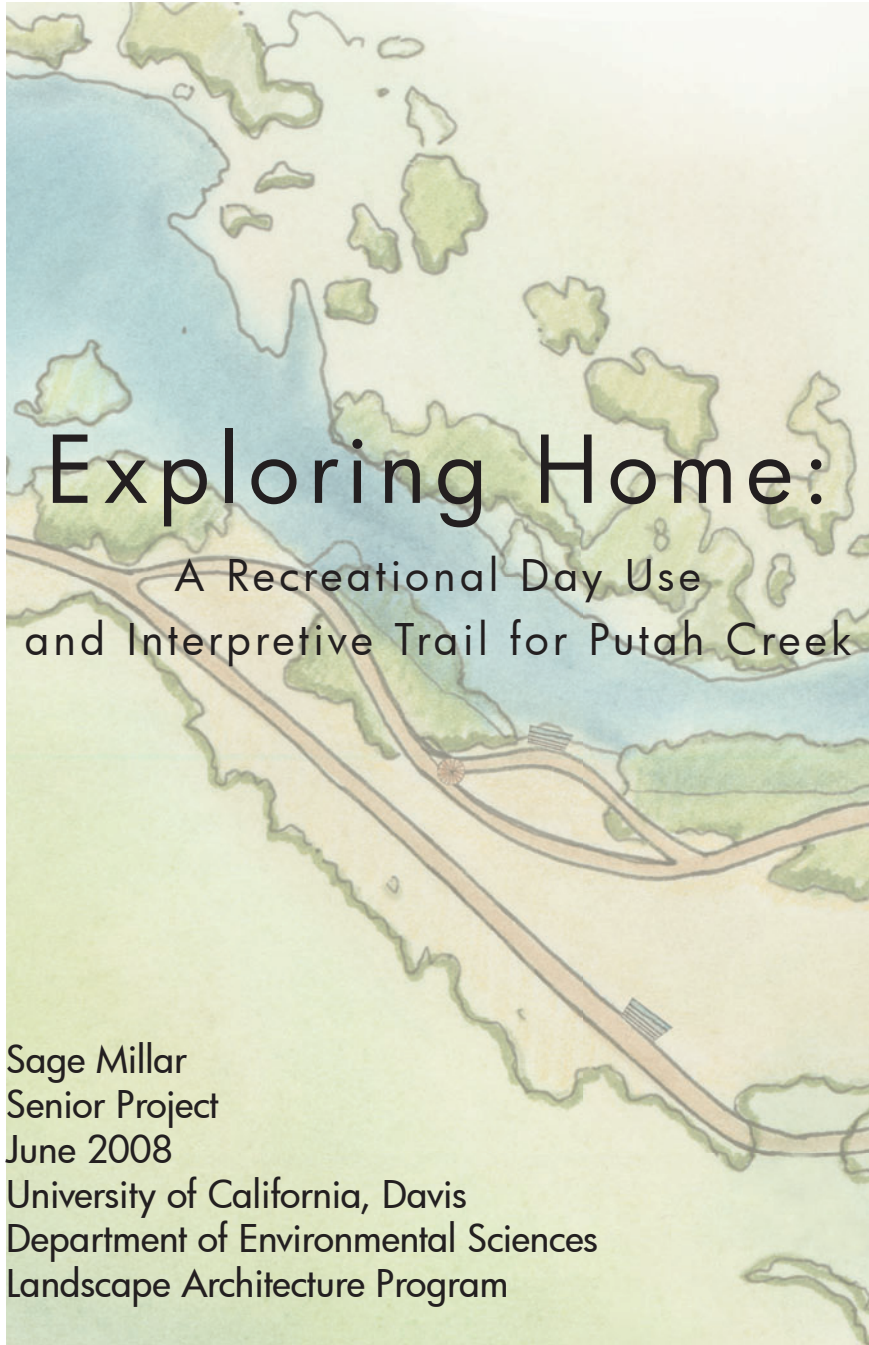


A stylized map of Putah Creek. The map features a large blue reservoir at the top, with a trail system (brown lines) winding through green and tan terrain. A road (grey line) runs horizontally across the bottom. Several small red dots mark specific points along the trail system. The map uses a color palette of blues, greens, and tans, with a hand-drawn, artistic style.

# Exploring Home:

A Recreational Day Use  
and Interpretive Trail at Putah Creek



# Exploring Home:

A Recreational Day Use  
and Interpretive Trail for Putah Creek

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Senior Project  
June 2008  
University of California, Davis  
Department of Environmental Sciences  
Landscape Architecture Program

# Exploring Home:

A Recreational Day Use and Interpretive  
Trail for Putah Creek

Presented by:

Sage Millar  
at  
University of California, Davis  
on  
the Thirteenth day of June, 2008

A Senior Project  
Presented to the Faculty of the  
Landscape Architecture program  
University of California, Davis  
in fulfillment of the Requirement  
for the Degree of  
Bachelors of Science of Landscape Architecture



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Rob Thayer, Senior Project Advisor

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Steve McNeil, Committee Member

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# Abstract

This senior project consists of background research and site analysis as well as a final site plan for a recreational day use area and interpretive trail on Putah Creek. This document contains the background research, site analysis, and program development I completed before designing the final site plan. The site is 10 miles west of Winters on Hwy 128 at the base of Monticello Dam where Cold Creek enters Putah Creek. The site is in the Putah Creek Wildlife area and is approximately 25 acres. Because of its location near the trailhead into Stebbins Reserve, and Putah and Cold Creeks, the site provides an excellent opportunity to create an educational and interpretive experience for visitors to the area. Hiking trails, informational kiosks and signage will highlight the history and various natural processes that are occurring on and around the site. A small interpretive center or outdoor teaching area will enhance the experience of visitors, and also provide an outdoor classroom for gatherings such as field trips. The final site design attempts to weave the significant cultural and natural history into elements of the design. I developed the program elements for the final design from the information that I had collected during the research and analysis phases of the project.

# Dedication

This project is dedicated to Andre and Julian. You both have done a great job putting up with the late nights during the last three years of this journey. I would not have been able to do it without your love and support.

Julian, thank you for always reminding me what's important. You gave me the courage to chase my dream of finishing school, and here I am. You have taught me that even though it's important to be practical and keep my feet on the ground, it's even more important to keep dreaming possibilities.

# Acknowledgements

I would like to thank my committee members, Rob Thayer, and Patsy Owens for their help and guidance with this project during the last two quarters.

Steve McNiel, thank you for believing in my abilities even when I wasn't sure that I did. I appreciate all the guidance and advice you have given over the last three years.

Thank you to Jim Harding for sharing your passion and knowledge for all things blooming. Your winter study groups taught me to slow down and appreciate the joys of exploring the arboretum in the rain.

Thank you to Mindy and Chris, for the encouragement and support you have given me over the past few years. Especially in Byron's classes, I wouldn't have survived without you! Thank You.

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# Preface

The purpose of this senior project is to create a site design for a day use area adjacent to Putah Creek, Cold Creek, and within walking distance to the Stebbins Cold Canyon Reserve trailhead. The site is 10 miles west of Winters on Hwy 128 at the base of Monticello Dam where Cold Creek enters Putah Creek. The site is in the Putah Creek Wildlife area and is approximately 25 acres. It is currently being used for parking by visitors to Stebbins Reserve and fishing access to Putah Creek. Because of its location near the trailhead into Stebbins reserve, as well as Putah and Cold Creeks, it is an excellent site to create an educational and interpretive experience for visitors to the area. Hiking trails, informational kiosks and signage will highlight the history, wildlife and plant life and geologic processes that are occurring on the site. An outdoor teaching area will enhance the experience of visitors, and also provide an outdoor classroom for field trips and community gatherings . Emphasis will be placed on incorporating low impact design principles and recycled materials where possible. The site design will attempt to weave the significant cultural and natural history into elements of the design. The final design will include an interpretive trail, picnic and gathering areas, ADA accessible fishing access, native plant restoration, parking area and restrooms.

# Introduction

As gas prices continue to rise, and the economy continues to slow, Americans are feeling the squeeze on their pocketbook. The Transportation Department reported that in March 2008, Americans drove 11 billion fewer miles than in March of 2007, a decline of over 4 percent. This is the first time since 1979 that traffic has dropped from one March to the next, and the month-on-month percentage decline is the largest since record keeping began in 1942 (Mouawad, Navarro).

High gas prices have not only changed the way people commute, but are also changing the way people are vacationing. Long road trips, and cross-country flights may be a thing of the past, instead being replaced by day trips, or vacations to national parks, mountains and beaches that are closer to home. As summer approaches, the word "staycation" is being used to describe what some Americans will be doing this summer which is stay closer to home.

The Urban Dictionary defines staycation as "A vacation that is spent at one's home enjoying all that home and one's home environs have to offer." Tourism officials around the country are hoping to make up for any potential decline in visitors caused by high gas prices by encouraging residents to stay in the state and enjoy a "staycation."

The population in the Sacramento Valley is forecasted to more than double by the year 2040. California State Population Projections indicate that by the year 2020 Sacramento will be home to almost 3 million people. Land in the region will be under increasing development pressure for urban and rural residential uses, and

put pressure on our local park systems. The combination of population growth and high fuel costs, will only increase the intensity of recreation pressure on our area.

The site for this project presents the opportunity to expand the availability of nature-based recreation and educational opportunities for a wider variety of users. The site sits at the base of Stebbins Cold Canyon Reserve where the valley meets the mountains, which makes it the ideal place for interpretive trails and an educational center as people travel out of the valley landscape and up into the ridge line. Interpretive education can make a deep and lasting impact through the immediate connection it can make with the visitor. This site could serve as an educational tool to expose those who visit to the cultural and natural history of the area, and how those events and processes have shaped what Putah Creek is today and what it might be in the future.

For me, this experience started as an interesting senior project necessary for graduation, but grew deeper in meaning. It represents my journey of discovery, and appreciation for the layers of the Putah Creek area and how they have shaped it into the place it is today.

I was introduced to Putah Creek in the Fall quarter of 2007 when the topic for the Landscape Architecture Program Seminar Series was "Cache and Putah Creeks, Lifeblood of the Region". I immediately started to feel a connection to the place, even though I had only been to the area a few times. The guest speakers spoke in such a way that you immediately knew that their roots ran deep and their souls were connected to the area.

In his book, "The Place, the Region, and the Commons," Gary Snyder, a well known writer and poet, says that "It is not enough just to 'love nature' or want to 'be in harmony with Gaia.' Our Relation to the natural world takes place in a place, and it must be grounded in information and experience." Most Americans have no "home place" that they know a lot about and do not have any in depth knowledge or "easy familiarity" with local plants or animals, he says. Snyder urges a "visualization" of the region in which we live in order to begin to be at home in the landscape, without which we aren't actually living here "intellectually", imaginatively, or morally" (Siverly&McDowell).

The opportunity to have experiences in, and gain knowledge about your environment creates an awareness, a connectedness with nature. Even if it only scratches the surface of the many layers that make up this amazing place, I hope that the design I present here will provide opportunities for learning, and promote awareness and appreciation for the history and the processes that are shaping today and the future of Putah Creek.

# Putah-Cache Watershed

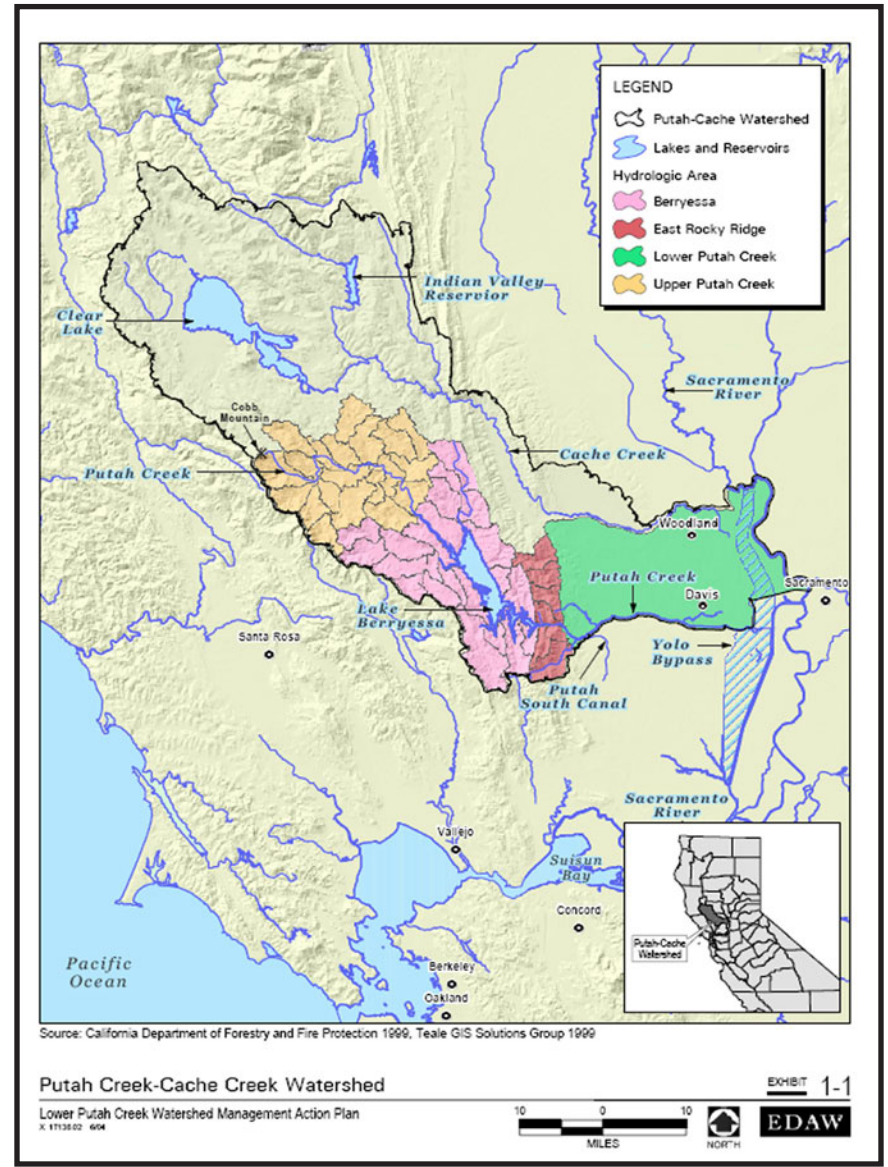


Fig. 1.1 Putah Creek-Cache Creek Watershed

A watershed is defined not just by its physical features or by present land use conditions within it, but by all physical, biological, and cultural components both past and present. From the formation of the watershed by geologic and hydrologic processes long before the presence of humans to the present-day agricultural practices, Putah Creek has a rich history. Its banks, which were once home to animals such as the mammoth and to early native peoples, now provide some of the richest farmland in the world. The Putah-Cache Creeks watershed is one of the most important elements in the lives of the people of Yolo and Solano counties. Not only does the watershed provide water, it also provides valuable natural resources and contributes to the social and economic well-being of the residents who call the watershed home. Hundreds of fish and wildlife species are dependent on the plant communities and water in the Putah Creek riparian corridor. The greater Putah Creek watershed begins in the Coast Ranges of Lake County and drains about 600 square miles of steep coast range mountains (Fig. 1). Flows converge in Lake Berryessa, which was formed by construction of Monticello Dam in a narrow pass called Devil's Gate. Regionally, the Putah Creek watershed is part of northern California's extensive Sacramento River watershed.

The lower Putah Creek watershed (Fig. 1.2) includes all of Putah Creek and its major tributaries between the Monticello Dam at Lake Berryessa and the Toe Drain of the Yolo Basin (or Yolo Bypass) which connects Putah Creek to the Sacramento-San Joaquin Delta and the ocean. Putah creek flows directly across the Yolo Bypass to the East Toe Drain, then on to the Sacramento River and the Delta, and eventually its waters reach the ocean. Steelhead, salmon, and lamprey use this aquatic network to complete their life cycles. When the Yolo Bypass is flooded, Putah Creek's waters join directly with the Sacramento River. Before intervention from humans, Putah Creek flowed out of the Vaca Mountains across a broad area, frequently changing its course. In the lower reaches of the watershed, a mildly sloping alluvial plain formed by accumulated sediment deposition from Putah Creek and created the rich agricultural land of the region. (EDAW 2005).



Fig. 1.2 Lower Putah Creek Watershed



# Human History on Putah Creek

## The Patwin

Putah Creek's first inhabitants lived in harmony with the land for centuries. Patwin tribes occupied the Putah and Cache Creek watersheds in the Lower Sacramento River Valley (Fig. 1.3) .

Many groups lived in this watershed. Lake Miwok and Pomo people inhabited the headwaters near Clear Lake and along the coast. Wappo and Wintun people lived to the north and west. Neseenan and Miwok lived to the east. (Stevens, 1997). The Patwin Indians took advantage of the abundant natural resources offered by the land and water that surrounded them. They hunted and fished; they also crafted baskets (Fig. 1.4), fishing nets,

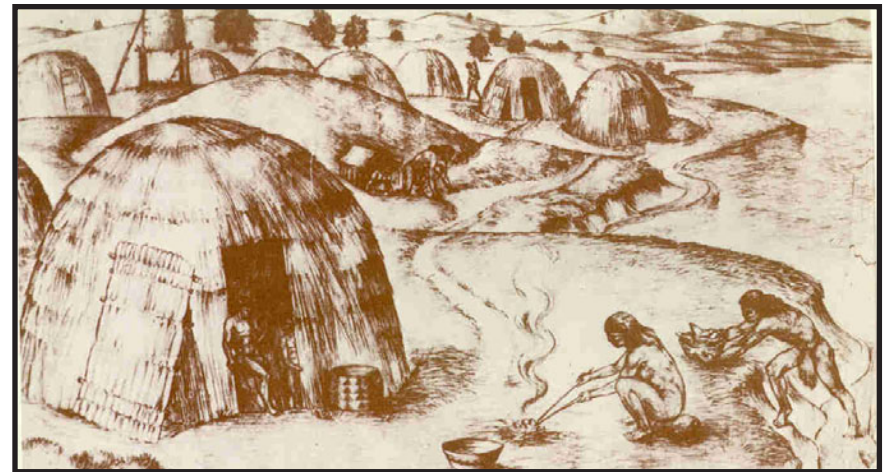


Fig. 1.3 Patwin Indians- early inhabitants of Putah Creek

and rafts from willows, tough grasses, and vines. All of their needs were provided by their environment (Walters 1987).

The Patwin were hunter-gatherers who relied on the valley riparian habitat along the Sacramento River, and Putah and Cache Creeks.(Sutter and Dawson 1986). According to Peter Moyle, professor of fish biology at UC Davis, a rich fishery once existed at the outflow of Putah Creek into the vast Sacramento basin marsh area, which provided the river Patwin groups with salmon, steelhead, and sturgeon during periods of high water and flooding. In addition to the wealth of freshwater and anadromous fish, tule elk, deer antelope, bear, ducks, geese, quail and other birds, turtles, and other small mammals were all hunted for food. The Patwin used tules, grasses and willows from the creek to make their homes and baskets. Green watercress, wild clover, wild grapes, wild oats, tubers, elderberries, and manzanita berries were gathered as food (Cabalar 1964). The seeds of sunflower, alfilaria, clover, bunchgrass, wild oat, and various other open plains plants were pounded into a meal. Another important staple for the patwin and many other California cultures was the acorn. Other plant foods collected at various times of the year



Fig. 1.4 Patwin Basketry



Fig. 1.5

Redbud

Narrow-leaved willow

Santa Barbara Sedge

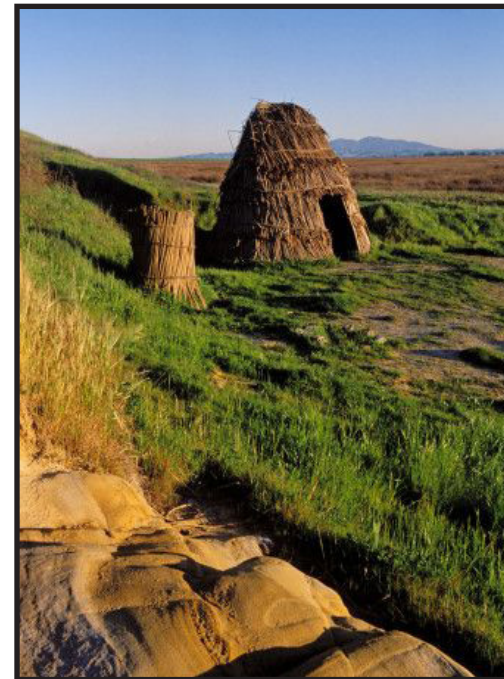
included buckeye, pine nuts, juniper berries, manzanita berries, blackberries, wild grapes Brodiaea bulbs, and tule roots (EDAW 2005).

Coiled or twined basketry containers (Fig. 4) were extremely important items for almost all aspects of food collection, preparation, serving and storage, as well as for baby carriers and burial accompaniment. Plants such as redbud, sedges and willows (Fig.5) were managed by pruning, cutting down, or burning to produce the straight shoots and roots necessary for use in basketry. (Anderson et al. 1996).

These same plants were also used for temporary lodging when the Patwin left their permanent villages to hunt from midsummer to autumn (Fig. 7). Tule was woven for mats, skirts and belts, while the inner bark of cottonwood was used for women's skirts in the hill regions. Bear, rabbit, and deerskins made warm clothing and bedding. Green willow boughs were used for seating and sleeping (Kroeber, McKern & Powers).

Tools included elkhorn wedges and split stones for cutting, gray pine fire drills in hearths of elder, sinew-backed bows, and arrows made of elder, dogwood, or tatsi wood (bitter weed from the creek), with obsidian tips. Armor (for infrequent warfare) included elk skin tunics or waistcoats of tule, hemp cord, and pitch (McKern, Kroeber).

In addition, bone, wood, and stone were the most commonly used materials for tools. Tule balsa boats were constructed of



large bundles of round tule reeds bound together with grapevine to form crafts up to 20 feet long and 6 feet wide. Local plants such as oak, willow and grapevine provided materials for construction of a variety of buildings: round dugout pits with domed coverings used for

Fig.1.6 California, Solano County, Rush Ranch, Patwin tule hut reconstruction

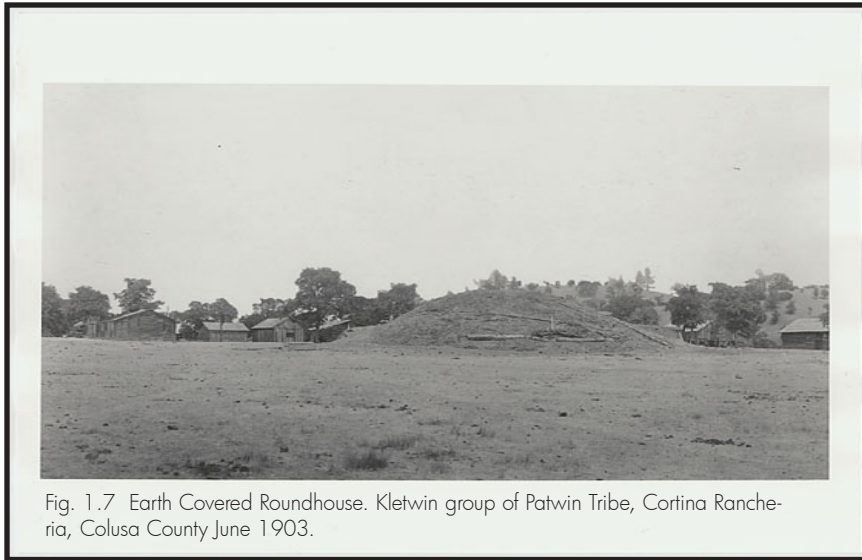


Fig. 1.7 Earth Covered Roundhouse. Kletwin group of Patwin Tribe, Cortina Rancheria, Colusa County June 1903.

dwelling (Fig. 1.6), menstrual huts, dance houses, and in some places, sweat lodges.

Patwin names for constellations reflect their relationship with the natural world: Orion was called "Coyote Carries on Head", the Milky Way was "The Antelope Road", and Ursa Major was "Stick for Knocking off Acorns" (Kroeber).

Native Americans of California underwent a severe decline in numbers following the incursions of European populations. Between 1816 and the 1830's native people were either taken to or voluntarily entered missions for "Christianization". The malarial

epidemic of 1833 wiped out half to three-fourths of the Native people; the smallpox epidemic of 1837 was very destructive to the Lake Miwok and Pomo people (Stevens).

Estimates of a decrease of up to 75% of the native population were directly attributable to these diseases. By 1923-1924, Kroeber could not find any Patwin surviving in the southern half of the region, including the entire stretch of Putah Creek. Most of the remaining Patwin were residing in or around only four communities in the Cortina and Colusa vicinities. As of 1972, the Bureau of Indian Affairs census listed only 11 Patwins for the entire territory. Only the Colusa, Cortina and Rumsey Rancherias remain; they are described as "Wintun" and are mostly occupied by descendants of other Wintuan and non-Wintuan groups (EDAW 2005).

## Spanish Exploration

Recorded history for Putah Creek started with the arrival of Spanish explorers in the late 18th century. Pedro Fages and Father Francisco Crespi arrived in 1772 with the purpose of finding a suitable location for another mission. Following Fages' and Crespi's expedition, little exploration would take place near Putah Creek for another 30 years (Beck and Haase 1974).

It was not until fall of 1808 that one of the most famous Central Valley explorers would travel back into the Putah Creek area. Ensign Gabriel Moraga of the San Francisco Company, made his third trip into the interior of California. The expedition lasted less than a month, and the area was not considered suitable for missions or economic interests. The Patwin existed relatively peacefully in the Putah Creek area until the early 1800's when European settlers slowly started to push them from the valley floor, forcing them to relocate in the surrounding foothills. By the late 1800's the Patwin had been forced out by settlers who were grazing their stock on land grant ranches.



Fig. 1.8 Father Francisco Crespi



Fig. 1.9 Father Francisco Crespi and Pedro Fages, 1772 expedition

## The Land Grant Era

In 1820, Mexico declared independence from Spain and soon thereafter established the program of Mexican Land Grants in Alta California, ensuring consolidation of power in the north. Roughly 1000 such grants, ranging in size from one to eleven square leagues (one square league = 1796 hectares (4,438 acres)), were made available principally to Mexican citizens. Obtaining a land grant required a formal petition process through the offices of the Mexican Governor, headquartered in Monterey, but if one had a reasonable request, was willing to abide by the conditions attached to the land grant, and did not have a criminal record, the petition generally was granted (Salonites 1992).

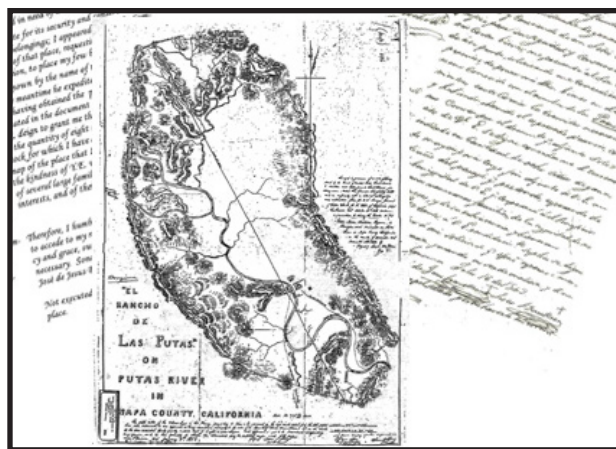


Fig. 1.10 Land Grant

Two Mexican brothers, Sisto and José de Jesús Berelleza (a name of Basque origin), petitioned the Mexican Governor in October 1843, asking for eight square leagues (14,366 hectares (35,500 acres)) of land along Putah Creek and in the surrounding foothills from Capay Valley south to Vacaville. On November 3, 1843, Governor Manuel Micheltorena approved the petition, on the condition that the Berellezas would build a house on the property within one year, that they would plant domestic trees along the periphery of the property, and that they would never subdivide or sell the property. The brothers agreed and moved in with their families and began raising stock – mostly cattle, sheep, and horses – as did most of the land grantees (Timm) The Berellezas' ranch was a successful enterprise for a number of years during the 1840s-50s, but in 1859, the political climate changed, and they evidently lost their land either to squatters, by gambling, or by family members selling off pieces. In 1866, a Mr. Scholtz sold the land to John Lawley, Jr., H. Bostwick, and William Hamilton, who divided the land into family farms and the town of Monticello. The original Basque name Berelleza was subsequently transliterated into English as "Berryessa," hence the "Berryessa Valley" and "Lake Berryessa" of today (Issler).

## The Town of Monticello

After obtaining the land in the Berryessa valley, The Land Company proceeded to parcel the land into farm properties, leaving an area available for the development of a town. In 1866, the town of Monticello was founded, and by 1870, there was a general store, blacksmith shops, several hotels and businesses, and a four-horse stage line running from Knoxville to Napa via Monticello. It soon developed into a prosperous agricultural community during the early years of the 20th century (Fig. 1.11). At this time Berryessa Valley was a flat fertile valley watered by Putah Creek, and the soil of the valley was considered among the most



Fig.1.11 The town of Monticello

fertile in the country.

The town was near the center of the valley, surrounded by thousands of acres that were used for livestock and dryland

farming of grains. The development of a canal system for irrigation contributed to successful crops of pears, grapes, walnuts, alfalfa, and other grains. Herds of cattle and horses were also in abundance. Monticello became a popular venue for baseball games, and "cow roasts", attracting people from miles around. The community was also the first in the state to have a telephone system installed. Photographers Dorothea Lange and Pirkle Jones described Monticello in the 1950's as "a center with only one store, two gas pumps, a small hotel, and a roadside spot, 'The Hub', and the valley held generations in its palm." (Lange and Jones 1960).

In 1896, the Putah Creek Bridge ( Fig.1.12) was constructed across Putah Creek in the center of the town of Monticello. This bridge has the unique distinction of still standing beneath the waters of Lake Berryessa today (US Bureau of Reclamation).

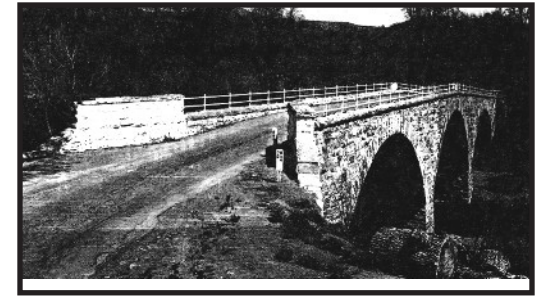


Fig. 1.12 Putah Creek Bridge

# The Death of a Valley



Fig. 1.13 Photograph by Dorothea Lange "Death of a Valley" 1956.

**If you never heard of Monticello, that's because it doesn't exist  
anymore. Its remnants sleep beneath the waters of Lake  
Berryessa—**

**Elisabeth Sherwin, 1997**



In the summer months of 1956 as construction on the dam was near completion, the last 250 inhabitants of the town of Monticello were gathering the last of their physical belongings and preparing to leave their life in the Berryessa Valley. It would not be long before the place they knew as home would disappear under the water.

In 1956, Lange convinced Life Magazine to hire her to document the effects of a large dam-building project on the Putah Creek in Northern California. She would document the rich and rural lives in a small community that would soon be under hundreds of feet of water. Her poignant images brought to light the cost of urbanization to rural areas and the environment. LIFE Magazine never ran the photo essay, but Aperture magazine published their essay, "Death of a Valley" in 1960 (Katahdin).



Fig. 1.14 Berryessa- Water Coming In. 1957 Dorothea Lange



Fig. 1.15 Berryessa Valley Filling with Water. 1957 Dorothea Lange

After valiant attempts to thwart the plans of the government dam-builders, Monticello residents at last had to accept the fate of their town: they abandoned their homes, hiring African-American laborers from San Francisco to move the town cemetery to higher ground at Spanish Flats. "The big oaks were cut down. Cattle had rested in their shade for generations. On old maps and deeds they had served as landmarks"(Lange). Anything taller than five feet and wider than two inches was removed. Houses and fences were moved or burnt. Ranch and farm equipment was auctioned, and the fertile, historic valley was leveled to dust, burnt to ashes, and filled with water (Lange).

## The Solano Project

The Solano Project plan included the construction of Monticello Dam, the Putah Diversion Dam, the Putah South Canal, the Terminal Dam and Reservoir, the Green Valley Conduit and distribution systems. The Secretary of the Interior authorized the Solano Project on November 11, 1948, under the terms of the Reclamation Project Act of 1939. Construction of the project began in 1953. Monticello Dam and the Putah Diversion Dam were completed in 1957 while the Putah South Canal was completed in 1959.



Fig. 1.16 Devils Gate before Monticello Dam

## Monticello Dam

The Monticello Dam spans the width of Devil's Gate in the Berryessa Valley bringing irrigation water and flood control to the residents to Yolo and Solano Counties. Lake Berryessa provides water annually to the cities of Vallejo, Vacaville, Fairfield, Benicia, and Suisun. Water is furnished through the city systems to Travis Air Force Base, Mare Island and Benicia Arsenal. At full pool (440 feet mean sea level) the lake is 23 miles long, 3 miles wide and stores 1,600,000 acre feet of water within the 165 miles of shoreline (Bureau of Reclamation).



Fig. 1.17 Devils Gate after Monticello Dam

## The Glory Hole

This funnel-shaped outlet, allows water to bypass the dam when it



Fig. 1.18 Glory Hole

reaches capacity. The distance from the funnel to the exit point - which is situated in the south side of the canyon - is about

700 feet. During the

drier months, when

Lake Berryessa's water level is well below the



Fig. 1.20 Glory Hole spillway exit

rim of the glory hole,

skateboarders and

bikers sometimes use the spillway's horizon-

tal exit as a half-pipe (DavisWiki).



Fig. 1.19 Glory Hole half pipe

## The Putah Diversion Dam

Putah Diversion Dam is located on Putah Creek approximately

6 miles below Monticello

Dam. The principal func-

tion of the dam is to divert water into Putah South

Canal. The dam is a gated

concrete weir structure with

an earthfill embankment



Fig. 1.21 Putah Diversion Dam

wing. It is 29 feet high, and has a crest length of 910 feet. The dam creates Lake Solano, which is about 1.5 miles long. The lake provides recreation in an area already popular for picnicking, boating, swimming, and fishing (Bureau of Reclamation).

## The Putah South Canal

Putah South Canal starts at Putah Diversion Dam and runs easterly for about 3 miles, then turns southward to follow the edge of the

foothills for about 30 miles, ending near Cordelia. The irrigable lands are mainly below the canal and are served by gravity.

Irrigable lands above the canal are served by pumping directly from the canal. In addition to providing irrigation water, the canal conveys municipal and industrial water for Vacaville, Fairfield, Suisun, and Vallejo, as well as neighboring military installations. The canal is concrete lined, except for a 1 mile segment beginning at the Green Valley Siphon which is precast reinforced concrete pipe and designated as the Putah South Pipeline. The canal has a diversion capacity of 956 cubic feet per second with a terminal capacity of 116 cubic feet per second.

# Stebbins Cold Canyon Reserve

Stebbins Cold Canyon Reserve is one of only a few natural reserves in the University of California Natural Reserve System that is open for public use. The 576 acres of the reserve is located in the Vaca Mountains. Cold Canyon, and Wild Horse Canyon to the east, converge in the reserve and are a part of the Putah Creek drainage just east of Monticello Dam. The topography of the reserve is almost all slope, with very little flat land. The reserve is very popular with hikers, and is just a short distance from Davis and Winters. The reserve is also an excellent place to explore and learn about natural history of the area. The site is visited by approximately 5,000 visitors annually, most of which are hikers. The reserve is used for educational outreach as well as

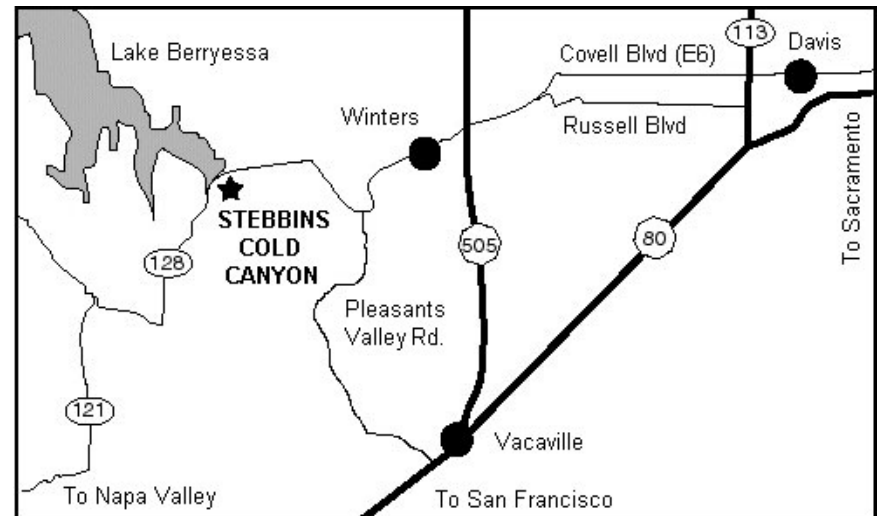


Fig. 2.1 Stebbins Cold Canyon

field trips by local elementary and secondary schools. The site is also used by university courses who visit the site for field studies. Presentations to the public provide opportunities to become more educated about the natural history and natural processes taking place in the area. It provides an opportunity to connect with nature. There is a shortage of quality nature based recreation in the Davis area, which reiterates the importance of Stebbins Reserve as a resource for the surrounding community. University research is also a very important element in the reserve. Studies of lyme disease, the diversity and biology of cavity-nesting bees, and the effects of fire on native ant populations are just a fraction of the types of research taking place in the reserve.



Fig. 2.2 View of Berryessa from the trail

## History

As recently as 1838, the Patwin still lived along Putah Creek in large numbers, but by 1877 they were gone, forced out by Mexican and Spanish settlers during the period of land grant rancheros. In 1848, with the end of the Mexican American War, California was ceded to the United States. California received statehood in 1850 and in 1852 the area that included Cold Canyon was legally defined as unappropriated unreserved public land. Stebbins Cold Canyon Reserve is one of 33 reserves in the University of California Natural Reserve System. Today's use of Stebbins Cold Canyon by people as a research and recreation area is only a small fraction of the canyon's entire human history. The foundations of the Vlahos homestead in the center of the reserve remind us of the Canyon's relatively recent use as a ranch, but very few signs remain of the Native Americans who inhabited this land for at least 4,000 years (Greene and Huntzinger).

## The Vlahos Homestead

In 1938 John Vlahos obtained a patent for lands including what is now Cold Canyon Reserve. The remains of his homestead—two foundations, some rock walls, and a well—are in the upper portion of the reserve. The smaller structure, which is in a cool, shady glade, served as a cold room in which to store cheese that Vlahos made from the milk of his goats. This is how Cold Canyon got its name (Moyle).

In order to raise collateral for his mortgage of \$2500.00, he made 2000 pounds of goat cheese and a cold storage building



Fig. 2.3 Cold storage foundation, Vlahos Homestead

in a cool grove by the creek. The cold store, whose foundation still exists, helps to explain the origin of the Cold Canyon name. The cold store, the foundation of the Vlahos' house, some rusted remnants of an old vehicle, and a well are all that remain of the homestead (Stebbins Reserve).

## The Creation of the Reserve

In 1968 John Vlahos sold part of his land to Paul Leiter. The Leiters sold this portion of the reserve to the University in 1979 and Petro and Virginia Vlahos sold the remainder to the University in 1984. Named in honor of Dr. G. Ledyard Stebbins, Professor Emeritus in the Department of Genetics, U.C.D., the reserve was appropriated for the purpose of preserving the land for teaching and research.

Stebbins Cold Canyon Reserve has been used by humans continuously for at least 4,000 years, but it retains many of its original characteristics. The plant and animal communities are largely the

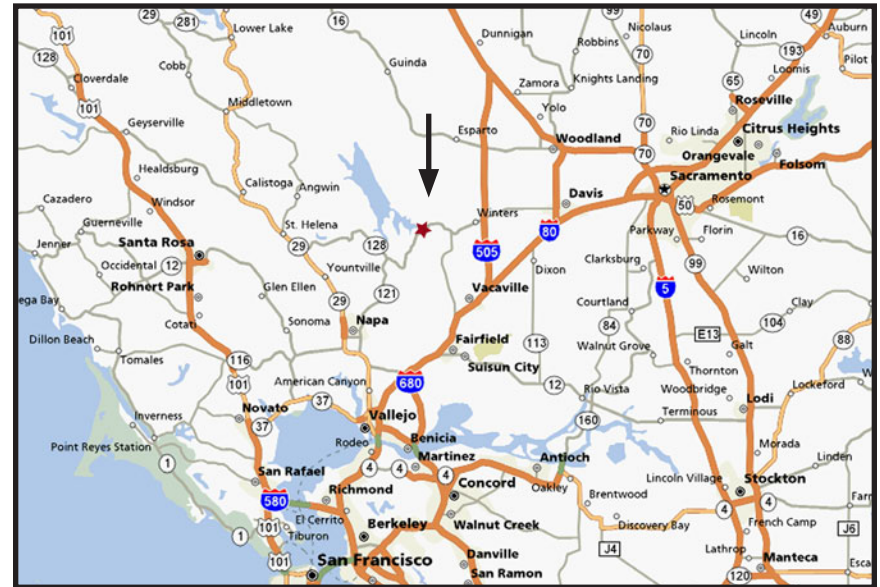


Fig. 2.4 G. Ledyard Stebbins

same as they have been since the first Native Americans arrived in this area, which is why the area was deemed worthy of preservation (Stebbins Reserve).

# The Site

## Context Map



## Location Map

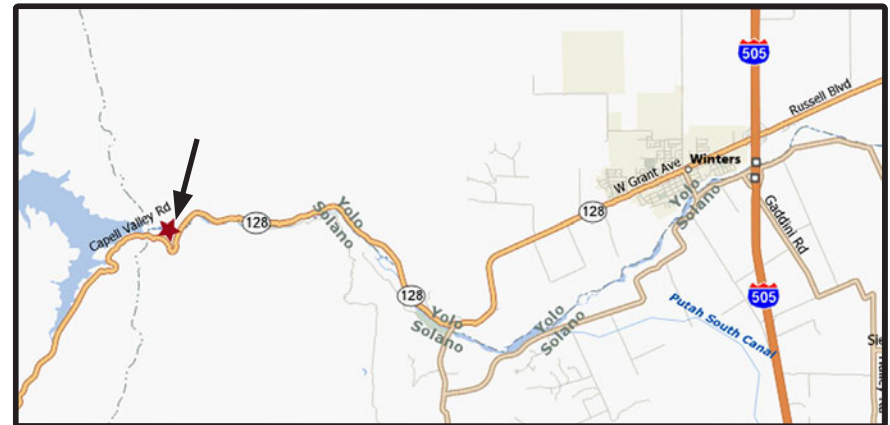


Fig. 3.1&3.2 maps from yahoomaps

The site is 10 miles west of Winters on Hwy 128 near the base of Monticello Dam where Cold Creek enters Putah Creek. The site is located within the Putah Creek Wildlife area. The site is currently used for parking by visitors to Putah Creek and Stebbins Reserve.

## Site Boundaries

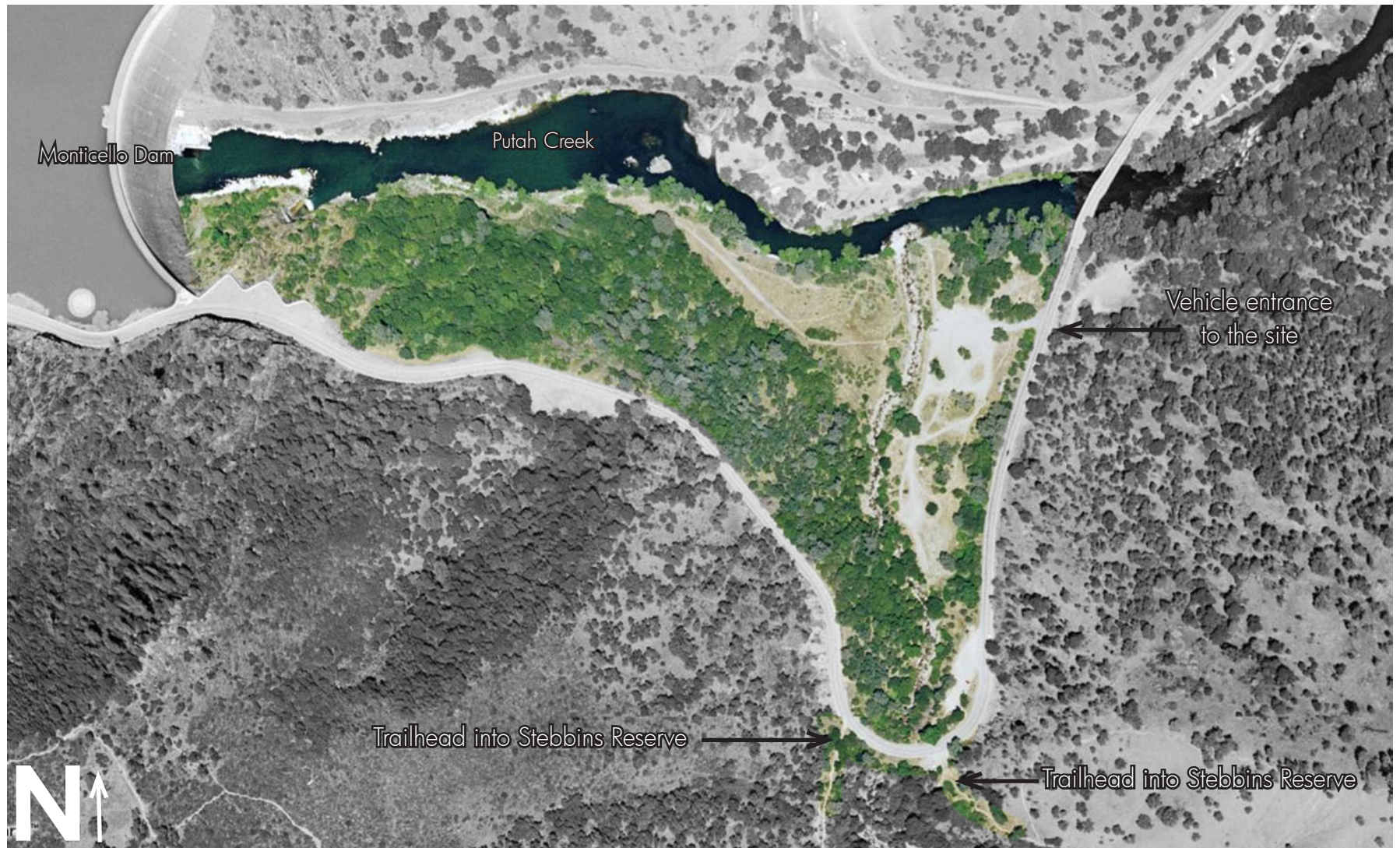


Fig. 3.3 Site Boundary Map

Site boundaries are Putah Creek to the north, Highway 128 to the east and south, and Monticello Dam to the west. The colored area of the photo represents the site. The entire site is approximately 25 acres.



# Land Ownership Map

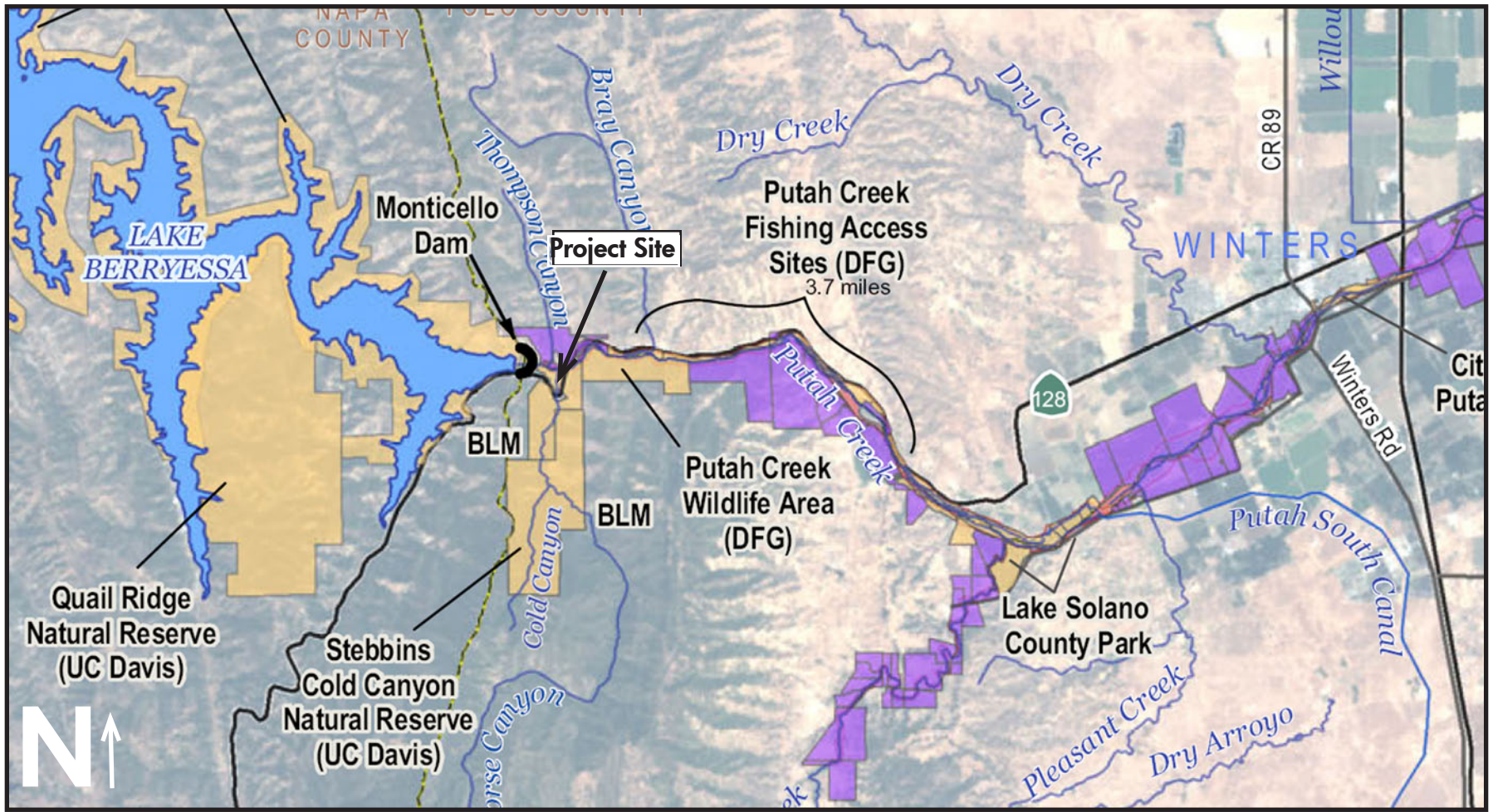


Fig. 3.4 Land Ownership Map

The public land in this area is mostly managed as parks, conservation, wildlife areas and reserves by state, federal or local agencies and organizations. The site of this project is in the Putah Creek Wildlife Area and is managed by The California Department of Fish and Game. The Wildlife Area consists of approximately 670 acres of woodland and chaparral and is adjacent to Stebbins Reserve.

## Vegetation

Before permanent European settlement, the Central Valley of California supported large expanses of riparian vegetation along most of its watercourse. Riparian forests developed along streams such as Putah Creek where natural levees were formed by the gradual deposit of alluvial sediments. During pre-development conditions, lower Putah Creek was flanked by a continuous broad corridor of riparian forest from the Coast Range to the Yolo Basin where the creek emptied into an extensive marsh dominated by tules. The riparian forests were diverse in terms of flora and structure. They normally consisted of several layers of dense undergrowth topped by a varied canopy. Typical understory species included box elder, Oregon ash, white alder, Goodding and red willow, button willow, mulefat, California nettle, wild grape and



Fig. 3.5 Populus fremontii Fremont Cottonwood

California blackberry. Typical canopy species included Fremont cottonwood, valley oak, and California sycamore (PCC).

The vegetation within the relatively small project site boundary consists mainly of foothill riparian woodland. This plant community is transitional in nature and includes both foothill woodland and mixed riparian forest. Foothill riparian woodland occurs along Putah Creek near the Monticello Dam. The canyons surrounding the creek in this



Fig. 3.6 California Wild Grape

area are relatively steep and support foothill woodland vegetation, characteristics of the east slope of the coastal foothills. This area appears to be much less disturbed than other areas along the creek, as evidenced by the scarcity of invasive weed infestations. Foothill woodland has a tall open canopy dominated by foothill pine, and interior live oak, along with lesser amounts of canyon live oak. The taller trees are interspersed with a subcanopy consisting of scattered shrubs and small trees, including toyon, redbud, sticky monkeyflower and California fuchsia. The ground layer consists of valley grassland species and woodland herbs. Fremont cottonwood and foothill pine dominates the creek edge, interspersed with an understory of scattered willows, foothill

woodland shrubs, and a ground layer consisting of grasses and forbs such as mugwort (EDAW 2005).

This area of Putah Creek is unique because within a short distance from this project site there are a variety of different plant communities thriving in Stebbins Cold Canyon Reserve. The five general plant communities that have been identified in Cold Canyon are grassland, savana, chaparral, live oak woodland, and riparian woodland.

What was once estimated at 22,000 to 65,000 acres of riparian vegetation between Winters and the Yolo Basin with an average riparian corridor width of perhaps 1.5 miles or more (Katibah 1984, Kuchler 1977, USFWS 1993) is now reduced to approximately 1,850 acres of riparian corridor with a width of between 100 and 1,000 feet (EDAW 2005).

## Climate

The Putah Creek watershed has a Mediterranean climate which consists of hot dry summers and mild rainy winters. Nearly 75 percent of the seasons rainfall happens between November and March. The headwaters of Putah Creek in the Coast Range can receive 40-60 inches of rain per year, while the city of Davis receives about 17 inches per year(EDAW).



Fig. 3.7 Redbud



Fig. 3.8 California Fuchsia



Fig. 3.9 Toyon



Fig. 3.10 Foothill Pine

## Geology

Movement over many years between the plates on the Earth's surface have created many different geologic landscapes. Interactions between the Pacific Plate and the North American Plate have led to uplift that slowly created what we call the Coast Ranges.

According to the Lower Putah Creek Watershed Action Plan, "Four major rock units characterize the Coast Ranges, including areas in which the Putah Creek watershed formed. These include the Franciscan formation, "a jumbled mess of muddy sandstones and cherts interlayered with basalt lava flows [and] so thoroughly folded and sheared that some large outcrops look as though they have been stirred with a stick" (Alt and Hyndman 1975). The Great Valley sequence, a formation of the same age, lies atop the Franciscan formation and is composed of similar rock types but did not undergo the folding and twisting that the Franciscan formation was subjected to. In between these layers is a relatively thin (1 mile or more thick) layer of black igneous rock and unusual green serpentinite that is believed to have originated in the Earth's mantle from beneath the continental crust. The final major unit is

an often fossil-filled sandstone and mudstone layer that is younger than the other formations and lays over the top of them. The upper Putah Creek watershed area is formed within the steep mountain slopes formed by sandstone and shale, local areas of serpentine, and areas of volcanic rocks. Over the geologic timescale, Putah Creek has transported large quantities of erosive sandstone and other parent material from the mountains to the valley floor. High-flow events would enter the valley and as the streamflow slowed, large sized alluvium deposited near the base of the mountains, forming the Putah Creek fan, and finer sediments were transported farther east onto the valley floor, providing the basis for the formation of productive agricultural soils that exist today" (EDAW 2005).

Less than one million years ago, Cold Canyon was merely a shallow trough, not the deep canyon present today. Millions of years before that, the rock that would later form Cold Canyon was located far beneath the surface of the sea. The present landforms of Cold Canyon are the products of three slow but very active geologic processes: deposition of sediments, continental uplift, and erosion. Over many millions of years these geologic processes

have created, uplifted, and eroded vast amounts of rock to create Cold Canyon. Evidence of all three processes can be seen today at the mouth of the canyon. Sedimentary layers bent skyward by uplift surround Monticello Dam, while nearby, Cold Creek erodes material from the canyon walls and deposits it on the banks of Putah Creek (Stebbins Reserve).

### Weathering and Erosion

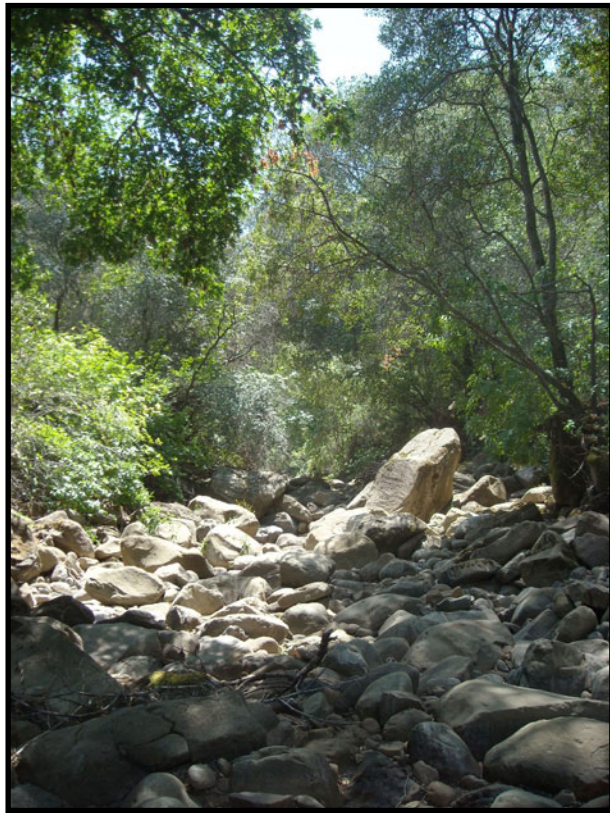


Fig. 3.11 Rounded boulders in Cold Creek are scoured by the action of sediments being transported by the creek.

### Uplift

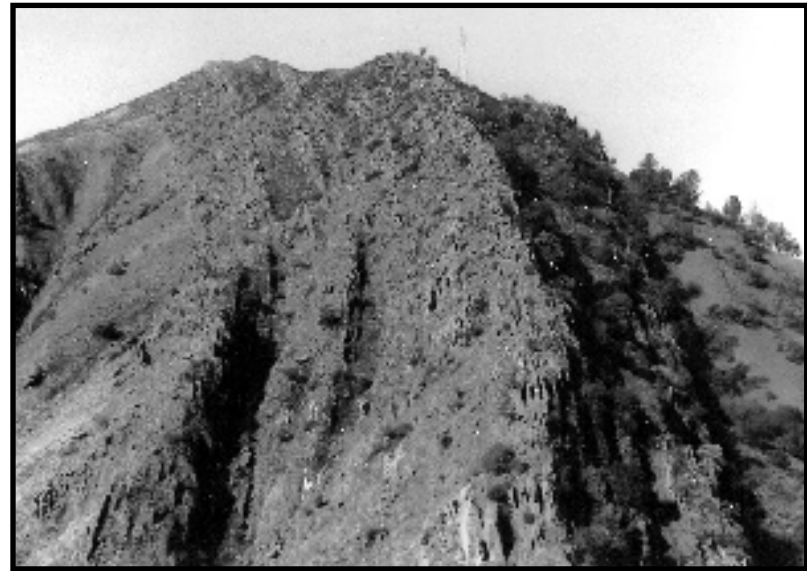


Fig. 3.12 Uplift in Stebbins Cold Canyon Reserve

### Deposition of Sedimentation



Fig. 3.13 Sediment deposition where Cold Creek enters Putah Creek

# Site Analysis



Fig. 4.1 View of Devils Gate from the site

The process of researching the natural history of Stebbins Reserve and Putah creek, and getting acquainted with the history of human use in the area has given me a better understanding of the spirit and history of Putah Creek and will ultimately help guide the program elements in the final design. This site analysis section will investigate the physical characteristics of the site as well as examine existing conditions and circulation.

# Site Photos

## Entering the Site



Fig. 4.2 Entering the site

## Entry Level



Fig. 4.3 Entry level

# Site Photos

Mid elevation



Fig. 4.4 Mid elevation

Upper elevation



Fig. 4.5 Upper elevation



# Site Photos

West side of Cold Creek



Fig. 4.6 West of Cold Creek

# Site Photos

## Fishing Access



Fig.4.7 Fishing Access

# Site Photos

## Cold Creek



Fig.4.8 Cold Creek

# Site Photos

## Crossing Hwy 128 into Stebbins Reserve

Fig.4.9 Crossing Hwy 128 into Stebbins Reserve



The above pictures represent the pedestrian views when trying to cross Highway 128 into Stebbins Reserve. Cars speed around the corners and cannot be seen by pedestrians.



The length of the view is better as you are leaving the Reserve and heading north across Hwy 128 back onto the site.

## Invasive Species & Sensitive Habitat

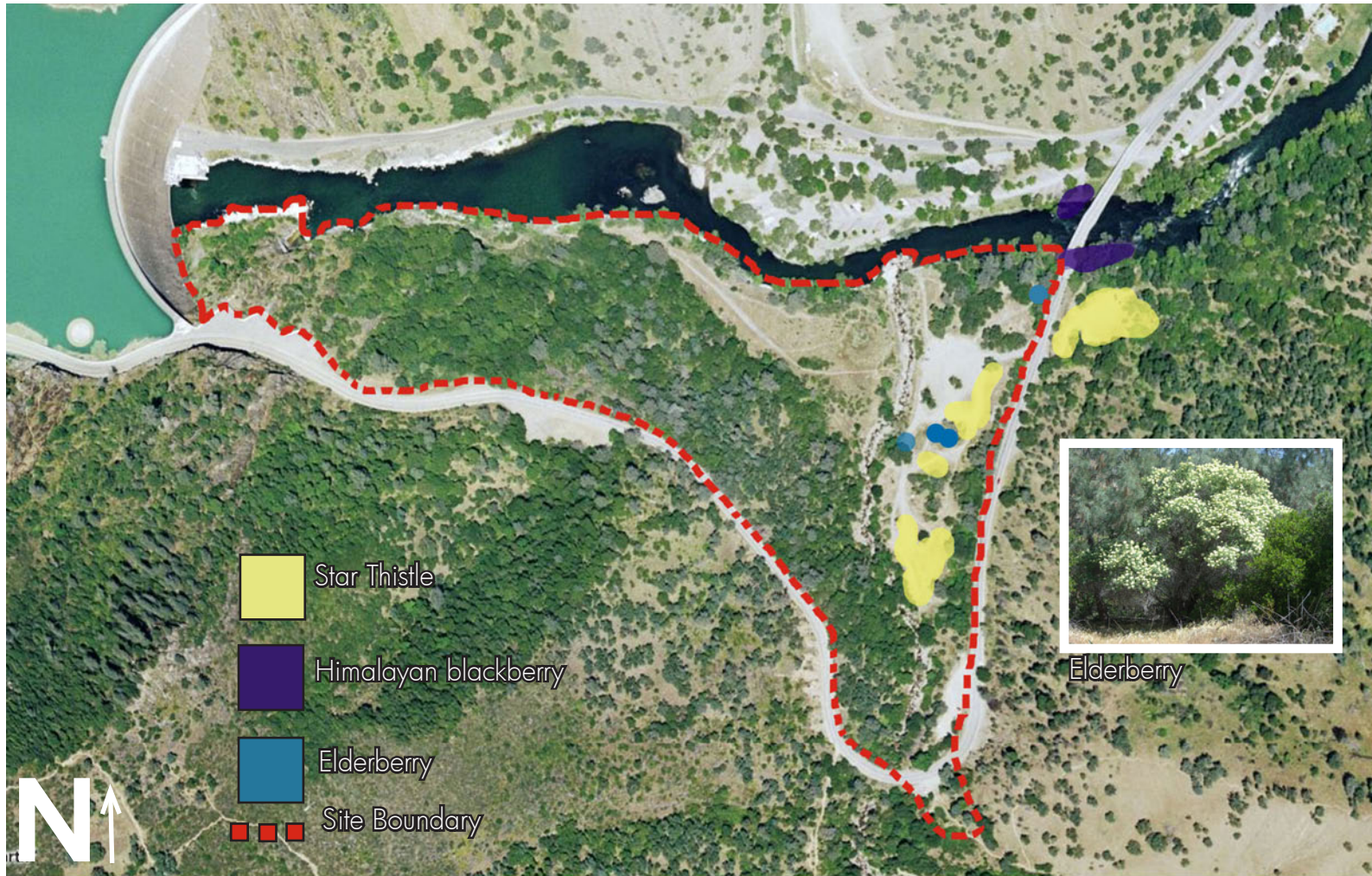


Fig. 4.10 Invasive species and sensitive habitat.

The map shows the location of invasive species present on the site. The site also has a few large elderberry bushes that have stems measuring more than 1 inch in diameter. The presence of elderberry is significant because they are the host plant of the federally protected valley elderberry longhorn beetle (*Sambucus* species). The site should be surveyed for the presence of the beetle by a qualified biologist to determine if the beetles are present.

# Existing Conditions



Trail to the river is steep and rocky- no ADA access

No bridge access across Cold Creek

Entrance to the site is steep and poorly graded

The parking area of the site is also used as a dumping area for trash. The site is neglected which could be perceived as dangerous to some users which might deter them from using the area.

Small turn-off parking area for visitors to Stebbins Reserve. This parking area fills on the weekends. Is poorly graded and has erosion problems. There is not a trail that links the lower parking area with the entrance into Stebbins. Crossing Hwy 128 into Stebbins is dangerous.

Fig. 4.11 Existing Conditions

# Existing Circulation



Fig. 4.12 Existing Circulation

# Slopes

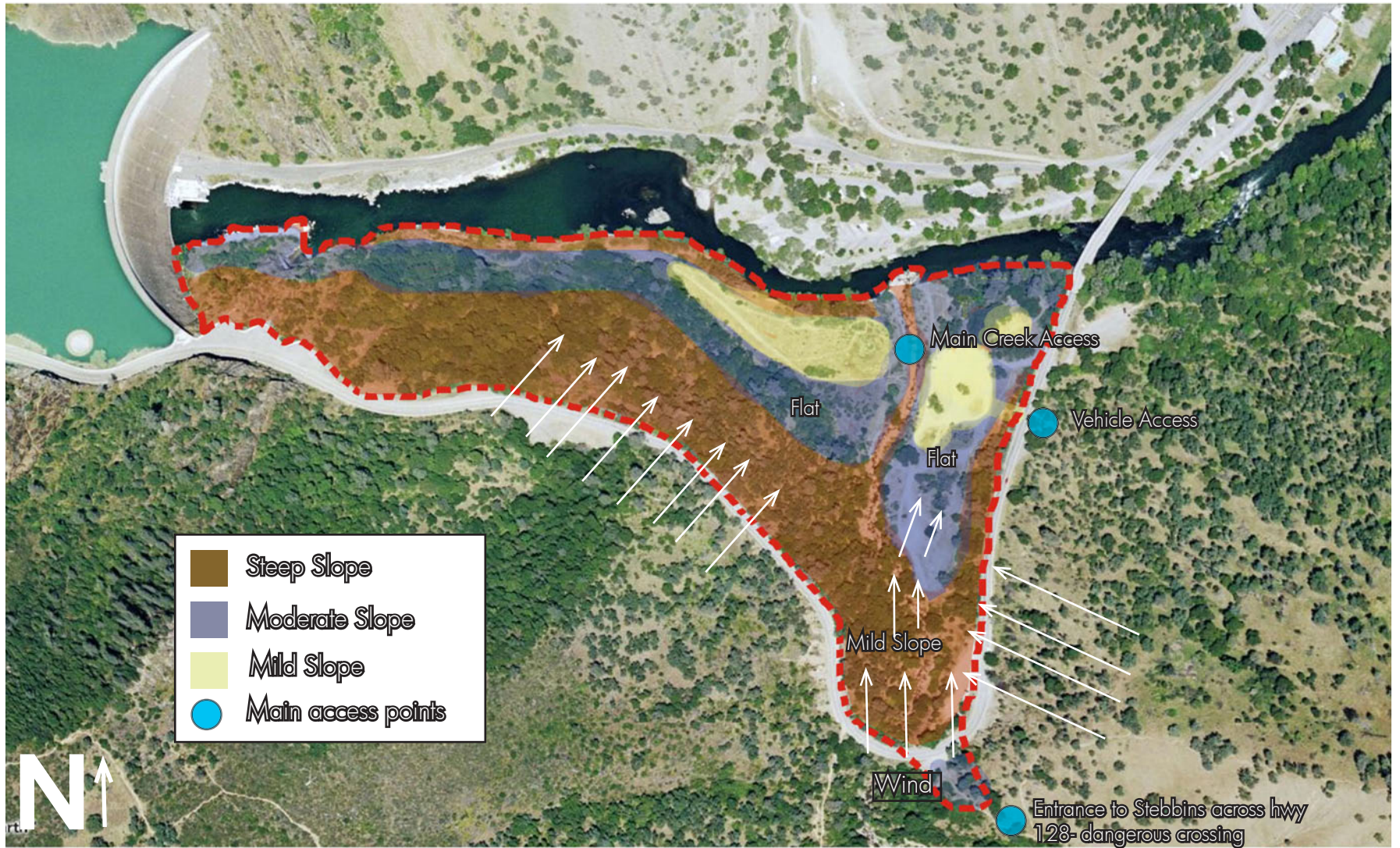


Fig. 4.13 Site Analysis showing slopes on the site



# Site Analysis- Views



Fig. 4.14 Views

The views looking from the lower levels of the site and looking west towards Devil’s Gate produce the longest and most scenic views. From the southern most are of the site looking north produces the second longest views. Looking east from the parking area on the site produces the shortest and least desirable views because you are looking up at Hwy 128. However, if you are looking east from the west side of the site closest to the dam, the view looking east is desirable.



1. Looking west toward Monticello Dam and Devil’s Gate.



2. Looking east towards Hwy 128.



3. Looking north from the south end of the site.



4. Looking east from the west side of the site.



5. View of Monticello Dam from the western portion of the site.



6. View from the fishing access on Putah Creek

# Site Analysis-Measurements & Topography



Fig. 4.15a Site Topography



Fig. 4.15b Site Topography

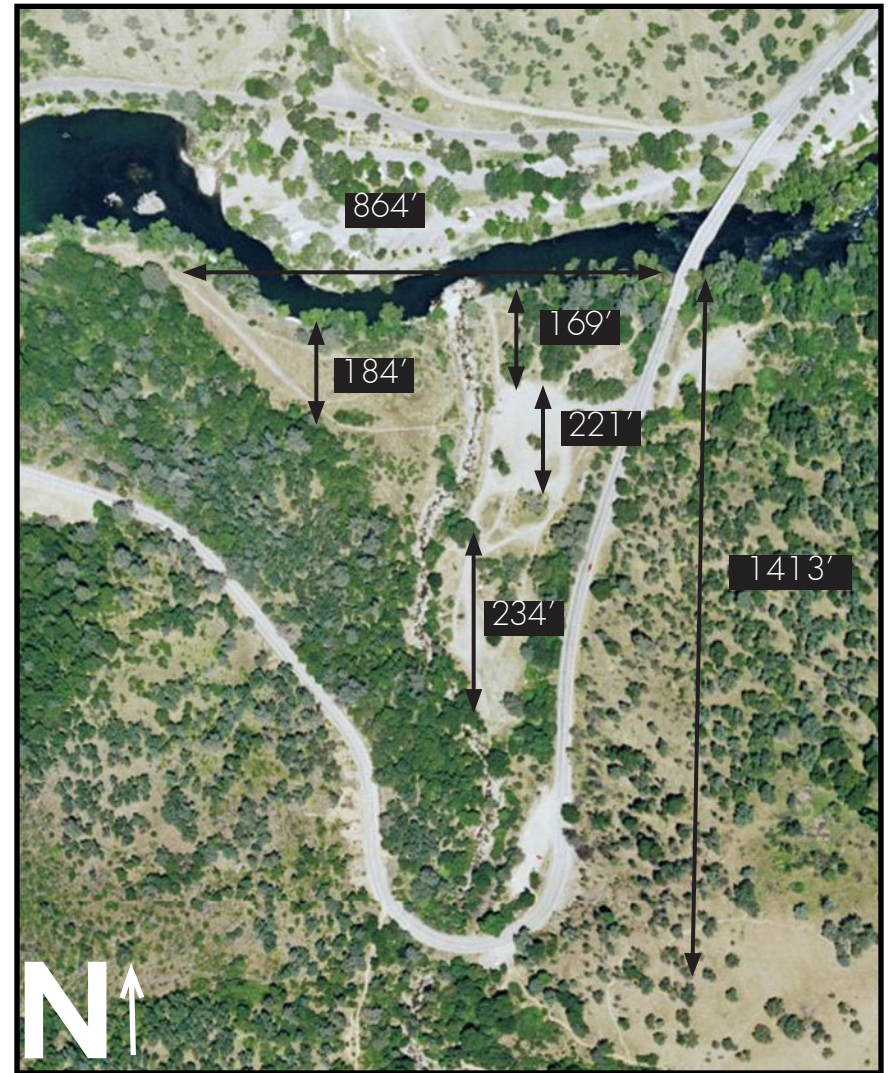


Fig. 4.16 Site Measurements

This site map shows the approximate measurements for various locations within the site. The topography transitions from steep slope near the entrance to Stebbins Reserve, to a mild slope closer to Putah Creek.

## Land Use Diagram

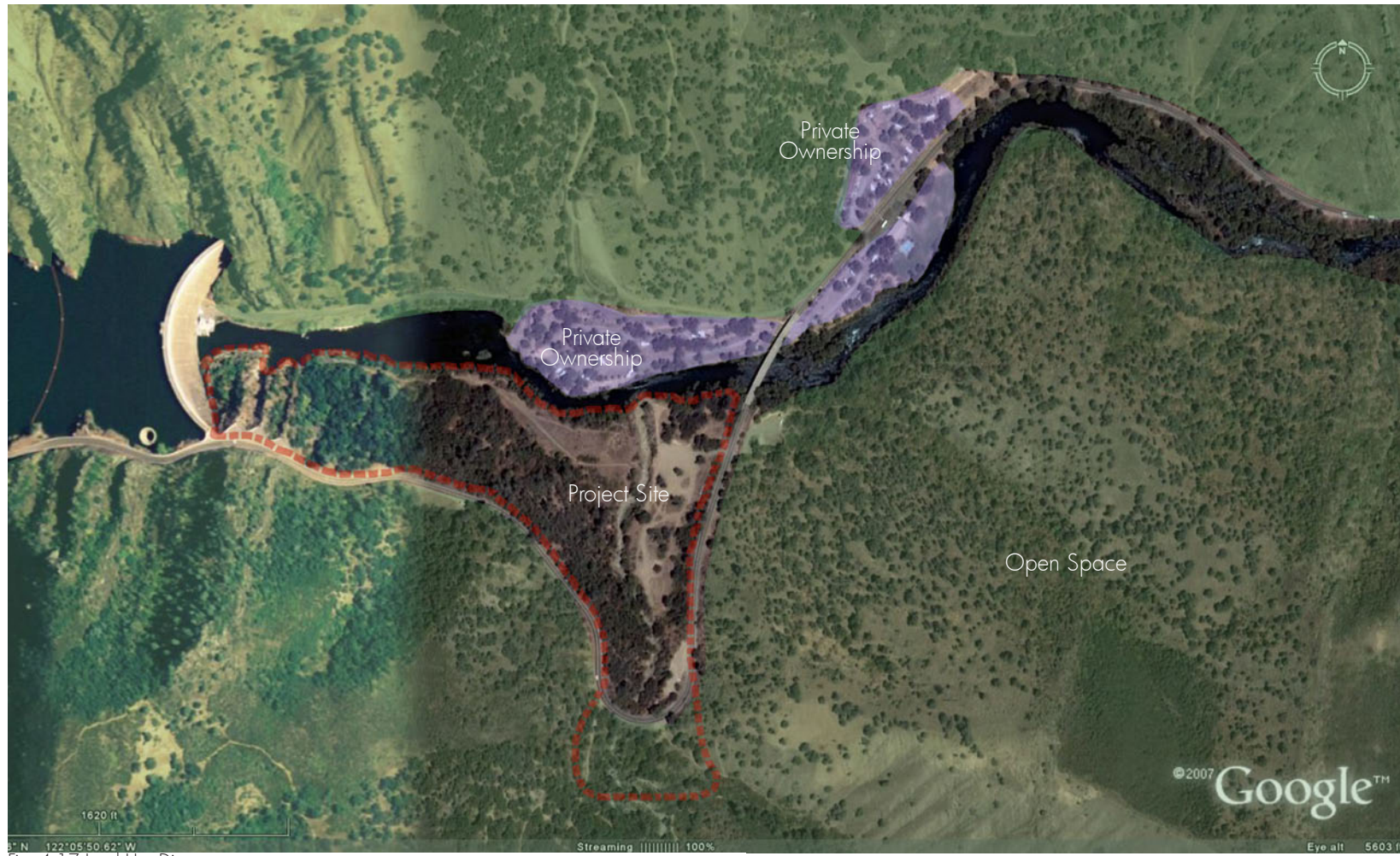


Fig. 4.17 Land Use Diagram

The land in this area is mostly public land that is managed as reserves, wildlife areas and parks. There is a small private resort directly across the creek from the site. The project site is within the Putah Creek Wildlife Area, and is managed by The California Department of Fish and Game.

# Program Development

The main purpose of this senior project is to create a design concept for a day use area on a site adjacent to Putah Creek and within walking distance to the trailhead into Stebbins Cold Canyon Reserve. It is used for parking by visitors to Stebbins Reserve and fishing access along Putah Creek. Because of its location, the site presents an excellent opportunity to create an educational and interpretive experience for visitors to the area. Hiking trails and informational kiosks and signage will highlight the history and various natural processes that are occurring on the site. An outdoor gathering area will enhance the experience of visitors, and also provide an outdoor classroom for fieldtrips and educational outreach programs.

Starting this project, I knew little to nothing about the history of the Putah Creek area. I was first introduced to Putah Creek in the Fall quarter of 2007 when the topic for the UC Davis Landscape Architecture Program Seminar Series was “Cache and Putah Creeks, Lifeblood of the Region”. I immediately started to feel a connection to the place even though I had only been to the area a few times. The guest speakers spoke in such a way that you could feel that their roots and their souls were connected to the area. Their sense of rootedness and connection was later reinforced for me

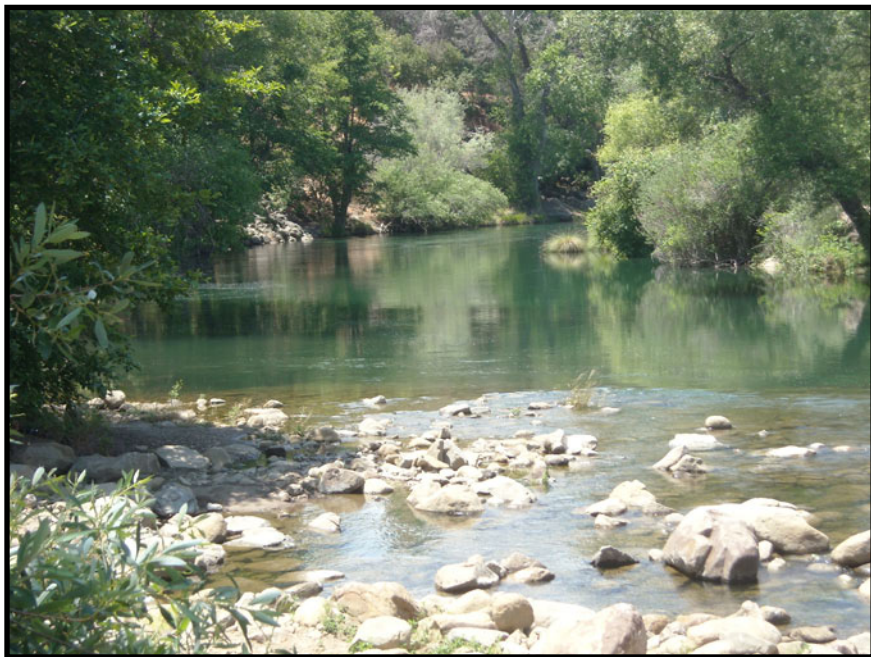


Fig. 5.1 Putah Creek at Cold Creek

as I started researching the materials that have been written about Putah Creek and learning about the various groups working to increase environmental education in the Putah Creek Corridor.

The process of researching the natural history of Stebbins Reserve and Putah creek, and getting acquainted with the history of human use in this area has given me a better understanding of the spirit and history of Putah Creek. The previous site analysis section further helped acquaint me with the unique physical characteristics of the site as well as examine existing conditions and circulation. This research was crucial in order to begin a design for the site that would be meaningful, educational, and relevant to the history and the spirit of the Putah Creek area.

The program development section of this project will address the project goals and objectives, and will explore some of the sources I researched as inspiration for the program elements that will be incorporated into the final design.

## Recreation access along Putah Creek

After researching the history of Putah Creek, and getting better acquainted with the events in the past that have made the creek what it is today, it was also crucial that I continue to explore the creek first hand. Getting better acquainted with the area and exploring the recreational opportunities available along Putah Creek, played a role in helping me determine which program elements need to be included in my design. I spent a few days during my research exploring the posted public access areas (Fig.5.2) along highway 128 including Lake Solano County Park to the project site near the entrance to Stebbins Cold Canyon Reserve.



Fig. 5.3 Fishing access map (FlyFishNorCal.org)

## Fishing Access Sites

Fig.5.2 Fishing access sites



Fig. Fishing Access on Putah Creek



Fig. View from fishing access on Putah Creek



Fig. ADA accessible picnic area



Fig. Picnic area of fishing access



Fig. Fishing access asphalt parking



Fig. Fishing access vault toilets

There are 5 Fishing Access areas on Putah Creek from Lake Solano to Monticello Dam. Each site has basic amenities which include vault toilets, trail access to Putah Creek and Picnic Areas. A few of the access areas had ADA accessible picnic areas adjacent to the parking area.

# Putah Creek Discovery Corridor Cooperative

“Coming together to inspire appreciation and respect for the diverse resources of the Putah Creek corridor through coordinated public outreach and learning opportunities.”

—PCDC Mission Statement

Putah Creek Discovery Corridor is a partnership of various organizations that have been very successful in their efforts to encourage and increase public outreach in the interdam reach of Putah Creek. The Putah Creek Discovery Corridor is the reach of Putah Creek between Monticello Dam and the Putah Diversion Dam.

Since 2001 representatives of government agencies, non-profit organizations, private landowners and educational institutions have been meeting on a regular basis and has led to the creation of the PCDC Cooperative and the drafting of a master plan for public outreach with the goal of promoting stewardship of Putah Creek and its watershed. The PCDC helped plan the Lake Solano Visitor Center and is helping with the educational design. I will be using some of the design guidelines layed out in the Solano Park Master Plan as inspiration for the design decisions I make in my final design.

The PCDC is also responsible for starting two public outreach and education programs along Putah Creek.

Waterways, is a water education program that teaches about the watershed and water conservation. It is taught at Lake Solano Regional Park to fourth through sixth graders that are guided through interactive stations where they recieve hands on education about water quality, water use, erosion and plants and animals that live in the watershed.

The second public outreach program started by the Putah Creek Discovery Corridor is The Stebbins Cold Canyon Guide Program. Guides recieve training then give presentations and lead nature hikes throughout the reserve (Putah Creek News, Fall 2006).

**STEBBINS COLD CANYON**  
**-UC Natural Reserve-**  
**PRESENTATIONS & HIKES**  
**SPRING/SUMMER 2007**

It is the intent of the Stebbins Reserve Presentation & Hike Program to provide opportunities to explore the natural beauty and ecology of the Reserve and the surrounding ecosystem. Presentations are interactive and experiential allowing participants the freedom to discover art and science in their own way. This year two outings will meet at Lake Solano Regional Park in anticipation of future programming all along Putah Creek. Presentations are offered free of charge. Please RSVP for each outing you are interested in attending. Most outings have a limit of 15 people. RSVP via e-mail: [jjaly@ucdavis.edu](mailto:jjaly@ucdavis.edu). Include your name, address, presentation date, phone number and/or e-mail address. Also, indicate whether you need directions.

**SCHEDULE: March - June, 2007**

**A TOUR OF THE SEASONS**  
 The Push of Spring  
**Saturday, March 31st 9 - Noon**  
 Winter has faded with its cold, citrus-destroying chill and light rains, and in its place spring snow pushes to the forefront. The changes at the reserve are dramatic and often quite colorful. Guide Dylan Burge has explored the canyon for more than ten years and will highlight some of the changes taking place.  
 Guide: Dylan Burge

**ANIMAL TRACKING**  
**Saturday, April 7th 9 - Noon**  
 With people hiking up and down the canyon, the animals mostly stay out of sight. But the animals are there - we see their footprints, scat, and other signs. Experienced tracker Sean Clemenza offers ways to identify animals by the evidence they leave behind.  
 Guide: Sean Clemenza

**AN OUTDOOR EXPERIENCE USING WATERCOLOR PAINTS**  
**Sunday, April 8th 9 - Noon**  
 Paint with watercolors and capture the images of Gold Canyon. No painting experience necessary just a willingness to experiment with paints and experience nature in a new way. *Materials Included.*  
 Guides: Barbara Byrne & Stacie H. Fretichs

**TREASURE HUNT FOR KIDS**  
**Saturday, April 14th, 9 - 11:00am**  
 Kids search for treasures along the Homestead trail and then meet up with a magical character who offers them a treat in exchange for what they have collected. For ages 4-7.  
 Guide: Lyndsay Dawkins

**THE POETRY OF NATURE**  
**Sunday, April 22nd 9 - Noon**  
 The cool water slips down the creek by a meadow of blue wildflowers, as the rivers soar on the warm thermal air. Nature images have a way of inspiring people to acknowledge their feelings with poetry. Join Iraj Deilami as he presents the poetry of Rumi and other Sufi nature poets. Participants will have the opportunity to write down some of their own thoughts and feelings. If you are in the mood to connect with your surroundings this is the outing for you.  
 Guide: Iraj Deilami

**PLANTS & INSECTS**  
**The Butterflies & Wildflowers**  
**Saturday, April 28th 9 - Noon**  
 Butterflies, flutterby, butterflies. This outing is designed for participants to look closely at the beautiful, kaleidoscopic markings of wildflowers and butterflies. Learn about the fascinating world of insects and plants, how they interact, and how they depend on each other.  
 Guides: Dylan Burge & Sarah Tharwer

**THE SONG OF BIRDS**  
 A Journal Approach  
**Sunday, April 29th 9 - Noon**  
 Birds call and sing. People listen. But what is the significance of the calls and songs? And what memory or image do the bird calls stimulate in the listener? These and other activities are explored on this unique approach to the song of birds. Bring paper or a journal and something to write with. All levels welcome.  
 Guide: Alison Kent

**THE ANSWER MAN**  
**Sunday, April 29th 9 - Noon**  
 Have you ever hiked in Cold Canyon and wanted to know the answer to a question: What's the name of that plant? Why are there trees on one side of the canyon and grass on the other? Where does the water in the creek come from? Join landscape ecologist and botanist Glen Holstein as he strolls up the Homestead trail answering your questions and highlighting the unique characteristics of Cold Canyon.  
 Guide: Glen Holstein

**TODDLERS EXPLORE STEBBINS COLD CANYON**  
**Saturday, May 5th, 9 - 11:00am**  
*Toddler:* Fun! Water! Games! Plants! Insects! Ask your Mommy and/or Daddy to bring you to Cold Canyon. Parents: Guides structure a few hours of play and exploration for your budding naturalist. For ages 1-3.  
 Guide: Lyndsay Dawkins

**SWITCHBACKS & LANDSLIDES**  
**New route up western ridge**  
**Saturday, May 5th 10 - 1:30pm**  
 Come walk the new route up the western ridge and breathe in the sights of Lake Berryessa and the Central Valley below. Guides will highlight distinctive plants along the trail and how the landscape changes after burns and slides. Bring a lunch, adequate water and sunscreen. Hiking poles are optional. Note: the trail still climbs 1000' feet.  
 Guide: Alan & Jean Jackman

**California Native, Berkeley area. Courtesy of Jan Bards.**

San Diego - (P. Fremont), Anheuser-Busch, Courtesy of Art Shapiro

www.stebbinscoldcanyon.org

Fig. 5.4 Hikes and Presentations in Stebbins Reserve

# Lake Solano Park



Fig. 5.5 Lake Solano

Lake Solano Park is located at the base of coastal foothills west of the town of Winters and offers an array of recreational opportunities. A destination point for outdoor enthusiasts since its creation in 1973, Lake Solano Park caters especially to anglers, boaters, campers, swimmers, sunbathers and picnick-

ers. It is ideal for hiking, bicycling, bird watching and wildlife photography.(Lake Solano Park)

Owned by the Bureau of Reclamation, Lake Solano has been administered as a recreational area by the County of Solano since 1971 . More than 200,000 visitors a year enjoy a wealth of recreational activities both on and off the water.

The lake is considered one of the best fly fishing spots in the Sacramento Valley; popular game fish in Lake Solano include Brown and Rainbow Trout (Lake Solano Park).

According to the Lake Solano Regional Park Master Plan, The Putah Creek Discovery Corridor Cooperative envisioned a string of educational interpretive stations appropriated to different parts of the park according to eco-system or cultural experience. Where ever possible, use a roofed structure for shelter from sun and rain. An interpretive signage system will provide opportunities to learn about characteristic features of the site. It can also present opportunities for visitors to gain an appreciation for the habitat and species, the winged migrations, and the returning salmon (Solano Park Master Plan).



Fishing deck at Lake Solano

Fig. 5.6 Amenities at Lake Solano



Trails through Lake Solano Park



Bridge over Lake Solano



Play structure at Lake Solano



As part of my research and program development, I spent the day exploring Lake Solano Park. Most of the visitors I observed were fishing off the banks of the Lake. The families with small children were either at the playground or fishing from the wooden deck. (Fig. 5.6). The trail system through the park lacked wayfinding and or interpretive signage which made it difficult to know where I was and what amenities were nearby. The park has an ADA accessible fishing pond for those who can not navigate the shores of the lake.



Fig.5.7 ADA access fishing pier



Fig.5.9 Trails through Lake Solano



Fig.5.8 Litterbugs beware

## Putah Creek Nature Trail

The Putah Creek Nature Park located in Winters was also a source of inspiration for this project. The building and plant materials chosen blend well with surrounding environment and do not detract from the natural setting. There are outdoor gathering spaces and benches along the trail. The circulation consists of a pedestrian and bike trail system that when fully complete, will link

with the city bike lanes and extend into the surrounding areas. A few minor trails will be added that lead to lower terraces along the creek.



Fig.5.10 Putah Creek Nature Trail



Fig.5.11 Outdoor Gathering Space



Fig.5.12 The Railroad Bridge

# Proposed Program Elements

## 1. **Communicate care, and respect for the area in my design.**

-through researching the history of the site

## 2. **Promote involvement and awareness**

-outdoor learning area (outdoor classroom)

-interpretive trail signage as a way to unpeel the 'layers' of the place.

## 3. **Meet the future recreational needs of a growing region.**

-the site creates more opportunities for recreational and educational based activities in the region.

## 4. **Improve Circulation**

-design a trail system throughout the site accompanied by interpretive signage at key locations.

-improve entrance and parking area

-additional parking for Stebbins Reserve

## 5. **Increase Connectivity**

-by linking the fishing access area with the existing parking for Stebbins Reserve with a nicely restored creekbed nicely designed landscape.

-**Create a bridge and trail** that crosses over Cold Creek and follows Putah Creek towards the base of Monticello Dam.

## 6. **Enhance the day use area**

-resting areas along the looptrail that can accommodate activities such as birdwatching, picnicking, or fishing

-protect sensitive areas

-restore degraded vegetation

## 7. **Provide ADA access**

-**ADA accessible fishing platform** for users who are less ambulatory and cannot navigate the small trails along the banks of Putah Creek.

-Bridge over Cold Creek

## 8. **Incorporate basic amenities**

-Vault toilets

-parking,

-informational kiosks

Use best management practices for runoff

Local or recycled materials where possible.

9. **Native revegetation** on the site that will eventually be very low maintenance.

# Design Development

The overall goal of this project is to design a site along Putah Creek that will not only serve as a recreational area, but also create an educational and interpretive experience for a variety of users who visit the site. This area carries a variety of meaning to many people, and this site is ideal for teaching environmental stewardship and a place to cultivate a love and appreciation of the outdoors.

Hikers enjoy access to the trails in Stebbins Reserve, while others visit the Reserve to conduct research. Some enjoy Putah Creek for the fishing, while others enjoy a quiet picnic while young kids wade and splash in it's cool waters. Birdwatchers are drawn to this area because of the year long variety of bird life. Everyone's reason for visiting may be different, so it is important that the final design have multi-dimensional, multi-layered uses to accomodate and provide an experience for a variety of different users.

## Main Objectives

1. My first and foremost objective for this project is to **communicate care, and respect** for the surrounding area in my site design.
2. **Promote involvement and awareness** by incorporating environmental education in the form of an **interpretive center and interpretive trail signage**, as well as places that could be used as outdoor classrooms by school or community groups. Use interpretive signage as a way to unpeel the 'layers' of the place.
3. Design a plan that would help **meet the future recreational needs of a growing region**.
4. **Improve circulation** issues on the site.
  - Explore ideas to calm the traffic on Hwy 128 near the entrance to Stebbins Reserve, possibly with signage.
  - Look for solutions that address the issues of parking and safely crossing Hwy 128 into Stebbins Reserve.
5. **Increase Connectivity** by linking the fishing access area with the existing parking for Stebbins Reserve with a nicely restored creekbed nicely designed landscape.
  - Create a bridge and looptrail that crosses over Cold Creek and follows Putah Creek towards the base of Monticello Dam.
6. **Enhance the day use area** by create resting areas along the looptrail that can accomodate activities such as birdwatching, picnicking, or fishing while at the same time protecting natural areas.
7. **Provide ADA access** by incorporating an ADA accessible fishing platform for users who are less ambulatory and cannot navigate the small trails along the banks of Putah Creek.
8. **Incorporate basic amenities** into the design. Vault toilets, parking, and informational kiosks. Use best management practices for runoff, and local or recycled materials where possible.
9. Native revegetation on the site that will eventually be very low maintenance.

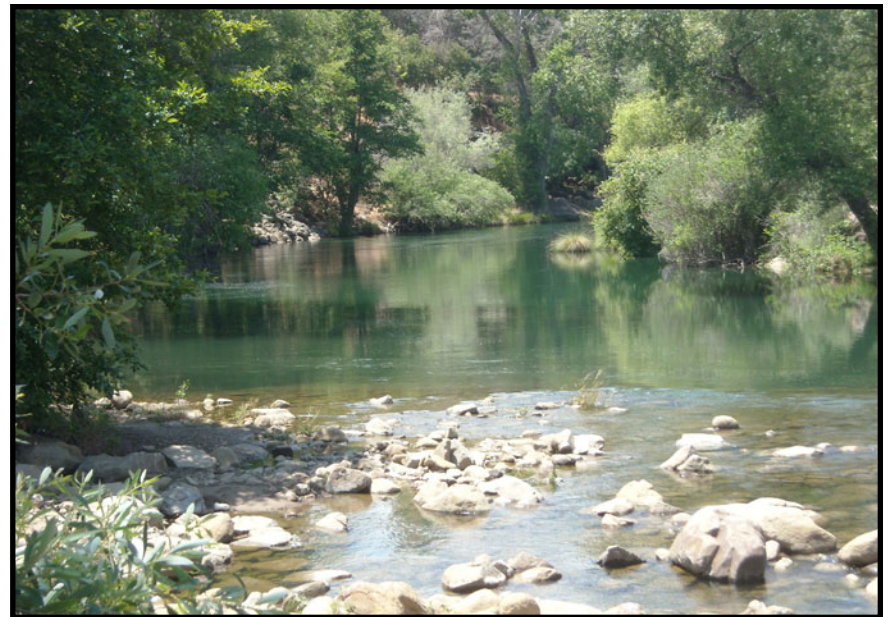


Fig.6.1 Putah Creek

## Concept Plan

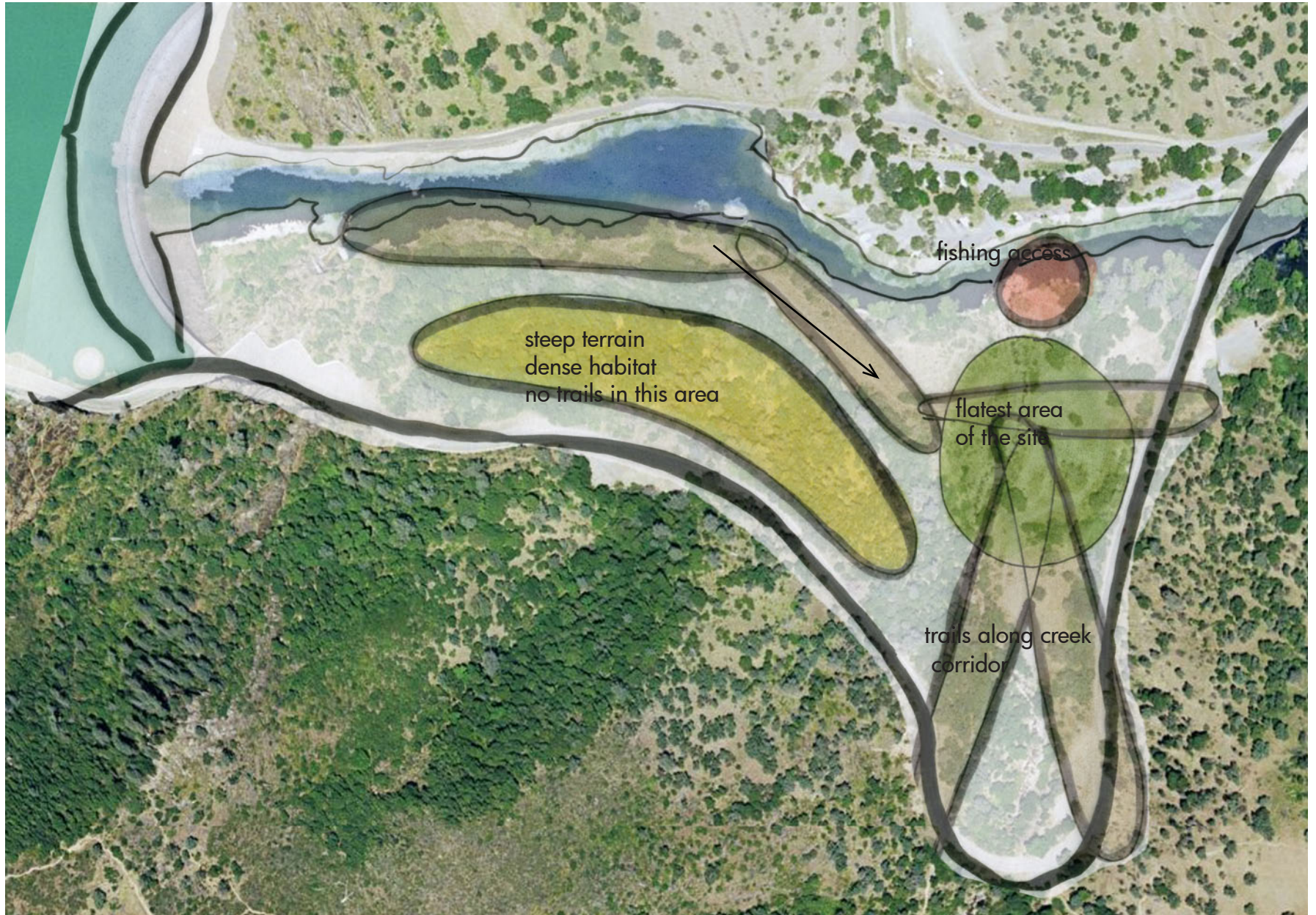


Fig.6.2 The initial concept plan/bubble diagram



Fig.6.3 Final Design

### River Overlooks

The viewing platforms along this trail provide quiet areas for contemplation, birdwatching or fishing opportunities. The quiet pools near the base of the dam provide some of the best birdwatching and fishing.

### Steep Woodland and Riparian Habitat

This steep area has existing user created trails, but no new trails will be added to this area.

### Open Meadow

This area will be revegetated with appropriate native vegetation. The interpretive signs overlooking this area will have information on the wildlife and vegetation in the meadow.

### Cold Creek Bridge

This area follows an existing user created trail with a small bridge crossing over Cold Creek and winding its way to one of the trailheads into Stebbins Reserve. An undercrossing under Hwy 128 might be an option to keep pedestrian traffic off of the hwy.

### Fishing Pier

The addition of a fishing pier will allow for ADA access to the river. The small handicap parking area near the entrance to the pier allows for easy access. The user created trail that meander along the creek and under the bridge will be improved.

### Main Day Use Area

- picnic areas/shade pavilion
- interpretive displays describing the human and natural history of the site
- teaching circle for fieldtrips or community gatherings and events
- bathrooms

### Cold Creek Trails

- The trails in this area run alongside Cold Creek and interpretive signage describes the area.
- wildlife
  - plant life
  - erosion
  - sedimentation

### Pedestrian Crossing

The trail system winds its way up Cold Creek and ends at a pedestrian bridge over Hwy 128. This allows pedestrians to cross safely into Stebbins Reserve. The parking near the trailhead is handicap parking. Others visiting Stebbins will park on the main site near Putah Creek.



Fig.6.4 Final Design

# Exploring the Site





# Entrance & Parking Area

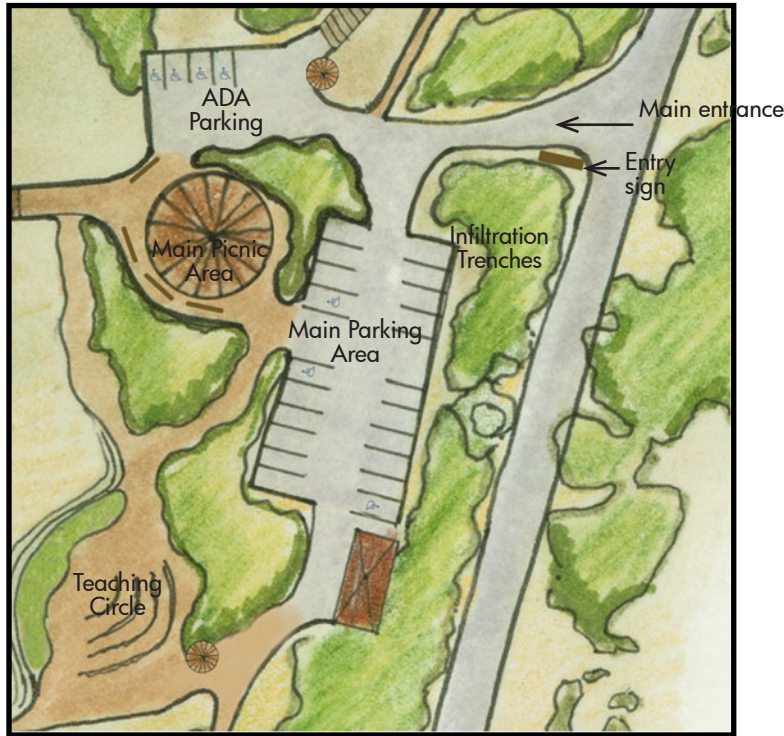


Fig.6.5 Entrance and parking area

The entrance to the site is hard to see when you are traveling either direction on Hwy 128. In order to increase visibility, Some of the tall vegetation, such as the poison oak along the entry, will be removed and an entrance sign will be placed so that it is visible from either direction. The entry will be widened and regraded.

Easily accessible handicap parking will be located at the entrance to the fishing pier. Handicap parking is also available next to the restrooms and the main picnic and informational kiosks.



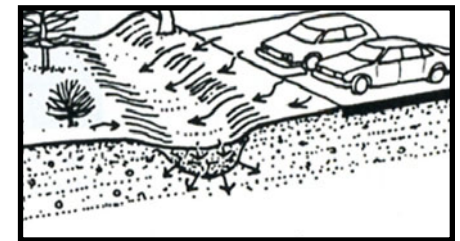
Entering the Site



Example of Signage

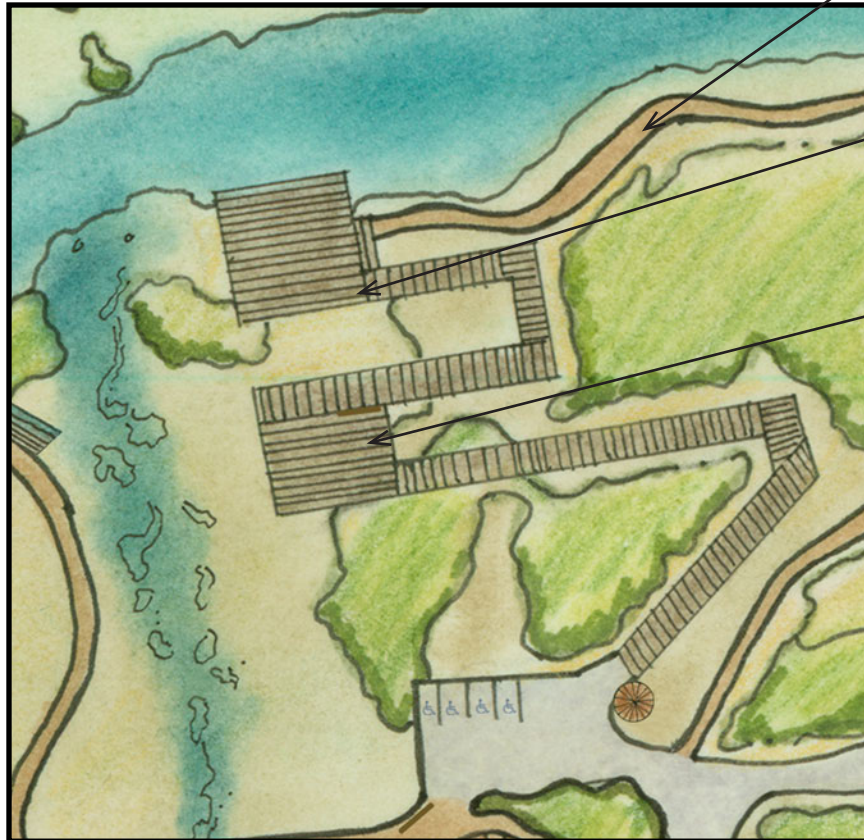


Flat area for parking



Infiltration Trench

# ADA Accessible Fishing Pier



## Trails

user created trails follow Putah Creek and continue under the bridge. There are stairs to access the creek banks from the pier.

## Fishing Pier

ADA accessible fishing pier on Putah Creek

## Informational Signage

The landing is meant to be used as a resting area and overlook. Signage will explain fishing regulations, fisheries, and invasive species.



Ramp to the pier



ADA Fishing Pier



Fig. 6.6 ADA Fishing Pier

# Main Gathering Areas



Fig. 6.7 Main gathering areas

# Pavilion Area



## Open Pavilion

this is the main day use and interpretive area of the site. The open pavilion is reminiscent of the Patwin dwellings that were once in this area. The pavilion looks out over a view of Devil's Gate. The roof is designed to cast abstract shadows similar to the designs used in Patwin Basketry.

## Basketry Plants

the planting beds in this area and near the teaching circle are planted with redbud, cottonwood, willow, and native grasses.



Redbud



Deerglass



Fig. 6.8 Example of pavilion



Patwin Basketry



Fig. 6.9 Example of interpretive signage in the pavilion

# Outdoor Classroom



View of Devil's Gate from the teaching circle

The outdoor teaching and gathering area can be used by community groups and field trips. It could also be used as an area for small outdoor performances.



Existing boulders that can be incorporated into the design.



Fig. 6.10 Outdoor teaching area constructed using boulders from the site. Has views of Devils Gate

# Cold Creek Bridge



Fig. 6.11 Pedestrian bridge over Cold Creek



Similar railcar bridges



The pedestrian bridge will allow circulation onto the western portion of the site closest to Monticello Dam. The bridge would be constructed out of a recycled railroad flat car. The benefits of the railcar bridge include low cost compared to other bridge types, easy installation and minimal maintenance. The bridge and main trail onto the west side of the site will be ADA accessible.

# Trail System

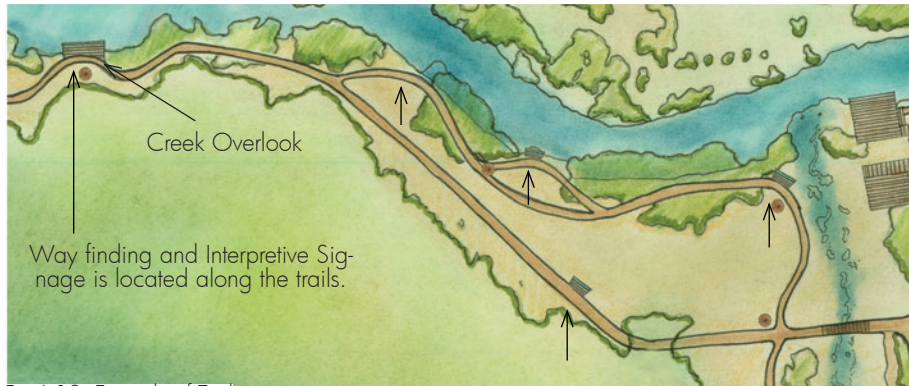


Fig.6.12 Example of Trail

A fully accessible trail will follow Putah Creek from the main picnic area to just below Monticello Dam. Visitors can picnic and relax in the shaded rest areas along the route. Interpretive trail signage along the trails highlights information about the history of the site as well as wildlife and vegetation. The ADA accessible trails will be constructed out of stabilized decomposed granite.



Benches



Trail Signage



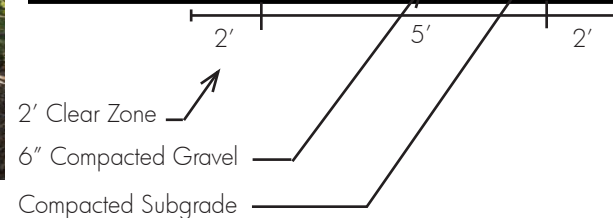
Example of Trail



Example of interpretive signage



Fig. 6.13 Trail Section



# Educational and Interpretive Signage

The more one knows about their “home”, the more they are likely to want to protect it.

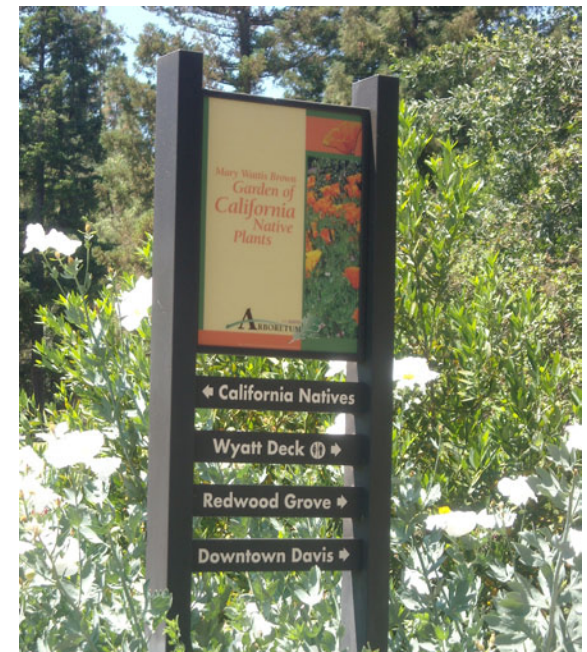


Fig. 6.14 Educational Signage

This is an example of what the signage could look like depending on the location and content. Larger information panels will be placed near the parking lot and main gathering areas, with smaller signs along the trails. The shape of the roofs on these kiosks are mindful of the past Patwin Presence on Putah Creek.



Trail Signage (UC Davis Arboretum)



Way Finding Signage (UC Davis Arboretum)



## Educational and Interpretive Signage

Informational signage will be placed in various locations around the site. The Arboretum at UC Davis has a very successful way finding and interpretive signage system which I used as inspiration for this site.

Each sign or "station" will have a specific theme depending on where it is on the site. For example, a sign will be placed on the trail closest to Monticello Dam highlighting which birds gather in this particular area during the different seasons.



Fig. 6.14 Interpretive Signage



Fig. 6.14 Interactive Signage

Other themes could include:

### Human History

- Patwin
- Spanish
- Land Grant
- Berryessa Valley
- The Solano Project
- Activities Today
- Stebbins Reserve

### Birdwatching

- Owls in the trees near the creek
- Mergansers by the dam
- Other birdwatching highlights

### Plants

- habitat
- use by wildlife or humans
- basketry/cultural significance
- medicinal uses

### Fishery

- what types/season
- invasive species (mud-snails)

### Plants

- habitat
- use by wildlife or humans
- basketry/cultural significance
- medicinal uses

### Hazards

- poison oak
- ticks
- rattlesnakes
- mountain lions
- erosion.. stay on trail

### Wildlife

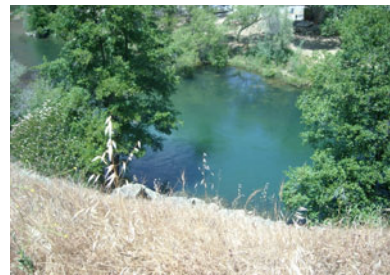
### Geology

- uplift
- deposition
- erosion

# Trail Along Putah Creek



Fig. 6.15 Views west of Cold Creek



The trail will wind west along the steep bluff above the creek towards Monticello Dam. Interpretive signage describes the wildlife in this area.

This area along Putah Creek is a favorite of birdwatchers. Because of the managed flows from the dam, this area of Putah creek is home to diverse bird life. In the Winter, you are likely to see a variety of wood ducks, mergansers and Barrow's Goldeneyes, which are rare in our region. This area is also well known for its spring and fall migrants.

Fisherman enjoy this area because of the rainbow trout in the cold pools below Monticello Dam.

# Entrance To Stebbins Reserve



Trail  
 This trail connects the lower portion of the site with Stebbins Reserve. The trail follows Cold Creek to the existing parking for Stebbins Reserve. The bridge is ADA accessible and provides good views north along Cold Creek.

Existing Parking

Bridge across Hwy 128

Existing parking and handicap spaces

Trail map and informational kiosk at the trailhead into Stebbins Reserve



The existing parking area and blind corner crossing Hwy 128 into Stebbins Reserve

Trying to find a suitable solution to crossing Hwy 128 into Stebbins Reserve was the most difficult problem on this site. The bridge will remove pedestrian traffic off of Hwy 128 if users are willing to use it instead of taking the shorter route across Hwy 128. Diverting all parking to the lower portion of the site near Putah Creek, except for handicap access near the trailhead, would make the bridge the most successful.

Fig. 6.16 Entrance to Stebbins Reserve

# Site Amenities



Picnic Tables will be placed along the trail throughout the site with the majority of picnic areas near the open pavilion.



Benches made out of recycled material will be placed along the trail, ADA fishing access and the main gathering areas.



Way-finding and Interpretive kiosks like this will be the main focus of the site and are situated at key locations along the trail to highlight important features of the site.



Garbage and recycling receptacles will be located near the pavilion and picnic areas.



Bicycle racks will be placed near the pavilion and restrooms for the many cyclists that ride along Hwy 128.



Vault Toilets are located in next to the main parking area.

# Plant List

## Woody Plants

Bigleaf Maple (*Acer Macrophyllum*)

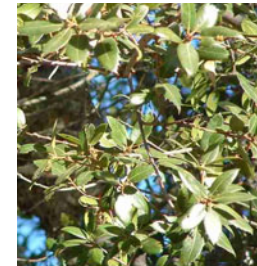
California Buckeye (*Aesculus californica*)

Foothill Pine (*Pinus sabiniana*)

Fremont Cottonwood (*Populus fremontii*)

Blue Oak (*Quercus douglasii*)

Interior Live Oak (*Quercus wislizeni*)



Scrub Oak (*Quercus berberidifolia*)

Valley Oak (*Quercus lobata*)

Blue Elderberry (*Sambucus mexicana*)

Coyote Brush (*Baccharis salicifolia*)

Chamise (*Adenostoma fasciculatum*)

Parry manzanita (*Arctostaphylos manzanita*)



California Black Walnut (*Junglans hindsii*)

Skunkbrush (*Rhus trilobata*)

Toyon (*Heteromeles arbutifolia*)

Western Redbud (*Cercis occidentalis*)

Willow (*Salix* spp.)

White Alder (*Alnus rhombifolia*)

Plant pictures listed left to right



# Plant List

## Herbaceous Plants

Bush monkeyflower (*Mimulus aurantiacus*)

Woodland rye (*Elymus glaucus*)

Purple Needlegrass (*Nassella pulchra*)

Foothill needle grass (*Nassella lepida*)

California melic grass (*Melica californica*)

Deer Grass (*Muhlenbergia rigens*)



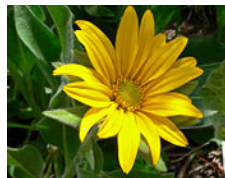
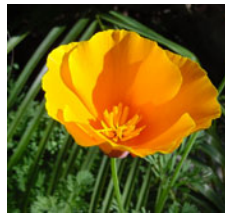
California Poppy (*Eschscholzia californica*)

California Pipevine (*Aristolochia californica*)

Golden Fairy Lantern (*Calochortus amabilis*)

Foothill mule ears (*Wyethia helenioides*)

Lupine (*Lupinus* spp.)



Yarrow (*Achillea millefolium*)

Ithuriel's Spear (*Triteleia laxa*)

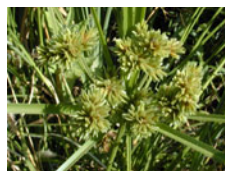
Wormwood (*Artemisia douglasiana*)

Golden Nutsedge (*Cyperus eragrostis*)

California Wild Grape (*Vitis californica*)

California fuchsia (*Epilobium canum*)

Plant pictures listed left to right



## Conclusion

The overall goal of this project was to design a site along Putah Creek that not only serves as a recreational area, but also creates an educational and interpretive experience for a variety of users who might visit the site. This area carries a variety of meaning to many people, and this site is ideal for teaching environmental stewardship and cultivating an appreciation and an understanding of the area.

Hikers enjoy access to the trails in Stebbins Reserve, while others visit the Reserve to conduct research. Some enjoy Putah Creek for the fishing, while others enjoy a quiet picnic while young kids wade and splash in its cool waters. Birdwatchers are drawn to this area because of the year long variety of bird life. Everyone's reason for visiting may be different, so hopefully the final design presented here will have multi-dimensional, multi-layered uses to accommodate and provide an experience for a variety of different users.

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1.12 Putah Creek Bridge [http://www.usbr.gov/mp/ccao/field\\_offices/lake\\_berryessa/facts.html](http://www.usbr.gov/mp/ccao/field_offices/lake_berryessa/facts.html)

1.13 Death of a Valley Dorothea Lange "Death of a Valley" 1957. Courtesy of Oakland Museum of California. <http://content.cdlib.org/ark:/13030/ft6t1nb2q3/?brand=oac>.

1.14 Berryessa- Water Coming In Water coming in. Dorothea Lange "Death of a Valley" 1957. Courtesy of Oakland Museum of California. <http://content.cdlib.org/ark:/13030/ft7q2nb32d/?brand=oac>.

1.15 Berryessa- Filling With Water Berryessa Valley disappearing under water  
Untitled, Dorothea Lange "Death of a Valley" 1957. Courtesy of Oakland Museum of California. <http://content.cdlib.org/ark:/13030/ft6t1nb2q3/?brand=oac>.

1.16 Devils Gate before Monticello Dam. [http://www.usbr.gov/mp/ccao/field\\_offices/lake\\_berryessa/facts.html](http://www.usbr.gov/mp/ccao/field_offices/lake_berryessa/facts.html)

1.17 Devils Gate after Monticello Dam <http://images.google.com/imgres?imgurl=http://www.lake-berryessa.com/sitebuilder/images/MonticelloDam2-392x267.jpg&imgrefurl=http://www.lake-berryessa.com/History/Background.html&h=267&w=392&sz=18&hl=en&start=8&um=1&tbnid=a60GUMbDw2RpWM:&tbnh=84&tbnw=123&prev=/images%3Fq%3Dmonticello%2Bdam%26um%3D1%26hl%3Den%26rls%3DHPIA,HPIA:2006-29,HPIA:en%26sa%3DN>

1.18 Putah Diversion Dam EDAW. Lower Putah Creek Watershed Management Action Plan 2005. Lower Putah Creek Watershed Portal. <http://www.watershedportal.org>

Fig. 2.1 Stebbins Cold Canyon context map <http://nrs.ucdavis.edu/stebbins/technical/directions.htm>

Fig. 2.2 View of Lake Berryessa From Stebbins Reserve. [http://daviswiki.org/Stebbins\\_Cold\\_Canyon\\_Reserve?action=Files&do=view&target=0048.jpg](http://daviswiki.org/Stebbins_Cold_Canyon_Reserve?action=Files&do=view&target=0048.jpg)

Fig. 2.3 Cold Storage Foundation, Vlahos Homestead [http://nrs.ucdavis.edu/stebbins/natural/land\\_use.htm](http://nrs.ucdavis.edu/stebbins/natural/land_use.htm)

Fig. 2.4 G. Ledyard Stebbins [http://nrs.ucdavis.edu/stebbins/natural/land\\_use.htm](http://nrs.ucdavis.edu/stebbins/natural/land_use.htm)

Fig. 3.1 Site Context Map [yahoomaps.com](http://yahoomaps.com)

Fig. 3.2 Site Location Map [yahoomaps.com](http://yahoomaps.com)

Fig. 3.3 Site Boundary Map [google earth](http://googleearth.com)

Fig. 3.4 Land Ownership Map Dam EDAW. Lower Putah Creek Watershed Management Action Plan 2005. Lower Putah Creek Watershed Portal. <http://www.watershedportal.org>

Fig. 3.5 Fremont Cottonwood *Populus fremontii* Monroe, Gary, A. March 2003. <http://plants.usda.gov/java/nameSearch>

Fig. 3.6 California Wild Grape Brother Alfred Brousseau Courtesy of St. Mary's College of California. <http://plants.usda.gov/java/profile?symbol=VICA5>

Fig. 3.7 Redbud Ellen Zagory  
arboretum all star plant search <http://arboretum.ucdavis.edu/details.aspx?&plant=8>

Fig. 3.8 California Fuchsia Saxon Holt <http://arboretum.ucdavis.edu/details.aspx?&plant=14>

Fig. 3.9 Toyon Monroe, Gary A. March 2003. <http://plants.usda.gov/java/nameSearch>

Fig. 3.10 Foothill Pine Monroe, Gary A. March 2003. <http://plants.usda.gov/java/nameSearch>

Fig. 3.11 Weathering and Erosion on Cold Creek- Authors own site photo

Fig. 3.12 Uplift in Stebbins Reserve. <http://nrs.ucdavis.edu/stebbins/natural/geology.htm>

Fig. 3.13 Sediment Deposition. Authors own site photo

Fig. 4.1 View of Devil's Gate. Authors own site photo

Fig. 4.2 - 4.8 Site Photos- Authors own site photos

Fig. 4.9 Entrance to Stebbins Reserve- authors own photos

Fig. 4.10 Invasive Species and Sensitive Habitat authors own map with reference to Invasive Species Map EDAW. Lower Putah Creek Watershed Management Action Plan 2005. Lower Putah Creek Watershed Portal. <http://www.watershedportal.org>

Fig. 4.11 Existing Conditions- original map by author

Fig. 4.12 Circulation -original map by author

Fig. 4.13 Slopes- original map by author

Fig. 4.14 Views- Google Earth

Fig. 4.15 Site Topography -original map by author

Fig. 4.16 Site Measurements -original map by author

Fig. 4.17 Land Use Diagram -original map by author

Fig. 5.1 Putah Creek at Cold Creek- author photo

Fig. 5.2 Fishing Access

Fig. 5.3 Fishing Access Map FlyFishNorCal.org

Fig. 5.4 Educational Opportunities at Stebbins Reserve <http://www.putahcreekcouncil.org/nodes/resources/documents/Guides2007-7.pdf>

Fig. 5.5 & 5.6 Lake Solano Lake Solano Park. Solano County Website. <http://www.solanocounty.com/>

Fig. 5.7 ADA Fishing Access- authors own artwork

Fig. 5.8 Signage at Lake Solano- authors own photo

Fig. 5.9 Trails through Lake Solano trail at lake Solano. Lake Solano Park. Solano County Website. <http://www.solanocounty.com/SubSection/SubSection.asp?NavID=609>.

Fig. 5.10 Putah Creek Nature Trail- authors own photo

Fig. 5.11 Outdoor Gathering Space, Winters Ca.-authors photo

Fig. 5.12 The Winters Railroad Bridge- authors own photo

Fig. 6.1 Putah Creek- authors own photo

Fig. 6.2 Concept Plan- authors own artwork

Fig. 6.3 Final Design- authors own artwork

Fig. 6.4 Labeled Design-authors own artwork

Fig. 6.5 Entrance and Parking- authors own artwork and google images.

Fig. 6.6 ADA Fishing Access- authors own artwork and google images.

Fig. 6.7 Main Gathering Areas- authors own artwork

Fig. 6.8 Pavilion Area- Authors own artwork and google images.

Fig. 6.9 Interpretive Signage- googleimages.com

Fig. 6.10 Outdoor Classroom- authors own artwork

Fig. 6.11 Pedestrian Bridge over Cold Creek- authors own artwork and google images.

Fig. 6.12 Trails googleimages.com

Fig. 6.13 Trail Section- authors own artwork and [http://www.clallam.net/CountyParks/assets/applets/Master\\_Plan\\_Document\\_pgs\\_20-28.pdf](http://www.clallam.net/CountyParks/assets/applets/Master_Plan_Document_pgs_20-28.pdf)

Fig. 6.14 Examples of Trail Signage- authors own photos and kiosk pavilion <http://images.google.com/imgres?imgurl=http://www.travelks.com/images/Listing/26-L%26C%2520pavilion.jpg&imgrefurl=http://www.travelks.com/s/index.cfm%3FLID%3D26%26QString%3DKeywords%253Dlewis%252520and%252520clark%2526Page%253D2&h=364&w=364&sz=140&hl=en&start=1&um=1&tbnid=hvPixa6BctG5ZM:&tbnh=121&tbnw=121&prev=/images%3Fq%3Dopen%2Bair%2Bpavilion%26um%3D1%26hl%3Den%26rls%3DHPIA,HPIA:2006-29,HPIA:en%26sa%3DN>

Fig. 6.15 Views west of Cold Creek- authors own photos

Fig. 6.16 Entrance to Stebbins Reserve- authors own photos