

vBat Conservation in California

As recently as two years ago, the State of California had never funded a research project for bats. Then in 1986, Dan Williams, a Professor of Zoology at Stanislaus State, reviewed the status of all mammals in California for the State Department of Fish and Game. He designated 36 species as "Mammals of Special Concern." All animals on his list, which includes seven of California's 23 bat species, receive no legal protection, but clearly have conservation needs and deserve consideration for protective listing.

The California Department of Fish and Game responded quickly by calling a meeting with Williams and four California scientists actively engaged in bat research--Dr. Denny Constantine, a member of BCI's Scientific Advisory Board, and bat biologists Drs. Pat Brown, Phil Leitner, and Elizabeth "Dixie" Pierson, all BCI members. The result was that Townsend's big-eared bat (*Plecotus townsendii*) was given top priority, and the Department initiated a three year study to determine the status of this species in California. The study, now in its second year, is being conducted by Dixie Pierson.

There are four subspecies of big-eared bats in the United States--two of them in California. All have experienced alarming population declines in recent years. The two eastern subspecies, the Virginia big-eared bat and the Ozark big-eared bat, were placed on the Federal Endangered Species List in 1979. One of the two western subspecies, *P. t. townsendii*, is currently a candidate for Federal listing. *Plecotus* has state endangered status in Washington, and in Oregon it has been designated a sensitive species by both the Forest Service and Bureau of Land Management. Biologist and BCI member, Mark Perkins, investigated the status of big-eared bats in Oregon and found the species to be seriously endangered there. Dixie Pierson's survey in California indicates serious declines in California as well.

This spring the state will fund a second survey to investigate the status of California leaf-nosed bats (*Macrotus californicus*), to be conducted by Pat Brown. These bats are unique in a number of ways. They belong to a large family of New World bats, the Phyllostomidae (leaf-nosed bats), mainly found in the tropics of Central and South America. Most bats in this group are fruit and nectar feeders, but California leaf-nosed bats are insectivorous. The species is found mainly in mine tunnels along the Colorado River and is the only one of the family that is a year round resident in the United States. Unlike most North American bats, California leaf-nosed bats do not hibernate or migrate. Instead, they spend the winter in a few geothermally heated mines where they are very vulnerable to human disturbance.

Work to date has revealed enormous support for bats in California and has suggested some important ways to protect them and to increase public awareness. For example, the recreational caving community has shown tremendous interest in the big-eared bat project. Members of several grottoes have provided Dixie with locality data, donated weeks of time to assist in the field and offered support for protecting roosts. Another promising development has been the interest shown by federal, state, regional, and private park personnel. California is blessed with an extensive park and reserve system--seven national parks, seven national monuments, plus numerous state and regional parks and private

reserves.

Dixie has contacted a number of these facilities during the course of her big-eared bat survey, and has been heartened by the response. "Every single park or reserve I have contacted has been hungry for information on bats--wanting to know what species are resident on their land and eager to incorporate bat education into their nature programs. For example, the Audubon Canyon Ranch, a very important reserve in Marin County, now has bat education as part of their docent training program. Clear Lake State Park in Lake County, which has a large Yuma myotis (*Myotis yumanensis*) colony under the shade of their new Visitor's Center, is planning to make the evening bat exodus one of their fireside events. A coordinated program of bat education for parks would have an enormous impact and is something that should be considered nationwide."

Of the three protected big-eared roosts, only one occurs on Federal land. The colony of 125 females--the largest known colony for the coastal subspecies--lives in the attic of an old abandoned farm house on the grounds of Point Reyes National Seashore. When Dixie first found this colony, she learned that the National Park Service, concerned about vandalism and fire, was planning to demolish the building. As soon as the Park knew about the bats, however, they changed their plans, fixed some leaks, secured the doors and windows, and turned the house over to the bats.

Park biologist Dr. Gary Fellers has become actively involved and committed substantial portions of his research time and funds to studying the colony. Last winter he installed sophisticated monitoring equipment which is providing information on the roost requirements of this species, and he and Dixie have initiated a long term population study of this colony. At the end of last summer, a light tagging session (putting little fluorescent balls on the bats and following them on their feeding routes) brought so many volunteers that people had to be turned away.

The survey of *Plecotus* may also help other bat species. "One side benefit of this study," Dixie said, "is that in the process of looking for *Plecotus* we have found many other bat colonies, and have gathered information on a number of species like the Fringed myotis (*Myotis thysanodes*) and the Long-eared myotis (*Myotis evotis*), about which very little is known. I am very encouraged by the response of the State and the public to this survey. I feel as though we are making real progress in bat conservation in California."

[footnote]

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California leaf-nosed bats will be the subject of a new state-funded survey beginning this

spring.

PHOTO BY ELIZABETH D. PIERSON



In a survey of Townsend's big-eared bats that began two years ago, only seven small colonies were found to remain in coastal California. PHOTO BY MERLIN D. TUTTLE



In a world of disappearing natural habitat, bats make use of a variety of roosting sites, many of which are now threatened by humans. Above, Dixie Pierson and Bill Rainey take data from one of California's small bridges in an attempt to understand why bats are attracted to them as roosts. Below, Townsend's big-eared bats sometimes roost in abandoned buildings, subject to be torn down. PHOTOS BY MERLIN D. TUTTLE

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