DEVELOPING MANAGEMENT PLANS FOR CALIFORNIA RIPARIAN SYSTEMS [1]

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Project Scope and Methods

Twelve riparian systems in California between the Sacramento-San Joaquin Delta and the upper Sacramento (near Chico) were studied to develop operation and management plans to restore and enhance riparian habitat (Figure 1). Each of the study areas had recently been acquired by the California Department of Fish and Game (DFG) and were designated as Ecological Reserves or Wildlife Management Areas due to their significance as rare and endangered species habitat.

The study involved field inventories of plants and animals on each of the sites, examination of current and historic aerial photographs, and mapping of wetland habitats. In addition, site specific information such as soil maps, parcel maps, and other cultural features was collected. This information was collated into a set of maps and tables for each of the sites. In conjunction with DFG personnel, target species were selected for the area management goals. For each target species, life history and habitat requirements were determined as well as any description of current population status, if known, within the study sites. Based on the habitat requirements, a set of area management objectives was established which would best serve the needs of those species.

Each of the sites is affected by human activities. Sherman and Decker Islands have been used as dredge spoil disposal sites. Only a portion of Decker Island is owned by the state and grazing has extended over much of the island. Webb Tract Berms have suffered severe erosion due to boat wakes, dredging activities, and flooding such that of the 285 acres purchased by the State in the 1970's, only 80 acres remain. Woodbridge is surrounded by agricultural lands and must manage its water supply to reduce saturation of surrounding agricultural fields. Riparian areas along both the Feather and the Sacramento Rivers are surrounded by orchards and in some cases the orchards extend into the riparian forest.

Habitat Needs and Management Objectives

The target species for each of the sites is given in Table 1. Most of these species are either state or federally-listed rare or endangered species or are considered species of special concern. Almost all the sites supported six or more of these species, only the Woodbridge site was managed exclusively for the sandhill cranes. Based on the habitat requirements for each of the target species groups, the surrounding land use constraints, and fiscally feasible activities, area management objectives were established for each complex. Some of the key objectives are summarized below.

Delta Island Complex

- Habitat management must strive for a balance between levee maintenance and provision of mudbanks and floodplains for rare plant species.

[1] Presented at the California Riparian Systems Conference, September 22-24, 1988, Davis, California.

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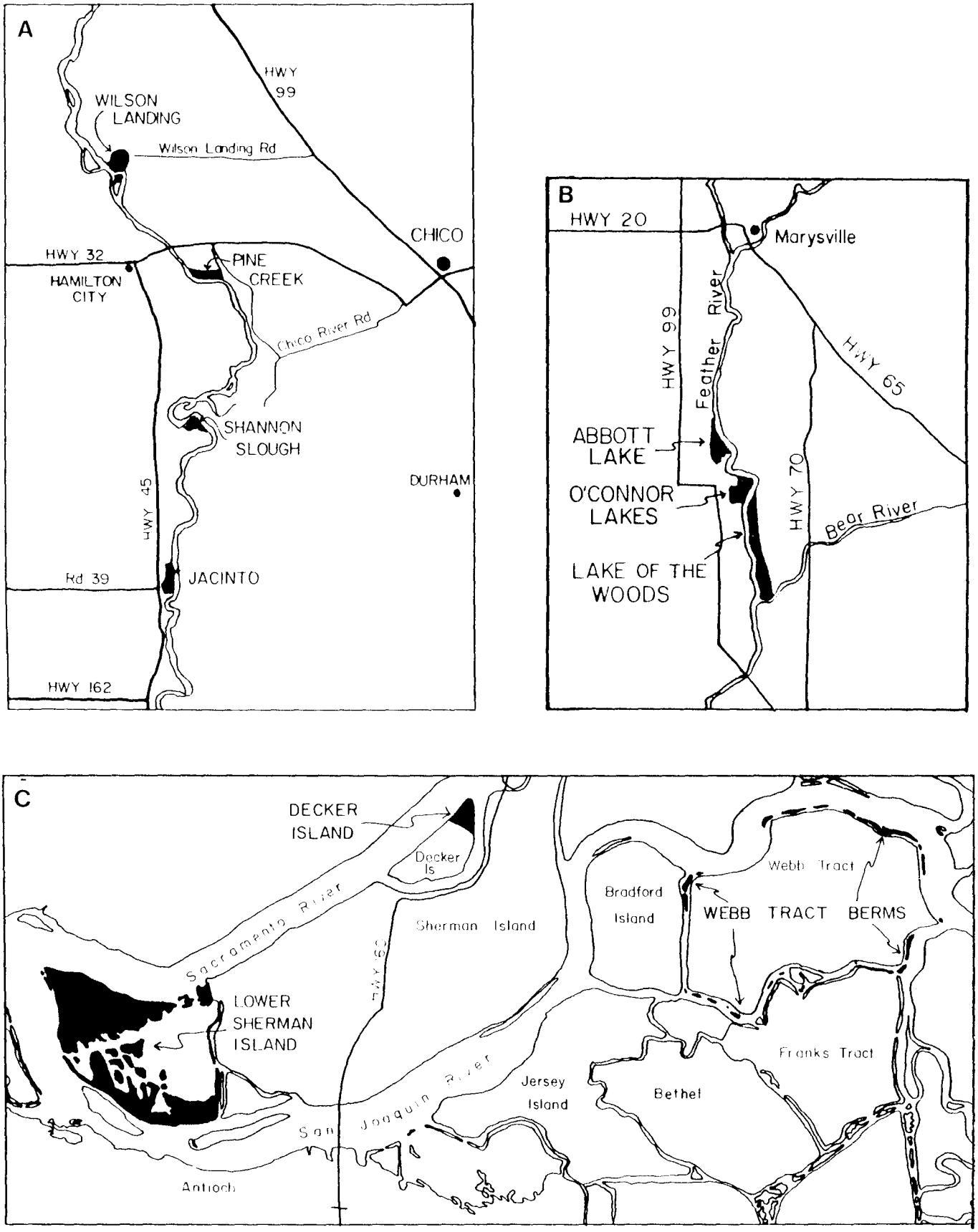

Figure 1 —Location map for ecological reserves and wildlife areas.

Woodbridge Ecological Reserve

- Expansion of shallow water with low vegetation to support roosting habitat for Sandhill Cranes.
- Provide extended open water habitat for waterfowl nesting.

Lower Feather River Complex

- Restore water levels within the backwater lakes.
- Restore mixed riparian forest within the floodway.
- Maintain tall snags and eliminate easements for firewood cutting.

Sacramento River Wildlife Areas

- Removal of nuisance species such as fig and salt cedar.
- Planting of valley oak and elderberry.
- Evaluate downstream impacts of streambank erosion control.

Table 1. Target species for management goals for the Sacramento River, Lower Feather River, Woodbridge and Delta Islands Complexes.

COMPLEX	PRIMARY SPECIES	SECONDARY SPECIES
Sacramento River	Valley Oak Forest Valley Elderberry Longhorn Beetle Yellow-billed Cuckoo Swainson's Hawk River Otter	California hibiscus Bank Swallow Yellow Warbler Yellow-breasted Chat Purple Martin Long-eared owl Ringtail
Lower Feather River	California Hibiscus Valley Elderberry Longhorn Beetle Giant Garter Snake Yellow-billed Cuckoo Swainson's Hawk River Otter	Turkey Vulture Bank Swallow Tricolored Blackbird Heron Rookery Ringtail
Woodbridge	Sandhill Cranes (Greater and Lesser) California hibiscus	None
Delta Islands	California Hibiscus Mason's Lilaeopsis Suisun Marsh Aster Delta Smelt Sacramento Splittail	California Black Rail Salt marsh harvest mouse Heron rookery Black-shouldered kite

Costs

Total management and implementation costs for these project areas range between $250,000 and $600,000 over a 5 year period. These expenditures are necessary if these rare habitats are to serve for the diversity of wildlife now restricted by agricultural and urban development in the Central Valley.