

Seventh in a series of *Feature Articles*

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Monitoring Reintroduced Bald Eagles Using Satellite Telemetry

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Bald eagles (*Haliaeetus leucocephalus*) disappeared from southern California by the 1960's, primarily because of habitat loss and the introduction of the pesticide DDT into the marine environment. Once in the food chain, this pesticide caused the eagles to lay fragile eggs that broke under the incubating adults, eventually driving the population toward extinction.

The Institute for Wildlife Studies (IWS) began bald eagle restoration efforts in southern California on Santa Catalina Island (Fig. 1) in 1980. This ongoing project has successfully restored a bald eagle population of approximately twenty birds to the island. In the spring of 2002, IWS, in cooperation with the National Park Service (NPS) and The Nature Conservancy, began a similar project to reintroduce bald eagles to the northernmost Channel Islands. Twelve eight-week-old eaglets, which were acquired from either the San Francisco Zoo or wild nests in Alaska, were placed in two release towers built on NPS property on eastern Santa Cruz Island and released when they were ready to fly at about twelve weeks of age.

There were several questions we had regarding reintroducing bald eagles on Santa Cruz Island. First, Santa Cruz Island is one of four islands (San Miguel, Santa Rosa, Santa Cruz, Anacapa) in a chain of islands that are about 5-10 km apart and cover a linear distance of approximately 100 km. We wanted to know whether it would be possible to restore eagles to all four islands using only the release sites on Santa Cruz Island. To answer this we would need to closely monitor the eagles' movements to determine whether they moved between the islands. The second question was whether released bald eagles would negatively impact several species of nesting seabirds that are found on the islands. Finally, our previous experience has shown that a portion of the released birds often migrate to the mainland, sometimes returning to breed in the future. We wanted to be able to closely follow the birds' movements both on the



Fig.1: The Channel Islands, CA were the focus of the bald eagle reintroduction project.

island(s) and on the mainland to determine survival and movement patterns and to establish whether there were differences between the eagles acquired from San Francisco and Alaska that may affect the success of the reintroduction efforts.

In order to answer these questions, each bird was fitted with a backpack-mounted 70g Argos/GPS Solar

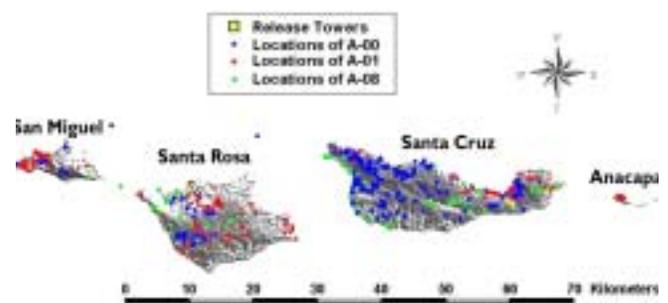


Fig. 2: Locations of three bald eagles originally released on Santa Cruz Island

PTT. Using the PTT data, we have found that the birds can and do move among the islands. Three of the twelve released birds have spent time on at least three of the four islands (Fig. 2). Several birds have also made short trips to Anacapa Island, where much of the seabird breeding activity occurs.

Therefore, we will be closely watching eagle activity on this island in the future to determine if the eagles pose any threat to seabirds breeding in that location.

We have also found apparent differences in movement patterns between birds bred at the San Francisco Zoo compared to those removed from nests in Alaska. Of seven birds from Alaska, two are still on the islands (A-08, A-10), two (A-04, A-07) have trav-

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Photo courtesy of Jim Spickler

A pair of eaglets acquired from a wild nest in Alaska were released on eastern Santa Cruz Island when they were ready to fly.



Photo courtesy of Jessica Dooley

Young bald eagle with Argos/GPS Solar PTT (solar panel visible between shoulder blades and patagial wingmarkers)