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Significant Resources of the
Deer Creek and Mill Creek Drainages,
Tehama County, California,
with Recommendations for their Preservation

EXECUTIVE SUMMARY

Prepared by

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INTRODUCTION

Deer Creek and Mill Creek, Tehama County, northern California, and their associated drainages have been of interest to many agencies and individuals for a number of years. Their historical significance is reflected in the works written on Ishi, the last Yahi Indian. In addition to the importance of these drainages from a historical perspective, they both have unique biological resources.

During 1986 and 1987 the Department of Wildlife and Fisheries Biology, University of California, Davis, conducted a biological survey of the Deer Creek and Mill Creek drainages. Our research teams focused on the avian and fisheries resources of the drainages. The overall long-range goals of the study of these drainages are the location, identification, and quantification of all of their significant natural and historical resources. Our findings, including summaries of previous studies in the area, are reported here.

DESCRIPTION

Deer Creek and Mill Creek are tributaries of the Sacramento River, entering near Los Molinos and Vina, respectively, below Shasta Dam (storage begun in December 1943) and the Red Bluff diversion dam (gates first closed in 1966). Both drainages are part of the lower Cascade mountain range, with geomorphologies governed by the volcanic history of the area. Deer Creek originates as snowmelt on Butt Mountain, remnant of the stratovolcano Mt. Yana (Lydon 1968), then is fed by many tributaries and springs as it winds southwesterly for 88 kilometers through steep-sided gorges, cutting through basalt and tuff-breccia cliffs. Mill Creek, in contrast, originates in the sulphurous hot springs known as Bumpass Hell in Lassen Volcanic National Park

before it too is fed by springs and tributaries as it follows its 92 kilometer southwesterly course through narrow gorges to the Sacramento Valley.

Because of the precipitous cliffs along the courses of these two streams, both have an unusual characteristic relative to other California streams of similar size: an almost pristine condition. Both streams have had limited public use because of their precipices and their distances from major metropolitan areas. Deer Creek, except for 17 kilometers that parallel Highway 32, has only 4 road crossings, 2 in the canyon area and 2 in the valley. Mill Creek has even less access, despite its greater length, with a parallel course along 8 kilometers of Highway 172 and only 3 crossings, 1 in the canyon and 2 in the valley. Both streams have hiking trails paralleling their Lassen National Forest and Ishi Wilderness reaches; however, the trails offer direct access to only a very limited part of the drainages. Access to some of the creeks' tributaries is by way of undeveloped private lumber company and national forest roads.

The inaccessibility of the drainages has probably prevented major parcelling of the land. In the Deer Creek drainage, 53% of the land is owned by the Lassen National Forest, 1% by the Bureau of Land Management, and 46% by private individuals and organizations, including Pacific Gas and Electric (PG&E) for corridors beneath their power lines. The major private uses of the land are timber and range for cattle. With respect to Mill Creek, the Lassen National Forest owns and manages 49% of the drainage. The California Department of Fish and Game (CDFG) manages a state game refuge that overlaps the Lassen National Forest and private landholdings. Forty-one percent is privately owned, again including corridor tracts under the PG&E power lines. The other major private uses for the land are timber and range. Water rights

totaling more than the mean summer flow of both drainages are owned by two irrigation districts: Stanford-Vina on Deer Creek and Los Molinos on Mill Creek.

HISTORY

The history of the Deer Creek and Mill Creek areas is similar to the rest of the region's history and encapsulates the sequences of events involved in the settling of the northern part of the Sacramento Valley. The drainages were once the lands of several California tribes: The Wintun of the valley and the Yahi (Yana) and Maidu of the foothills and mountains (Beck and Haase 1974, Kroeber 1962). By 1846 the Spanish had parcelled out the land into large holdings, such as Rio de los Molinos (Beck and Haase 1974). By 1848, when the United States took over, the lands were further subdivided for farms and ranches, especially in the valley and foothills (Kroeber 1962). As the population of the Sacramento Valley expanded, use of the foothills and canyons as range and hunting areas increased.

By the time of the Spanish and United States settlements in the valley and foothills, the Yahi, a mountain tribe, had been living in the drainages for many years (Kroeber 1962, Kroeber and Kroeber 1979). They made use of the plentiful oaks in the lower canyons of both drainages. They also depended on the fisheries, including fall- and spring-run chinook salmon, and the large black-tailed deer herd, now known as the Tehama deer herd. Decades of encounters with the settlers took their toll; the tribe was reduced to 12 then 4 members. In 1911, the last Yahi, later called Ishi, came out from seclusion in the cliffs of the canyons and was found huddled in a corral in Oroville, California, south of the drainages. The ability of Ishi to follow all aspects

of his native culture until the time of his emergence is testimony to the remoteness of the Mill and Deer Creek areas.

RESOURCES

Anthropology and Archaeology

The two drainages are rich in archaeological and historical areas. Sites used historically by the Yahi for habitation include the numerous caves in Moak Cove on Deer Creek and Kingsley Cove on Mill Creek. They used the entire drainages for fishing and hunting, making annual trips from Deer and Mill Creeks to Lassen peak, following the migrating deer herd.

Sites of historical interest relating to the European settlement of the area include the Lassen Trail, located along the ridge between the two drainages, and several historical landholdings, including Apperson Cow Camp, Polk Springs, Pape Place, Avery Place, and Savercool Place. All but the last two are still privately owned.

Plant Communities

The drainages, especially Deer Creek, contain several areas with representatives of various vegetation types in relatively pristine condition (USFS 1986). These include the mixed conifer timber type of the Cascade Range province (Cub Creek, a tributary of Deer Creek), the Pacific ponderosa pine type of the Cascade Range province (Graham Pinery, Deer Creek), and the black oak vegetation type (Devil's Parade Ground, Deer Creek).

Mammals

The primary mammal resource in the drainages is the Tehama deer herd, one of the largest migratory black-tailed deer herds in California. The herd uses

the entire drainage, migrating to the high elevations of the upper canyons and Lassen peak area during the hot summer months, then returning to the foothills and lower canyons during the winter.

Other mammals of note in the area include pine marten (U.S. Forest Service [USFS] "sensitive" species, Lassen National Forest), black bear, river otter, gray fox, and bobcat, plus many small mammal species.

Birds

The drainages contain many significant bird species. Bald eagle and "American" peregrine falcon, both listed as U.S. Fish and Wildlife Service (USFWS) and CDFG Endangered Species, have been found to use the drainages, including two verified peregrine aeries in use in Deer Creek canyon. Other raptors in the area that are on the USFWS, CDFG, or USFS Region 5 protective lists include sharp-shinned hawk, northern goshawk, Cooper's hawk, golden eagle, prairie falcon, Swainson's hawk, spotted owl and, possibly, great gray owl. Significant songbirds of the drainage include yellow warbler, western bluebird, and willow flycatcher. Other birds of special interest include great blue heron, great egret, Canada goose, bufflehead, "western" yellow-billed cuckoo, and pileated woodpecker (England et al. 1987). The inaccessibility of canyons for humans provides protected habitat for additional aeries for peregrines and other raptors, should their populations expand.

Fishes

Because the mouths of both creeks are below the Shasta and Red Bluff dams on the Sacramento River and because they have no major dams on their own courses, Deer Creek and Mill Creek support spring-run chinook salmon.

Geographically isolated from the fall-run chinook salmon during spawning season and without the influences of hatchery planting or other human manipulation, the Deer Creek and Mill Creek populations are considered to be the last pure-strain spring-run chinook salmon in the Sacramento River drainage. Both streams have reaches in their upper canyons that have deep pools, which are the prime summer holding areas for the spring-run adults. Both creeks also have fall-run chinook salmon as well as winter-run steelhead.

The other significant fishery resource is an intact native fish fauna, which is now unusual for most California streams. For 85% of the Deer Creek and 86% of the Mill Creek drainages, native fish are found to make up at least 95% of the fish populations. The native fish assemblages include fall- and spring-run chinook salmon, steelhead and rainbow trout, riffle sculpin, Sacramento sucker, and Sacramento squawfish in both creeks, plus hardhead, California roach, speckled dace, and tule perch in Deer Creek (Sato and Moyle 1987).

Aesthetic Resources

Both drainages offer scenic resources. The upper canyons of both creeks have springs and tributaries that enter the main creek as waterfalls over moss and fern covered cliffs. The lower canyons offer sights of basalt and tuff-breccia columns that have been carved by wind and water. Ridge views of the drainages are panoramic vistas of a landscape that comes from volcanic origin. Mill Creek also offers Black Rock, an uncommon basaltic plug, with pools and chutes along its base with a waterfall before the last large plunge pool (USFS 1986).

Conclusions Regarding Resources

Overall, Deer Creek and Mill Creek contain many resources: archaeological, aesthetic, floral, and faunal. With their isolation, the drainages probably contain several endemic species of invertebrates, as well as amphibians and reptiles (not covered by our study or this report). Many of these resources are unique not only to California but to the world. Unfortunately, many of them are dwindling, some at an alarming rate. Immediate protection of this spectrum of unique resources is imperative.

RECOMMENDATIONS FOR PROTECTION OF THE RESOURCES

We recommend that the protection policy for the drainages should, at least, maintain the current condition of the habitats. Increases in use of the drainages in terms of water removal, logging, grazing, development, or other activities that can destroy or degrade habitat should be prohibited. Many of the resources of the drainages are not renewable, such as archaeological or aesthetic resources, while others, if allowed to decline, may become nonrecoverable, such as spring-run chinook salmon or peregrine falcon. Protection of the drainages can be achieved through concerned planning at all levels of government and cooperation with the private sector, with implementation of protective measures being possible through U.S. Wilderness Area or U.S. or California Wild and Scenic River designations.

Protection of various resources also could be achieved through official protective designation. Archaeological sites, such as Yahi village areas, should be protected by being listed under the National Register of Historic Places. The dwindling spring-run chinook salmon should be protected by the U.S. and California Endangered or Threatened designation. Protection of these

resources, under these above-mentioned designations, would also ultimately aid in protecting their environs.

Other measures can be taken to preserve the resources of Deer and Mill Creeks while official protective designations may be pending. Protection of the drainages should be the highest priority. Riparian forests, old growth forests, and cliffs are necessary to the well-being of the terrestrial and avian resources; good water quality (affected by terrestrial use) and quantity are necessary to the well-being of aquatic resources. To achieve protection or enhancement of these resources, smaller scale but just as important policy should be implemented. Federal or California owned land should fall under strict guidelines to limit potential disturbance of the resources caused by logging, grazing, hunting, fishing, and other recreational uses of the areas. If possible, riparian land and water rights should be obtained to allow for replacement of lost riparian vegetation or for maintenance of flows for migrating salmon and steelhead. Because most of the high cliff areas used by the raptors are on private property, purchase agreements between the government and the landowners should be made in the event of future property sales. The possibility of developing alternative sources of water (e.g. pumping water from the Sacramento River during high use and critical migration periods) may have to be offered to the private landowners or water users in order to obtain needed stream flows without threatening the livelihoods of those who depend on water supplies from Deer and Mill Creeks.

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In conclusion, Deer Creek and Mill Creek are in need of protection and, in some places, restoration. Many government agencies, private organizations, and individuals have assisted us in our study of the area, because they too are interested in preserving the unique and irreplaceable resources offered by the drainages. Their interest should be testimony to the importance of these drainages and their resources.

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