



Honoring the Eagle

Scientists, tribes, and agencies join forces to protect a rare species

BY DEBRA UTACIA KROL

IN THE ARID SOUTHWEST, a program to prevent the extinction of the desert nesting bald eagle, which has great cultural and historic significance to tribal communities, has involved forming and sustaining a unique partnership between tribal, state, federal, and private agencies.

For millennia, tribal communities managed the natural world around them. Today, that holistic approach to resource management, particularly wildlife, is finding common ground with Western scientific methodologies in protecting one of Indian Country's most culturally significant species.

The desert nesting bald eagle, which biologists call a separate and distinct population of the species *Haliaeetus leucocephalus*, is at the center of many tribal cultural beliefs. In the introduction to the Yavapai-Apache Nation's wetlands protection plan, Vincent Randall, an elder of the Dil zhéé (Tonto Apache) people and lifelong resident of Arizona's



The bald eagle personifies a symbol that has powerful cultural and historic significance.

Verde Valley, wrote, "To our people the desert nesting bald eagle is the barometer of the desert, and the health of the Verde River is the barometer of the Eagle."

Eagle feathers are used to honor achievements, during prayer and on ceremonial regalia. "The eagle is a symbol that connects us to our Creator," says Leonard Rivers of the Salt River Pima-Maricopa Indian Community. The majestic sight of the huge raptor gliding in the skies above the desert stirs the hearts of Indians and non-Natives alike.

The desert bald eagles have adapted to a hot, dry climate. These eagles begin their mating and breeding process in late fall, laying eggs beginning in December. The nestlings start flight (known as fledging) in April and May, ensuring that the young eaglets, incapable of regulating their body temperature, have the strongest possible chance to escape the scorching Arizona summers and head to cooler climes.

Eagles prefer to build their huge, somewhat messy nests in high places, including craggy peaks and the huge water-hungry cottonwood trees that thrive in riparian zones



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along rivers and washes. These riparian areas and wetlands also provide the eagles with their staple food — fish — for themselves and their hatchlings.

Because the eagles depend on the same scarce water resources that people do, they are in serious trouble. The area's major river systems, the Verde and the Salt, have been heavily diverted for dams that provide life-giving water for farms and Arizona's exploding population. With four dams along its upper watershed, the Salt River no longer flows year-round. And although the Verde River still flows full-time, pumping upriver has put it in danger of running dry. Wetlands were left to shrivel as the aquifers that fed them shrank. Other rivers, which once flowed year-round, are only a memory.

Use of the pesticide DDT (now banned) also contributed to the desert bald eagle's decline. When DDT entered the food chain, eagles that ingested the pesticide were prone to infertility, or they laid eggs with shells so thin, they cracked.

As above-ground water vanished, so did the eagles' habitat, and the never-abundant birds began disappearing from Arizona's deserts and high mountains. By 1970, just three breeding pairs of the desert bald eagle survived. Faced with this dire situation, Arizonans quickly formed new alliances in an effort to save the critically endangered species.

A Unique Partnership

After the passage of the Endangered Species Act in 1973, tribal, state, and local governments joined with private entities to pull this culturally and environmentally vital species back from the brink of extinction. The Arizona Bald Eagle Nestwatch Program began in 1978 as a volunteer effort to ensure the desert nesting bald eagle's continuation in the wild.

Through the program, teams of mostly biology students or recent grads camp out near nests and keep watch over the eagle families. They are trained to carefully record any activities and divert inadvertent incursions into the eagles' nesting areas. The nestwatch program also provides invaluable research data to scientists about eagle behavior.

This partnership was further strengthened by the formation of the Southwest Bald Eagle Management Committee in 1984. This committee includes 27 entities, including eight tribes, state and federal wildlife and land management agencies, the Bureau of Indian Affairs, the Salt River Project, an Arizona utility, and several private organizations.

The same cool riparian zones that attract eagles also are very attractive to desert-dwelling humans, which can lead to disaster for eaglets. Ken Jacobson, head of the Arizona Game and Fish Department Bald Eagle Management Program, points out that "heavy levels of recreation in eagle nesting areas increase conflicts between birds and people." If disturbed, the wary eagle parents will "flush," or fly away from the nest.

"People aren't malicious, just curious," says Dan Daggett, former environmental program supervisor at the Salt River Pima-Maricopa Indian Community (SRP-MIC), which is home to three nesting sites. If the parent stays away from the nest for more than 15 minutes, the egg may perish. And in a state where 56 fledglings is a banner year, the survival of every eagle is crucial to the species's continuance. SRP-MIC hosts two watching camps to keep a close eye on its nests. If necessary, the Salt River Rangers are called to clear people away, Daggett says. The community also passed a tribal ordinance

that provides for a substantial fine for offenders. Salt River's telecommunications firm donated a video camera with a live feed to the Salt River Police Department dispatch office. Community members are invited along when the eagles are taken from the nests to be banded.

Nestwatch Gains

In 2010, a new nest was discovered near a heavily trafficked area in the southern part of the reservation. "It's an anomaly," says Daggett. The young eagle apparently kicked a red-tailed hawk out of its nest and took possession. "The first mating attempt was successful, to everybody's surprise," Daggett says. Although the young male disappeared this season, the female eagle returned to the nest, and "another male came to town, and they mated successfully."

An urban nest was found by a homeowner in a suburban area about 25 miles east of Phoenix. Jacobson believes that the newer nests result from the growing eagle population. "The nests used to be spread about every 20 kilometers," he says. "Now in certain areas, it's one every four to five kilometers."

Daggett thinks that the eagles may be growing a bit more tolerant of people, but he cautions that

humans still need to avoid disturbing the rare birds. "If you notice the birds squawking, move away," says Jacobson.

Nestwatchers also serve as first responders to eagle emergencies. Over the nestwatch program's 35-year history, more than 60 nestlings and fledglings have been rescued after falling from nests and contracting various maladies. The committee works with Liberty Wildlife, a rehabilitation facility, to nurse the eaglets back to health and then release them back into the wild.

One year, three nestlings perished after one of the Salt River sites became infested with bird ticks. The following year, nestwatchers determined that the ticks were continuing to lay eggs. "After we fogged the nest with promethazine [a pesticide that's not harmful to the birds], the birds still jumped too soon" in a frantic attempt to escape the ticks, says Daggett. Workers spent hours treating the nestlings, says Jacobson. "They pulled the ticks off by hand."

The third year, the partnership took decisive action. According to the SRP-MIC, two nests were constructed at different locations so the adult eagles could escape the ticks. Jacobson reports that the birds came back and produced nestlings.



"To our people the desert nesting bald eagle is the barometer of the desert and the health of the Verde River is the barometer of the eagle."

— Vincent Randall



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