5.3 HISTORY OF HABITAT AND HUMAN INFLUENCES

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Introduction

Because neither direct information nor paleontological evidence is available specifically for lower Cache Creek, the prehistory of the habitats occurring along lower Cache Creek was inferred from its likely undisturbed geomorphology and from the (fragmentary) earliest available anecdotal information about its biological resources. Scanty information on early historic habitat conditions is available from travel and exploration diaries. Aspects of early twentieth century conditions are recorded in some maps and photographs and can partially be inferred from land uses. Since the date of the earliest available aerial photographs, 1937, these provide nearly all of basis for descriptions of habitat conditions and trends. Despite the many titles of written information about Cache Creek, surprisingly little detailed biological information was recorded. In recent years, a few reaches of the creek have been surveyed to provide background information for evaluation of mining permits.

Prehistoric Period

Mapping of the likely prehistoric extent of major habitat types in the vicinity of the study area (Figure 5.1-1) has been inferred primarily from the distribution of soils types, and to a lesser extent from the earliest available maps.[1] Prior to settlement of the area, oak forest in the vicinity of the study area extended over fine loamy soils far beyond the riparian corridor itself. These forests are sometimes misinterpreted as the width of the riparian habitats per se.[2] Riparian habitats existed in the alluvial corridor that now constitutes the mineral resource zone; these too were very much more extensive than at any time since.

The earliest topographic information available, a 1915 USGS map, shows that Cache Creek consisted of several more or less stable channels. This is corroborated by the single creek cross section available from 1906, depicting this circumstance at the Esparto bridge site (see Figure 3.4-14). These channels and the wide floodplain between these would have supported a wide range of riparian habitat subtypes. The degree to which the higher ground in the floodplain was wooded may have varied over the length of the creek, with woodland being well developed in or near gaining reaches of the creek and perhaps less well developed in severely losing reaches.

Although it is possible that the character of lower Cache Creek had already been substantially altered by heavy grazing and water diversions, which are known to have profound effects on the habitat and geomorphology of flashy alluvial creek systems, no direct information demonstrating this exists. Therefore, it is reasonable to conclude that the multiple channel, wide floodplain image accurately reflects the conditions prior to major alterations of the last 50-150 years.

The hydrologic regime that would have prevailed in this system would have resulted in flooding of parts or all of the floodplain during most years. The rapid rise and fall in flow rates that characterizes the present creek hydrograph would also have occurred prehistorically. After the winter and early spring high water season, long-duration flow would have persisted in channels, and near-surface groundwater would have been present throughout the alluvial system and beyond. The height of the water table, which has dropped only in the past century as a consequence of diversion and pumping (see Chapter 4), would have resulted in more extended gaining reaches than exist at present.

The habitats favored by this physical regime would have been much more mesic than at present, and facultative-wetland plant communities, primarily willow thickets, would have extended across most of the flood plain lying between the multiple channels. The high ground to either side of the creek system, which would have been in the form of natural levees lying slightly above the annual flood plain, would have been forested primarily by oaks. It is possible that low areas outside the creek system might have supported some non-oak-dominated riparian forest, but, as described above, an extensive forest of mixed valley and blue oak was present far beyond the present limits of the riparian system.

As has been emphasized in Chapter 3, Cache Creek was not a direct tributary to the Sacramento River, but instead flowed into the vast expanses of tule marshes that give Yolo County its name (from *yoloy*, tule marshes). These marshes would have been the first major ones of their kind that would be encountered by native Americans traveling south along the Sacramento River. This is one of several important factors in the nature of the fisheries resources that were present prior to large scale alterations of the creek system.

Early History

The name Cache Creek, which was applied to many creeks all across North America during the 18th and 19th centuries, indicates that this area was likely the most important fur trapping grounds in the region. Early records describe the area as supporting extensive oak forests and abounding in large and small wildlife, including huge herds of deer, elk, and antelope.[3]

The names, dates, and events of the human history of settlement of Yolo County has been described in Section 3.4 and will not be recapitulated here, instead, the information and human actions that are most relevant to biological resources are discussed.

The extent and richness of the vegetation and wildlife resources of the area were obvious attractions to settlement, but the regional hydrology was more fundamental in supporting a settled population. Occasional, if not annual, flooding was recorded to cover wide expanses of land along Willow Slough and other low-lying areas where the Winters and Moore Canals were subsequently built. The waters of Cache Creek regularly overflowed and merged with those of Cottonwood Creek and Willow Slough: in 1847, a canoe trip was made from Sutter's Fort (Sacramento) across the river and up Willow Slough to Gordon's Ranch on the north bank of Cache Creek.

These areas would have supported extensive moist grasslands and seasonal wetlands, along with some riparian vegetation and oak forest along the watercourses. In terms of physical ecology (soils, moisture regime, and topographic potential to be irrigated), seasonal wetlands are intrinsically the most suited landscapes for the easy development of agriculture and, universally have been the first areas developed for this purpose in any given region.

The two most important alterations of the biological resources of Cache Creek that were carried out by early settlers were the introduction of huge populations of livestock and the felling of the majority of the oak forests. By 1852, there were nearly 10,000 head of cattle in Yolo County; early maps of settlements demonstrate that nearly all of these would have grazed in and adjacent to lower Cache Creek. Cattle strongly prefer riparian areas and, when grazed in them year-round (which was certainly the case at the time), completely remove early successional vegetation, compact soils, and collapse banks. In the arid West, this often leads to loss of all woody riparian habitat except for tall trees. Migration of destabilized channels may then cause erosion and flooding loss of mature forest as well. Concern over the consequences of the rapid rate of felling of oak forest was expressed as early as 1869.[4]

Water diversions were also initiated at this time, although their relatively small scale would have had only a limited effect on the riparian system as a whole. Notably, prior to the construction of the Capay Dam, the losing reach below Capay experienced only seasonal surface flow.[5]

Twentieth Century

From the perspective of effects on biological resources, the defining event of the modern period of the history of Cache Creek is the construction of the Capay Dam in 1914. Although high flows are not substantially impeded by this dam, and the regular flooding and sediment processes that sustain riparian ecology continued (and continue, to some extent), the dam facilitates the diversion of most or all of the early growing season water flow that is important in sustaining the area and character of riparian vegetation in the losing reaches of the creek. Vegetation in the gaining reaches was affected to a much lesser extent.

Examination of aerial photographs from 1937 shows that, along many reaches of the creek, the extent of riparian vegetation was at its minimum at that time, the end point of the impacts of the alterations described above as beginning as the creek vicinity was settled.

ENDNOTES

1. Howe, 1977.

2. Kuchler, A.W., 1977. The Map of The Natural Vegetation of California. pp. 909-938 in M.G. Barbour and V. Major editors. Terrestrial Vegetation of California. Wiley and Sons, New York.

3. Russell, W.O., N.S. Coil, T. McHugh, H.B. Schultz, and H.I. Schuyler, 1940. History of Yolo County, California: Its Resources and People. Woodland, CA.

4. Sprague, C.P., and H.W. Atwell, 19\869. The Western Shore Gazetteer and Commercial Directory for the State of California: Yolo County. Woodland, CA.

5. Chandler, A.E., 1901. Water Storage: Cache Creek. U.S. Geological Survey, Washington, D.C.