

and improving reproductive success of established colonies.

For further information or copies of our report, contact Kevin Hunting of the California Department of Fish and Game (phone: 916-657-4436, or e-mail: [Khunting@compuserve.com](mailto:Khunting@compuserve.com)).

*Edward C. Beedy, Jones & Stokes Associates, Inc., 2600 V Street, Suite 100, Sacramento, CA 95818-1914.*

## **Monitoring Swainson's Hawks by satellite**

Members of the Swainson's Hawk Technical Advisory Committee (SWHTAC), in cooperation with the Department of Water Resources (DWR), are currently involved in a Swainson's Hawk migration study. The study was designed to help identify migration routes and over-wintering grounds of the Central Valley population, which are as yet unknown. California's populations of this species, listed as Threatened by the Fish and Game Commission, are the only Swainson's Hawks to receive such protection.

The need for the study was identified in 1995, when Brian Woodbridge and others discovered mass poisonings of Swainson's Hawks in Argentina while attempting to identify the over-wintering grounds of a Great Basin study population. The migration study became SWHTAC's priority in protecting the Central Valley population in the immediate future, but resources to complete the work were limited. DWR became involved by proposing to help finance the study as mitigation for a South Delta project which had the potential to adversely affect nesting Swainson's Hawks.

During the 1997 nesting season six Swainson's hawks were fitted with PTTs (satellite transmitters); four in Yolo County, one in Solano County, and one in San Joaquin County. The subject bird from San Joaquin County (south Delta) is the sole male of the group, as he was the only trapped male large enough to be fitted with the 33 gram transmitter.

Although transmitter failure and transmission processing problems have plagued the study from the start, we have gathered enough location data from 4 of 6 birds to follow their migration (at least to date). Most traveled down the west coast of Mexico, but one bird took a significantly different route and is far ahead of the others; it is now in Columbia. Unfortunately it is not the sole male, as documentation of differing migration behavior based on gender would have been interesting. Currently, the other birds (4, perhaps all 5) are in middle to southern Mexico, and have not made a significant move south for over a month.

*Michael Bradbury, Department of Water Resources, 3251 S Street, Sacramento, CA 95816.*