North of Delta Off-Stream Storage

Interim Report by the Cortina Band of Wintun Indians

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Laguna Resource Services, Inc
1600 Buckman Springs Rd. Campo, CA 91906

U.S. Department of the Interior
Bureau of Reclamation

Task 1 Background Information

The Cortina Rancheria lies in or near the foothills on the western edge of the Sacramento Valley. The historic overview of Cortina Rancheria covers a time period of approximately 10,000 years. Evidence suggests that the Sacramento Valley area was occupied, around 6000 B.C to 1800 A.D., by humans from whom the Cortina Band and other neighboring tribes are descendants. Archeologists and other scientists exploring the area found tools that indicated the type of foods that were harvested and prepared by the Wintun. It is evident that people settled the area for its moderate climate, and its rivers rich in fish and oak groves filled with a variety of wildlife. The same land became highly desirable by explorers and later settlers, as well as those arriving at the time of the Gold Rush, in 1849, and later with the building of the transcontinental railroad, in the 1860's and 1870's.

Archeologists have identified three primary periods of cultural chronology for central California. These are the Paleoindian Period (8,000 B.C. to 6,000 B.C.), Archaic Period (6,000 B.C. to 1,000 A.D.) and the Emergent Period (1,000 A.D. to 1,800 A.D.). This is then followed by the Historic Period, which continues to the present day. The earliest archeological evidence found to the south of the Rancheria points to the earliest culture as primarily hunters and harvesters of lakeside resources. During the archaic period there was a transition to increased use of acorn harvesting and processing. Trade between the Central Valley and the Coast began to grow during this period and village sites began to show signs of year-round occupancy. By the emergent period territorial boundaries showed signs of becoming well defined and defended, and upland resource gathering sites became increasingly utilized. (It should be noted that many native peoples and anthropologists consider the latest indigenous population to be the lineal descendents of earlier cultural groups in the same location.)

When ethnographers began to work in the Central Valley in the early 1900s, they found that most of the people who lived west of the Sacramento River up to the crest of the Coast Range, and from the San Francisco Bay area northward to the upper reaches of the Trinity River near present-day Redding, spoke Wintuan languages.

Tribelets were the largest autonomous political unit. Each tribelet inhabited a primary village near the Sacramento River, while several secondary satellite villages were found in upland locations with a dependable water supplies. Oak groves were part of the tribelets' resources and were protected and defended. Deer, antelope and elk were primary meat sources. Resources were maintained through a combination of harvesting techniques and burning. Traditional burning helped to open up the undergrowth and maintain the health of the oak groves. Salmon were the primary fish stock.

Spanish explorers arrived in San Francisco Bay around 1769 establishing a Catholic mission in 1776. This was followed by San Jose in 1791, San Rafael in 1817. The closest mission to the Wintuan was established in Sonoma in 1823. This resulted in increasing raids of the neophytes, by the Spanish, for religious conversion and conscription into the labor force. Outbreaks of diseases such as malaria and smallpox periodically swept through the Native American communities, possibly reducing the Native American population by 75% in the 1830's. It is estimated that the population of Wintun may have numbered around 12,000 after these diseases killed large numbers (Peter Knudson, 1977), indicating that in history past, a large number of Wintun people had thrived in the Sacramento area. With the arrival of more Europeans, and later Mexicans, the forced and sometimes voluntary relocations, as well as massacres and killing of natives, disrupted the former life ways of the Wintun. Surviving natives were used as laborers at the Euroamerican ranches and farms that were established in the area. The displacement caused by introduced agriculture changed the native lands permanently.

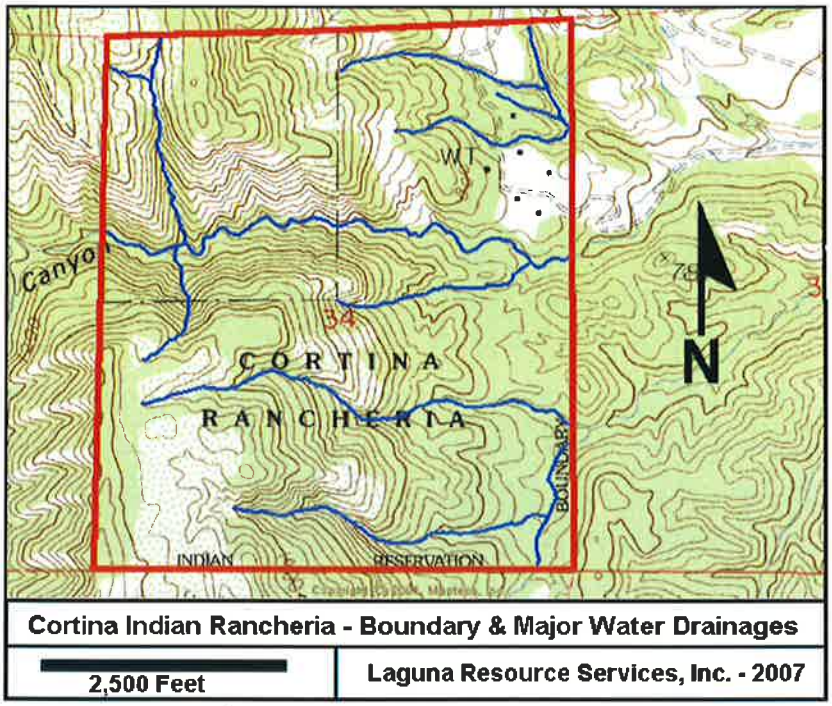
Pursuant to the Act of Congress, on January 12, 1887, the Mission Indian Commission was created, and charged with selecting a reservation for each band of Mission Indians residing in California. By Order of the Secretary of the Interior, on June 6, 1907, the Cortina Rancheria was established, setting aside 160 acres. Subsequently, Cortina acquired an additional 480 acres, by Order of the Secretary, on July 20, 1907. A trust patent was then issued, on June 6, 1958, authorizing the United States government to hold the aggregate 640 acres in trust for use by the Cortina Band of Indians. The tribe is organized under an Indian Restoration Act (IRA) with a constitution and bylaws approved in 1973. The Cortina Rancheria adopted a new Constitution and bylaws in 1994.

When the Bureau of Indian Affairs established the Cortina Indian Rancheria, in 1907, the surviving Wintun began to move in and build shelters, surviving partially by subsistence, on land that was then available, with limited access and resources. This was supplemented by working as laborers on neighboring farms and ranches.

2010 Reservation statistics:

Residences on Rancheria – 6
(No non-tribal residences)
Tribal Members on Rancheria – 14
Total Rancheria Population – 23

Other Tribal Members in Colusa County – 3
Total Tribal Members in California – 110
Tribal Members outside of California – 27
Total Tribal Membership - 137



The projected population for this area in 2050 is over 5.2 million.

The combined statewide population of Wintu now numbers over 2,500.

Geology

The Cortina Rancheria lies in the southwestern portion of the Sacramento Valley, within a seismically active zone. It is on the boundary of the Coast Ranges. Rocks underlying the Sacramento Valley and the adjacent foothills range from crystalline and metamorphic rocks of Paleozoic and Mesozoic age to alluvial deposits being deposited today. Both fresh and residual saltwater aquifers can be found in the various sedimentary deposits of the valley.

The Cortina Rancheria is at the western edge of the Colusa Groundwater Sub-basin. This basin is approximately 1,434 square miles and contains freshwater. The Tehama Formation is the primary water-bearing unit within the Colusa Sub-basin. The Rancheria is also on the eastern edge of the Cortina Formation, which underlies the Upper Cretaceous rocks of the coastal ranges. Groundwater flow through the Cortina Formation is characterized by steep, easterly-dipping saline water bearing rocks of the Cretaceous age. The Tehama formation contains fresh water bearing rocks of claystone with beds and lenses of conglomerate sandstone and siltstone.

Where the Cortina Formation is overlain by the Tehama Formation, groundwater occurs under confined or semi-confined conditions within the generally low permeability siltstone and claystone units of the upper Cortina Formation. Groundwater within the Cortina Formation flows under confined conditions against the West Side Fault, as evidenced by a flowing artesian well. Groundwater also issues forth in the adjacent stream channel within approximately 200 feet of the fault trace. These observations suggest that the Valley Side Fault forms a subsurface impediment to the flow of groundwater in this area (SAIC, 1999).

The water-bearing capacity for the Rancheria is low due to the low permeability and storage factor for the Cortina Formation. Therefore, the geology of the Rancheria compares very unfavorably to the significant yield from groundwater wells set into the sediments of the Sacramento Valley floor.

Task 2 Historic and Present Water Use

In an attempt to increase the amount of arable land around the confluence of the Sacramento and San Joaquin Rivers, Small-scale irrigation projects started in the late 1880's,. These redistribution projects in the Sacramento Valley, created to increase agricultural production, eventually led to the Central Valley Project during the 1930's. While dry land farming techniques prevailed in the Spring Valley, farmers closer to Williams grew row crops and rice, taking advantage of features such as the Central Irrigation District canal system. By the 1940's, the "industrial" farming typical of the present-day Sacramento Valley was in full swing. Irrigation-aided farming remains the dominant agricultural activity in the area north of the Rancheria, along Walnut Drive. Closer to the Rancheria itself, the area is used primarily for dry land wheat farming and cattle and sheep ranching.

State and Regional Water Boards
The Central Valley Regional Water Quality Control Board oversees the water quality issues for the area surrounding the Reservation. It reports to the State Water Resources Control Board in Sacramento

Water Supply and Use
Local water management is conducted by the Glenn Colusa Irrigation District. (See Map Attachment 1.

Sacramento Valley

The Sacramento River Hydrologic Area represents over 17% of the State of California, encompassing 27,246 square miles. Average precipitation in the region is 36.7 inches. The Sacramento River Region is the main water supply source for much of California's urban, agricultural, and environmental areas. Basin runoff averages 22,389,000 acre-feet, providing nearly one-third of the state's total natural runoff. Major supplies in the region are provided through surface storage reservoirs and through direct groundwater pumping. A total reservoir capacity of 16,146 acre-feet supports a population of 2,882,452. Local sources supply 9,195,000 acre-feet of water to the region.

Agricultural production is the primary water use in the Sacramento River region. The Sacramento River supports about 22% of the State's agriculture, supplying irrigation water to over 2.1 million acres of land. Agricultural products include such crops as rice and other grains, tomatoes, fruits and nuts. Approximately 1.85 of these acres is irrigated on the valley floor, while about 300,000 acres of mostly pasture and alfalfa occur in the surrounding mountain valleys, with a considerable amount of rangeland in this region being used for livestock management. Irrigated agricultural acreage in the region reportedly peaked during the 1980's, and has since declined due to the conversion of irrigated agricultural lands to urban development and managed wetlands.

Groundwater is used intensively in some areas of the Sacramento Valley, but is not used as extensively in areas with abundant surface water supplies. Groundwater is the primary source for drinking water in Colusa County (USEPA 2005). Average annual groundwater use in the Sacramento Valley groundwater basin is estimated to be about 2.5 million acre-feet. On average, groundwater accounts for approximately 30 percent of total water use. Historically, groundwater levels associated with the Sacramento Valley have remained steady, declining moderately during extended droughts and generally recovering to their pre-drought levels during subsequent wetter periods. The Yolo and Zamora areas, however, are recent exceptions in that 1-to-2 feet of subsidence has occurred here, in areas of extensive groundwater pumping.

Cortina Rancheria

Use of existing water resources on the Cortina Rancheria has been limited, historically, due to high levels of such naturally occurring constituents as total dissolved solids and chloride. Poor water quality has been cited as one reason that more Tribal members do not presently reside on the Rancheria. Existing and potential uses of surface and groundwaters on the Rancheria include: agriculture, livestock, fire suppression, aquatic and wildlife, industrial, and non-consumptive domestic uses (Cortina WQA Rept, 1998).

Surface Water Development

Major water supplies in the Sacramento Valley region are provided through reservoirs and extensive systems of diversion canals and drains. These reservoirs are fed from high levels of regional precipitation, and from direct groundwater pumping, which historically has recharged through the winter months. Major reservoirs in the region serve several uses, including municipal water supply, agriculture, recreation, power, environmental, and flood control benefits

The Sacramento metropolitan area, the largest urban area and surface water user in the Sacramento River Hydrologic Region, utilizes over 20 water suppliers. The larger urban areas in the region, which have developed near major rivers, receive municipal water supplies via surface water diversions. The City of Sacramento relies on surface water to supply up to 90-percent of its water needs, diverting its CVP water supply from the American River at H Street, and from the confluence of the American and Sacramento Rivers. The City of Folsom takes surface water from Folsom Lake. Some urban areas have also added readily available and abundant groundwater supplies to their delivery systems. In some areas of the Sacramento Valley, groundwater has become the principle source of water supply for urban as well as rural domestic uses.

A significant portion of the Sacramento River region economy relies on agricultural water supplies. Most of the water used for agriculture in this region is delivered by the Central Valley Project (CVP). The CVP also supplies water to the cities of Sacramento and Redding. Sacramento River waters are diverted at the Red Bluff Diversion Dam (RBDD), into the Tehama-Colusa and Corning Canals, delivering CVP water to agriculture users and to wildlife refuges. Together, these two canals provide water to approximately 160,000 acres of land in Tehama, Glenn, Colusa, and Yolo counties. CVP contractors and water rights settlement users also make direct diversions from the Sacramento River. Basin-wide water use efficiency is generally high, due to the capture of return flows from field drainage systems, which are then re-supplied to other fields downstream.

Groundwater Development

The Sacramento Valley is one of the most productive groundwater basins in the state. Groundwaters have been developed in both the alluvial basins and the hard rock uplands and mountains. Aquifers within the valley sediments provide excellent supplies for irrigation, municipal, and domestic uses. There are 83 basins/subbasins delineated in the region. These basins underlie approximately 5 million acres (7,900 square miles), or about 29 percent of the entire region. Many of the mountain valleys of the region also provide significant groundwater supplies to multiple uses.

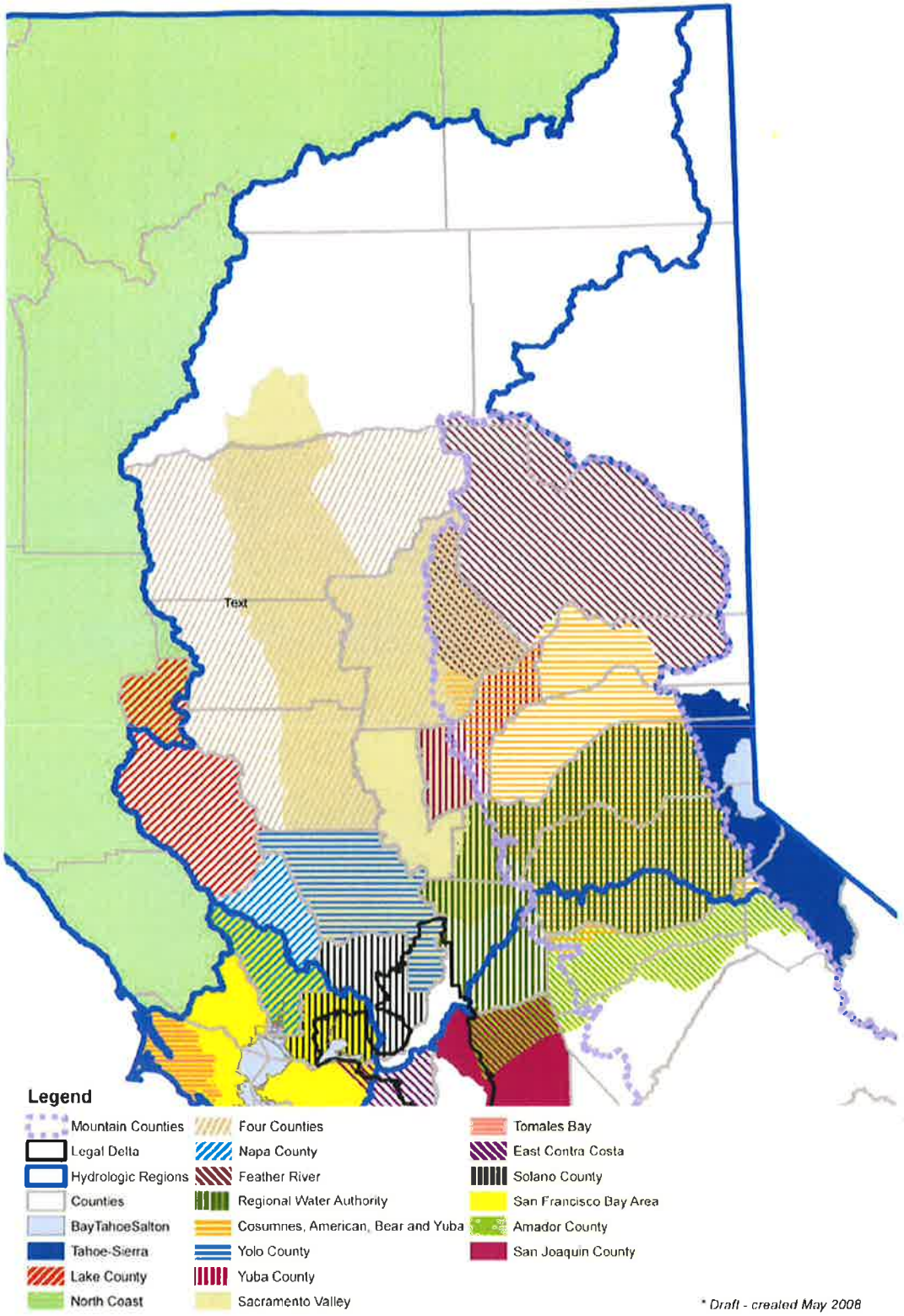
Both the City of Williams and Arbuckle Public Utility District deliver water to over 500 connections.

Fish Passage at Red Bluff Diversion Dam

The Red Bluff Diversion Dam (RBDD) was completed by the US Bureau of Reclamation (USBR), in 1966. This Dam spans the Sacramento River near the community of Red Bluff, and diverts river water into the Tehama-Colusa and Corning Canals, providing about 600,000 acre-feet of water for irrigation and wildlife refuges. During the 1970's and 1980's, area fisheries declined significantly in the upper river, and this was partly attributed to the dam and the canal intake screens. The RBDD was determined to delay the upstream passage of migrating adult salmon and steelhead, and to cause the disorientation of juveniles which were migrating downstream, increasing their predation by the Sacramento pike minnow. The original fish screens also misdirected many juvenile fish into the canals.

In 1986, the USBR modified the dam to improve fish passage for winter-run Chinook salmon. Then in 1991, new drum fish screens and bypasses were installed at the canal head works. Additionally, the gates-up period was extended, in response to ESA requirements for winter-run Chinook salmon and to provide better passage for late-fall Chinook salmon and steelhead trout. The current schedule is to raise the gates for eight consecutive months, from September 15 to May 15 each year, to allow unimpeded fish passage for most of the year. However, it is reported that more than 70-percent of the recently listed spring-run Chinook salmon adults are still impeded during the four months gates-in period.

Areas of known integrated water management planning efforts in Sacramento River Hydrologic Region



California Water Plan Update 2009 (draft)

Glenn-Colusa ID CVP water usage 825.0 taf

The CALFED Surface Storage in California project is a joint federal-State project to look at the long-term surface storage in the State. The five potential surface reservoirs being investigated are as follows:

Shasta Lake Water Resources Investigation (SLWRI)
North-of-the-Delta Offstream Storage (NODOS)
In-Delta Storage Project (IDSP)
Los Vaqueros Reservoir Expansion (LVE)
Upper San Joaquin River Basin Storage Investigation (USJRBSI)

Of these, the NODOS is the project most relevant to the present and future needs of the Cortina Rancheria, although other projects have the potential to indirectly influence water management by the Rancheria. The increase in storage at the Sites Reservoir would have a capacity of 1,800 TAF and an annual yield of 622 TAF.

Task 3 Potential NODOS Future Water Uses

The present adequacy of the groundwater supply on the Rancheria is inadequate to support long term future growth. In particular, even the existing population cannot be supported from the present water supply due to the extensive needs for processing and treatment to create sufficient water for the small present population. Present threats to the groundwater supply include:

Abandoned gold mine- At least one abandoned gold mine is located approximately one mile upgradient from the western boundary of the Rancheria. This site has the potential to adversely affect surface waters of the Strode canyon watershed depending upon the site-specific historical mining practices that were performed at the site, heavy metals contamination and/or cyanide leach fields may be present.

Septic Systems- Septic tanks and drain field systems serving the community building and individual homes, and an unused historic outhouse are potential sources of surface and groundwater contamination. Rancheria soils may not be conducive to standard on-site septic treatment systems, and existing systems could result in nutrient loading and pathogenic degradation of surface and groundwater.

Asbestos Monofill- A small asbestos monofill and sediment basin are located in the southeastern portion of the Rancheria. This site has the potential to adversely affect surface and groundwater resources on the rancheria, although the primary threat posed by asbestos is via airborne pathways.

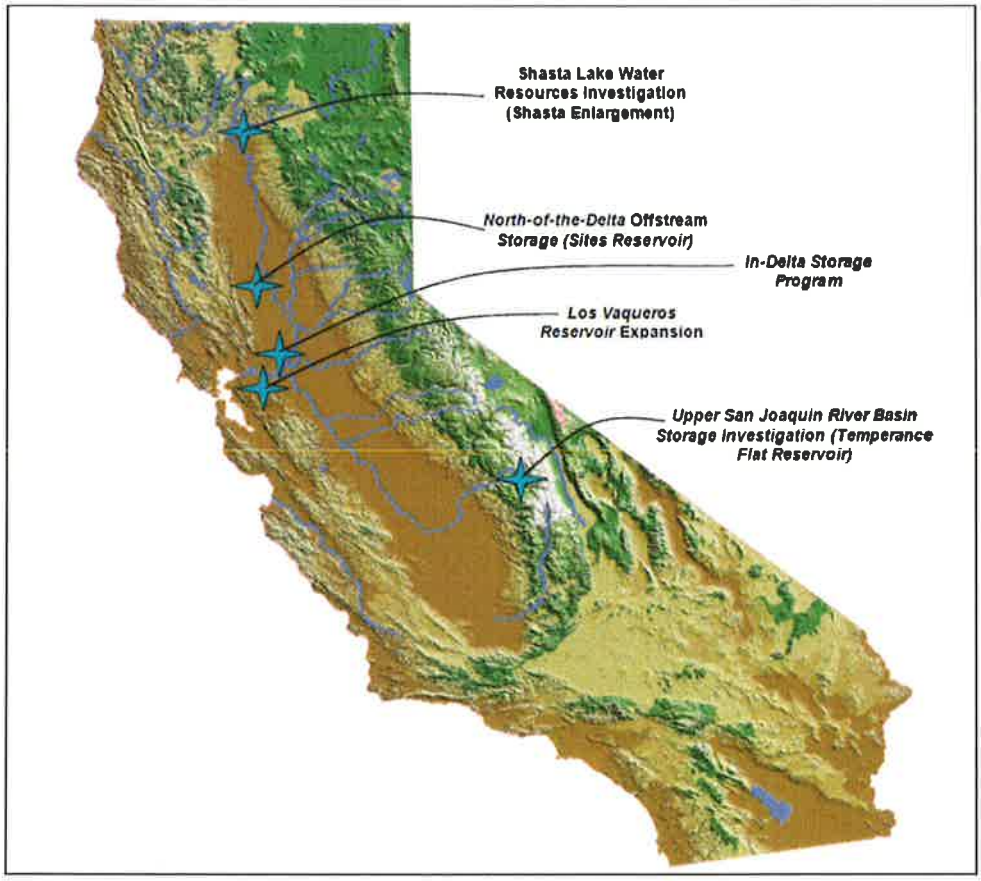
Livestock Grazing- Livestock grazing has the potential to adversely impact surface and groundwater quality in a number of ways. Livestock trample streambeds and riparian areas resulting in decreased stream bank stability and increased turbidity. Large-scale removal of stream bank vegetation may increase direct sunlight and result in a corresponding increase in surface water temperature. Defecation of livestock in and adjacent to streams may increase nutrient loading of surface water and introduce pathogenic microbial organisms.

Anthropogenic Erosion- Fuel breaks, fire break cuts, road construction and residential house clearing and grading may result in substantial erosion are particularly high in Strode Canyon, and on the step slopes of the Rancheria. Elevated erosion rates may increase totals suspended solids concentrations and sedimentation in the surface waters and drainages on the Rancheria.

The expansion of the storage, particularly at the Sike's Reservoir, has the potential to increase the availability of water to supply the needs of the Cortina Rancheria for future agriculture, housing or other business developments.

The creation of a stable water flow in the region, if done properly, has the potential to enhance the availability of traditional food, medicines and craft materials in the wetlands and riparian areas. Cortina would like to work with the biological specialists to ensure that habitat impacts are positive.

Task 4 Potential NODOS Impacts to Tribal Trust Assets
Need project decided.



The Proposed Sikes Reservoir is in the traditional territory of the Wintun people. The Shasta Reservoir is in the territory of the closely related Wintu. Both locations have the potential to impact cultural resources and consultation is critical to minimize impacts. Based in initial reports from the Shasta Wintu it appears that there are unmitigable significant impacts from the Shasta expansion. The Sike's site was minimally surveyed in 1967 and more recently as part of the NODOS project. Of 41 sites, 17 appear significant. For such a major undertaking as is proposed, the Cortina Band requests that additional excavations, borings and soil sampling occur to ensure that significant cultural resources are not being overlooked.

The California Department of Water Resources has two proposed modifications for conveyance to the Sike's Reservoir. These are the Tehama-Colusa Canal and the Glenn-Colusa Canal. Some of the alternatives involve the construction of new portions of canal to handle the increase in supply to Sike's Reservoir. Any new construction should involve direct consultation to ensure that cultural resource issues are addressed. These same considerations should be included in the Stony Creek alternative.

Task 5 Tribal Recommendations and Conclusions

The Cortina Band currently has a limited land base. Efforts are underway to expand the territory and allow for future economic and housing development. To facilitate this present and future need, the Band's needs should be included in the long-term planning for the regional water conveyance systems. In addition, the build out of water storage reservoirs and expansion of the conveyance systems has the potential to impact cultural resources of the Wintun people. Based on these issues, the following recommendations are made to the NODOS process:

1. The Cortina Band wishes to be consulted at all phases of planning and build out to ensure that impact to cultural resources are mitigated or avoided. When impacts are unavoidable, the Cortina Band wishes to be involved in determining the best course of action. In particular, the Site's Reservoir has a need for site testing, borings, and soil column sampling to ensure that cultural resources are not adversely impacted.
2. An acknowledgement should be made to the fact that water rights issues, while not a part of this project, are still an open issue for the Cortina Band and access to the distribution may ultimately be essential to accepting receipt of the Band's rightful apportionment.
3. The report should acknowledge the need to ensure access to the conveyance system for the long term water needs of the Band, even aside from the water rights conveyance needs.
4. There is the potential for the project to increase the availability of crafts materials, medicines and foods from riparian and wetland areas. Cortina would like to be consulted on the biological mitigations and enhancements to ensure the tribal perspective is considered in these processes.

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