
5. *BIOLOGICAL RESOURCES STUDY*

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5.1 INTRODUCTION

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Contents of This Report

This component of the Cache Creek Technical Studies Report discusses the history and present conditions of the biological resources of the study area. This section begins with brief descriptions of the regional setting and general ecology of riparian systems in the central Great Valley of California. Interrelationships between biological resources and the water and mineral resources that are described in the streamway and groundwater studies are discussed qualitatively where appropriate, and opportunities and constraints related to identified possible management concepts are presented. This analysis does not constitute a management or restoration plan, but is intended to suggest some elements or approaches that may be incorporated into the process of developing the resources management plan for the Cache Creek area.

Regional Setting of Cache Creek

Cache Creek is the largest creek found within the borders of Yolo County. The primary study area of this report is shown in Figure 5.1-1. In arid regions such as central California, major riparian habitat areas generally support the great majority of the species diversity and may provide a disproportionately large percentage of the primary productivity of the natural ecosystem. Low-gradient creek systems with highly permeable alluvial substrates, such as Cache Creek, are also indirectly important to the regional ecological landscape in transporting precipitation that falls upon surrounding hills into the near-surface and deep lowland aquifers. Near-surface aquifers (high groundwater) may be very important in sustaining forests and savannahs composed of trees that become established as seedlings during rare years of high precipitation and/or flooding, but which are sustained during the latter portion of the dry season by deep root systems.

Historically, Cache Creek was even more important than it is today, both biologically and economically. It supported a wealth of wildlife and timber and was one of few sources of water other than the Sacramento River. When emigrants from the eastern U.S. first settled central California in the mid-nineteenth century, the arable and inhabitable lands of the majority of Yolo County were separated from the Sacramento River by immense tule marshes (now the Yolo Bypass). Consequently, the Cache Creek valley was the most suitable site for settlement and was heavily used from 1850 onward. Diversion and pumping of water directly or indirectly from the creek was initiated early after settlement of the area began, as did extraction of aggregate. Both of these uses of creek-related resources steadily increased until they reached the high levels attained within recent decades.

Conservation and Restoration

The technical studies as a whole are intended to provide the objective basis for developing management plans that address a wide range of concerns, such as flood control, protection of land and structures, water supply, and aggregate supply. This portion of the report addresses solely the habitat resources. Opportunities and needs for conservation and/or restoration in recognition of the fact that the balance between the many different goals and priorities are discussed in Chapter 6 of this report and will be considered subsequently in the planning and decision-making process.

Riparian systems in general are important for conservation planning for many reasons. For reasons explained more fully below, they tend to support higher diversity of habitat subtypes and of species than do other habitats. They inherently constitute migration and dispersal corridors, thereby biologically connecting the inhabitants of otherwise separated habitat areas into larger population associations. The tall trees and other dense cover that are found in many riparian systems provide breeding sites and daily refuge for many species of wildlife that forage in surrounding agricultural areas or other types of upland habitats. Finally, in natural habitat mosaics in arid regions, riparian systems generally provide the only source of surface water, especially during the middle and latter portion of the dry season.

Riparian systems are also sometimes good conservation opportunities for simply practical reasons. The most practical and economical method of accommodating regular flooding regimes involves leaving sufficient undeveloped space to permit unimpeded high water flows. Also, the aesthetic and recreational values associated with biologically well-developed riparian systems are high: fishing, nature observation, and recreational trail development are generally compatible with maintenance of riparian habitat of high biological values. However, availability of some or all of these opportunities may be limited or nonexistent in systems that are largely or entirely in private ownership, such as Cache Creek.

Finally, in or near the mined reach of Cache Creek, an as-yet undetermined amount and nature of riparian habitat restoration will be required within the study area as an element in aggregate mining reclamation. Coordinated advance planning will maximize the habitat values that will be achieved within the space and economic constraints of those reclamation efforts.