

WILDLIFE RESEARCH INSTITUTE

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wild news summer 2005

Eagle Eye in Space



A Wing, a Prayer, a Satellite...and an \$83,000 Grant

WRI is about to embark on the next generation of tracking the movements of Eagles: with satellite telemetry and solar-powered VHF transmitters. We are extremely excited about this opportunity and extend our most grateful thanks to the United States Forest Service for their generous \$70,000 grant to support our Golden Eagle population studies. In addition, we are grateful to the California Fish and Game Commission for their most supportive \$9700 award and The Chase Foundation for a welcome, additional \$3000 grant to add to this fund. Thanks to all our WRI Membership and these generous organizations for deeming our research valuable. In order to understand the significance of this next dramatic step in our research, it is important to look at the history of bird banding.

History of Bird Banding

Those of you who have attended Hawkwatch or volunteered at our Montana Golden Eagle Migration Study, have probably seen Hawks or Eagles being banded with metal leg bands or wing tags for tracking purposes. The history of this current scientific method goes back many centuries with the earliest record of a metal band used on a bird's leg around 1595. This is when one of Henry the IV's banded Peregrine Falcons was lost while pursuing game in France. This record states that the hunting falcon showed up 24 hours later in Malta, which is about 1350 miles away, and averages to 56 miles per hour!



PHOTO: D. BITTNER

Above: 5-6 week old eaglet tagged in S.D. County tree nest. At right, patagial wing tag.

Fast forward to North America and John James Audubon, the famous naturalist and painter, when in 1803 he tied silver cords to the legs of brood Phoebes (flycatchers), near Philadelphia. By this method, Mr. Audubon was able to determine that two nestlings returned to the very same neighborhood the following year.

Early Banders

In 1902 the first scientific system of banding began. Paul Bartsch, a well-known conchologist (a person who studies shells and mollusks), who studied birds as a hobby, banded 100 Black-crowned Night Herons in the District of Columbia with bands inscribed "Return to the Smithsonian Institution". In addition, between 1909 and 1939, Jack Miner, a Canadian, banded 20,000 Canada Geese and hunters would bring him the bands for his research.

By 1909, the American Bird Banding Association, under the auspices of the University of Wisconsin, was formed to organize and assist this growing work of research. In 1920

the Bureau of Biological Survey (now the US Geological Survey) and the Canadian Wildlife Service jointly accepted the work of the Association. Following the 1916 Migratory Birds Convention, the Bird Banding Office was established in 1923. Frederick Lincoln was the most influential individual in building this program into what is today. He devised the numbering schemes and record-keeping procedures. He recruited banders, established standards, and fostered international cooperation. He promoted banding as an important tool of science and laid the groundwork for today's North American bird banding program.

North American Bird Banding Program

Today this program extends from the Canadian Arctic to the tropics of Latin America, from Newfoundland to places like Siberia, Greenland, and Antarctica. Wherever North American birds go, bird banding is there. Almost all species have been studied by banding. According to the US Geological Survey, there are currently 1.2 Million birds banded, and 85,000 recovered each year or 7%. This program is an important tool used to protect, conserve and enhance the avian diversity of our world.



USFW Eagle leg bands.

Bird banding is a universal and indispensable technique to study the movement, survival and behavior of birds and is jointly administered by the United States Department of the Interior and the Canadian Wildlife Service. Since our two countries work together, they have shared similar policies and the same bands, reporting forms and data sheets since 1923.

Satellite Telemetry

While bird banding delivers much information to science and research, satellite telemetry gives us information that

takes years to discover with traditional bird banding. The data we will glean from satellite tracking is actually impossible to get with bird banding. Our tiny transmitters will be tracked across the globe by satellites, and allow study of the migration of a single bird around the world. Information collected from the eagles is “impressed” on a signal sent from the transmitter up to a NOAA (National Oceanic & Atmospheric Administration) weather satellite orbiting far

above the Earth. This is our “uplink” and it will relay lat/long activity 16 times a day. Then data will be down-linked by the ARGOS section of the NOAA satellite. This “downlink” data will be received by the ground station and is sent to NASA’s Goddard’s Space Flight Center where it is analyzed. WRI will use the Internet to access this data and apply the knowledge to our research and conservation work.

HOW TO REPORT A FEDERAL BIRD BAND IN NORTH AMERICA

If you ever come across a bird and you notice leg bands or wing tags, please do the following:

- Note size, shape, color, age, sex of the bird, any characteristics you can observe.
- EXACT location of where you see or found the bird
- How, when and where you found/saw the bird
- Band number etched on the metal
- Patagial (wing) tags number, and very important: color of wing tags (look for patagial tags on vultures, eagles, swans, ravens, crows, herons)

PHONE: 1.800.327.BAND

FAX ABOVE INFO OR DRAWING OF WING TAGS TO: 301.497.5717

EMAIL INFO TO: bbl.usgs.gov



Leslie Nelson, WRI Biologist, about to release a banded, juvenile Red-tailed Hawk.

CALENDAR OF EVENTS

July 26-August 1, 2005

WRI's Idaho Whitewater Rafting and Wildlife Adventure

Explore the wilds of Idaho by raft, 4-wheel drive, and even horseback with WRI's Dr. Jeff Lincer and co-tour team leader Judie Lincer. This whitewater experience on the Salmon River promises to provide fascinating wildlife viewing.

August 4-7, 2005

WRI Booth for the Ramona Grasslands at the Ramona Country Fair

Stop by and say hello!

September 17, 2005



HOLD THE DATE!!!

"Denim & Diamonds"

Dust off your boots and shine your diamonds for WRI's Dinner and Fundraiser

We will have a phenomenal array of exciting live and silent auction items.

Watch for your invitation in the mail.

October 15-22, 2005

Golden Eagle Migration & Montana Expedition at Blacktail Ranch

Includes 7 nights at the Blacktail Ranch,, all gourmet meals and ground transportation. \$1100.00 per person, double occupancy. (Air transportation not included.) Call WRI HQ and/or Dave Bittner at 760-789-3992 for more details.

GOLDEN EAGLE RESEARCH:

Pieces of the Preservation Puzzle

Winged Victory: Golden Eagle B14

One great example of key learnings from banding is the story of a tenacious female Golden Eagle: “B14”. She was found at the Wild Animal Park, debilitated, too weak to fly and suffering from secondary poisoning. She was an unmarked adult bird and was treated by veterinarians at the Park and then given to the Fund for Animals in Ramona to be rehabilitated. She rebounded and color-marked by WRI with orange “B14” wing tags and she was ready for release to her former territory. Through visual observations, we have been able to determine that she not only has survived, but has successfully bred and raised at least 10 young in the past 5 years. Look for her at the Wild Animal Park Tram Tour, which is part of her foraging territory and her presence there is part of the Tram lecture (see photo, below right).

Tagging information from live birds:

- Our very first golden eagle color-marked in San Diego County was A01. She was banded in May and by Christmas Day she had traveled to Guadalupe Mexico.
- In 2003, one of WRI’s color-marked Golden Eagle was seen flying over, and right down the middle of the Grand Canyon. In 2004, another was seen flying at the south end of the Grand Canyon in Arizona. Both were banded in San Diego County.
- One of our tagged juveniles, color-marked as a nestling, is now breeding successfully at a Riverside County nest site.
- One of our Montana birds was seen migrating north in New Mexico.

These are just a few examples of the information learned from color-marking with patagial tags, information that is used to prove the need for conservation of certain habitats that are Golden Eagle territories. With the addition of the satellite tracking, data will be faster, and incredibly specific and even more important for preservation planning.



Golden Eagle young in nest with parent.

PHOTO: D. BITTNER



Female adult Golden Eagle (B14) banded in 1999 was photographed from a helicopter in May 2005 near her nest site.

PHOTO: RON AUSTING

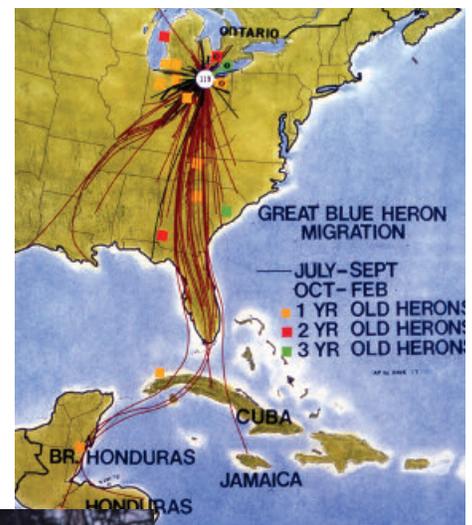
USGS BIRD BANDING LAB DATA: NON-GAME RECORDS FROM 1955-2004

The data below is from the USGS database and is current through the year 2002 for lifespan records and 2004 for encounter record data.

Controlled under the Migratory Bird Treaty Act, Banders are a select group. Currently there are only 2000 Master Banders permits issued in the United States and 375 in Canada. Under Dave Bittner's Master Permit, WRI has banded over 200 of the Golden Eagles listed below.

SPECIES	CURRENT LIFESPAN RECORD	# BANDED	# ENCOUNTERED
GOLDEN EAGLE	28 years 03 mo	9,308	842
BALD EAGLE	29 years 07 mo	27,400	4032
AM KESTREL	14 years 08 mo	250,188	4187
FERRUGINOUS HAWK	17 years 11 mo	22,073	702
BURROWING OWL	9 years 00 mo	23,261	32
BARN OWL	15 years 05 mo	51,537	2368
TURKEY VULTURE*	16 years 10 m	1405	182
REDTAILED HAWK	28 years 10 mo	162,084	8436
RED-SHOULDERED HAWK	19 years 11 mo	16,485	836
COOPER'S HAWK	13 years 10 mo	92,434	2608
PRAIRIE FALCON	17 years 03 mo	16,586	748
PEREGRINE FALCON	19 years 03 mo	39,840	3033
ACORN WOODPECKER	9 years 06 mo	4591	17
RUFOUS HUMMINGBIRD	8 years 01 mo	38,067	142
COSTA'S HUMMINGBIRD	9 years 02 mo	1762	8
ANNA'S HUMMINGBIRD	8 years 02 mo	20,091	21
MOUNTAIN BLUEBIRD	5 years 11 mo	255,795	719
GREAT BLUE HERON**	24 years 06 mo	15,802	1334
CHIMNEY SWIFTS	14 years 00 mo	66,771	26,592

**** Bittner has banded over 3700 Great Blue Herons, one of which was reported in Cuba in 2002 after being banded in Ohio in 1977.)**



*Bittner holds the record for banding the most Turkey Vulture nestlings (they nest deep in caves).

Source: Klimkiewicz, M.K. 2002. Longevity Records of North American Birds. Version 2002.1. Patuxent Wildlife Research Center. Bird Banding Laboratory. Laurel, MD.

PHOTO: D. BITTNER

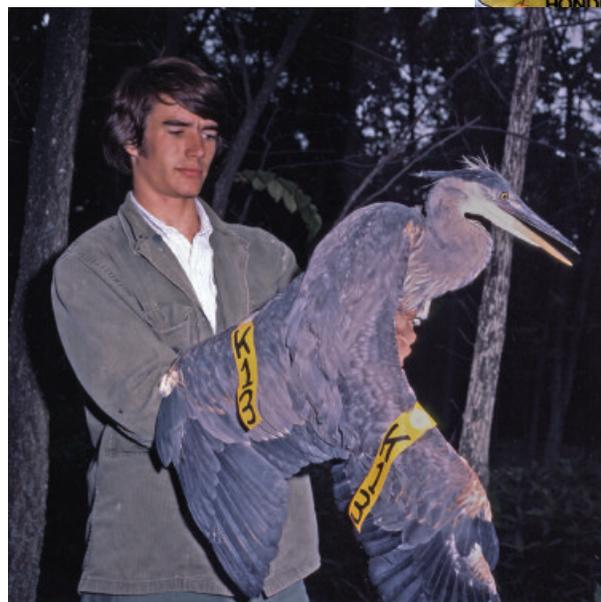


PHOTO: D. BITTNER

John Means, D.V.M. and WRI Advisor, in 1977 with Great Blue Heron after wing tagging.

BURROWING OWL PROGRAM UPDATE

by Dr. Jeffrey Lincer, WRI Research Director

California has been petitioned to list the Burrowing Owl (*Athene cunicularia*) as either Threatened or Endangered and the Status Account has been completed by the U.S. Fish and Wildlife Service, which is the first step in considering listing at the federal level. It is already listed as a “Species of Special Concern, Threatened, or Endangered” in seven states and four Canadian provinces. Further reflecting the urgency of protecting this species over large geographic area, the Service and the Canadian Wildlife Service identified the Burrowing Owl as a candidate for Bi-national action.

Did you know that San Diego County’s Burrowing Owl breeding population has decreased an incredible 90% since the late 70’s early 80’s?

Although there may have been many more prior to that point in our local history, three decades ago, there were approximately 250-300 breeding pairs of these little owls in our county. Currently there are only 25-30 pairs left in San Diego County. This situation is but an example of what is happening to the Burrowing Owl throughout many places in the western U.S. and Canada. Interestingly, about 70% of the remaining Burrowing Owls left in California are in Imperial County, living in man-created environment (nesting in spoil piles next to canals conveying irrigation water and drinking water to San Diego while feeding in agricultural fields.) Should this approach to conveying water change (and there are discussions about this possibility), or should there be significant land-use changes, like the conversion of agricultural uses to developments, the artificial habitat that supports this population of Burrowing



PHOTO: D. BITTNER

Family of Burrowing Owls that bred and reproduced at WRI. They are being released into artificial burrows.

Owls, could disappear; and with it 70% of California’s Burrowing Owl population.

To address this dire situation, WRI has established a Comprehensive Burrowing Owl Management program (CBOMP). This program provides a multi-faceted plan, which includes: regular science-based monitoring; the rescue and relocation of owls that are *in the way* (refugees) of development; a Captive Breeding Facility and the hacking of captive-bred owls; research aimed at better understanding the causes for the owl’s decline; demonstrations of the most productive breeding and hacking techniques; and the identification, modification, and management of the best remaining habitat for these little owls. Because of development, the demise of fossorial (i.e. burrowing) mammals, and other causes, there are few places in San Diego County where Burrowing Owls can successfully nest. The objective of CBOMP is to create and demonstrate a workable, multi-faceted conservation approach that can be exported to other locations that are experiencing the same Burrowing Owl decline. Several aspects of this plan are already underway (see below) and we’ll be keeping you posted with regular updates in future newsletters.

“BUILD IT AND THEY WILL COME”

Over the last 18 months, WRI’s “Volunteers for Burrowing Owls” have constructed and installed a total of 52 artificial burrows (26 breeding chambers; two burrows per breeding



PHOTO: D. BITTNER

Entrance to artificial burrow at WRI Grasslands Headquarters built by volunteers.

chamber) around the perimeter of WRI's 10 acres. Each one has two entrances to allow for owls to escape from snakes and mammalian predators. Most of these are also constructed in a way that will exclude, and allow the owls to avoid, many predators. They have a funnel-like entrance, which allows the owls to quickly rush into the burrow (vs. filing in single file) and a necked-down (6"-4") reduction in the diameter of the two burrows that will exclude the larger potential predators from even reaching the breeding chambers. The really big news is that at least one pair of wild Burrowing Owls has taken up residence at one of these artificial burrows. They have chosen a burrow that is close to one of our breeding cages, which may have attracted them in the first place. This raises the potential value of captive birds (or decoys?) to play a role in the initial stages of Burrowing Owl reintroduction and management. We'll be monitoring this pair to see if they are just wintering birds or part of the potential breeding population, but at the time of this writing, the wild pair was still on site, interacting with the owls we released in February (see article below). We also have a nearby wintering bird that shows up every year in the Ramona Grasslands, right across the street from our WRI Headquarters (an area proposed for development). Perhaps it too will stick around one of these springs to breed.

week. Thus far, two have been killed by vehicle, but we are delighted to report that seven owls (plus two wild owls) are regularly observed. This is encouraging since (under best case scenario) *another seven* individuals could be in the burrows, out of sight and, hopefully, preparing to lay eggs.



ARTIFICIAL BURROWS INSTALLED AT THE CITY'S LOWER OTAY LAKE

The Burrowing Owl breeding population in San Diego County has decreased 90 percent in the last 25-30 years and managing this species is a critical component of San Diego's Multiple Species Conservation Program (MSCP). The "MSCP Biological Monitoring Plan" identified this owl as one of the grassland raptor species to be monitored under the MSCP. In a pro-active mode, the City of San Diego would like to have a number of sites prepared/managed to attract and support Burrowing Owls and they have asked WRI to help them. These "Receiver Sites" would also be available for owls that needed to be actively translocated out of harm's way. Based on WRI's surveys for Burrowing Owls and other raptors, approximately a dozen city-owned parcels were identified as having some potential for attracting and/or supporting Burrowing Owls, many of which were within the geographical limits of the MSCP. Lower Otay Lake was identified as the best of the potential Receiver Sites. To start the habitat management process, WRI installed 22 burrows (11 nest chambers) on this site and created rock piles to attract the owls and provide habitat for their prey. A Management and Monitoring Plan for the Lower Otay Lake Burrowing Owl Management Area is being created for the city, to provide recommendations and guidelines on how to improve and maintain the habitat and monitor it for Burrowing Owls. This was a really big step forward for the city, who should be congratulated for taking this important pro-active step in the implementation of a comprehensive approach to managing these owls that are in need of assistance before they disappear completely from San Diego County.

SUCCESSFUL CAPTIVE BREEDING AND RELEASE OF BURROWING OWLS

In 2004, we were asked by the California Department of Fish and Game, under a special Memorandum of Understanding, to remove several Burrowing Owls from the path of develop-

ment. We did that and, in the absence of a safe place to relocate them, we paired these owls up in three breeding facilities at WRI. We are pleased to report that two of the three pairs produced 12 eggs and nine nestlings! On February 28, 2005 we banded and released all nine nestlings, plus seven adults, into several of the 52 artificial burrows that our Volunteers had constructed around the WRI property, looking out over the Ramona Grasslands and other open areas. Staff Biologists and Volunteers are monitoring these owls several times per



Burrowing owl breeding and hack pen with underground burrow at Ramona Grasslands (WRI).

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THANK YOU BURROWING OWL VOLUNTEERS

This project began with seed money from a Wal-Mart grant and a conservation goal. Rick and Wanda Crook have put

continued on page 8

Focus on Wild Art

Featuring Artist: *Joyce Stark*

Last year at Hawkwatch, local Ramona Artist Joyce Stark was training her eye on a beautiful Red-tailed hawk as he was being banded and being released. She relishes the challenge of bringing to life the wonders of nature. Her goal is to capture the pure essence her subject and bring it to the attention of the viewer. Ms. Stark has succeeded in this truly emotional and captivating work entitled: Let Me Go.



Ms. Stark painted Let Me Go for the sole purpose of helping the WRI. She is supportive of our education HawkWatch programs and Children's Hawkwatch and our work to preserve the Ramona Grasslands of San Diego County. The total proceeds (100%!!!) from the sale of Let Me Go cards, signed and numbered giclee prints and the sale of the original at the upcoming Live Auction Fundraiser, will go entirely to the WRI. Her prints are all done on archival paper with longevity pigments and certificates of authenticity, and of course signed and numbered by Ms. Stark. We are very honored and proud to display her work. *Thank you Joyce.*

Signed and Numbered prints:

- 8-1/2"x11" \$35.
- 13"x19" \$95.
- 17"x22" \$150.

Artist Joyce Stark was the FEATURED ARTIST for the Month of May at the Brandon Gallery in Fallbrook. Joyce Stark also participates in the annual Ramona Artist OPEN STUDIO TOUR, sponsored by the Chamber of Commerce.

STOP BY WRI OR CALL 760-789-3992 TO PURCHASE.

Burrowing Owl Update, *continued from page 7*

in many volunteer hours along with Students for Environmental Awareness and Protection (SEAP) from Ramona High and local Boy Scout Troops. Their continuous labor and hard work have paid off for not only the relocated pairs, but wild owls. A big thank you to Regina Wilson, our Grants Manager, who was instrumental in getting us funding to go forward with this program.

A special thank you to the following expert Volunteers who have made this program possible:

- | | |
|-------------------|--------------------|
| Rick Crook | Wanda Crook |
| Can Ben-Aderet | Bonnie Schlotfeldt |
| Heidi Schlotfeldt | Justin Schlotfeldt |
| Tim Schlotfeldt | Doug Schwazenback |
| Fred Sproul | Kayla Thomson |
| Tom Trowbridge | Alena Turner |
| Alyssa Turner | Daniel Turner |
| John Paul Turner | Phil Turner |



Burrowing Owl with leg band and temporary red dye (color marked) on breast.



PHOTO: D. BITTNER