

MIDDLE SACRAMENTO RIVER REFUGE: A FEASIBILITY STUDY¹

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*The woodlands and other streamside habitat of the Sacramento River's riparian system have been severely reduced within the last century. This riparian habitat and its ability to sustain diverse populations of fish, migratory birds, mammals, and other wildlife have been significantly impacted by water control projects, agricultural developments, and other land uses. The species of particular concern are the western yellow-billed cuckoo (*Coccyzus americanus*), Swainson's hawk (*Buteo swainsoni*), bank swallow (*Riparia riparia*), wood duck (*Aix sponsa*), chinook salmon (*Oncorhynchus tshawytscha*), and the California hibiscus (*Hibiscus californicus*), as well as the threatened valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*) and endangered bald eagle (*Haliaeetus leucocephalus*).*

The Study

In response to directives in House Appropriations Committee Report (No. 99-174) and Conference Committee Report (No. 99-1002) on the fiscal year 1987 Interior and Related Agencies Appropriations Bill, the U.S. Fish and Wildlife Service conducted the "Middle Sacramento River Refuge Feasibility Study." The study identified alternative management actions that could help protect the remaining riparian resources of the Sacramento River between Colusa and Red Bluff, California (Map 1), yet avoid major conflict with other interests or activities. A principal component of the study was the identification of 66 riparian habitat areas within four reaches (or sections) of the 160 kilometer river corridor. The sites, as well as the reaches, were evaluated for their overall habitat value, and prioritized for protection. The report was forwarded to Congress on October 16, 1987, and made available to the public in January 1988.

Extent of Riparian Habitat

About 6,885 hectares of riparian vegetation remain within the study area. Of this, nearly 1,215 hectares are currently protected by State or Federal agencies. The remaining 5,670 hectares of riparian vegetation, which include approximately 3,645 hectares of woodlands, are

privately owned, and threatened with further loss of habitat with high value to wildlife.

Key Management Issues

Any habitat protection program along the Sacramento River must interface with bank stabilization work conducted by the U.S. Army Corps of Engineers (Corps). In the two lower reaches (south half) of the study area (Map 2), resource issues are being effectively coordinated with the Corps. In the upper reaches (north half) of the study area (Map 3), a comprehensive bank stabilization project placing stone revetment ("riprap") on approximately 35 percent of the river's banks is a more sensitive issue. The principal reasons for concern about this bank stabilization project include: (1) the need has not been clearly demonstrated; (2) salmon spawning may be negatively affected; (3) further losses to riparian vegetation may occur that will reduce the variety of wildlife; and (4) past mitigation efforts generally have been unsuccessful. However, conflicts between bank stabilization and habitat protection can be minimized, particularly if banks were stabilized in an environmentally sensitive manner, and on a "site specific" basis.

Other key issues identified during the course of the study included landowner concerns about trespass, and recreationist desires for public access. After a series of meetings with area landowners and representatives of various local, State and Federal agencies, the study concluded that a comprehensive program to protect and restore riparian habitat could be implemented with minimal conflict with other activities.

Findings—One Possible Approach

The study revealed several feasible approaches for protecting and restoring the study area's riparian resources. One is establishment and maintenance of a riparian zone refuge by State or Federal resource agencies, private conservation groups, or by multiple organizations.

The primary goal of land management agencies under a riparian zone refuge concept would be to protect the

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existing and currently unprotected 5,670 hectares of riparian habitat within the study area riparian zone. A secondary objective could be the enhancement of areas that are suitable for habitat restoration. A specific refuge boundary has not been proposed in order to provide flexibility in land acquisition and protection techniques.

If a refuge is to be established, habitat protection could be accomplished by purchase of fee title or conservation easement, cooperative agreement, or by other means. Areas of intensive recreational use, public access, residential areas, and agricultural areas could be excluded from the program. Lands would be acquired on a willing-seller basis only.

Appropriation

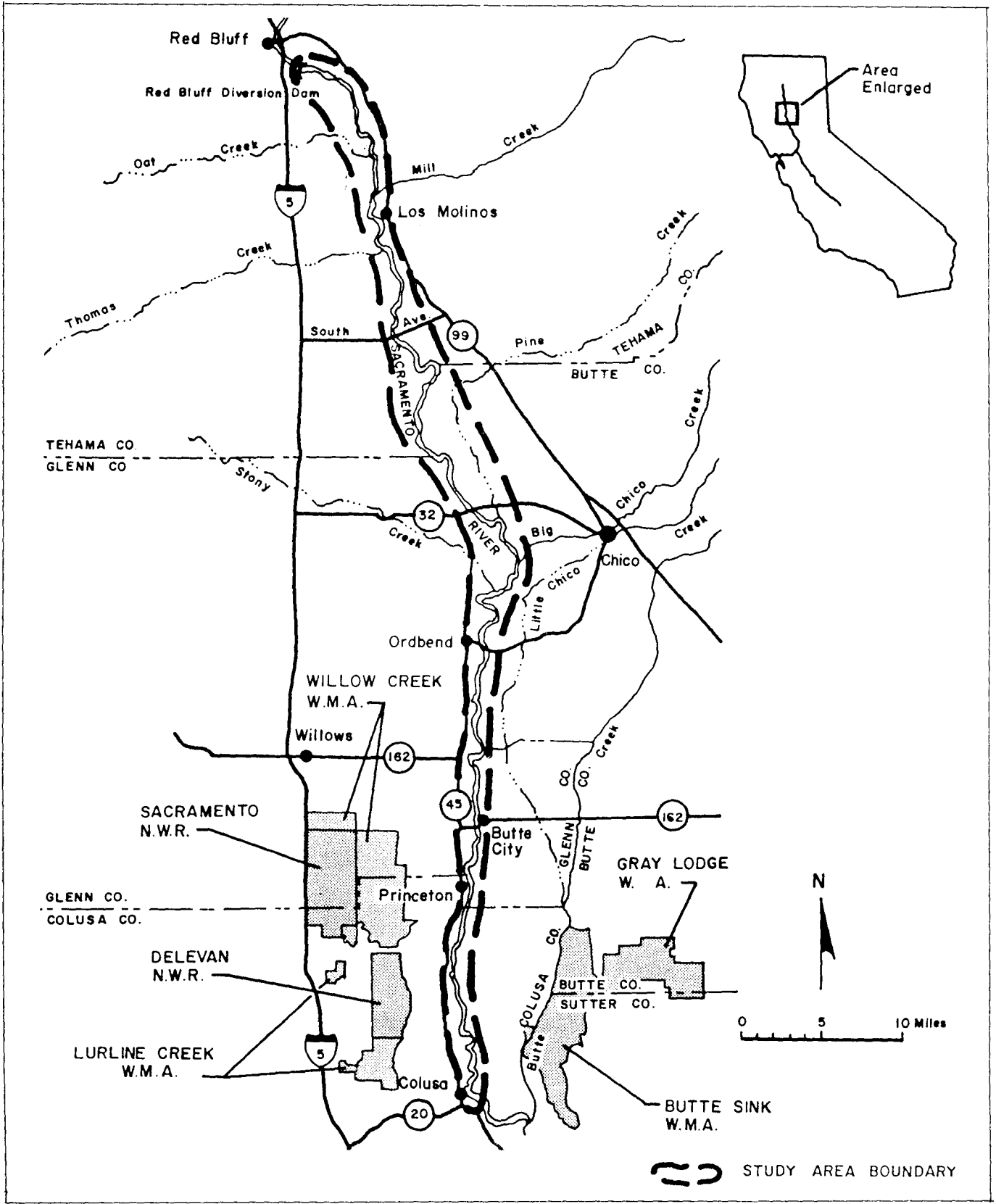
Since the completion of the study, Congress has appropriated \$1,000,000 for initial acquisition of lands and establishment of the Sacramento River National Wildlife Refuge. An Environmental Assessment of this land acquisition project is underway and is expected to be completed in Fall 1988.

Conclusions

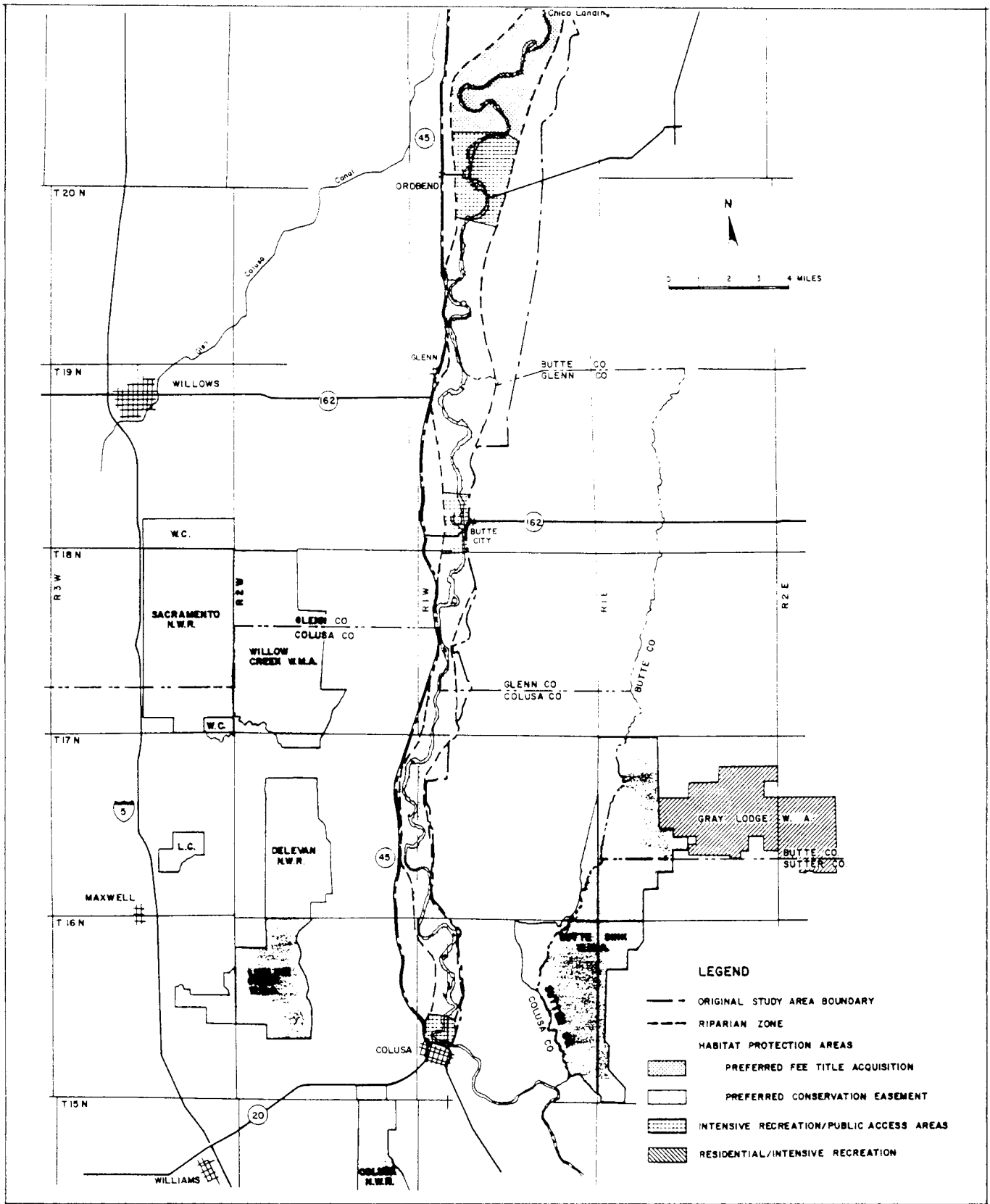
Coordination and cooperation among governmental agencies and area landowners will be a key in the success of a habitat protection program along the Sacramento River. We recommend that the applicability of the riparian zone refuge approach be further investigated for other California riparian systems.

Acknowledgments

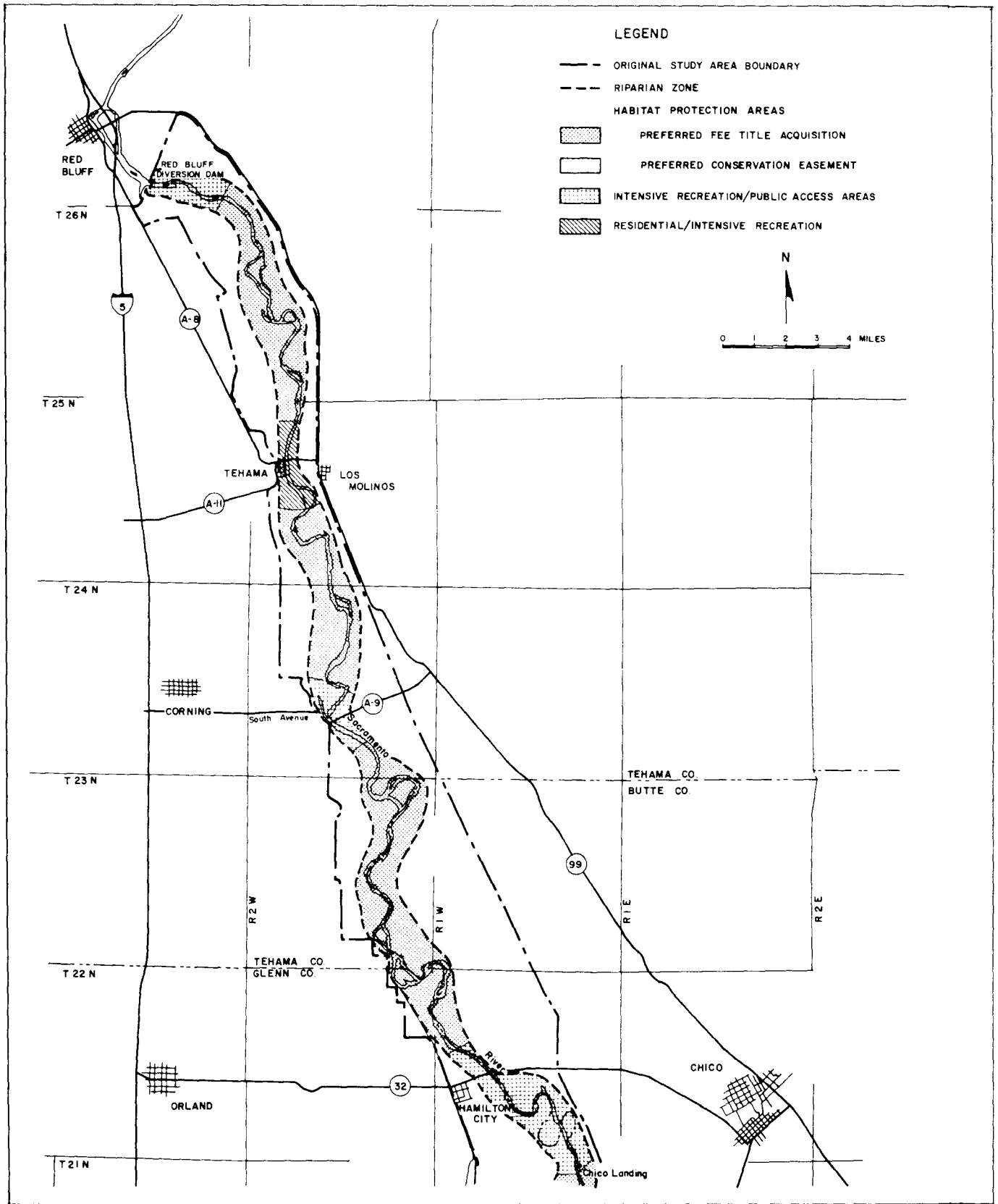
The study of the Sacramento River reported here was conducted in coordination with the U.S. Army Corps of Engineers and resource agencies of the State of California. Public input received during the course of this effort was greatly appreciated. We especially thank participants Cathy Osugi, Rich DeHaven, and Barry Garrison, U.S. Fish and Wildlife Service, and editorial coordinator Roberta Burzynski, U.S. Forest Service.



Map 1—Middle Sacramento River Refuge Feasibility Study Area



Map 2—Middle Sacramento River Refuge Feasibility Study Area Refuge Proposal, South Half



Map 3—Middle Sacramento River Refuge Feasibility Study Area Refuge Proposal, North Half