

Environmental Report for NEPA Compliance
for
City of Tulelake Drought Relief and
Water Supply Project

Tulelake, CA

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Prepared for: City of Tulelake



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1.0 PURPOSE AND NEED

1.1 Description of the Proposed Action

The City of Tullake is seeking financial assistance from the EPA's Drinking Water State Revolving Fund (DWSRF) for the rehabilitation of two existing wells, replacement of 500 feet of aged cast iron leaky water main, replacement of five service connections, reconnection of two existing fire hydrants, installation of an emergency potable water re-filling station with a drinking fountain, and emergency use water bottle provisions in Tullake (Siskiyou), California. The project drought relief project components are located at two locations within the city of Tullake, California. The project areas are comprised of portions of two tax lots (APNs 050-142-130 and 050-051-010) – an undeveloped portion of the Water Pumping Facility public works yard and the subterrain of an alleyway. The waterline replacements are located in Sixth Alley between E Street and F Street. The well rehabilitations are located between B Street and C Street in an undeveloped lot and a portion of the Water Pumping Facility public works yard. The total area of impact is approximately 2.27 acres. See Appendix A for site maps.

1.2 Purpose and Need for Proposed Action

The EPA's Drinking Water State Revolving Fund (DWSRF) finances infrastructure improvements to mitigate drinking water risks and supports the human right to water.

This project is consistent with the program objectives of DWSRF. The purpose and need of the project are to address deficiencies present in water distribution system components. This project includes the planning and design to replace backflow preventers, new water storage tank and master water meters to four outside water districts, and replacement of 1,000 feet of asbestos cement pipe within the distribution system in the Tullake, California area.

2.0 ALTERNATIVES EVALUATED INCLUDING THE PROPOSED ACTION

2.1 Proposed Action

The proposed action as described above meets the purpose and need and the program objectives for USDA, Rural Development.

2.2 Other Alternatives Evaluated

Other sites were not considered for this project due to deficiencies regarding the need for water distribution system component updates to be completed specifically in the City of Tullake, California.

2.3 No Action Alternative

The viable alternative to the proposed action is no action. The No Action Alternative is defined as not implementing the proposed action including no use of USDA financial assistance and maintaining the site condition in its current state.

This does not meet the purpose and need of addressing deficiencies present in the water

distribution system components in the Siskiyou County area. The No Action Alternative does not meet the mission of the DWSRF.

3.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

3.1 Land Use/Important Farmland/Formally Classified Lands

3.1.1 Affected Environment

The project area for the Tullake Waterline Replacement project is located in a rural area in Tullake (Siskiyou County), California (Appendix A). The study area includes approximately 2.27 acres.

The project area located in APN #050-051-010 is located under zoning code R-1: Single-Family Dwelling. The project area located in APN #050-142-130 are located on public roadway easements, which are under no specific zoning code (see Appendix B).

The Custom Soil Report from the Natural Resources Conservation Service (NRCS) for the Project Area location can be found in Appendix B. The soil report indicates:

Soil Type	Farmland Rating
185 – Tulebasin mucky silty clay loam	Prime farmland if irrigated and drained

The project area is not in a formally classified land, including National Parks and Monuments; National Forests and Grasslands; National Historic Landmarks; National Battlefield and Military Parks; National Historic Sites and Historical Parks; National Natural Landmarks; National Wildlife Refuges; National seashores, lakeshores and trails; Wilderness Areas; Wild, Scenic and Recreational Rivers; State Parks; State fish and wildlife management areas; Bureau of Land Management administered lands; Native American owned lands and leases administered by the Bureau of Indian Affairs. Documentation is included in Appendix B (Topography map showing private ownership; Natural Landmark map; and Wild, Scenic and Recreational Rivers map) and Appendix G (IPaC List indicating no wildlife refuges).

3.1.2 Environmental Consequences

The project areas contain prime farmland if drained and irrigated. However, these sites are already developed and are not intended to be utilized for agricultural purposes nor have they historically been utilized for agricultural purposes.

The project area located in the Water Pumping Facility public works yard (APN 050-051-010) is in private ownership, and not in an area of Formally Classified Lands. The remaining seven sites are located on public roadway easements, and not in an area of Formally Classified Lands. Therefore, there will be no impact to Formally Classified Lands.

3.1.3 Mitigation

There is no mitigation necessary for Land Use, Important Farmland, and Formally Classified Lands.

3.2 Floodplains

3.2.1 Affected Environment

The project area for the proposed drought relief project is located in an area of minimal flood hazard, according to the Federal Emergency Management Agency's (FEMA) National Flood Hazard Layer (NFHL) Viewer. The Firmette is located in Appendix C.

3.2.2 Environmental Consequences

As the project area is within an area of minimal flood hazard, there will be no impacts on floodplains from project implementation.

3.2.3 Mitigation

There is no mitigation necessary for Floodplains.

3.3 Wetlands

3.3.1 Affected Environment

The National Wetland Inventory (NWI) map does not indicate the presence of a wetland within the project area (see Appendix D).

The hydric rating of the site soils are as follows:

Soil Type	Hydric Rating
185 – Tulebasin mucky silty clay loam	Hydric

3.3.2 Environmental Consequences

The project area does not overlap with a wetland area; therefore, wetlands will not be impacted by the project.

3.3.3 Mitigation

There is no mitigation necessary for wetland resources.

3.4 Water Resources

3.4.1 Affected Environment

This project will not generate wastewater.

The proposed project sites are not within a critical aquifer in California. The Aquifer map is located in Appendix E.

3.4.2 Environmental Consequences

Water resources will not be impacted due to this project, as the drought relief project development will not generate wastewater or use surface or groundwater.

The project is not within a sole source or critical aquifer; therefore, will be no impact to critical aquifers and the critical overdraft area.

This project will not negatively impact water resources.

3.4.3 Mitigation

There is no mitigation necessary for water resources.

3.5 Coastal Resources

3.5.1 Affected Environment

The project area is located in Tullake, California. According to the Office of Coastal for Coastal Management, National Oceanic and Atmospheric Administration's website, California is on the lists of management states. California coastal zone extends approximately 1,000 yards extends 1,000 yards inland from the mean high tide line. In significant coastal estuarine habitat and recreational areas, it extends inland to the first major ridgeline, or 5 miles from the mean hightide line, whichever is less. As Tullake is further than five miles from the coast, Tullake is outside of this management area. See Appendix F for list of management states.

3.5.2 Environmental Consequences

As the project area is not located in a Coastal Zone Management Area or Coastal Barrier Resources System, project implementation will not impact coastal management areas.

3.5.3 Mitigation

There is no mitigation necessary for coastal resources.

3.6 Biological Resources

3.6.1 Affected Environment

General Fish, Wildlife, and Vegetation Issues

No fish are located within the project area, as there are no streams or wetlands within the project area. Local wildlife includes reptiles (snakes and lizards), mammals (mice, squirrels, rabbits, gophers and coyotes), and birds. Due to the high level of agricultural disturbance and management within the project area, the local wildlife is not anticipated in the project area other than to pass through the project area.

The project site does not exhibit natural vegetation due to development disturbance practices.

The project area is located in a state Important Bird Area (databasin.org), however, this area is developed and does not provide suitable habitat or forage for bird species.

Golden Eagles are known to be in the project area during the nonbreeding (scarce) season and Bald Eagles are known to be in the project area during non-breeding season (scarce), based on the bald eagle range map and golden eagle range map from Birds of the World, maintained by the Cornell Lab of Ornithology (Appendix G).

CNDDDB Special Status Plant Species

There are six sensitive status plant species that are known in the general project area based on CNDDDB results. These plant species have the potential to occur in the general area of the project. Of the six species, the species have different designations including Federally endangered; state endangered, threatened, and candidate threatened; and CNPS sensitive (List 1 or 2). Lists 1 and 2 are category designations for plants presumed extinct in California; plants rare and endangered in California and elsewhere; and plants rare and endangered in California, but more common elsewhere. The CNDDDB search identified sensitive species which are known to potentially occur in the USGS 9-quadrangle map area around the project area for the Tulelake drought relief project.

Sensitive Plant Designations

Designation Category	Number of Species in 9 Quad Area
Federally Endangered/State Endangered	0
Federally Threatened/State Endangered	0
Federally Endangered/State Threatened	0
Federally Endangered	0
State Candidate Threatened	0
State Endangered	0

CNPS Sensitive Species (List 1 and 2)	6
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Species Habitat Requirements; Species and Habitat Presence

Scientific	Common	Status	General Habitat	Habitat Present in Action Area	Species Present in Action Area
Plants					
<i>Syntrichia lithophila</i>	Dusens twisted moss	State Rare Plant Rank 2B.3	Exposed soil or rock in arid and semi-arid regions.	No, preferred habitat is not present	No
<i>Allium punctum</i>	Dotted onion	State Rare Plant Rank 2B.2	Rocky, gravelly, sandy soils on washes and flats with pinyon and juniper woodland communities.	No, preferred habitat is not present	No
<i>Rorippa columbiae</i>	Columbia yellow cress	State Rare Plant Rank 1B.2	Moist to wet, sandy areas such as dry lakes.	No, preferred habitat is not present	No
<i>Carex atherodes</i>	Wheat sedge	State Rare Plant Rank 2B.2	Wet, open areas in calcareous or neutral substrates such as marshes, shores, streambanks, swales.	No, preferred habitat is not present	No
<i>Phlox musicoides</i>	Squarestem phlox	State Rare Plant Rank 2B.3	Alpine fellfields.	No, preferred habitat is not present	No
<i>Potentilla newberryi</i>	Newberrys cinquefoil	State Rare Plant Rank 2B.3	Drying areas of moist habitats (vernal pools, puddles) amongst sagebrush and juniper woodland communities.	No, preferred habitat is not present	No

Based on the habitat requirements for specific species and the field visits, it was determined that the project area does not provide suitable habitat for six sensitive status plant species known to occur in the general vicinity of the project area.

CNDDDB Special Status Wildlife Species

There are 24 sensitive status wildlife species that are known in the general area of the project according to the CNDDDB results. These wildlife species have the potential to occur in the project area. Of the 24 sensitive species, the species have different designations including Federally endangered and threatened; state endangered, threatened, and candidate threatened; and California Department of Fish and Wildlife (CDFW) sensitive. CDFW sensitive category designations for wildlife include Species of Special Concern (SSC), California Fully Protected (FP) and Watch List (WL). The CNDDDB search identified sensitive species which are known to potentially occur in the USGS 9-quadrangle map area around the project area for the Tulelake drought relief project. Table 3 lists the number of species in each designation category.

Sensitive Wildlife Designations

Designation Category	Number of Species in 9 Quad Area
Federally Endangered/State Endangered	3
Federally Threatened/State Endangered	0
Federally Threatened/State Threatened	0
Federally Endangered/State Candidate Endangered	0
Federally Delisted/State Endangered	0
Federally Threatened	1
Federally Endangered	3
State Threatened	4
State Endangered	3
State Candidate Endangered	2
CDFW Sensitive Species (SSC/FP/WL)	24

Sensitive Wildlife Species by Animal Type

Animal Type	Number of Species in 9 Quad Area
Birds	16
Fish	3
Insects	1
Mammals	4

Species Habitat Requirements; Species and Habitat Presence

<i>Scientific</i>	<i>Common</i>	<i>Status</i>	<i>General Habitat</i>	<i>Habitat Present in Action Area</i>	<i>Species Present in Action Area</i>
<i>Aquila chrysaetos</i>	Golden eagle	CDFW Fully Protected / Watch List	Tundra, through grasslands, intermittent forested habitat and woodland-brushlands, and south to arid deserts and canyonlands. Typically found in open country in the vicinity of hills, cliffs, and bluffs. Known to be sensitive to human activity and are known to avoid developed areas.	No, preferred habitat is not present	No
<i>Buteo swainsoni</i>	Swainson's hawk	State Threatened	Dry grasslands and farmlands. Nests peripheral to riparian areas or tall trees near suitable foraging areas.	No, preferred habitat is not present	No
<i>Charadrius nivosus nivosus</i>	Western snowy plover	Federally Threatened / CDFW Species of Special Concern	Sandy beaches with sparse vegetation. Breeds along shores, peninsulas, offshore islands, bays, estuaries, and rivers.	No, preferred habitat is not present	No
<i>Falco mexicanus</i>	Prairie falcon	CDFW Watch List	Open mountainous areas, steppe, plains, or prairies – nesting in pothole or well-sheltered	No, preferred habitat is not present	No

<i>Scientific</i>	<i>Common</i>	<i>Status</i>	<i>General Habitat</i>	<i>Habitat Present in Action Area</i>	<i>Species Present in Action Area</i>
			ledge on rocky cliff or steep earth embankments.		
<i>Antigone canadensis tabida</i>	Greater sandhill crane	State Threatened / CDFW Fully Protected	Freshwater wetlands such as marshes, wet grasslands, and river basins.	No, preferred habitat is not present	No
<i>Prgne subis</i>	Purple martin	CDFW Species of Special Concern	Open areas such as grasslands, farms and cropland, over lakes and ponds, especially areas near water.	No, preferred habitat is not present	No
<i>Riparia riparia</i>	Bank swallow	State Threatened	Soft, eroding banks along rivers, streams, and coastal areas. Also, among sandy coastal bluffs or cliffs.	No, preferred habitat is not present	No
<i>Agelaius tricolor</i>	Tricolored blackbird	State Threatened / CDFW Species of Special Concern	Wetlands with open accessible water, protected nesting substrate with thorny or spiny vegetation, and foraging space.	No, preferred habitat is not present	No
<i>Chilodnias niger</i>	Black tern	CDFW Species of Special Concern	Large freshwater wetlands, usually 50 acres or larger, in dense marshes on the edges of shallow lakes of the open prairies.	No, preferred habitat is not present	No

<i>Scientific</i>	<i>Common</i>	<i>Status</i>	<i>General Habitat</i>	<i>Habitat Present in Action Area</i>	<i>Species Present in Action Area</i>
<i>Larus californicus</i>	California gull	CDFW Watch List	Seacoasts, bays, estuaries, mudflats, marshes, irrigated fields, lakes, ponds, dumps, cities, and agricultural lands. Nests inland on open sandy or gravelly areas on islands or along shores of lakes and ponds, generally with scattered grasses.	No, preferred habitat is not present	No
<i>Pelecanus erythrorhynchos</i>	American white pelican	CDFW Species of Special Concern	Isolated islands in freshwater lakes. Also, found in shallow water on inland marshes, along lake or river edges, and in wetlands.	No, preferred habitat is not present	No
<i>Centrocercus urophasianus</i>	Greater sage-grouse	State Candidate Endangered / CDFW Species of Special Concern	Sagebrush steppe. Especially on leks, patches of open ground.	No, preferred habitat is not present	No
<i>Tympanuchus phasianellus columbianus</i>	Columbia sharp-tailed grouse	CDFW Species of Special Concern	Sage-steppe and intermontane mixed shrub-grass communities. Breeds on leks in relatively flat, sparsely vegetated knolls, ridge-tops,	No, preferred habitat is not present	No

<i>Scientific</i>	<i>Common</i>	<i>Status</i>	<i>General Habitat</i>	<i>Habitat Present in Action Area</i>	<i>Species Present in Action Area</i>
			recently burnt areas, forest clearcuts, natural openings, and open areas.		
<i>Numenius americanus</i>	Long-billed curlew	CDFW Watch List	Areas with sparse, short grasses, such as shortgrass and mixed-grass prairies and agricultural fields. Winter in wetlands, tidal estuaries, mudflats, flooded fields, and beaches.	No, preferred habitat is not present	No
<i>Asio flammeus</i>	Short-eared owl	CDFW Species of Special Concern	Open areas with low shrublands including prairie, coastal grasslands, shrubsteppe, and marshes.	No, preferred habitat is not present	No
<i>Plegadis chihi</i>	White-faced ibis	CDFW Watch List	Shallow wetlands and wet agricultural fields with low plant cover. Nest in shallow marshes with emergent vegetation including cattail, bur-reed, or bulrush.	No, preferred habitat is not present	No

<i>Scientific</i>	<i>Common</i>	<i>Status</i>	<i>General Habitat</i>	<i>Habitat Present in Action Area</i>	<i>Species Present in Action Area</i>
<i>Chasmistes brevirostris</i>	Shortnose sucker	Federally Endangered / State Endangered / CDFW Fully Protected	Turbid, shallow, alkaline, well-oxygenated, cool lake with shoreline vegetation.	No, preferred habitat is not present	No
<i>Deltistes luxatus</i>	Lost River sucker	Federally Endangered / State Endangered / CDFW Fully Protected	Deep lakes and pools with fast currents. Forages on shoreline with vegetation. Spawns in streams with gravel and cobble substrates.	No, preferred habitat is not present	No
<i>Gila coerulea</i>	Blue chub	CDFW Species of Special Concern	Warm, low-velocity waters with mixed substrates including lakes, small streams, shallow reservoirs. Common in small, shallow, weedy reservoirs of larger perennial streams.	No, preferred habitat is not present	No
<i>Bombus crotchii</i>	Crotch's bumble bee	State Candidate Endangered	Arid grasslands and shrublands with foraging vegetation including milkweeds, dusty maidens, lupines, medics, phacelias, sages, and wild buckwheat.	No, preferred habitat is not present	No
<i>Taxidea taxus</i>	American badger	CDFW Species of Special Concern	Open areas and may also frequent brushlands with little groundcover in western United States and southern British Columbia.	No, preferred habitat is not present	No

<i>Scientific</i>	<i>Common</i>	<i>Status</i>	<i>General Habitat</i>	<i>Habitat Present in Action Area</i>	<i>Species Present in Action Area</i>
<i>Ovis canadensis nelsoni</i>	Desert bighorn sheep	CDFW Fully Protected	Rocky slopes and cliffs, canyons, washes and alluvial fans from Oregon to the deserts of the southwestern United States and to northwestern Mexico.	No, preferred habitat is not present	No
<i>Corynorhinus townsendii</i>	Townsend's big-eared bat	CDFW Species of Special Concern	Limestone caves, lava tubes, and human-made structures in coastal lowlands, cultivated valleys, and hills covered with mixed vegetation across the mid and western US into western Canada.	No, preferred habitat is not present	No
<i>Canis lupus</i>	Gray wolf	Federally Endangered / State Endangered	Occurs in areas with few roads, which increase human access and incompatible land uses but occupy semi-wild lands if ungulate prey is abundant and if not killed by humans.	No, preferred habitat is not present	No

Based on the habitat requirements for specific species and the field visits, it was determined that the project area does not provide suitable habitat for 24 sensitive status wildlife species known to occur in the general vicinity of the project area.

ESA-Listed Threatened and Endangered Species

On September 4, 2024, an IPaC report (see Appendix) was obtained from USFWS. The project code is 2024-0139223 (Project name: Tullake Drought Relief). This list is provided pursuant to Section 7 of the Endangered Species Act and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action."

There are no designated critical habitats for fish, plants, or wildlife in the proposed project sites (see USFWS IPaC report in Appendix G).

The IPaC report for the Project site indicates the need for consideration of eight species. These species include Gray Wolf (*Canis lupus*), North American Wolverine (*Gulo gulo luscus*), Yellow-billed Cuckoo (*Coccyzus americanus*), Lost River Sucker (*Deltistes luxatus*), Shortnose Sucker (*Chasmistes brevirostris*), Monarch Butterfly (*Danaus plexippus*), Greene's Tuctoria (*Tuctoria greenei*), and the Slender Orcutt Grass (*Orcuttia tenuis*).

Habitat requirements for the species are found in the website links listed in the IPaC report and are summarized in the table. The table also indicates whether or not the habitat needs of the species are present at the project site.

IPaC list of federally listed species with the potential to be affected by the project

Scientific	Common	Federal Status	General Habitat*	Habitat Present within Action Area (Yes/No)	Species Present in Action Area (Yes/No)
Mammals					
<i>Canis lupus</i>	Gray wolf	Endangered	Areas with few roads and little to no human disturbance in northern Mexico, a few areas in the Rocky Mountains, northwestern Great Lakes region, and Cascade Mountains of northern Washington.	No, preferred habitat is not present	No
<i>Gulo gulo luscus</i>	North American wolverine	Threatened	Alpine and arctic tundra, boreal and coniferous mountain forests in the Holarctic, northern Europe, northern Asia, and northern North America.	No, preferred habitat is not present	No
Birds					
<i>Coccyzus americanus</i>	Yellow-billed cuckoo	Threatened	Breeding in deciduous riparian woodland, especially including dense stands of cottonwood and willow. Nests in dense riparian understory foliage.	No, preferred habitat is not present	No
Fishes					
<i>Deltistes luxatus</i>	Lost River sucker	Endangered	Deep lakes and pools with fast currents. Forages on shoreline with vegetation.	No, preferred	No

Scientific	Common	Federal Status	General Habitat*	Habitat Present within Action Area (Yes/No)	Species Present in Action Area (Yes/No)
			Spawns in streams with gravel and cobble substrates.	habitat is not present	
<i>Chasmistes brevirostris</i>	Shortnose sucker	Endangered	Turbid, shallow, alkaline, well-oxygenated, cool lake with shoreline vegetation.	No, preferred habitat is not present	No
Insects					
<i>Danaus plexippus</i>	Monarch butterfly	Candidate	Open areas with milkweed and flowering plants	No, preferred habitat is not present	No
Flowering Plants					
<i>Tuctoria greenei</i>	Greene's Tuctoria	Endangered	Edges of deeper vernal pools.	No, preferred habitat is not present	No
<i>Orcuttia tenuis</i>	Slender Orcutt Grass	Threatened	Vernal pools on Northern Volcanic Ashflows and Northern Volcanic Mudflows soils and grassland, oak woodland, and confer forest habitats.	No, preferred habitat is not present	No
*Information on General Habitat comes from website links provided in the IPaC Resource List (USFWS 2021) attached at the end of this report.					

Based on the information present in the table above, there will be no impact to special status wildlife or critical habitats from the proposed action.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act protects all of the bird's native to North American except upland game birds within the project area. Some of these birds are assumed to be present during migration and nesting seasons within the project area.

Invasive Species

Invasive plant species are currently not known to occur in the project area.

3.6.2 Environmental Consequences

General Fish, Wildlife, and Vegetation Issues

No trees are present in the project area and so no trees will be removed as a result of project implementation.

Migratory Bird Treaty Act

Suitable nesting habitat for migratory birds is not present within the project area, due to the existing disturbance and development. The project area does exhibit vegetation.

Invasive Species

Invasive plant species often are introduced during the construction phase and then establish in the disturbed soils. To avoid introduction and establishment of invasive plant species, construction equipment should be cleaned and free of invasive plant seeds and material prior to entering the construction area.

3.6.3 Mitigation

Invasive Species Conservation Measure 1: To avoid introduction and establishment of invasive plant species, construction equipment will be cleaned and free of invasive plant seeds and material prior to entering the construction area.

3.7 Historic and Cultural Properties

3.7.1 Affected Environment

An initial record check of the California Office of Historic Preservation listed California Historical Resources was conducted on July 3, 2024 and found no properties listed on or within a 1-mile radius of the proposed project. CEQA Guidelines Section 15064.5(3) states, ‘Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be an historical resource, provided the lead agency’s determination is supported by substantial evidence in light of the whole record. Generally, a resource shall be considered by the lead agency to be “historically significant” if the resource meets the criteria for listing on the California Register of Historical Resources...’ No historic properties, buildings, structures, objects, etc. have been identified, noted, or recorded on or around the project area.

The City of Tulelake is in the ancestral territory of the Shasta, Karuk, Klamath and Modoc peoples. Tribal consultation letters describing the project proposal and project location were sent to the Karuk Tribe, Klamath Tribes, Quartz Valley Indian Community, Elk Valley Rancheria, Confederated Tribes of the Grand Ronde Community or Oregon, Confederated Tribes of the Siletz Indians of Oregon, and the Pit River Tribe on March 5, 2024.

Rabe Consulting contracted Pinnacle Archaeology to conduct a Cultural Resource Survey for the City of Tullake. On March 19, 2024, Pinnacle Archaeology released a finding of no cultural material or features identified during the pedestrian survey. Through a records search of the Northeast Archaeological Information Center (Records Search No. NE24-93) and a pedestrian survey, Pinnacle Archaeology determined the proposed project to have a finding of no effect.

Tribal Consultation is found in Appendix H.

3.7.2 Environmental Consequences

As there are no known cultural resources within the project area, there are no impacts to cultural resources from project implementation.

3.7.3 Mitigation

There is no mitigation necessary for historic or cultural properties; however, the following conservation measure will be implemented:

- Any excavation by the Contractor that uncovers a historical or archaeological artifact or human remains shall be immediately reported to the landowner and a representative of USDA RDA. Construction shall be temporarily halted pending the notification process and further directions issued by USDA RDA after consultation with the CalSHPO and appropriate Tribes.

3.8 Aesthetics

3.8.1 Affected Environment

The subject properties are dispersed throughout alleys, streets, and a yard located within the city limits of Tullake, California in Siskiyou County. The City of Tullake is situated in a relatively flat area at an elevation of 4,045 feet. The city is located in what once was the center lakebed of Tule Lake, which stretched west to Sheepy Peak Ridge, to 13 miles east. This lake was relatively shallow and comprised over 100,000 acres before it was drained and approximately 60,000 acres converted into farmland and the current city. Scenic resources within the viewshed of the project areas range from primarily residential or commercial uses to open agricultural landscapes.

The waterline replacements are located in Sixth Alley between E Street and F Street.

The well rehabilitations are located between B Street and C Street in an undeveloped lot and a portion of the Water Pumping Facility public works yard.

The project area is not located along a Scenic Byway or in a scenic corridor.

3.8.2 Environmental Consequences

The facility components would be no taller than the adjacent structures or are installed underground. The city of Tullake has not designated any scenic vistas in the vicinity of the project area. Therefore, the proposed project would not have a substantial adverse effect on scenic vistas. The proposed project would not substantially damage scenic resources, including trees and is not located near any rock outcroppings or historic buildings. Development of the

proposed project would result in minimal changes to project sites as most components will be installed underground. The water tank installation is above ground replacing an existing water tank, so there will be no visual change to the landscape. The project would not result in a significant visual change, as most of its components would be replaced within the existing footprint and be limited to subterranean improvements and upgrades. The proposed project would upgrade the water system and does not include the construction of new lighting sources. Therefore, the project will have negligible impacts on the visual aesthetics of the area.

3.8.3 Mitigation

There is no mitigation necessary for the aesthetics resource.

3.9 Air Quality

3.9.1 Affected Environment

Appendix I has the EPA listing for air quality non-attainment areas and Maintenance areas. Currently, the Siskiyou County is in attainment/unclassified for ozone and particulate matter (PM10 and PM2.5) as of June 30, 2024 (EPA 2024).

3.9.2 Environmental Consequences

Based on project-related emission estimates, the proposed project would not result in substantial impacts to the levels of any criteria pollutants either during operation or construction of the proposed project.

Local air quality may be temporarily impacted during construction. To minimize air quality impacts during construction, best management practices will be used as needed to minimize dust. Best management practices will include watering of roads and covering stockpiles.

The proposed action will have no impact on air quality, with the use of best management practices.

Project construction emissions will be similar to the emissions for standard street traffic. These emissions are considered less than the *de minimis* levels and therefore comply with General Conformity to the EPA *de minimis* standards.

3.9.3 Mitigation

Formal mitigation is not required for air quality; however, the following protection measures will be followed:

- Implement Best Management Practices, as needed, to reduce dust during construction, which may include watering of roads and covering stockpiles.

3.10 Socio-Economic Impact Assessment/Environmental Justice

3.10.1 Affected Environment

The proposed project area is approximately 0.2 miles west of the nearest hospital and approximately 0.1 miles north of the nearest school.

There are currently no public recreational opportunities or parks on site. It is currently agricultural use and is not conducive to public hunting, bird watching, or other related activities due to the presence of farming and residential areas. The project area is not conducive to recreation, parks, or open spaces resources due to agricultural activities.

EJ Screen Report (Appendix J) was prepared from the EPA website in September 2024. The report indicates the general project area has low-income population of 56%, versus the state average of 28%. The report indicates the general project area is 43% minority population as opposed to the state percentage of 52%. The project is not located in a minority population above the state average. The project is located in a low-income population above the state average.

3.10.2 Environmental Consequences

There will be no negative impacts to hospitals and schools; recreation, parks, or open spaces; or minority populations from the proposed project. Low-income populations will not be impacted by this project, as the project does not change income opportunities or reduce value of surrounding property.

3.10.3 Mitigation

There is no mitigation necessary for Socio-Economic Impacts and Environmental Justice.

3.11 Noise

3.11.1 Affected Environment

The proposed project encompasses approximately 2.27 acres of commercial and residential space within the city limits of the City of Tullake. The primary contributors to the noise environment in the space include vehicle traffic on Highway 139, railroad traffic, sounds emanating from surrounding neighborhoods, including voices, noises from adjacent businesses, and naturally occurring sounds such as wind and wind-generated rustling. Generally, intermittent short-term noises do not significantly contribute to longer-term noise averages.

3.11.2 Environmental Consequences

As there are residential areas in close proximity to the project, there will be slight impact from construction noise on sensitive sound receptors. To minimize noise impacts during construction, best management practices will be used as needed. Best management practices may include restricting construction to hours during the workday.

Long-term there is no noise emissions from the project, therefore there is no long-term impact on noise above ambient levels.

3.11.3 Mitigation

Formal mitigation is not required for noise; however, the following protection measures will be followed:

- Implementing Best Management Practices, as needed, to reduce noise during construction, which may include restricting construction to hours during the workday.

3.12 Transportation

3.12.1 Affected Environment

The project does not require road repair or construction of a new road.

3.12.2 Environmental Consequences

Short-term there will be an increase in traffic due to construction traffic. Dust abatement will be conducted on native and gravel surface roads through best management practices as needed, including but not limited to watering sediment mats when transitioning to paved from native and gravel surface areas.

There will be no negative impacts to transportation resources.

3.12.3 Mitigation

Formal mitigation is not required for transportation; however, the following protection measures will be followed:

- Implementing Best Management Practices, as needed, to minimize dust during construction, which may include watering sediment mats when transitioning to paved from native and gravel surface areas.

3.13 Human Health and Safety

3.13.1 Affected Environment

Hazardous Material and Solid Waste

Construction debris will be hauled offsite to a permitted landfill. The proposed action will not generate hazardous waste materials, including asbestos-containing building materials and lead-based paint.

3.13.2 Environmental Consequences

Hazardous Material and Solid Waste

There will be no impact from solid waste because materials will be disposed of correctly.

There will be no impact from generation of hazardous materials, as the project will not generate hazardous materials.

3.13.3 Mitigation

As there are no impacts associated with solid waste and hazardous material generation, no mitigation actions are necessary.

3.14 Corridor Analysis

3.14.1 Affected Environment

This project is not considered a linear project as project implementation does not affect parcels adjacent to the subject properties.

3.14.2 Environmental Consequences

Not applicable as this is not a corridor project.

3.14.3 Mitigation

No mitigation is necessary to protect corridor resources.

4.0 Cumulative Effects

The City of Tullake and Rabe Consulting are not aware of additional sites in the general vicinity looking at constructing dairy biodigesters. See Table 3 for Cumulative Effects.

Table 3. Cumulative Effects

Resource	Past Actions	Present Actions	Proposed Actions (Direct and Indirect)	Future Actions	Cumulative Effects
Land Use	Impacts from conversion	Impacts from conversion	No impact	Impacts from conversion	No impact from this project, does not add to cumulative effect.
Floodplains	Impacts from construction in floodplain	Impacts from development in floodplain	No impact	Impacts from development in floodplain	No impact from this project, does not add to cumulative effect
Wetland	Impacts from fill and removal in wetlands	Impacts from fill and removal in wetlands	No impact	Impacts from fill and removal in wetlands	No impact from this project, does not add to cumulative effect
Water Resources	Consumption of water and degradation of water quality	Consumption of water and degradation of water quality	No impact	Consumption of water and degradation of water quality	No impact from this project, does not add to cumulative effect
Coastal Resource	Development in coastal area	Development in coastal area	No impact	Development in coastal area	No impacts on coastal resources from this project, does not add to cumulative effect

Resource	Past Actions	Present Actions	Proposed Actions (Direct and Indirect)	Future Actions	Cumulative Effects
Historic and Cultural Resources	Disturbance of historic and cultural resources	Disturbance of historic and cultural resources	No Impact	Disturbance of historic and cultural resources	No impacts on cultural or historic resources from this project, does not add to cumulative effect
Aesthetics	Changes to viewshed from development	Changes to viewshed from development	No impact	Change to viewshed from development	No impacts due to visual screening, does not add to cumulative effect
Air Quality	Impacts dissipated	Emissions of biogas	No impact	Increase in auto emissions and dust during project construction	No impact from this project, does not add to cumulative effect
Socioeconomic	Projects displace low-income communities	Projects displace low-income communities	Project is in an area of low-income community	Projects displace low-income communities	No impact as project does not displace communities, does not add to cumulative impact
Noise	Increase in noise pollution from increased development	Increase in noise pollution from increased development	Impacts minimized during construction by conservation measures, no long-term impact	Increase in noise pollution from increased development	No impact long-term, does not add to cumulative impact
Transportation	Increase in number of vehicles on roadway from development	Increase in number of vehicles on roadway from development	Small increase in traffic during construction, no long-term impact	Increase in number of vehicles on roadway from development	No long-term impact, does not add to cumulative impact
Human Health and Safety	Increase in hazardous material in	Increase in hazardous material in	No impact	Increase in hazardous material in	No impact, does not add to

Resource	Past Actions	Present Actions	Proposed Actions (Direct and Indirect)	Future Actions	Cumulative Effects
	environment	environment		environment	cumulative impact
Bald and golden eagles	Disturbance of nesting birds	Disturbance of nesting birds	No impact to nesting birds	Disturbance of nesting birds	No impact to nesting birds, does not add to cumulative effect
Northern Long-Eared Bat	Decrease in numbers	Occasional documented bat kills	No impact as no trees will be removed as part of the project	Loss of bats	No impact to bats as project does not remove trees
Fish	Decrease in numbers and species diversity	Project area does not support fish species, no impact	No impact as no streams or rivers are within the project area	Decrease in numbers and species diversity	No impact as there are no water bodies within the project area

5.0 Summary of Mitigation

No formal mitigations actions are associated with this project. The following conservation measures will be implemented:

- Invasive Species Conservation Measure 1: To avoid introduction and establishment of invasive plant species, construction equipment will be cleaned and free of invasive plant seeds and material prior to entering the construction area.
- Any excavation by the Contractor that uncovers a historical or archaeological artifact or human remains shall be immediately reported to the landowner and a representative of USDA RDA. Construction shall be temporarily halted pending the notification process and further directions issued by USDA RDA after consultation with the IHPD and appropriate Tribes.
- Implement Best Management Practices, as needed, to reduce dust during construction, which may include watering sediment mats when transitioning to paved from native and gravel surface areas and watering of roads and covering stockpiles.
- Implementing Best Management Practices, as needed, to reduce noise during construction, which may include restricting construction to hours during the workday.
- Implementing Best Management Practices, as needed, to minimize dust during construction, which may include watering sediment mats when transitioning to paved from native and gravel surface areas.

6.0 Coordination, Consultation, and Correspondence

Section 106 process and Public Notice and Review under 24 CFR Part 58 Executive Order 11990 (E.O. 11990) occurred associated with this project. No other formal consultation, coordination and correspondence occurred associated with this project.

The Coordination, Consultation, and Correspondence associated with the Section 106 process is summarized above in Section 3.7.

The Coordination, Consultation, and Correspondence associated with 24 CFR Part 58 E.O. 11990 process is summarized above in Section 3.3. The Coordination, Consultation, and Correspondence regarding the Clean Water Act Section 404 Permit is summarized above in Section 3.3.

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8.0 List of Preparers

Rabe Consulting prepared this Environmental Report, including:

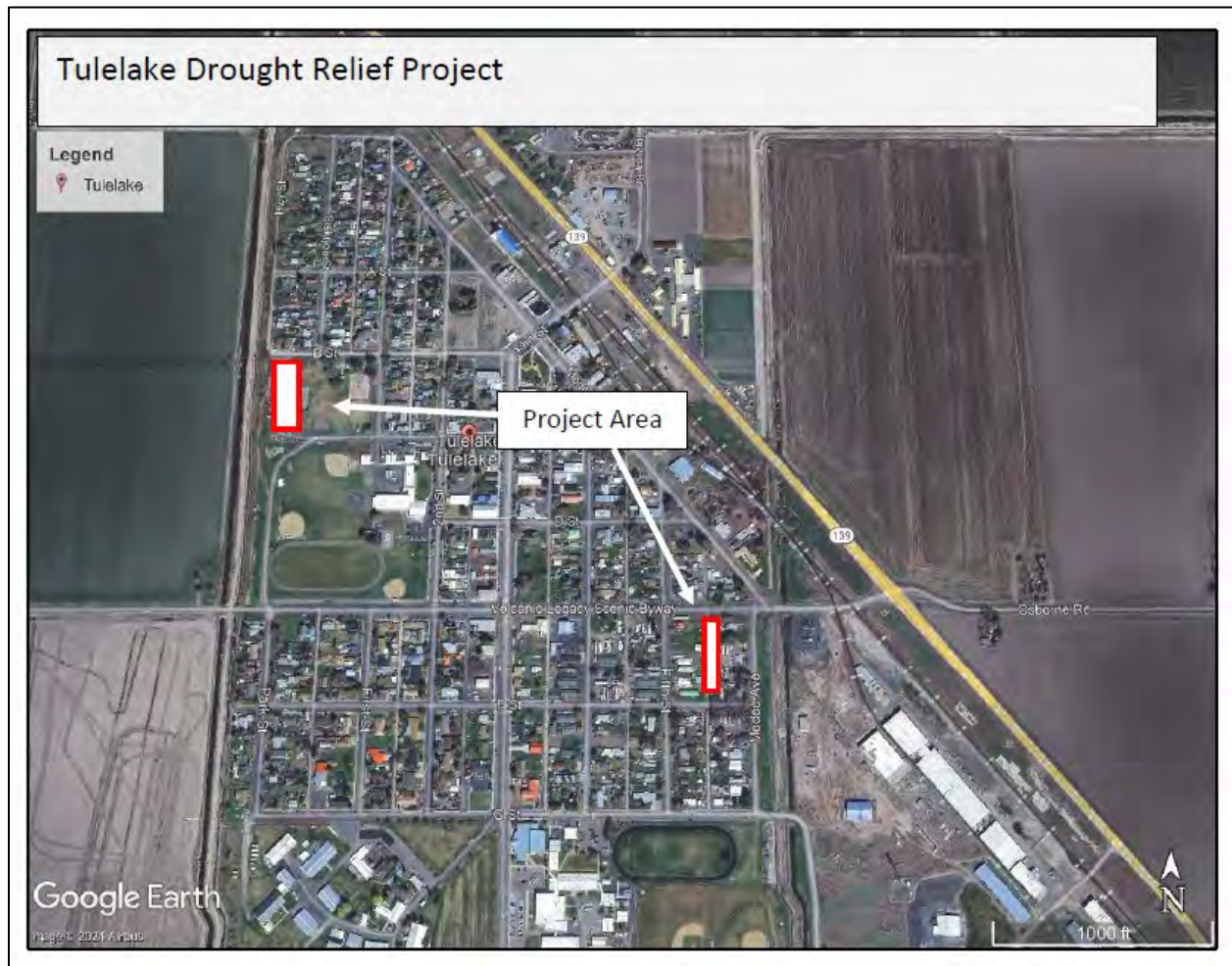
Andréa Rabe, MS, PWS (Senior Environmental Consultant, Professional Wetland Scientist, and Botanist)

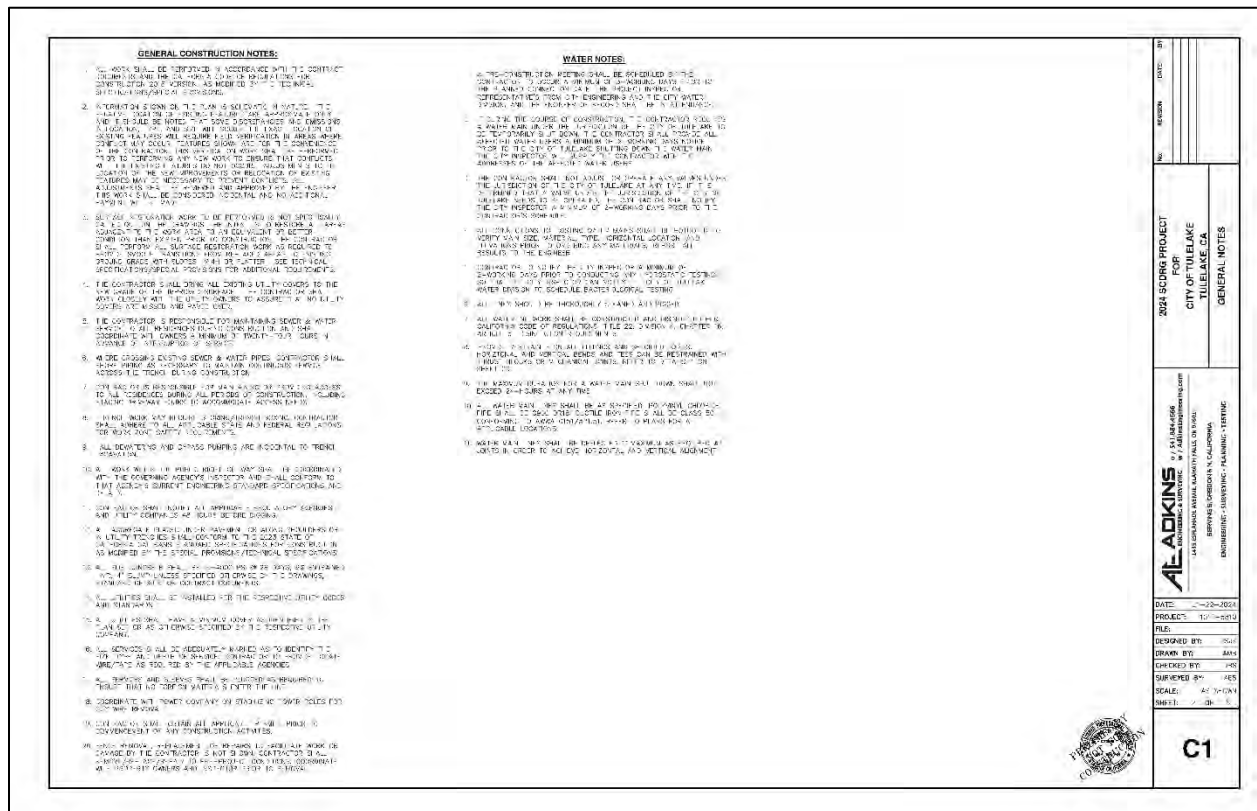
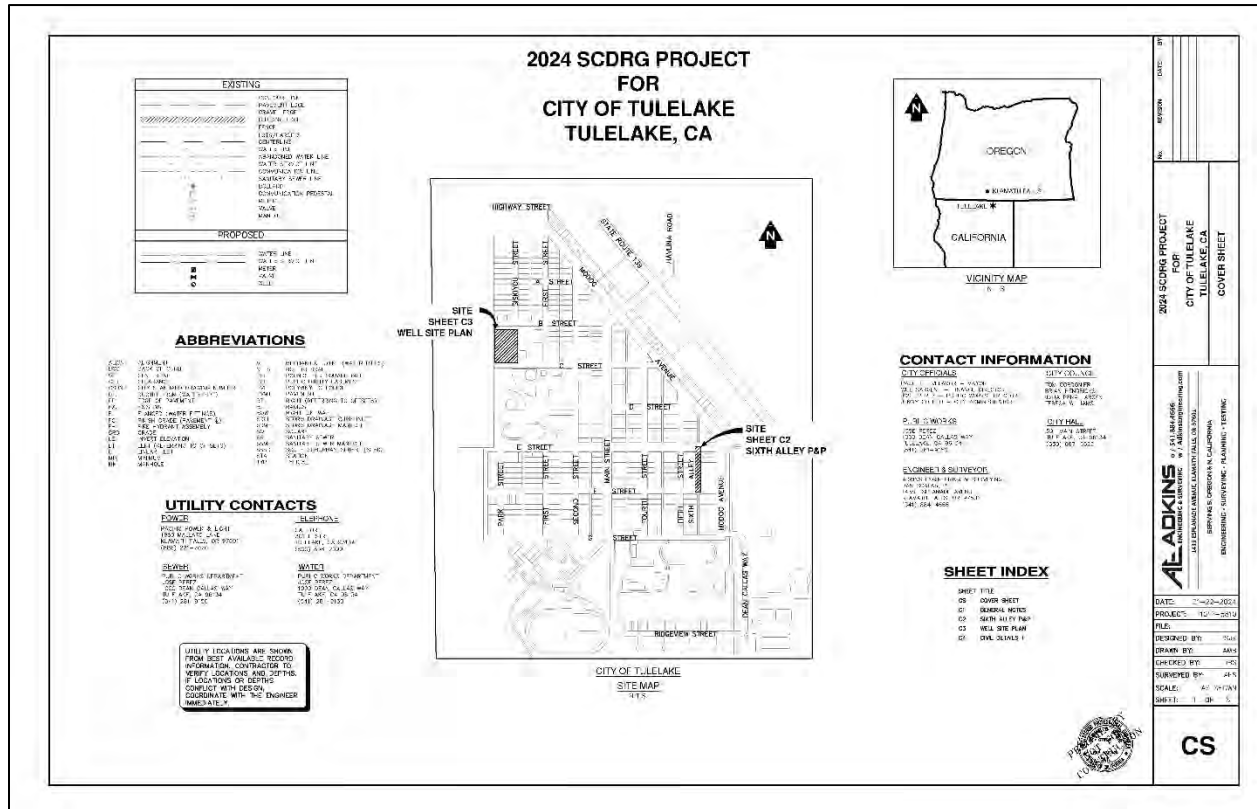
Megan Solus (Senior Environmental Consultant, Certified Wildlife and Fisheries Biologist)

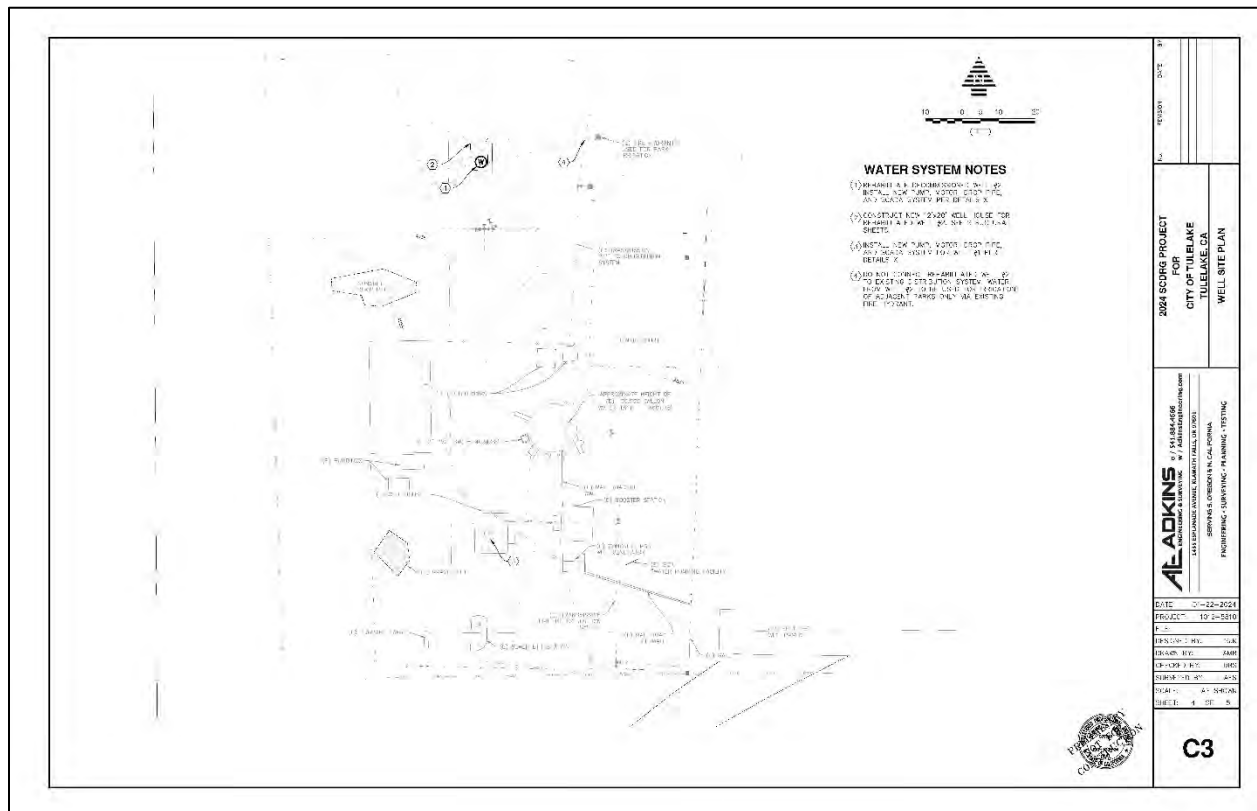
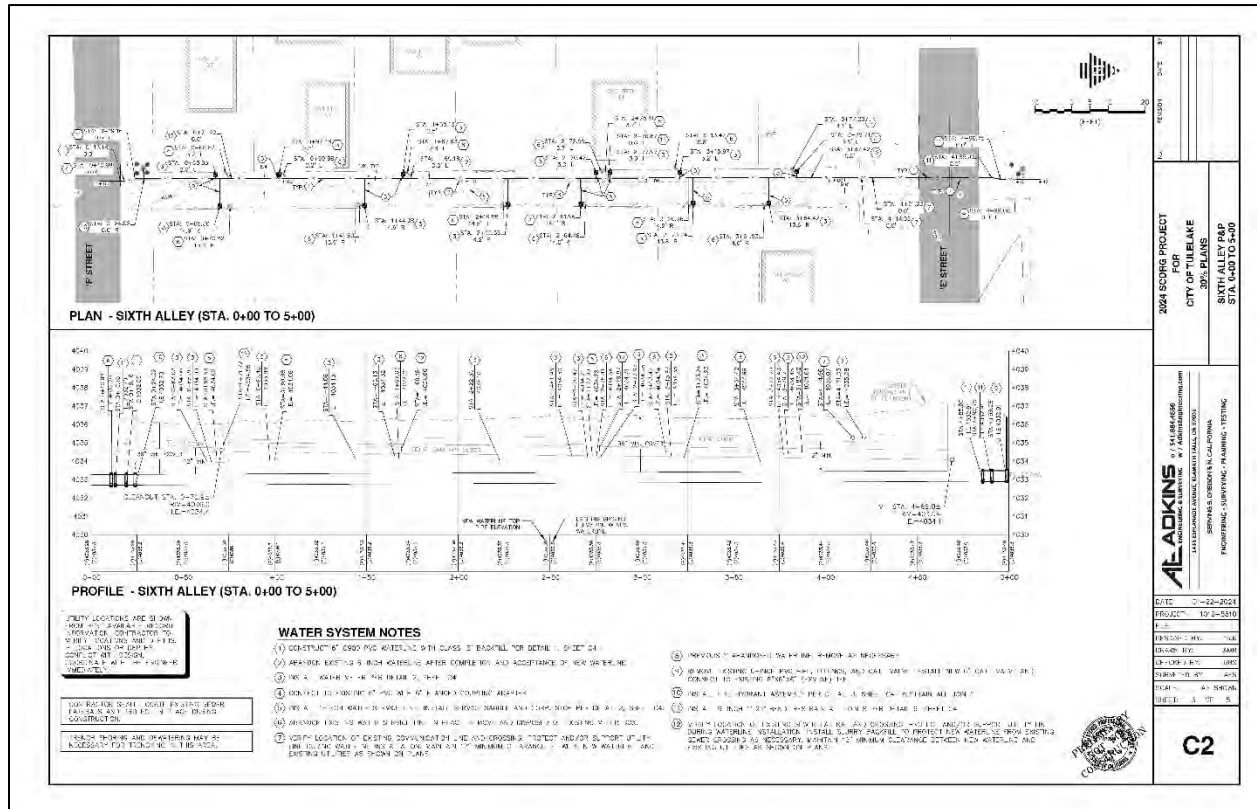
Jessica Fragoso (NEPA Writer, Environmental Consultant)

Mattie Smith (Environmental Technician)

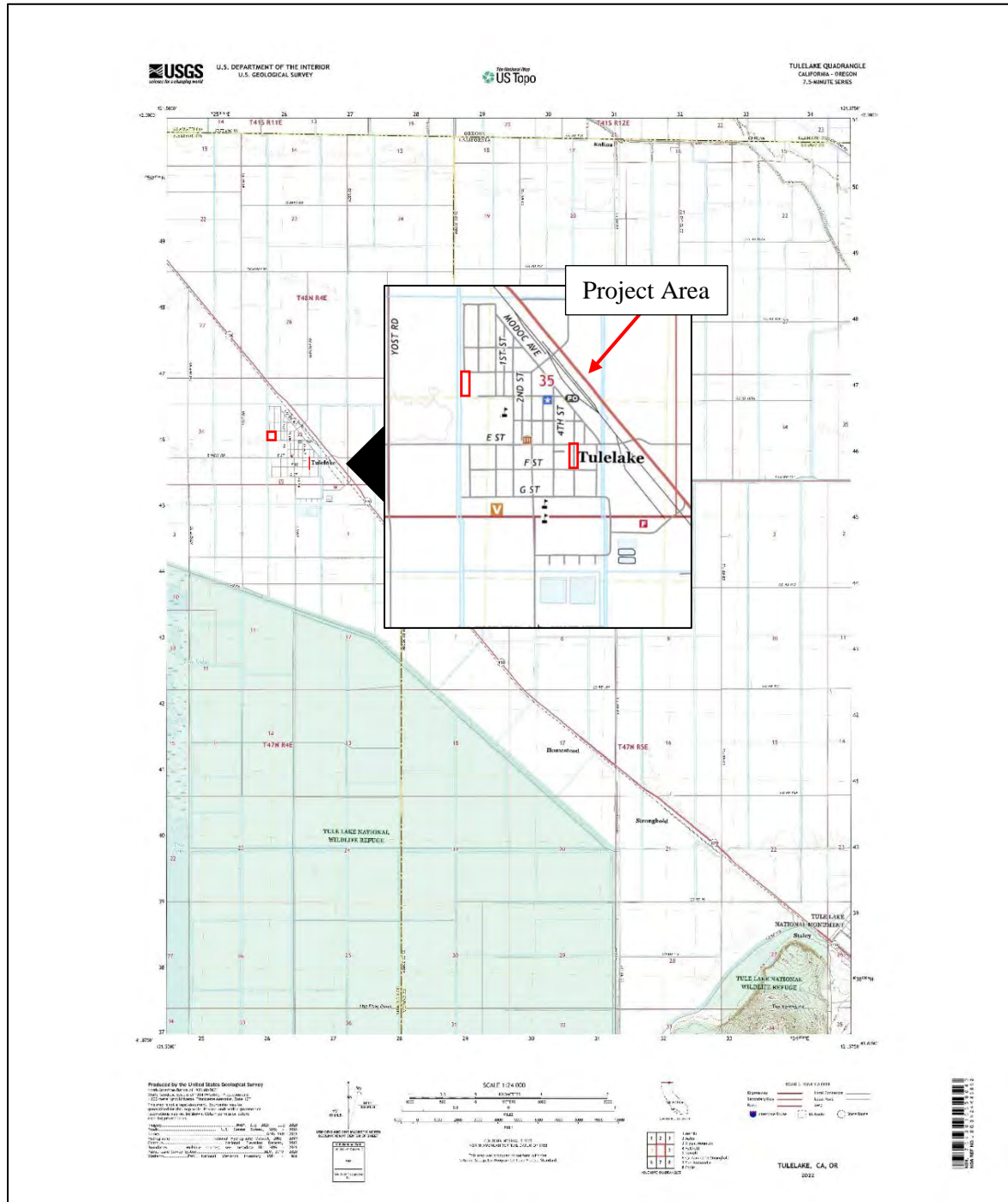
APPENDIX A - Site Maps





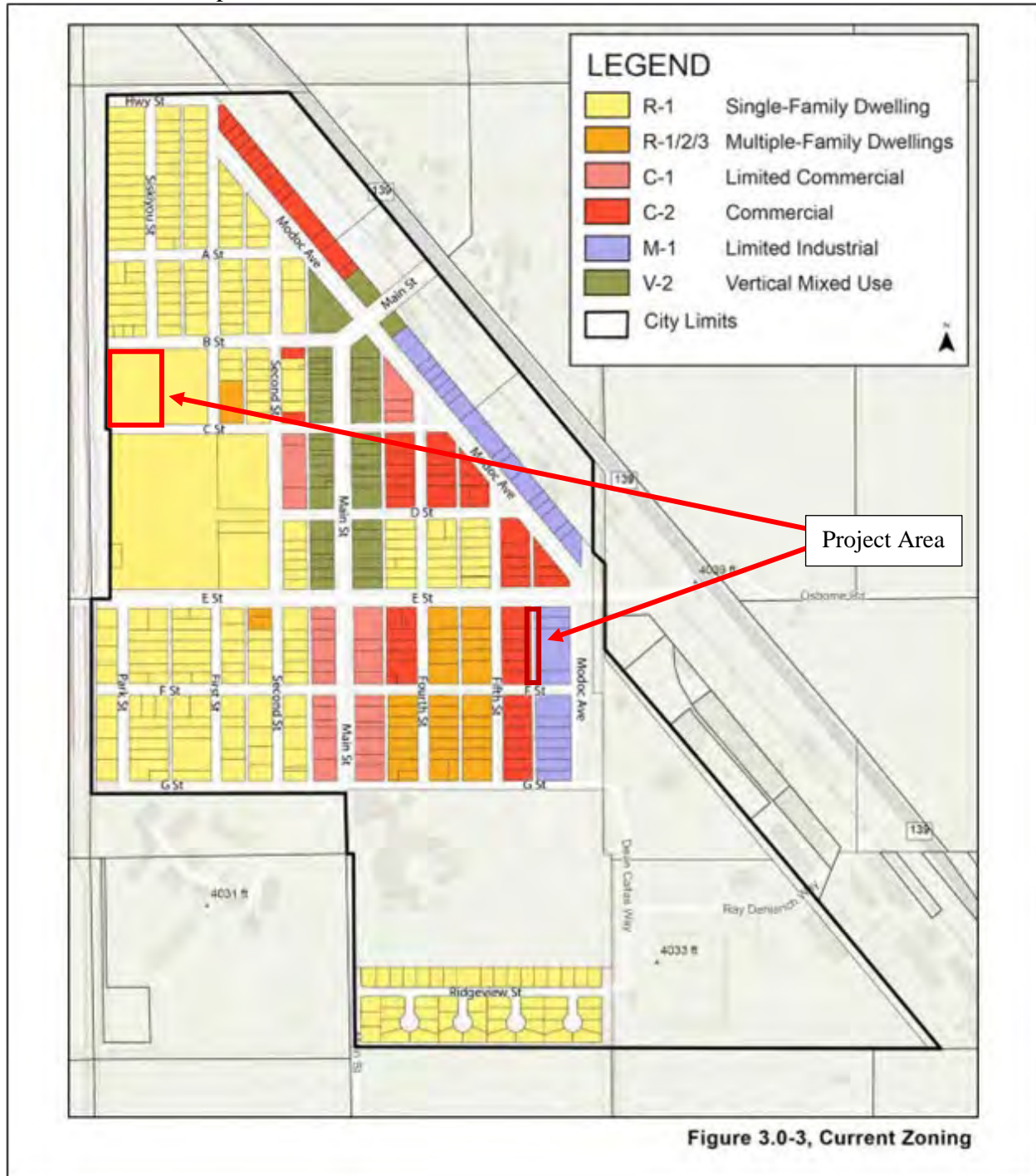


Topography Map



APPENDIX B - Land Use

Zoning, Soils Survey Report, Wild and Scenic Rivers Map, Natural Landmarks Map, Publicly Protected Areas Map



City of Tulelake Staff Report to City Council ([Staff-Report LUE-and-Zoning-Code-Update-10.03.23 SMALL.pdf \(cityoftulelake.com\)](#))



A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Butte Valley-Tule Lake Area, California, Parts of Siskiyou and Modoc Counties



July 10, 2024

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units).

Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

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scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

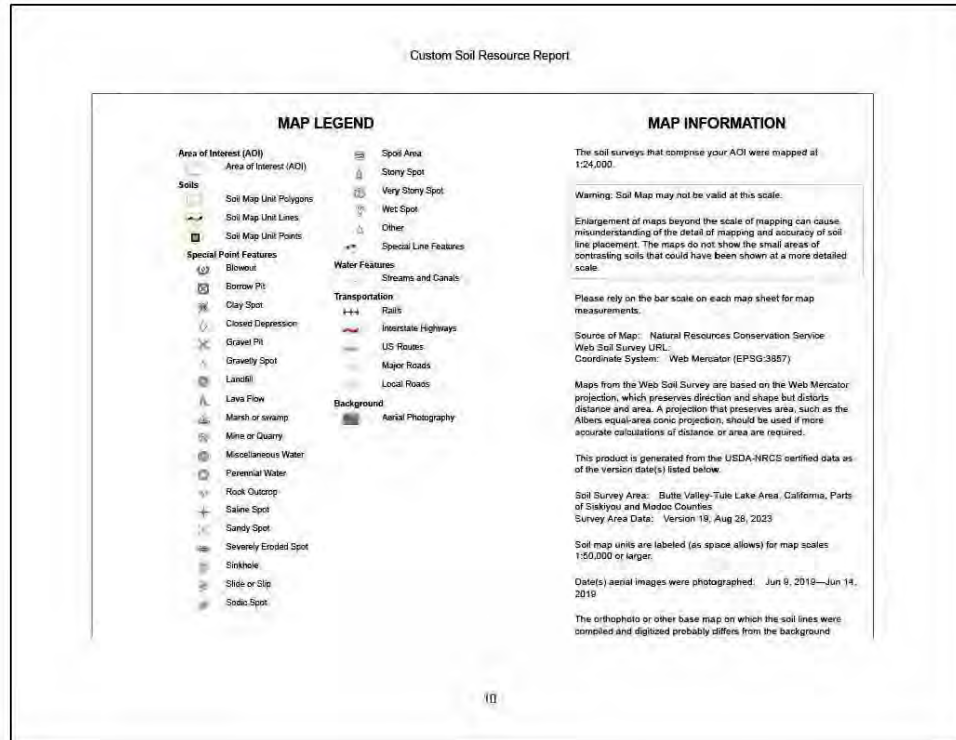
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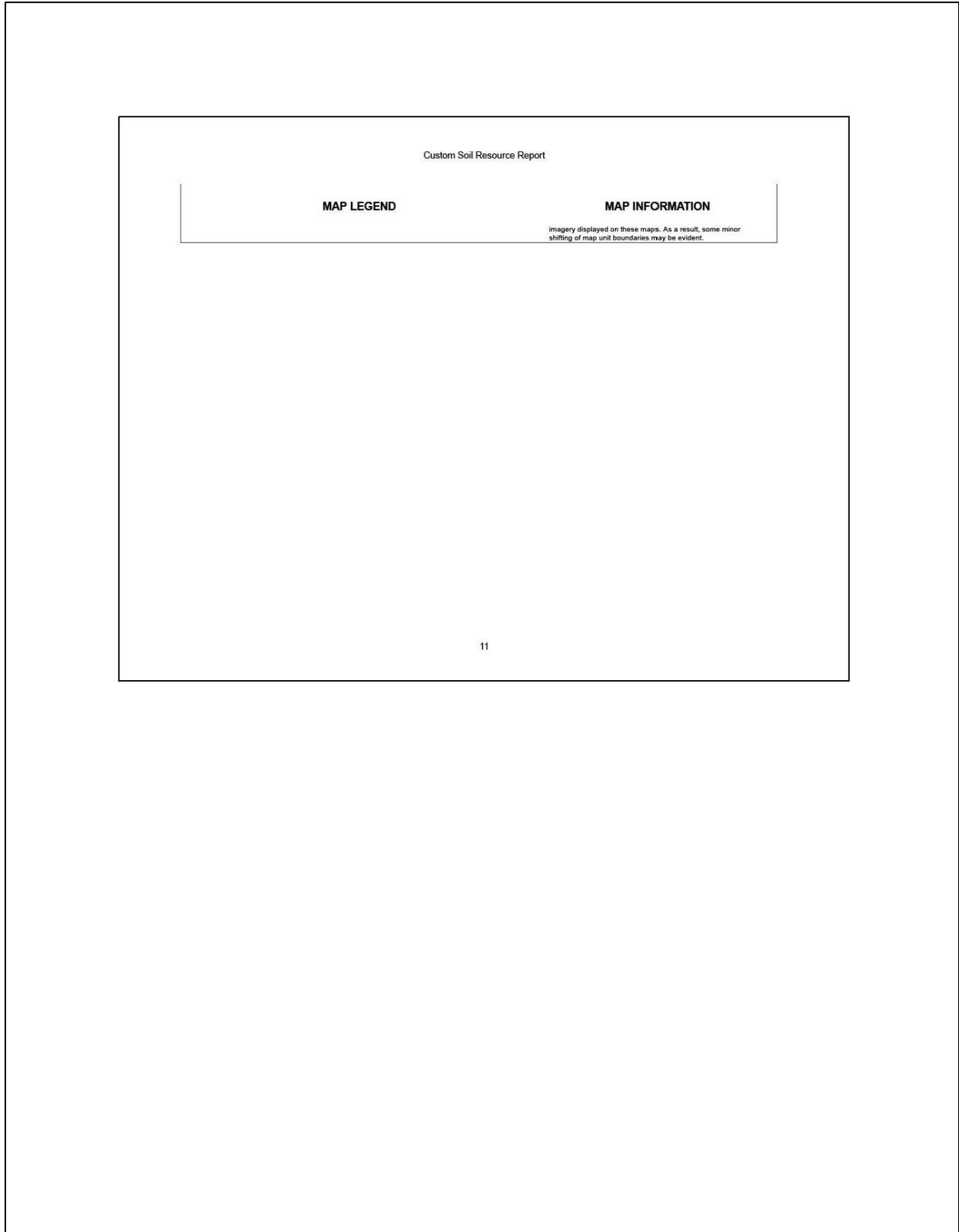
identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.







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MAP LEGEND

MAP INFORMATION

imagery displayed on these maps. As a result, some minor
shifting of map unit boundaries may be evident.

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Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
185	Tulebasin mucky silty clay loam	152.1	100.0%
Totals for Area of Interest		152.1	100.0%

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

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An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Custom Soil Resource Report

Butte Valley-Tule Lake Area, California, Parts of Siskiyou and Modoc Counties

185—Tulebasin mucky silty clay loam

Map Unit Setting

National map unit symbol: j bdf
Elevation: 4,030 to 4,050 feet
Mean annual precipitation: 11 inches
Mean annual air temperature: 48 degrees F
Frost-free period: 65 days
Farmland classification: Prime farmland if irrigated and drained

Map Unit Composition

Tulebasin and similar soils: 85 percent
Minor components: 14 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Tulebasin

Setting

Landform: Basin floors
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Lacustrine deposits derived from igneous and sedimentary rock

Typical profile

H1 - 0 to 14 inches: mucky silty clay loam
H2 - 14 to 32 inches: silty clay
H3 - 32 to 60 inches: silty clay

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.57 in/hr)
Depth to water table: About 18 to 36 inches
Frequency of flooding: Rare
Frequency of ponding: None
Maximum salinity: Very slightly saline to moderately saline (2.0 to 8.0 mmhos/cm)
Sodium adsorption ratio, maximum: 8.0
Available water supply, 0 to 60 inches: Very high (about 23.9 inches)

Interpretive groups

Land capability classification (irrigated): 4w
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: C
Ecological site: R021XG915CA - Wet Meadow
Hydric soil rating: Yes

Custom Soil Resource Report

Minor Components

Laki

Percent of map unit: 5 percent
Hydric soil rating: No

Poe

Percent of map unit: 5 percent
Hydric soil rating: No

Capjac

Percent of map unit: 2 percent
Landform: Basin floors
Landform position (three-dimensional): Tal
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: Yes

Tulana

Percent of map unit: 2 percent
Landform: Basin floors
Landform position (three-dimensional): Tal
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: Yes

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Custom Soil Resource Report

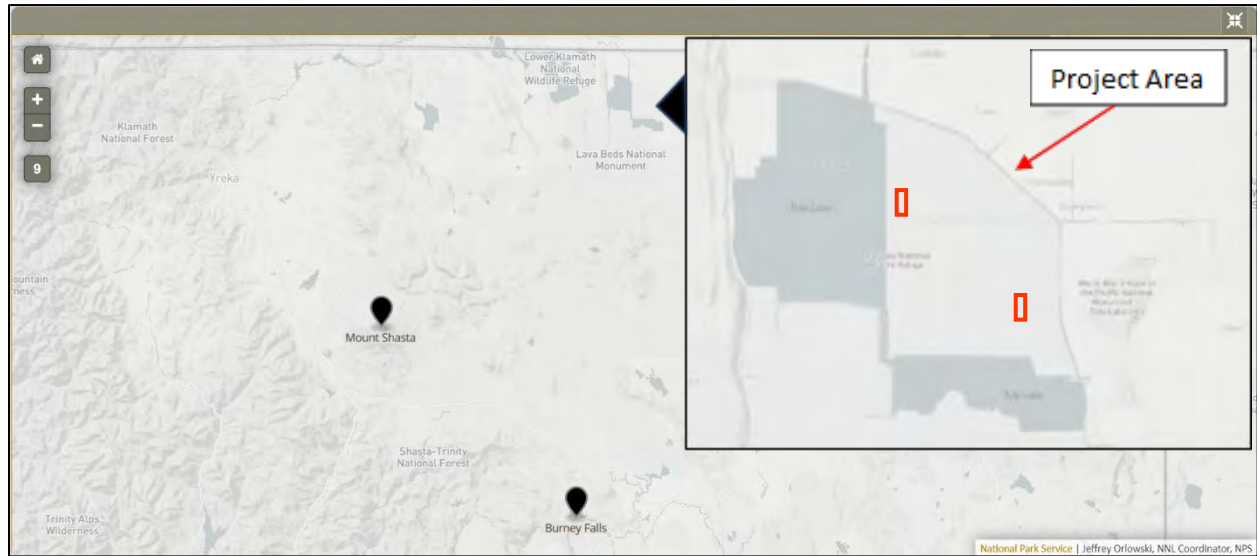
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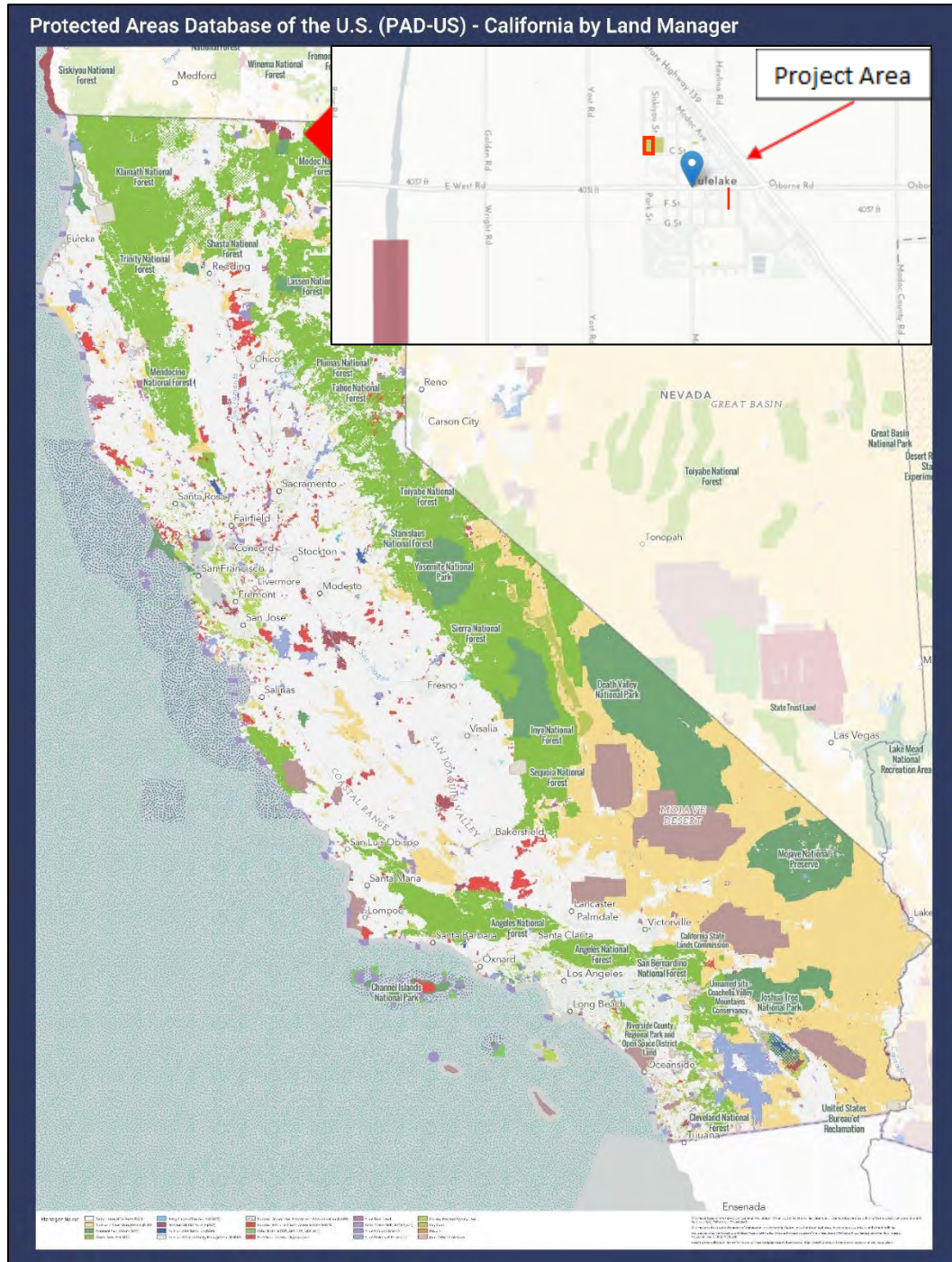
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Wild and Scenic Rivers ([National Wild and Scenic River System | Rivers.gov](https://www.rivers.gov/))

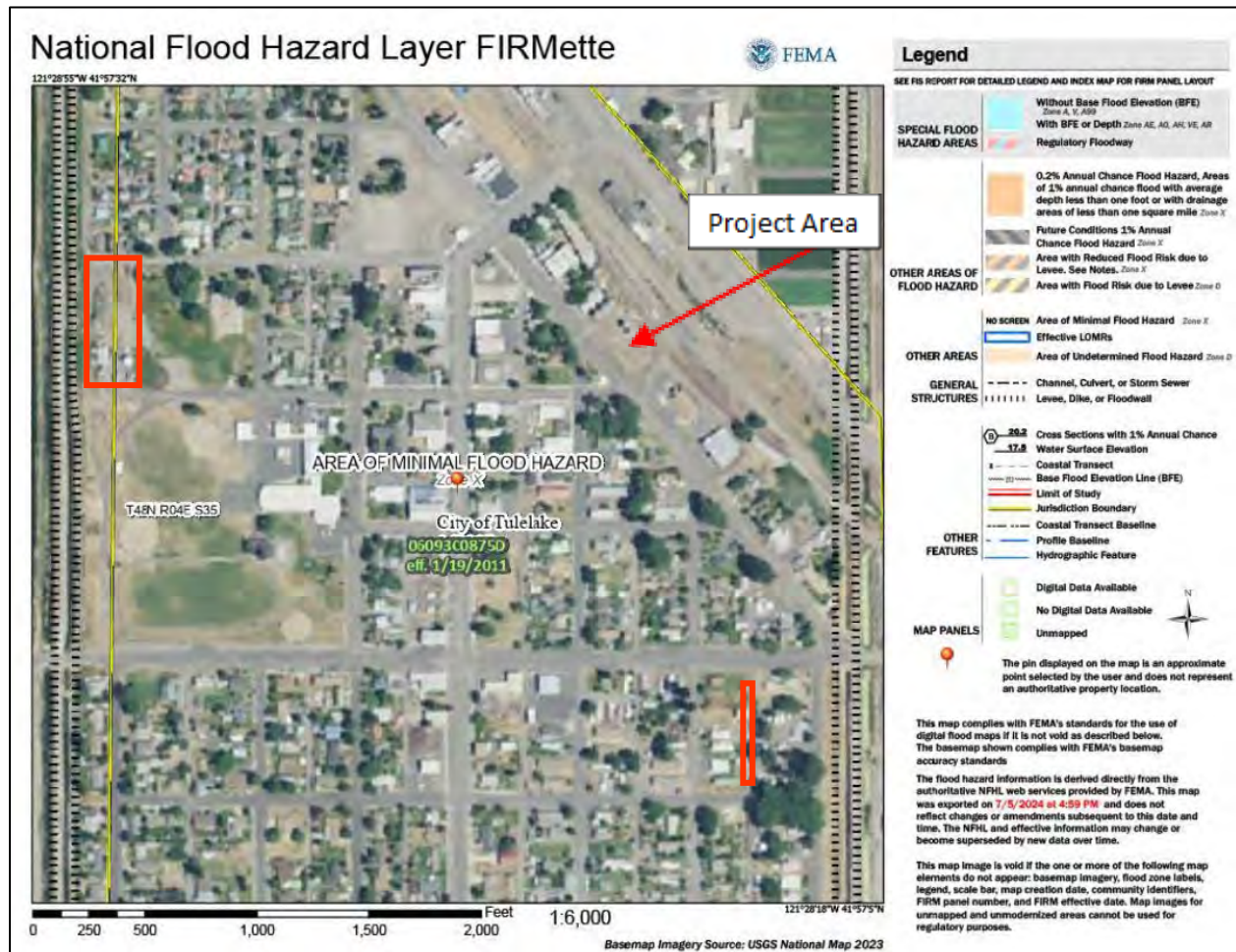


Natural Landmark Map (National Park Service, 2021)

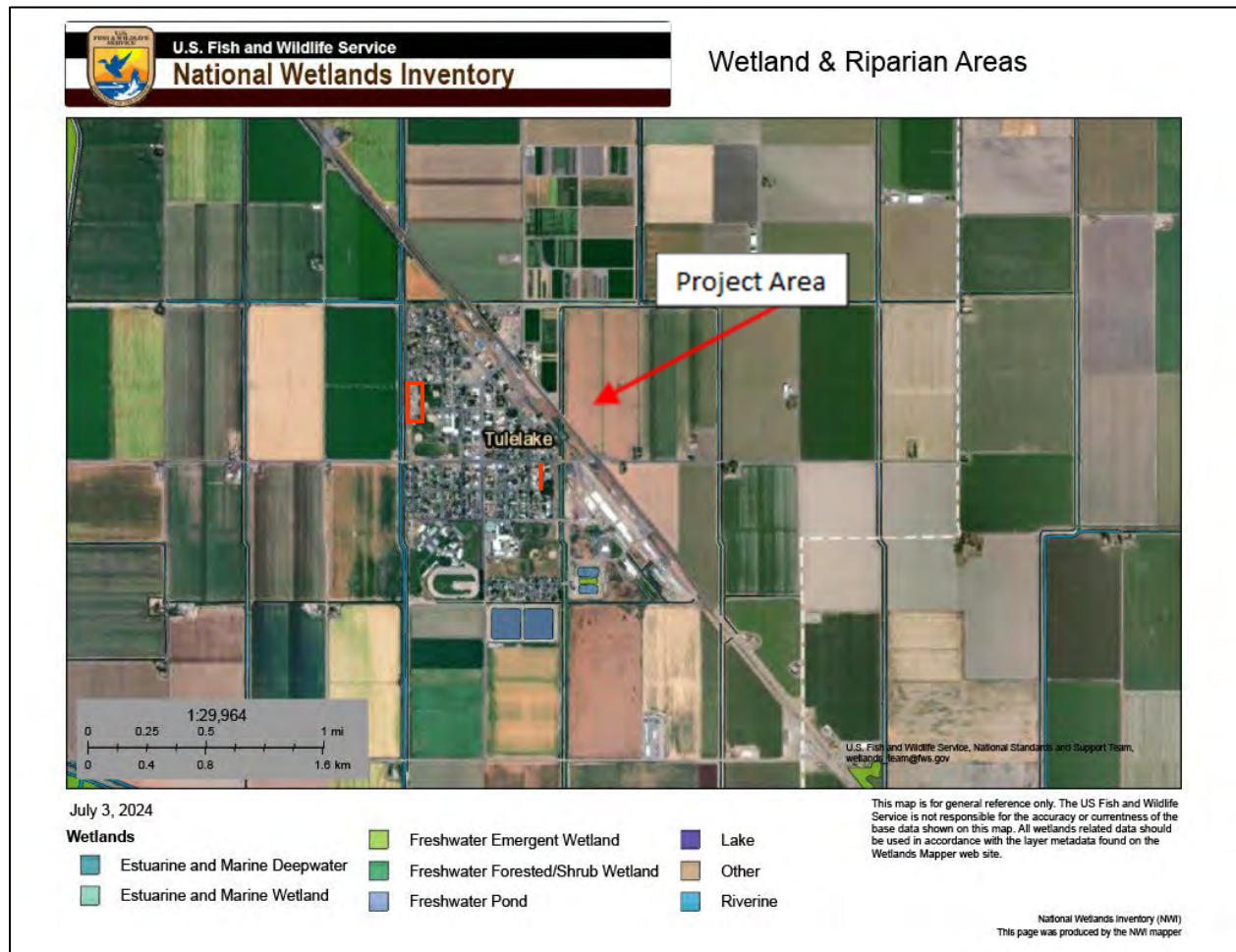


Publicly Protected Areas Map (<https://www.protectedlands.net/map/>)

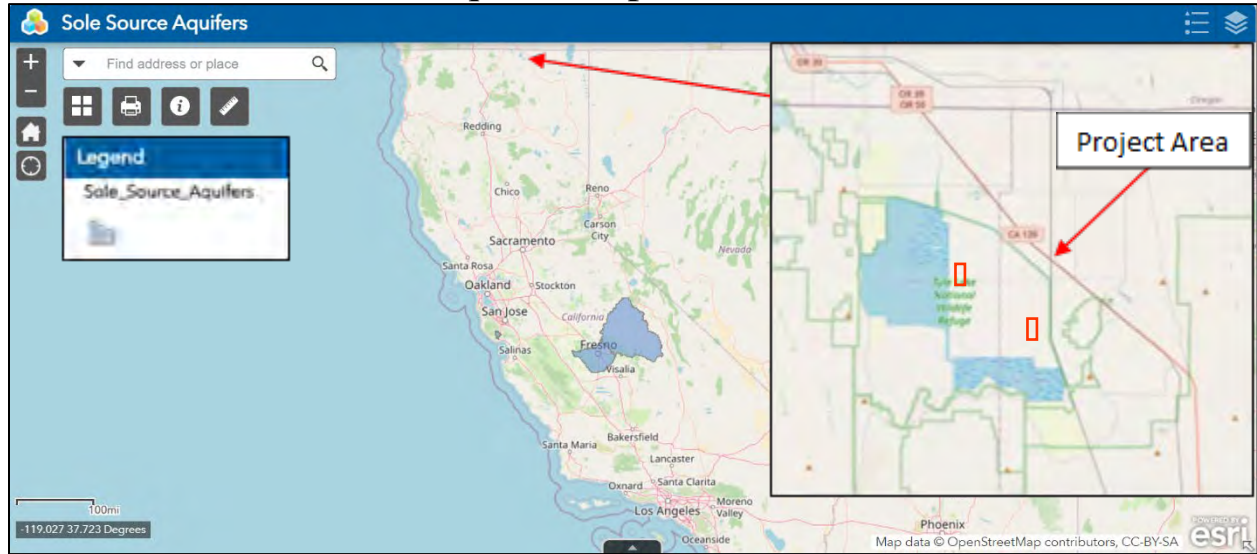
APPENDIX C - Flood Plain Map



APPENDIX D - National Wetland Inventory Map



APPENDIX E - Critical Aquifer Map



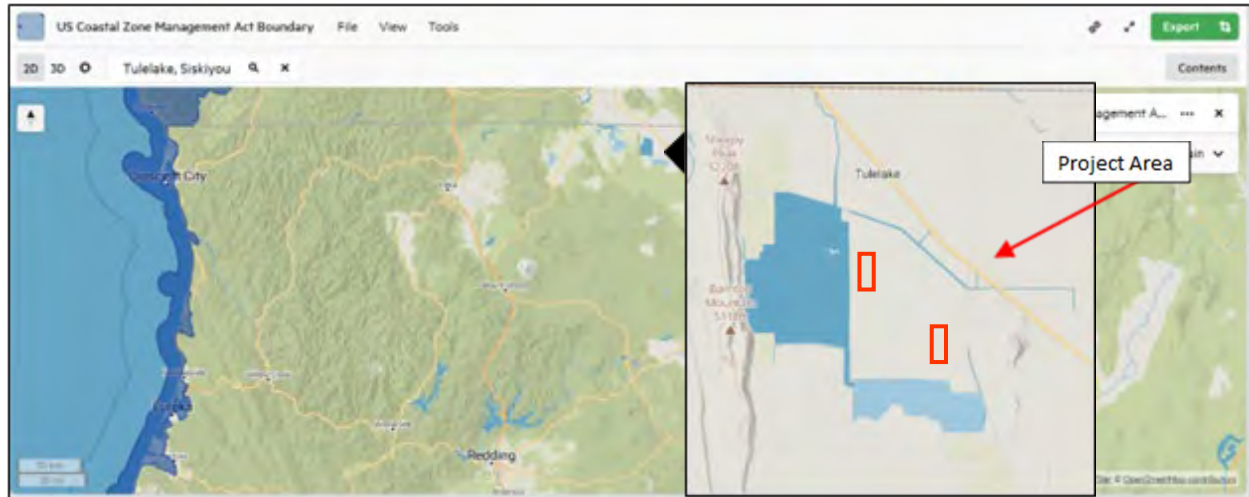
APPENDIX F - Coastal Management Zone List of States

STATE COASTAL ZONE BOUNDARIES February 9, 2012	
STATE	DEFINITION OF STATE'S COASTAL ZONE (The seaward boundary of the Great Lake States is the U.S.-Canada International boundary, and for all other States is the 3 nautical mile territorial sea, except for those States marked with an asterisk (*))
ALABAMA	Alabama's coastal zone extends inland to the continuous 10-foot elevation contour in Baldwin and Mobile Counties.
ALASKA	As of July 1, 2011, Alaska no longer has a federally approved coastal management program or defined coastal zone and federal consistency does not apply to Alaska. Contact NOAA's Office of Ocean and Coastal Resource Management for additional information.
AMERICAN SAMOA	American Samoa's coastal zone is the entire Territory.
CALIFORNIA & BCDC	<p>California's coastal zone generally extends 1,000 yards inland from the mean high tide line. In significant coastal estuarine habitat and recreational areas it extends inland to the first major ridgeline or 5 miles from the mean high tide line, whichever is less. In developed urban areas, the boundary is generally less than 1,000 yards.</p> <p>The coastal zone for the San Francisco Bay Conservation and Development Commission (BCDC) includes the open water, marshes and mudflats of greater San Francisco Bay, and areas 100 feet inland from the line of highest tidal action. The boundary also includes: the Suisun marsh and buffer zone; managed wetlands diked off from the Bay; and open waters diked off from the Bay and used in salt production.</p>
CONNECTICUT	Connecticut's coastal zone has two tiers incorporated within the 36 coastal townships. The first tier is bounded by a continuous line delineated by a 1,000 foot linear setback measured from the mean high water mark in coastal waters; or a 1,000 foot linear setback measured from the inland boundary of state regulated tidal wetlands; or the continuous interior contour elevation of the one hundred year frequency coastal flood zone; whichever is farthest inland. The second tier is the area between the inland boundary of the 36 coastal communities and the inland boundary of the first tier.
DELAWARE	Delaware's coastal zone includes the whole state.
FLORIDA *	Florida's coastal zone is the entire State, but has two tiers. Local governments eligible to receive coastal management funds are limited to those Gulf and Atlantic coastal cities and counties which include or are contiguous to state water bodies where marine species of vegetation constitute the dominant plant community. Florida's seaward boundary in the Gulf of Mexico is 3 marine leagues (9 nautical miles) and is 3 nautical miles in the Atlantic.
GEORGIA	Georgia's coastal zone includes the 11 counties that border tidally-influenced waters or have economies that are closely tied to coastal resources.
GUAM	Guam's coastal zone is the entire Territory.
HAWAII	Hawaii's coastal zone is the entire state.

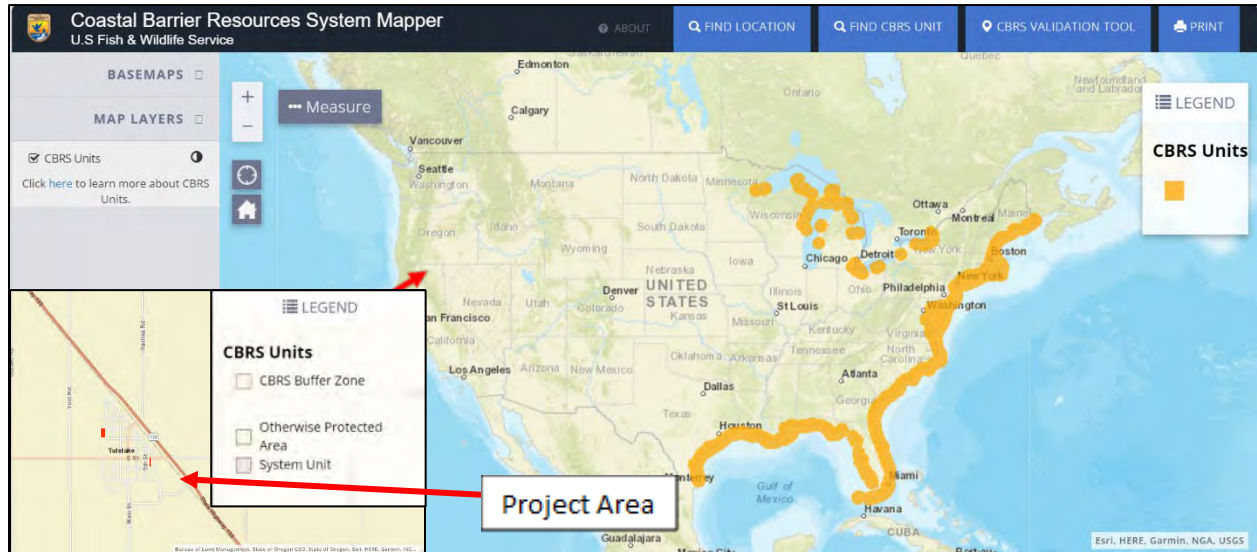
ILLINOIS	Illinois' coastal zone has two components. The Lakeshore Boundary is based on the Lake Michigan watershed and is generally parallel to the Lake Michigan shoreline. The Inland Waterway Boundary includes Inland Waterway Corridors, which are select segments of the Chicago River system (North Branch, South Branch, Main Branch and North Shore Channel) and select segments of the Little Calumet and Grand Calumet Rivers. The Inland Waterway Corridors consist of both the waterway and designated land area to either side of the waterway.
INDIANA	Indiana's coastal zone is based on watershed boundaries within coastal townships and the counties of Lake, Porter and LaPorte. To create an inland boundary that is identifiable in practical landmarks, the coastal zone boundary is described based on the U.S. Geological Survey Quadrangle maps and major roads for each county. The coastal zone boundary is located in the northern portions of Lake, Porter, and LaPorte Counties. At its widest extent, the boundary extends away from the shoreline 17 miles to the Crown Point area and at its narrowest point, less than 2 miles, just north of Hudson Lake in LaPorte County. See NOAA, <i>Indiana Lake Michigan Coastal Program and Final Environmental Impact Statement</i> , Appendix C (April 2002), to determine the precise coastal zone boundary in a particular area of the State.
LOUISIANA	Louisiana's coastal zone varies from 16 to 32 miles inland from the Gulf coast and generally follows the Intracoastal Waterway running from the Texas-Louisiana state line then follows highways through Vermilion, Iberia, and St. Mary parishes, then dipping southward following the natural ridges below Houma, then turning northward to take in Lake Pontchartrain and ending at the Mississippi-Louisiana border.
MAINE	Maine's coastal zone includes the inland line of coastal towns on tidewaters and all islands.
MARYLAND	Maryland's coastal zone extends to the inland boundary of the 16 counties bordering the Atlantic Ocean, the Chesapeake Bay, and the Potomac River (as far as the municipal limits of Washington, D.C), and includes Baltimore City and all local jurisdictions within the counties.
MASSACHUSETTS	Massachusetts' coastal zone extends 100 feet inland of specified major roads, RR tracks, or other visible right of ways which are located within a half mile of coastal waters or salt marshes. The coastal zone includes all islands, transitional and intertidal areas, and coastal wetlands and beaches. In instances where the road boundary excludes significant resource areas, the boundary line may depart from the road to encompass.
MICHIGAN	Michigan's coastal zone, generally, extends a minimum of 1,000 feet from the ordinary high water mark. The boundary extends further inland in some locations to encompass coastal lakes, rivermouths, and bays; floodplains; wetlands; dune areas; urban areas; and public park, recreation, and natural areas.
MINNESOTA	Minnesota's coastal zone is divided into three areas. The first includes the area of the St. Louis River in Carlton County, south of Duluth. The second is the city of Duluth and surrounding areas of urban growth and expansion to the north and west. The third is the region between the Duluth city limits north to the Canadian border, also known as the "North Shore," which includes portions of St. Louis, Lake, and Cook Counties. See NOAA, <i>Minnesota's Lake Superior Coastal Program Final Environmental Impact Statement</i> , Chapter One, (May 1999), to determine the precise coastal zone boundary in a particular area of the State.

MISSISSIPPI	Mississippi's coastal zone includes the 3 counties adjacent to the coast. The coastal zone includes these counties, as well as all adjacent coastal waters. Included in this definition are the barrier islands of the coast.
NEW HAMPSHIRE	New Hampshire's coastal zone is the 17 coastal municipalities.
NEW JERSEY	New Jersey's coastal zone recognizes four distinct regions of the State and treats them separately. From the New York border to the Raritan Bay, the boundary extends landward from mean high water to the first road or property line. From the Raritan Bay south along the Atlantic shoreline and up to the Delaware Memorial Bridge, the boundary extends from half a mile to 24 miles inland (1,376 square miles of land area). From the Delaware Memorial Bridge northward up the Delaware River to Trenton, the boundary extends landward to the first road inclusive of all wetlands. The fourth boundary serves a 31-mile square area in the northeast corner of the state bordering the Hudson river (New Jersey Meadowlands Commission).
NEW YORK	New York's coastal zone varies from region to region while incorporating the following conditions: The inland boundary is approximately 1,000 feet from the shoreline of the mainland. In urbanized and developed coastal locations the landward boundary is approximately 500 feet from the mainland's shoreline, or less than 500 feet where a roadway or railroad line runs parallel to the shoreline at a distance of under 500 feet and defines the boundary. In locations where major state-owned lands and facilities or electric power generating facilities abut the shoreline, the boundary extends inland to include them. In some areas, such as Long Island Sound and the Hudson River Valley, the boundary may extend inland up to 10,000 feet to encompass significant coastal resources, such as areas of exceptional scenic value, agricultural or recreational lands, and major tributaries and headlands.
NORTH CAROLINA	North Carolina's coastal zone includes the 20 counties that in whole or in part are adjacent to, adjoining, intersected by or bounded by the Atlantic Ocean or any coastal sound(s). Within this boundary, there are two tiers. The first tier is comprised of Areas of Environmental Concern (AEC) and is subject to more thorough regulatory controls. AECs include: coastal wetlands, estuarine waters, public trust areas, estuarine shorelines, ocean beaches, frontal dunes, ocean erosion areas, inlet lands, small surface water supply watersheds, public water supply well-fields, and fragile natural resource areas. The second tier includes land uses which have potential to affect coastal waters even though they are not located in AECs.
NORTHERN MARIANA ISLANDS	Northern Mariana Islands' coastal zone is the entire Commonwealth. (Note: a recent federal court decision ruled that the Commonwealth does not own the adjacent territorial sea. A consent decree allows the CNMI to manage the area.)
OHIO	Ohio's coastal zone includes portions of 9 counties bordering Lake Erie and its tributaries and varies depending on biophysical characteristics of various coastal regions- in the western part of the coast the boundary extends inland up to 15 miles along certain low lying wetland and floodplain areas; in most of the eastern part of the State, areas with high bluffs, the boundary extends inland for only about an eighth of a mile, with the exception of the Mentor Marsh area.
OREGON	Oregon's coastal zone extends inland to the crest of the coastal range, except for the following: along the Umpqua River, where it extends upstream to Scottsburg; along the Rogue River, where it extends upstream to Agness; and except in the Columbia River Basin, where it extends upstream to the downstream end of Puget Island.

PENNSYLVANIA	Pennsylvania's coastal zone along Lake Erie varies from 900 feet in urban areas to over 3 miles in more rural areas, and encompasses the floodplains of Lake Erie and tributary streams, bluff hazards recession areas, and coastal wetlands. The coastal zone along the Delaware River Estuary extends inland to 660 feet in urbanized areas, to 3.5 miles in rural areas, and includes floodplains of the Delaware and Schuylkill Rivers and their tributaries to the upper limit of tidal influence, and tidal and freshwater wetlands.
PUERTO RICO *	Puerto Rico's coastal zone, generally, extends 1,000 meters inland; however, it extends further inland in certain areas to include important coastal resources. Puerto Rico's seaward boundary is 3 marine leagues (9 nautical miles).
RHODE ISLAND	Rhode Island's coastal zone includes the whole state. However, the inland extent of the regulatory authority of the State's CZMA agency is 200 feet inland from any coastal feature, to watersheds, and to certain activities that occur anywhere within the State that include: power-generating plants; petroleum storage facilities; chemical or petroleum processing; minerals extraction; sewage treatment and disposal plants; solid waste disposal facilities; and, desalination plants.
SOUTH CAROLINA	South Carolina's coastal zone includes all lands and waters in the counties which contain any one or more of the critical areas (coastal waters, tidelands, beaches, and primary oceanfront sand dunes).
TEXAS *	Texas' coastal zone is generally the area seaward of the Texas coastal facility designation line which roughly follows roads that are parallel to coastal waters and wetlands generally within one mile of tidal rivers. The boundary encompasses all or portions of 18 coastal counties. Texas' seaward boundary is 3 marine leagues (9 nautical miles).
VIRGINIA	Virginia's coastal zone includes the 29 counties, 17 cities, and 42 incorporated towns of <i>Tidewater Virginia</i> , including the Atlantic Coast watershed and portions of the Chesapeake Bay and Albemarle-Pamlico Sound watersheds.
VIRGIN ISLANDS	Virgin Islands' coastal zone includes the entire territory.
WASHINGTON	Washington's coastal zone is the 15 coastal counties that front saltwater.
WISCONSIN	Wisconsin's coastal zone is the 15 counties that front Lake Superior, Lake Michigan, or Green Bay.



Coastal Zone Management Area ([Browse GIS data](#) | [Koordinates](#))



Coastal Barrier Resource System ([CBRS Mapper \(usgs.gov\)](https://www.usgs.gov/land-resources/water/land-use-planning-tools/coastal-barrier-resources-system-mapper))

APPENDIX G - Biological Resources: IPaC Report, Bald and Golden Eagle Map



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Klamath Falls Fish And Wildlife Office
1936 California Avenue
Klamath Falls, OR 97601
Phone: (541) 885-8481 Fax: (541) 885-7837



In Reply Refer To:

09/04/2024 15:15:23 UTC

Project Code: 2024-0139223

Project Name: Tullake Drought Relief

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed, and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through IPaC by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological

Project code: 2024-0139223

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evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at: <https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.pdf>

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts, see [Migratory Bird Permit | What We Do | U.S. Fish & Wildlife Service \(fws.gov\)](https://www.fws.gov/partner/council-conservation-migratory-birds).

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures, see <https://www.fws.gov/library/collections/threats-birds>.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit <https://www.fws.gov/partner/council-conservation-migratory-birds>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

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Project code: 2024-0139223

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OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Klamath Falls Fish And Wildlife Office
1936 California Avenue
Klamath Falls, OR 97601
(541) 885-8481

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Project code: 2024-0139223

09/04/2024 15:15:23 UTC

PROJECT SUMMARY

Project Code: 2024-0139223

Project Name: Tullake Drought Relief

Project Type: Water Supply Pipeline - Maintenance/Modification - Below Ground

Project Description: This drought relief project includes various approaches to conserving water and preparing for drought.

Project Location:

The approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@41.954711,-121.478378,10825692,14z>



Counties: Siskiyou County, California

Project code: 2024-0139223

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ENDANGERED SPECIES ACT SPECIES

There is a total of 8 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

-
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

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Project code: 2024-0139223

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MAMMALS

NAME	STATUS
Gray Wolf <i>Canis lupus</i> Population: U.S.A.: All of AL, AR, CA, CO, CT, DE, FL, GA, IA, IN, IL, KS, KY, LA, MA, MD, ME, MI, MO, MS, NC, ND, NE, NH, NJ, NV, NY, OH, OK, PA, RI, SC, SD, TN, TX, VA, VT, WI, and WV; and portions of AZ, NM, OR, UT, and WA. Mexico. There is final critical habitat for this species. Species profile: https://ecos.fws.gov/ecp/species/4488	Endangered
North American Wolverine <i>Gulo gulo luscus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/5123	Threatened

BIRDS

NAME	STATUS
Yellow-billed Cuckoo <i>Coccyzus americanus</i> Population: Western U.S. DPS There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/3911	Threatened

FISHES

NAME	STATUS
Lost River Sucker <i>Deltistes luxatus</i> There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5604	Endangered
Shortnose Sucker <i>Chasmistes brevirostris</i> There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/7160	Endangered

INSECTS

NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

FLOWERING PLANTS

NAME	STATUS
Greene's Tuctoria <i>Tuctoria greenei</i> There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/1573	Endangered
Slender Orcutt Grass <i>Orcuttia tenuis</i> There is final critical habitat for this species. Your location does not overlap the critical habitat.	Threatened

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Project code: 2024-0139223

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NAME

STATUS

Species profile: <https://ecos.fws.gov/ecp/species/1063>

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

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Project code: 2024-0189223

09/04/2024 15:15:23 UTC

IPAC USER CONTACT INFORMATION

Agency: Rabe Consulting
Name: Andrea Rabe
Address: 421 Commercial Street
City: Klamath Falls
State: OR
Zip: 97601
Email: andrea@rabeconsulting.com
Phone: 5418912137

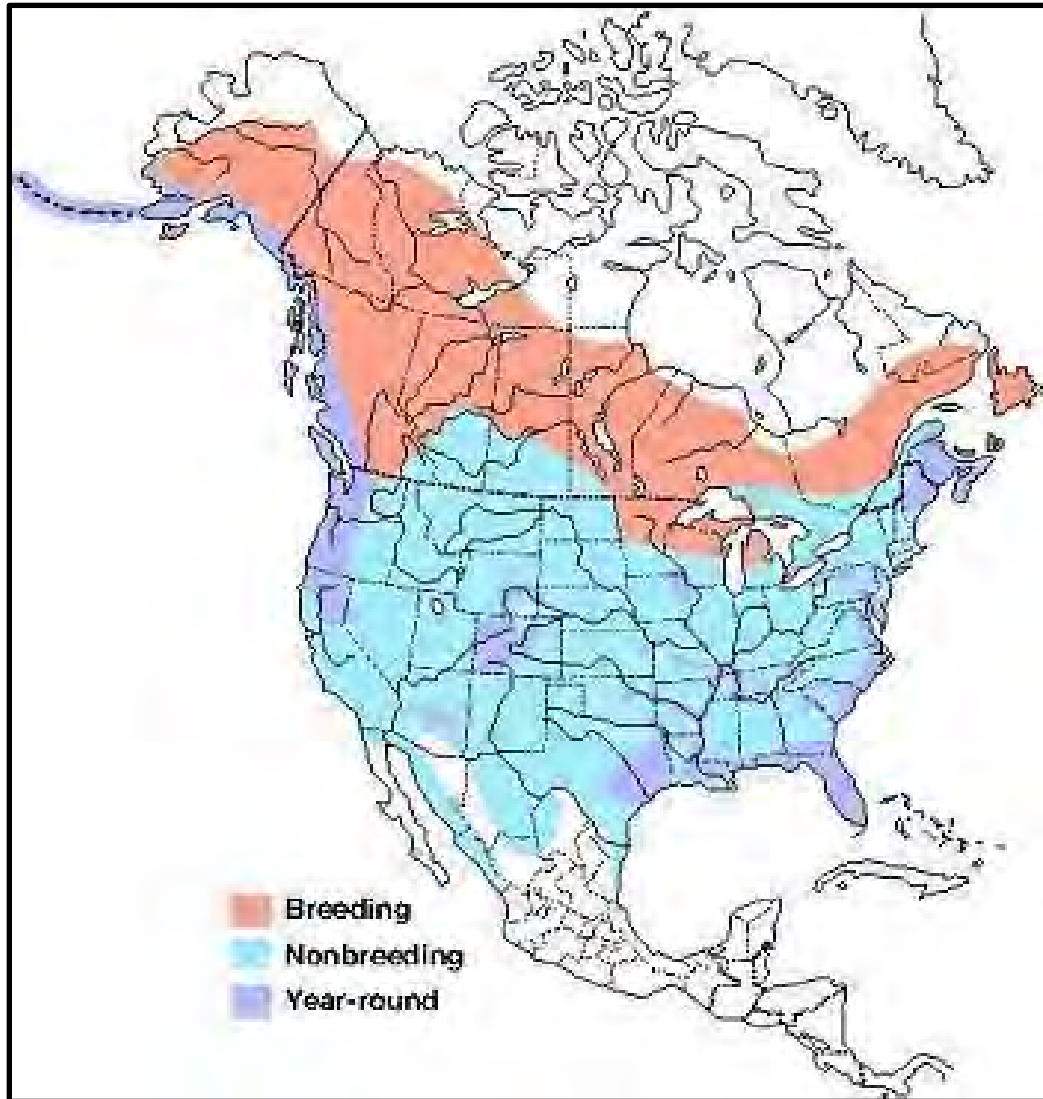
8 of 8



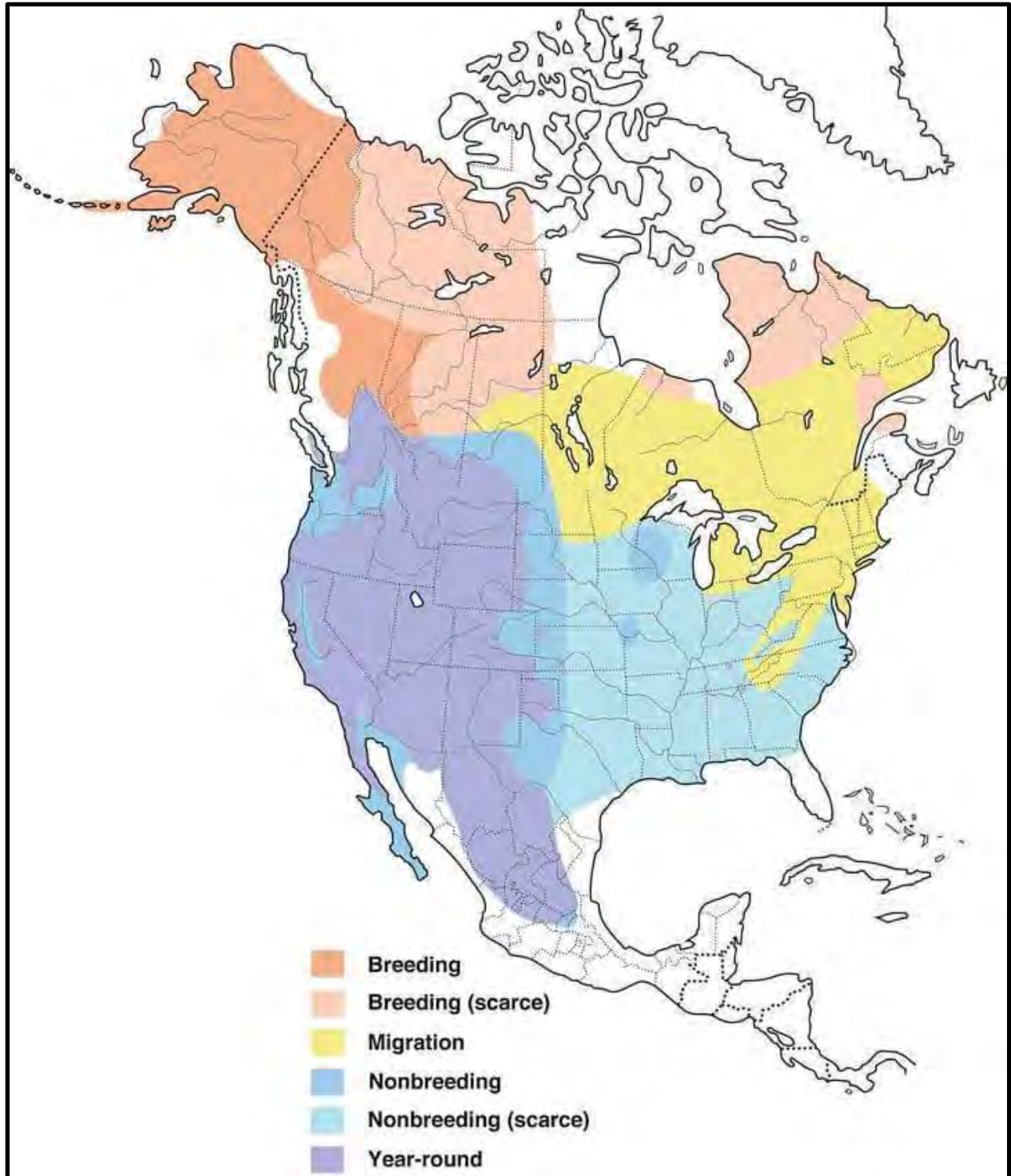
California Natural Diversity Database (CNDDB) CNDDB 9-Quad Map

Element Type	Scientific Name	Common Name	Element Code	Federal Status	State Status	CDRW Status	CA Rare Plant Rank
Animals - Birds	<i>Aquila chrysaetos</i>	golden eagle	ABNKC22010	None	None	FP WL	-
Animals - Birds	<i>Buteo swainsoni</i>	Swainson's hawk	ABNKC19070	None	Threatened	-	-
Animals - Birds	<i>Charadrius nivosus nivosus</i>	western snowy plover	ABNND03031	Threatened	None	SSC	-
Animals - Birds	<i>Falco mexicanus</i>	prairie falcon	ABNKC06090	None	None	WL	-
Animals - Birds	<i>Antigone canadensis tabida</i>	greater sandhill crane	ABNPK01014	None	Threatened	FP	-
Animals - Birds	<i>Progne subis</i>	purple martin	ABPAU01010	None	None	SSC	-
Animals - Birds	<i>Riparia riparia</i>	bark swallow	ABPAU08010	None	Threatened	-	-
Animals - Birds	<i>Agelaius tricolor</i>	tricolored blackbird	ABPXB00020	None	Threatened	SSC	-
Animals - Birds	<i>Chloronia niger</i>	black tern	ABNHM10020	None	None	SSC	-
Animals - Birds	<i>Larus californicus</i>	California gull	ABNHM03110	None	None	WL	-
Animals - Birds	<i>Pelecanus erythrorhynchos</i>	American white pelican	ABNFC01010	None	None	SSC	-
Animals - Birds	<i>Centrocercus urophasianus</i>	greater sage-grouse	ABNLC12010	None	Candidate Endangered	SSC	-
Animals - Birds	<i>Tympanuchus phasianellus columbianus</i>	Columbian sharp-tailed grouse	ABNLC13033	None	None	SSC	-
Animals - Birds	<i>Numerus americanus</i>	long-billed curlew	ABNHF07070	None	None	WL	-
Animals - Birds	<i>Asio flammeus</i>	short-eared owl	ABNSB13040	None	None	SSC	-
Animals - Birds	<i>Plegadis chihi</i>	white-faced ibis	ABNGE02020	None	None	WL	-
Animals - Fish	<i>Chasmistes brevirostris</i>	shortnose sucker	AFCJC03010	Endangered	Endangered	FP	-
Animals - Fish	<i>Delistes luxatus</i>	Lost River sucker	AFCJC12010	Endangered	Endangered	FP	-
Animals - Fish	<i>Gila coerulea</i>	blue chub	AFCJB13050	None	None	SSC	-
Animals - Insects	<i>Bombus crotchii</i>	Crotch's bumble bee	BHMY24480	None	Candidate Endangered	-	-
Animals - Mammals	<i>Ovis canadensis nelsoni</i>	desert bighorn sheep	AMALE04013	None	None	FP	-
Animals - Mammals	<i>Canis lupus</i>	gray wolf	AMAJA01930	Endangered	Endangered	-	-
Animals - Mammals	<i>Taxidea taxus</i>	American badger	AMAJF04010	None	None	SSC	-
Animals - Mammals	<i>Corynorhinus townsendi</i>	Townsend's big-eared bat	AMACC08010	None	None	SSC	-
Plants - Bryophytes	<i>Syntrichia izuophila</i>	Dusens twisted moss	JBHML02080	None	None	-	2B.3
Plants - Vascular	<i>Allium punctum</i>	dotted onion	PMML02110	None	None	-	2B.2
Plants - Vascular	<i>Rorippa columbae</i>	Columbia yellow cress	PDRA27060	None	None	-	1B.2
Plants - Vascular	<i>Carex adnata</i>	wheat sedge	PMCHP03160	None	None	-	2B.2
Plants - Vascular	<i>Phlox muscoides</i>	squarestem phlox	PDPLM00115	None	None	-	2B.3
Plants - Vascular	<i>Potentilla newberryi</i>	Newberry's cinquefoil	PDROS18130	None	None	-	2B.3

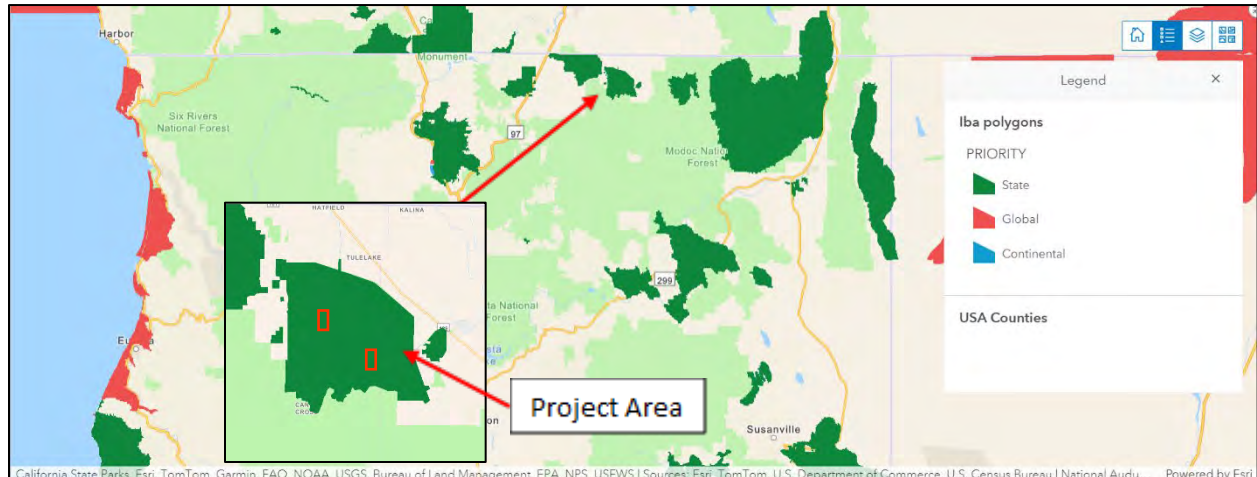
California Natural Diversity Database (CNDDDB) 9-Quad Species List



Bald Eagle Range (Bald eagle range map from *Birds of the World*, maintained by the Cornell Lab of Ornithology)



Golden Eagle Range (golden eagle range map from *Birds of the World*, maintained by the Cornell Lab of Ornithology)



Klamath Basin - Clear Lake

Status:

Recognized

Priority:

State

Central Coordinates:

41.907300, -121.489300

Area (acres/hectares):

117464.265121 / 47536.101571

Elevation (meters):

Max: 1499.000000 Min: 1227.000000

Long Description:

This enormous complex of seasonal wetlands, impoundments, agricultural lands, expansive grassland and sagebrush steppe habitat is considered by many to be the most important bird area in the state in terms of sheer numbers that utilize the habitats year round. This IBA straddles the Oregon border east of I-5, and includes three major national wildlife refuges, Tule Lake NWR and Lower Klamath NWR, on the floor of the Klamath Basin, and Clear Lake NWR, on the edge of the Modoc Plateau just to the east (which drains into the basin). During summer, when most refuges throughout the West have drawn down their water, the Klamath Basin can retain about 23,000 acres of wetlands, possibly the largest aggregation of any site in California in the

breeding season (D. Mauser, pers. comm.).

Ornithological Long:

Nearly 1 million waterfowl, nearly 10% of the total number of individuals along the Pacific Flyway (K. Novick, in litt.), pass through this IBA during migration. Up to 200,000 Greater White-fronted Goose of the Pacific race stage here in early spring (D. Mauser, in litt.). The number of northbound shorebirds in spring is also exceptional (e.g. 20,000 on 27 April 2001 at the Lower Sump of Tule Lake, DS). This IBA supports both of California's last remaining colonies of American White Pelican, with birds nesting on undisturbed islets on Clear Lake (2559 pr. in 1997, Shuford 1998), and at Sheepy Lake (Lower Klamath NWR), where most of northeastern California's nesting Double-crested Cormorant breed (>1000 pr., ibid). Breeding White-faced Ibis numbers have surged here, and the IBA was found to support over 1000 nesting pairs (c. of the state's population) in the late 1990s (Ivey et al. 2002). In winter, the IBA is particularly critical for Bald Eagle 60-80% of the 1000 eagles that winter in the Klamath Basin use Tule Lake and Lower Klamath NWRs, by far the largest concentration in the state. The islets of Clear Lake also support large numbers of breeding Great Basin gulls and terns, including one of three large colonies of Caspian Tern in northeastern California (Shuford 1998). Surveys in the 1990s ranked Clear Lake in the top five sites in the state for numbers of breeding California and Ring-billed gulls (Shuford and Ryan 2000). The shallow marshes on the basin refuges support large numbers of breeding waterbirds, as well as major post-breeding aggregations of species such as Black Tern (several 1000s of birds, Shuford et al. 2001).

Help us learn more about the birds at this IBA! Enter your birding data online at California eBird! (<http://ebird.org/california/>)

Conservation Issues:

Despite the area's importance to birds in western North America, it remains highly threatened by agricultural practices, because of water diversions and habitat clearing (including farming on the refuges). Much of the wetland habitat of this IBA is the result of the Klamath Project, a massive water re-routing network that moves water to and from the region's major rivers (Klamath River, Lost River), reservoirs and fields. The region's agricultural operations are currently (2001) being reviewed at the federal level in light of increased restrictions on water diversions to provide adequate flows for salmon and several threatened and endangered fishes (e.g. Lost River and Shortnose suckers) in the Klamath drainage. A recent drought (2001) has affected breeding bird habitat at Clear Lake by creating land bridges to nesting islands. Recent refuge activities have addressed this problem by constructing fenced enclosures to protect nesting American White Pelicans from coyotes (DS). Increasingly, exotic plant species are invading these artificial wetlands, the most noxious being Perennial Pepperweed (*Lepidium latifolium*) and Purple Loosestrife (*Lythrum salicaria*) (K. Novick, pers. comm.).

Ownership:

This IBA straddles the Oregon border east of I-5, and includes three major national wildlife refuges, Tule Lake NWR and Lower Klamath NWR, on the floor of the Klamath Basin, and Clear Lake NWR, on the edge of the Modoc Plateau just to the east (which drains into the basin).

Habitat:

This IBA is an enormous complex of seasonal wetlands, impoundments, agricultural lands, expansive grassland and sagebrush steppe habitat.

Land Use:

Proposed Site Criteria:

Confirmed Site Criteria:

D1,D4i,D4v,D4ii

Species Data and Criteria:


Common Name: Tricolored Blackbird
Obs_Year: 2009
iba_frequency: Seasonal
iba_season: non-breeding
Number_Observed: 20
iba_unit: Individuals
Source: From CA ebird. Observed by Dave Menke at Lower Klamath NWR

Common Name: Tricolored Blackbird
Obs_Year: 2008
iba_frequency: Seasonal
iba_season: non-breeding
Number_Observed: 65
iba_unit: Individuals
Source: 2008 Tule Lake CBC. Michael Robbins, CBC compiler.


Common Name: Tricolored Blackbird
Obs_Year: 1994
iba_frequency: Seasonal
iba_season: breeding
Number_Observed: 800
iba_unit: Individuals
Source: TRBL 1994 survey. Observed by D. Mauser at SW Corner OF Unit 8B, Lower Klamath NWR. Evidence of nesting.

Important Bird Areas ([IBA Explorer \(audubon.org\)](https://www.audubon.org/iba-explorer))

APPENDIX H - Cultural Resource Correspondence



Tribal Directory Assessment Information



Contact Information for Tribes with Interests in Siskiyou County, California

	Tribal Name	County Name
+	Confederated Tribes of Siletz Indians of Oregon	Siskiyou
+	Confederated Tribes of the Grand Ronde Community of Oregon	Siskiyou
+	Elk Valley Rancheria, California	Siskiyou
+	Karuk Tribe	Siskiyou
+	Klamath Tribes	Siskiyou
+	Pit River Tribe, California	Siskiyou
+	Quartz Valley Indian Community of the Quartz Valley Reservation of California	Siskiyou

1 - 7 of 7 results
« < 1 > » 10 ▼

March 5, 2024

FROM: City of Tulelake
591 Main Street
Tulelake, California 96134

TO: Delores Pigsley/Chairperson
Confederated Tribes of Siletz Indians of Oregon
201 SE Swan Avenue, Siletz, OR - 97380-0549

RE: Tribal Cultural Resources under the California Environmental Quality Act, AB 52 (Gatto, 2014). Formal Notification of determination that a Project Application is Complete or Decision to Undertake a Project, and Notification of Consultation Opportunity, pursuant to Public Resources Code § 21080.3.1 (hereafter PRC).

Dear Ms. Pigsley:

The City of Tulelake has decided to undertake the following project: *City of Tulelake Drought Relief Project*. The proposed waterline replacement is located at Sixth Alley and Rehabilitating (2) Existing Wells located south of B Street and West of Siskiyou Street. The City has received funding from the Small Community Drought Relief Program.

Below please find a description of the proposed project and the name of our project point of contact, pursuant to PRC § 21080.3.1 (d). The site plan for the project is attached separately.

The City of Tulelake Drought Relief Project is comprised of rehabilitating two existing wells, replacing 500 feet of aged cast iron leaky water main, replacing five service connections, reconnecting two fire hydrants, providing bottled water for emergency use, and installing an emergency potable water re-filling station with a drinking water fountain. The City received funding from the California Natural Resources Agency Department of Water Resources Small Community Drought Relief Program.

The project location is: Sixth Alley and Rehabilitating (2) Existing Wells located south of B Street and West of Siskiyou Street.

If you have questions regarding this project, please direct them to Andréa Rabe at 541-891-2137 or andrea@rabeconsulting.com.

Pursuant to PRC § 21080.3.1 (b), you have 30 days or until April 5, 2024, from the receipt of this letter to request consultation, in writing, with The City of Tulelake by contacting Rabe Consulting at 421 Commercial Street, Klamath Falls, Oregon 97601 or via email at andrea@rabeconsulting.com.

Very Respectfully,


Andréa Rabe
Senior Environmental Consultant
Rabe Consulting
andrea@rabeconsulting.com

March 5, 2024

FROM: City of Tulelake
591 Main Street
Tulelake, California 96134

TO: Cheryle Kennedy/Chairwoman
Confederated Tribes of the Grand Ronde Community of Oregon
9615 Grand Ronde Rd., Grand Ronde, OR - 97347

RE: Tribal Cultural Resources under the California Environmental Quality Act, AB 52 (Gatto, 2014). Formal Notification of determination that a Project Application is Complete or Decision to Undertake a Project, and Notification of Consultation Opportunity, pursuant to Public Resources Code § 21080.3.1 (hereafter PRC).

Dear Chair Kennedy:

The City of Tulelake has decided to undertake the following project: *City of Tulelake Drought Relief Project*. The proposed waterline replacement is located at Sixth Alley and Rehabilitating (2) Existing Wells located south of B Street and West of Siskiyou Street. The City has received funding from the Small Community Drought Relief Program.

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Very Respectfully,



Andréa Rabe
Senior Environmental Consultant
Rabe Consulting
andrea@rabeconsulting.com

March 5, 2024

FROM: City of Tulelake
591 Main Street
Tulelake, California 96134

TO: Christopher Bailey/Cultural Protection Specialist
Confederated Tribes of the Grand Ronde Community of Oregon
8720 Grand Ronde Road, Grand Ronde, OR - 97347-9712

RE: Tribal Cultural Resources under the California Environmental Quality Act, AB 52 (Gatto, 2014). Formal Notification of determination that a Project Application is Complete or Decision to Undertake a Project, and Notification of Consultation Opportunity, pursuant to Public Resources Code § 21080.3.1 (hereafter PRC).

Dear Mr. Bailey:

The City of Tulelake has decided to undertake the following project: *City of Tulelake Drought Relief Project*. The proposed waterline replacement is located at Sixth Alley and Rehabilitating (2) Existing Wells located south of B Street and West of Siskiyou Street. The City has received funding from the Small Community Drought Relief Program.

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Very Respectfully,


Andréa Rabe
Senior Environmental Consultant
Rabe Consulting
andrea@rabeconsulting.com

March 5, 2024

FROM: City of Tulelake
591 Main Street
Tulelake, California 96134

TO: David Harrelson/THPO
Confederated Tribes of the Grand Ronde Community of Oregon
9615 Grand Ronde Rd., Grand Ronde, OR - 97347

RE: Tribal Cultural Resources under the California Environmental Quality Act, AB 52 (Gatto, 2014). Formal Notification of determination that a Project Application is Complete or Decision to Undertake a Project, and Notification of Consultation Opportunity, pursuant to Public Resources Code § 21080.3.1 (hereafter PRC).

Dear THPO Harrelson:

The City of Tulelake has decided to undertake the following project: *City of Tulelake Drought Relief Project*. The proposed waterline replacement is located at Sixth Alley and Rehabilitating (2) Existing Wells located south of B Street and West of Siskiyou Street. The City has received funding from the Small Community Drought Relief Program.

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The project location is: Sixth Alley and Rehabilitating (2) Existing Wells located south of B Street and West of Siskiyou Street.

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Very Respectfully,



Andréa Rabe
Senior Environmental Consultant
Rabe Consulting
andrea@rabeconsulting.com

March 5, 2024

FROM: City of Tulelake
591 Main Street
Tulelake, California 96134

TO: Dale Miller/Chairperson
Elk Valley Rancheria, California
2332 Howland Hill Road, Crescent City, CA - 95531

RE: Tribal Cultural Resources under the California Environmental Quality Act, AB 52 (Gatto, 2014). Formal Notification of determination that a Project Application is Complete or Decision to Undertake a Project, and Notification of Consultation Opportunity, pursuant to Public Resources Code § 21080.3.1 (hereafter PRC).

Dear Chair Miller:

The City of Tulelake has decided to undertake the following project: *City of Tulelake Drought Relief Project*. The proposed waterline replacement is located at Sixth Alley and Rehabilitating (2) Existing Wells located south of B Street and West of Siskiyou Street. The City has received funding from the Small Community Drought Relief Program.

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The project location is: Sixth Alley and Rehabilitating (2) Existing Wells located south of B Street and West of Siskiyou Street.

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Very Respectfully,


Andréa Rabe
Senior Environmental Consultant
Rabe Consulting
andrea@rabeconsulting.com

March 5, 2024

FROM: City of Tulelake
591 Main Street
Tulelake, California 96134

TO: Lawanda Green/THPO
Elk Valley Rancheria, California
2332 Howland Hill Road, Crescent City, CA - 95531

RE: Tribal Cultural Resources under the California Environmental Quality Act, AB 52 (Gatto, 2014). Formal Notification of determination that a Project Application is Complete or Decision to Undertake a Project, and Notification of Consultation Opportunity, pursuant to Public Resources Code § 21080.3.1 (hereafter PRC).

Dear THPO Green:

The City of Tulelake has decided to undertake the following project: *City of Tulelake Drought Relief Project*. The proposed waterline replacement is located at Sixth Alley and Rehabilitating (2) Existing Wells located south of B Street and West of Siskiyou Street. The City has received funding from the Small Community Drought Relief Program.

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Very Respectfully,


Andréa Rabe
Senior Environmental Consultant
Rabe Consulting
andrea@rabeconsulting.com

March 5, 2024

FROM: City of Tulelake
591 Main Street
Tulelake, California 96134

TO: Russell Attebery/Chairman
Karuk Tribe
64236 2nd Avenue, Happy Camp, CA – 96039

RE: Tribal Cultural Resources under the California Environmental Quality Act, AB 52 (Gatto, 2014). Formal Notification of determination that a Project Application is Complete or Decision to Undertake a Project, and Notification of Consultation Opportunity, pursuant to Public Resources Code § 21080.3.1 (hereafter PRC).

Dear Chair Attebery:

The City of Tulelake has decided to undertake the following project: *City of Tulelake Drought Relief Project*. The proposed waterline replacement is located at Sixth Alley and Rehabilitating (2) Existing Wells located south of B Street and West of Siskiyou Street. The City has received funding from the Small Community Drought Relief Program.

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Very Respectfully,


Andréa Rabe
Senior Environmental Consultant
Rabe Consulting
andrea@rabeconsulting.com

March 5, 2024

FROM: City of Tulelake
591 Main Street
Tulelake, California 96134

TO: Alex Watts-Tobin /THPO
Karuk Tribe
P.O. Box 1016, Happy Camp, CA - 96039

RE: Tribal Cultural Resources under the California Environmental Quality Act, AB 52 (Gatto, 2014). Formal Notification of determination that a Project Application is Complete or Decision to Undertake a Project, and Notification of Consultation Opportunity, pursuant to Public Resources Code § 21080.3.1 (hereafter PRC).

Dear THPO Watts-Tobin:

The City of Tulelake has decided to undertake the following project: *City of Tulelake Drought Relief Project*. The proposed waterline replacement is located at Sixth Alley and Rehabilitating (2) Existing Wells located south of B Street and West of Siskiyou Street. The City has received funding from the Small Community Drought Relief Program.

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Very Respectfully,


Andréa Rabe
Senior Environmental Consultant
Rabe Consulting
andrea@rabeconsulting.com

March 5, 2024

FROM: City of Tulelake
591 Main Street
Tulelake, California 96134

TO: Clayton Dumont/Chairman
Klamath Tribes
501 Chiloquin Boulevard, Chiloquin, OR - 97624

RE: Tribal Cultural Resources under the California Environmental Quality Act, AB 52 (Gatto, 2014). Formal Notification of determination that a Project Application is Complete or Decision to Undertake a Project, and Notification of Consultation Opportunity, pursuant to Public Resources Code § 21080.3.1 (hereafter PRC).

Dear Chair Dumont:

The City of Tulelake has decided to undertake the following project: *City of Tulelake Drought Relief Project*. The proposed waterline replacement is located at Sixth Alley and Rehabilitating (2) Existing Wells located south of B Street and West of Siskiyou Street. The City has received funding from the Small Community Drought Relief Program.

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The project location is: Sixth Alley and Rehabilitating (2) Existing Wells located south of B Street and West of Siskiyou Street.

If you have questions regarding this project, please direct them to Andréa Rabe at 541-891-2137 or andrea@rabeconsulting.com.

Pursuant to PRC § 21080.3.1 (b), you have 30 days or until April 5, 2024, from the receipt of this letter to request consultation, in writing, with The City of Tulelake by contacting Rabe Consulting at 421 Commercial Street, Klamath Falls, Oregon 97601 or via email at andrea@rabeconsulting.com.

Very Respectfully,


Andréa Rabe
Senior Environmental Consultant
Rabe Consulting
andrea@rabeconsulting.com

March 5, 2024

FROM: City of Tulelake
591 Main Street
Tulelake, California 96134

TO: Christina Rubidoux / Director of the Culture & Heritage Department
Klamath Tribes
Po Box 436, Chiloquin, OR - 97624

RE: Tribal Cultural Resources under the California Environmental Quality Act, AB 52 (Gatto, 2014). Formal Notification of determination that a Project Application is Complete or Decision to Undertake a Project, and Notification of Consultation Opportunity, pursuant to Public Resources Code § 21080.3.1 (hereafter PRC).

Dear Director Rubidoux:

The City of Tulelake has decided to undertake the following project: *City of Tulelake Drought Relief Project*. The proposed waterline replacement is located at Sixth Alley and Rehabilitating (2) Existing Wells located south of B Street and West of Siskiyou Street. The City has received funding from the Small Community Drought Relief Program.

Below please find a description of the proposed project and the name of our project point of contact, pursuant to PRC § 21080.3.1 (d). The site plan for the project is attached separately.

The City of Tulelake Drought Relief Project is comprised of rehabilitating two existing wells, replacing 500 feet of aged cast iron leaky water main, replacing five service connections, reconnecting two fire hydrants, providing bottled water for emergency use, and installing an emergency potable water re-filling station with a drinking water fountain. The City received funding from the California Natural Resources Agency Department of Water Resources Small Community Drought Relief Program.

The project location is: Sixth Alley and Rehabilitating (2) Existing Wells located south of B Street and West of Siskiyou Street.

If you have questions regarding this project, please direct them to Andréa Rabe at 541-891-2137 or andrea@rabeconsulting.com.

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Very Respectfully,


Andréa Rabe
Senior Environmental Consultant
Rabe Consulting
andrea@rabeconsulting.com

March 5, 2024

FROM: City of Tulelake
591 Main Street
Tulelake, California 96134

TO: Agnes Gonzalez / Chairperson
Pit River Tribe, California
36970 Park Avenue, Burney, CA – 96013

RE: Tribal Cultural Resources under the California Environmental Quality Act, AB 52 (Gatto, 2014). Formal Notification of determination that a Project Application is Complete or Decision to Undertake a Project, and Notification of Consultation Opportunity, pursuant to Public Resources Code § 21080.3.1 (hereafter PRC).

Dear Chair Gonzalez:

The City of Tulelake has decided to undertake the following project: *City of Tulelake Drought Relief Project*. The proposed waterline replacement is located at Sixth Alley and Rehabilitating (2) Existing Wells located south of B Street and West of Siskiyou Street. The City has received funding from the Small Community Drought Relief Program.

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The project location is: Sixth Alley and Rehabilitating (2) Existing Wells located south of B Street and West of Siskiyou Street.

If you have questions regarding this project, please direct them to Andréa Rabe at 541-891-2137 or andrea@rabeconsulting.com.

Pursuant to PRC § 21080.3.1 (b), you have 30 days or until April 5, 2024, from the receipt of this letter to request consultation, in writing, with The City of Tulelake by contacting Rabe Consulting at 421 Commercial Street, Klamath Falls, Oregon 97601 or via email at andrea@rabeconsulting.com.

Very Respectfully,


Andréa Rabe
Senior Environmental Consultant
Rabe Consulting
andrea@rabeconsulting.com

March 5, 2024

FROM: City of Tulelake
591 Main Street
Tulelake, California 96134

TO: Natalie Forrest-Perez/ THPO
Pit River Tribe, California
36970 Park Avenue, Burney, CA – 96013

RE: Tribal Cultural Resources under the California Environmental Quality Act, AB 52 (Gatto, 2014). Formal Notification of determination that a Project Application is Complete or Decision to Undertake a Project, and Notification of Consultation Opportunity, pursuant to Public Resources Code § 21080.3.1 (hereafter PRC).

Dear THPO Forrest-Perez:

The City of Tulelake has decided to undertake the following project: *City of Tulelake Drought Relief Project*. The proposed waterline replacement is located at Sixth Alley and Rehabilitating (2) Existing Wells located south of B Street and West of Siskiyou Street. The City has received funding from the Small Community Drought Relief Program.

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If you have questions regarding this project, please direct them to Andréa Rabe at 541-891-2137 or andrea@rabeconsulting.com.

Pursuant to PRC § 21080.3.1 (b), you have 30 days or until April 5, 2024, from the receipt of this letter to request consultation, in writing, with The City of Tulelake by contacting Rabe Consulting at 421 Commercial Street, Klamath Falls, Oregon 97601 or via email at andrea@rabeconsulting.com.

Very Respectfully,


Andréa Rabe
Senior Environmental Consultant
Rabe Consulting
andrea@rabeconsulting.com

March 5, 2024

FROM: City of Tulelake
591 Main Street
Tulelake, California 96134

TO: Harold Bennett/ Chairman
Quartz Valley Indian Community of the Quartz Valley Reservation of California
13601 Quartz Valley Road, Fort Jones, CA - 96032

RE: Tribal Cultural Resources under the California Environmental Quality Act, AB 52 (Gatto, 2014). Formal Notification of determination that a Project Application is Complete or Decision to Undertake a Project, and Notification of Consultation Opportunity, pursuant to Public Resources Code § 21080.3.1 (hereafter PRC).

Dear Chair Bennett:

The City of Tulelake has decided to undertake the following project: *City of Tulelake Drought Relief Project*. The proposed waterline replacement is located at Sixth Alley and Rehabilitating (2) Existing Wells located south of B Street and West of Siskiyou Street. The City has received funding from the Small Community Drought Relief Program.

Below please find a description of the proposed project and the name of our project point of contact, pursuant to PRC § 21080.3.1 (d). The site plan for the project is attached separately.

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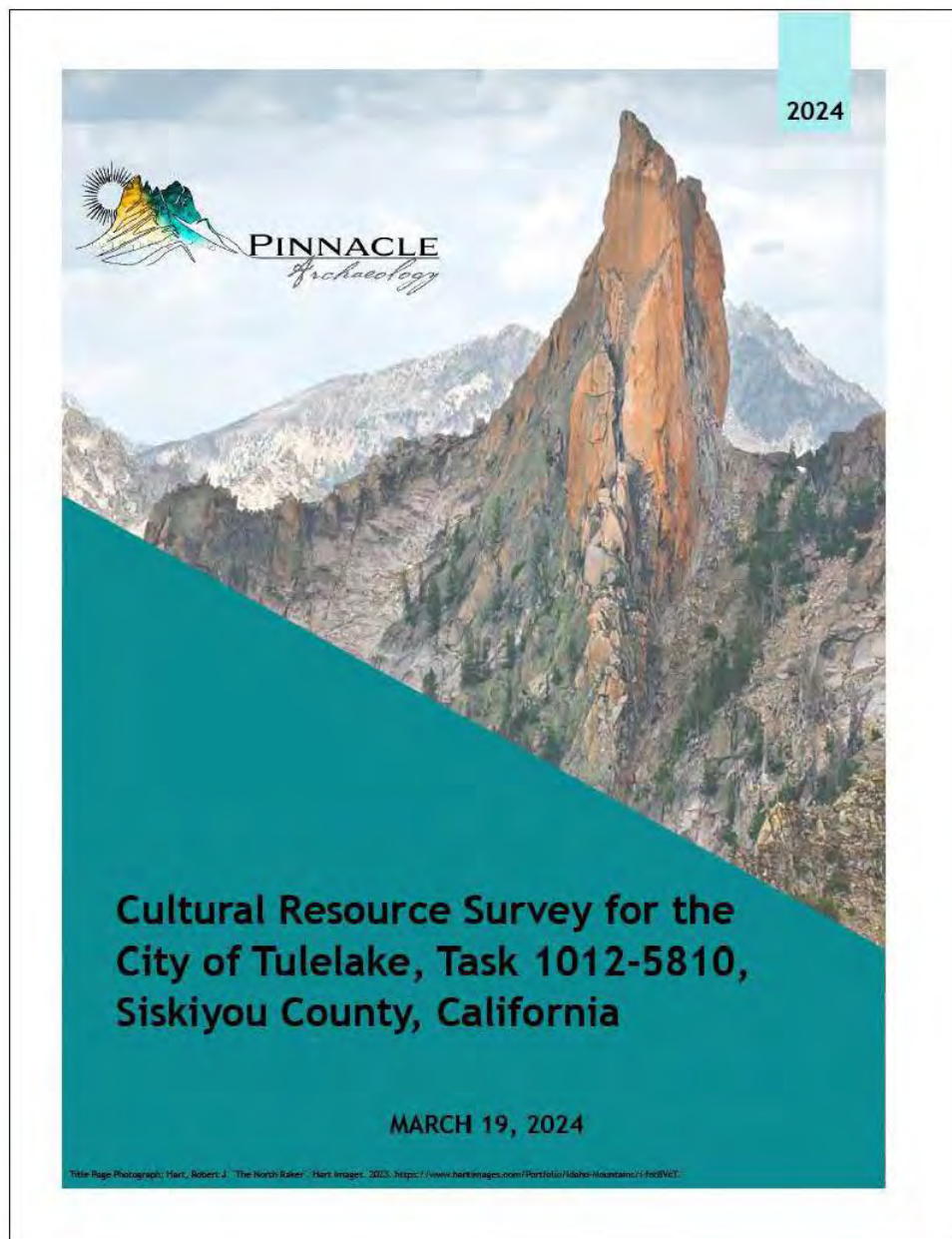
The project location is: Sixth Alley and Rehabilitating (2) Existing Wells located south of B Street and West of Siskiyou Street.

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Very Respectfully,


Andréa Rabe
Senior Environmental Consultant
Rabe Consulting
andrea@rabeconsulting.com



**Cultural Resource Survey
for the City of Tullake, Task 1012-5810,
Siskiyou County, California**

Prepared for:

Rabe Consulting
421 Commercial St.
Klamath Falls, Oregon 97601

Prepared by:



Ashlee Hart (Ph.D., RPA) and Brooklynn Carnovale (B.S.)

PO Box 190187
Boise, Idaho 83719

March 19, 2024

Pinnacle Archaeology Report No. 24-009.Z

Cultural Resource Survey for the City of Tulelake, Task 1012-5810,
Siskiyou County, California

March 19, 2024

Executive Summary

Project Title: Cultural Resource Survey for the City of Tulelake Roads, Task 1012-5810,
Siskiyou County, California

Report Author: Ashlee Hart (Ph.D, RPA) and Brooklynn Carnevale (B.S.)

Pinnacle Project No.: 24-009.2

Project Description: Pinnacle Archaeology LLC (Pinnacle) was contracted by Rabe Consulting to conduct a cultural resource survey in preparation for the rehabilitation of two existing wells, replacement of a waterline, and associated plumbing requirements in the City of Tulelake. The proposed project includes two locales in Tulelake, Siskiyou County, California. The project area associated with the project accounts for approximately 2.27 acres including an unpaved alleyway as well as the Water Pumping Facility public works yard and associated abandoned lot. The City of Tulelake received funding from the State of California through a 2024 Small Community Drought Relief Grant (SCDRG). Therefore, the project is subject to California Environmental Quality Act (CEQA) compliance. Pinnacle performed a pedestrian survey on March 16, 2024, as part of a cultural resource inventory and evaluation to support CEQA compliance for the proposed project. No cultural material or features were identified during the pedestrian survey.

Land Status: City of Tulelake

Location: Tulelake, Siskiyou County, California

Legal Location (Township/Range/Section): Township 48 North, Range 04 East, Section 35 of the Mount Diablo Meridian

United States Geological Survey Quadrangle Map(s): Tulelake, California (2022)

Project Area: approximately 2.27 acres

Acres Surveyed: approximately 2.27 acres

Method(s): Intensive pedestrian survey

Cultural Resources Recorded: No cultural resources identified in the project area

NRHP Eligibility Recommendations: No cultural resources identified in the project area

Field Personnel: Ashlee Hart (Ph.D, RPA) and Brooklynn Carnevale (B.S.)

Date(s) of Fieldwork: March 16, 2024

Summary of Recommendations: Pinnacle performed fieldwork and reporting in compliance with California Office of Historic Preservation (OHP) guidelines and standards. All work was performed under the oversight of Ashlee Hart (P.H.D., RPA) who meets the Secretary of the Interiors' (SOI) Professional Qualification Standards for archaeology in accordance with

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Appendix A of 36 Code of Federal Regulations (CFR) 61 and is a California Historic Resource Information System (CHRIS) Authorized User.

Prior to fieldwork, Pinnacle requested a records search of the Northeast Archaeological Information Center (Records Search No. NE24-93) for previously recorded historic resources within the project area and within a 0.5-mi (0.8-km) study area around the project area. Nine previous cultural resource studies occurred within the 0.5-mi study area; however, none of the previous cultural resource studies overlap with the project area. One previously documented cultural resource occurred within the 0.5-mi study area but does not overlap the project area.

Pinnacle archaeologists completed a pedestrian survey of the project area on March 16, 2024. The crew used transects spaced no more than 10-m apart. The mineral sediment visibility ranged from zero to 30 percent due to the grass, gravel, pavement, structures, and storage of sediment, refuse, and machinery. The project area included a gravel alleyway, planted grass, a tennis court, an undeveloped lot with sediment and construction refuse, and the modern Water Pumping Facility public works yard, which has a water storage tank, various buildings, a chain-link fence, storage, and gravel driveways. Previous well and waterline construction and maintenance, in addition to private and public property improvements, have significantly disturbed the project area or overlain it with fill material and gravel. Property improvements, subsurface utilities, transmission lines, and vehicle use are the major contributors to soil disturbance. The proposed well rehabilitations, waterline replacement, and associated system improvements will replace current utilities resulting in no new disturbance.

No cultural artifacts or features were observed during the pedestrian survey and all structures depicted on historic aerials are no longer extant. All proposed work will occur within already highly disturbed sediments so there is little potential for intact subsurface cultural deposits. The proposed project should have a finding of “no effect” and no additional archaeological work should be required; however, an inadvertent discovery plan (IDP) should be implemented during all ground disturbing activities.

If previously unrecorded cultural resources are encountered during the project, an SOI qualified archaeologist should be immediately notified and allowed proper time to address the nature and significance of the discovery. Additionally, if human remains are discovered, all activity must cease in the immediate area, the archaeologist should be immediately notified, and the remains should not be further disturbed and will be treated with dignity and respect at all times while an appropriate course of action is determined, pursuant to 43 CFR 10 (Native American Graves Protection and Repatriation Act of 1991, as amended).

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Cultural Resource Survey for the City of Tullake, Task 1012-5810,
Siskiyou County, California

March 19, 2024

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Cultural Resource Survey for the City of Tullake, Task 1012-5810,
Siskiyou County, California

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Introduction

Pinnacle Archaeology LLC (Pinnacle) was contracted by Rabe Consulting to conduct a cultural resource survey in preparation for the rehabilitation of an two existing wells, replacement of a waterline, and associated plumbing requirements in the City of Tullake. The proposed project includes two locales in Tullake, Siskiyou County, California. The project area associated with the project accounts for approximately 2.27 acres including an unpaved alleyway as well as the Water Pumping Facility public works yard and associated abandoned lot. The City of Tullake received funding from the State of California through a 2024 Small Community Drought Relief Grant (SCDRG). Therefore, the project is subject to California Environmental Quality Act (CEQA) compliance. Pinnacle performed a pedestrian survey on March 16, 2024, as part of a cultural resource inventory and evaluation to support CEQA compliance for the proposed project.

Regulatory Context

The City of Tullake received funding through a SCDRG to fund the project; therefore, the project is subject to CEQA compliance. Historical properties must be identified and evaluated for listing on the California Register of Historical Resources (CRHP). Additionally, Tribal Cultural Property (TCR) must be identified and considered under CEQA. An overview of these regulations is presented in the following sections.

California Environmental Quality Act (CEQA)

CEQA establishes a state of policy of sustainability to "create and maintain conditions under which man and nature can exist in productive harmony to fulfill the social and economic requirements of present and future generations" (California Public Resources Code [PRC] § 21000 et seq.). California Code of Regulations Title 14 § 15000 et seq. details the protocol which state and agencies must comply. Under CEQA, state and local agencies are required to disclose and evaluate the significant environmental impacts of proposed projects and adopt all feasible mitigation measures to reduce or eliminate those impacts.

Lead agencies must determine if there are historical resources within a project area that are listed in the CRHP, or if properties exist that are not yet listed that may be historical resources or legally defined unique archaeological sites under CEQA. If there are historic properties, the lead agency must determine if the proposed project has the potential to impact those resources. The lead state agency is responsible for compliance with state law and for determining if cultural resources studies are needed. Under CEQA, studies are needed to determine whether historical resources are present within a project area.

California Register of Historical Resources (CRHR)

The CRHP is established under PRC 5024.1 and is the state equivalent of the National Register of Historic Places. California Register listed properties are historical resources for purposes of CEQA. Lead state agencies are required to determine if additional properties not currently listed in the California Register may also be historical resources for purposes of CEQA. California Department of Parks and Recreation (DPR) 523 forms and continuation forms are used to record historical properties. To be considered eligible for listing in the CRHP, a property must meet at least one of the following criteria:

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- **Criterion 1:** associated with events that have made a significant contribution to the broad patterns of local or regional history or the cultural heritage of California or the United States; or
- **Criterion 2:** associated with the lives of persons important to local, California or national history; or
- **Criterion 3:** embodies the distinctive characteristics of a type, period, region or method of construction or represents the work of a master or possesses high artistic values; or
- **Criterion 4:** has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation.

Tribal Cultural Resources (TCR)

Assembly Bill 52 amended CEQA to identify a TCR as a new, separate, and distinct resource to be analyzed under the CEQA. The bill also amends PRC Section 5097.94 (Native American Historical, Cultural, and Sacred Sites) to include adds Sections 21073, 21074, 21080.3.1, 21080.3.2, 21082.3, 21084.2, and 21084.3. The additions mandate clear timelines for consultation with California Native American tribes. If a tribe provides substantial evidence that a TCR may be affected by a project, it must be considered as part of the CEQA analysis. A TCR may be:

- A site, feature, place, cultural landscape, sacred place, or object included or determined to be eligible for the California Register or a local register; or
- Any resource that meets California register criteria as determined by the CEQA lead agency "in its discretion and supported by substantial evidence" taking into account the significance of the TCR to a California Native American tribe.

Project Area

The City of Tullake proposes two well rehabilitations and waterline replacement project that includes a potential area of impact of approximately 2.27 acres in two locations in Tullake, Siskiyou County, California (Figure 1). The project area is in Township 48 North, Range 04 East, Section 35 of the Mount Diablo Meridian. The project area is depicted on the 2022 Tullake, California, United States Geological Survey (USGS) 7.5-minute topographic quadrangle (Figure 2). The project area is owned by the City of Tullake.

The proposed project includes the rehabilitation of two wells with associated plumbing and installation of fire hydrants as well as the replacement of a waterpipe and associated plumbing in one alleyway (Figure 3). The wells are located between B Street and C Street in an undeveloped lot and a portion of the Water Pumping Facility public works yard. The undeveloped lot has several piles of dirt and construction refuse while the eastern margin includes a grass field connected with Otis Roper Park and a disused tennis court (Photograph 1–Photograph 2). The public works yard has a storage tank, various buildings, a chain-link fence, storage, and gravel driveways (Photograph 3). The waterline replacements will take place in the Sixth Street Alley between E Street and F Street. The alleyway is not paved but consists of compacted sediments and gravel with residents on either side (Photograph 4).

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Figure 1. Project Area Vicinity Map

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Figure 3. Project Area Aerial Map

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Photograph 1. Disused well and sediment/construction debris overview, facing northwest.



Photograph 2. Otis Roper Park in foreground with disused tennis court on left and public works yard on right, facing southwest.

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Photograph 3. Overview of the public works yard, facing northwest.



Photograph 4. Overview of Sixth Alley from the north end, facing south.

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Environmental Context

Identification and discussion of physiographic and environmental conditions within the project area, and its geographic vicinity, is essential to understanding both prehistoric and historic land use. The factors known, and suspected, to have affected human adaptations to the environment are examined below. Geologic history, soils and sediments, climatic changes and contemporary climate, flora, and fauna are discussed in the following sections.

Physiographic and Geological Overview

The project area lies in northeastern California on the Modoc Plateau in Siskiyou County, California. The Modoc Plateau extends from the Warner Mountains and Surprise Valley to the east along the Nevada state border, south to the Madeline Plains, westward past Lower Klamath Lake at the edge of the Cascade Mountains, and north beyond the Oregon state border (McGuire 2007; Woodbridge et. al 2012). Elevations within the Modoc Plateau generally exceed 5,000 foot (ft) above mean sea level (amsl), providing cool and wet conditions. The Modoc Plateau is comprised of a broad, volcanic tableland that is broken by isolated volcanic cones, numerous rimrock benches, and deeply incised canyons. This physiographic province is defined by many natural lakes including the Lower Klamath, Tule, Goose, and Clear Lake, which are fed by the Pit, McCloud, Fall, and Lost rivers. These make up the defining hydrological features of the Modoc Plateau.

Prior to the geologic formation of the Klamath Mountains, a volcanic island archipelago existed with a seaway, known as the Modoc Seaway, which separated the archipelago from the Sierra Nevada Mountains (Orr and Orr 2002). The Modoc Seaway covered the northern portion of the Modoc Plateau throughout the Cretaceous period (Alt and Hindman 2000). Approximately 160 million years ago (mya) an oceanic plate began to collide with the North American continental plate. This resulted in erosion and uplifting that caused reduced sea levels and the end of the Modoc Seaway. Additional tectonic pressure led to the creation of the Klamath Mountains (Harden 2004). Volcanic activities resulting in the Modoc Plateau creation began in the Oligocene and continued through the Miocene to the Pleistocene (Smith 2008).

By approximately three mya, pluvial Lake Modoc was forming. At the height of Lake Modoc, during the Pleistocene, there were an estimated 400 miles (mi) of lake shoreline (Dickens 1980). Throughout the Pleistocene, glacial and interglacial periods occurred. Around 11,800 years ago, a warming climate contributed to the end of the Ice Ages and the beginning of the Holocene. The early Holocene is marked by a significant increase in temperature and decrease in precipitation (Adam and West 1983; West 2002). The Holocene had periodic and persistent widespread dry conditions that resulted in lower lake levels and runoff, increased fire frequency, and reduced vegetational growth (Anderson et. al 2008). These dry periods resulted in Lake Modoc drying up and dividing into three lakes. These are known as the Upper Klamath, Lower Klamath, and Tule Lakes (Smith 2008). Lake Tule reduced rapidly during the Holocene and fluctuated often. This resulted in the creation of rockshelters near the bottom of Gilem Bluff (Dickens 1980; Claghorn 1959). Modern climatic conditions developed in the Modoc Plateau around 2,200 years ago, resulting in the Modoc Plateau we see today (Anderson et. al 2008).

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Soils and Sediments

The volcanic rocks that comprise the Modoc Plateau are predominantly Miocene-age basalts, with late extrusions of rhyolitic rocks that are common near the southern edge of the Madeline Basin (Alt and Hyndman 2000). The Modoc Plateau is capped by Warner basalt flows and Garden Basalt Veneer from the late Miocene to late Pleistocene (Woodhouse et. al 2004).

According to the USDA, Natural Resources Conservation Service (USDA-NRCS) Web Soil Survey, the vicinity of Tullake is comprised of Tulana silt loam (183) and Tulebasin musky silty clay loam (185). Tulana silt loam consists of a poorly drained lacustrine deposit derived from igneous and sedimentary rock formed on basin floors with a slope of 0–1 percent. The topsoil consists of a silt loam up to 12 inches (in) in depth with a silt loam up to 41 in in depth followed by a stratified fine sand to silt loam. Tulebasin mucky silty clay loam consists of a very poorly drained lacustrine deposit derived from igneous and sedimentary rock formed on basin floors. The topsoil consists of a mucky silty clay loam up to 14 in in depth with a silty clay up to 60 in in depth (USDA-NRCS 2024).

Climate

Seasonal fluctuations in precipitation has varied since the end of the Pleistocene Epoch. Regional climate conditions at the end of the Pleistocene enabled much greater stream discharge and more robust wetland areas than are currently observed. Before people arrived on the continent, climatic oscillations occurred every 150–200 thousand years throughout the Pleistocene, with the Last Glacial Maximum (LGM) occurring around 26,000 to 19,000 years ago (Remonte 2023). Around 14,700–12,900 years ago, a major climatic warming phase known as the Bolling-Allerod Interstadial Period occurred that rapidly melted away large swathes of ice sheets, sea ice and glaciers. This warming period changed the water balance of the Northern Hemisphere by unlocking huge amounts of fresh water and releasing it to oceans and basin lakes and allowing it to be cycled into the atmosphere resulting in precipitation. This effect, stemming from a changing balance between frozen water and water available for evaporation and transpiration from soils and plants, contributed to a wetter climate at the end of the Pleistocene and beginning of the Holocene (Pöster and Zimmermann 2022; Norris et al. 2021).

During the early Holocene Epoch, beginning around 11,700 years ago, conditions were much wetter than today. The Neothermal Climate Sequence, proposed by Ernst Antevs, applies to the greater western United States, and suggests that from around 9000 years before present (B.P.) until around 7000 B.P., the weather remained cool and moist. This timespan, termed the Anathermal period, was followed by the Altithermal period from about 7000 to 4000 B.P., which was distinctively warmer and drier. During the second half of the Altithermal period, warmer and drier weather patterns allowed many of the massive inland lakes of the Great Basin to evaporate, many of them disappearing completely, along with their unique ecosystems, plants and animals by 6000 B.P. (Martin and Klein 1984). This period of climate change is especially important to the environmental context of human land use and subsistence in the region and may have pushed people into different geographic regions in search of untapped resources. The Medithermal period, which is the one we are still in now, began around 4000 B.P. and has been a more seasonal climate, subject to fluctuations of drought and deluge, much like today (Antevs 1948).

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The modern Modoc Plateau climatic conditions developed around 2,200 years ago, resulting in the large number of modern fauna, especially aquatic varieties in marshland area (Anderson et al. 2008). The Modoc Plateau ranges in elevation from 3,200 ft amsl in the Fall River Valley to upwards of 8,000 ft amsl on Red Rock Mountain. The climatic pattern of the area is classified as "Mediterranean Montane" (Bailey 1995). The Modoc Plateau is within the rain shadow of the Cascades and therefore receives minimal annual rainfall. Precipitation usually results from snow between October and May, averaging 17 in annually (Woodbridge et al. 2012). Most of the Modoc Plateau precipitation originates from winter Pacific cyclonic storms with a short, unpredictable summer monsoon season (Smith and Davidson 2003). The summers tend to be cool and dry with minimal rainfall (McGuire 2007). Historically, droughts are frequent within the area (United States Fish and Wildlife Service 2001).

Historic weather data from Tullake, California between January 1, 1932, and June 7, 2016, suggest that the annual maximum temperature is 62.0 degrees Fahrenheit (F) while the average minimum temperature is 31.5 degrees F. Average annual precipitation is 10.8 in and occurs mostly in the fall and winter months. Average annual snowfall is 21.3 in occurring between October and May with the greatest amount in January (Western Regional Climate Center 2023).

Flora and Fauna

The Modoc Plateau bioregion supports several diverse ecosystems including Great Basin shrub, juniper woodland, coniferous forest, lacustrine, and wetland. Great basin shrub encompasses most of the Modoc Plateau in non-mountainous regions less than 5,000 ft amsl in elevation. This ecosystem supports sagebrush (*Artemisia tridentata*), rabbitbrush (*Chrysothamnus app.*), and various native bunchgrasses. Additionally, the vicinity of the project area may have had juniper woodlands, lacustrine, or wetland ecosystems prior to Euro-American depletion of Tule Lake for irrigation and agriculture. Juniper woodlands occur in rockier soils of the foothills with mostly western juniper (*Juniperus occidentalis*), sagebrush, and bitterbrush (*Purshia tridentata*). Lacustrine and well-developed marsh communities around major water sources support common tule (*Scirpus acutus*), sago lily (*Calochortus spp.*), cattail (*Typha latifolia*), wakas (*Nuphar polysepalum*), opas (*Perideridia gairdneri*), and camas (*Camassia quamash*). Wetlands additionally have sedges (*Carex spp.*), rushes (*Juncus spp.*) and tufted grasses (*Deschampsia caespitosa*) (Luhnow 1998; McGuire 2007; Smith and Davidson 2003). Little of this original vegetation remains due to development of the basin for agriculture, but remnants of native vegetation exist. Contemporary land use in this ecoregion is mostly agricultural.

Fauna within the Modoc Plateau traditionally included mule deer (*Odocoileus hemionus hemionus*), antelope (*Antilocapra americana*), bighorn sheep (*Ovis canadensis California*), grizzly bear (*Ursus horribilis*), Canadian elk (*Cervus canadensis*), and bison (*Bison bison*). The area is within the Pacific Flyway, a major route for migrating birds that include American White Pelicans (*Pelecanus erythrorhynchos*), ducks (*Anas platyrhynchos*), geese (*Branta*), and swans (*Cygnus*). Fish in the Lost River included the Lost River sucker (*Deltistes luxatus*), shortnose sucker (*Chasmistes brevirostris*), and rainbow trout (*Oncorhynchus mykiss*).

The project area occurs in a developed suburban context and as such, it is not an ideal habitat for all its original animal residents. Many wild animals have adapted to live and thrive alongside people and are likely to utilize the area. Raccoon (*Procyon lotor*), red fox (*Vulpes*

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vulpes), coyote (*Canis latrans*), and skunk (*Mephitis mephitis*) are a few of the fur bearing mammals that may be present in the area.

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Cultural Context

Pinnacle prepared the following cultural context of the project area to properly evaluate the significance of cultural resources found during the survey and aid in National Register of Historic Places (NRHP) recommendations. This overview is intended only as a general outline and is not meant to be exhaustive.

Prehistoric Context

The project area falls within northeastern California. Northeastern California's prehistory is slightly different than the Great Basin (McGuire 2007). A generalized chronology presented by King et al. (2004:23–46) and McGuire (2007:165–176) divides the prehistory of northeastern California into the Late Pleistocene/Early Holocene, Post-Mazama, Archaic, and Terminal Prehistoric periods.

Late Pleistocene/Early Holocene (c. 13,000 to 7,000 B.P.)

Post-glacial warming, drying of ancient lakes, population increase, and artifact diversification characterizes this period (Crossman 1956). Most early Holocene sites occur on the edges of former lake shores and marshes. Cultural material of this period includes the presence of Clovis tradition projectile points, lanceolates, large cores, bifaces, and edge modified flakes. Clovis artifacts in the region have been found at the Tulelake Shelter on the western shore of Tule Lake. Carbon dating suggested a date of $11,450 \pm 340$ calibrated (cal) years B.P. (Beaton 1991:64).

Post-Mazama (c. 7,000 to 5,000 B.P.)

Mount Mazama erupted circa 7,600 B.P. which resulted in a region-wide environmental decline due to massive tephra deposits affecting wildlife, hydrology, and vegetation communities. Archaeological evidence indicates that during this population decline, mobility increased and interregional interactions between cultural groups resulted in adaptive lithic technologies.

Middle Holocene sites tend to occur on upslope alluvial fans near freshwater resources. This is suggestive of the importance of riparian habitats after the disappearance of marshlands. Lakeshore adaptation is apparent in Surprise Valley and the Klamath Basin. The Post-Mazama period is characterized by large side notched projectile points, antler wedges, mortars with V-shaped bowls, pointed pestles, T-shaped drills, tanged blades, and flaked stone pendants (Coleman 2013; McGuire 2007).

Archaic Period (c. 5,000 to 1,000 B.P.)

During the Early Archaic (c. 5,000–3,500 B.P.) period, population density increased. Seasonal base camps appeared that are suggestive of sedentism. The cultural material from this period predominantly includes bifacial knives, heavy core implements, and milling equipment (Coleman 2013; McGuire 2007). Regionally significant sites from this period have been identified on Lower Klamath Lake, in the Pit River Watershed, Surprise Valley and Upland Modoc Plateau (Brown 1964; Cleland 1995; Hildebrandt and Mikkelsen 1995; O'Connell 1975; and Sampson 1985).

The Middle Archaic period (c. 3,500–1,300 B.P.) represents a cultural boom of large semisedentary villages, cultural elaboration, obsidian production, and ceremonial activity (Hildebrandt and McGuire 2002). Middle Archaic sites are widespread in the Klamath and Tule

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Lake basins. Extensive obsidian distribution networks have been reported with origins in northern and central California (Arnold et al. 2004).

Between 1,000 and 600 B.P., the Medieval Climatic Anomaly may have contributed to the change in cultural assemblages, subsistence, and settlement patterns associated with the Late Archaic period. Late Archaic sites have been identified in the Klamath, Tule, and Goose Lake basins (Cressman et. al 1942; Sampson 1985; Squier and Grosscup 1954). The Late Archaic period is indicated archaeologically by the adoption of Rose Spring projectile points, along with Gunther barbed projectile points (Coleman 2013; McGuire 2007). By 1,000 B.P. brownware ceramics occur and continue into the Terminal Prehistoric.

Terminal Prehistoric (c. 600 B.P. to Contact)

Starting during the Late Archaic period, smaller Numic villages, established by the arrival of Northern Paiute groups from southern California, replaced the larger seasonal and semi-permanent villages. Permanent settlement continued along the banks of the Pit River (Coleman 2013) until diseases brought by Europeans decimated native populations. This decimation resulted in the change from seasonal and semi-permanent villages to single and multi-family camps (Coleman 2013; McGuire 2007). Cottonwood projectile points came into use as tool kits began to favor easily created and disposed of tools (McGuire 2007).

Ethnographic Context

At the time of European contact, the Modoc Plateau was home to the Modoc people. Traditional Modoc land encompasses Goose Lake to the east, Medicine Lake highlands to the south, Mt. Shasta to the west, and north of the Oregon state line (Kroeber 1925; Ray 1963; Stern 1998).

The Modoc's language dialect is part of the Plateau Penutian family (Stern 1998). The Modoc are closely related in language to their northern neighbors, the Klamath. The name Modoc derives from the tribal name for Tule Lake, *móatak* or *móatak é-ush*, which means "lake of the extreme south" (McHally 2017). The Modoc recognizes three major divisions or subgroups which were based on geography (Stern 1998). These included the Gumbatwas or the "people of the west" who occupied the Lower Klamath Lake and Tule Lake region, the Kokiwas or the "people of the far-out country" who lived around Clear Lake, and the Paskanwas or the "river people" found in the Lost River Valley (Ray 1963:202; Stern 1998:447).

Social life was elaborate when families congregated in winter villages with three types of leaders including a political leader or chief, a war leader, and a shaman. The chief position was largely hereditary, but a chief could also be chosen for their success and skills (Kroeber 1939:320; Stern 1998:454). The war leader was autonomous from the chief and was selected based on proven ability in warfare, which occurred when their territory was encroached by other tribes such as the Pit River from the south, for retaliation, or to take slaves for lucrative trade on the Columbia River (Ray 1963:134-136).

Prior to the arrival of Europeans, before 1800, the Modoc ground their food with bedrock mortars, hunted with bows and arrows, utilized obsidian from Glass Mountain, made clothing from tule fibers or animal skin that was decorated with beads, and houses were semi-dugout wickiup structures (Murray 1959). Traditionally spring was the time for fishing for trout and suckers in the Lost River. Early summer was the time to collect camas. Late summer was the time to hunt larger game such as deer, antelope, bears in the mountains as well as duck and

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goose on the lake. Berry collection was important, and fishing continued. Each family unit was responsible for storing enough food between spring and fall to survive the winter in semipermanent to permanent villages along the edge of the lake (Riddle 1914). Peter Skene Ogden of the Hudson Bay Company interacted with a Modoc winter village on the shores of Tule Lake in 1826 (McNally 2017). In historic times the Modoc had at least two large permanent villages, cremation places, and a ritual center on the north and northeast shore of Clear Lake, but the exact location is unknown (Ray 1963:209).

Upon death, the body was washed and dressed in preparation for cremation. Ideally, the cremation would take place within 24 hours after the death. A wood pyre was built usually on a rocky prominence near the village and the ashes were covered over with rock (Ray 1963: 113-117). These cremation sites are known around Shoop Creek and east of Tule Lake. Rock art and rock features were used within larger cosmological and religious frameworks (Foster and Foster, 2002; Haynal, 2000).

Both the Modoc and the Klamath created rock features in antiquity, and some are still produced today by peoples following traditional religious practices. Ethnographically, rock features were built as part of religious activity aimed at obtaining power or overcoming grief (Ray 1963; Spier 1930). Most often rock features are associated with male puberty rites in which boys would go out to remote locations on multi-day vigils. They would fast, stack rocks, swim, and run until at the point of exhaustion they received visions bringing them power (Spier 1930:95-96). Shamans and other tribal members are also known to stack rocks for a variety of reasons. Other rock features include hunting blinds, rock ring structures, U-shaped prayer seats, and defensive structures (Hildebrandt et al. 2015).

Ethnohistoric Context

From the 1820s through the Civil War, contact between Euro-Americans and the Modoc was intermittent. During this time, mining disturbed streams, traders altered the economic way of life, and settlers flowed in (Murray 1959). The introduction of the horse after 1800 led to cultural changes resulting in an increase of Klamath and Modoc raids for weapons, horses, and status symbols (Luhnow 1998). By the mid-nineteenth century, the Modoc had adopted European style clothes, horses, guns, and built permanent timber houses (Murray 1959).

Between 1847 and 1849, the Modoc were hit by European diseases including smallpox, malaria, measles, and venereal diseases (Cross 1982). The mortality rate was upwards of 40 percent and an estimated 150 people died by the end of 1847 alone, while the Modoc's population at the time of contact is estimated to be only around 2,000 (Powers 1877).

The Homestead Act of 1862 allowed traditional Klamath, Yahooskin, and Modoc lands to be obtained by Euro-Americans. Homesteaders and land speculators began to flood the region. This began to cause conflicts including the Sacramento River Massacre, Klamath Lake Massacre, Bloody Point Massacre, and the Bon Wright Massacre. After the Bon Wright Massacre, Kientpoos (later known as Captain Jack) was appointed subchief of the Modoc and peace ensued for several years (Compton 2017; McNally 2017; Riddle 1914). Captain Jack's band of Modoc resided in the watershed of Clear Lake and Lost River, which was an area targeted by those filing land claims and seeking livestock pasture. As Euro-Americans pushed into the Klamath Basin, the Modoc and Klamath lost traditional hunting grounds. In response, Captain Jack approached Indian agent, Judge Elisha Steele to establish a treaty. Without the

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authority to do so, Judge Steele made an agreement with Captain Jack to establish a reservation for the Modoc in the Tule Lake area (Compton 2017; Lava Beds National Monument 2015; McNally 2017).

The Office of Indian Affairs in Washington, D.C. decided to negotiate a treaty that would remove all Native Americans of the Upper Klamath basin to a reservation in Oregon: the Klamath Reservation (Compton 2017; McNally 2017). Indian Superintendent, J.W. P. Huntington assembled over 1,000 Native Americans at Council Grove, north of Upper Klamath Lake. The Modoc, Klamath, and Yahooskin Band of Northern Paiutes were asked to cede more than 20 million acres of south-central Oregon and northeastern California. They would be relocated to a two-million-acre reservation on traditional Klamath lands where no Euro-Americans would be allowed to live. Additionally, the Native Americans were to receive thousands of dollars' worth of supplies over the next 15 years (Most 2003).

The Modoc agreed to move to the Klamath Reservation in Oregon in 1864 (Compton 2017:23; Riddle 1914). The new occupation of the Modoc led to competition over resources such as timber (Riddle 1914). In 1865, after several failed attempts by Captain Jack to obtain assistance from judges and federal agents, several Modoc families decided to ignore the terms of the treaty and returned to traditional lands along the Lost River (Murray 1959).

The Modoc that left the Klamath Reservation lived without conflict for approximately four years (Compton 2017:23; Riddle 1914). In 1868 Abe Ball, a local homesteader, began to write letters to Captain Knapp at the Klamath Agency reporting that the Modoc were becoming aggressive, stealing cattle and other goods (Riddle 1914). In December 1869, the Modoc were peacefully returned to the Klamath Reservation. The issues between the Klamath and Modoc on the Reservation continued and Knapp did nothing to alleviate the tensions (Riddle 1914). Again, a group of Modoc left the Klamath Reservation in April 1870 (Compton 2017; Riddle 1914).

In November 1872, the Bureau of Indian Affairs ordered the Army from Fort Klamath to return the Modoc to the Klamath Reservation, by force if needed (Compton 2017; McNally 2017). The attempt resulted in the death of several cavalry men and Modoc in what is known as the Battle of Lost River, the first battle in the Modoc War. On December 21, 1872, Modoc warriors attacked Army supply wagons on Land's Ranch. Two men were killed and several more were wounded. This was the second battle of the Modoc War known as the Battle of Land's Ranch.

Captain Jack requested a reservation on the Lost River but was refused (Compton 2017; McNally 2017). The decision angered some Modoc, of which many, led by a warrior named Hooker Jim, went on a rampage and killed upwards of a dozen settlers before retreating to the lava beds south of Tule Lake (i.e., Lava Beds National Monument). An estimated 57 Modoc warriors kept the Army, numbering in the thousands, at bay for approximately six months.

President Grant established a Peace Commission to try to prevent further fighting but two Modoc, Hooker Jim and Curly-headed Doctor, shamed Captain Jack into a plot to kill the peace commissioners (Compton 2017; Lava Beds National Monument 2015; McNally 2017). On April 11, 1873, five unarmed Modoc were supposed to meet with the commissioners. Captain Jack made another request for a Lost Reservation; however, when Canby denied the request, Captain Jack shot and killed him (Compton 2017; McNally 2017). In response, the Army attacked Captain Jack's Stronghold. Although the initial attempt failed, the Army was able to

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cut off the Modoc water supply. On April 17, 1873, the Army captured the Stronghold only to find that the Modoc had escaped (Compton 2017; Lava Beds National Monument 2015; McHally 2017).

The Modoc group divided. One group went to the Fairchild Ranch on Hot Creek to surrender peacefully on May 20, 1873. The other, led by Captain Jack, avoided surrender until he was apprehended on June 1, 1873 (Compton 2017; Lava Beds National Monument 2015; Luhnnow 1998; McHally 2017). Captain Jack and several other Modoc were subject to a military trial and sentenced to be hanged (Riddle 1914). After their execution, the heads of the hanged men were sent to the Smithsonian in Washington D.C. for study and only returned in the 1980s to the Klamath Tribes (Luhnnow 1998). The remaining Modoc, including 39 men, 54 women, and six children were banished to the Quapaw Agency in Oklahoma in early October 1873 to prevent further struggles. It was not until 36 years later that a bill in Congress would allow them to return to the Klamath Reservation; however, by then, many Modoc had made Oklahoma their home and few returned to Oregon (Luhnnow 1998).

Historical Context

The expectation of large populations of beavers, minks, and muskrats living in and around the lake systems of southern Oregon and northern California brought the first Euro-American explorers to the Tule Lake Basin. In 1826, Peter Skene Ogden, a member of the Hudson's Bay Company (HBC) with a company of 35 fur trappers and their families, described crossing a land bridge southeast of modern Merrill, Oregon to reach Tule Lake. This land bridge known as Natural Bridge was shown to Ogden by a group of Modoc (Tulelake-Butte Valley Fair Museum 2021). Ogden disliked the Tule Lake region because it lacked rivers and beavers. His fur trappers were unable to support themselves during the winter and relied upon Modoc for survival (McHally 2017).

In 1843, a group of trappers led by Old Bill Williams arrived at Upper Klamath Lake. The trappers stayed the winter with the Klamath and trapped martin. The trappers ventured into Modoc country and to Tule Lake where they met up with approximately 30 Native Americans who were most likely Modoc. A skirmish later broke out with several trappers and Modoc killed before Williams moved on to Clear Lake.

In December 1843, John C. Frémont and his party of Topographical Engineers entered the Klamath Basin from the north in December 1843. Frémont turned east at Sycan Marsh and explored Summer Lake and Abert Lake. In 1846, Frémont returned to the Klamath Basin with 60 men, guided by Kit Carson, to search for a route to California through Modoc country this time travelling around Tule Lake (Jackson and Spence 1970). In July of 1846, two months after Frémont arrived in California, Scott Applegate moved through the area looking for a southern route for the Oregon Trail. The route followed along the northern edge of Modoc territory, through volcanic fields, and stopped near Clear and Tule lakes. The route became known as the "Applegate Trail" (Luhnnow 1998). By the 1850s, the discovery of gold in California increased western migration along the Applegate (Roberts 1980:76-79).

When California was granted statehood in 1850, politicians pushed to allow independent farming, but this was suppressed by southern politicians fearing an unequal number of slave states. After the South succeeded from the Union, Congress passed the Homestead Act of 1862. Just in California, the Homestead Act ultimately created nearly 10.5 million acres in

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land grants (National Park Service 2015). Homesteading in California was accelerated by the gold rush because farmers and ranchers could sell their supplies to mining camps. Few settlers homesteaded on the Modoc Plateau until after the conclusion of the Modoc War in 1873. The settlement boom economy of the Modoc Plateau during the 1870s was based on timber, gold, agriculture, and the railroad industry.

Cattle entered northeastern California as early as 1846 on the Applegate Trail alongside the oxen, but cattle often died along the way or arrived in poor condition (Roberts 1980). Small ranches were established, but a severe winter between 1859 and 1860 led to the death of most livestock. Cattle prices dropped and ranchers added to their herds. Between 1862 and 1864, a drought reduced stock numbers by as much as 50 percent and forced many ranchers to move closer to the lakes in northeastern California. The climate finally improved between 1865 and 1874. Better climate conditions, along with the forced relocations of Native Americans, allowed agricultural settlement to flourish (Roberts 1980:117).

By the late 19th century, most public land suited for homesteading had been claimed or patented; however, a national depression in 1896 led farmers to reconsider the remaining dry lands available for homesteading in the region resulting in the Dry Farming movement (Mackey et al. 2000). Commerce began to boom with the export of cash crops utilizing newly constructed railroads. In 1908, the Southern Pacific's Fernley-Lassen railroad line was extended reaching Lakeview, Oregon by 1912. In 1928–1929, the line was widened and extended to Klamath Falls on the east side of Tule Lake (Woodhouse et al. 2004).

The rapid settlement of lands within the Klamath Basin was further supported by the 1902 Reclamation Act by President Roosevelt, which aimed to turn unproductive lands into small, irrigated farms. To facilitate this, the Bureau of Reclamation (BOR) proposed an ambitious project to reduce water levels in Tule and Lower Klamath lakes to expose lake beds for farming by building dams on the outlets of Clear and Upper Klamath lakes (Foster 2002). In 1903 the Klamath Basin was surveyed by the federal government. The plan included a 50-square-mile area with canals and drains to irrigate the Klamath and Lost River Valleys and the reclamation of Lower Klamath and Tule lakes. The U.S. Secretary of the Interior approved the project, the Klamath Project, on May 15, 1904 with \$4.4 million appropriated for construction. The Klamath Reclamation Project was established in 1905 and was the largest reclamation project at the time (Tulelake-Butte Valley Fair Museum 2021; Turner 2007:13). Oregon and California ceded lands to the government for the purpose of providing land for reclamation during that year (BOR 2008:1).

The Lost River Diversion Dam and Channel would divert water from the Lost River to the Klamath River. The dam was completed in 1910. Immediately, Tule Lake began to dry out, furthered by 1915 irrigation and drainage projects allowed under President Wilson's Executive Order 2202, which allowed the sale of federal lands to private parties. By 1917, the water supply to Lower Klamath Lake was completely shut down in favor of irrigation (Lantis et al. 1973: 22). In 1922, the federal government opened the lakebed to homesteading claims and potatoes became a primary crop produced at this time (Lantis et al. 1973: 22).

Plans were also drafted for a town site in the Tule Lake Basin, but establishment was postponed until there was sufficient economy to support a town (Turner 1987:197). The BOR announced the formation of a "Government Town Site" in 1929 due to the increased

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population from homestead lottery drawings of previous years and the Southern Pacific Railroad line from Klamath Falls (Turner 1987:197-198).

Over the next two years, the town developed slowly and development along the Southern Pacific Railroad right-of-way began in preparation for new residents. The largest business that was developed was the Siskiyou Tractor and Implement Company, built and owned by Earl Ager, one of the town's strongest proponents. Ager found himself in Tulelake after he heard the announcement of the town development as part of the reclamation project (Turner 1987:198–199). Ager eventually came to be the President of the Tulelake Chamber of Commerce, as well as owner of "Earl's Market", a grocery store sited in the Clyde Hotel, in 1935 (Turner 1987:200, 203).

Shortly after the news of a town site spread through the community, so did the Great Depression, caused by the stock market crash of 1929. Despite the declining economy, and harsh frosts which impacted local crops, Tulelake continued to grow, and shared many characteristics of a boom town in the wild west (Turner 1987:200, 203).

In 1930, local homesteader and engineer J.W. Taylor was hired to survey the proposed town site area and develop a street plan. At this time, much of the area was planted with grain owned by L.J. Horton and his family (Turner 1987:199). The Horton family was the first to build a home in what is now Tulelake, after they settled in the area in the 1920s. The town grew quickly after the Horton family agreed to sell their land to the BOR and relocate (Tulelake-Butte Valley Fair Museum 2021).

The sale of the town lots began in 1931 by auction. Residential and commercial lots were available, and some lots were set aside for public parks and future development. Additional BOR auctions took place in 1936, 1941, and 1948 (Turner 1987:198–199). The year 1931 continued to be an impactful year for the town. The first post office was established, which also established the name of the town as Tulelake, California (Turner 2007:16).

On March 1st of 1937, Tulelake was incorporated after two years of debate and petitioning for incorporation and organized services in the town (Turner 2007). Tulelake's incorporation status was questioned in 1940 while trying to secure a water bond. The State of California stated that Tulelake had not submitted an official city map which negated their incorporation status. With help from Siskiyou County administrators the issue was resolved, and the 1937 election results were verified. Tulelake was considered officially incorporated in March of 1937 (Tulelake-Butte Valley Fair Museum 2021; Turner 1987:209).

As Tulelake grew, so did the need for reliable and safe drinking water. Despite sufficient irrigation water, reliable drinking water was not available. A test well was dug in Tulelake in 1938 and deepened in 1941 and 1951 before reaching a depth of 3,000 feet in 1953 and securing safe water. The Tulelake water tower (P-47-005374) was constructed at this time (Turner 1987:212–213; Tulelake-Butte Valley Fair Museum 2021).

The United States' involvement in World War II (WWII) slowed the growth of Tulelake. WWII put a complete stop to major infrastructure, including the development of a Tulelake airport (Turner 1987:213–214). Shortly after the declaration of war on December 8, 1941, President Franklin Roosevelt issued Executive Order 9066 on February 19, 1942, "evacuating" those of Japanese ancestry to designated relocation centers. Construction of the Tule Lake Relocation Center (Center) began nine miles south of Tulelake, in the town of Newell. The Center was

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opened on May 27, 1942. At its maximum, the Center housed 18,000 Japanese American forced internees (Donnelly 2003b).

From 1942 to 1945, Tulelake benefitted economically from the development of the Center. When the Center was under construction, laborers lived in Tulelake. Once the Center was in operation, civilians were employed and lived in Tulelake (Turner 1987:216). Tulelake also served as a local shopping center for farmers and homesteaders, since the road between Tulelake and Klamath Falls, Oregon was difficult (Ebinger 2021). Although the construction of the Center drew laborers to the area, farmers in Tulelake were desperate for workers to assist with harvesting and maintenance. In 1944, Tulelake appealed to source laborers from the Italian and German prisoner of war (POW) camp in Medford, Oregon. The POWs lived in tents on lots in town or at the Civilian Conservation Corps (CCC) camp west of town (Turner 1987:216; Tulelake-Butte Valley Fair Museum 2021). The Center was closed in March of 1946, and the land was returned to the BOR.

In 1946, as WWII veterans returned to the United States, another round of the homesteading lottery was opened in Tulelake (Tulelake-Butte Valley Fair Museum 2021). Application requirements for the lottery were stricter than in previous years. Some of these requirements included being a WWII veteran, submit reference letters, proof of farming experience, and having greater than or equal to \$2,000 in assets. Over 2,000 applications were entered into the lottery, but only 86 homesteads were available. The lottery winners were offered the option to purchase building materials left over from the Center in Hewell (Donnelly 2003a).

Lottery drawings for homesteads also occurred in 1947 and 1948. By the time of the 1948 homestead lottery drawing there was a housing shortage in the area. Due to this issue, homesteaders from faraway places were encouraged to leave their families, stay in hotels, take out lines of credit, and purchase machinery to plant their first line of crops. With their homestead, new settlers were given two Center barracks and were given plans to be able to convert them into homes (BOR 1948:2, 4).

Several of the homesteads awarded in the 1940s drawings were unsuccessful and were no longer being farmed by the 1950s and 1960s (Donnelly 2003a). No further homesteads were awarded after 1948 subsequently stagnated the growth of Tulelake. During this period, improved transportation routes caused commercial property owners to lose business to larger nearby cities. Businesses vacated the town in the 1960s and 1970s in hopes of being successful elsewhere. The businesses that vacated were not replaced (Turner 1987:222). A series of droughts in the early 2000s negatively impacted the farmers remaining in Tulelake and recovery for the town has been slow in the years since (Turner 2007:20).

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Record Search and Literature Review

Prior to fieldwork, Pinnacle conducted a record search and literature review to identify previously conducted cultural resource inventories and studies, previously recorded cultural resources, and documented historic resources within the project area and within a 0.5-mi (0.8 km) study area around the project area. Pinnacle searched the California Office of Historic Preservation (OHP) online California Historical Resources Information System (CHRIS) previous cultural resources (Records Search No. HE24-93). In addition to previously documented cultural resource databases, Pinnacle reviewed historical resources including maps (i.e., General Land Office [GLO] survey plat maps and USGS topographic maps), GLO land patents, and aerial images. The study helped determine the extent of previous inventories, potential cultural resource periods and types, and historic activity in the study area and project area.

Previous Cultural Resource Studies

The records search revealed that nine cultural resources inventories have been completed within the 0.5-mi study area of the project area (Figure 4; Table 1). The cultural inventories were conducted for a variety of different projects including the replacement of bridges (i.e., Parker 1978; Sletteland 1980), highway improvements for Highway 139 (i.e., Wiant 1993), installation of a pump-house (i.e., Barnes 2007), waterline improvements (i.e., Vann 2007), a wastewater treatment plant upgrade (i.e., Vann 2013), and telecommunications installations (i.e., Billat and Billat 2005; Caltrans 2016; Willis et al. 2015).

Table 1. Previous Cultural Resource Studies in the 0.5-mi Study Area

CHRIS No.:	Report Title	Reference
NEIC-000515	Archaeological Evaluation of Eight Areas for Proposed Bridge Replacement on State Route 139, Modoc and Siskiyou Counties, California	Parker 1978
NEIC-000560	Archaeological Survey Report for the Proposed Replacement of 17 Bridges on 02-MOD-139-PM 46.4/50.7 and 02-SIS-139-PM 0.0/4.8, Modoc and Siskiyou Counties, California	Sletteland 1980
NEIC-003564	Negative Archaeological Survey Report for the Proposed Highway 139 Widening Project, Siskiyou County, California	Wiant 1993
NEIC-006437	New Tower Submission Packet FCC Form 620 for the Proposed Tulelake Cell Tower Project, Siskiyou County, California	Billat and Billat 2005
NEIC-008331	Archaeological Survey and Findings Report for the City of Tulake Community Development Block Grant, Modoc County, California	Vann 2007
NEIC-010079	Archaeological Inventory of the J-7 Lateral Canal and 44-F Drain in the City of Tulelake, Siskiyou County, California	Barnes 2007
NEIC-013225	Direct APE Historic Architectural Assessment for T-Mobile West, LLC Candidate SC5536A (Tulake), NE Corner of 4 th Street and Modoc Avenue, Tulake, Siskiyou County, California	Willis et al. 2015
NEIC-014054	An Archaeological Survey and Findings Report for the City of Tulake Waste Water Treatment Plant Upgrade, Siskiyou County, California	Vann 2013
NEIC-014108	Hunter Communications State Route 139 Encroachment Areas - Tulake and Tionesta Archaeological Survey Report	Caltrans 2016

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Eight of the previous cultural resource studies consisted of pedestrian survey and no cultural resources were identified. IIEIC-013225 was an historic architectural survey of a water tower structure to determine if it should be considered a historic property, which resulted in the recording of the water tower as P-47-005374. None of the previous cultural resource inventories occurred within the project area.

Previously Recorded Cultural Resources

Pinnacle's record search revealed one previously recorded archaeological site within 0.5 mi (0.8 km) of the project area inventoried in CHRIS (Figure 4). CHRIS Report IIEIC-013225 provides the NRHP evaluation of the Tulelake Water Tower that was constructed around 1955 (P-47-005374) (Willis et al. 2015). The Water Tower was the proposed installation location for three T-Mobile antennas. Evaluation of the Water Tower found that it was not eligible for the NRHP (Willis et al. 2015).

Historic Maps and Other Documented Resources

GLO maps were consulted to identify potential historical properties in the project area with the earliest available map dating to 1873 (GLO 1873). The 1873 GLO map, and maps through 1925, do not identify any cultural resources in the project area (GLO 1917; GLO 1920; GLO 1925). In 1930, the GLO map first depicts the City of Tulelake street grid plan with defined lots for commercial and residential development. The streets established by 1930 remain in their original alignment to this day (GLO 1930; GLO 1948; GLO 1960). The 1930 GLO also depicts the Southern Pacific Railway Line on the east side of Tulelake, California (GLO 1930).

Archival USGS topographic maps were also consulted for the project area. The earliest available USGS topographic map for the area dates to 1886, with no historic resources or structures in the area (USGS 1886). A further investigation of USGS topographic maps depicts the City of Tulelake street grid plan and the Southern Pacific Railway Line by 1951 (USGS 1951). The project area remains unchanged into the present day (USGS 1954; USGS 1958; USGS 1984).

Aerial images of the project area were also reviewed through the Historic Aerials website (Nationwide Environmental Title Research, LLC (NIETR) 2024). The earliest aerial images begin in 1948. An aerial image from 1948 depicts the City of Tulelake and the Southern Pacific Railway Line. The section of the project area between the western extents of B Street and C Street at the modern Water Pumping Facility public works yard appears as structures organized into three rows and four columns (NIETR 2024; Figure 5). The exact nature of what is depicted in this section of the project area in 1948 is unclear but may be associated with housing laborers or POWs involved with the Tule Lake Relocation Center (Center). The Center was opened on May 27, 1942, under Executive Order 9066, which was issued by President Franklin Roosevelt shortly after the declaration of war and subsequent United States involvement in WWII. The Center housed Japanese American internees in the town of Nowell, nine miles south of Tulelake. From 1942 to 1945, Tulelake benefited economically from the Center. When the Center was under construction, laborers lived in Tulelake. Once the Center was in operation, civilians were employed and lived in Tulelake. In 1944, Italian and German POWs were transferred from Medford, Oregon to Tulelake. The POWs lived in tents on lots in town or at the CCC camp west of town (Turner 1987:216; Tulelake-Butte Valley Fair Museum 2021). The Center was closed in March of 1946 (Turner 1987:216). The area adjacent to the

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project area, modern Otis Roper Park, also contained rows of structures and appears to be part of the same facility (Figure 5).



Figure 5. Project area plotted on the 1948 aerial image (NETR 2024).

The 1955 aerial image revealed that by 1955 all the features depicted in 1948 were removed. A water storage tank, gravel lot, and a few structures associated with the modern Water Pumping Facility public works yard are depicted. The project area itself remains visibly unchanged between 1955 and 2020, the latest available aerial image (NETR 2024).

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Field Methods

Pinnacle performed fieldwork, resource recording, and HRHP evaluation in compliance with California OHP guidelines and standards. All work was performed under the oversight of Ashlee Hart (Ph.D., RPA) who meets the SOI Professional Qualification Standards for archaeology in accordance with Appendix A of 36 CFR 61 and is a CHRIS Authorized User. Dr. Hart and Staff Archaeologist Brooklynn Carnevale performed fieldwork on March 16, 2024.

The project area included approximately 2.27 acres of land in the City of Tullake, California. The project area was flat at an elevation of about 4,036–4,038 ft (1,230–1,231 m) amsl. The project area is in a developed area of Tullake. The project area is entirely disturbed from previous underground utilities including waterlines. The project area included a gravel alleyway (Photograph 5), an undeveloped lot with a disused well and sediment/construction refuse piles (Photograph 6), grass and a disused tennis court in the Otis Roper Park (Photograph 7), and the modern Water Pumping Facility public works yard, which has a water storage tank, various buildings, a chain-link fence, storage, and gravel driveways (Photograph 8). Mineral sediment visibility ranged from zero to 30 percent due to the grass, gravel, pavement, structures, and storage of sediment, refuse, and machinery. No native vegetation was observed. Pinnacle archaeologists completed an intensive pedestrian survey of the project area on March 16, 2024, when the weather was in the mid 40 degrees F with clear skies and little to no wind.

Prior to fieldwork, the project area polygon was uploaded to the Environmental Systems Research Institute, Inc. (ESRI) ArcGIS Field Maps application on iPad 9th generation tablets. To gain sub-meter accuracy, a Juniper Geode GHS2 sub-meter accuracy Global Positioning System (GPS) device was connected in Field Maps. Geographic Information System (GIS) data collection was set to North American Datum 1983 (NAD83), Universal Transverse Mercator (UTM) Zone 10 to view and record all locational data. Representative photographs of the terrain, geology, vegetation, and other relevant features were taken throughout the survey. Additionally, field notes were recorded in ESRI Survey 123. No subsurface exploration occurred, and artifacts were not collected during the pedestrian survey. The crew used transects spaced no more than 10-m apart.

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Photograph 5. Sixth Street Alley, facing north.



Photograph 6. Undeveloped lot, facing southeast.

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Photograph 7. Otis Roper Park grass and disused tennis court, facing south.



Photograph 8. Public works yard, facing northeast.

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Results of Survey

On March 16, 2024, Ashlee Hart and Brooklyn Carnevale performed a pedestrian survey of the approximately 2.27-acre project area. Pedestrian transects were placed no more than 10-m apart. The mineral sediment visibility ranged from zero to 30 percent due to the grass, gravel, pavement, structures, and storage of sediment, refuse, and machinery. No cultural artifacts or features were observed during the pedestrian survey and all structures depicted on historic aorials are no longer extant.

The project area included a gravel alleyway, planted grass, a tennis court, an undeveloped lot with sediment and construction refuse, and the modern Water Pumping Facility public works yard, which has a water storage tank, various buildings, a chain-link fence, storage, and gravel driveways. Previous waterline construction and maintenance, in addition to private and public property improvements, have significantly disturbed the project area or overlain it with fill material and gravel. Property improvements, subsurface utilities, transmission lines, and vehicle use are the major contributors to soil disturbance. The proposed waterline, well rehabilitations, and associated system improvements will replace current utilities resulting in no new disturbance. Proposed actions are in already highly disturbed areas (Photograph 9—Photograph 10).



Photograph 9. New tank location in the public works yard, facing northeast.

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Photograph 10. Tennis court on north side of public works yard that is proposed for new tank, facing north.

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Summary and Recommendations

Pinnacle was contracted by Rabe Consulting to conduct a cultural resource survey in preparation for the rehabilitation of two existing wells, replacement of a waterline, and associated plumbing requirements in the City of Tullake. The proposed project includes two locales in Tullake, Siskiyou County, California. The project area associated with the project accounts for approximately 2.27 acres including an unpaved alleyway as well as the Water Pumping Facility public works yard and associated abandoned lot. The City of Tullake received funding from the State of California through a 2024 SCDRG. Therefore, the project is subject to CEQA compliance. Pinnacle performed a pedestrian survey on March 16, 2024, as part of a cultural resource inventory and evaluation to support CEQA compliance for the proposed project. No cultural material or features were identified during the pedestrian survey. No cultural material or features were identified during the pedestrian survey.

Pinnacle performed fieldwork and reporting in compliance with California OHP guidelines and standards. All work was performed under the oversight of Ashlee Hart (P.H.D., RPA) who meets the SOI Professional Qualification Standards for archaeology in accordance with Appendix A of 36 CFR 61 and is a CHRIS Authorized User.

Prior to fieldwork, Pinnacle requested a records search of the Northeast Archaeological Information Center (Records Search No. 11E24-93) for previously recorded historic resources within the project area and within a 0.5-mi (0.8-km) study area around the project area. If any previous cultural resource studies occurred within the 0.5-mi study area; however, none of the previous cultural resource studies overlap with the project area. One previously documented cultural resource occurred within the 0.5-mi study area but does not overlap the project area.

Pinnacle archaeologists completed a pedestrian survey of the project area on March 16, 2024. The crew used transects spaced no more than 10-m apart. The mineral sediment visibility ranged from zero to 30 percent due to the grass, gravel, pavement, structures, and storage of sediment, refuse, and machinery. The project area included a gravel alleyway, planted grass, a tennis court, an undeveloped lot with sediment and construction refuse, and the modern Water Pumping Facility public works yard, which has a water storage tank, various buildings, a chain-link fence, storage, and gravel driveways. Previous well and waterline construction and maintenance, in addition to private and public property improvements, have significantly disturbed the project area or overlain it with fill material and gravel. Property improvements, subsurface utilities, transmission lines, and vehicle use are the major contributors to soil disturbance. The proposed well rehabilitations, waterline replacement, and associated system improvements will replace current utilities resulting in no new disturbance.

No cultural artifacts or features were observed during the pedestrian survey and all structures depicted on historic aerials are no longer extant. All proposed work will occur within already highly disturbed sediments so there is little potential for intact subsurface cultural deposits. The proposed project should have a finding of "no effect" and no additional archaeological work should be required; however, an inadvertent discovery plan (IDP) should be implemented during all ground disturbing activities.

If previously unrecorded cultural resources are encountered during the project, an SOI qualified archaeologist should be immediately notified and allowed proper time to address

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the nature and significance of the discovery. Additionally, if human remains are discovered, all activity must cease in the immediate area, the archaeologist should be immediately notified, and the remains should not be further disturbed and will be treated with dignity and respect at all times while an appropriate course of action is determined, pursuant to 43 CFR 10 (Native American Graves Protection and Repatriation Act of 1991, as amended).

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APPENDIX I - Air Quality Non-Attainment Areas

 **You are here:** EPA Home > Green Book >> National Area and County-Level Multi-Pollutant Information > California Nonattainment/Maintenance Status for Each County by Year for All Criteria Pollutants

California Nonattainment/Maintenance Status for Each County by Year for All Criteria Pollutants

Data is current as of August 31, 2024

Listed by County, NAAQS, Area. The 8-hour Ozone (1997) standard was revoked on April 6, 2015 and the 1-hour Ozone (1979) standard was revoked on June 15, 2005.

* The 1997 Primary Annual PM-2.5 NAAQS (level of 15 µg/m³) is revoked in attainment and maintenance areas for that NAAQS. For additional information see the PM-2.5 NAAQS SIP Requirements Final Rule, effective October 24, 2016. (81 FR 58009)

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County	NAAQS	Area Name	Nonattainment in Year	Redesignation to Maintenance	Classification	Whole or Part County	Population (2010)
CALIFORNIA							
Alameda County	1-Hour Ozone (1979)-NAAQS revoked	San Francisco-Bay Area, CA	98990001020304	//	Other	Whole	1,510,27
Alameda County	8-Hour Ozone (1997)-NAAQS revoked	San Francisco Bay Area, CA	0405060708091011121314	//	Marginal	Whole	1,510,27
Alameda County	8-Hour Ozone (2008)	San Francisco Bay Area, CA	12131415161718192021222324	//	Marginal	Whole	1,510,27
Alameda County	8-Hour Ozone (2015)	San Francisco Bay Area, CA	18192021222324	//	Marginal	Whole	1,510,27
Alameda County	Carbon Monoxide (1971)	San Francisco-Oakland-San Jose, CA	929394959697	06/01/1998	Moderate <= 12.7ppm	Part	715,571
Alameda County	PM-2.5 (2006)	San Francisco Bay Area, CA	09101112131415161718192021222324	//	Moderate	Whole	1,510,27
Amador County	8-Hour Ozone (1997)-NAAQS revoked	Amador and Calaveras Cos. (Central Mountain Cos.), CA	0405060708091011121314	//	Moderate	Whole	38,091
Amador County	8-Hour Ozone (2015)	Amador County, CA	18192021222324	//	Marginal	Whole	38,091
Butte County	1-Hour Ozone (1979)-NAAQS revoked	Chico, CA	92939495969798990001020304	//	Section 185A	Whole	220,001
Butte County	8-Hour Ozone (1997)-NAAQS revoked	Chico, CA	0405060708091011121314	//	Marginal	Whole	220,001
Butte County	8-Hour Ozone (2008)	Chico (Butte County), CA	12131415161718192021222324	//	Marginal	Whole	220,001
Butte County	8-Hour Ozone (2015)	Butte County, CA	18192021222324	//	Marginal	Whole	220,001
Butte County	Carbon Monoxide (1971)	Chico, CA	929394959697	06/01/1998	Moderate <= 12.7ppm	Part	86,963
Butte County	PM-2.5 (2006)	Chico, CA	091011121314151617	08/10/2018	Moderate	Part	217,621

County	NAAQS	Area Name	Nonattainment in Year	Redesignation to Maintenance	Classification	Whole or Part County	Population (2010)
Calaveras County	8-Hour Ozone (1997)-NAAQS revoked	Amador and Calaveras Cos. (Central Mountain Cos.), CA	0405060708091011121314	//	Moderate	Whole	45,578
Calaveras County	8-Hour Ozone (2008)	Calaveras County, CA	12131415161718192021222324	//	Marginal	Whole	45,578
Calaveras County	8-Hour Ozone (2015)	Calaveras County, CA	18192021222324	//	Marginal	Whole	45,578
Contra Costa County	1-Hour Ozone (1979)-NAAQS revoked	San Francisco Bay Area, CA	98990001020304	//	Other	Whole	1,049,02
Contra Costa County	8-Hour Ozone (1997)-NAAQS revoked	San Francisco Bay Area, CA	0405060708091011121314	//	Marginal	Whole	1,049,02
Contra Costa County	8-Hour Ozone (2008)	San Francisco Bay Area, CA	12131415161718192021222324	//	Marginal	Whole	1,049,02
Contra Costa County	8-Hour Ozone (2015)	San Francisco Bay Area, CA	18192021222324	//	Marginal	Whole	1,049,02
Contra Costa County	Carbon Monoxide (1971)	San Francisco-Oakland-San Jose, CA	929394959697	06/01/1998	Moderate <= 12.7ppm	Part	848,331
Contra Costa County	PM-2.5 (2006)	San Francisco Bay Area, CA	09101112131415161718192021222324	//	Moderate	Whole	1,049,02
El Dorado County	1-Hour Ozone (1979)-NAAQS revoked	Sacramento Metro, CA	92939495969798990001020304	//	Severe-15	Part	143,831
El Dorado County	8-Hour Ozone (1997)-NAAQS revoked	Sacramento Metro, CA	0405060708091011121314	//	Severe 15	Part	151,821
El Dorado County	8-Hour Ozone (2008)	Sacramento Metro, CA	12131415161718192021222324	//	Severe 15	Part	150,511
El Dorado County	8-Hour Ozone (2015)	Sacramento Metro, CA	18192021222324	//	Serious	Part	150,291
El Dorado County	Carbon Monoxide (1971)	Lake Tahoe South Shore, CA	929394959697	06/01/1998	Moderate <= 12.7ppm	Part	43,110
El Dorado County	PM-2.5 (2006)	Sacramento, CA	09101112131415161718192021222324	//	Moderate	Part	144,211
Fresno County	1-Hour Ozone (1979)-NAAQS revoked	San Joaquin Valley, CA	92939495969798990001020304	//	Extreme	Whole	930,451
Fresno County	8-Hour Ozone (1997)-NAAQS revoked	San Joaquin Valley, CA	0405060708091011121314	//	Extreme	Whole	930,451
Fresno County	8-Hour Ozone (2008)	San Joaquin Valley, CA	12131415161718192021222324	//	Extreme	Whole	930,451
Fresno County	8-Hour Ozone (2015)	San Joaquin Valley, CA	18192021222324	//	Extreme	Whole	930,451
Fresno County	Carbon Monoxide (1971)	Fresno, CA	929394959697	06/01/1998	Moderate > 12.7ppm	Part	631,481
Fresno County	PM-10 (1987)	San Joaquin Valley Air Basin, CA	92939495969798990001020304050607	12/12/2008	Serious	Whole	930,451
Fresno County	PM-2.5 (1997)	San Joaquin Valley, CA	0506070809101112131415161718192021222324	//	Serious	Whole	930,451
Fresno County	PM-2.5 (2006)	San Joaquin Valley, CA	09101112131415161718192021222324	//	Serious	Whole	930,451

County	NAAQS	Area Name	Nonattainment in Year	Redesignation to Maintenance	Classification	Whole or Part County	Population (2010)
Fresno County	PM-2.5 (2012)	San Joaquin Valley, CA	15161718192021222324	//	Serious	Whole	930,451
Imperial County	1-Hour Ozone (1979)-NAAQS revoked	Imperial County, CA	92939495969798990001020304	//	Section 185A	Whole	174,521
Imperial County	8-Hour Ozone (1997)-NAAQS revoked	Imperial County, CA	0405060708091011121314	//	Moderate	Whole	174,521
Imperial County	8-Hour Ozone (2008)	Imperial County, CA	12131415161718192021222324	//	Moderate	Whole	174,521
Imperial County	8-Hour Ozone (2015)	Imperial County, CA	18192021222324	//	Marginal	Whole	174,521
Imperial County	PM-10 (1987)	Imperial Valley, CA	92939495969798990001020304050607080910111213141516171819	10/19/2020	Serious	Part	146,901
Imperial County	PM-2.5 (2006)	Imperial County, CA	09101112131415161718192021222324	//	Moderate	Part	154,061
Imperial County	PM-2.5 (2012)	Imperial County, CA	15161718192021222324	//	Moderate	Part	154,061
Inyo County	PM-10 (1987)	Coso Junction, CA	929394959697989900010203040506070809	10/04/2010	Moderate	Part	7,333
Inyo County	PM-10 (1987)	Inyo County; Owens Valley planning area, CA	929394959697989900010203040506070809101112131415161718192021222324	//	Serious	Part	7,333
Kern County	1-Hour Ozone (1979)-NAAQS revoked	East Kern County, CA	010203	06/21/2004	Serious	Part	141,391
Kern County	8-Hour Ozone (1997)-NAAQS revoked	San Joaquin Valley, CA	92939495969798990001020304	//	Extreme	Part	698,221
Kern County	8-Hour Ozone (1997)-NAAQS revoked	Kern County (Eastern Kern), CA	0405060708091011121314	//	Moderate	Part	95,314
Kern County	8-Hour Ozone (1997)-NAAQS revoked	San Joaquin Valley, CA	0405060708091011121314	//	Extreme	Part	710,551
Kern County	8-Hour Ozone (2008)	Kern County (Eastern Kern), CA	12131415161718192021222324	//	Severe 15	Part	95,176
Kern County	8-Hour Ozone (2008)	San Joaquin Valley, CA	12131415161718192021222324	//	Extreme	Part	710,331
Kern County	8-Hour Ozone (2015)	Kern County (Eastern Kern), CA	18192021222324	//	Serious	Part	95,066
Kern County	8-Hour Ozone (2015)	San Joaquin Valley, CA	18192021222324	//	Extreme	Part	709,861
Kern County	Carbon Monoxide (1971)	Bakersfield, CA	929394959697	06/01/1998	Not Classified	Part	468,091
Kern County	PM-10 (1987)	Indian Wells, CA	9293949596979899000102	06/06/2003	Moderate	Part	15,449
Kern County	PM-10 (1987)	San Joaquin Valley Air Basin, CA	92939495969798990001020304050607	12/12/2008	Serious	Part	698,221
Kern County	PM-10 (1987)	East Kern County, CA	929394959697989900010203040506070809101112131415161718192021222324	//	Serious	Part	125,951
Kern County	PM-2.5 (1997)	San Joaquin Valley, CA	0506070809101112131415161718192021222324	//	Serious	Part	710,131
Kern County	PM-2.5 (2006)	San Joaquin Valley, CA	09101112131415161718192021222324	//	Serious	Part	710,131
Kern County	PM-2.5 (2012)	San Joaquin Valley, CA	15161718192021222324	//	Serious	Part	710,131

County	NAAQS	Area Name	Nonattainment in Year	Redesignation to Maintenance	Classification	Whole or Part County	Population (2010)
Kings County	1-Hour Ozone (1979)-NAAQS revoked	San Joaquin Valley, CA	92939495969798990001020304	//	Extreme	Whole	152,981
Kings County	8-Hour Ozone (1997)-NAAQS revoked	San Joaquin Valley, CA	0405060708091011121314	//	Extreme	Whole	152,981
Kings County	8-Hour Ozone (2008)	San Joaquin Valley, CA	12131415161718192021222324	//	Extreme	Whole	152,981
Kings County	8-Hour Ozone (2015)	San Joaquin Valley, CA	18192021222324	//	Extreme	Whole	152,981
Kings County	PM-10 (1987)	San Joaquin Valley Air Basin, CA	92939495969798990001020304050607	12/12/2008	Serious	Whole	152,981
Kings County	PM-2.5 (1997)	San Joaquin Valley, CA	0506070809101112131415161718192021222324	//	Serious	Whole	152,981
Kings County	PM-2.5 (2006)	San Joaquin Valley, CA	09101112131415161718192021222324	//	Serious	Whole	152,981
Kings County	PM-2.5 (2012)	San Joaquin Valley, CA	15161718192021222324	//	Serious	Whole	152,981
Los Angeles County	1-Hour Ozone (1979)-NAAQS revoked	Los Angeles-South Coast Air Basin, CA	92939495969798990001020304	//	Extreme	Part	9,512,211
Los Angeles County	1-Hour Ozone (1979)-NAAQS revoked	Southeast Desert Modified AQMA, CA	92939495969798990001020304	//	Severe-17	Part	306,381
Los Angeles County	8-Hour Ozone (1997)-NAAQS revoked	Los Angeles and San Bernardino Counties (Western Mojave Desert), CA	0405060708091011121314	//	Severe 15	Part	378,571
Los Angeles County	8-Hour Ozone (1997)-NAAQS revoked	Los Angeles-South Coast Air Basin, CA	0405060708091011121314	//	Extreme	Part	9,441,031
Los Angeles County	8-Hour Ozone (2008)	Los Angeles-San Bernardino Counties (West Mojave Desert), CA	12131415161718192021222324	//	Severe 15	Part	378,741
Los Angeles County	8-Hour Ozone (2008)	Los Angeles-South Coast Air Basin, CA	12131415161718192021222324	//	Extreme	Part	9,442,961
Los Angeles County	8-Hour Ozone (2015)	Los Angeles-San Bernardino Counties (West Mojave Desert), CA	18192021222324	//	Severe 15	Part	377,421
Los Angeles County	8-Hour Ozone (2015)	Los Angeles-South Coast Air Basin, CA	18192021222324	//	Extreme	Part	9,428,411
Los Angeles County	Carbon Monoxide (1971)	Los Angeles-South Coast Air Basin, CA	929394959697989900010203040506	06/11/2007	Serious	Part	9,512,211
Los Angeles County	Lead (2008)	Los Angeles County-South Coast Air Basin, CA	101112131415161718192021222324	//		Part	9,436,971

County	NAAQS	Area Name	Nonattainment in Year	Redesignation to Maintenance	Classification	Whole or Part County	Population (2010)
Los Angeles County	Nitrogen Dioxide (1971)	Los Angeles-South Coast Air Basin, CA	929394959697	09/22/1998	Primary	Part	9,512,21
Los Angeles County	PM-10 (1987)	Los Angeles-South Coast Air Basin, CA	929394959697989900010203040506070809101112	07/26/2013	Serious	Part	9,512,21
Los Angeles County	PM-2.5 (1997)	Los Angeles-South Coast Air Basin, CA	0506070809101112131415161718192021222324	//	Moderate	Part	9,438,56
Los Angeles County	PM-2.5 (2006)	Los Angeles-South Coast Air Basin, CA	09101112131415161718192021222324	//	Serious	Part	9,438,56
Los Angeles County	PM-2.5 (2012)	Los Angeles-South Coast Air Basin, CA	15161718192021222324	//	Serious	Part	9,438,56
Madera County	1-Hour Ozone (1979)-NAAQS revoked	San Joaquin Valley, CA	92939495969798990001020304	//	Extreme	Whole	150,86
Madera County	8-Hour Ozone (1997)-NAAQS revoked	San Joaquin Valley, CA	0405060708091011121314	//	Extreme	Whole	150,86
Madera County	8-Hour Ozone (2008)	San Joaquin Valley, CA	12131415161718192021222324	//	Extreme	Whole	150,86
Madera County	8-Hour Ozone (2015)	San Joaquin Valley, CA	18192021222324	//	Extreme	Whole	150,86
Madera County	PM-10 (1987)	San Joaquin Valley Air Basin, CA	92939495969798990001020304050607	12/12/2008	Serious	Whole	150,86
Madera County	PM-2.5 (1997)	San Joaquin Valley, CA	0506070809101112131415161718192021222324	//	Serious	Whole	150,86
Madera County	PM-2.5 (2006)	San Joaquin Valley, CA	09101112131415161718192021222324	//	Serious	Whole	150,86
Madera County	PM-2.5 (2012)	San Joaquin Valley, CA	15161718192021222324	//	Serious	Whole	150,86
Marin County	1-Hour Ozone (1979)-NAAQS revoked	San Francisco Bay Area, CA	98990001020304	//	Other	Whole	252,40
Marin County	8-Hour Ozone (1997)-NAAQS revoked	San Francisco Bay Area, CA	0405060708091011121314	//	Marginal	Whole	252,40
Marin County	8-Hour Ozone (2008)	San Francisco Bay Area, CA	12131415161718192021222324	//	Marginal	Whole	252,40
Marin County	8-Hour Ozone (2015)	San Francisco Bay Area, CA	18192021222324	//	Marginal	Whole	252,40
Marin County	Carbon Monoxide (1971)	San Francisco-Oakland-San Jose, CA	929394959697	06/01/1998	Moderate <= 12.7ppm	Part	219,39
Marin County	PM-2.5 (2006)	San Francisco Bay Area, CA	09101112131415161718192021222324	//	Moderate	Whole	252,40

County	NAAQS	Area Name	Nonattainment in Year	Redesignation to Maintenance	Classification	Whole or Part County	Population (2010)
Mariposa County	8-Hour Ozone (1997)-NAAQS revoked	Mariposa and Tuolumne Cos. (Southern Mountain Counties), CA	0405060708091011121314	//	Moderate	Whole	18,251
Mariposa County	8-Hour Ozone (2008)	Mariposa County, CA	12131415161718192021222324	//	Moderate	Whole	18,251
Mariposa County	8-Hour Ozone (2015)	Mariposa County, CA	18192021222324	//	Moderate	Whole	18,251
Merced County	1-Hour Ozone (1979)-NAAQS revoked	San Joaquin Valley, CA	92939495969798990001020304	//	Extreme	Whole	255,795
Merced County	8-Hour Ozone (1997)-NAAQS revoked	San Joaquin Valley, CA	0405060708091011121314	//	Extreme	Whole	255,795
Merced County	8-Hour Ozone (2008)	San Joaquin Valley, CA	12131415161718192021222324	//	Extreme	Whole	255,795
Merced County	8-Hour Ozone (2015)	San Joaquin Valley, CA	18192021222324	//	Extreme	Whole	255,795
Merced County	PM-10 (1987)	San Joaquin Valley Air Basin, CA	92939495969798990001020304050607	12/12/2008	Serious	Whole	255,795
Merced County	PM-2.5 (1997)	San Joaquin Valley, CA	0506070809101112131415161718192021222324	//	Serious	Whole	255,795
Merced County	PM-2.5 (2006)	San Joaquin Valley, CA	09101112131415161718192021222324	//	Serious	Whole	255,795
Merced County	PM-2.5 (2012)	San Joaquin Valley, CA	15161718192021222324	//	Serious	Whole	255,795
Mono County	PM-10 (1987)	Mono County; Mammoth Lake planning area, CA	9293949596979899000102030405060708091011121314	11/04/2015	Moderate	Part	7,133
Mono County	PM-10 (1987)	Mono Basin, CA	9394959697989900010203040506070809101112131415161718192021222324	//	Moderate	Part	285
Monterey County	1-Hour Ozone (1979)-NAAQS revoked	Monterey Bay, CA	9293949596	03/18/1997	Moderate	Whole	415,055
Napa County	8-Hour Ozone (1997)-NAAQS revoked	San Francisco Bay Area, CA	98990001020304	//	Other	Whole	136,484
Napa County	8-Hour Ozone (1997)-NAAQS revoked	San Francisco Bay Area, CA	0405060708091011121314	//	Marginal	Whole	136,484
Napa County	8-Hour Ozone (2008)	San Francisco Bay Area, CA	12131415161718192021222324	//	Marginal	Whole	136,484
Napa County	8-Hour Ozone (2015)	San Francisco Bay Area, CA	18192021222324	//	Marginal	Whole	136,484
Napa County	Carbon Monoxide (1971)	San Francisco-Oakland-San Jose, CA	929394959697	06/01/1998	Moderate <= 12.7ppm	Part	123,211
Napa County	PM-2.5 (2006)	San Francisco Bay Area, CA	09101112131415161718192021222324	//	Moderate	Whole	136,484
Nevada County	8-Hour Ozone (1997)-NAAQS revoked	Nevada County (Western part), CA	0405060708091011121314	//	Moderate	Part	82,393

County	NAAQS	Area Name	Nonattainment in Year	Redesignation to Maintenance	Classification	Whole or Part County	Population (2010)
Nevada County	8-Hour Ozone (2008)	Nevada County (Western part), CA	12131415161718192021222324	//	Serious	Part	82,107
Nevada County	8-Hour Ozone (2015)	Nevada County (Western part), CA	18192021222324	//	Serious	Part	82,042
Orange County	1-Hour Ozone (1979)-NAAQS revoked	Los Angeles-South Coast Air Basin, CA	92939495969798990001020304	//	Extreme	Whole	3,010,23
Orange County	8-Hour Ozone (1997)-NAAQS revoked	Los Angeles-South Coast Air Basin, CA	0405060708091011121314	//	Extreme	Whole	3,010,23
Orange County	8-Hour Ozone (2008)	Los Angeles-South Coast Air Basin, CA	12131415161718192021222324	//	Extreme	Whole	3,010,23
Orange County	8-Hour Ozone (2015)	Los Angeles-South Coast Air Basin, CA	18192021222324	//	Extreme	Whole	3,010,23
Orange County	Carbon Monoxide (1971)	Los Angeles-South Coast Air Basin, CA	929394959697989900010203040506	06/11/2007	Serious	Whole	3,010,23
Orange County	Nitrogen Dioxide (1971)	Los Angeles-South Coast Air Basin, CA	929394959697	09/22/1998	Primary	Whole	3,010,23
Orange County	PM-10 (1987)	Riverside, Los Angeles, Orange, & San Bernardino Counties; South Coast Air Basin, CA	929394959697989900010203040506070809101112	07/26/2013	Serious	Whole	3,010,23
Orange County	PM-2.5 (1997)	Los Angeles-South Coast Air Basin, CA	0506070809101112131415161718192021222324	//	Moderate	Whole	3,010,23
Orange County	PM-2.5 (2006)	Los Angeles-South Coast Air Basin, CA	09101112131415161718192021222324	//	Serious	Whole	3,010,23
Orange County	PM-2.5 (2012)	Los Angeles-South Coast Air Basin, CA	15161718192021222324	//	Serious	Whole	3,010,23
Placer County	1-Hour Ozone (1979)-NAAQS revoked	Sacramento Metro, CA	92939495969798990001020304	//	Severe-15	Part	336,61
Placer County	8-Hour Ozone (1997)-NAAQS revoked	Sacramento Metro, CA	0405060708091011121314	//	Severe 15	Part	339,500
Placer County	8-Hour Ozone (2008)	Sacramento Metro, CA	12131415161718192021222324	//	Severe 15	Part	338,090
Placer County	8-Hour Ozone (2015)	Sacramento Metro, CA	18192021222324	//	Serious	Part	337,840
Placer County	Carbon Monoxide (1971)	Lake Tahoe North Shore, CA	929394959697	06/01/1998	Not Classified	Part	16,132
Placer County	Carbon Monoxide (1971)	Sacramento, CA	929394959697	06/01/1998	Moderate <= 12.7ppm	Part	102,820

County	NAAQS	Area Name	Nonattainment in Year	Redesignation to Maintenance	Classification	Whole or Part County	Population (2010)
Placer County	PM-2.5 (2006)	Sacramento, CA	09101112131415161718192021222324	//	Moderate	Part	314,311
Plumas County	PM-2.5 (2012)	Plumas County, CA	15161718192021222324	//	Serious	Part	5,843
Riverside County	1-Hour Ozone (1979)-NAAQS revoked	Los Angeles-South Coast Air Basin, CA	92939495969798990001020304	//	Extreme	Part	1,692,041
Riverside County	1-Hour Ozone (1979)-NAAQS revoked	Southeast Desert Modified AQMA, CA	92939495969798990001020304	//	Severe-17	Part	460,131
Riverside County	1-Hour Ozone (1979)-NAAQS revoked	Morongo Band of Mission Indians, CA	92939495969798990001020304	//	Severe-17	Part	913
Riverside County	8-Hour Ozone (1997)-NAAQS revoked	Los Angeles-South Coast Air Basin, CA	0405060708091011121314	//	Extreme	Part	1,737,251
Riverside County	8-Hour Ozone (1997)-NAAQS revoked	Riverside County (Coachella Valley), CA	0405060708091011121314	//	Extreme	Part	425,421
Riverside County	8-Hour Ozone (1997)-NAAQS revoked	Morongo Band of Mission Indians, CA	0405060708091011121314	//	Severe 17	Part	913
Riverside County	8-Hour Ozone (1997)-NAAQS revoked	Pechanga Band of Luiseno Mission Indians of the Pechanga Reservation, CA	0405060708091011121314	04/03/2015	Severe 17	Part	2,730
Riverside County	8-Hour Ozone (2008)	Los Angeles-South Coast Air Basin, CA	12131415161718192021222324	//	Extreme	Part	1,739,651
Riverside County	8-Hour Ozone (2008)	Riverside County (Coachella Valley), CA	12131415161718192021222324	//	Extreme	Part	425,801
Riverside County	8-Hour Ozone (2008)	Morongo Band of Mission Indians, CA	12131415161718192021222324	//	Severe 15	Part	913
Riverside County	8-Hour Ozone (2008)	Pechanga Band of Luiseno Mission Indians of the Pechanga Reservation, CA	12131415161718192021222324	//	Moderate	Part	2,730
Riverside County	8-Hour Ozone (2015)	Los Angeles-South Coast Air Basin, CA	18192021222324	//	Extreme	Part	1,737,521
Riverside County	8-Hour Ozone (2015)	Riverside County (Coachella Valley), CA	18192021222324	//	Severe 15	Part	425,021
Riverside County	8-Hour Ozone (2015)	Morongo Band of Mission Indians, CA	18192021222324	//	Serious	Part	932

County	NAAQS	Area Name	Nonattainment in Year	Redesignation to Maintenance	Classification	Whole or Part County	Population (2010)
Riverside County	8-Hour Ozone (2015)	Pechanga Band of Luiseno Mission Indians of the Pechanga Reservation, CA	18192021222324	//	Moderate	Part	639
Riverside County	Carbon Monoxide (1971)	Angeles-South Coast Air Basin, CA	929394959697989900010203040506	06/11/2007	Serious	Part	1,692,95
Riverside County	Nitrogen Dioxide (1971)	Angeles-South Coast Air Basin, CA	929394959697	09/22/1998	Primary	Part	1,692,95
Riverside County	PM-10 (1987)	Riverside County; Coachella Valley planning area, CA	929394959697989900010203040506070809101112131415161718192021222324	//	Serious	Part	257,79
Riverside County	PM-10 (1987)	Riverside, Los Angeles, Orange, & San Bernardino Counties; South Coast Air Basin, CA	929394959697989900010203040506070809101112	07/26/2013	Serious	Part	1,692,95
Riverside County	PM-2.5 (1997)	Angeles-South Coast Air Basin, CA	0506070809101112131415161718192021222324	//	Moderate	Part	1,740,91
Riverside County	PM-2.5 (2006)	Angeles-South Coast Air Basin, CA	09101112131415161718192021222324	//	Serious	Part	1,740,81
Riverside County	PM-2.5 (2012)	Angeles-South Coast Air Basin, CA	15161718192021222324	//	Serious	Part	1,740,81
Sacramento County	1-Hour Ozone (1979)-NAAQS revoked	Sacramento Metro, CA	92939495969798990001020304	//	Severe-15	Whole	1,418,78
Sacramento County	8-Hour Ozone (1997)-NAAQS revoked	Sacramento Metro, CA	0405060708091011121314	//	Severe 15	Whole	1,418,78
Sacramento County	8-Hour Ozone (2008)	Sacramento Metro, CA	12131415161718192021222324	//	Severe 15	Whole	1,418,78
Sacramento County	8-Hour Ozone (2015)	Sacramento Metro, CA	18192021222324	//	Serious	Whole	1,418,78
Sacramento County	Carbon Monoxide (1971)	Sacramento, CA	929394959697	06/01/1998	Moderate <= 12.7ppm	Part	1,381,74
Sacramento County	PM-10 (1987)	Sacramento County, CA	94959697989900010203040506070809101112	10/28/2013	Moderate	Whole	1,418,78
Sacramento County	PM-2.5 (2006)	Sacramento, CA	09101112131415161718192021222324	//	Moderate	Whole	1,418,78
San Benito County	1-Hour Ozone (1979)-NAAQS revoked	Monterey Bay, CA	9293949596	03/18/1997	Moderate	Whole	55,269
San Bernardino County	1-Hour Ozone (1979)-NAAQS revoked	Los Angeles-South Coast Air Basin, CA	92939495969798990001020304	//	Extreme	Part	1,583,62

County	NAAQS	Area Name	Nonattainment in Year	Redesignation to Maintenance	Classification	Whole or Part County	Population (2010)
San Bernardino County	1-Hour Ozone (1979)-NAAQS revoked	Southeast Desert Modified AQMA, CA	92939495969798990001020304	//	Severe-17	Part	427,841
San Bernardino County	8-Hour Ozone (1997)-NAAQS revoked	Los Angeles and San Bernardino Counties (Western Mojave Desert), CA	0405060708091011121314	//	Severe 15	Part	489,781
San Bernardino County	8-Hour Ozone (1997)-NAAQS revoked	Los Angeles-South Coast Air Basin, CA	0405060708091011121314	//	Extreme	Part	1,526,621
San Bernardino County	8-Hour Ozone (2008)	Los Angeles-San Bernardino Counties (West Mojave Desert), CA	12131415161718192021222324	//	Severe 15	Part	489,631
San Bernardino County	8-Hour Ozone (2008)	Los Angeles-South Coast Air Basin, CA	12131415161718192021222324	//	Extreme	Part	1,526,621
San Bernardino County	8-Hour Ozone (2015)	Los Angeles-San Bernardino Counties (West Mojave Desert), CA	18192021222324	//	Severe 15	Part	489,531
San Bernardino County	8-Hour Ozone (2015)	Los Angeles-South Coast Air Basin, CA	18192021222324	//	Extreme	Part	1,526,621
San Bernardino County	Carbon Monoxide (1971)	Los Angeles-South Coast Air Basin, CA	929394959697989900010203040506	06/11/2007	Serious	Part	1,583,681
San Bernardino County	Nitrogen Dioxide (1971)	Los Angeles-South Coast Air Basin, CA	929394959697	09/22/1998	Primary	Part	1,583,681
San Bernardino County	PM-10 (1987)	Riverside, Los Angeles, Orange, & San Bernardino Counties; South Coast Air Basin, CA	929394959697989900010203040506070809101112	07/26/2013	Serious	Part	1,583,681
San Bernardino County	PM-10 (1987)	Trona, CA	929394959697989900010203040506070809101112131415161718192021222324	//	Moderate	Part	4,167
San Bernardino County	PM-10 (1987)	San Bernardino County, CA	94959697989900010203040506070809101112131415161718192021222324	//	Moderate	Part	237,411
San Bernardino County	PM-2.5 (1997)	Los Angeles-South Coast Air Basin, CA	0506070809101112131415161718192021222324	//	Moderate	Part	1,526,621
San Bernardino County	PM-2.5 (2006)	Los Angeles-South Coast Air Basin, CA	09101112131415161718192021222324	//	Serious	Part	1,526,621
San Bernardino County	PM-2.5 (2012)	Los Angeles-South Coast Air Basin, CA	15161718192021222324	//	Serious	Part	1,526,621

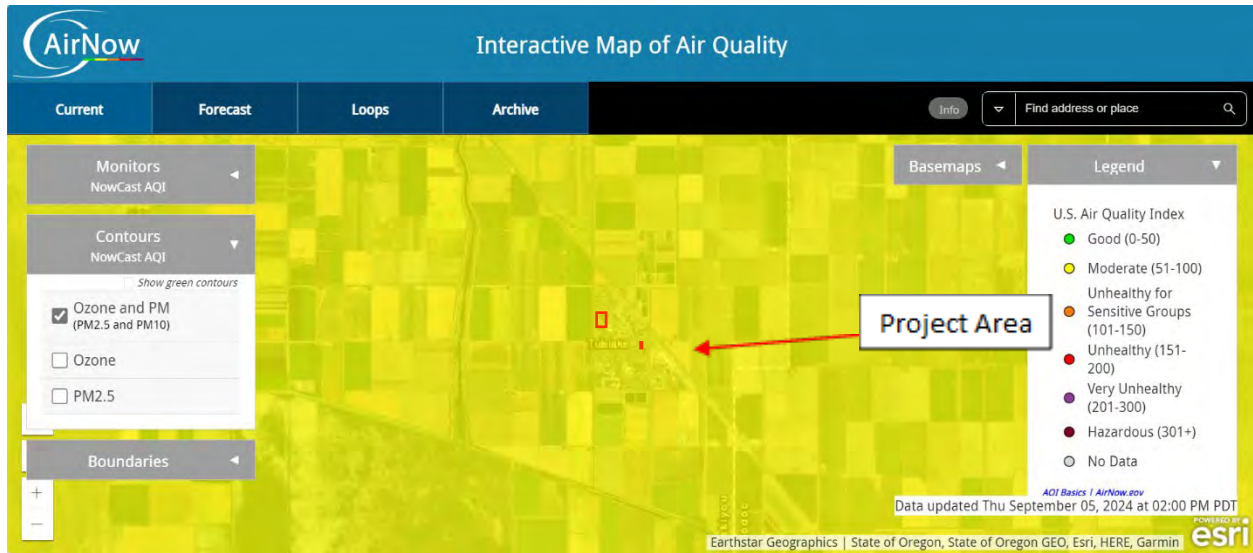
County	NAAQS	Area Name	Nonattainment in Year	Redesignation to Maintenance	Classification	Whole or Part County	Population (2010)
San Diego County	1-Hour Ozone (1979)-NAAQS revoked	San Diego, CA	9293949596979899000102	07/28/2003	Serious	Whole	3,095,31
San Diego County	8-Hour Ozone (1997)-NAAQS revoked	San Diego, CA	040506070809101112	07/05/2013	Moderate	Part	3,093,34
San Diego County	8-Hour Ozone (1997)-NAAQS revoked	Pechanga Band of Luiseno Mission Indians of the Pechanga Reservation, CA	0405060708091011121314	04/03/2015	Severe 17	Part	114
San Diego County	8-Hour Ozone (2008)	San Diego County, CA	12131415161718192021222324	//	Severe 15	Part	3,095,15
San Diego County	8-Hour Ozone (2008)	Pechanga Band of Luiseno Mission Indians of the Pechanga Reservation, CA	12131415161718192021222324	//	Moderate	Part	114
San Diego County	8-Hour Ozone (2015)	San Diego County, CA	18192021222324	//	Severe 15	Part	3,077,28
San Diego County	8-Hour Ozone (2015)	Pechanga Band of Luiseno Mission Indians of the Pechanga Reservation, CA	18192021222324	//	Moderate	Part	13
San Diego County	Carbon Monoxide (1971)	San Diego, CA	929394959697	06/01/1998	Moderate <= 12.7ppm	Part	2,909,15
San Francisco County	1-Hour Ozone (1979)-NAAQS revoked	San Francisco Bay Area, CA	98990001020304	//	Other	Whole	805,23:
San Francisco County	8-Hour Ozone (1997)-NAAQS revoked	San Francisco Bay Area, CA	0405060708091011121314	//	Marginal	Whole	805,23:
San Francisco County	8-Hour Ozone (2008)	San Francisco Bay Area, CA	12131415161718192021222324	//	Marginal	Whole	805,23:
San Francisco County	8-Hour Ozone (2015)	San Francisco Bay Area, CA	18192021222324	//	Marginal	Whole	805,23:
San Francisco County	Carbon Monoxide (1971)	San Francisco Bay Area, CA	929394959697	06/01/1998	Moderate <= 12.7ppm	Whole	805,23:
San Francisco County	PM-2.5 (2006)	San Francisco Bay Area, CA	09101112131415161718192021222324	//	Moderate	Whole	805,23:
San Joaquin County	1-Hour Ozone (1979)-NAAQS revoked	San Joaquin Valley, CA	92939495969798990001020304	//	Extreme	Whole	685,30:
San Joaquin County	8-Hour Ozone (1997)-NAAQS revoked	San Joaquin Valley, CA	0405060708091011121314	//	Extreme	Whole	685,30:
San Joaquin County	8-Hour Ozone (2008)	San Joaquin Valley, CA	12131415161718192021222324	//	Extreme	Whole	685,30:

County	NAAQS	Area Name	Nonattainment in Year	Redesignation to Maintenance	Classification	Whole or Part County	Population (2010)
San Joaquin County	8-Hour Ozone (2015)	San Joaquin Valley, CA	18192021222324	//	Extreme	Whole	685,304
San Joaquin County	Carbon Monoxide (1971)	Stockton, CA	929394959697	06/01/1998	Moderate <= 12.7ppm	Part	373,544
San Joaquin County	PM-10 (1987)	San Joaquin Valley Air Basin, CA	92939495969798990001020304050607	12/12/2008	Serious	Whole	685,304
San Joaquin County	PM-2.5 (1997)	San Joaquin Valley, CA	0506070809101112131415161718192021222324	//	Serious	Whole	685,304
San Joaquin County	PM-2.5 (2006)	San Joaquin Valley, CA	09101112131415161718192021222324	//	Serious	Whole	685,304
San Joaquin County	PM-2.5 (2012)	San Joaquin Valley, CA	15161718192021222324	//	Serious	Whole	685,304
San Luis Obispo County	8-Hour Ozone (2008)	San Luis Obispo (Eastern San Luis Obispo), CA	12131415161718192021222324	//	Marginal	Part	1,649
San Luis Obispo County	8-Hour Ozone (2015)	San Luis Obispo (Eastern part), CA	18192021222324	//	Marginal	Part	1,290
San Mateo County	1-Hour Ozone (1979)-NAAQS revoked	San Francisco-Bay Area, CA	98990001020304	//	Other	Whole	718,454
San Mateo County	8-Hour Ozone (1997)-NAAQS revoked	San Francisco Bay Area, CA	0405060708091011121314	//	Marginal	Whole	718,454
San Mateo County	8-Hour Ozone (2008)	San Francisco Bay Area, CA	12131415161718192021222324	//	Marginal	Whole	718,454
San Mateo County	8-Hour Ozone (2015)	San Francisco Bay Area, CA	18192021222324	//	Marginal	Whole	718,454
San Mateo County	Carbon Monoxide (1971)	San Francisco-Oakland-San Jose, CA	929394959697	06/01/1998	Moderate <= 12.7ppm	Part	497,681
San Mateo County	PM-2.5 (2006)	San Francisco Bay Area, CA	09101112131415161718192021222324	//	Moderate	Whole	718,454
Santa Barbara County	1-Hour Ozone (1979)-NAAQS revoked	Santa Barbara-Santa Maria-Lompoc, CA	9293949596979899000102	08/08/2003	Serious	Whole	423,894
Santa Clara County	1-Hour Ozone (1979)-NAAQS revoked	San Francisco-Bay Area, CA	98990001020304	//	Other	Whole	1,781,644
Santa Clara County	8-Hour Ozone (1997)-NAAQS revoked	San Francisco Bay Area, CA	0405060708091011121314	//	Marginal	Whole	1,781,644
Santa Clara County	8-Hour Ozone (2008)	San Francisco Bay Area, CA	12131415161718192021222324	//	Marginal	Whole	1,781,644
Santa Clara County	8-Hour Ozone (2015)	San Francisco Bay Area, CA	18192021222324	//	Marginal	Whole	1,781,644
Santa Clara County	Carbon Monoxide (1971)	San Francisco-Oakland-San Jose, CA	929394959697	06/01/1998	Moderate <= 12.7ppm	Part	594,904

County	NAAQS	Area Name	Nonattainment in Year	Redesignation to Maintenance	Classification	Whole or Part County	Population (2010)
Santa Clara County	PM-2.5 (2006)	San Francisco Bay Area, CA	09101112131415161718192021222324	//	Moderate	Whole	1,781,64
Santa Cruz County	1-Hour Ozone (1979)-NAAQS revoked	Monterey Bay, CA	9293949596	03/18/1997	Moderate	Whole	262,38
Solano County	1-Hour Ozone (1979)-NAAQS revoked	Sacramento Metro, CA	92939495969798990001020304	//	Severe-15	Part	206,43
Solano County	1-Hour Ozone (1979)-NAAQS revoked	San Francisco Bay Area, CA	98990001020304	//	Other	Part	206,92
Solano County	8-Hour Ozone (1997)-NAAQS revoked	Sacramento Metro, CA	0405060708091011121314	//	Severe 15	Part	129,511
Solano County	8-Hour Ozone (1997)-NAAQS revoked	San Francisco Bay Area, CA	0405060708091011121314	//	Marginal	Part	284,211
Solano County	8-Hour Ozone (2008)	Sacramento Metro, CA	12131415161718192021222324	//	Severe 15	Part	129,37
Solano County	8-Hour Ozone (2008)	San Francisco Bay Area, CA	12131415161718192021222324	//	Marginal	Part	285,08
Solano County	8-Hour Ozone (2015)	Sacramento Metro, CA	18192021222324	//	Serious	Part	129,29
Solano County	8-Hour Ozone (2015)	San Francisco Bay Area, CA	18192021222324	//	Marginal	Part	284,05
Solano County	Carbon Monoxide (1971)	San Francisco-Oakland-San Jose, CA	929394959697	06/01/1998	Moderate <= 12.7ppm	Part	242,851
Solano County	PM-2.5 (2006)	Sacramento, CA	09101112131415161718192021222324	//	Moderate	Part	129,581
Solano County	PM-2.5 (2006)	San Francisco Bay Area, CA	09101112131415161718192021222324	//	Moderate	Part	284,281
Sonoma County	1-Hour Ozone (1979)-NAAQS revoked	San Francisco Bay Area, CA	98990001020304	//	Other	Part	436,51
Sonoma County	8-Hour Ozone (1997)-NAAQS revoked	San Francisco Bay Area, CA	0405060708091011121314	//	Marginal	Part	433,26
Sonoma County	8-Hour Ozone (2008)	San Francisco Bay Area, CA	12131415161718192021222324	//	Marginal	Part	434,42
Sonoma County	8-Hour Ozone (2015)	San Francisco Bay Area, CA	18192021222324	//	Marginal	Part	431,79
Sonoma County	Carbon Monoxide (1971)	San Francisco-Oakland-San Jose, CA	929394959697	06/01/1998	Moderate <= 12.7ppm	Part	249,29
Sonoma County	PM-2.5 (2006)	San Francisco Bay Area, CA	09101112131415161718192021222324	//	Moderate	Part	433,26
Stanislaus County	1-Hour Ozone (1979)-NAAQS revoked	San Joaquin Valley, CA	92939495969798990001020304	//	Extreme	Whole	514,45

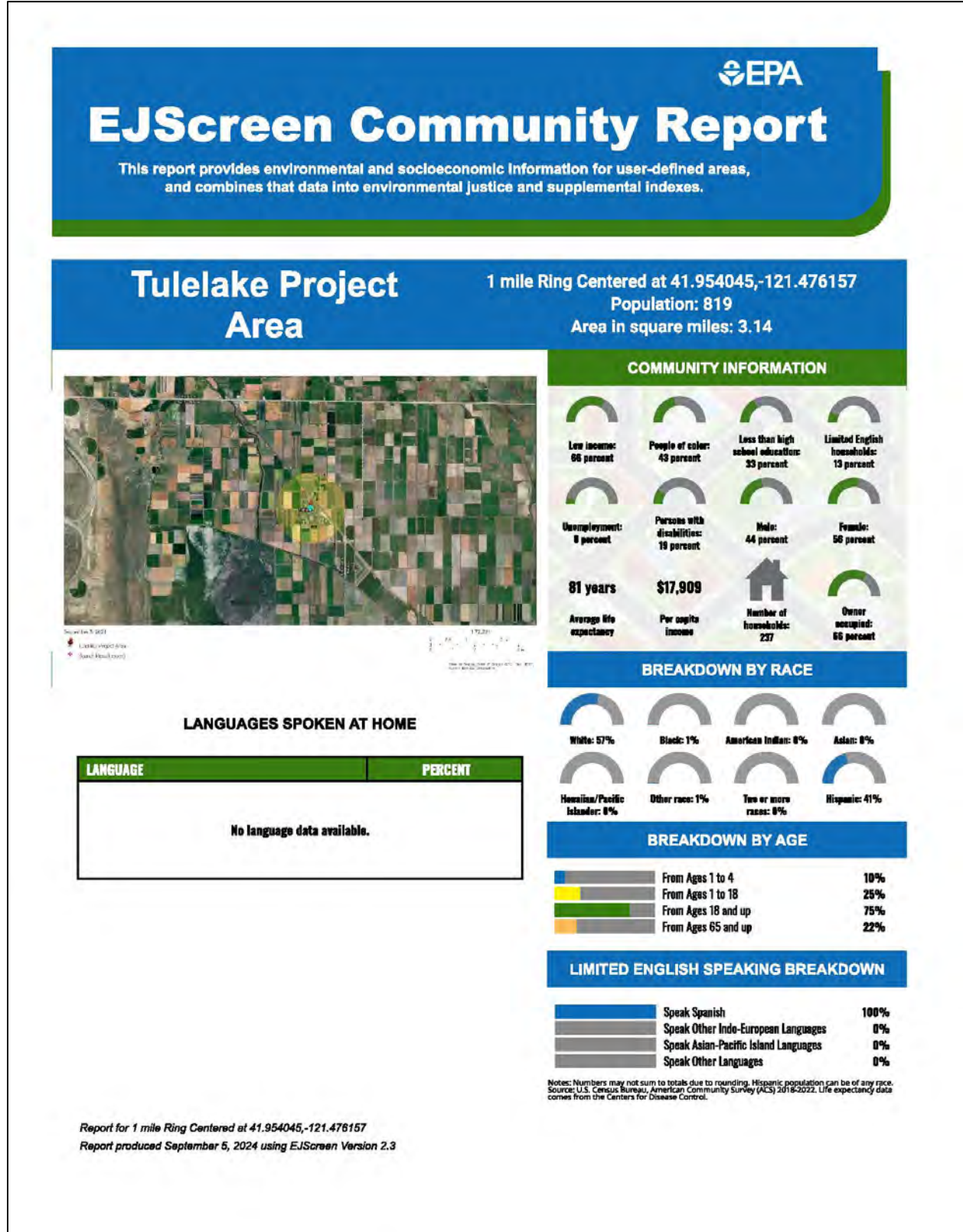
County	NAAQS	Area Name	Nonattainment in Year	Redesignation to Maintenance	Classification	Whole or Part County	Population (2010)
Stanislaus County	8-Hour Ozone (1997)-NAAQS revoked	San Joaquin Valley, CA	0405060708091011121314	//	Extreme	Whole	514,451
Stanislaus County	8-Hour Ozone (2008)	San Joaquin Valley, CA	12131415161718192021222324	//	Extreme	Whole	514,451
Stanislaus County	8-Hour Ozone (2015)	San Joaquin Valley, CA	18192021222324	//	Extreme	Whole	514,451
Stanislaus County	Carbon Monoxide (1971)	Modesto, CA	929394959697	06/01/1998	Moderate <= 12.7ppm	Part	320,701
Stanislaus County	PM-10 (1987)	San Joaquin Valley Air Basin, CA	92939495969798990001020304050607	12/12/2008	Serious	Whole	514,451
Stanislaus County	PM-2.5 (1997)	San Joaquin Valley, CA	0506070809101112131415161718192021222324	//	Serious	Whole	514,451
Stanislaus County	PM-2.5 (2006)	San Joaquin Valley, CA	09101112131415161718192021222324	//	Serious	Whole	514,451
Stanislaus County	PM-2.5 (2012)	San Joaquin Valley, CA	15161718192021222324	//	Serious	Whole	514,451
Sutter County	1-Hour Ozone (1979)-NAAQS revoked	Sacramento Metro, CA	92939495969798990001020304	//	Severe-15	Part	30,023
Sutter County	1-Hour Ozone (1979)-NAAQS revoked	Yuba City, CA	92939495969798990001020304	//	Section 185A	Part	64,717
Sutter County	8-Hour Ozone (1997)-NAAQS revoked	Sacramento Metro, CA	0405060708091011121314	//	Severe 15	Part	3,433
Sutter County	8-Hour Ozone (1997)-NAAQS revoked	Sutter County (part) (Sutter Buttes), CA	0405060708091011121314	//	Marginal	Part	33
Sutter County	8-Hour Ozone (2008)	Sacramento Metro, CA	12131415161718192021222324	//	Severe 15	Part	3,433
Sutter County	8-Hour Ozone (2015)	Sacramento Metro, CA	18192021222324	//	Serious	Part	3,383
Sutter County	8-Hour Ozone (2015)	Sutter Buttes, CA	18192021222324	//	Marginal	Part	3
Sutter County	PM-2.5 (2006)	Yuba City-Marysville, CA	091011121314	01/08/2015	Moderate	Whole	94,737
Tehama County	8-Hour Ozone (2008)	Tuscan Buttes, CA	12131415161718192021222324	//	Marginal	Part	0
Tehama County	8-Hour Ozone (2015)	Tuscan Buttes, CA	18192021222324	//	Marginal (Rural Transport)	Part	0
Tulare County	1-Hour Ozone (1979)-NAAQS revoked	San Joaquin Valley, CA	92939495969798990001020304	//	Extreme	Whole	442,171
Tulare County	8-Hour Ozone (1997)-NAAQS revoked	San Joaquin Valley, CA	0405060708091011121314	//	Extreme	Whole	442,171
Tulare County	8-Hour Ozone (2008)	San Joaquin Valley, CA	12131415161718192021222324	//	Extreme	Whole	442,171
Tulare County	8-Hour Ozone (2015)	San Joaquin Valley, CA	18192021222324	//	Extreme	Whole	442,171
Tulare County	PM-10 (1987)	San Joaquin Valley Air Basin, CA	92939495969798990001020304050607	12/12/2008	Serious	Whole	442,171
Tulare County	PM-2.5 (1997)	San Joaquin Valley, CA	0506070809101112131415161718192021222324	//	Serious	Whole	442,171
Tulare County	PM-2.5 (2006)	San Joaquin Valley, CA	09101112131415161718192021222324	//	Serious	Whole	442,171
Tulare County	PM-2.5 (2012)	San Joaquin Valley, CA	15161718192021222324	//	Serious	Whole	442,171

County	NAAQS	Area Name	Nonattainment in Year	Redesignation to Maintenance	Classification	Whole or Part County	Population (2010)
Tuolumne County	8-Hour Ozone (1997)-NAAQS revoked	Mariposa and Tuolumne Cos. (Southern Mountain Counties), CA	0405060708091011121314	//	Moderate	Whole	55,365
Tuolumne County	8-Hour Ozone (2015)	Tuolumne County, CA	18192021222324	//	Marginal	Whole	55,365
Ventura County	1-Hour Ozone (1979)-NAAQS revoked	Ventura County, CA	92939495969798990001020304	//	Severe-15	Whole	823,311
Ventura County	8-Hour Ozone (1997)-NAAQS revoked	Ventura County (part), CA	0405060708091011121314	//	Serious	Part	823,361
Ventura County	8-Hour Ozone (2008)	Ventura County, CA	12131415161718192021222324	//	Serious	Part	823,261
Ventura County	8-Hour Ozone (2015)	Ventura County, CA	18192021222324	//	Serious	Part	820,801
Yolo County	1-Hour Ozone (1979)-NAAQS revoked	Sacramento Metro, CA	92939495969798990001020304	//	Severe-15	Whole	200,841
Yolo County	8-Hour Ozone (1997)-NAAQS revoked	Sacramento Metro, CA	0405060708091011121314	//	Severe 15	Whole	200,841
Yolo County	8-Hour Ozone (2008)	Sacramento Metro, CA	12131415161718192021222324	//	Severe 15	Whole	200,841
Yolo County	8-Hour Ozone (2015)	Sacramento Metro, CA	18192021222324	//	Serious	Whole	200,841
Yolo County	Carbon Monoxide (1971)	Sacramento, CA	929394959697	06/01/1998	Moderate < 12.7ppm	Part	45,554
Yolo County	PM-2.5 (2006)	Sacramento, CA	09101112131415161718192021222324	//	Moderate	Part	199,151
Yuba County	1-Hour Ozone (1979)-NAAQS revoked	Yuba City, CA	92939495969798990001020304	//	Section 185A	Whole	72,155
Yuba County	PM-2.5 (2006)	Yuba City-Marysville, CA	091011121314	01/08/2015	Moderate	Part	70,218
Important Notes							
Discover	Connect			Ask	Follow		
2014-2015							



U.S. Air Quality Index ([AirNow Interactive Map \(epa.gov\)](https://www.airnow.gov/))

APPENDIX J - EJScreen Report



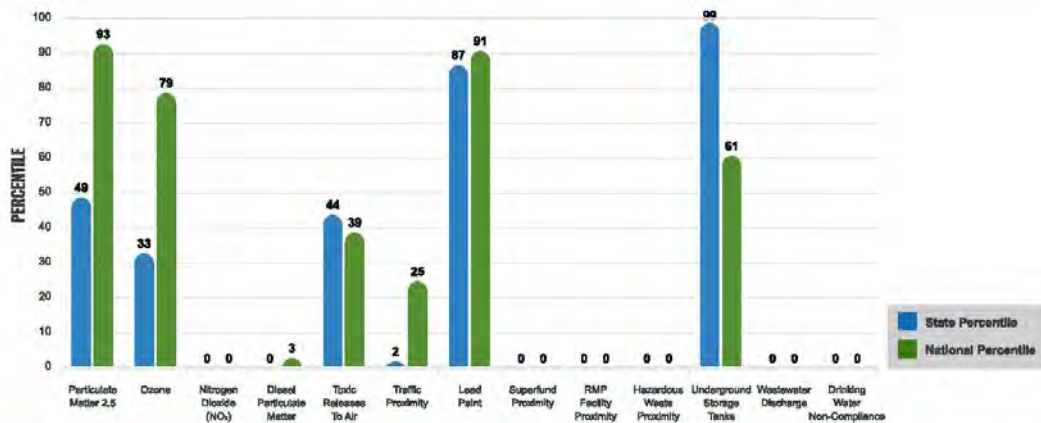
Environmental Justice & Supplemental Indexes

The environmental justice and supplemental indexes are a combination of environmental and socioeconomic information. There are thirteen EJ Indexes and supplemental indexes in EJScreen reflecting the 13 environmental indicators. The indexes for a selected area are compared to those for all other locations in the state or nation. For more information and calculation details on the EJ and supplemental indexes, please visit the [EJScreen website](#).

EJ INDEXES

The EJ indexes help users screen for potential EJ concerns. To do this, the EJ index combines data on low income and people of color populations with a single environmental indicator.

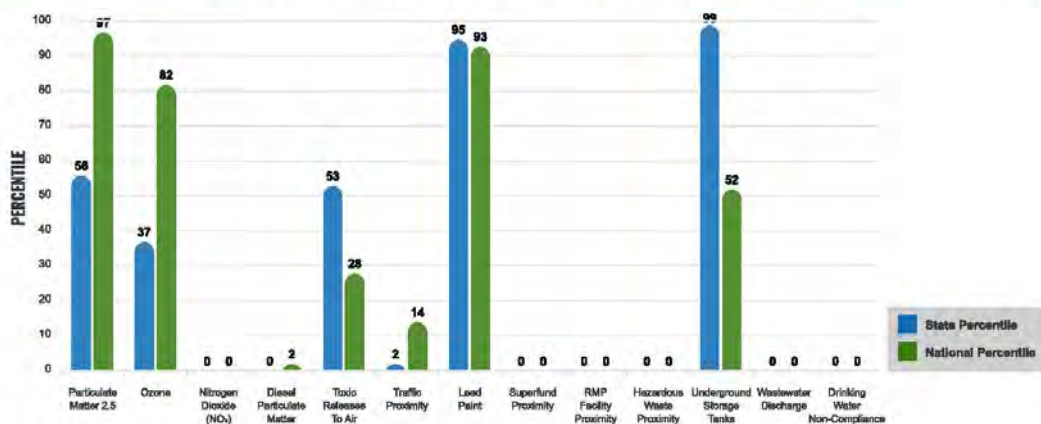
EJ INDEXES FOR THE SELECTED LOCATION



SUPPLEMENTAL INDEXES

The supplemental indexes offer a different perspective on community-level vulnerability. They combine data on percent low income, percent persons with disabilities, percent less than high school education, percent limited English speaking, and percent low life expectancy with a single environmental indicator.

SUPPLEMENTAL INDEXES FOR THE SELECTED LOCATION



Report for 1 mile Ring Centered at 41.954045,-121.476157

Report produced September 5, 2024 using EJScreen Version 2.3

EJScreen Environmental and Socioeconomic Indicators Data

SELECTED VARIABLES	VALUE	STATE AVERAGE	PERCENTILE IN STATE	USA AVERAGE	PERCENTILE IN USA
ENVIRONMENTAL BURDEN INDICATORS					
Particulate Matter 2.5 ($\mu\text{g}/\text{m}^3$)	11.1	12.3	29	8.45	90
Ozone (ppb)	60.5	74.2	18	61.8	51
Nitrogen Dioxide (NO_2) (ppbv)	1.4	9.1	0	7.8	0
Diesel Particulate Matter ($\mu\text{g}/\text{m}^3$)	0.0186	0.286	0	0.191	1
Toxic Releases to Air (toxicity-weighted concentration)	36	780	27	4,600	15
Traffic Proximity (daily traffic count/distance to road)	25,000	4,000,000	1	1,700,000	8
Lead Paint (% Pre-1960 Housing)	0.59	0.31	79	0.3	80
Superfund Proximity (site count/km distance)	0	0.68	0	0.39	0
RMP Facility Proximity (facility count/km distance)	0	0.83	0	0.57	0
Hazardous Waste Proximity (facility count/km distance)	0	11	0	3.5	0
Underground Storage Tanks (count/km ²)	0.012	0.00036	99	3.6	28
Wastewater Discharge (toxicity-weighted concentration/m distance)	0	11000	0	700000	0
Drinking Water Non-Compliance (points)	0	0.5	0	2.2	0
SOCIOECONOMIC INDICATORS					
Demographic Index USA	2.24	N/A	N/A	1.34	83
Supplemental Demographic Index USA	2.52	N/A	N/A	1.64	89
Demographic Index State	2.47	1.83	75	N/A	N/A
Supplemental Demographic Index State	2.45	1.49	90	N/A	N/A
People of Color	43%	62%	28	40%	60
Low Income	66%	28%	95	30%	92
Unemployment Rate	8%	6%	71	6%	77
Limited English Speaking Households	13%	8%	75	5%	88
Less Than High School Education	33%	16%	85	11%	93
Under Age 5	10%	5%	87	5%	86
Over Age 64	22%	16%	76	18%	71

*Diesel particulate matter index is from the EPA's Air Toxics Data Update, which is the Agency's ongoing, comprehensive evaluation of air toxics in the United States. This effort aims to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that the air toxics data presented here provide broad estimates of health risks over geographic areas of the country, not definitive data to specific individuals or locations. More information on the Air Toxics Data Update can be found at: <https://www.epa.gov/oaqps/air-toxics-data-update>.

Sites reporting to EPA within defined area:

Superfund	0
Hazardous Waste, Treatment, Storage, and Disposal Facilities	0
Water Dischargers	2
Air Pollution	0
Brownfields	1
Toxic Release Inventory	0

Other community features within defined area:

Schools	3
Hospitals	0
Places of Worship	5

Other environmental data:

Air Non-attainment	No
Impaired Waters	Yes

Selected location contains American Indian Reservation Lands*	No
Selected location contains a "Justice40 (CEIST)" disadvantaged community	Yes
Selected location contains an EPA IRA disadvantaged community	Yes

Report for 1 mile Ring Centered at 41.954045,-121.476157

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EJScreen Environmental and Socioeconomic Indicators Data

HEALTH INDICATORS					
INDICATOR	VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Low Life Expectancy	17%	18%	45	20%	27
Heart Disease	7.8	4.8	96	5.8	87
Asthma	11.7	9.6	96	10.3	85
Cancer	5.9	5.6	63	6.4	37
Persons with Disabilities	18.6%	11.3%	92	13.7%	80

CLIMATE INDICATORS					
INDICATOR	VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Flood Risk	42%	13%	92	12%	94
Wildfire Risk	32%	30%	67	14%	84

CRITICAL SERVICE GAPS					
INDICATOR	VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Broadband Internet	25%	9%	93	13%	86
Lack of Health Insurance	18%	7%	95	9%	89
Housing Burden	No	N/A	N/A	N/A	N/A
Transportation Access Burden	No	N/A	N/A	N/A	N/A
Food Desert	No	N/A	N/A	N/A	N/A

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