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Osprey Nesting Behavior and Biology

“The more people who understand the work that needs to be done, the more help there will be to make it happen!”

IT IS INCREASINGLY IMPORTANT TO ENHANCE OUR KNOWLEDGE OF THE BREEDING SUCCESS OF THIS SENTINEL SPECIES.

Osprey (*Pandion haliaetus*)

Why monitor Osprey?

Osprey (*Pandion haliaetus*) is a large bird of prey that hovers over the water and plunges feet first for fish. They are easily recognized by their distinct markings: dark brown above, white below, with a white head and a prominent dark eye stripe. Because fish are the mainstay of their diet, these highly visible birds soar over and perch near water.

Ospreys are conspicuous members of the West Kootenay avifauna. Declines in Osprey numbers in eastern North America 40 years ago led to the discovery of the effects of the pesticide DDT on the environment and on Osprey breeding success. Since that time, Ospreys have been considered effective indicators of environmental health. These birds are relatively easy to observe at their nests without causing disturbance, and so provide ideal subjects for monitoring.

What is the breeding biology of the Osprey?

In the West Kootenay, Osprey arrive back in mid-April and immediately start building or refurbishing their nests. Eggs are laid between late April and the third week of June, and are incubated for **38-43 days**. Young hatch from late June to mid-July and fledge from nests in August. Migration

begins in September and by late October the adults and immatures will have departed.

Where do Osprey nest?

Osprey have adapted well to living in close proximity to humans and will nest readily and very successfully on artificial nest structures. During the West Arm survey, it was discovered that 79% of the nests were on human-made structures, including utility poles, dolphins, dam structures, bridges and microwave towers. Natural sites include broken tops of live and dead trees. The large stick nests can be located directly above water (on pilings) or on treetops well over a kilometer from water. Nests that are used year after year grow large and can measure 1.5 meters wide and half a meter deep.

What do I need for monitoring?

- Always go monitoring with a friend and tell someone where you're going and with whom.
- Assure you have a pair of Binoculars or spotting scope.
- Always bring a data sheet and writing utensil.
- Be sure to give adequate and respectful space to observe from.



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Thank you!

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This project has been made possible by:



Community engagement to help inform on-the-ground action projects for future years.

Steps to Monitoring Osprey Nests:

Timing of visits

- **First visit:** between May 25 and June 10. At this time, nearly all Osprey are incubating and they are easy to survey.
- **Second visit:** between July 22 and 31. This is the time to count early-hatched young that may fledge before August. *Observations should last at least 5 minutes, during which time chicks will usually, move around in some way – heads pop up or wings are spread.*
- **Third visit:** between August 15 and 25. This is the final count of young before late-hatched fledge. Some young may be flying at this time.

Observing Nests:

What to look for when observing nests:

- **Osprey sitting low in a nest** usually indicates that the bird is incubating eggs or brooding small young. Because we are using non-intrusive survey methods we cannot confirm the contents of a nest. The female will appear to be lying on her belly and her back will be horizontal.
- Nests that were occupied in May and June will likely have young present in July and August. Chicks are very adept at remaining inconspicuous in the nest.
- Chicks are nearly full-grown before they leave the nest and can be distinguished from adults by their orange eyes and speckled backs and wings. By this time, male and female can be easily differentiated by the presence or absence of a scattering of dark feathers across the top of the chest.
- Watch for any young testing their wings while standing in the nest as this would indicate that they are close to fledging.
- Be aware that early fledgers may be out of the nest and close-by during the August visit.



How is our local population doing on the West Arm?

The total number of occupied nests for the study area averaged 34 per year and the number of successful nests ranged from ten to 53. The average number of young present per year over the ten year period was 42.6 and the number of young per productive nest averaged 1.71. Canada Goose occupancy averaged 48% per year over a nine-year period.

Results from various studies throughout the Osprey's breeding range have shown that productivity rates of 0.80-1.30 young per active nest are required to maintain a stable population in a given region. For the West Kootenay population, the number of young per occupied nest in our study exceeds the upper estimate for the required breeding rate to maintain a stable population. Over the ten years, 426 young Osprey have fledged from local nests.

What factors can affect the breeding of Ospreys?

Canada Geese nesting in Osprey nests can have a negative impact as the Osprey have to wait longer to occupy the nests. Research has shown that the survival rate of Osprey young drops when breeding starts later. New nests are often built in response to occupation of the previous year's nests by Canada Geese. Prolonged wet weather, Bald Eagle predation, and lack of fish are other factors affecting the survival rate of young.

Where do Osprey's overwinter?

Most local birds migrate to Central America; the young do not return to BC until they are 18-20 months of age. Telemetry data collected by Canadian Wildlife Service showed that an Osprey which nested at the Bonnington Dam overwintered in Mexico and returned to the same nest site the following spring. The return flight from Mexico took only 10 days!

Did you know that...

- Osprey subsist almost entirely on fish, which are captured by spectacular dives.
- Females are larger than males and have a dusting of darker feathers across their chests that resembles a necklace.
- Immature Osprey will often play house, and build a nest but not breed until 3 years of age.
- Most Osprey lay a 3-egg clutch but fledge 2 young on average.
- Ospreys tend to mate for life and often return to the same nest year after year.