://www.nwppa.org/web/presentations/2010_Avian_Workshop/006_Kaiser_Pres_Day2.pdf

the OREGON CONSERVATION STRATEGY

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Living with Wildlife

OSPREY

(Pandion haliaetus)

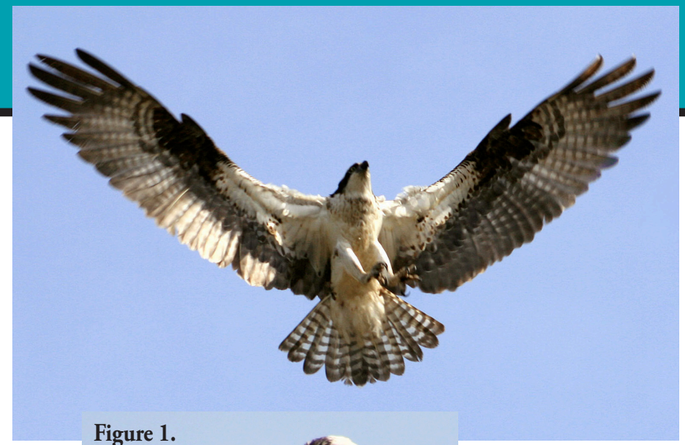

Figure 1.

FACTS ABOUT OREGON'S OSPREY

Osprey (*Pandion haliaetus*), often mistakenly called the fish hawk or fish eagle, are found throughout Oregon primarily in forested habitat along lakes, rivers and coastal areas. This bird of prey has dark brown feathers above and white feathers below with a white head and a prominent dark eye stripe. In flight, crooked wings are a distinctive characteristic. The osprey's call is a series of loud, sharp whistles. Like most raptors, female osprey are usually larger than males. The maximum life span of osprey in the wild is estimated at 25 years.

An osprey has a distinctive odor. The characteristic smell is not from its fishy diet but from the heavy oil it secretes to keep its plumage in extraordinary, water-resistant condition. Ospreys must be virtually waterproof because they're the only bird of prey that regularly dives into water.

Food and Feeding Habits

- About 98 percent of an osprey's diet is comprised of fish although other prey items may be taken such as small birds.
- Osprey dive feet first for fish, reaching down to about 18 inches from the surface.
- A reversible front talon and foot pads with tiny impaling spines (spicules) allow osprey to grasp fish.

Nests and Nest Site Selection

- Ospreys construct a large stick nest in live or dead trees with flat broken tops. Figure 1.
- Osprey have adapted to use power poles, cellular communication towers, channel markers and similar structures for nesting sites because suitable natural sites (trees) are often scarce.
- Nest sites are typically as tall as or taller than surrounding structures. Sites that offer accessory perches within view of the nest are preferred.
- Oprey exhibit strong nest site fidelity. Breeding pairs usually return to the same nest territory year after year to breed.
- New nest material is added to the nest in successive years.
- Osprey tend to collect things and return to the nest with items such as Styrofoam, bailing twine, rope, monofilament fishing line and plastic containers.

Reproduction

- Osprey become sexually mature at about three years of age.
- Courtship activities, breeding, egg laying and incubation occurs March through May.
- Osprey raise one brood per year, with 1 to 4 eggs (mean = 3) laid. Eggs hatch in about 38 days.
- The male osprey brings food to the female throughout the incubation and nestling periods and also shares a small portion of the incubation duties. The female osprey remains in nearly constant contact with the

chicks until they are about 35 to 40 days old. She then leaves the nest more often to perch nearby, and occasionally share hunting duties with the male until the chicks are able to fly.

- Young osprey fly at about 52 days after hatching, typically making their first flights in late July and early August. They return to the nest site for food for several weeks and to rest between test flights. This process of young osprey leaving the nest is called fledging. During this time the young are similar in appearance and size to their parents.
- An osprey pair raising two nestlings consumes about 375 pounds of fish during the breeding season.

Migration

- Osprey migrate south to wintering grounds beginning in late August. Many winter in coastal areas of Mexico such as Mazatlan and Puerto Vallarta. Osprey have been tracked from Oregon to wintering grounds as far south as Honduras.
- Members of adult osprey pairs migrate separately and winter at different locations, reuniting in late February to late March of each spring at the nest site.
- Biologists note an increasing number of osprey wintering in Oregon.

FACTORS AFFECTING OSPREY POPULATIONS

At a continental scale, five main factors affect osprey numbers and productivity:

- the abundance of suitable nest sites near water;
- food supply;
- human disturbances;
- man-made hazards; and
- chemical contaminants. (Polybrominated diphenyl ether (PBDE) flame retardants and endocrine disrupting compounds (EDCs) are of concern.)

Regionally, osprey were once numerous, nesting in forested areas near water. They drastically declined in abundance during the 1970s as the result of pesticide use, but have recovered and become a common nesting species along the lower Columbia and Willamette Rivers and in the high lakes of central Oregon. The number of pairs nesting along the Willamette River between Eugene and Portland increased from 13 in 1976 to 78 in 1993. In 2001, there were to 234 pairs. In the Klamath Basin, osprey numbers appear to be stable to slightly increasing. Osprey populations across North America are following the same trend.

In the Pacific Northwest, there is concern that natural nest sites continue to be lost due to logging, development, and removal of dead and dying trees.

OSPREY AND DISTURBANCE

Although ospreys are relatively tolerant of human activities compared to other birds of prey, individual osprey vary in their ability to tolerate human disturbance. Tolerance generally depends upon the timing and frequency of activity and the degree of habituation that individual pairs develop to human activity. Ospreys that initiate nesting in or near areas frequented by humans may be more tolerant of subsequent human activities than those unaccustomed to humans. Human activities that are initiated during incubation and early nesting are probably most disturbing to ospreys. Disturbance can cause adults to leave the nest, frequently or for extended periods of time, which can be fatal to embryos and nestlings.

OSPREY AS BIOLOGICAL INDICATORS

Osprey are considered biological indicators for the following reasons:

- They are long-lived and top predators of aquatic food webs.
- About 99 percent of their diet is comprised of fish captured near the nest site.
- Each pair mates for life and returns to the same nest site annually.
- Single nests are often distributed at regular intervals along rivers and sometimes in colonies near estuaries with abundant fish populations.
- Often build large, visible nests on accessible structures.
- Typically tolerate short-term disturbance at nest site.

SPECIES STATUS

Osprey are protected under both federal and state wildlife laws.

Federal Protection

The osprey is a migratory bird protected by the Migratory Bird Treaty Act (MBTA) 16 U.S.C. Sections 703-712 of 1918 (as amended). The U.S. Fish and Wildlife Service is the federal regulatory agency authorized to enforce the provisions of this Act. All active nests (incubating adult, eggs, or young present) of migratory bird species are also protected by the MBTA. For more information, visit the USFWS website.

State Protection

Osprey are protected by both state statute and ODFW administrative rule. Oregon Revised Statute (ORS 498) protects osprey from take, disturbance and harassment. Oregon Administrative Rule (OAR) 635-044 0130 categorizes osprey as Nongame Protected Wildlife. It is unlawful for a person to hunt, trap, pursue, kill, take, catch, or have in possession, either dead or alive, whole or in part, any Nongame Protected Wildlife.

OSPREY PROTECTION GUIDELINES

ODFW has developed the following guidelines to protect osprey:

- Comply with the Federal Migratory Bird Treaty Act to protect osprey and their active nests.
- Avoid disturbance of an active osprey nest: All potentially disturbing activities should occur outside the nesting period and when a nest is determined to be inactive. Nesting status should be determined by a local ODFW wildlife biologist or the USFWS.
- The nest tree, along with two or three potential nest trees, should be protected. Windthrow is often a problem, therefore, additional potential nest trees should be left where the risk is high (i.e., coastal areas and Central Oregon lakes).
- Roads and structures should not be constructed within 300 feet of a known osprey nest tree.

OSPREY AND FORESTRY OPERATIONS

The Oregon Department of Forestry's administrative rule 629-665-0110 regulates commercial forest operations to protect osprey nest trees, perching and fledging trees and replacement trees. ODF defines an active osprey nest tree is one that has been used by osprey within the past five nesting seasons. According to ODF rule, an active osprey nest tree and any perch tree identified as a key component shall be protected from disturbance during the critical period of use. In addition, the resource site shall be retained and protected from damage during forest operations and the operation shall be designed to protect these trees from windthrow. Unless the State Forester determines that forest operations will not cause the birds to flush from these trees, Oregon Department of Forestry rule states that forest operations shall not be permitted within 600 feet of the active nest tree or perch tree from March 1 through September 15. See OAR 629-665-0101 for more information on key components, protection requirements and exceptions.

OSPREY AND POWER POLES

Power poles can provide suitable nesting places for osprey. The large stick nests are typically built on top of double-crossarm power poles located in agricultural fields and near rivers. Osprey nests can cause power outages when sticks interfere with electrical equipment. Also, the electrocution potential is very high for osprey when building new nests or perching on power poles. This is because the osprey's nearly 5-foot wingspan can complete the circuit between either closely spaced energized equipment or between one energized wire and one neutral ground wire. Figure 2.

Figure 2.

Utility companies use several remedial actions to resolve power outages and electrocution problems while accommodating nesting osprey. Actions include building an alternate nesting platform above the power poles wires or installing a taller, non-energized pole with a nesting platform nearby. Sometimes the nest is left undisturbed and insulated jumper wires are added to isolate the nest from energized wires and equipment. It is important to cover all energized equipment at, or near the nest, to prevent electrocution and outages. These practices are best implemented outside the osprey breeding season to avoid disturbing nesting osprey and have resulted in a sharp decline of osprey mortality at unsafe power pole sites during the past decade.

The USFWS and U.S. Geological Survey have collaborated with local utility companies and the Avian Power Line Interaction Committee to develop guidelines aimed at reducing electrical utility caused avian electrocution and collision mortality. More information on avian protection planning can be found at in the Bird Hazard section of USFWS Migratory Birds website.

NOTE: Known or suspected electrocution of any protected avian species should be reported to your local Oregon State Police office or a USFWS Law Enforcement Office and/or your local ODFW office.

OSPREY AND COMMUNICATION TOWERS

Communication towers can also provide suitable nesting places for osprey. Conflict typically arises when a communication company desiring to upgrade equipment or conduct routine maintenance activities at a specific tower discovers osprey activity on the tower. Federal and state protections apply as do ODFW's osprey protection guidelines. Figure 3.

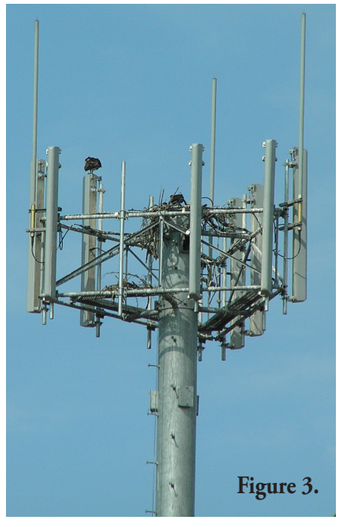

Figure 3.

OSPREY AND BALING TWINE AND FISHING LINE

Ospreys typically line their stick nests with soft materials such as moss, grass and lichen, but they are known to have a propensity to pick up discarded baling twine and fishing line to bind and adorn their nests. This creates a problem as the osprey's talons easily become entangled in these man-made materials. Each year baling twine and fishing line are the cause of death for many adult osprey and their chicks. It has been estimated that baling twine alone kills about 10 percent of osprey chicks in some areas. To prevent entanglement and these unnatural sources of mortality the following actions are recommended:

- If you are an angler or someone who comes across fishing line while you are in the outdoors, take a few minutes to collect it.
- Pick up all used baling twine in fields and on fence posts.
- Dispose of old baling twine and fishing line safely out of reach of osprey.

PERCHING AND NESTING DETERRENTS

When prevention of osprey from perching or nesting at certain locations is deemed necessary, deterrents can be used. Avoid ineffective methods such as two-dimensional triangular "perch guards", plastic owl effigies, and metal bird spikes. More effective methods include three-dimensional cones, pinwheels that spin in the wind and PVC piping. For example to prevent an osprey from placing sticks on the top of a power pole, a horizontal PVC pipe placed above the crossarm and positioned between the double crossarm span in combination with the vertical segments of PVC has been shown to be effective. Deterrents are most effective when an alternative nest site is provided. Figure 4.

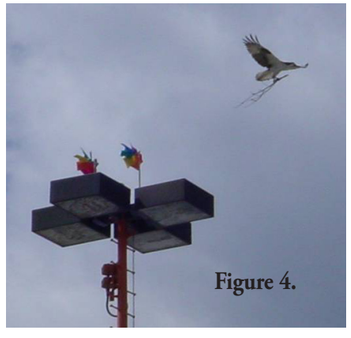

Figure 4.

NEST REMOVAL

Removal of osprey nests is generally not recommended since osprey will just rebuild, usually in the same location. If removal of an osprey nest is deemed necessary, only inactive osprey nests may be removed (i.e., destroyed) to comply with federal and state wildlife laws. Inactive nests are determined by the absence of any egg or young in the nest. Nest destruction may not result in the take of migratory birds, their eggs or their young. Nest status should be determined by your local ODFW wildlife biologist or other professional wildlife biologist. No permit is required by ODFW to destroy an inactive nest. An inactive osprey nest may not be retained for scientific or educational purposes unless scientific collecting permits are first secured from ODFW and the USFWS.