

WILDLIFE RESEARCH INSTITUTE

18030 HIGHLAND VALLEY ROAD PO BOX 2209 RAMONA, CALIFORNIA 92065

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wild news

Volume 6

Golden Eagles of San Diego

WANTED!



OR NOT? DEAD OR ALIVE

Aquila chrysaetos Golden Eagle: a rare bird of mountains, tundra, grasslands and deserts. Feeds mostly on rodents. Native Californian for many millennia. 50% decline in San Diego County since the 1970's.

IT'S YOUR CHOICE

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WHY GOLDEN EAGLES?

At the Wildlife Research Institute, RESEARCH, is literally our middle name. The status and protection of our Golden Eagles in San Diego County was our originating research project and remains our foremost concern. There are many good reasons for this. The Wildlife Research Institute, Inc. cares deeply about the fate of the population of Golden Eagles in San Diego County. Our documentation goes back to the 1860's and is the longest studied population in the Western Hemisphere. The clear and compelling evidence is that man has caused a 53% reduction of this population in less than 40 years. Another 10% is on the cusp of being extirpated by human activity.



PHOTO: RON AUSTING

Female Golden Eagle with her three-week-old chicks in a tree nest on an Indian reservation in San Diego County.



PHOTO: JOHN OAKLEY

Wildlife biologists Dave Bittner and Melissa Booker rappelling into nest on BLM land in San Diego County during our annual survey.

After constant monitoring since 1988, we estimate that 46 pairs are still active and 58 pairs have been extirpated (locally extinct). Most of these extirpations occurred in the last 35 years. **Seven of the remaining active pairs with in San Diego County are in serious jeopardy of being extirpated in the next 4-9 years.** Three of these seven pairs predicted to become extirpated may in fact, already have been lost. Even pairs in the remote “backcountry” of San Diego County are being disturbed by new developments. Protecting the nest sites is only the first step. Protecting the habitat is the critical second step. Without hunting habitat, the eagles cannot feed their young nor themselves.

Golden Eagles are a valuable “Umbrella Species”; that is, by protecting their nesting and foraging areas, their territories, you protect habitat for many other species. The health of an umbrella species reflects the health of many other species that occupy the same territory but are more difficult to monitor. When we lose Golden Eagles, it usually and naturally follows that their habitat is being degraded and therefore hundreds of other species are negatively affected also.

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PHOTO: D. BITTNER

Kurt Bittner, bioclimber, tagging eaglets after rappelling into cliff nest.



PHOTO: R. AUSTING

John Oakley, Professor Emeritus and co-director of Golden Eagle project holding eaglet. Pictured with John are the ranch owner's grandchildren.

OUR COMMITMENT

By collecting the facts, and using good science, we can and do, confront projects and inappropriate land use that threaten this species' survival in our county. Without this continuous and arduous research we would not have the scientific credibility we have earned to make the case to protect these eagles.

San Diego County is recognized as one of the most diverse assemblage of plants and animals in the continental United States; and Golden Eagles are one of the rarest jewels of

our diversity. We, as a community and individuals, are so much richer in our county and as stewards of the land, if we can protect our biodiversity for ourselves, our children and our grandchildren and all the other animals that try to co-habitate with us. If you have ever seen an eagle soar, hunt, and raise young, you have witnessed a unique blessing of our county's biodiversity.

A simpler reason to protect our Golden Eagles is what they eat: they love ground squirrels. We estimate that the San Diego County Golden Eagles eat 50,000 ground squirrels a year. Keeping prey and predator in balance when you don't have the predator is quite impossible. Many of us experience ground squirrel population explosions in our backyards. Unfortunately, the practice of poisoning ground squirrels has caused the death of Golden Eagles due to "secondary poisoning".

Many residents of San Diego do not even know that Golden Eagles exist in our backcountry nor do we always see them as they soar high overhead. How can we protect, how can we save, what we don't know exists? It is in this spirit of learning and understanding that we present a "Cliff's Notes" of the Golden Eagles of San Diego County.



PHOTO: D. BITTNER

Adult Golden Eagle with California ground squirrel.

PHOTO: D. BITTNER



Mike Hausman, WRI bioclimber, in cliff nest in San Diego County.

BACKGROUND TO OUR RESEARCH

WRI has an established team of Golden Eagle biologists, bioclimbers and volunteer observers that have been active in San Diego since 1988. Using over 130 years of historic information coupled with our yearly field surveys and current research we have been able to document the entire population of Golden Eagles past and present.

Through our detailed research and tracking with bands and telemetry, we can determine facts about the Golden Eagle population immigration, emigration and mortality.

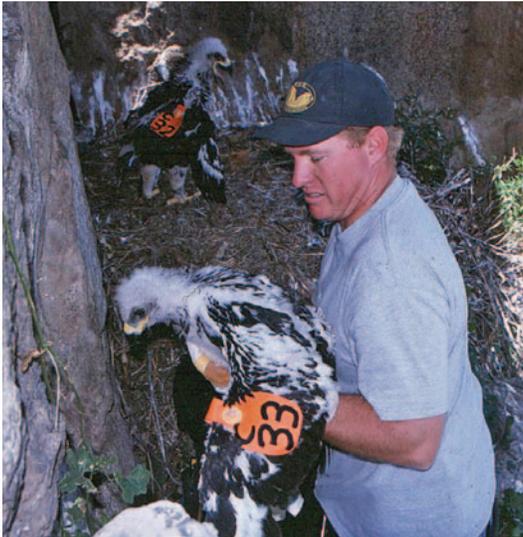


PHOTO: D. BITTNER

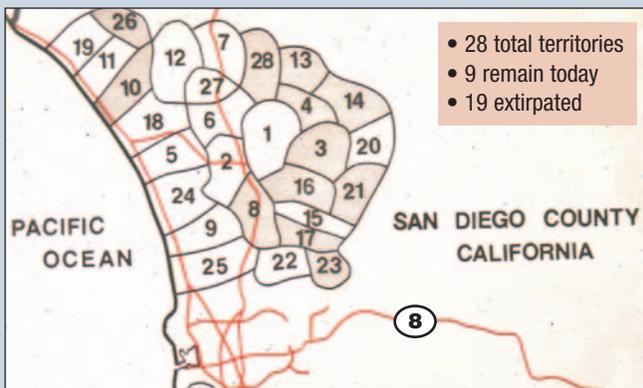
Bioclimber Jeff Laws on historic cliff nest ledge.



PHOTO: D. BITTNER

Tess and Nuri Pierce assisting with tagging of five-week-old Golden Eagle chicks.

Golden Eagle territories from 1895-1936 by James Dixon.



In the 1800s and early 1900s, egg collecting and international trading of eggs was fashionable. Oologist (egg collectors) in parts of San Diego County kept detailed records of the sites they collected. The records of James Dixon and most of those who collected in our county form the basis for our early nest records.

SAN DIEGO COUNTY: GOLDEN EAGLE EMIGRATION

Following is a sampling of data collected on San Diego Golden Eagle Emigration. This chart represents eagles that were hatched at various nest sites within our county and the location list tells you where they were sighted or found.

STATUS	LOCATION	AGE	ENCOUNTER/ACTIVITY
Alive	San Miguel el Alto, Mexico	HY	Traveled 1200 miles, shot, rehabilitated, but non-releasable
Alive	Grand Canyon, AZ	HY	Flying through Canyon
Alive	Prescott, AZ	HY	Flying
Alive	Riverside, CA	ATY	Nesting
Alive	Ventura, CA	HY	Killing and eating a cat
Alive	Mt. Diablo, Mexico	ASY	Chasing California Condor at Condor release site
Dead	Ramona, CA	ATY	Struck an electric line
Dead	Brown Field SD, CA	HY	Electrocuted at power pole
Dead	Dulzura, CA	HY	Drowned in water flume trying to eat waterfowl
Alive	Pinnacles, CA	HY	Eating road-kill deer
Alive	Idaho	SY	Perched near a refuge
Dead	Pamo Valley, CA	SY	Electrocuted
Alive	Moreno Valley, CA	ATY	Nesting
Alive	Gregory Mtn, CA	ATY	Nesting
Alive	San Diego Wild Animal Pk	AD	Flying regularly over the Wagasa Tram tour
Alive	Mesa Grande, CA	HY	Hunting in the Coronado Islands, Mexico
Dead	Pamo Valley, CA	HY	Killed by Bobcat
Dead	Santa Maria, CA	HY	Hit by truck
Alive	Ramona, CA	HY	Hunting in Ramona Grasslands
Alive	Apple Valley, CA	HY	Found starving in Anza-Borrego St Pk, banded, rehabilitated, released. Caught 6mos later in a goose pen by farmer. Released again in San Diego County

AGE LEGEND: HY-Hatch Year
SY-Second Year
ASY-After Second Year
ATY-After Third Year

LIFE HISTORY OF GOLDEN EAGLES IN SAN DIEGO COUNTY

As a meaningful umbrella species, Golden Eagle population health reflects the health of many other species that occupy the same territories, such as Mountain Lions, but are more difficult to monitor. Golden Eagles are a top predator and have survived by nesting in the most remote parts of the county where they have not been subject to as much human disturbance. Eagles have learned to flee from the presence of humans if they are to survive.

Around their nest sites, Golden Eagles are even more sensitive to the presence of humans and will fly off the nest when approached from as far away as 1/2 mile. They will see you, but you will not see them. Golden Eagles will return to the nest to continue incubating or brooding their young only after people have left the area. But if the weather is too cool, too hot or raining this can cause egg failure due to chilling or overheating and the young can die of exposure. The critical time to avoid any activities in Golden Eagle core nest areas is January through April.

Adult eagles can live 35-40 years in the wild. As with any wild animal, juvenile mortality rates are high; which makes

each and every nesting site valuable for population stability. Eagles generally mate for life. The females can be as much as 1/3 larger than the males. The wingspan of the Golden Eagle can be as much as an impressive 7-1/2 feet! By comparison, the Red-tailed Hawk wingspan is typically 3-1/2 feet, and the California Condor wingspan in 9 feet.



Female Golden Eagle incubating eggs near Lake Morena.

PHOTO: D. BITTNER

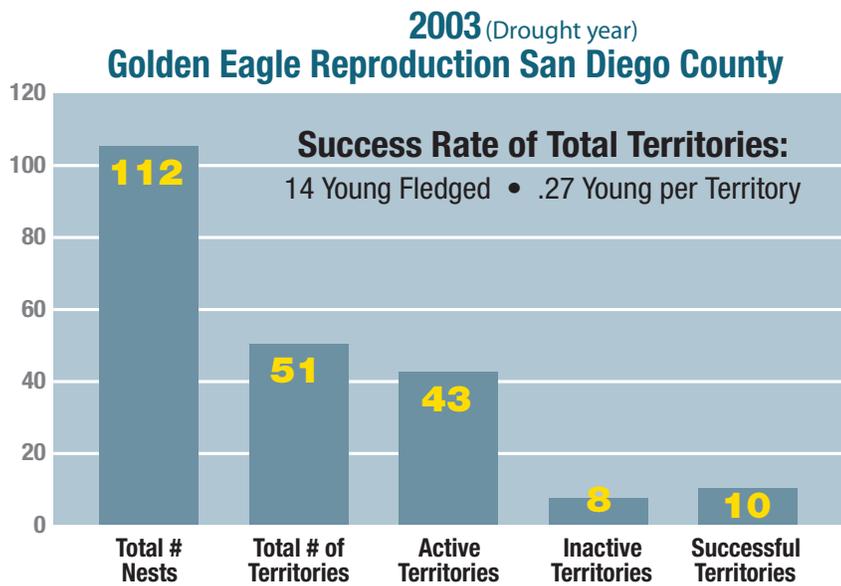
Most Golden Eagles pairs are very faithful to a territory which tends to change little over recorded time. These territories are usually 20-30 square miles in size but not all of the territory is used all the time. Fires, prey abundance, and land use changes will cause eagles to shift hunting areas within a territory.

Eagles usually lay two eggs. Fortunately, the eagle population was larger in the 1800s, so the population could withstand the pressures of the egg-collecting activity. Also, eagles can sometimes lay a second clutch of eggs and still reproduce in the same season. We have documentation of eagles that had eggs collected from their nests in the 1800s, and some eagles still nest today on the very same cliffs and in some cases the exact same nest ledge. We are now banding and studying the descendants of those same eagles.



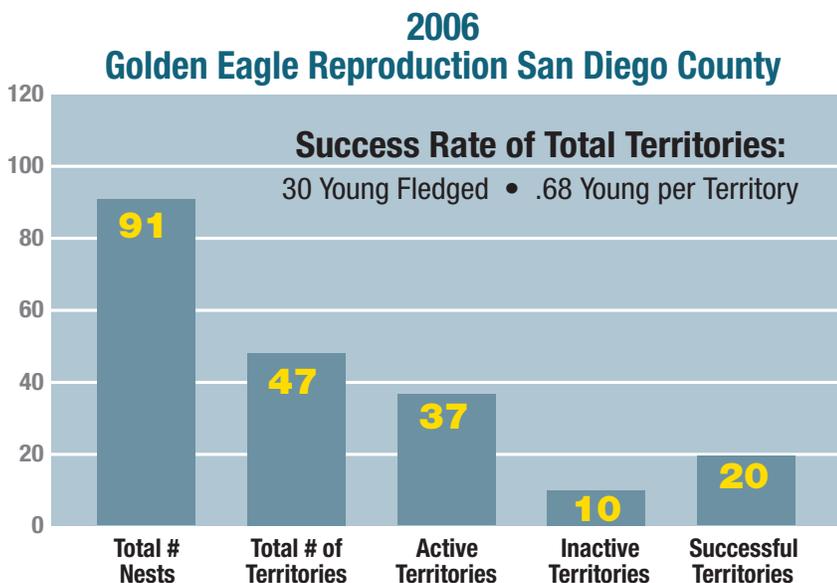
PHOTO: D. BITTNER

Jeff Laws prepares to jump from hovering helicopter skid to a difficult-to-reach cliff nest in Otay Mesa.



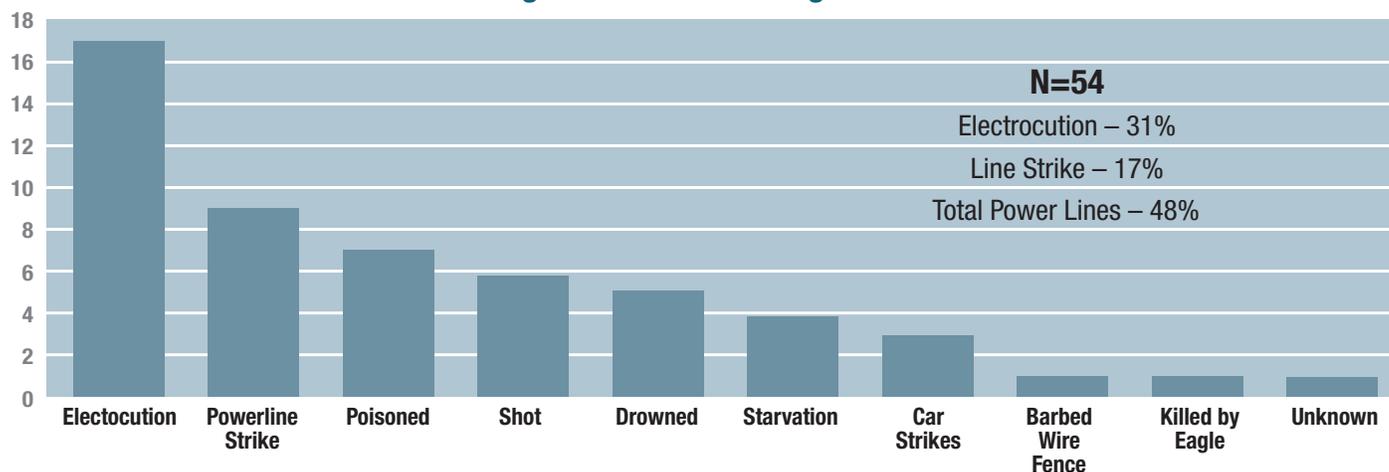
The first changes of significance that affected the San Diego Golden Eagle population were from intensive agriculture such as avocado and citrus groves. This intensive agriculture replaced grasslands and the more Golden Eagle friendly cattle grazing and ranching. Most of the territories that we've lost in San Diego County were those that disappeared after the 1970s, when major freeways opened land for development that was formerly cattle ranches. Interstate and local freeways make access easy and allowed development to proceed. This trend continues today.

Human disturbance is one of the other main factors affecting Golden Eagles today. Human encroachment, whether development, recreational climbing, or motorized off-road use, continues to move deeper into the backcountry without moderation. That is why we need to make a determined and constant effort to protect what is left for the Golden Eagles in our U.S. Forest Service lands and the San Diego County Multiple Species Conservation Plans. This provides a significant and valuable opportunity for the future management and survival of Golden Eagles within San Diego County: our backyard.



The graphs at left compare WRI data from 2003 and 2006. Natural cycles occur, such as the drought year of 2003, that affect the GE populations. Therefore WRI conducts annual surveys over many years so our data reflects a long-term basis for our management recommendations. However, even in the best reproductive years, the GE population continues to decline in SD County.

Golden Eagle Deaths – San Diego Environs



How can you help?

It is not easy to learn these statistics and trends that threaten this magnificent species, but you can help. You can help by letting California Department of Fish and Game, the US Fish and Wildlife Service, and the County of San Diego, know you care. (see below for contact information.) Your ongoing support of WRI helps fund our research so we can continue bringing all the facts to these agencies. We encourage you to write to these agencies (with a copy to all local and state politicians) and express your concern. The Federal Eagle Act and the Migratory Bird Treaty Act offer protection for these species; but enforcement only happens when the public takes the time to care and express concern.

Sample Letter:

“As a resident of San Diego County I am concerned about the decline of our Golden Eagle population by over 50% and the increasing loss of suitable habitat for them. Because of this I believe our remaining Golden Eagle nest sites and foraging areas should be protected. Further, land use projects and developments should be required to avoid and protect these Golden Eagle territories. Despite the Multiple Species Conservation Plan, we continue to lose Golden Eagle habitat that is supposed to be protected by the MSCP.

Send letters to:

Supervisor: _____
 _____ District
 San Diego County Board of Supervisors
 1600 Pacific Highway, Room 335
 San Diego, CA 92101

- District 1 Greg Cox greg.cox@sdcounty.ca.gov
- District 2 Dianne Jacob dianne.jacob@sdcounty.ca.gov
- District 3 Pam Slater-Price Pam.Slater@sdcounty.ca.gov
- District 4 Ron Roberts ron-roberts@sdcounty.ca.gov
- District 5 Bill Horn bill.horn@sdcounty.ca.gov

California Department of Fish and Game 4949 View Ridge Road San Diego, CA 92123
 US Fish and Wildlife Service Office 6010 Hidden Valley Road Carlsbad, CA 92011

U.S. FOREST SERVICE SUPPORT

WRI is intricately involved in a cooperative program with the US Forest Service to identify and protect Golden Eagle nesting areas and foraging areas within the Cleveland National Forest. We further are working to identify sources of man-caused disturbance whether from rock climbing, hiking trails, poisoning, hunting, and shooting that interfere with maintaining the Golden Eagle populations within the Cleveland National forest.



Jeff Wells of the US Forest Service Senior Biologist, Resource Officer

The Wildlife Research Institute would like to acknowledge the continued support of the US Forest Service. We appreciate their tremendous cooperation since the early 1990's with both personnel and financial support.



WRI is honored to be selected by The San Diego Foundation as a partner in the Endow San Diego

Program. Endow your passion for wildlife and conservation by building a WRI endowment. All endowments are managed by the legal and financial professionals at The San Diego Foundation.

Call Dave Bittner at 760-789-3992 for an appointment with The San Diego Foundation.



VARIOUS CLIFF NEST SITES IN SAN DIEGO COUNTY

PHOTO: R. AUSTING



Male departing after dropping off prey.



PHOTO: D BITTNER

Aerial survey: 3-week-old eaglet sleeping in nest with surplus food.

PHOTO: D BITTNER



Aerial survey: Female incubating eggs.



PHOTO: R. AUSTING

Aerial survey: Female protecting 2-3 week old chick.



PHOTO: D. BITTNER

Golden Eagle roosting at sunset.