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South Dakota
Conservation Digest

DEPARTMENT OF GAME, FISH & PARKS

CELEBRATING 100 YEARS



Wings Over Water

Restoring a piece of South Dakota's natural heritage

By Jane Fink





An adult osprey sporting the mottled feathers of the neck, often referred to as the "necklace" of the female. Note the yellow eye of the adult. Photo by Ashley Hockenberry.

Eagles, hawks, owls, and falcons have graced our skies for millions of years. Beautiful and stealthy, these aerial predatory birds have historically held both the fascination and scorn of man. Stunning creatures in flight, birds of prey are vulnerable when earth bound, to the human effects of careless pesticide use, illegal shooting, and habitat loss. These factors contributed to the decline in population of many of our more illustrious birds of prey, collectively termed raptors. By the early fifties, with the increasing application of the pesticide DDT over North American fields, a disturbing trend had emerged. Bald eagles, peregrine falcons, and ospreys began suffering from serious population declines over the next twenty five years. By the early seventies, with the cessation of DDT use, establishment of federal laws protecting raptors, and the emergence of reintroduction efforts, raptor populations began to recover from their precipitous decline.

By the early nineties efforts had begun in earnest across the country by state and federal agencies to rebuild the numbers of endangered raptors through reintroduction programs. Young bald eagles, peregrine falcons, and ospreys were carefully removed from plentiful nesting areas and relocated to sites where historical populations could be reestablished. Reintroduction techniques draw from the ancient sport of falconry while housing young birds until they imprint upon their new environment, and are coupled with modern day telemetry for tracking their movements, all the while under the watchful eye of biologists. The premise being, that young birds "imprint" upon the area from where they fledge and hopefully return to



This approximate 6 week old fledgling collected in north Idaho and released in South Dakota is wearing a green leg band. Note the red eye of the young osprey. Photo by Mary Gertesma.

that same area after reaching sexual maturity; two years in the case of the osprey.

In 2008 South Dakota Department of Game, Fish, and Parks again called upon the Idaho Department of Fish and Game, the University of Idaho and Idaho raptor biologists to collect for reintroduction, twenty ospreys to call Lake Yankton and the Missouri River banks their home. Funding for the release efforts has been provided by the South Dakota Department of Game, Fish, and Parks and two federal sources, the Wildlife Conservation and Restoration Program and State Wildlife Grants. Special release towers were constructed along the shores of Lake Yankton, which would house the young fish-eating birds of prey. With the aid of local utility companies and the U.S. Army Corps of Engineers, the Lake Yankton towers were in place to house the young birds.

North Idaho is home to one the country's largest nesting populations of ospreys (*Pandion haliaetus*), found along the shores and shallow waters of the Coeur d'Alene Lake basin. Assisted by Avista Utilities trucks by land and use of boats by water, Idaho raptor biologists Wayne Melquist and Jane Fink collected the young approximate six-week old ospreys, always leaving behind one chick in the nest. Ospreys are among raptor species which adapt to nesting upon artificial structures such as bridges, boating navigational pilings and utility poles. Unique among raptors, these specialized fishing birds have reversible toes, special footpads for holding onto slippery fish captured, collapsible nostrils, under water vision, and flexible shoulder joints for high speed dives into the water.



(Above) Biologist Jane Fink displays a young osprey after it was recovered from the water. Young inexperienced fliers often misjudged the distance of the targeted perch. Photo by Mary Gertesma. (Right) The reintroduction tower provided a lofty platform that housed the 20 ospreys comfortably until they were ready to take their first flights over Lake Yankton. Photo by Jane Fink.



Once collected, the young ospreys were banded with a silver USGS band on one leg and a green band on the other, identifying their relocation to South Dakota. The birds were weighed, blood samples were taken, estimates as to sex were determined, and the birds held, until flown from Idaho to their new South Dakota home. Here, with the assistance of the Army Corps of Engineers at Gavins Point Dam, the young ospreys would be placed into large specialized release boxes high along the shores of Lake Yankton. The Lake Yankton site has all the elements (public relations opportunities, public involvement, effective monitoring capabilities, power, water, camping) needed for success. These amenities help biologists to care for the developing young birds while educating and interacting with the public.

Over the next few weeks the young birds of prey were under constant observation by camera as biologists and volunteers coordinated the staggered osprey releases based on the developmental stage of the young birds. The young were fed ample fish daily but biologists were careful to avoid feeding the birds directly, to minimize association of food with humans. The young birds were weighed and given periodic health checks to monitor their development. Access to their tower top home was limited to staff members only. A drop down door was crafted,

so at the time of release, disturbance was minimized and returning birds could land on the feeding platform. This proved to be very effective for observing individual birds by reading band numbers, determining the time to reach independence and successful fishing forays.

The first group of five older more vigorous ospreys was released in early August. Prior to their release, tail mounted tracking devices were sewn onto the central tail feathers of the bird for local tracking. Should young inexperienced fliers become prematurely grounded in brush, the birds could be located and recovered. All birds received temporary wing paint to help ground observers track release groups. Five of the birds received a special satellite tracking device to monitor migration routes and wintering areas. This backpack transmitter emits signals picked up by multiple satellites that are then downloaded and used to monitor the birds' southerly migration and movements. The osprey is highly migratory, seeking temperate climates in which to forage. By late September, most of the ospreys had

Movin' On

- Female A01 left the hack site on 7 September and headed to the Mississippi River drainage in central Arkansas. From there she headed east, ending up in the Columbus, GA area near the Alabama-Georgia border north of the Gulf of Mexico. A-01 remained in this area for a month when the signal was unfortunately lost on 21 September.
- After leaving the hack site on 12 September, A-15 arrived at the Gulf of Mexico near Freeport, TX 4 days later. The bird continued down the coast to the La Coma, Mexico area, where it remains today.
- A-04 left the hack site on 14 September and arrived at the Gulf coast in Louisiana near the Texas border on the 17-18 September, 3-4 days after initiating migration. The bird then migrated east to the Louisiana delta area at the mouth of the Mississippi River, where it remains today.
- A-00, the only male sporting a satellite transmitter, left the hack site on 24 September and arrived at the Gulf coast south of Mobile, AL on or before 3 October. From there it migrated east along the coast, staying in the Steinhatchee, FL area for a few weeks before again moving south through the Everglades and settling near Flamingo, Fla.



The red dots indicate the location of the ospreys fitted with satellite transmitters currently situated along the Gulf where they have wintered.

dispersed, at which time other migrating ospreys from points north were also observed moving through the area. Ospreys tend to use major river drainages as navigational cues. As was the case with the Lake Yankton reintroduced ospreys, they, too would use the Mississippi and Missouri rivers to lead them to the Gulf Coast. Then faced with a decision, the young osprey must decide to continue on and follow coastal shores or undertake open water crossings.

Of the twenty young ospreys relocated to South Dakota in 2008, eighteen were released as planned. One young bird was euthanized due to a fatal lung condition, and another successfully treated and later released. It was found grounded and transported back to Idaho, where it has overwintered and will be released again at the South Dakota site in 2009. Much of the success of last year's release can be attributed to management by professional biologists and the supportive volunteer base that assembled to help track the young ospreys. Photographers, kayakers, and media were present throughout the summer as the young ospreys continued to develop and learned to fish on their own. The project is slated to continue for the next two years where up to twenty young Idaho birds will be released each year at Lake Yankton.

Jane Fink is a raptor biologist and the osprey release coordinator for South Dakota's reintroduction project.

If you know the location of an osprey nest outside the Black Hills, contact Doug Backlund at doug.backlund@state.sd.us.

If you observe a banded osprey, either with a USFWS band or a colored leg band, contact Eileen Dowd Stukel eileen.dowdstukel@state.sd.us or Silka Kempema silka.kempema@state.sd.us. If you observe a colored leg band, try to note the color and which leg it is on.