

Section 4. The Base Case – Current Conditions in the Sacramento River Study Area

BACKGROUND

An understanding of current conditions within the study area is essential to evaluating the potential socioeconomic effects of establishing a riparian corridor. This section presents a description of those conditions that are relevant to predicting changes. The descriptions are general in nature, but they establish the context of the study. More detailed descriptions of social and economic conditions are provided in the technical analyses of Section 6, where such detail is necessary to fully understand the effects of establishment of a riparian corridor.

THE STUDY AREA

The physical area considered in this socioeconomic assessment, referred to as the study area, was delineated on the basis of physical parameters and river processes that support riparian habitat. This boundary was developed by: 1) reviewing historic flooding patterns, and 2) identifying the location of existing flood control project levees along the river. The study area extends along approximately 100 miles of the Sacramento River from Red Bluff to Colusa (approximately river miles 143–244; Figure 4-1). It includes all land within the federal flood control project levees north from Colusa to a point where the eastern levee ends near river mile 176, across the river from Glenn. From this point north, the program area boundary is established at the boundary of the 2.5-year return frequency flood elevation as delineated by TNC (based on data received from the California Department of Water Resources). The study area encompasses an estimated 42,543 acres (not including water surface).

The study area includes land in four counties: Butte, Colusa, Glenn, and Tehama. The relationship between the county boundaries and the study area is shown in Figure 4-2. The distribution of study area land among the counties is shown below.

- Butte County – 10,967 acres
- Colusa County – 4,888 acres
- Glenn County – 12,463 acres
- Tehama County – 14,225 acres

LAND USES

The Sacramento River corridor north from Colusa is mixture of agricultural fields and natural vegetation (Figure 4-3). The relative mix of crop types and forms of vegetation vary from south to north, but the complexity of uses is consistent across the entire 100-plus river miles in the study area. In the southern portion of the study area in Colusa County, the mix includes alternating patches of riparian forest, sandbar, and tree crops, with walnut and prune orchard being the dominant crop type. Small areas of field crops are also present, rotating between such crops as beans and corn. Moving north into Glenn County, there is not a significant change in the land use mix. An occasional almond orchard is found within the riparian corridor in this stretch. Farther north, where the study area lies along the boundary between Glenn and Butte Counties, seasonal marsh and grassland are included in the mix of native vegetation. Almond orchards also increase in frequency towards the north. Upstream of Hamilton City, the mix of agriculture and natural vegetation continues. Tree crops in this upper stretch of the study area are almost all walnuts. Large areas of pasture are also found along this stretch of the river. The land at the northern end of the study area is covered predominantly by walnut orchard and large expanses of riparian forest. Table 4-1 provides land use acreage for the study area by county.

Land use along the Sacramento River is not static. The information summarized above and in Table 4-1 is drawn from aerial surveys conducted by the California Department of Water Resources (DWR) in 1998 and 1999. Crop types change over the years; also, the pattern of native vegetation is being altered by restoration projects and natural processes.

LAND OWNERSHIP

Land within the study area is owned by various public and private entities. The majority of private ownership is associated with agricultural operations, while the majority of public ownership is associated with wildlife and recreation resource management agencies. The amount of publicly and privately held land within the study area is summarized by county in Table 4-2. The land ownership data in Table 4-2 were obtained from a DWR (2001) database. The acreage in the table has been divided into three general land use categories, summarized from Table 4-1. These categories are land under agricultural production, existing habitat, and other (*other* includes urban, commercial, industrial, urban landscape, residential, and vacant uses as defined by the California Department of Water Resources [1998, 1999]).

The ownership data provide some important perspectives on the study area. First, the majority of land (approximately 60%) is in private ownership, but of that privately held land, only 49% is being used for agricultural production. Approximately 40% of the privately held land supports various types of habitat; the remaining 11% supports various urban or vacant uses. The public ownership in the corridor, which is dominated by the U.S. Fish and Wildlife Service (USFWS) and the California Department of Fish and Game (DFG), is predominantly (61%) in

riparian habitat. Smaller portions of the public land are held in agricultural production (27%) and other (12%) categories.

It is important to note that TNC-owned lands and lands under TNC easement have been grouped with the publicly-owned land in this description of current conditions (Table 4-2). This grouping reflects that TNC-owned land is already committed to eventual public ownership as habitat. It was deemed important to distinguish this TNC land from the private farming operations that are dedicated to long-term agricultural production. In the fiscal analysis of Section 6, however, the TNC land is considered to be private to reflect the non-profit organization's status on county tax roles. This shift in categories makes it difficult to compare acreage totals between the agricultural and fiscal analyses.

PROGRAMS AFFECTING AGRICULTURAL LAND CONVERSION IN THE STUDY AREA

The habitat restoration and protection activities analyzed in this report are being encouraged by a variety of federal, state, and local programs that are influencing the mix of land uses within the Sacramento River riparian corridor. The study area's recent history of flooding and the listing of Sacramento River chinook salmon and steelhead under the federal Endangered Species Act have generated a number of government-sponsored planning and land use modification programs. The major programs are briefly described below.

Central Valley Project Improvement Act

Section 3406(b)(1) of the Central Valley Project Improvement Act (CVPIA), passed by Congress in 1992, amended the authorization of the U.S. Bureau of Reclamation's Central Valley Project to include fish and wildlife protection, restoration, and mitigation as project purposes having equal priority with irrigation and domestic uses, and fish and wildlife enhancement as a purpose equal to power generation. The intent of the restoration and protection activities generated by this legislation has been to restore anadromous fish populations in the Sacramento and San Joaquin River systems to twice the levels attained during the 1967–1991 period. Annually, this legislation and its subsequent Anadromous Fish Restoration Plan (AFRP) generate hundreds of thousands of dollars for projects that improve habitat along Central Valley streams and remove barriers to fish passage (Jones & Stokes Associates 1997).

CALFED Bay-Delta Program

The CALFED Bay-Delta Program (CALFED) is a consortium of federal and state agencies working to restore ecological health and improve water quality management of the San Francisco Bay/Sacramento–San Joaquin River Delta estuary. The CALFED area of interest includes the entire Sacramento River drainage. Major agency participants include the U.S. Bureau of Reclamation (USBR), USFWS, the California Department of Water Resources (DWR), and DFG. The CALFED effort also involves close collaboration with other affected groups, including urban and agricultural water users, fishing interests, environmental organizations, businesses, and others. CALFED is in the third phase of its program, which includes funding and implementing a variety of site-specific actions to achieve its habitat restoration and water quality improvement goals (CALFED 2001). TNC has used a CALFED environmental restoration program grant to fund the socioeconomic effects analysis presented in this document.

Sacramento and San Joaquin River Basins Comprehensive Study

The Sacramento and San Joaquin River Basins Comprehensive Study (Comprehensive Study) is being undertaken by the U.S. Army Corps of Engineers (USACE) and USBR at the direction of the U.S. Congress. Following near catastrophic flooding in the Central Valley in 1997, Congress directed USACE and USBR to work with the State of California to undertake a complete reevaluation of the flood control system in the Central Valley. The two agencies are simultaneously to develop a plan to improve flood management and integrate ecosystem restoration in the Sacramento and San Joaquin River basins. The Comprehensive Study has the potential to significantly change the way the state and federal governments have been managing flooding along the Sacramento River in the study area. It will also contain recommendations for protection and improvement of habitat values within the flood management system (U.S. Army Corps of Engineers and U.S. Bureau of Reclamation 1999.)

U.S. Fish and Wildlife Service Sacramento River National Wildlife Refuge

At the request of the U.S. Congress, USFWS undertook a feasibility study regarding the establishment of a national wildlife refuge along the Sacramento River between Red Bluff and Colusa. In 1987 the feasibility study was completed and forwarded to Congress. In March 1989, an Environmental Assessment and Finding of No Significant Impact were signed to approve the establishment of the Sacramento River National Wildlife Refuge. With subsequent appropriations by Congress, USFWS began to acquire lands in 1989 to develop the refuge. The purpose of acquiring riparian lands along the Sacramento River is to preserve, enhance, and restore this habitat for threatened and endangered species, waterfowl and other migratory birds, other wildlife, fish, and plants (U.S. Fish and Wildlife Service 1989). As of February 2002,

USFWS had acquired approximately 11,215 acres for the refuge (U.S. Fish and Wildlife Service 2002). The refuge constitutes the majority of the land held in public ownership within the study area for this socioeconomic study.

The Nature Conservancy Sacramento River Project

TNC's Sacramento River Project focuses on the protection and restoration of riparian and aquatic habitats along the Sacramento River's main stem within the inner river zone as defined by the Sacramento River Conservation Area Forum (SRCAF). The Sacramento River Project supports multiple goals under one common theme: preserving and maintaining a healthy river ecosystem to support both human needs and the protection of native species and their habitat. Working with private and public partners, TNC helps coordinate and facilitate conservation and restoration of native habitat and river processes along the Sacramento River between the cities of Red Bluff and Colusa. Through land use management planning, acquisition, restoration, and compatible agriculture practices, the Sacramento River Project is working to reconnect the river to its floodplain in places where it will provide an ecosystem benefit and not threaten critical infrastructure, such as irrigation diversions, bridges, and roads, or endanger public safety.

California Department of Fish and Game

DFG has acquired and is managing riparian land along the Sacramento River between the Butte/Tehama County line and Colusa as its Sacramento River Wildlife Area. The lands were acquired to preserve, enhance, and restore Sacramento River riparian wetland habitats, and to provide habitat for the wildlife species, including threatened and endangered species, that are associated with the area. The management goal for the area is to allow river processes to maintain the various components of the riparian ecosystem, including channels, oxbow lakes, backwaters, banks, and associated terrestrial habitats. In addition to the riparian preservation and restoration, DFG is pursuing control of invasive nonnative plant species and is maintaining an agricultural component in the area. Management is emphasizing low-impact non-intensive public uses such as nature study, hunting, and fishing where these uses will not affect neighboring landowners or sensitive species (Sacramento River Advisory Council 1998).

California Department of Parks and Recreation

The California Department of Parks and Recreation owns and manages four properties along the Sacramento River in the study area: Woodson Bridge State Recreation Area, Irvine Finch River Access, Bidwell River Park State Recreation Area and the Colusa–Sacramento River State Recreation Area. The holdings contain various types of riparian habitat and are open

to the public for outdoor activities such as fishing, picnicking, wildlife observation, and boating (Sacramento River Advisory Council 1998).