5 CUMULATIVE IMPACTS

Section 15130 of the State CEQA Guidelines requires that an EIR discuss cumulative impacts of a project when the project's incremental effect is *cumulatively considerable*. According to State CEQA Guidelines Section 15065, "Cumulatively considerable means that the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects as defined in Section 15130." Sections 15130 and 15355 of the State CEQA Guidelines both stress cumulative impacts in the context of *closely related* projects and from projects *causing related impacts*.

The term *considerable* is subject to interpretation. The standards used herein to determine whether an effect is considerable are that either the impact of the proposed project would contribute in any manner to the existing significant cumulative impact, or the cumulative impact would exceed an established threshold of significance when the proposed project's incremental effects are combined with similar effects from other projects.

This EIR uses the list method for its cumulative impact analysis. As directed in Section 15130(b)(1)(a) of the State CEQA Guidelines, the EIR must consider "past, present, and probable future projects producing related or cumulative impacts." The environmental influences of past projects and present projects that have been implemented already exist as a part of current conditions in the project area. Therefore, the contributions of past and present projects to environmental conditions are adequately captured in the description of the existing setting and need not be specifically listed here. This cumulative impact analysis focuses on the potential cumulative physical changes to the existing setting that could occur as a result of a combination of this proposed habitat restoration project and probable future projects. Probable future projects considered in this analysis are included below in Table 5-1.

5.1 CUMULATIVE EFFECTS OF PROPOSED AND SIMILAR PROJECTS PLANNED WITHIN THE STUDY AREA

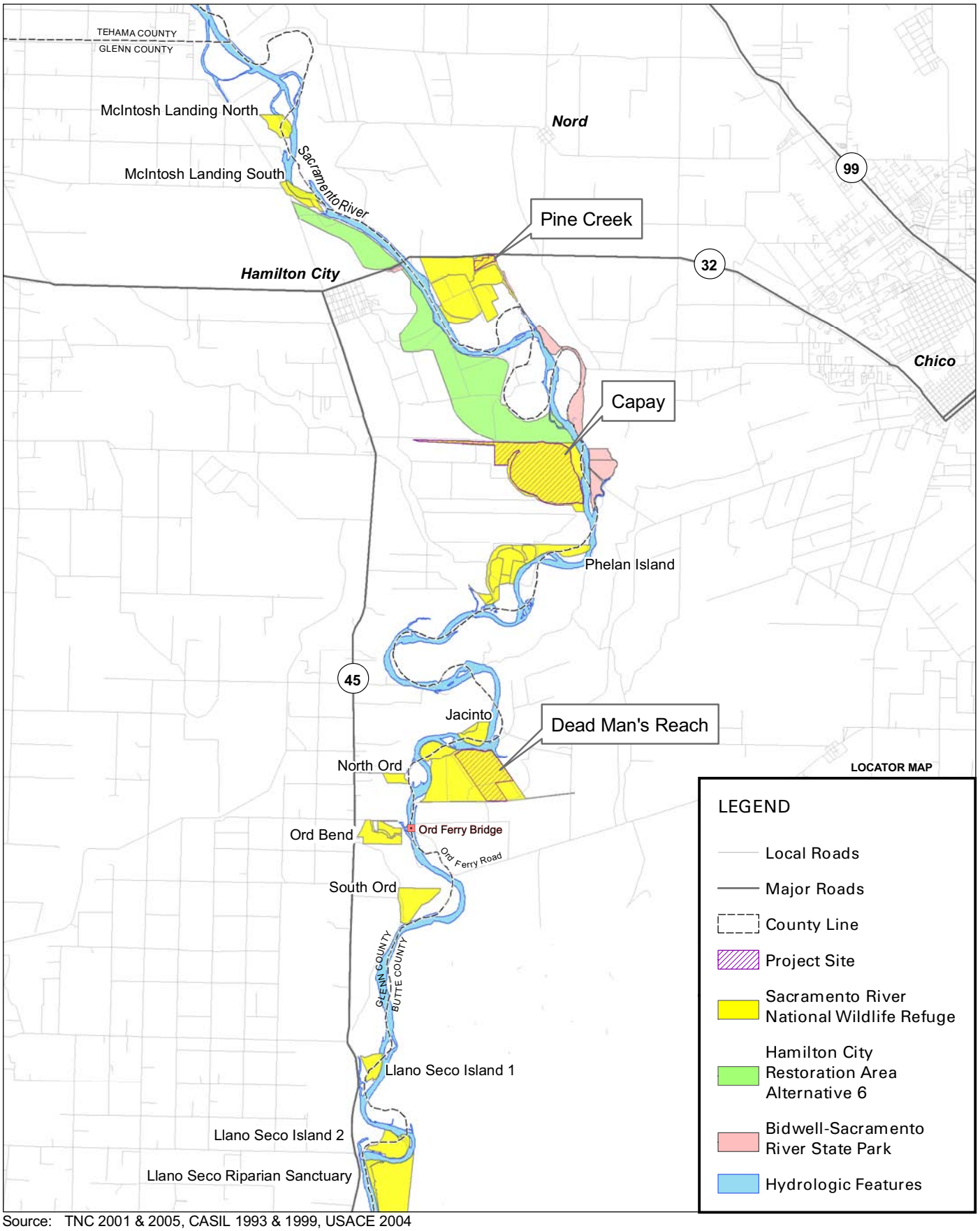
Several projects with goals that match or are similar to those of the proposed project are planned to occur in the study area in the reasonably foreseeable future (Table 5-1). The Bidwell-Sacramento River State Park will be managed to enhance opportunities for visitor and recreational uses and for protection of natural resources (Exhibit 5-1). The preliminary general plan for this facility incorporates a habitat restoration component on approximately 126 acres; California Department of Parks and Recreation (DPR) prepared a Draft EIR on the project in December 2003 (DPR 2003). The EIR has not yet been finalized.

USACE and The Reclamation Board are completing the environmental review and permitting process required to implement the Hamilton City project that will involve replacing an existing flood control levee with a setback levee and restoring approximately 1,500 acres of native riparian habitat. This project is further described below.

The other projects listed in Table 5-1 are planned for implementation as part of USFWS management of lands within the SRNWR. Management of all SRNWR properties will be in accordance with the policies and guidelines contained in the SRNWR final CCP. This cumulative impact analysis examines the combined effects of comparable projects because urban development projects are not part of the management strategy for lands within the inner river zone and the SRCA planning area. (Refer to Chapter 3, "Description of the Proposed Project," for an overview of management of lands along the middle reaches of the Sacramento River.)

5.1.1 CUMULATIVE EFFECTS OF LAND USE CHANGES

As categorized by DOC, the proposed project would change existing agricultural land uses in the project area from agriculture to *other land uses*, a category that includes land use changes for environmental purposes, land left idle for extended periods and lands that are taken out of production for any number of reasons (see Chapter 8, "Socioeconomic Issues"). Farmland that is sold into public ownership and habitat restoration projects are included in this category. However, DOC does not track the reasons for a particular parcel's change in land uses.



Source: TNC 2001 & 2005, CASIL 1993 & 1999, USACE 2004

Habitat Restoration and Other Preserve Properties In The Study Area

EXHIBIT 5-1

Sacramento River–Chico Landing Subreach Habitat Restoration DEIR

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MILES

NORTH

EDAW

Table 5.1 Similar Planned Projects in the Study Area				
Project or SRNWR Unit Planned for Restoration	Owner	River Mile	Approximate Acres Planned for Restoration	Planned Date of Completion
Bidwell-Sacramento River State Park	DPR	Generally between RM 193 and RM 199.5	Draft general plan estimates 126 acres will be restored riparian habitat as part of the park plan	Depends on funding and future planning
Hamilton City Flood Damage Reduction and Ecosystem Restoration	USACE	Generally between RM 194 and RM 201	1,500	2010
Pine Creek	USFWS	199	***21***	2006
Capay	USFWS	194	***576***	2006
Dead Man's Reach (1)	USFWS	186	***239***	2006
Dead Man's Reach (2)	USFWS	186	315	2010
Llano Seco Riparian Sanctuary (including islands 1 and 2)	USFWS	177	387	Unknown, depends on funding
Hartley Island Unit	TNC	173	242	Not in next 5 years
Total			**3,406**	
Note: Bold italic type indicates the proposed project.				

Data available from DOC indicate that the rate of increase of urban and built-up lands in Butte and Glenn Counties is relatively slow compared to the change in land use from farmland to other land uses. While urban development is occurring in Butte and Glenn Counties, (the net increase in urban and built-up land between 2000 and 2002 in Butte County was 2,156 acres and in Glenn County it was 342 acres), the change in use from farmland to other land uses was 2,836 acres and 3,878 acres, respectively, during the same time period (DOC 2004c).

The 836 acres planned for restoration under this proposed project are part of the total 3,406 acres that are planned for restoration within the study area. This total includes 1,626 acres planned for restoration as parts of DPR and USACE projects that are not reflected in Table 4.2-2. Planned projects are those that are included in planning, funding, and environmental review processes that are reasonably certain to occur or are underway.

The estimated acreage planned for restoration under the Bidwell-Sacramento River State Park is part of a larger regional public use park. The USACE project at Hamilton City will achieve goals for flood protection and restoration of 1,500 acres of native riparian habitat. The remaining properties shown on Table 5-1 were acquired with public funds for the express purpose of restoring the riparian corridor and wildlife habitat within the inner river zone of the SRCA (see Chapter 3, “Description of the Proposed Project”). The proposed project in combination with the other projects listed in Table 5-1 would restore 3,406 acres to native riparian habitat; approximately 2,700 acres of this acreage was, or still is, in agricultural production. Restoration of riparian habitat in the study area would be neither irreversible nor cause serious degradation or elimination of the physical or natural conditions that have provided the land’s value for farming. The proposed project in combination with the other projects listed in Table 5-1 would not stop or hinder the agricultural practices that occur on neighboring properties. Implementation of the proposed project together with other planned similar projects would be consistent with current public policy directives for management of lands within the inner river zone. For all these

reasons, implementation of the proposed project together with other planned projects would result in no cumulatively considerable adverse effects to the natural resources present on the land in the study area.

5.1.2 CUMULATIVE EFFECTS TO HYDROLOGY, WATER QUALITY, AND RIVER GEOMORPHOLOGY

USACE and The Reclamation Board have proposed to increase flood protection and restore the Sacramento River floodplain along the west bank of the river near Hamilton City. This project would involve constructing a setback levee, removing most of the existing "J" levee that currently protects Hamilton City from river flooding, and restoring about 1,500 acres of native riparian vegetation in the levee setback area. The proposed setback levee north of the Capay unit would be gradually reduced in height and would become a training dike where it crosses a narrow section of the west side of Capay. The 3-feet-high training dike would be designed to reduce high water velocities during flood events and allow flood waters to flow over the top of the levee and gently spread over the adjacent lands. The final feasibility study prepared and circulated for public review on the proposed setback levee project acknowledges coordinated efforts to restore riparian habitat along the upper Sacramento River, including proposed restoration activities by TNC (USACE et al. 2004).

The hydraulic modeling used in the analysis associated with the Hamilton City proposed project included several SRNWR units in addition to those being proposed by TNC. The modeling has demonstrated that there is some potential for cumulative hydraulic effects to result from the restoration of SRNWR units that are near each other. While each unit's effects are localized, vegetation changes at individual units can combine to alter flow patterns and speeds (Ayres 2001 and 2002). However, the modeling conducted for the Hamilton City project study indicates that the combined effects of planned changes in vegetation at the SRNWR units that are in near each other (i.e., Dead Man's Reach, Capay, and Pine Creek Units) would not create substantial adverse effects (Ayres 2001 and 2002) and that downstream, levee freeboard would be maintained at The Reclamation Board–mandated minimum of 3 feet (Ayres 2003). Because the modeling indicates that the effects of individual units are localized and do not extend for long distances upstream or downstream, this proposed restoration project would not result in significant cumulative hydraulic effects on the Sacramento River flood hydrology. Furthermore, the combined effects of related projects on other SRNWR lands would not result in a cumulative impact that would exceed an established threshold of significance, in this case, the minimum levee freeboard required by The Reclamation Board.

5.1.3 CUMULATIVE EFFECTS TO CULTURAL RESOURCES

Mitigation Measures 4.5-a and 4.5-b from Section 4.5, "Cultural Resources," would ensure the protection in place, or recovery and subsequent protection, of any significant cultural resources determined to be present in the project area that could be damaged by project-related effects. These management actions would ensure that the value of any historical resource in the project area would be preserved and that project activities would not contribute to any significant impact on cultural resources that may have accrued from disturbance or destruction of prehistoric or historic sites that is likely to have taken place before the enforcement of protections afforded by current laws such as CEQA. In addition, if any previously undiscovered cultural resources are found in the project area during proposed project implementation phases, mitigation described in Section 4.5 would be initiated that would prevent any significant cumulative impacts on cultural resources from occurring. Other habitat restoration projects listed in Table 5-1 would be required to protect undiscovered archaeological/cultural resources pursuant to CEQA; therefore, no cumulatively considerable impact to cultural resources would occur as a result of implementation of the proposed project together with other similar projects.

5.1.4 CUMULATIVE BENEFICIAL EFFECTS OF THE PROPOSED PROJECT TOGETHER WITH OTHER PROJECTS IN THE STUDY AREA

The proposed project together with other planned projects in the study area would re-establish long-term processes and functions present in riparian habitat communities, including the natural formation of soils that gave these lands their original agricultural value. Fully functioning riparian ecosystems are also known to improve groundwater and surface water quality by removing undesirable constituents such as nutrients and pesticides (Brown and Wood 2002). Restoration of native riparian habitat in the study area could benefit adjacent and downstream agricultural lands by diminishing the loss of soil from these lands onto adjacent or downstream locations and by increasing groundwater levels. Because the agricultural value of the soil is tied directly to the natural conditions and processes that existed before commercial agricultural development of the land, habitat restoration efforts would in effect be preserving (and possibly improving over time) the agricultural value of the soils (Cannon 2004, Tilman et al. 1996 and 2002).

Sensitive habitats, including Great Valley willow scrub, Great Valley cottonwood riparian forest, and freshwater marsh, are present adjacent to the study area. The proposed project together with other planned projects in the study area would result in a long-term increase in the overall amount of sensitive habitat within the area. Therefore, cumulative impacts to vegetation, including sensitive habitats and special-status plants, would be beneficial. Because agricultural habitat would be restored to native habitats anticipated to support a similar assortment and higher diversity of wildlife species, restoration of native riparian habitat would have a long-term beneficial effect to native vegetation and associated wildlife species. The cumulative effect of re-establishing riparian, savannah, and grassland habitats is considered beneficial to wildlife species. Restoration of agricultural lands to natural riparian areas would result in long-term cumulative beneficial effects to fish in the Sacramento River by increasing complexity of the aquatic environment and providing cover, food, and other habitat components. Therefore, cumulative impacts to fish habitat and special-status fish species are considered beneficial.

5.2 COORDINATED MANAGEMENT EFFORTS FOR THE MIDDLE REACHES OF THE SACRAMENTO RIVER

5.2.1 CONSISTENCY OF THE PROPOSED PROJECT WITH THE CALFED PROGRAM RECORD OF DECISION

As described in the introductory chapters of this Draft EIR, the proposed project would be funded by a CALFED Program ERP grant (CBDA grant number ERP-02D-P65). The ERP is among the set of linked programmatic actions comprising the Preferred Program Alternative to be implemented over a 30-year period (2000–2030) across two-thirds of the State of California. The ROD for the approval of the CALFED Program documents the final selection of the Preferred Program Alternative from the CALFED Final PEIS/EIR. The ROD includes a summary list of programmatic actions designed to achieve the objectives of the ERP. The most applicable of these actions to the proposed project specifies protection and restoration of the Sacramento River meander corridor consistent with SRCA river corridor management plans and processes (CALFED 2000a). The proposed project is a CALFED Program ERP project that is consistent with the CALFED Program ROD. As described below and detailed in Chapter 3, "Description of the Proposed Project," this proposed habitat restoration project has goals and objectives that overlap with those of other related and coordinated programs—including the CALFED Program—that incorporate management of resources along the middle Sacramento River.

5.2.2 OTHER COORDINATED EFFORTS INVOLVING MANAGEMENT OF MIDDLE SACRAMENTO RIVER RESOURCES

State of California SB 1086 in 1986 called for a management plan for the Sacramento River and its tributaries to protect, restore, and enhance fisheries and riparian habitat in an area stretching from the confluence of the

Sacramento River with the Feather River and continuing northward to Keswick Dam, about 4 miles north of Redding. The law established an Advisory Council that included representatives of state and federal agencies, county supervisors, and representatives of landowner, water contractor, commercial and sport fisheries, and general wildlife and conservation interests. Activities of the Advisory Council led to formation in May 2000 of the SRCA Forum, a nonprofit, public benefit corporation with a Board of Directors that includes private landowners and public interest representatives from a seven-county area, an appointee of the Resources Agency, as well as ex-officio members from six state and federal resource agencies. Responsibilities of the Advisory Council included development of the SRCA Forum Handbook to guide management of riparian habitat and agricultural uses along the river (SRCA Forum 2003). Management objectives of the SRCA Forum overlap with and complement those of the CALFED Program.

Ongoing habitat restoration by USFWS has contributed to fulfilling its Congressional mandate to preserve, restore, and enhance riparian habitat for threatened and endangered species, migratory birds, anadromous fish, resident riparian wildlife, and native plants (USFWS 2005). Riparian habitat restoration projects are being implemented under cooperative agreements between USFWS and other entities such as TNC in accordance with the SRNWR final CCP. These generally localized projects in the SRNWR, including this proposed restoration project, have been and are being planned to include objectives that overlap with and complement those of the SRCA Forum and the CALFED Program. Projects that recognize the values associated with protection of agricultural land in the region are occurring as well. TNC and the Northern California Regional Land Trust work together within Butte and Glenn Counties to permanently protect agricultural and open space lands. Within the study area, these two agencies are currently working together on conservation easements that will protect the important agricultural lands of Llano Seco Rancho, an 18,000-acre ranch that also has significant wildlife habitat value (Jacobson, pers. comm., 2005). Projects that are focused on conservation of agricultural land are consistent with overlapping goals and objectives for the CALFED Program and the SRCA Forum.

Together, the activities of the CALFED Program, the SRCA Forum, and USFWS are coordinated and comprise a concert of programs and projects with common goals and objectives. Also, USFWS and the U.S. Bureau of Reclamation are implementing the Central Valley Project Improvement Act (CVPIA), which provides for restoration of habitats and species and elimination of stressors (CALFED 2000b). The CVPIA program integrates with the CALFED Program; objectives of the two programs include restoration of riparian habitat below Shasta Reservoir. These programs are coordinated and contribute to attainment of similar complementary goals.