

???? EAGLELAND ~ Two Minute Warning ???? (*) Chat will be paused during the presentation (*)

???? EAGLELAND ~ Facts & Figures (ELF) ????

Golden Eagle Removal on the Channel Islands 1999 to 2006

Close to the mainland yet worlds apart, Santa Cruz Island is home to plants and animals that are found nowhere else on Earth. Unfortunately, this isolation has also made these species vulnerable to extinction.

The melodic song of the Santa Barbara Island song sparrow and the crimson flower of the Santa Cruz Island monkey flower are no longer heard or seen within the park.

The destruction of these species' habitats by non-native, exotic plants and animals has caused their extinction along with eight other rare and unique island species. Once found only on the Channel Islands, THEY HAVE BEEN LOST FOREVER.

Beginning in 1843, the islands were transformed into ranches. Domestic animals (pigs, sheep, goats, and even cattle) were introduced and then allowed to go wild or feral. Mule deer and elk were also introduced on Santa Rosa Island for paid hunting trips.

The young of these species, plus entrails left behind from hunting, attracted golden eagles to the northern islands.

By the mid-1950s bald eagles had become extinct on the Channel Islands because of DDT in the marine ecosystem. Without the bald eagle to drive it away, the golden eagle took up residence on the northern islands.

Golden eagles were implicated in the catastrophic decline of three subspecies of island fox endemic to three of the northern California Channel Islands (Santa Cruz, Santa Rosa, and San Miguel islands).

(Note: only northern Channel Islands not Catalina.) On Santa Catalina Island, a 90-95% decline in the fox population was attributed to an outbreak of canine distemper virus.

Repeating as is important to know - Catalina was a different problem. On Catalina Island, the decline in the fox population was due to an outbreak of canine distemper virus.

The Island Fox Conservation Working Group, (IFCWG), was formed in 1999 to address the impending extinctions. The Channel Islands National Park (NPS) initiated emergency actions for island fox recovery.

The Island Fox Conservation Working Group recommended the total removal of golden eagles from the northern Channel Islands

In the summer of 1999, the Santa Cruz Predatory Bird Research Group (SCPBRG) entered into a cooperative agreement with the NPS to begin golden eagle capture and translocation efforts on Santa Cruz Island.

The Nature Conservancy (TNC), U.S. Fish and Wildlife Service (USFWS), and the Santa Cruz Predatory Bird Research Group (SCPBRG) provided additional funding for this project.

The capture and translocation (move) of golden eagles to mitigate the depredation of livestock had been attempted in the western U.S. with limited success. A study involving the translocation of resident adult golden eagles in 1991 found that 12 of 14 eagles relocated more than 250 miles (400 km) away returned to their territories within one year. Similar homing abilities were reported for other types of eagles.

Twelve eagles captured on Santa Cruz Island were fitted with satellite transmitters attached in backpack fashion, using Teflon ribbon secured with cotton thread and designed to fall off after the transmitters expired.

These types of backpacks were pioneered by Dave Garcelon and IWS on Catalina starting in about 1985.

Most were released east of the Sierra Nevada range and north of Lake Tahoe, at the western edge of the Great Basin.

As a precaution against breeders returning to the islands, adults were released farther away (about 500 miles) than sub-adults and juveniles (about 300 miles). Eaglets removed from island nests were either fostered into mainland nests or hatched into the wild.

On Santa Rosa and Santa Cruz they identified 44 individual eagles including 10 territorial pairs. At least 4 pairs bred successfully producing six known young.

Eagles captured in early 2000 were in poor condition.

The eagles likely depended on piglets as their primary source of food. Due to drought conditions in 1999, the pig population experienced a die-off. The island fox population on Santa Cruz Island had been severely reduced and the last 9,000 feral sheep had been removed from the island.

They experienced two peaks in capture success: eleven eagles between February and April 2000 and six eagles during February and March 2003.

The capture success in 2000 may be attributable to three factors: high eagle density, low abundance of live prey, and unwary eagles during the early period of the trapping effort.

The second peak of trapping success, in February and March 2003, may be attributed to the presence of feeding stations (using pig carcasses) maintained by the Institute for Wildlife Studies (IWS) for the 12 bald eagles released on Santa Cruz Island in 2002.

All six of the golden eagles captured in February and March 2003 were captured at one IWS bald eagle feeding station.

None of the eagles appeared to attempt to return to the islands during transmitter life (up to 18 months) and only one eagle even reached the coast. This eagle was observed on the coast north of Monterey Bay. She was one of two adult eagles that made significant southward movements into the Central Valley and Sierra foothills.

These movements were made during the fall and winter and the eagles subsequently returned northward. Rather than turning homeward, most eagles moved out into the Great Basin area of California, Oregon, and Nevada and nearby ranges.

There were some wild life activists that objected to the Golden Eagle removal citing that they got to the islands on their own and should be left alone. If the fox couldn't survive then so be it.

There were also some biologists that claimed the Bald Eagles that were being reestablished would eventually prey on the Island Fox. This was refuted by IWS who had never seen a fox taken on Catalina by a Bald Eagle.

In 2010 we on the CHIL forum were asked by some biologists to provide pictures and videos of Bald Eagles carrying the Island Fox back to their nests. In 4 years of observation we had never seen this behavior and were not able to comply with the requests.

When the SCPBRG ended their field season in June 2004, they had removed 36 (80%) of the 45 golden eagles estimated to be on Santa Cruz Island since 1999. The nine eagles thought to be remaining on the island as of June 2004 included six adults.

There is insufficient data and modeling to determine the level of golden eagle predation that can be tolerated by island fox populations. However, the hyperpredation model developed by Roemer et al. (2001) predicts that as few as seven eagles residing on Santa Cruz Island could cause the extinction of that subspecies in as little as 6.5 years.

In 2005, the Institute for Wildlife Studies (IWS) was contracted by The Nature Conservancy (TNC) and the National Park Service (NPS) to develop some new approaches to golden eagle capture, as well as implement traditional capture techniques, when appropriate. This mandate was extended through the 2006 season.

Feral pigs, sheep, and goats have been eradicated from Santa Rosa. Pig eradication began on Santa Cruz Island in 2005 and was completed in 2007. By 2012 introduced **deer and elk were removed** from Santa Rosa Island.

From the LA Times: In June 2006 Not long after scientists celebrated the first bald eagle chicks hatched without human aid on Santa Cruz Island in more than half a century, experts hunting in a helicopter used a net gun to remove the last golden eagles from the island.

Two captured in midflight, were a pair of adults - possibly the same ones that eluded trappers who tried to pick them up in 2005 and a 7-week-old chick still in its nest.

Since 1999, the park service and the Nature Conservancy - joint owners of Santa Cruz have spent more than \$1.7 million to remove the golden eagles.

From Dr. Sharpe chat - **This is the last golden eagle nest and all these foxes, most collared, were from a week of hunting.**

http://i111.photobucket.com/albums/n133/sharpe_01/sharpe_01033/chick%20at%20nest%20007_zpsw9sv9mlm.jpg

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Thank you

The End