

Modoc's saga...

Before his transfer to Micke Zoo Grove, Modoc was the object of an intensive rehabilitation and release project. His wing still carries pellets from the gunshot that disabled him in the wild. Surgery to re-break, then repair, the deformed wing was followed by almost two years of intensive rehabilitation. This 1976 photo shows a youthful Modoc, and youthful Ken Nieland, as rehabilitation got underway in Sacramento's Land Park.



Collaborating on Modoc's rehabilitation and release was John Aiken, now Director of Conservation at the San Francisco Zoo. John is pictured here with Modoc, just minutes before the eagle, equipped with a transmitter, was released on San Clemente Island in 1978. John's work with bald eagles continued after Modoc's release and has played a key role in bald eagle conservation and recovery efforts.



Organizing logistics of Modoc's release in 1978 was Dave Garcelon, pictured with Ken as they tracked Modoc's movements on and around San Clemente Island. Now President of the Institute for Wildlife Studies, Dave's continued dedication to eagle conservation led to the first successful hatching, without human assistance, of two bald eagles on Santa Catalina Island in April of this year.



After his lengthy captivity, Modoc did not adjust well to an independent life in the wild. He was eventually returned to a zoo setting, though his saga contributed to our understanding of bald eagles and the strategies necessary to aid in their comeback. At Micke Grove Zoo, Modoc, with exhibit-mate Shaman, has provided hundreds of thousands of people the opportunity to better understand this magnificent species and to appreciate the significance its recovery.

Bald Eagle facts:

- The Bald Eagle was officially declared the National Emblem of the United States by the Second Continental Congress in 1782.
- Bald eagles were officially declared an endangered species in 1967 in all areas of the United States south of the 40th parallel, under a law that preceded the Endangered Species Act of 1973.
- On June 28, 2007 the Interior Department took the American bald eagle off the Federal List of Endangered and Threatened Wildlife and Plants. Final rule announcing the delisting of the bald eagle.
- The bald eagle will still be protected by the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act.
- The bald eagle (*Haliaeetus leucocephalus*), our national bird, is the only eagle unique to North America.
- The bald eagle's **scientific name** signifies a sea (*halo*) eagle (*aetos*) with a white (*leukos*) head. At one time, the word "bald" meant "white," not hairless.
- About half of the world's 70,000 bald eagles live in Alaska.
- Bald eagles have lived up to 48 years in zoos, although their life span in the wild is likely far shorter.

Small Animals – Major Concerns

It is projected that *one-third to one-half of the world's 6000 known amphibian species will more than likely become extinct within the next decade!*



The Association of Zoos and Aquariums (AZA) is preparing to make 2008 the *Year of the Frog* in an effort to highlight the important work of zoos and aquariums in responding to an international amphibian conservation crisis. Check out the AZA website (http://www.aza.org/ConScience/Amphibians_Intro/) to learn more about the role of zoos in amphibian conservation, and what you can do to become involved.

Recent upgrades to the *Island Lost In Time* viewing shelter includes reptile, amphibian and invertebrate exhibits, and a video display to share information about some fascinating animals that face an uncertain future. **The upgrade was made possible with donations, including a major gift from the N. L. Peck and B.B. Peck Family Foundation.**



Bald Eagle Eye Surgery



“Modoc”

, a 35-year-old male bald eagle and resident of Micke Grove Zoo, recently received eye surgery at the University of California, Davis Veterinary Medical Teaching Hospital. The 25-year zoo resident had been diagnosed with cataracts in both eyes. This is a relatively common, age-related condition that often progressively leads to blindness.

The eagle originally came to the Sacramento Zoo in 1974 with a broken wing from a gunshot wound. After surgery to repair the wing, a two-year recovery and rehabilitation effort was undertaken. Though the eagle was outfitted with a tracking device and released on San Clemente Island off the Southern California coast, his failure to forage led to recapture. For the past 28 years, “Modoc” has been exhibited at Micke Grove Zoo. Since 1987 he has shared his enclosure with a female eagle, “Shaman”, acquired from the UC Davis Raptor Center and the recipient of a successful corneal transplant. Trauma sustained in the wild, however, has left her blind in one eye. There has been no successful breeding with the pair.

At Micke Grove Zoo, “Modoc” receives an annual physical examination, routine blood tests and vaccinations. During a physical examination in May of 2006, the Zoo’s veterinarian, Dr. Jackie Gai, noticed that the eagle had cataracts developing in both eyes. Cataracts affect the lens of the eye, and obstruct vision. One eye was more affected than the other, but “Modoc” was still able to see. Dr. Gai and the Zoo staff monitored the bird closely since then and observed that the cataracts had progressed to the point where “Modoc” was virtually blind in one eye and had minimal vision in the other. Dr. Hollingsworth, an ophthalmologist at U.C. Davis, examined the eagle and recommended surgery.

An expert team of veterinary ophthalmologists, avian veterinarians, and anesthesiologists were coordinated to perform the delicate surgical procedure to remove the cataracts at U.C. Davis Veterinary Medical Teaching Hospital. The procedure was meant to not only enhance the quality of life

for this bird, but also provide hope for wild eagles that sustain eye injuries by advancing our knowledge and skills in treating this type of condition.

To reduce possible complications in the aging animal, the eagle received a complete workup at the UCD Companion Avian and Exotic Pets Service prior to surgery. Then, a clinical team at the Pritchard Veterinary Medical Teaching Hospital successfully removed cataracts from both eyes of the 35-year-old eagle. Faculty members and technicians closely monitored its anesthesia. Two eye surgeons used ultrasound equipment to gently break up and extract the cataracts. Fourth-year veterinary students observed the surgery magnified on a video screen in the surgical suite.

Modoc was returned to Micke Grove Zoo about one week after his surgery and placed in the Zoo’s McCarty Veterinary Center for follow up treatment. Zoo staff administered eye medicine in a mist form twice daily and noted that his vision immediately improved. “He’s doing great and can see very well now” according to Zoo Veterinarian Dr. Jackie Gai. Staff treated the eagle for several days before it was returned to its exhibit on September 29th.

The eagle is doing well back in its home. He can now see Zoo staff and also his cage mate, “Shaman”. Return of *Modoc*’s appetite has accompanied the improved vision. Prior to the procedure, *Modoc*’s interest in food had slowly decreased. Now, according to Animal Care Specialist Jenn Dickey, “*Modoc* has really shown a renewed ‘excitement’ in getting his diet. He watches us approach with anticipation and goes right for his food once offered.”

Micke Grove Zoo staff will continue to monitor *Modoc*’s condition and behavior. The Zoo would like to thank all those who worked on *Modoc*’s special case. Everyone is pleased with the outcome and grateful we could do this for our bald eagle.