

Osprey Monitoring at Lake Roosevelt National Recreation Area (LARO)

Importance

Osprey (*Pandion haliaetus*) is a high priority vital sign for LARO. Raptors occupy most ecosystems, cover large home ranges, are often migratory, and are top predators in complex food webs. Because of these characteristics, as well as their sensitivity to human disturbances, they can be extremely useful indicators of environmental change.

The osprey is a common breeding resident in LARO and is at risk from environmental contamination. North American osprey populations began declining in the early 1950's due to pollutants such as Dieldrin, DDE, and PCB. Although restrictions enacted in the 1980's have allowed populations to rebound, the presence of contaminants still remains a concern in many areas, including LARO. Contaminants, such as heavy metals, dioxins, and furans, are released into the Upper Columbia River by mining operations, pulp and paper production, sewage treatment plants, and other industrial activities. Since fish constitute 99% of osprey diets, pollutants accumulate rapidly in osprey tissue and cause decreased egg viability.

Increased recreational activity is an additional stressor on osprey populations. While reservoirs and man-made nesting structures such as telephone poles and artificial platforms benefit osprey, high levels of human activity in the vicinity of active nests may be adversely affecting successful reproduction. Recreational activity at LARO has been steadily increasing over time, attracting over 1 million visitors in 2005. Most visitors are summertime watercraft users, and because osprey typically nest on or near the lakeshore and forage exclusively over open water, an inherent conflict exists.

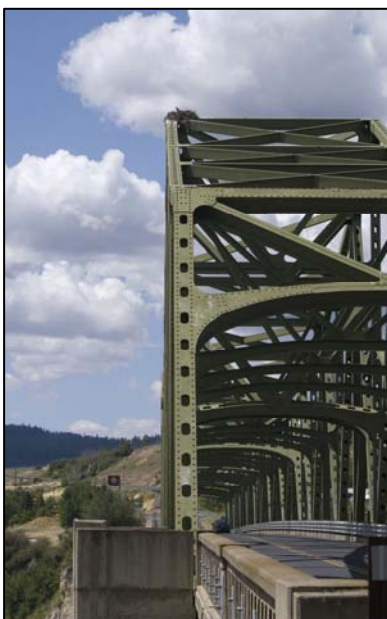


Preliminary Results

Twenty-eight known nest sites were surveyed in mid-July, 2009. Of the nine that were occupied by osprey, four contained at least one fledgling. The remaining nests were either occupied by bald eagles or unoccupied at time of survey. The occupied nests were concentrated in the south end of Lake Roosevelt, between Porcupine Bay and Coulee Dam.

Objectives

- Determine status and trend of nest occupancy for osprey at LARO.
- Determine status and trend of productivity (expressed as the number of young per nest) for osprey at LARO.



Osprey nest atop Fort Spokane Bridge

Management Applications

- Provide information to park managers and the public about osprey distribution and nest success in the park.
- Update park managers knowledge about osprey health, and identify areas for increased protection.
- Support park resource planning and reporting efforts.

Future Plans

Two surveys will be conducted each year. Nests will be visited in the spring to identify nest initiation and incubation. Occupied nests will be revisited late summer to determine the number of fledglings. A new website will be available in 2010 for NPS staff and the public to assist researchers with nest site observations.

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