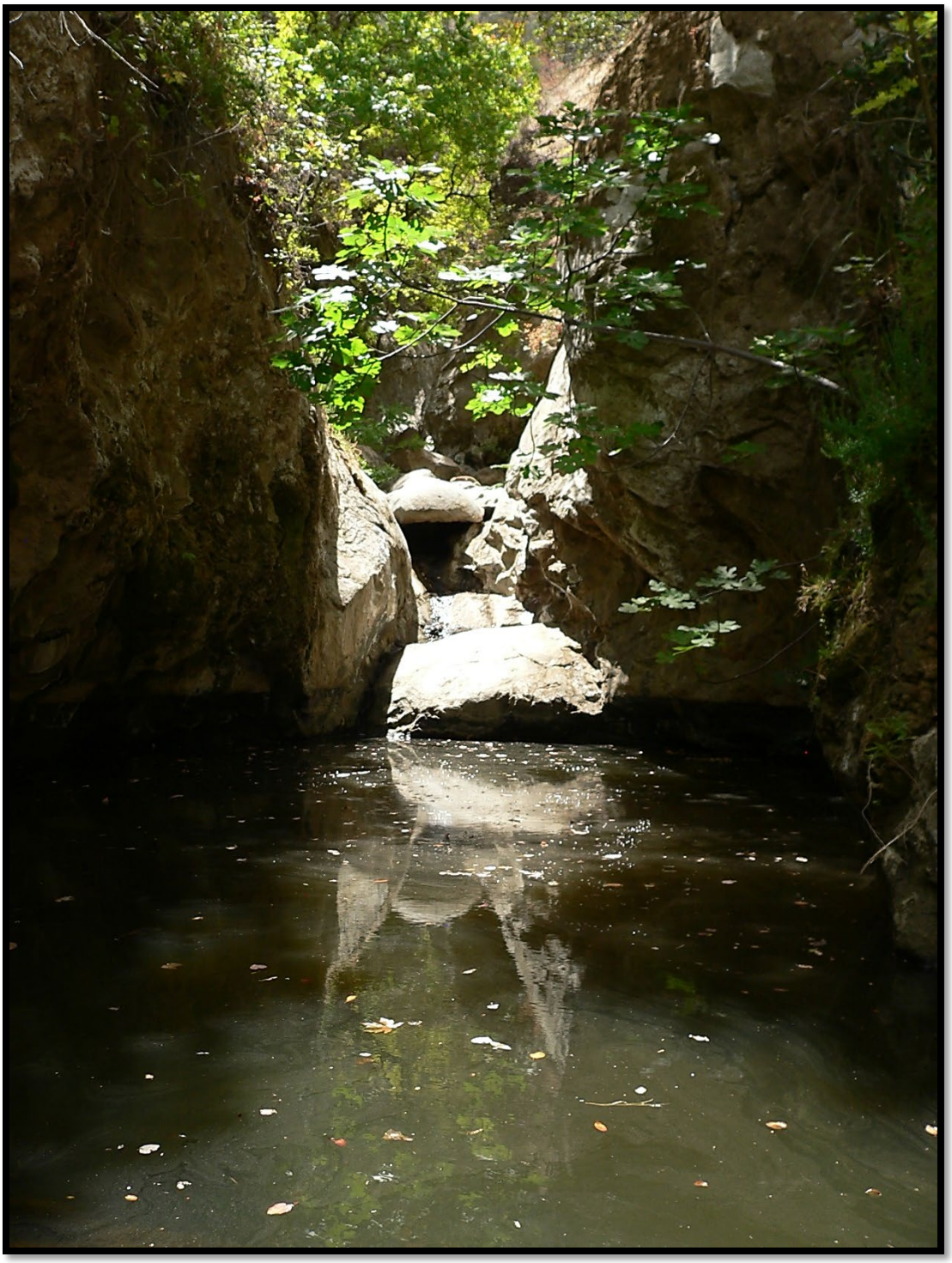
Presented below are water quality standards that are in effect for Clean Water Act purposes.

EPA is posting these standards as a convenience to users and has made a reasonable effort to assure their accuracy. Additionally, EPA has made a reasonable effort to identify parts of the standards that are not approved, disapproved, or are otherwise not in effect for Clean Water Act purposes.

KLETSEL DEHE WINTUN NATION

WATER QUALITY STANDARDS



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SECTION 1.0 INTRODUCTION

The Kletsel Dehe Wintun Nation (Nation) Rancheria is located in southwestern Colusa County (County) in Northern California at Centroid 39.0185180, -122.2887491 Section S34 T14N R4W of the Mount Diablo Meridian. The Rancheria covers 640 acres at the base of the Coast Range foothills. The topography mainly consists of rolling to steep hills with elevations ranging from 610 feet above mean sea level (amsl) to 1,718 feet amsl (WEPA, 2016). There are six canyons and a relatively flat area on the northeastern portion of the Rancheria. The Rancheria is located within the Strode Creek Sub watershed of Cortina Creek Watershed, Hydrologic Unit Code (HUC) 180201040803. Strode Creek i.e. Canyon Creek drains into Cortina Creek (Approximately 1.81 miles). From here the water continues down to the Colusa Basin Drainage Ditch (Approximately 19.2 miles) and finally into the Sacramento River at Knights Landing (Approximately 31.5 miles).
Strode Creek flows within Strode Canyon, the main topographic feature traversing through the Rancheria from west to east. Strode Creek is spring-fed and flows during the wet season (winter through spring) and is mostly dry during summer and early fall with the exception of some pooling within Strode Canyon. The Rancheria has had limited residences (currently less than five (5) housing units) mostly due to the lack of high-quality potable water. Further discussion on Rancheria waters is provided below in Section 2.0.

On July 28, 2016, the Nation received its Certificate of Achievement for Obtaining Authorization to Administer the Water Quality Standards and Certification Programs under the Clean Water Act (CWA); which identifies the Nation as a co-regulator of water quality equal to state and federal entities in order to administer a comprehensive water quality protection program. This document provides the Nation's water quality standards for Tribal waters on the Rancheria adopted pursuant to Sections 303 and 518 of the CWA and Tribal Environmental Code. These standards serve to protect public health, enhance the quality of waters on the Rancheria, and serve the purposes of the CWA. The purpose of these water quality standards is to restore, maintain, and protect the chemical, physical, biological, and cultural integrity of the Rancheria waters as described in Section 2.1.

The following water quality criteria for the Nation are narrative and numerical. General methodology used in establishing water quality criteria for the Nation included selecting and quantifying the water quality parameters necessary to protect the beneficial uses, and a narrative description of physical characteristics that should or should not be present at each water body. To comply with the Nation's antidegradation policy, water quality criteria may be established at levels higher than what is necessary to protect the most sensitive beneficial use.

For surface water quality criteria , due to a lack of statistically significant number of data points, the Nation has adopted the EPA's National Recommended Water Quality Criteria, with the exception of mercury criteria; the Nation has adopted the more stringent California mercury criteria.

For groundwater, statistical analysis was conducted of water quality results collected from sampling conducted under the Nation's U.S. EPA Clean Water Act Section 106 monitoring program from 2004 to 2016 (monitoring is ongoing) to assess establishing site-specific numerical groundwater quality criteria. Environmental Protection Agency software ProUCL was utilized to run analysis to assess the applicability of utilizing 95 percent upper predictive limits or upper simultaneous limits as numerical groundwater quality criteria. For many analytes, there was a statistically insufficient number of data points to set groundwater quality criteria standards. In these cases, the Maximum Contaminant Levels established by the EPA under the Safe Drinking Water Act were adopted by the Nation.

These water quality criteria can be found at the following online sources:

- https://www.epa.gov/wqc/national-recommended-water-quality-criteria-aquatic-life-criteria-table
- https://www.epa.gov/wqc/national-recommended-water-quality-criteria-human-health-criteria-table
- https://www.epa.gov/ground-water-and-drinking-water/national-primary-drinking-water-regulations
- https://www.epa.gov/wqc/national-recommended-water-quality-criteria
- https://www.waterboards.ca.gov/water_issues/programs/mercury/docs/hg_prov_final.pdf

SECTION 2.0 RANCHERIA WATERS

2.1 DESIGNATION OF APPLICABLE WATERS

Waters resources within the Rancheria Include: Strode Creek, drainage channels 1 through 11, Seeps 1 through 9, the Strode Creek wetland area and Canyon 4 wetland. Numerical water quality criteria hereby apply to creeks and drainage channels where and when adequate seasonal volume and flow (aka free-flowing fresh waters) is available for sampling and groundwater wells located within the Tribal lands. Narrative water quality criteria hereby apply to all waters within the Rancheria, including seeps documented or not, wetlands, creeks, and drainages.

Strode Creek is located within Strode Canyon which is steep-walled and rock-lined for the majority of its length. There are several areas along Strode Creek where water pools and is present for most of the year. Drainage channels 1 through 11 are located throughout the Rancheria, within the banks of ephemeral drainages. Seeps 1, 2, 3, 8, and 9 are located on the southern half of the Rancheria with Seep 6 located near the southeastern corner. Seeps 3, 4, and 5 are located on the northwestern portion with Seep 4 being located within Strode Canyon just east (downstream) of the surface water sampling location within Cortina Creek. The seeps are formed from either underground water percolating from a spring, or in places where the water table is high due to excessive water within Strode Creek or other ephemeral drainages. The Canyon 4 wetland is located directly adjacent to an asbestos containment/settlement pond. The asbestos settlement pond was built and used for monofil settlement and is a potential contaminate source for surface and groundwater on the Rancheria. The Canyon 4 wetland appears to be influenced by a dirt road embankment which allows water to collect on the west side of the road: making a wetland type habitat. The Strode Creek wetland area is influenced by a dirt road and a paved creek crossing. The majority of the area spans the lower portion of Strode Creek prior to crossing the road.

The Kletsel Dehe Wintun Nation is a self-governing Nation, which possesses and exercises full control over resources within the exterior boundaries of the Rancheria through the authoritative actions of various Tribal departments. The Tribal Council is the governing body of the Nation and is authorized to enforce the protection of Tribal property, wildlife, and natural resources. In protecting Tribal property, wildlife, and natural resources with the adoption of these Water Quality Standards, the Nation is exercising its inherent power to regulate activities that may threaten or have a direct effect on the welfare of the Nation. The Nation retains the right and ability to amend, update, or change these Water Quality Standards at least once every three years to comply with the Clean Water Act and EPA's regulations at §131.20 and to protect public health, Tribal property, wildlife, and natural resources.

Surface waters indicate the ability to support wildlife habitat and aquatic uses. California species of special concern include the Northern Western Pond Turtle and Foothill Yellow-legged Frog, both have been observed in Strode Creek. To date neither of these two species have been Federally listed. The presence of fish on the Rancheria has not been documented. There are reports of sightings of a small fish in Strode Creek. Until the Nation can verify these sightings we will maintain the status of no fish on the Rancheria.

Groundwater on the Rancheria includes 35 monitoring wells located throughout the Rancheria, and three domestic water supply wells. The three domestic water supply wells are monitored for environmental water quality. Well No. 2 is offline and out of service due to Fecal Coliform Bacteria at the source. Well No. 3 was drilled in 2013 to supplement Well No. 1 due to poor production. Well No. 3 showed extremely poor water quality. However, Well No. 3 was developed and put into service as per the need to supply water to the community due to drought and a high fire risk. Well No. 1 was placed as the backup production well to Well No. 3 both wells are being treated and disinfected with liquid chlorine (WEPA, 2016).

Listed in Table 1 are the water resources for which numerical and narrative water quality criteria apply; hereby referred to as Rancheria Waters.

Table 1: Rancheria Waters

Rancheria Waters	Total	Monitored	Not Monitored
Strode Creek (Perennial)	1.26 miles	1.26 mile	0
Drainage channels 1 through 11 (Ephemeral, Intermittent)	6.39 miles	1.41 miles	4.98
Total Stream Miles	7.65 miles	2.67 miles	4.98 miles
Channel 1 and Strode Creek Channel 8a Wetlands	0.011 acres	0 acres	0.011 acres
Groundwater monitoring wells	35	5	30
Domestic groundwater supply wells	3	3	0

2.2 DESIGNATED BENEFICIAL USES FOR RANCHERIA WATERS

For the purpose of these standards, the following beneficial uses for the waters of the Rancheria have been established. Water bodies within the Rancheria which do not have standing water could innately support seasonal beneficial uses for wildlife habitat and/or aquatic life habitats. These habitat designations, in no way, will affect the presence of or absence of other beneficial uses in these water bodies. Further classification will be based on the size of the water body, intermittent or ephemeral seasonal flows, and its historic and environmental significance.

Beneficial uses were identified by the Nation and took into account; community development, preservation, and enhancement of cultural and aesthetic values, plants, wildlife, and other aquatic resources (WEPA, 2016). Based on U.S. EPA guidelines, these uses can be categorized into the codes described below Table 3:

1. **Agricultural Supply** (**AGR**): Uses of water for farming, horticulture, or ranching including, but not limited to, irrigation (including leaching of salts), stock watering, or support of vegetation for range grazing.
2. **Native American Cultural/Traditional** (**CUL**): Uses of water that support the cultural and/or traditional rights by citizens of the Cortina Rancheria Kletsel Dehe Wintun Nation. Associated activities include basket weaving and jewelry material collection, navigation to traditional ceremonial locations, and ceremonial uses. Ceremonial and/or religious water uses, including water the Tribal Council has declared as Sensitive or an Outstanding Tribal Resource Water, but not limited to hunting, gathering of materials, food, and medicinal plants. This use is protected under the American Indian Religious Freedom Act (**P.L.95-341**).
3. **Municipal and Domestic Supply** (**MUN**): Uses of water for community, military, or individual water supply systems.
4. **Rare**, **Threatened or Endangered Species or Species of Special Concern** (**RARE**): Uses of water that support habitat necessary, at least in part, for the survival and successful maintenance of plant or animal species established under state, Tribal, or federal law as rare, threatened or endangered, or species of special concern.
5. **Water Contact Recreation** (**REC-1**): Uses of water for recreational activities involving body contact with water where ingestion of water is reasonably possible. These uses include, but are not limited to, swimming, wading.
6. **Non-Contact Water Recreation** (**REC-2**): Uses of water for recreational activities involving proximity to water, but where there is generally no body contact with water, nor any likelihood of ingestion of water. These uses include, but are not limited to, picnicking, sunbathing, hiking, beachcombing, camping, hunting, sightseeing, or aesthetic enjoyment in conjunction with the above activities
7. **Warm Freshwater Habitat** (**WARM**): Uses of water that support warm water ecosystems including, but not limited to, preservation or enhancement of aquatic habitats, vegetation, fish, or wildlife, including invertebrates.

8. **Wetland Habitat (WET)**: Uses of water that support natural and man-made wetland ecosystems, including, but not limited to, preservation or enhancement of unique wetland functions, vegetation, fish, shellfish, invertebrates, insects, and wildlife habitat.
9. **Aquatic Life /Wildlife (WILD)**: Provides habitat to sustain aquatic resources. Often subdivided into cold and warm water classification; provides water supply and habitat for maintenance of wildlife. Uses of water that support terrestrial ecosystems including, but not limited to, preservation and enhancement of terrestrial habitats, vegetation, wildlife (e.g., mammals, birds, reptiles, amphibians, invertebrates), or wildlife water and food sources.

2.3 BENEFICIAL USES

Essential to these standards is the designation of beneficial uses for the Rancheria waters that are to be protected. Beneficial uses assigned to Rancheria Waters are presented in Table 2. Equal protection will be afforded to existing, potential and historical uses of the Rancheria waters. Further, the beneficial uses of any specifically identified water body apply to all tributaries above the beneficial use area identified in Table 3.

2.3.1 Wetlands

For all wetlands as defined by the Nation, uses, functions, and values to be protected include but are not limited to: base flow discharge, cultural opportunities, flood flow attenuation, groundwater recharge, indigenous floral faunal diversity abundance, nutrient cycling, organic carbon export/cycling, protection of downstream water quality, recreation, resilience against climatic effects, sediment/shoreline stabilization, surface water storage, and water-dependent wildlife to the extent that such uses, functions, and values occur as represented by established baselines. Further discussion of wetlands, including designated uses, can be found in Section 4.

2.3.2 Groundwater

Existing and potential beneficial uses applicable to groundwater in the Region include municipal and domestic water supply (MUN), industrial water supply (IND), industrial process supply (PRO), agricultural water supply (AGR), groundwater recharge (GWR), and freshwater replenishment to surface waters (FRESH). Due to the fact the Nation does not have potable water on the Rancheria we will not be monitoring for National Primary Drinking Water Regulations and beneficial uses until the Nation installs a drinking water treatment system. We will continue to protect the quality of the waters through our Antidegradation Policy to insure adequate protection for future uses, see (Site-Specific Numerical National Primary Drinking Water Regulations Groundwater Quality Criteria) and (National Primary Drinking Water Regulations Groundwater Quality Criteria) in Attachment A Water Quality Criteria Tables.

Table 2: Designated Beneficial Uses

Rancheria Water	Beneficial Use
Strode Creek: Stream Miles (Perennial)	CUL, REC-1, RARE, WARM,WET,WILD
Stream Miles[1] (Ephemeral, Intermittent)	CUL, REC-2, WARM, WET
Groundwater monitoring wells	MUN, AGR
Groundwater municipal water supply wells	MUN, AGR
Springs/ Seeps 1 through 9	WILD

[1]Includes the other 11 identified drainages on the Rancheria.

Table 3: Major Rancheria Water Channels Beneficial Use Classification Key

Drainage	Type	Inter	AGR	CUL	MUN	RARE	REC- 1	REC- 2	WARM	WET	WILD

		State									
Channel 1	Primary Intermittent, RPW[1]	X	H	H[2]	N/A	P	N/A*	E	E	E	P
Channel 8a Strode Creek	Primary Perennial, RPW	X	H	E, H	E	E	E	E	E	E	E
Channel 9a	Primary Ephemeral, non-RPW	X	H	N/A	N/A	P	N/A*	E	E	N/A	P

The Classification Key for the Beneficial Uses is as follows:
X= Waterbodies that extend beyond the Rancheria boundaries,
H= Historical Use,
N/A= Not Applicable,
P= Potential Use,
E= Existing Use.
* Rec-1 Use does not exist
Channel 1, and Channel 9a are tributaries to Channel 8a Strode Creek, when they leave the Rancheria. Use Attainability Analysis was completed for these water bodies: See attached Use Attainability Analysis in attachments.

[1] These waters were identified by Army Corps of Engineers as either Relatively Permanent Waters (RPW) or (non-RPW) non-Relatively Permanent Waters.
[2] Historically this channel and its accompanying Riparian area were used for plant collection prior to 1975 to the present day making them culturally important.

Figure 1 Cortina Preliminary Jurisdictional Wetland Delineation Map

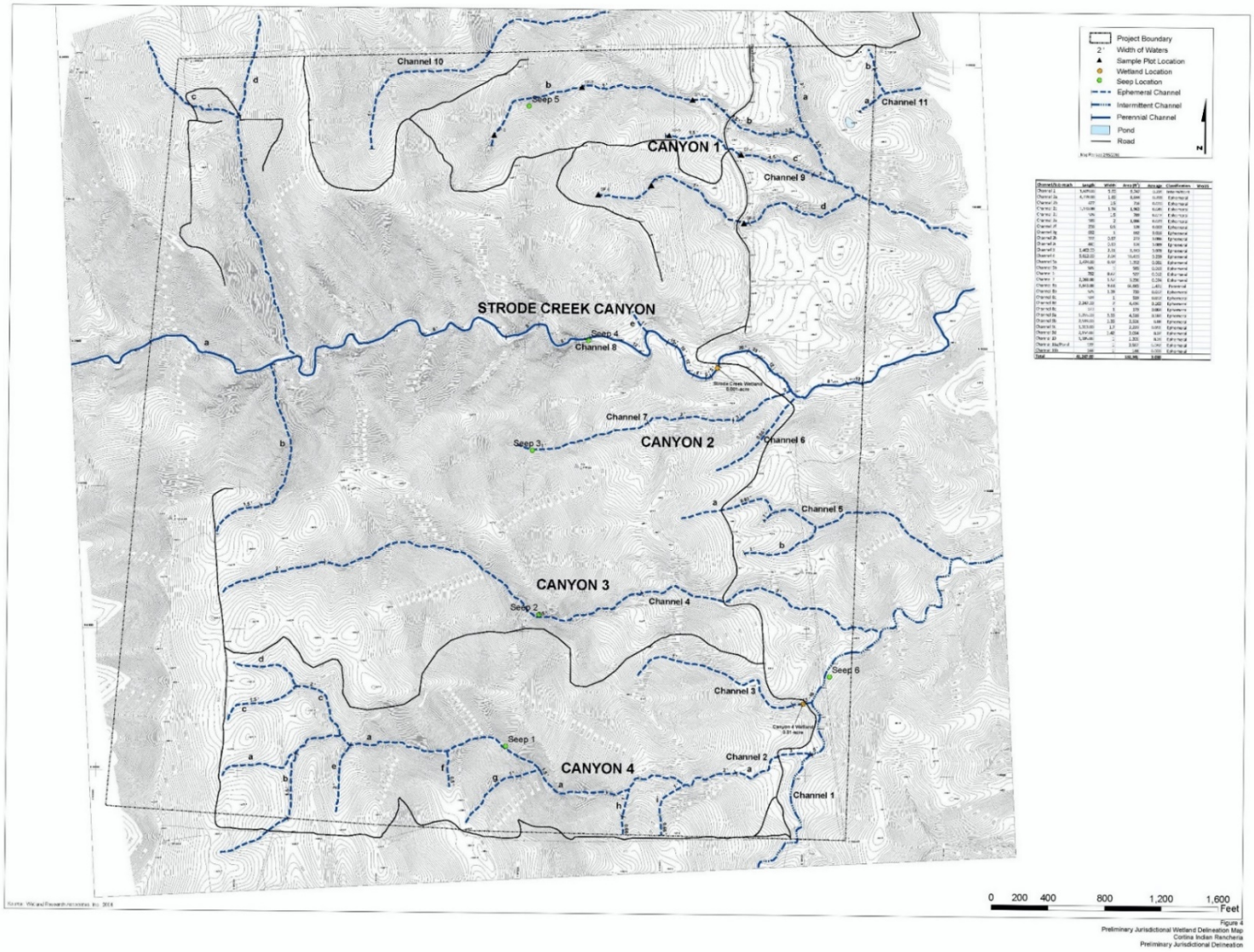


Figure 2 Water Resource Map 1

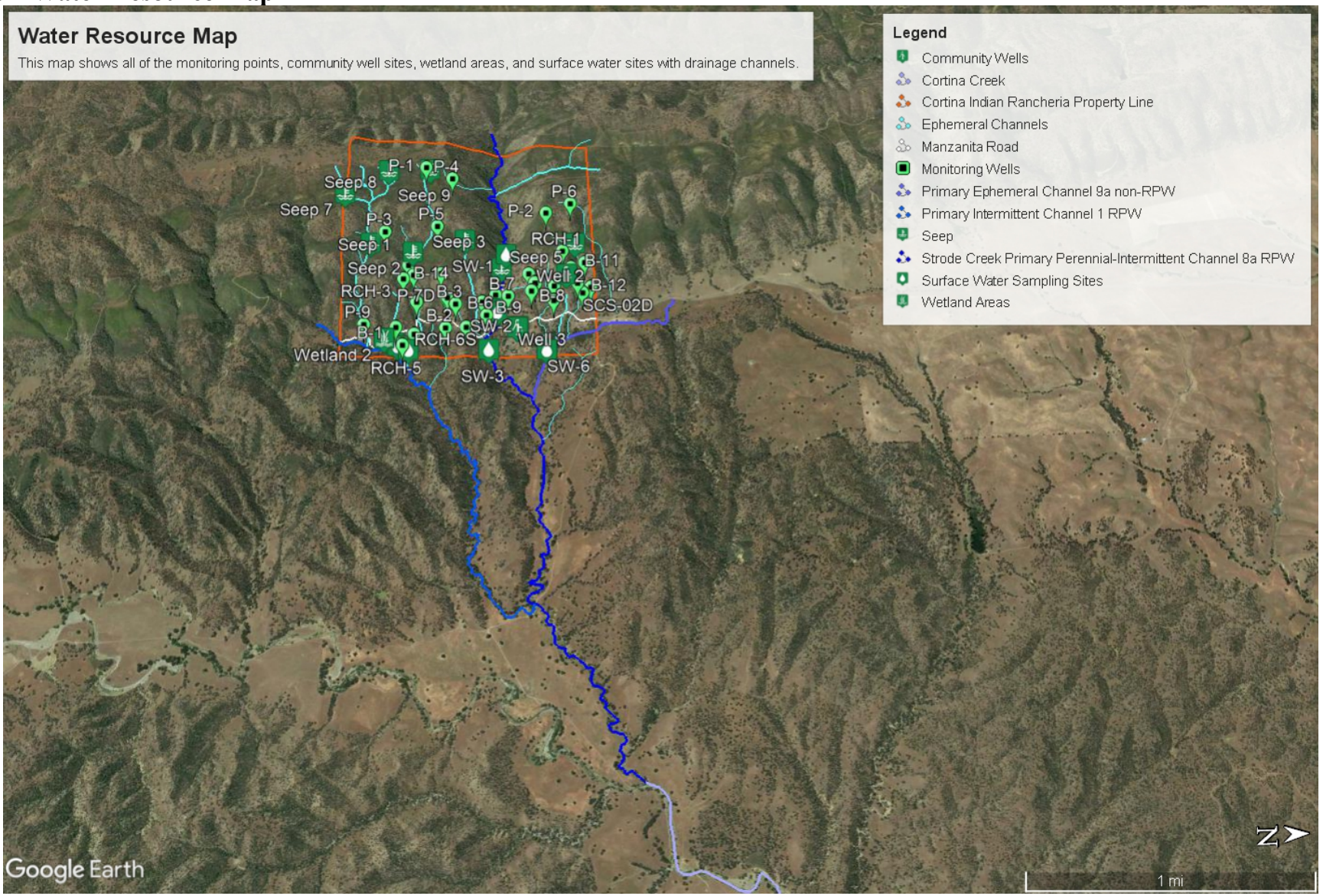


Figure 3 Water Resource Map 2

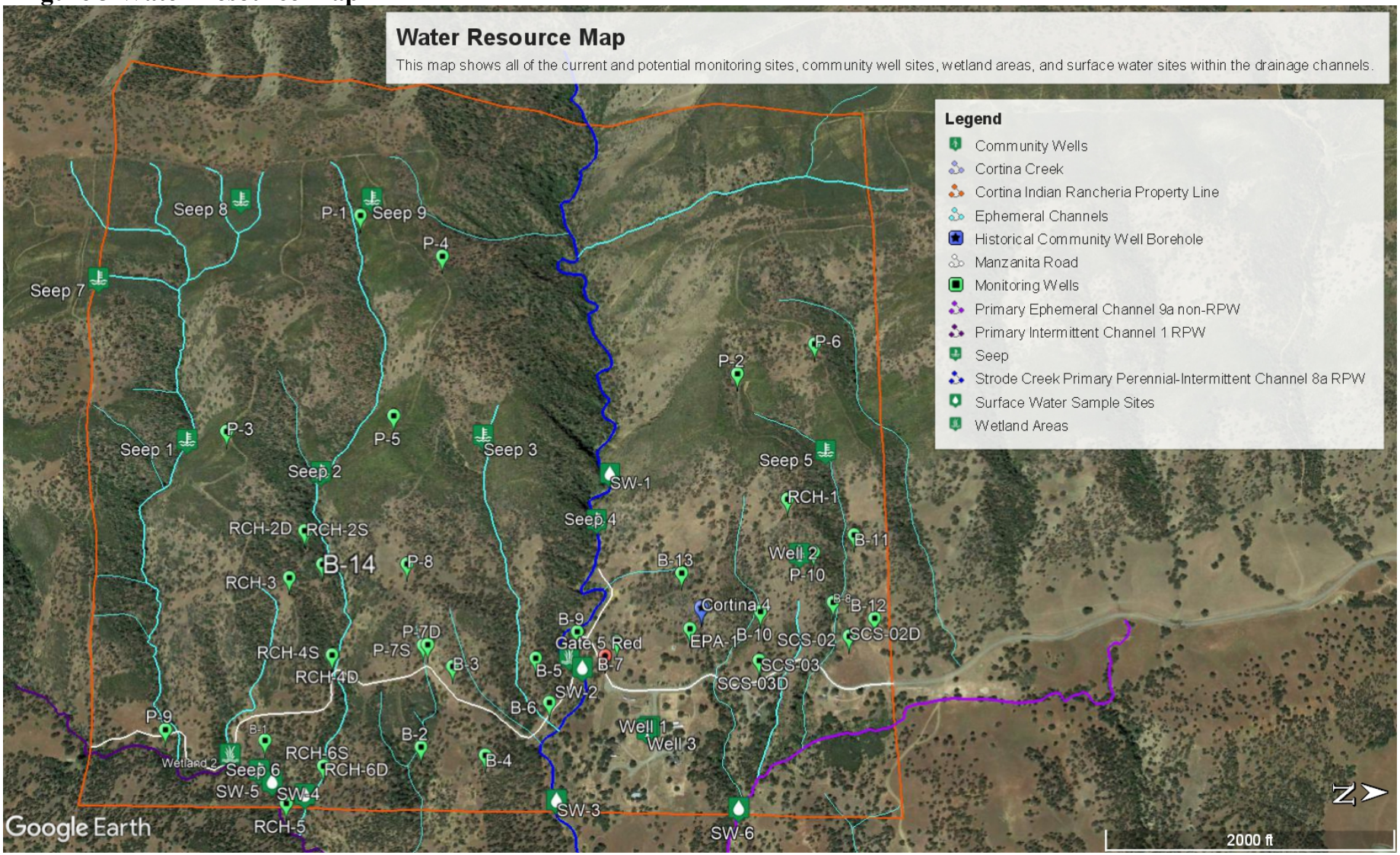


Figure 4 Cortina Rancheria Strode Creek Watershed Drainage

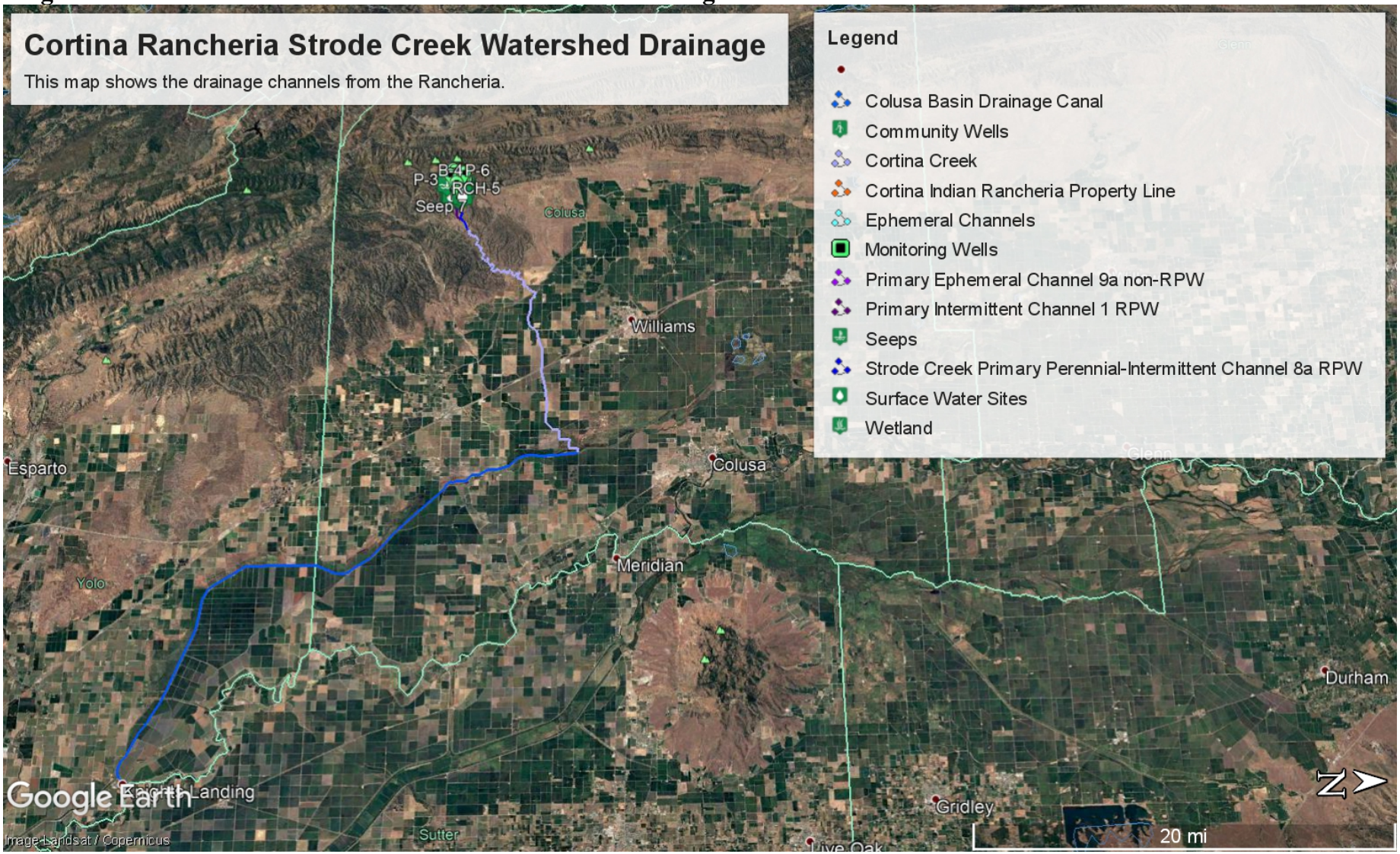
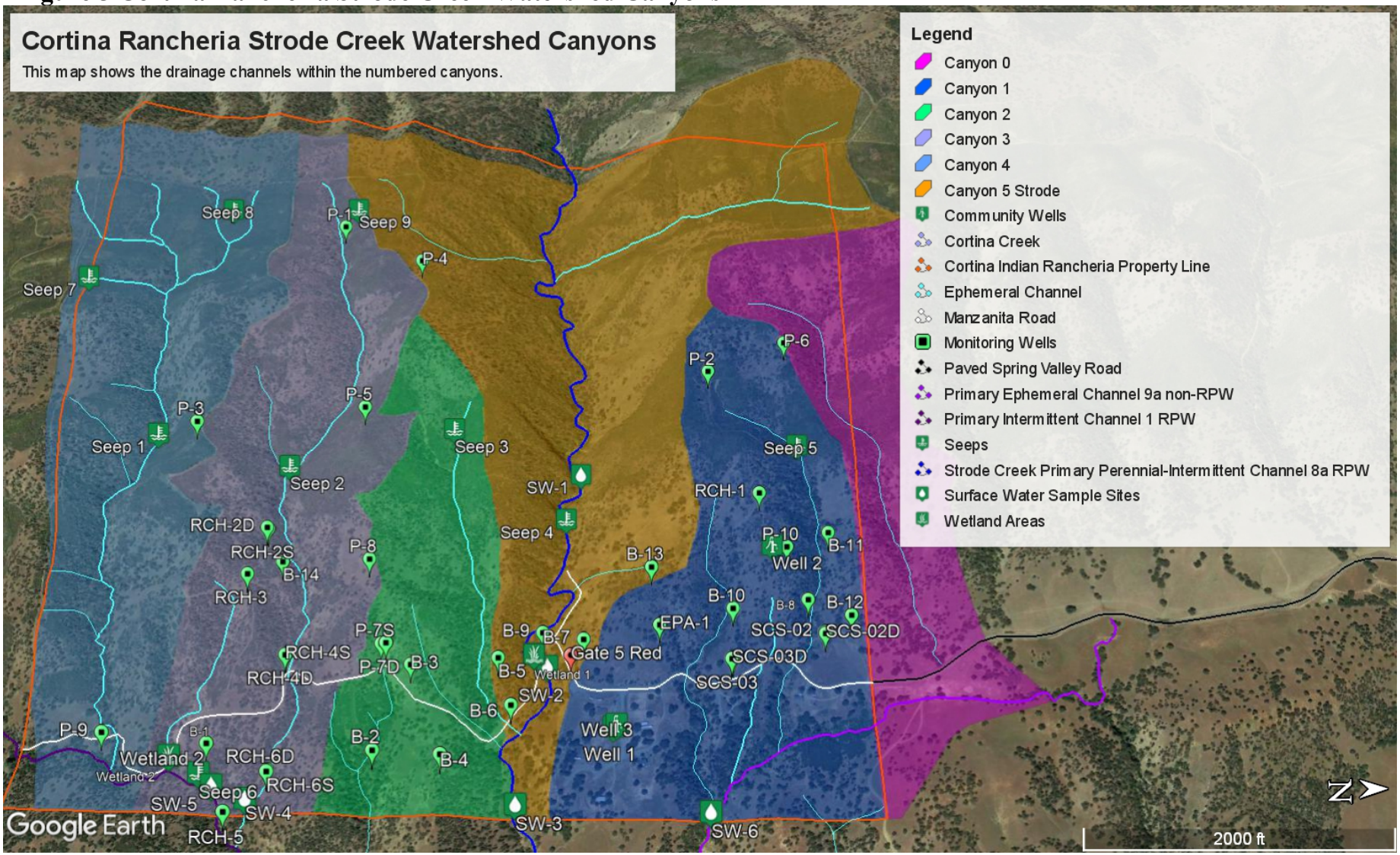


Figure 5 Cortina Rancheria Strode Creek Watershed Canyons



SECTION 3.0 CORTINA RANCHERIA WATER QUALITY CRITERIA

3.1 NARRATIVE WATER QUALITY CRITERIA

The following are the narrative water quality criteria applicable to all water resources on the Rancheria.

General requirements. All waters on the Rancheria Section 2.1 shall be free from toxic, radioactive, conventional, non-conventional, deleterious or other polluting substances in amounts that will prevent attainment of the designated uses specified in Section 2.2.

Aesthetic qualities. All waters on the Rancheria shall be free from substances, attributable to wastewater discharges or any other pollutant sources, that:

(i) Settle to form objectionable deposits.

(ii) Float as debris, scum, oil, or other matter forming nuisances.

(iii) Produce objectionable color, odor, taste, or turbidity.

(iv) Cause injury to, are toxic to, or produce adverse physiological responses in humans, animals, or plants; and/or

(v) Produce undesirable or nuisance aquatic life.

Protection of cultural and traditional uses. All waters with the cultural and traditional designated use shall be free from contaminants at levels that cause or contribute to an impairment in water-based activities essential to maintaining the Nation's cultural and traditional practices.

Downstream protection. All waters on the Rancheria shall maintain a level of water quality that provides for the attainment and maintenance of the water quality standards of downstream waters, including the downstream waters of a state, such as Sacramento River Basin Plan water quality standards.

3.2 NUMERIC WATER QUALITY CRITERIA

The following are the numeric water quality criteria applicable to drainage channels 1 through 11 with adequate water volume and flow, that flow into Strode/Canyon Creek and the other drainage channels located in the canyons on/off the Rancheria.

Strode Creek i.e. Canyon Creek drains into Cortina Creek (Approximately 1.81 miles). From here the water continues down to the Colusa Basin Drainage Ditch (Approximately 19.2 miles) and finally into the Sacramento River at Knights Landing (Approximately 31.5 miles).

3.2.1 Surface Water Quality Criteria

3.2.1.1 EPA National Recommended Aquatic Life Criteria

The aquatic life criteria for these water quality standards are contained in Tables 4 through 9 of this

section. The aquatic life criteria apply as follows:

(i) The aquatic life criteria in Tables 4 through 7 of this section apply to all waters designated for the protection and propagation of fish, shellfish, and wildlife in Tables 2 and 3.

(ii) For waters in which the salinity is equal to or less than 1 part per thousand 95% or more of the time, the applicable criteria are the freshwater criteria in Column B of Table 4, and in Tables 5, 6, and 7 of this section.

Table 4: Aquatic life criteria

A		B Freshwater	
Compound	CAS Number	Criterion Maximum Concentration (CMC) (µg/L) B1	Criterion Continuous Concentration (CCC) (µg/L) B2
Acrolein	107028	3	3
Aldrin [a]	309002	3	-
Alkalinity [b]		-	20000
alpha-Endosulfan [a,c]	959988	0.22	0.056
Aluminum pH 6.5 – 9.0	7429905	Reserved [d]	
Ammonia	7664417	See Table 7	
Arsenic [e,f]	7440382	340	150
beta-Endosulfan [a,c]	33213659	0.22	0.056
Cadmium [f]	7440439	See Tables 4a and 4b	
Carbaryl	63252	2.1	2.1
Chlordane [a]	57749	2.4	0.0043
Chloride	16887006	860000	230000
Chlorine	7782505	19	11
Chlorpyrifos	2921882	0.083	0.041
Chromium (III)[f]	16065831	See Tables 4a and 4b	
Chromium (VI)[f]	18540299	16	11
Copper [f]	7440508	See Table 5	
Cyanide [h]	57125	22	5.2
Demeton	8065483	-	0.1
Diazinon	333415	0.17	0.17
Dieldrin	60571	0.24	0.056[a]
Endrin	72208	0.086	0.036[i]
gamma-BHC (Lindane)	58899	0.95	-
Guthion	86500	-	0.01
Heptachlor [a]	76448	0.52	0.0038
Heptachlor Epoxide [a, j]	1024573	0.52	0.0038

A		B Freshwater	
Compound	CAS Number	Criterion Maximum Concentration (CMC) (µg/L) B1	Criterion Continuous Concentration (CCC) (µg/L) B2
Iron	7439896	-	1000
Lead [f]	7439921	See Tables 4a and 4b	
Malathion	121755	-	0.1
Mercury [k]		n/a	0.012
Methoxychlor	72435	-	0.03
Mirex	2385855	-	0.001
Nickel [f]	7440020	See Tables 4a and 4b	
Nonylphenol	84852153	28	6.6
Oxygen, Dissolved [l]	7782447		
Parathion	56382	0.065	0.013
Pentachlorophenol	87865	19[m]	15[m]
pH [n]		-	6.5 – 9
Selenium	7782492	See Table 6	
Silver [a,f]	7440224	See Tables 4a and 4b	
Sulfide-Hydrogen Sulfide	7783064	-	2
Temperature [o]		-	-
Toxaphene	8001352	0.73	0.0002
Tributyltin (TBT)		0.46	0.072
Zinc [f]	7440666	See Tables 4a and 4b	
4,4'-DDT [a]	50293	1.1	0.001

Footnotes to Table 4 of this section:

a. These criteria are based on the 1980 criteria, which used different Minimum Data Requirements and derivation procedures from the 1985 Guidelines. If evaluation is to be done using an averaging period, the acute criteria values given are not to be exceeded and should be divided by 2 to obtain a value that is more comparable to a CMC derived using the 1985 Guidelines. CMC: Criterion Maximum Concentration, CCC: Criterion Continuous Concentration

b. The CCC of 20mg/L is a minimum value except where alkalinity is naturally lower, in which case the criterion cannot be lower than 25% of the natural level.

c. This value was derived from data for Endosulfan and is most appropriately applied to the sum of alpha-Endosulfan and beta-Endosulfan.

d. Freshwater criteria for aluminum are reserved for new values under development. Criteria will be added once available.

e. This recommended water quality criterion was derived from data for arsenic (III) but is applied here to total arsenic.

f. Freshwater and saltwater criteria for metals are expressed in terms of the dissolved metal in the water column. See Office of Water Policy and Technical Guidance on Interpretation and Implementation of Aquatic Life Metals Criteria. See Table 1a for conversion factors.

g. Saltwater criteria for copper are reserved for new values under development. Criteria will be added once available.
h. These recommended water quality criteria are expressed as µg free cyanide (CN/L).
i. The derivation of the CCC for this pollutant did not consider exposure through the diet, which is probably important for aquatic life occupying upper trophic levels.
j. This value was derived from data for heptachlor and there was insufficient data to determine relative toxicities of heptachlor and heptachlor epoxide.
k. Rancheria Waters flow into California Navigable Waters we are adopting the California Mercury Criteria to be protective of California State Navigable Waters.
On May 2, 2017, the California State Water Resources Control Board adopted "Part 2 of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California—Tribal and Subsistence Fishing Beneficial Uses and Mercury Provisions" (Resolution 2017-0027). The mercury provisions were approved by EPA on July 14, 2017. The Resolution sets statewide mercury fish tissue criteria for the protection of aquatic life, wildlife and human health and creates new beneficial uses for tribal and subsistence fish consumption uses for California Regional Water Quality Control Boards to assign to waterbodies. Since Cortina Rancheria has no fish on record as being present, the Nation has adopted the California water column concentration translated from the fish tissue criteria values for mercury.
The document provides a Table with translated fish tissue-to-water column numbers meant to be used for reasonable potential analysis and development of effluent limitations. .012 (µg/L) is based on California water column concentration values for mercury they can be found in Table 1 on page A-9 in the document containing California's Mercury Criteria:
https://www.waterboards.ca.gov/water_issues/programs/mercury/docs/hg_prov_final.pdf
l. For fresh waters, see Quality Criteria for Water, 1986 ("Gold Book"). For marine waters, see Ambient Aquatic Life Water Quality Criteria for Dissolved Oxygen (Saltwater): Cape Cod to Cape Hatteras (EPA-822-R-00-012).
m. Freshwater aquatic life values for pentachlorophenol are expressed as a function of pH and values displayed in table correspond to a pH of 7.8. $CCC = e^{1.005(pH) - 5.134}$, $CMC = e^{1.005\,(pH) - 4.869}$
n. For open ocean waters where the depth is substantially greater than the euphotic zone, the pH should not be changed more than 0.2 units from the naturally occurring variation or any case outside the range of 6.5 to 8.5. For shallow, highly productive coastal and estuarine areas where naturally occurring pH variations approach the lethal limits of some species, changes in pH should be avoided but in any case should not exceed the limits established for fresh water, *i.e.*, 6.5-9.0.
o. Criteria are species dependent. See Quality Criteria for Water, 1986 ("Gold Book").

Notes to Table 1

1. Freshwater and saltwater aquatic life criteria apply as specified in paragraphs (d)(1) of this section.
2. Because of variations in chemical nomenclature systems, this listing of toxic pollutants does not duplicate the listing in Appendix A to 40 CFR Part 423 - 126 Priority Pollutants. EPA has added the Chemical Abstracts Services (CAS) registry numbers, which provide a unique identification for each chemical.

Table 4a: Conversion Factors for Dissolved Metals

Metal	Freshwater CMC	Freshwater CCC	Saltwater CMC
Arsenic	1.000	1.000	1.000
Cadmium	1.136672-[(ln hardness)(0.041838)]	1.101672-[(ln hardness)(0.041838)]	0.994
Chromium III	0.316	0.860	—
Chromium VI	0.982	0.962	0.993
Copper	0.960	0.960	0.83
Lead	1.46203-[(ln hardness)(0.145712)]	1.46203-[(ln hardness)(0.145712)]	0.951

Metal	Freshwater CMC	Freshwater CCC	Saltwater CMC
Mercury	n/a	n/a	n/a
Nickel	0.998	0.997	0.990
Selenium	—	—	0.998
Silver	0.85	—	0.85
Zinc	0.978	0.986	0.946

Table 4b: Parameters for Calculating Freshwater Dissolved Metals Criteria That Are Hardness-Dependent

Chemical	mA	bA	mC	bC	Freshwater Conversion Factors (CF)	
					CMC	CCC
Cadmium	0.9789	-3.866	0.7977	-3.909	1.136672-[(*ln* hardness)(0.041838)]	1.101672-[(*ln* hardness)(0.041838)]
Chromium III	0.8190	3.7256	0.8190	0.6848	0.316	0.860
Lead	1.273	-1.460	1.273	-4.705	1.46203-[(*ln* hardness)(0.145712)]	1.46203-[(*ln* hardness)(0.145712)]
Nickel	0.8460	2.255	0.8460	0.0584	0.998	0.997
Silver	1.72	-6.59	—	—	0.85	—
Zinc	0.8473	0.884	0.8473	0.884	0.978	0.986

Hardness-dependent metals criteria may be calculated from the following:

CMC (dissolved) = exp{mA [*ln*(hardness)]+ bA} (CF)

CCC (dissolved) = exp{mC [*ln*(hardness)]+ bC} (CF)

Table 5: Copper Aquatic Life Criteria for Fresh Waters

Metal	CAS No.	Criterion Maximum Concentration (CMC) [a] (µg/L)	Criterion Continuous Concentration (CCC) [b] (µg/L)
Copper	7440508	Acute (CMC) and chronic (CCC) freshwater copper criteria shall be developed using EPA's 2007 *Aquatic Life Ambient Freshwater Quality Criteria—Copper* (EPA–822–R–07–001), which incorporates use of the copper biotic ligand model (BLM). Where sufficiently representative ambient data for DOC, calcium, magnesium, sodium, potassium, sulfate, chloride, or alkalinity are not available, the state or Nation shall use the values from *Draft Technical Support Document: Recommended Estimates for Missing Water Quality Parameters for Application in EPA's Biotic Ligand Model*, March 2016, EPA 820-E-15-106, which is hereby incorporated by reference. If taking stream order into account, the state or Nation will use Tables 8, 9, and 10 of this document; for estimates irrespective of stream order, the state or Nation will refer to Table 4.	

Metal	CAS No.	Criterion Maximum Concentration (CMC) [a] (µg/L)	Criterion Continuous Concentration (CCC) [b] (µg/L)

a The CMC is the highest allowable one-hour average instream concentration of copper. The CMC is not to be exceeded more than once every three years.
[b] The CCC is the highest allowable four-day average instream concentration of copper. The CCC is not to be exceeded more than once every three years.
CMC: Criterion Maximum Concentration
CCC: Criterion Continuous Concentration

Table 6: Selenium Aquatic Life Criteria for Fresh Waters

Criterion Element	Magnitude	Duration	Frequency
Fish Tissue [a] (Egg-Ovary)[b]	15.1 mg/kg dw	Instantaneous measurement [c]	Not to be exceeded
Fish Tissue [a] (Whole Body or Muscle)[d]	8.5 mg/kg dw or 11.3 mg/kg dw muscle (skinless, boneless filet)	Instantaneous measurement [c]	Not to be exceeded
Water Column [e] (Monthly Average Exposure)	1.5 µg/L in lentic aquatic systems 3.1 µg/L in lotic aquatic systems	30 days	Not more than once in three years on average
Water Column [e] (Intermittent Exposure)[f]	$WQC_{int} = \frac{WQC_{30\text{-}day} - C_{bkgrnd}(1 - f_{int})}{f_{int}}$	Number of days/month with an elevated concentration	Not more than once in three years on average

[a] Fish tissue elements are expressed as steady state.
[b] Egg/ovary supersedes any whole-body, muscle, or water column element when fish egg/ovary concentrations are measured.
[c] Fish tissue data provide point measurements that reflect integrative accumulation of selenium over time and space in fish population(s) at a given site.
[d] Fish whole-body or muscle tissue supersedes water column element when both fish tissue and water concentrations are measured.
[e] Water column values are based on dissolved total selenium in water and are derived from fish tissue values via bioaccumulation modeling. Water column values are the applicable criterion element in the absence of steady-state condition fish tissue data.
[f] Where $WQC_{30\text{-}day}$ is the water column monthly element, for either a lentic or lotic waters; C_{bkgrnd} is the average background selenium concentration, and f_{int} is the fraction of any 30-day period during which elevated selenium concentrations occur, with f_{int} assigned a value ≥0.033 (corresponding to 1 day).

Table 7: Ammonia Aquatic Life Criteria for Fresh Waters

	Mg TAN/L
Acute (CMC) equation (1-hour average)	$CMC = MIN\left(\left(\frac{0.275}{1+10^{7.204-pH}} + \frac{39.0}{1+10^{pH-7.204}}\right), \left(0.7249 \times \left(\frac{0.0114}{1+10^{7.204-pH}} + \frac{1.6181}{1+10^{pH-7.204}}\right) \times \left(23.12 \times 10^{0.036\times(20-T)}\right)\right)\right)$

Mg TAN/L	
Chronic (CCC) equation (30-day rolling average)*	$CCC = 0.8876 \times \left(\frac{0.0278}{1+10^{7.688-pH}} + \frac{1.1994}{1+10^{pH-7.688}}\right) \times \left(2.126 \times 10^{0.028\times(20-MAX(T,7))}\right)$
Note: Ammonia criteria are a function of pH and temperature. At the standard normalized pH of 7.0 and temperature of 20° C, the acute criterion would be 17 mg TAN/L and the chronic criterion would be 1.9 mg TAN/L. Criteria duration: the acute criterion is a one-hour average and the chronic criterion is a thirty-day rolling average. Criteria frequency: Not to be exceeded more than once in 3 years. * Not to exceed 2.5 times the CCC as a 4-day average within the 30-days, *i.e.* 4.8 mg TAN/L at pH 7 and 20° C more than once in 3 years on average.	

Note to Table 7: Acute (CMC) and chronic (CCC) freshwater ammonia criteria were developed using EPA's 2013 *Aquatic Life Ambient Water Quality Criteria for Ammonia - Freshwater* (EPA–822–R–13–001), which is hereby incorporated by reference. Illustrations, tables, and formulae used in the development of these equations can be found on pages 40-52 of the criteria document. Alternative equations for the presence or absence of *Oncorhynchus sp.* (rainbow trout) can be found on pages 41-42 of the document.

Saltwater ammonia criteria are pH and temperature dependent. Reference tables can be found in EPA's 1989 *Ambient Water Quality Criteria for Ammonia (Saltwater).*

3.2.1.2 EPA National Recommended Human Health Criteria

The human health criteria for these water quality standards are contained in Table 8.

(i) The human health criteria for carcinogens in Table 5 were calculated based on an excess lifetime cancer risk level of 10^{-6} (one in a million).

(ii) The human health criteria in these standards were calculated using a fish consumption rate of 22 grams per day (gpd).

(iii) For all waters with the designated use specified in paragraph (b)(4) of this section (public water supply use), as modified by paragraph (k) of this section, the human health criteria for "Water Plus Organisms" as presented in Table 5 apply.

For all waters with the designated use specified in paragraph (b)(1) of this section (protection and propagation of fish, shellfish, and wildlife), but without the designated use specified in paragraph (b)(4) of this section (public water supply), as modified by paragraph (k) of this section, the human health criteria for "Organisms Only" as presented in Table 8 apply.

Table 8: Human Health Criteria

Calculated Human Health Criteria based on a Fish Consumption Rate of 22 grams/day and Cancer Risk Level of 1 in 1,000,000 people (10^{-6})			
Pollutant	CAS Number	Water + Organism (µg/L)	Organism Only (µg/L)
1,1,1-Trichloroethane [a]	71556	10000	200000
1,1,2,2-Tetrachloroethane	79345	0.2	3
1,1,2-Trichloroethane [a]	79005	0.55	8.9
1,1-Dichloroethylene [a]	75354	300	20000
1,2,4,5-Tetrachlorobenzene	95943	0.03	0.03

Calculated Human Health Criteria based on a Fish Consumption Rate of 22 grams/day and Cancer Risk Level of 1 in 1,000,000 people (10^{-6})			
Pollutant	CAS Number	Water + Organism (µg/L)	Organism Only (µg/L)
1,2,4-Trichlorobenzene [a]	120821	0.071	0.076
1,2-Dichlorobenzene [a]	95501	1000	3000
1,2-Dichloroethane [a]	107062	9.9	650
1,2-Dichloropropane	78875	0.9	31
1,2-Diphenylhydrazine	122667	0.03	0.2
1,2-Trans-Dichloroethylene [a]	156605	100	4000
1,3-Dichlorobenzene	541731	7	10
1,3-Dichloropropene	542756	0.27	12
1,4-Dichlorobenzene [a]	106467	300	900
2,4,5-Trichlorophenol [b]	95954	300	600
2,4,6-Trichlorophenol [b]	88062	1.5	2.8
2,4-Dichlorophenol [b]	120832	10	60
2,4-Dimethylphenol [b]	105679	100	3000
2,4-Dinitrophenol	51285	10	300
2,4-Dinitrotoluene	121142	0.049	1.7
2-Chloronaphthalene	91587	800	1000
2-Chlorophenol [b]	95578	30	800
2-Methyl-4,6-Dinitrophenol	534521	2	30
3,3'-Dichlorobenzidine	91941	0.049	0.15
3-Methyl-4-Chlorophenol [b]	59507	500	2000
4,4'-DDD	72548	0.00012	0.00012
4,4'-DDE	72559	0.000018	0.000018
4,4'-DDT	50293	0.00003	0.00003
Acenaphthene [b]	83329	70	90
Acrolein	107028	3	400
Acrylonitrile	107131	0.061	7
Aldrin	309002	7.7e-7	7.7e-7
alpha-BHC	319846	0.00036	0.00039
alpha-Endosulfan	959988	20	30
Anthracene	120127	300	400
Antimony [a,c,d]	7440360	5.6	640
Asbestos [a,c,e]	1332214	7 million fibers/L	--
Barium [a,c,e,f]	7440393	1000	--
Benzene [a]	71432	0.58	16
Benzidine	92875	0.00014	0.011
Benzo(a) Anthracene	56553	0.0012	0.0013
Benzo(a) Pyrene [a]	50328	0.00012	0.00013
Benzo(b) Fluoranthene	205992	0.0012	0.0013
Benzo(k) Fluoranthene	207089	0.012	0.013
beta-BHC (beta-HCH)	319857	0.008	0.014

Calculated Human Health Criteria based on a Fish Consumption Rate of 22 grams/day and Cancer Risk Level of 1 in 1,000,000 people (10^{-6})			
Pollutant	CAS Number	Water + Organism (µg/L)	Organism Only (µg/L)
beta-Endosulfan	33213659	20	40
Bis(2-Chloro-1-Methylethyl) Ether	108601	200	4000
Bis(2-Chloroethyl) Ether	111444	0.03	2.2
Bis(2-Ethylhexyl) Phthalate [a]	117817	0.32	0.37
Bis(Chloromethyl) Ether	542881	0.00015	0.017
Bromoform [a]	75252	7	120
Benzyl Butyl Phthalate	85687	0.1	0.1
Carbon Tetrachloride [a]	56235	0.4	5
Chlordane [a]	57749	0.00031	0.00032
Chlorobenzene [a,b]	108907	100	800
Chlorodibromomethane [a]	124481	0.8	21
Chloroform [a]	67663	60	2000
Chlorophenoxy Herbicide (2,4,5-TP) [Silvex] [a]	93721	100	400
Chlorophenoxy Herbicide (2,4-D) [a]	94757	1300	12000
Chrysene [a]	218019	0.12	0.13
Copper [a,b,c,e]	7440508	1300	--
Cyanide [a]	57125	4	400
Di-n-Butyl Phthalate	84742	20	30
Dibenzo(a,h) Anthracene	53703	0.00012	0.00013
Dichlorobromomethane [a]	75274	0.95	27
Dieldrin	60571	0.0000012	0.0000012
Diethyl Phthalate	84662	600	600
Dimethyl Phthalate	131113	2000	2000
Dinitrophenols	25550587	10	1000
Endosulfan Sulfate	1031078	20	40
Endrin	72208	0.03	0.03
Endrin Aldehyde [a]	7421934	1	1
Ethylbenzene [a]	100414	68	130
Fluoranthene	206440	20	20
Fluorene	86737	50	70
Gamma-BHC (HCH); Lindane [a]	58899	4.2	4.4
Heptachlor [a]	76448	0.0000059	0.0000059
Heptachlor Epoxide [a]	1024573	0.000032	0.000032
Hexachlorobenzene [a]	118741	0.000079	0.000079
Hexachlorobutadiene [a]	87683	0.01	0.01
Hexachlorocyclohexane (HCH) - Technical	608731	0.0066	0.01

Calculated Human Health Criteria based on a Fish Consumption Rate of 22 grams/day and Cancer Risk Level of 1 in 1,000,000 people (10^{-6})			
Pollutant	CAS Number	Water + Organism (µg/L)	Organism Only (µg/L)
Hexachlorocyclopentadiene [a,b]	77474	4	4
Hexachloroethane	67721	0.1	0.1
Indeno (1,2,3-cd) Pyrene	193395	0.0012	0.0013
Isophorone	78591	34	1800
Manganese [b,c,e,g]	7439965	50	100
Methoxychlor [a]	72435	0.02	0.02
Methyl Bromide	74839	100	10000
Methylene Chloride [a]	75092	20	1000
Mercury [j]	7439976	N/A	0.012
N-Nitrosodi-n-Propylamine [c]	621647	0.005	0.51
N-Nitrosodimethylamine [c]	62759	0.00069	3
N-Nitrosodiphenylamine [c]	86306	3.3	6
Nickel [c,d]	7440020	610	4600
Nitrates [a,c,e]	14797558	10000	--
Nitrobenzene [b]	98953	10	600
Nitrosamines [c]	--	0.0008	1.24
Nitrosodibutylamine [c]	924163	0.0063	0.22
Nitrosodiethylamine [c]	55185	0.0008	1.24
Nitrosopyrrolidine [c]	930552	0.016	34
Pentachlorobenzene	608935	0.1	0.1
Pentachlorophenol (PCP) [a,b]	87865	0.03	0.04
pH [c,e]	--	5-9	--
Phenol [b]	108952	4000	300000
Polychlorinated Biphenyls (PCBs) [a,c,i]	1336363	0.000064	0.000064
Pyrene	129000	20	30
Selenium [a,c]	7782492	170	4200
Solids Dissolved and Salinity [c,e]	--	250000	--
Tetrachloroethylene [a]	127184	10	29
Toluene [a]	108883	57	520
Toxaphene [a]	8001352	0.0007	0.00071
Trichloroethylene [a]	79016	0.6	7
Vinyl Chloride [a]	75014	0.022	1.6
Zinc [b,c]	7440666	7400	26000

Footnotes:

a. EPA has issued a Maximum Contaminant Level (MCL) for this chemical which may be more stringent. See EPA's National Primary Drinking Water Regulations.

b. The criterion for organoleptic (taste and odor) effects may be more stringent. See National Recommended Water Quality Criteria - Organoleptic Effects.

c. EPA's National Recommended Human Health Water Quality Criteria for this pollutant were not updated in 2015.
d. This criterion was revised to reflect EPA's q1* or reference dose (RfD) as contained in the Integrated Risk Information System (IRIS) as of May 17, 2002. The fish tissue bioconcentration factor (BCF) is from the 1980 Ambient Water Quality Criteria document.
e. Criteria for these pollutants are from the National Recommended Water Quality Criteria - Human Health Criteria Table. They are not calculated based on this table's inputs for fish consumption rate and cancer risk level.
f. This human health criterion is the same as originally published in the Quality Criteria for Water, 1976 ("Red Book") which predates the 1980 methodology and did not utilize the fish ingestion BCF approach. This same criterion value is published in the Quality Criteria for Water, 1986 ("Gold Book").
g. The Human Health for the consumption of Water + Organism criterion for manganese is not based on toxic effects, but rather is intended to minimize objectionable qualities such as laundry stains and objectionable tastes in beverages.
h. This fish tissue residue criterion for methylmercury is based on the total fish consumption rate.
i. This criterion applies to total PCBs (*e.g.*, the sum of all congener or all isomer or homolog or Aroclor analyses).
j. See aquatic life criterion (Table 4) which is protective of both aquatic life and human health.

3.2.1.3 Recreational Water Quality Criteria

For all waters with the designated use specified in Table 3 (recreation in and on the water), the criteria in Column B of Table 9 shall apply.

Table 9: Recreational Water Quality Criteria

	A Recommendation 1		B Recommendation 2	
	Estimated Illiness Rate (NGI): 32 per 1,000 primary contact recreators		Estimated Illiness Rate (NGI): 36 per 1,000 primary contact recreators	
Criteria Element	Magnitude		Magnitude	
Indicator	GM (cfu/100 mL)[a]	STV (cfu/100 mL)	GM (cfu/100 mL)[a]	STV (cfu/100 mL)
Enterococci (marine and fresh)	30	110	35	130
E. coli (fresh)	100	320	126	410
[a] EPA recommends using *EPA Method 1600* (U.S. EPA, 2002a) to measure culturable enterococci, or another equivalent method that measures culturable enterococci. EPA recommends using *EPA Method 1603* (U.S. EPA, 2002b), or any other equivalent method that measures culturable *E. coli*.				
Duration and Frequency: The water body GM should not be greater than the selected GM magnitude in any 30-day interval. There should not be greater than a ten percent excursion frequency of the selected STV magnitude in the same 30-day interval.				
Office of Water 820-F-12-058, *Recreational Water Quality Criteria*				

3.2.1.4 Temperature Criteria

Temperature criteria are adapted from the Sacramento River San Joaquin River Basin Plan's Inland Surface Waters Water Quality Objectives (SRSJRBP) for waters designated as WARM (https://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/sacsjr_201805.pdf).

The natural receiving water temperature of surface waters shall not be altered unless it can be demonstrated to the satisfaction of the Tribal Council that such alteration in temperature does not adversely affect beneficial uses.
At no time or place shall the temperature of WARM designated waters be increased more than 5 °F above natural receiving water temperature. In determining compliance with the water quality objectives for temperature, appropriate averaging periods may be applied provided that beneficial uses will be fully protected.

3.2.1.5 Design Flows

The design flows in Table 10 of this section shall be used to implement the aquatic life and human health criteria in paragraph (d).

Table 10: Design Flows

Criteria	Design Flow
Aquatic Life Acute Criteria (CMC)	1 Q 10 or 1 B 3
Aquatic Life Chronic Criteria (CCC)	7 Q 10 or 4 B 3
Human Health Criteria	Harmonic Mean Flow

Notes to Table 10 of this section:

1. CMC (Criteria Maximum Concentration) is the water quality criterion to protect against acute effects in aquatic life and is the highest instream concentration of a priority toxic pollutant consisting of a short term- average not to be exceeded more than once every three years on the average;
2. CCC (Continuous Criteria Concentration) is the water quality criterion to protect against chronic effects in aquatic life and is the highest in stream concentration of a priority toxic pollutant consisting of a 4-day average not to be exceeded more than once every three years on the average;
3. 1 Q 10 is the lowest one-day flow with an average recurrence frequency of once in 10 years determined hydrologically.
4. 1 B 3 is biologically based and indicates an allowable exceedance of once every 3 years. It is determined by EPA's computerized method (DFLOW model).
5. 7 Q 10 is the lowest average 7 consecutive day low flow with an average recurrence frequency of once in 10 years determined hydrologically.
6. 4 B 3 is biologically based and indicates an allowable exceedance for 4 consecutive days once every 3 years. It is determined by EPA's computerized method (DFLOW model).

3.2.2 Site-Specific Groundwater Quality Criteria

Where available data were sufficient to define existing ambient levels of constituents for monitored groundwater wells on the Rancheria, statistical analysis was performed on the background data to calculate/determine an appropriate background threshold value (BTV) for groundwater in accordance with U.S. EPA-recommended analysis procedures to serve as the numeric water quality criteria. Results of this analysis are listed in See Table for Cortina Rancheria Site-Specific Groundwater Criteria for State and National Primary Drinking Water Quality Criteria

To analyze the data and establish BTVs, an approach recommended by U.S. EPA for the assessment of background wells, including data exhibiting results below analytical method reporting limits (MRLs) (also referred to as non-detect (ND) observations), was utilized. The approach developed by U.S. EPA is based on an assessment of various types of statistical methods to analyze data sets with both “left-skewed” data, or data that contain observations below the MRLs for the analytes, and full data sets (all observations above the MRL) (U.S. EPA, 2006). Because of the variance of results obtained from

different statistical methods, a statistical software package developed for the U.S. EPA was utilized (described in more detail below).

Where appropriate distribution and detected data points allowed, a 95% upper predicted limit (UPL) was calculated as the background threshold value (BTV). While confidence and tolerance intervals estimate present population characteristics, the UPL estimates future values based upon the background data and is one of the methods of analysis outlined within Title 27 of the California Code of Regulations, Section 20415, which presents general water quality monitoring and system requirements for the California State Water Resources Control Board. The UPL is the upper value for which 95 percent of future data should lie below. Where data sets do not include an adequate number of discrete observations to calculate a 95% UPL, the Upper Simultaneous Limit (USL) was utilized as the BTV. The USL based upon an "established" background dataset and is meant to provide coverage for all observations simultaneously in the background dataset. A 95% USL represents that statistic such that all observations from the "established" background dataset will be less than or equal to USL with a confidence of 95 percent. It is expected that observations coming from the background population will be less than or equal to the 95 % USL. A 95% USL can be used to perform many onsite comparisons.

3.2.2.1 Statistical Analysis

U.S. EPA Pro UCL Version 4.00.02 (ProUCL) statistical analysis software was utilized to perform the statistical analysis of the monitoring data to determine distribution of the data and determine the appropriate BTV for each analyte sampled as part of the Nation's groundwater quality monitoring program. ProUCL is statistical analysis software designed for the U.S. EPA to assess analytical data from soil and water samples, specifically to determine if a monitoring data indicates release of a contaminant above background levels. Accordingly, ProUCL includes statistical methods that can be used to estimate BTVs for data sets with non-detect (ND) and without ND observations. ProUCL includes statistical analysis for exposure and risk assessment studies, background evaluations, and background versus site comparison applications. Specifically, most of the statistical methods described and recommended in the Background Guidance Document for CERCLA Sites (U.S. EPA, 2002), and in the Guidance Document to compute 95% Upper Confidence Limits (U.S. EPA, 2006) have been incorporated in ProUCL. ProUCL has statistical methods that can be used to establish BTVs for data sets with and without NDs. Statistical methods (including one-sample hypotheses and upper prediction and tolerance limits) have been incorporated in ProUCL that can be used in water monitoring applications (U.S. EPA, 2009).

For the general data analysis, ProUCL processed each analyte simultaneously. ProUCL calculated general summary statistics (including mean, median, standard deviation, skewness, and coefficient of variation) and identified the number of detects versus non-detects per analyte and group (monitoring well). ProUCL performed goodness-of-fit (GOF) tests (e.g., normal, lognormal, and gamma performed simultaneously with the UPL tests) and outlier test procedures for the data sets both with and without NDs. Parametric (including maximum likelihood estimate, t-statistic, gamma distribution), nonparametric (including Skewness adjusted CLT and Kaplan-Meier), and bootstrap methods (including percentile and BCA) were performed on the grouped data to calculate best fit 95% UPLs for uncensored data sets and also for those data sets with ND observations. Included in the analysis are the Kaplan-Meier (KM) method and the Robust regression on order statistics (ROS) methods, both of which are applicable to left-censored data sets having multiple detection limits.

3.2.2.2 Data Input/Non-Detects

The Nation's groundwater quality monitoring data results were entered into the software in accordance

with the User Guide. To account for non-detect (ND) data entries, a duplicate column was inserted adjacent to each column containing the analytical results. This column was labeled "d-(analyte)" as the detection column. A "1" placed in this column identifies the entry in the column immediately to the left as a "detect". A "0" in this column identifies the entry immediately to the left as the laboratory MRL, and the actual data point is considered less than the entry.

3.2.2.3 Outliers

Prior to performing the summary statistical analysis on the data, the data was manually reviewed for outliers. For example, the aluminum results for groundwater well RCH-6S for the 2011 sampling event was 220 mg/l. The subsequent years for that well identified aluminum levels ranging from non-detect to
0.32 mg/l. Therefore the 220 mg/l was removed from the ProUCL input table for aluminum.

3.2.2.4 Summary statistics

For general comparison purposes, the general statistics were calculated for the data sets for each analyte sampled under the Nation's groundwater quality monitoring program. The software allows for either log- transformed or raw statistical analysis. The raw statistical analysis was selected for analysis with the function for ignoring non-detects. For data groups with non-detects, the summary statistics are calculated for the detected values only.

3.2.2.5 Background Determination

For the determination of the UPLs for each analyte, the "Upper Limits/BTVs" function was run. This function calculates the BTVs for the groups of data for each analyte. ProUCL allows the operator to select the data distribution for analysis (normal, log-normal, gamma, or non-parametric), or the operator can select to have all four analyses performed on each data group, with the program selecting the preferred result based on the goodness-of-fit of the data to the distribution types. For the Nation's groundwater quality monitoring data, the option to run all four analyses was selected.

During the BTV analysis, ProUCL analyzes the raw and log-transformed statistics to assess the distribution of the data. The program then tests the data for normal (Shapiro Wilk Test), log-normal (Shapiro Wilk Test), gamma, and normal distribution. Nonparametric statistics are also calculated. The program then calculates the UPL and USL for the three distribution sets and the non-parametric analysis. The preferred estimate of the BTV is then recommended. ProUCL also provides warnings and notes relating to the adequacy of the data to generate an accurate result. The outputs produced by ProUCL were reviewed to assess the validity of the recommended BTVs (selected as the 95% UPL).

3.2.2.6 Results

After determination of the BTV (95% UPL or USL), the results where compared to the corresponding adopted numerical groundwater quality criteria presented in the National Primary and Secondary Drinking Water Regulations. The most conservative of the BTV and above adopted criteria was selected as the numerical groundwater quality criteria. For those analytes where data was insufficient to calculate a BTV or results were below detection for all or most samples, the corresponding National Primary or Secondary Drinking Water Standard of the National Primary and Secondary Drinking Water Regulations was selected as the numerical water quality criteria. The results and corresponding selection of site-specific water quality criteria for groundwater wells are presented in Attachment A.

3.3 ADOPTION OF WATER QUALITY CRITERIA

Where applicable, the water quality criteria adopted by Resolution Attachment B by the Nation is included in Attachment A with the site-specific groundwater quality criteria discussed above. Together, with the narrative criteria and adopted National Recommended Surface Water Quality Criteria, these constitute the Cortina Rancheria Water Quality Standards.

SECTION 4.0 ANTIDEGRADATION POLICY

4.1 SURFACE AND GROUNDWATER ANTI-DEGRADATION POLICY

The Anti-degradation Policy (Policy) described in this section supports the continued beneficial uses of Rancheria waters as designated under Section 2.3:

Existing instream water beneficial uses and the level of water quality necessary to protect the existing uses shall be maintained and protected.

Where existing water quality is better than necessary to support propagation of aquatic life and wildlife and recreation in and on the water, that quality shall be maintained and protected unless the Tribal Council finds, after full satisfaction of intergovernmental coordination and public participation provisions of this Policy, that:

Allowing lower water quality is necessary to accommodate important economic or social development in an area where the waters are located,

Water quality adequate to protect existing beneficial uses is fully protected,

The highest statutory and regulatory requirements for all new and existing point sources are achieved, and

All cost effective and reasonable best management practices (BMPs) for non-point source control are implemented.

In those cases where potential water quality impairments associated with thermal discharge is involved, the anti-degradation Policy and implementing methods shall be consistent with Section 316 of the Act, 33 U.S.C. § 1326.

Unique Water Designations

1. High Quality Rancheria Waters
   a. Where water quality exceeds the levels necessary to support basic uses such as propagation of aquatic life and wildlife and recreation in and on the water, the Tribal Council may designate those waters as high-quality Rancheria waters.
   b. Water quality and stream ecosystem health in high quality Rancheria waters shall be maintained to protect:
      i. Culturally, religiously significant, or economically beneficial areas
      ii. Archeological and historical sites
      iii. Natural flow regimes
      iv. Natural flood retention capacity
      v. Instream habitats for aquatic life
   c. Water-dependent wildlife, including plants and wildlife designated as sensitive by the Nation
   d. Native riparian vegetation, including plants traditionally gathered for cultural and medicinal purposes
2. Sensitive Rancheria Waters

The Tribal Council may designate a water body as a sensitive Rancheria water and such waters shall be maintained to protect water quality and stream ecosystem health in the same manner as high-quality Rancheria water. In many cases, these waters have been substantially degraded from their historical condition. This state of degradation may prevent many of the uses, including recreation and support of the

full assemblage of native aquatic life, that were once provided by these streams. It may not be known to what extent those uses may be restored in the future. It is the Nation's policy that these waters should be protected to encourage natural restoration to occur, and to engage in active restoration measures on a priority basis determined by the Nation and once designated the beneficial uses shall be CUL.
In permitting any activity that could impact in sensitive water bodies, the Nation shall require the most stringent statutory and regulatory requirements for all new and existing point sources and all cost-effective and reasonable BMPs for non-point source control.

3. Outstanding Tribal Resource Waters
   i. The Tribal Council may designate a water body as an Outstanding Tribal Resource Water due to cultural value, the presence of archeological or historic sites, ecological or biological features, scenic beauty, or other exceptional qualities of importance to the Band.
   ii. No degradation of Outstanding Tribal Resource Waters shall be permitted (i.e. their high quality shall be maintained and protected).

4.1.1 Implementation Procedures

A. Implementation procedures for this anti-degradation Policy are as follows:
The Kletsel Environmental Regulatory Authority (KERA), previously the Wintun Environmental Protection Agency (WEPA) shall implement and enforce this Policy by establishing and maintaining controls on the discharge of pollutants to surface waters. The Band may adopt additional regulations and policies for enforcement of the Water Quality Standards. Unless and until the Band asserts primary responsibility for National Pollution Discharge Elimination System (NPDES) permitting, the Environmental Protection Agency (EPA) shall work together with the Nation to develop, issue, and enforce permits for Reservation dischargers in accordance with standards set forth in this Policy.
To the extent required to ensure compliance with this Policy, the Wintun Environmental Protection Agency, other Tribal offices and departments, and outside agencies as requested by the Band shall:
Monitor water quality (chemical, physical, and biological) to assess the effectiveness of pollution controls and to determine whether water quality standards are being attained.
Obtain and assess information pertinent to the actual environmental effect of any effluent discharge, using data that accurately represents the quality and quantity of the effluent and receiving water, with due consideration of all factors that bear on the actual or attainable use of a receiving water;
Advise any prospective discharger in writing, as needed, of requirements for obtaining a permit to discharge, including any additional permit requirements that the Band may enact.
Maintain and review the adequacy of existing data bases and obtain additional data when required.
Assess the probable impact of discharges to receiving Rancheria waters with regard to designated uses, anti-degradation Policy, and numeric and narrative standards.
Require the degree of wastewater treatment that is practicable, cost-effective, and commensurate with protecting and maintaining designated uses and the existing water quality of the receiving water, with consideration of the long-term Tribal criteria for the economy and the environment.
Follow EPA-approved procedures to develop water quality-based effluent limitations and comment on technology-based effluent limitations, as appropriate, for inclusion in any Tribal or federal permit issued to a discharger.
Require that effluent limitations developed by the Band be included in any such permit as a condition for Tribal certification pursuant to Section 401 of the Clean Water Act, 33 U.S.C. § 1341, provided that a reasonable time, not to exceed three years, for compliance shall be duly considered in determining whether certification shall be granted, and provided further that effluent discharge limitations more stringent than those contained in existing NPDES permits shall not be imposed without providing an applicant an opportunity to demonstrate that existing permit limitations are adequate to protect existing and designated uses of receiving waters;
Institute and coordinate water pollution control activities with other Tribal entities, including other departments, enterprises, livestock associations, and communities as appropriate.

Coordinate water pollution control activities with the Band, and federal agencies, as appropriate and in consultation with the Tribal Council.
Develop and pursue inspection and enforcement programs to ensure that:
Dischargers comply with requirements of this Policy.
Satisfy the requirements of any regulations the Band enact subsequent to the adoption of this Policy; and
Enforce federal permits with assistance from the EPA
Encourage, in conjunction with other Tribal entities and outside agencies, the development and implementation of Best Management Practices (BMPs) to control nonpoint sources of pollutants in order to achieve compliance with this Policy.
Ensure that the provisions for public participation required by Tribal law and applicable provisions of the Clean Water Act are followed.
Subject to the approval of the Tribal Council, designate streams as perennial, intermittent, or ephemeral in accordance with this Policy and with appropriate hydrologic technical support; and
Provide technical support as is required to accomplish the criteria of this Policy, including recommendations to the Tribal Council of any permitting or management regulations which would be consistent with the purposes of this Policy.

4.2 WETLANDS DESIGNATED USES, NARRATIVE CRITERIA, AND ANTIDEGRADATION REQUIREMENTS

4.2.1 Wetlands Designated Uses

For the Canyon 4 and Strode Creek wetlands, the designated uses are base flow discharge, cultural and traditional uses, flood flow attenuation, groundwater recharge, indigenous floral faunal diversity abundance, nutrient cycling, organic carbon export/cycling, protection of downstream water quality, recreation, resilience against climatic effects, sediment/shoreline stabilization, surface water storage, and water-dependent wildlife.

4.2.2 Wetlands Narrative Criteria

All wetlands, as defined by the Nation, shall maintain the biological, physical, and chemical conditions of reference wetlands, specifically: base flow, flow regime, wetland hydroperiod; chemical, nutrient, dissolved oxygen regime of the wetland; conditions favorable to protection and propagation of threatened, endangered, and at-risk species; conductivity; floristic quality; integrity of species diversity, abundance, zonation; normal movement of fauna; pH of wetland waters; salinity; size shape; soil type horizon structure; water currents, erosion, or sedimentation patterns; water levels or elevations; and water temperature variations.

4.2.3 Wetlands Antidegradation Requirements

For all wetlands, as defined by the Nation, the following antidegradation requirements shall apply:

i. Maintenance and protection of existing instream water uses and the level of water quality necessary to protect the existing uses.
ii. No net loss to the water quality, functions, values, area, or ecological integrity of high-quality wetlands, unless, after satisfying applicable antidegradation provisions including avoidance, minimization, and mitigation/replacement requirements, the Nation determines that allowing degradation is necessary to accommodate important social or economic development in the area in which the wetlands are located consistent with this section; and
iii. No loss to the water quality, functions, values, area, or ecological integrity of wetlands assigned as Outstanding National Resource.

SECTION 5.0 COMPLIANCE SCHEDULE AUTHORIZATION PROVISION

The Nation authorizes the use of compliance schedules, on a case-by-case basis, for water quality-based effluent limits in National Pollutant Discharge Elimination System (NPDES) permits, when appropriate, and consistent with 40 CFR 122.47, for new, recommencing, or existing dischargers to require compliance as soon as possible with water quality-based effluent limitations calculated to meet water quality standards issued or revised after July 1, 1977.

The requirements of these quantitative and narrative water quality standards shall be met for all Rancheria waters described in Table 1**. No person shall engage in any activity that violates or causes the violation of these standards. All discharges from point sources, all in-stream activities, and all activities which generate non-point source pollution shall be conducted so as to comply with this document and all applicable requirements.**

All permits issued and all activities directed by the Nation, EPA, Bureau of Indian Affairs, U.S. Army Corps of Engineers, California Integrated Waste Management Board, or other governmental agencies shall be conducted in a manner to authorize activities that will not cause violations of this document and the water quality standards within. Permits may be subject to modification by the permitting authority whenever it appears that the activity violates these water quality standards.

Best management practices (BMPs) shall be applied so that when all appropriate combinations of individual BMPs are utilized, violation for water quality criteria will be prevented.

SECTION 6.0 WQS VARIANCES

The Nation may include WQS variances at its discretion. EPA's regulation allows for adoption of a WQS variance consistent with the requirements of 40 CFR 131.14. Note that to become effective under the Clean Water Act, any WQS variances issued after the initial WQS are adopted they must themselves be adopted by the Nation and submitted by the Nation to U.S. EPA and approved by U.S. EPA in accordance with 40 CFR 131. Any WQS variances adopted will be consistent with the regulation at 40 CFR 131.14 and included in this section. The paragraph below is reserved for use to list any waterbody-specific designated uses that differ from those in Table 1**,** any waterbody-specific water quality criteria that differ from those in Table 3, and any WQS variances adopted. Also see Section 2.3.2 for specifics to Groundwater.

SECTION 7.0 REFERENCES

CVRWQP CB, 1998 Revised May 2018. Beneficial Uses Revised Text. Available online at https://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/sacsjr_201805.pdf.

WEPA, 2016. 2016 Water Quality Assessment Report for Fiscal Year 2015-2016.

WEPA, 1998. Connolly and Associates for WEPA Water Quality Assessment Report Section 305(b) November 12, 1998.

Unit Conversion Tool available online at EndMemo.com Unit Conversions Tool, n.d.

Resolution Approving and Adopting the Water Quality Standards and Anti-Degradation Policy

Resolution No. 11-26-2018-A See Attachment B

Electronic Code of Federal Regulations

SECTION 8.0 DEFINITIONS AND ACRONYMS

ATTACHMENT A. WATER QUALITY CRITERIA TABLES

The following tables present surface and ground water quality criteria tables of Kletsel Dehe Wintun Nation.

Cortina Rancheria Site-Specific Groundwater Criteria for State and National Primary Drinking Water Quality Criteria

Analyte	CAS Number	Adequate # of Samples	BTV Calculation Type	BTV Value (mg/l)	Notes	California Maximum Contaminant Level (MCL) (mg/l)	Federal Maximum Contaminant Levels (MCL)* (mg/l)	Cortina Rancheria Water Quality Criteria (MCL)* (mg/l)	Adoption Year	Notes
Aluminum	7429-90-5	Yes (46)	95% UPL[1]	4.361	220 removed as outlier	1.0	Secondary: .05-.2 [2]	1.0	2020	[1]Upper Prediction Limit (UPL) [2]Secondary refers to an MCL that is based on taste and odor or general welfare.
Ammonia as NH3	7664-41-7	Yes (23)	95% USL	11.41		N/A	N/A	11.41	2020	No EPA recommended water quality criteria established.
Antimony	7440-36-0	Yes (7)		N/A	Non-detect	0.006	0.006	0.006	2020	
Arsenic	7440-38-2	Yes (45)	95% UPL	83		0.01	0.01	0.01	2020	
Barium	7440-39-3	Yes (34)	95% USL[3]	3.4	Measurement of 11 and 15 removed as outliers. Data does not follow discernible distribution.	1.0	2.0	1.0	2020	[3]Upper Simultaneous Limit (USL): USL based upon an "established" background dataset is meant

Analyte	CAS Number	Adequate # of Samples	BTV Calculation Type	BTV Value (mg/l)	Notes	California Maximum Contaminant Level (MCL) (mg/l)	Federal Maximum Contaminant Levels (MCL)* (mg/l)	Cortina Rancheria Water Quality Criteria (MCL)* (mg/l)	Adoption Year	Notes
										to provide coverage for all observations, xi, i = 1, 2, n simultaneously in the background dataset. A USL95 represents that statistic such that all observations from the "established" background dataset will be less than or equal to USL95 with a CC of 0.95. It is expected that observations coming from the background population will be less than or equal to USL95 with 95% CC. A USL95 can be

Analyte	CAS Number	Adequate # of Samples	BTV Calculation Type	BTV Value (mg/l)	Notes	California Maximum Contaminant Level (MCL) (mg/l)	Federal Maximum Contaminant Levels (MCL)* (mg/l)	Cortina Rancheria Water Quality Criteria (MCL)* (mg/l)	Adoption Year	Notes
										used to perform many onsite comparisons.
Beryllium	7440-41-7	Yes (7)		N/A	Non-detect	0.004	0.004	0.004	2020	
Boron	7440-42-8	Yes (39)	95% USL	6.6		N/A	N/A	6.6	2020	No EPA recommended water quality criteria established.
Cadmium	7440-43-9	Yes (7)		N/A	Non-detect	0.005	0.005	0.005	2020	
Calcium	7789-78-8	Yes (39)	95% UPL	423.8		N/A	N/A	424	2020	No EPA recommended water quality criteria established. Criteria rounded up to closest number.
Chloride	16887-00-6	Yes (34)	95% UPL	2172	7200 and 7500 removed as outliers	Secondary: 250	Secondary: 250	250	2020	
Chromium	7440-47-3	Yes (44)	95% USL	0.49		0.05	0.1	0.05	2020	
Copper	7440-	Yes (16)			One detection	1.3	1.3	1.3	2020	

CORTINA RANCHERIA WATER QUALITY STANDARDS

Analyte	CAS Number	Adequate # of Samples	BTV Calculation Type	BTV Value (mg/l)	Notes	California Maximum Contaminant Level (MCL) (mg/l)	Federal Maximum Contaminant Levels (MCL)* (mg/l)	Cortina Rancheria Water Quality Criteria (MCL)* (mg/l)	Adoption Year	Notes
	50-8				at 0.43					
Fluoride	1698-448-8	Yes (45)	95% UPL	0.848		2	.7	0.85	2020	Criteria rounded up to closest number.
Iron	7439-89-6	Yes (44)	95% UPL	4.43	310 and 13 removed as outliers	Secondary: 0.3	Secondary: 0.3	4.43	2020	Selected Primary UPL
Lead	7439-92-1	Yes (23)	95% UPL	7.3		0.015	0.015	0.015	2020	
Manganese	7439-96-5	Yes (39)	95% UPL	647	1.2, 1.2, and 1.3 removed as outliers	Secondary: 50	Secondary: 50	50	2020	
Methylene Blue Active Substances	10033	Yes (23)			0.07, 0.12, and 0.21 detected	Secondary: 500	Secondary: 500	500	2020	
Nickel	7440-02-0	Yes (7)	95% UPSL	7.9		0.1	0.61	0.1	2020	
Phosphate	10247	Yes (44)	95% UPL	1.217		N/A	N/A	1.22	2020	No EPA recommended water quality criteria established. Criteria rounded up to closest number.
Potassium	7440-	Yes (33)	95% UPL	11.92	13 and 14	N/A	N/A	11.92	2020	No EPA

Analyte	CAS Number	Adequate # of Samples	BTV Calculation Type	BTV Value (mg/l)	Notes	California Maximum Contaminant Level (MCL) (mg/l)	Federal Maximum Contaminant Levels (MCL)* (mg/l)	Cortina Rancheria Water Quality Criteria (MCL)* (mg/l)	Adoption Year	Notes
	09-7				removed as outliers					recommended water quality criteria established.
Selenium	7782-49-2	No (7)			Two detected at 0.007 and 0.008	0.050	0.050	0.050	2020	
Silver	7440-22-4	Yes (7)		N/A	Non-detect	0.1	N/A	0.1	2020	
Sodium	7440-23-5	Yes (46)	95% UPL	1486	4300 removed as outlier	N/A	N/A	1,486	2020	No EPA recommended water quality criteria established.
Specific Conductance (EC)	10-05-5	Yes (23)	95% UPL	15142 µmhos/cm	20000 and 20000 µmhos/cm removed as outliers	Secondary: 900 µmhos/cm at 25°C	N/A	900 µmhos/cm at 25°C	2020	
Sulfate as SO4	14808-79-8	Yes (45)	95% UPL	1124		Secondary: 250	500	500	2020	Selected Primary MCL
Thallium	7440-28-0	Yes (7)		N/A	Non-detect	0.002	0.002	0.002	2020	
Total Alkalinity as CaCO3	10001	Yes (43)	95% UPL	491		N/A	N/A	491	2020	No EPA recommended water quality

CORTINA RANCHERIA WATER QUALITY STANDARDS

Analyte	CAS Number	Adequate # of Samples	BTV Calculation Type	BTV Value (mg/l)	Notes	California Maximum Contaminant Level (MCL) (mg/l)	Federal Maximum Contaminant Levels (MCL)* (mg/l)	Cortina Rancheria Water Quality Criteria (MCL)* (mg/l)	Adoption Year	Notes
										criteria established.
Total Dissolved Solids	10052	Yes (46)	95% UPL	3937	12000 and 14000 removed as outliers	Secondary: 500	Secondary: 500	500	2020	
Total Hardness	20-00-1, 10310	Yes (15)	95% UPL	58.89		N/A	N/A	59	2020	No EPA recommended water quality criteria established. Criteria rounded up to closest number.
Vanadium	7440-62-2	Yes (23)			Two detected at 0.002 and 0.81	N/A	N/A	Insufficient data to determine a baseline for criteria.	2020	No EPA recommended water quality criteria established.
Zinc	7440-66-6	Yes (16)			One detection at 0.67	Secondary: 5	Secondary: 5	5	2020	

*These Water Quality Criteria apply to Drinking Water Standards the Nation currently does not have potable water system and will not monitor for them until a Drinking Water Treatment System is installed.

National Recommended Organoleptic Effects Water Quality Criteria

Pollutant	CAS Number	Organoleptic Effect Criteria (µg/L)
Acenaphthene	83329	20
Color	—	NP
Iron	7439896	300
Monochlorobenzene	108907	20
Tainting Substance	—	NP
3-Chlorophenol	—	0.1
4-Chlorophenol	106489	0.1
2,3-Dichlorophenol	—	0.04
2,5-Dichlorophenol	—	0.5
2,6-Dichlorophenol	—	0.2
3,4-Dichlorophenol	—	0.3
2,4,5-Trichlorophenol	95954	1
2,4,6-Trichlorophenol	88062	2
2,3,4,6-Tetrachlorophenol	—	1
2-Methyl-4-Chlorophenol	—	1800
3-Methyl-4-Chlorophenol	59507	3000
3-Methyl-6-Chlorophenol	—	20
2-Chlorophenol	95578	0.1
Copper	7440508	1000
2,4-Dichlorophenol	120832	0.3
2,4-Dimethylphenol	105679	400
Hexachlorocyclopentadiene	77474	1
Manganese	7439965	
Nitrobenzene	98953	30
Pentachlorophenol	87865	30
Phenol	108952	300
Zinc	7440666	5000

These criteria are based on organoleptic (taste and odor) effects. Because of variations in chemical nomenclature systems, this listing of pollutants does not duplicate the listing in Appendix A of 40 CFR Part 423 (PDF)

Definition

Organoleptic- acting on, or involving the use of, the sense organs.

National Recommended Surface Water Quality Criteria

Analyte	CAS Number	National Recommended Water Quality Criteria				Cortina Rancheria Water Quality Criteria (ug/L)	Adoption Year	Notes
		Human Health Criteria (Consumption of Water and Organisms) (ug/L)	Publication Year	Aquatic Life Criteria (Freshwater Acute/ Chronic) (ug/L)	Publication Year			
1,1,1-Trichloroethane	71-55-6	10,000	2015	10,000	2015	10,000	2020	
1,1,2,2-Tetrachloroethane	79-34-5	0.2	2015	0.2	2015	0.2	2020	
1,1,2-Trichloroethane	7-900-5	0.55	2015	0.55	2015	0.55	2020	
1,1-Dichloroethylene	75-35-4	300	2015	300	2015	300	2020	
1,2,4,5-Tetrachlorobenzene	95-94-3	0.03	2015	0.03	2015	0.03	2020	
1,2,4-Trichlorobenzene	120-82-1	0.071	2015	0.071	2015	0.071	2020	
1,2-Dichlorobenzene	95-50-1	1000	2015	1000	2015	1000	2020	
1,2-Dichloroethane	107-06-2	9.9	2015	9.9	2015	9.9	2020	
1,2-Dichloropropane	78-87-5	0.90	2015	0.90	2015	0.90	2020	
1,2-Diphenylhydrazine	122-66-7	0.03	2015	0.03	2015	0.03	2020	
1,3-Dichlorobenzene	541-73-1	7	2015	7	2015	7	2020	
1,3-Dichloropropene	542-75-6	0.27	2015	0.27	2015	0.27	2020	
1,4-Dichlorobenzene	104-46-7	300	2015	300	2015	300	2020	
2,3,7,8-TCDD (Dioxin)	1746-01-6	5.0E-9	2015	5.0E-9	2002	5.0E-9	2020	
2,4,5-Trichlorophenol	95-95-4	300	2015	300	2015	300	2020	
2,4,6-Trichlorophenol	88-06-2	1.5	2015	1.5	2015	1.5	2020	
2,4-Dichlorophenol	120-83-2	10	2015	10	2015	10	2020	
2,4-Dimethylphenol	105-67-9	100	2015	100	2015	100	2020	
2,4-Dinitrophenol	51-28-5	10	2015	10	2015	10	2020	
2,4-Dinitrotoluene	121-14-2	0.049	2015	0.049	2015	0.049	2020	
2-Chloronaphthalene	91-58-7	800	2015	800	2015	800	2020	
2-Chlorophenol	95-57-8	30	2015	30	2015	30	2020	
2-Methyl-4,6-Dinitrophenol	534-52-1	2	2015	2	2015	2	2020	
3-Methyl-4-Chlorophenol	59-50-7	500	2015	500	2015	500	2020	

CORTINA RANCHERIA WATER QUALITY STANDARDS

Analyte	CAS Number	National Recommended Water Quality Criteria				Cortina Rancheria Water Quality Criteria (ug/L)	Adoption Year	Notes
		Human Health Criteria (Consumption of Water and Organisms) (ug/L)	Publication Year	Aquatic Life Criteria (Freshwater Acute/ Chronic) (ug/L)	Publication Year			
Acenaphthene	83-32-9	70	2015	3/3		3	2020	
Acrolein	107-02-8	3	2015	3/3	-	3	2020	
Acrylonitrile	107-13-1	0.061	2015	N/A / N/A		0.061	2020	
Aesthetic Qualities	-	N/A	-	See Quality Criteria for Water, 1986 ("Gold Book") for narrative statement.	1986	See Section 3.1	2020	See Quality Criteria for Water, 1986 ("Gold Book") for narrative statement.
Aldrin (P)	309-00-2	0.00000077	2015	3.0 / 1.3	1980	0.00000077	2020	
alpha-Endosulfan	959-98-8	20	2015	0.22 / 0.056	1980	0.22/00.056	2020	
alpha-Hexachlorocyclohexane (HCH) (P)	319-85-7	0.00036	2015	N/A / N/A	-	0.00036	2020	
Anthracene (P)	120-12-7	300	2015	N/A / N/A	-	300	2020	
Antimony (P)	7440-36-0	14	2019	N/A / N/A	-	14	2020	
Asbestos (P)	1332-21-4	7 million fibers/L	1991	N/A / N/A	-	7 million fibers/L	2020	
Atrazine	1912-24-9	N/A / N/A	-	N/A / N/A	-	-	2020	
Benzene	71-43-2	0.58-2.1	2015	N/A / N/A	-	0.58-2.1	2020	
Benzidine	92-87-5	0.00014	2015	N/A / N/A	-	0.00014	2020	
Benzo(a)anthracene	56-55-3	0.0012	2015	N/A / N/A	-	0.0012	2020	
Benzo(a)pyrene	50-32-8	0.00012	2015	N/A / N/A	-	0.00012	2020	
Benzo(b)fluoranthene	205-99-2	0.0012	2015	N/A / N/A	-	0.0012	2020	
Benzo(k)fluoranthene	207-08-9	0.012	2015	N/A / N/A	-	0.012	2020	

CORTINA RANCHERIA WATER QUALITY STANDARDS

Analyte	CAS Number	National Recommended Water Quality Criteria				Cortina Rancheria Water Quality Criteria (ug/L)	Adoption Year	Notes
		Human Health Criteria (Consumption of Water and Organisms) (ug/L)	Publication Year	Aquatic Life Criteria (Freshwater Acute/ Chronic) (ug/L)	Publication Year			
beta-Endosulfan	33213-65-9	20	2015	N/A / N/A	-	20	2020	
Bis(2-Chloro-1-methylethyl) Ether	108-60-1	7 million fibers/L	2015	N/A / N/A	-	7 million fibers/L / N/A	2020	
Bis(2-Chloroethyl) Ether	111-44-4	0.58-2.1	2015	N/A / N/A	-	0.58 / N/A	2020	
Bis(2-Ethylhexyl) Phthalate	117-81-7	0.00014	2015	N/A / N/A	-	0.00014/ N/A	2020	
Bis(Chloromethyl) Ether	542-88-1	0.0012	2015	N/A / N/A	-	0.0012 / N/A	2020	
Bromoform	75-25-2	0.00012	2015	N/A / N/A	-	0.00012 / N/A	2020	
Butyl benzyl Phthalate	85-68-7	0.0012	2015	N/A / N/A	-	0.0012 / N/A	2020	
Carbon Tetrachloride	56-23-5	0.012	2015	N/A / N/A	-	0.012 / N/A	2020	
Chlordane (P)	57-74-9	0.00031	2015	0.0043	1980	0.00031 / N/A	2020	
Chlorine	7782-50-5	19	2015	11	1986	11 / N/A	2020	
Chlorobenzene	108-90-7	100	2015	N/A / N/A	-	100 / N/A	2020	
Chlorodibromomethane	124-48-1	0.80	2015	N/A / N/A	-	0.80 / N/A	2020	
Chloroform	67-66-3	60	2015	N/A / N/A	-	60 / N/A	2020	
Chlorophenoxy Herbicide (2,4,5-TP) [Silvex]	93-72-1	100	2015	N/A / N/A	-	100 / N/A	2020	
Chlorophenoxy Herbicide (2,4-D)	94-75-7	1300	2015	N/A / N/A	-	1300 / N/A	2020	
Chlorpyrifos	2921-88-2	N/A	-	0.083 / 0.041	1986	0.041 / N/A	2020	
Chrysene	218-01-9	0.12	2015	N/A / N/A	-	0.12 / N/A	2020	
Color		N/A	-	N/A / N/A	1986	-	2020	See Quality Criteria for Water, 1986 ("Gold Book") for narrative statement. All waters free from substances

CORTINA RANCHERIA WATER QUALITY STANDARDS

Analyte	CAS Number	National Recommended Water Quality Criteria				Cortina Rancheria Water Quality Criteria (ug/L)	Adoption Year	Notes
		Human Health Criteria (Consumption of Water and Organisms) (ug/L)	Publication Year	Aquatic Life Criteria (Freshwater Acute/ Chronic) (ug/L)	Publication Year			
								attributable to wastewater or other discharges that: produce objectionable color, odor, taste, or turbidity:
Cyanide	57-12-5	4	2015	22 /5.2		22/ 5.2	2020	
Demeton	8065-48-3	N/A	-	N/A / 0.1		0.1 / N/A	2020	
Diazinon	333-41-5	N/A	-	0.17 / 0.17		0.17 / N/A	2020	
Dibenzo(a,h)anthracene	53-70-3	0.00012	2015	N/A / N/A	-	0.00012 / N/A	2020	
Dichlorobromomethane	75-27-4	0.95	2015	N/A / N/A	-	0.95 / N/A	2020	
Dieldrin (P)	60-57-1	0.0000012	2015	N/A / N/A	-	0.0000012 / N/A	2020	
Diethyl Phthalate	84-66-2	600	2015	N/A / N/A	-	600 / N/A	2020	
Dimethyl Phthalate	131-11-3	2000	2015	N/A / N/A	-	2000 / N/A	2020	
Di-n-Butyl Phthalate	84-74-2	20	2015	N/A / N/A	-	20 / N/A	2020	
Dinitrophenols	25550-58-7	10	2015	N/A / N/A	-	10 / N/A	2020	
Endosulfan Sulfate	1031-07-8	20	2015	N/A / N/A	-	20 / N/A	2020	
Endosulfan-beta or Endosulfan II	33213-65-9	20	2015	22 / 56	2015	22 / 56	2020	
Ethylbenzene	100-41-4	68	2015	N/A / N/A	-	68 / N/A	2020	
Fluoranthene	206-44-0	20	2015	N/A / N/A	-	20 / N/A	2020	
Fluorene	86-73-7	50	2015	N/A / N/A	-	50 / N/A	2020	
gamma-BHC (Lindane)	58-89-9	N/A	2015	0.95 / N/A	2015	0.95 / N/A	2020	
gamma-	58-89-9	4.2	2015	N/A / N/A	-	4.2/ N/A	2020	

CORTINA RANCHERIA WATER QUALITY STANDARDS

Analyte	CAS Number	National Recommended Water Quality Criteria				Cortina Rancheria Water Quality Criteria (ug/L)	Adoption Year	Notes
		Human Health Criteria (Consumption of Water and Organisms) (ug/L)	Publication Year	Aquatic Life Criteria (Freshwater Acute/ Chronic) (ug/L)	Publication Year			
Hexachlorocyclohexane (HCH) [Lindane] (P								
Guthion	86-50-0	N/A	-	N/A/ / 0.01		0.01 / N/A	2020	
Heptachlor (P)	76-44-8	0.0000059	2015	N/A / N/A	-	0.0000059 / N/A	2020	
Heptachlor Epoxide (P)	1024-57-3	0.000032	2015	N/A / N/A	-	0.000032 / N/A	2020	
Hexachlorobenzene	118-74-1	0.000079	2015	N/A / N/A	-	0.000079 / N/A	2020	
Hexachlorobutadiene	87-68-3	0.01	2015	N/A / N/A	-	0.01 / N/A	2020	
Hexachlorocyclohexane (HCH) -Technical	608-73-1	0.0066	2015	N/A / N/A	-	0.0066 / N/A	2020	
Hexachlorocyclopentadiene	77-47-4	4	2015	N/A / N/A	-	4 / N/A	2020	
Hexachloroethane	67-72-1	0.1	2015	N/A / N/A	-	0.1 / N/A	2020	
Indeno(1,2,3-cd)pyrene	193-39-5	0.0012	2015	N/A / N/A	-	0.0012 / N/A	2020	
Is phorone	78-59-1	34	2015	N/A / N/A	-	34 / N/A	2020	
Malathion	121-75-5	N/A	-	N/A / 0.1	1986	0.1 / N/A	2020	
Methoxychlor	72-43-5	0.02	2015	N/A / N/A	-	0.02 / N/A	2020	
Methyl Tertiary-Butyl Ether (MTBE)	1634-04-4	N/A	-	N/A / N/A	-	-	-	
Methyl Bromide	74-83-9	100	2015	N/A / N/A	-	100 / N/A	2020	
Methylene Chloride	75-09-2	20	2015	N/A / N/A	-	20	2020	
Total Mercury	7439-97-6				2001	0.012	2020	This fish tissue residue criterion for methylmercury is based on a total fish

CORTINA RANCHERIA WATER QUALITY STANDARDS

Analyte	CAS Number	National Recommended Water Quality Criteria				Cortina Rancheria Water Quality Criteria (ug/L)	Adoption Year	Notes
		Human Health Criteria (Consumption of Water and Organisms) (ug/L)	Publication Year	Aquatic Life Criteria (Freshwater Acute/ Chronic) (ug/L)	Publication Year			
								consumption rate of 0.0175 kg/day or 0.62 ounces/day
Mirex	2385-85-5	N/A	-	N/A / 0.001	1986	0.001 / N/A	2020	
Nitrobenzene	98-95-3	10	2015	N/A / N/A	-	10 / N/A	2020	
Nitrosamines	35576-91-1	0.0008	2015	N/A / N/A	-	0.0008 / N/A	2020	
Nitrosodibutylamine	924-16-3	0.0063	2002	N/A / N/A	-	0.0063 / N/A	2020	
Nitrosodiethylamine	55-18-5	0.0008	2002	N/A / N/A	-	0.0008 / N/A	2020	
Nitrosopyrrolidine	930-55-2	0.016	2002	N/A / N/A	-	0.016 / N/A	2020	
N-Nitrosodimethylamine	62-75-9	0.00069	2002	N/A / 0.00069	2002	0.00069 / N/A	2020	
N-Nitrosodi-n-Propylamine	621-64-7	0.0050	2002	N/A / 0.0050	2002	0.0050 / N/A	2020	
N-Nitrosodiphenylamine	86-30-6	3.3	2002	N/A / 3.3	2002	3.3 / N/A	2020	
Nonylphenol	84852-15-3	28	2002	28 / 6.6	2005	28 / 6.6	2020	
Nutrients		N/A						Ambient Water Quality Criteria Recommendations, Information Supporting the Development of State and Tribal Nutrient Criteria
Oil and Grease		N/A	-	N/A / N/A	1986		2020	See Quality Criteria for Water, 1986 ("Gold Book") for narrative statement.

CORTINA RANCHERIA WATER QUALITY STANDARDS

Analyte	CAS Number	National Recommended Water Quality Criteria				Cortina Rancheria Water Quality Criteria (ug/L)	Adoption Year	Notes
		Human Health Criteria (Consumption of Water and Organisms) (ug/L)	Publication Year	Aquatic Life Criteria (Freshwater Acute/ Chronic) (ug/L)	Publication Year			
Oxygen, Dissolved Freshwater	7782-44-7	N/A	1986	N/A / N/A	1986	5.0	2020	See https://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/sacsjr_201805.pdf. for freshwater.
Parathion	56-38-2	N/A	-	0.065 / 0.013	1995	0.065 / 0.013	2020	
Pentachlorobenzene	608-93-5	0.1	2015	N/A / 0.1	2015	0.1 / N/A	2020	
Pentachlorophenol	87-86-5	0.03	2015	19 / 15	1995	19 / 15	2020	
Phenol	108-95-2	4000	2015	N/A / 4000	2015	4000 / N/A	2020	
Phosphorus Elemental	7723-14-0	N/A	1986	N/A / N/A	1986	N/A / / N/A	2020	
Polychlorinated Biphenyls (PCBs)	1336-36-3	0.000064	2002	N/A / 0.014	2002	0.000064 / N/A	2020	
Pyrene	129-00-0	20	2015	N/A / 20	2015	20 / N/A	2020	
Selenium (P)	7782-49-2	N/A	-	1.5 / 3.1	2016	170 /N/A	2020	
Silver (P)	7440-22-4	N/A	-	3.2 / N/A	1980	3.2 / N/A	2020	
Solids Suspended	10053	N/A	-	N/A / N/A	1986	N/A / N/A	2020	See Quality Criteria for Water, 1986 ("Gold Book") for narrative statement.
Turbidity	10062, 10317 Field	N/A	-	N/A / N/A	1986	N/A / N/A	2020	See Quality Criteria for Water, 1986 ("Gold Book") for narrative statement.
Sulfide-Hydrogen Sulfide	7783-06-4	N/A	2015	N/A / 2.0	1986	2.0 / N/A	2020	
Tainting Substances		N/A	-	N/A / N/A	1986	N/A / N/A	2020	See Quality Criteria

CORTINA RANCHERIA WATER QUALITY STANDARDS

Analyte	CAS Number	National Recommended Water Quality Criteria				Cortina Rancheria Water Quality Criteria (ug/L)	Adoption Year	Notes
		Human Health Criteria (Consumption of Water and Organisms) (ug/L)	Publication Year	Aquatic Life Criteria (Freshwater Acute/ Chronic) (ug/L)	Publication Year			
								for Water, 1986 ("Gold Book") for narrative statement.
Temperature		N/A	-	N/A / N/A	1986	N/A / N/A	2020	
Tetrachloroethylene	127-18-4	10	2015	N/A / 10	2015	10 / N/A	2020	
Thallium	7440-28-0	0.24	2003	N/A / 0.24	2003	0.24 / N/A	2020	
Toluene	108-88-3	57	2015	N/A / 57	2015	57 / N/A	2020	
Toxaphene (P)	8001-35-2	0.00070	2015	0.073 / 0.0002	1986	0.073 / 0.0002	2020	
Trans-1,2-Dichloroethylene	156-60-5	100	2015	N/A / 100	2015	100 / N/A	2020	
Tributyltin (TBT)	1461-22-9	0.46	2015	N/A / 0.072	2004	0.46 / 0.072	2020	
Trichloroethylene	790-01-6	0.6	2015	N/A / 0.6	2015	0.6 / N/A	2020	
Vinyl Chloride	75-01-4	0.022	2015	N/A / 0.022	2015	0.022 / N/A	2020	
Zinc	7440-66-6	7400	2002	120 / 120	2002	7400 /120	2020	
3,3'-Dichlorobenzidine	91-94-1	0.049	2015	N/A / 0.049	1995	0.049 /N/A	2020	
4,4'-DDT	50-29-3	N/A	-	1.1 / 0.001	1980	1.1 / 0.001	2020	

National Primary Drinking Water Regulations

Analyte	CAS Number	Federal Maximum Contaminant Levels (MCL)* (mg/l)	Publication Year	Cortina Rancheria Water Quality Criteria (MCL)* (mg/l)	Adoption Year	Notes
Surface Water Treatment Rules Summary						
Microorganisms						
Cryptosporidium	137259-50-8	TT[3], 0	2006	TT[3]	2020	[3] EPA's surface water treatment rules require systems using surface water or groundwater under the direct influence of surface water to a. Disinfect their water, and b. Filter their water, or c. Meet criteria for avoiding filtration so that the following contaminants are controlled at the following levels: Cryptosporidium: Unfiltered systems are required to include Cryptosporidium in their existing watershed control provisions. Zero MCL
Giardia lamblia	137259-49-5	TT[3], 0	2006	TT[3]	2020	[3] EPA's surface water treatment rules require systems using surface water or groundwater under the direct influence of surface water to a. Disinfect their water, and b. Filter their water, or c. Meet criteria for avoiding filtration so that the following contaminants are controlled at the following levels: Giardia lamblia: 99.9% removal/inactivation.
Heterotrophic plate count (HPC)	10028	TT[3], n/a	2006	TT[3]	2020	[3] EPA's surface water treatment rules require systems using surface water or groundwater

Analyte	CAS Number	Federal Maximum Contaminant Levels (MCL)* (mg/l)	Publication Year	Cortina Rancheria Water Quality Criteria (MCL)* (mg/l)	Adoption Year	Notes
						under the direct influence of surface water to a. Disinfect their water, and b. Filter their water, or c. Meet criteria for avoiding filtration so that the following contaminants are controlled at the following levels: Heterotrophic Plate Count (HPC): No more than 500 bacterial colonies per milliliter.
Legionella	22189-32-8	TT[3], 0	2015	TT[3]	2020	[3] EPA's surface water treatment rules require systems using surface water or groundwater under the direct influence of surface water to a. Disinfect their water, and b. Filter their water, or c. Meet criteria for avoiding filtration so that the following contaminants are controlled at the following levels: Legionella: No limit, but EPA believes that if Giardia and viruses are removed/inactivated, according to the treatment techniques in the Surface Water Treatment Rule, Legionella will also be controlled. On November 9, 2015, EPA held a public meeting and webinar to seek public input on the draft document.
Total Coliforms (including fecal coliform and *E. Coli*)	10007, 10008	5.0%[4]	2013	5.0%[4]	2020	[4] No more than 5.0% samples total coliform-positive (TC-positive) in a month. (For water systems that collect fewer than 40 routine

Analyte	CAS Number	Federal Maximum Contaminant Levels (MCL)* (mg/l)	Publication Year	Cortina Rancheria Water Quality Criteria (MCL)* (mg/l)	Adoption Year	Notes
						samples per month, no more than one sample can be total coliform-positive per month.) Every sample that has total coliform must be analyzed for either fecal coliforms or *E. coli* if two consecutive TC-positive samples, and one is also positive for *E.coli* fecal coliforms, system has an acute MCL violation.
Turbidity	10062, 10317 Field	TT[3]	2006	TT[3]	2020	[3] EPA's surface water treatment rules require systems using surface water or groundwater under the direct influence of surface water to a. Disinfect their water, and b. Filter their water, or c. Meet criteria for avoiding filtration so that the following contaminants are controlled at the following levels: Turbidity: For systems that use conventional or direct filtration, at no time can turbidity (cloudiness of water) go higher than 1 Nephelometric Turbidity Unit (NTU), and samples for turbidity must be less than or equal to 0.3 NTUs in at least 95 percent of the samples in any month. Systems that use filtration other than the conventional or direct filtration must follow state limits, which must include turbidity at no time exceeding 5 NTUs.
Viruses (enteric)		TT[3]	2006	TT[3]	2020	[3] EPA's surface water treatment rules require

Analyte	CAS Number	Federal Maximum Contaminant Levels (MCL)* (mg/l)	Publication Year	Cortina Rancheria Water Quality Criteria (MCL)* (mg/l)	Adoption Year	Notes
						systems using surface water or groundwater under the direct influence of surface water to a. Disinfect their water, and b. Filter their water, or c. Meet criteria for avoiding filtration so that the following contaminants are controlled at the following levels: Viruses: 99.99% removal/inactivation.
Disinfection Byproducts						
Bromate	15541-45-4	0.010	1998,2006	0.010	2020	
Chlorite	14998-27-7	1.0	1998,2006	1.0	2020	
Halo acetic acids (HAA5)	30-30-9	0.060	1998,2006	0.060	2020	
Total Trihalomethanes (TTHMs)	30-17-3	0.080	1998,2006	0.080	2020	
Disinfectants						
Chloramines (as Cl_2)	10599-90-3	MRDL=4.0[1]	2010	MRDL=4.0[1]	2020	Maximum Residual Disinfectant Level (MRDL) - The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.
Chlorine (as Cl_2)	7782-50-5	MRDL=4.0[1]	2010	MRDL=4.0[1]	2020	Maximum Residual Disinfectant Level (MRDL) - The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control

Analyte	CAS Number	Federal Maximum Contaminant Levels (MCL)* (mg/l)	Publication Year	Cortina Rancheria Water Quality Criteria (MCL)* (mg/l)	Adoption Year	Notes
						of microbial contaminants.
Chlorine dioxide (as ClO_2)	10049-04-4	MRDL=0.8[1]	2010	MRDL=0.8[1]	2020	Maximum Residual Disinfectant Level (MRDL) - The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.
Inorganic Chemicals						
Antimony	7440-36-0	0.006	1994	0.006	2020	
Arsenic	7440-38-2	0.010	2001	0.010	2020	• Quick reference guide • Consumer fact sheet
Asbestos (fiber > 10 micrometers)	1332-21-4	7 MFL	1992	7 MFL	2020	
Barium	7440-39-3	2	1993	2	2020	
Beryllium	7440-41-7	0.004	1994	0.004	2020	
Cadmium	7440-43-9	0.005	1992	0.005	2020	
Chromium (total)	7440-47-3	0.1	1992	0.1	2020	
Copper	7440-50-8	TT[7]; Action Level= 1.3	1991	TT[7]; Action Level=1.3	2020	[7] Lead and copper are regulated by a treatment technique that requires systems to control the corrosiveness of their water. If more than 10% of tap water samples exceed the action level, water systems must take additional steps. For copper, the action level is 1.3 mg/L, and for lead is 0.015 mg/L.
Cyanide (as free cyanide)	57-12-5	0.2	1994	0.2	2020	EPA has issued a Maximum Contaminant Level (MCL) for this chemical which may be more

Analyte	CAS Number	Federal Maximum Contaminant Levels (MCL)* (mg/l)	Publication Year	Cortina Rancheria Water Quality Criteria (MCL)* (mg/l)	Adoption Year	Notes
						stringent. See EPA's National Primary Drinking Water Regulations.
Fluoride	28-17-9	4.0	1992	4.0	2020	
Lead	7439-92-1	TT[7]; Action Level= 0.015	1991	TT[7]; Action Level=0.015	2020	• Quick reference • Rule information [7] Lead and copper are regulated by a treatment technique that requires systems to control the corrosiveness of their water. If more than 10% of tap water samples exceed the action level, water systems must take additional steps. For copper, the action level is 1.3 mg/L, and for lead is 0.015 mg/L.
Mercury (inorganic)	7439-97-6	0.002	1992	0.002	2020	
Nickel	7440-02-0	0.1	1995	0.1	2020	
Nitrate (measured as Nitrogen)	14797-65-0	10	1992	10	2020	
Nitrite (measured as Nitrogen)	14797-55-8	1	1992	1	2020	
Selenium	7782-49-2	0.05	1992	0.05	2020	
Thallium	7440-28-0	0.002	1994	0.002	2020	
Organic Chemicals						
1,1,1-Trichloroethane	71-55-6	0.2	1989	0.2	2020	
1,1,2-Trichloroethane	79-00-5	0.005	1994	0.005	2020	
1,1-Dichloroethylene	75-35-4	0.007	1989	0.007	2020	
1,2,4-Trichlorobenzene	120-82-1	0.07	1994	0.07	2020	

Analyte	CAS Number	Federal Maximum Contaminant Levels (MCL)* (mg/l)	Publication Year	Cortina Rancheria Water Quality Criteria (MCL)* (mg/l)	Adoption Year	Notes
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	0.0002	1992	0.0002	2020	
1,2-Dichlorobenzene (o-Dichlorobenzene)	95-501	0.6		0.6	2020	
1,2-Dichloroethane	107-06-2	0.005	1989	0.005	2020	
1,2-Dichloropropane	78-87-5	0.005	1992	0.005	2020	
1,4-Dichlorobenzene (p-Dichlorobenzene)	104-46-7	0.075		0.075	2020	
2,3,7,8-Tetrachlorodibenzodioxin (2,3,7,8-TCDD)	1746-01-6	0.00000003	1994	0.00000003	2020	
2,4,5-TP (Silvex) aka (Fenoprop)	93-72-1	0.05	1992	0.05	2020	
2,4-Dichlorophenoxyacetic acid (2,4-D)	94-75-7	0.07	1992	0.07	2020	
Acrylamide	79-06-1	TT[8]	1992	0	2020	[8] Each water system must certify, in writing, to the state (using third-party or manufacturer's certification) that when acrylamide and epichlorohydrin are used to treat water, the combination (or product) of dose and monomer level does not exceed the levels specified, as follows: • Acrylamide = 0.05% dosed at 1 mg/L (or equivalent) • Epichlorohydrin = 0.01% dosed at 20 mg/L (or equivalent)

Analyte	CAS Number	Federal Maximum Contaminant Levels (MCL)* (mg/l)	Publication Year	Cortina Rancheria Water Quality Criteria (MCL)* (mg/l)	Adoption Year	Notes
Alachlor	15972-60-8	0.002	1992	0.002	2020	
Atrazine	1912-24-9	0.003	1992	0.003	2020	
Benzene	71-43-2	0.005	1989	0.005	2020	
Benzo(a)pyrene (PAHs)	50-32-8	0.0002	1994	0.0002	2020	
Carbofuran	15-63-66-2	0.04	1992	0.04	2020	
Carbon tetrachloride	56-23-5	0.005	1989	0.005	2020	
Chlordane	57-74-9	0.002	1992	0.002	2020	
Chlorobenzene	108-90-7	0.1	1992	0.1	2020	
cis-1,2-Dichloroethylene	156-59-2	0.07	1992	0.07	2020	
Dalapon	75-99-0	0.2	1994	0.2	2020	
Di(2-ethylhexyl) adipate	103-23-1	0.4	1994	0.4	2020	
Di(2-ethylhexyl) phthalate	117-81-7	0.006	1994	0.006	2020	
Dichloromethane	7-509-2	0.005	1994	0.005	2020	
Dinoseb	88-85-7	0.007	1994	0.007	2020	
Diquat	85-00-7	0.02	1994	0.02	2020	
Endothall	145-73-3	0.1	1994	0.1	2020	
Endrin	72-20-8	0.002	1994	0.002	2020	
Epichlorohydrin	106-89-8	TT[8],0		0	2020	[8] Each water system must certify, in writing, to the state (using third-party or manufacturer's certification) that when acrylamide and epichlorohydrin are used to treat water, the combination (or product) of dose and monomer

Analyte	CAS Number	Federal Maximum Contaminant Levels (MCL)* (mg/l)	Publication Year	Cortina Rancheria Water Quality Criteria (MCL)* (mg/l)	Adoption Year	Notes
						level does not exceed the levels specified, as follows: • Acrylamide = 0.05% dosed at 1 mg/L (or equivalent) • Epichlorohydrin = 0.01% dosed at 20 mg/L (or equivalent)
Ethylbenzene	100-41-4	0.7	1992	0.7	2020	
Ethylene dibromide aka (1,2-Dibromoethane)	106-93-4	0.00005	1992	0.00005	2020	
Fluoride	28-17-9	4.0	1992	4.0	2020	
Glyphosate	1071-83-6	0.7	1994	0.7	2020	
Heptachlor	76-44-8	0.0004	1992	0.0004	2020	
Heptachlor epoxide	1024-57-3	0.0002	1992	0.0002	2020	
Hexachlorobenzene	118-74-1	0.001	1994	0.001	2020	
Hexachlorocyclopentadiene	77-47-4	0.05	1994	0.05	2020	
Lindane	58-88-9	0.0002	1992	0.0002	2020	
Methoxychlor	72-43-5	0.04	1992	0.04	2020	
Oxamyl (Vydate)	2313-52-2	0.2	1994	0.2	2020	
Pentachlorophenol	87-86-5	0.001	1993	0.001	2020	
Picloram	1918-02-1	0.5	1994	0.5	2020	
Polychlorinated biphenyls (PCBs)	1336-36-3	0.0005	1992	0.0005	2020	
Simazine	122-34-9	0.004	1994	0.004	2020	
Styrene	100-42-5	0.1	1992	0.1	2020	

Analyte	CAS Number	Federal Maximum Contaminant Levels (MCL)* (mg/l)	Publication Year	Cortina Rancheria Water Quality Criteria (MCL)* (mg/l)	Adoption Year	Notes
Tetrachloroethylene	127-18-4	0.005	1992	0.005	2020	
Toluene	108-88-3	1	1992	1	2020	
Toxaphene	8001-35-2	0.003	1992	0.003	2020	
trans-1,2-Dichloroethylene	156-60-5	0.1	1992	0.1	2020	
Trichloroethylene	79-01-6	0.005	1989	0.005	2020	
Vinyl chloride	75-01-4	0.002	1989	0.002	2020	
Xylenes (total)	1330-20-7	10	1992	10	2020	
Radionuclides						
Alpha particles	12587-46-1	15 picocuries per Liter (pCi/L)	2000	15 picocuries per Liter (pCi/L)	2020	
Beta particles and photon emitters	12587-47-2	4 millirems per year	2000	4 millirems per year	2020	
Radium 226 and Radium 228 (combined)	13982-63-3, 15262-20-1	5 pCi/L	2000	5 pCi/L	2020	
Uranium	7440-61-1	30 ug/L as of 12/08/03	2000	30 ug/L as of 12/08/03	2020	

National Secondary Drinking Water Regulations

Analyte	CAS Number	Federal Secondary Maximum Contaminant Levels (SMCL)* (mg/l)	Publication Year	Cortina Rancheria Secondary Maximum Contaminant Level Water Quality Criteria (SMCL)* (mg/l)	Publication Year	Notes
Aluminum	7429-90-5	0.05 to 0.2	2009	0.05 to 0.2	2020	colored water
Chloride	16887-00-6	250	2009	250	2020	salty taste
Color		15 (Color Units)	1986	15 Color Units	2020	visible tint
Copper	7440-50-8	1.0	2009	1.0	2020	metallic taste; blue-green staining
Corrosivity		Non-Corrosive	2009	Non-Corrosive	2020	Caused by Low pH, metallic taste; corroded pipes/ fixtures staining
Fluoride	28-17-9	2.0	2009	2.0	2020	tooth discoloration
Foaming Agents		0.5	2009	0.5	2020	frothy, cloudy; bitter taste; odor
Iron	7439-89-6	0.3	2009	0.3	2020	rusty color; sediment; metallic taste; reddish or orange staining
Manganese	7439-96-5	0.05	2009	0.05	2020	black to brown color; black staining; bitter metallic taste
Odor	10-03-5	3 TON (threshold odor number)	2009	3 TON (threshold odor number)	2020	"rotten-egg", musty or chemical smell
pH	12408-02-5	6.5-8.5	2009	6.5-8.5	2020	low pH: bitter metallic taste; corrosion high pH: slippery feel; soda taste; deposits
Silver	7440-22-4	0.10	2009	0.10	2020	skin discoloration; graying of the white part of the eye

CORTINA RANCHERIA WATER QUALITY STANDARDS

Analyte	CAS Number	Federal Secondary Maximum Contaminant Levels (SMCL)* (mg/l)	Publication Year	Cortina Rancheria Secondary Maximum Contaminant Level Water Quality Criteria (SMCL)* (mg/l)	Publication Year	Notes
Sulfate	14808-79-8	250	2009	250	2020	salty taste
Total Dissolved Solids	10-05-2	500	2009	500	2020	hardness; deposits; colored water; staining; salty taste
Zinc	7440-66-6	5	2009	5	2020	metallic taste

*These Water Quality Criteria apply to Drinking Water Standards the Nation currently does not have potable water system and will not monitor for them until a Drinking Water Treatment System is installed. National Secondary Drinking Water Regulations are non-enforceable guidelines regarding contaminants that may cause cosmetic effects (such as skin or tooth discoloration) or aesthetic effects (such as taste, odor, or color) in drinking water. EPA recommends secondary standards to water systems but does not require systems to comply. However, some states may choose to adopt them as enforceable standards. mg/L is milligrams of substance per liter of water.

ATTACHMENT B. RESOLUTION APPROVING AND ADOPTING THE WATER QUALITY STANDARDS AND ANTI-DEGRADATION POLICY RESOLUTION NO.