

CEQA Analysis using SDWIS and GIS Data for Wells with Average Hexavalent Chromium Results Above the Proposed MCL in California

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Well Dataset

Contaminant data including hexavalent chromium (Cr6) concentrations are available for 36,238 wells regulated by the Division of Drinking Water (DDW). The contaminant data for these wells was downloaded from the USEPA Safe Drinking Water Information System (SDWIS) and Python was used to identify which wells have averaged over 10 ug/L Cr6 concentration over any one-year period. 501 wells meet this criterion, which corresponds to a violation of the proposed maximum contaminant level of 10 ug/L, averaged annually. These 501 wells were mapped in ArcGIS using the latitude and longitude included in the SDWIS dataset. One well which averaged over 10 ug/L Cr6 was missing latitude and longitude information, so the location of that well was imported from the Groundwater Ambient Monitoring and Assessment Program DDW well locations shapefile (State Water Resources Control Board 2022).

GIS Datasets

The locations of the 501 wells described above were compared against the following datasets: the California Department of Conservation's California Important Farmland (California Department of Conservation 2022e), California Geological Survey Alquist-Priolo fault zones (California Department of Conservation 2022a), California Geological Survey liquefaction hazard zones (California Department of Conservation 2022c), California Geological Survey landslide hazard zones (California Department of Conservation 2022b), tsunami hazard zones (California Department of Conservation 2022f), and California Geological Survey Minerals Program radon hazard zones (California Department of Conservation 2022d); the California Department of Forestry and Fire Protection's Forest Vegetation (California Department of Forestry and Fire Protection 2022a), and Fire Hazard Severity Zones (California Department of Forestry and Fire Protection 2022b); the California Department of Water Resources' Sustainable Groundwater Management Act Basin Prioritization (California Department of Water Resources 2022); the California Department of Fish and Wildlife's California Natural Diversity Database (California Department of Fish & Wildlife 2022a), and Conservation Plan Boundaries (California Department of Fish & Wildlife 2022b); the United States Fish and Wildlife Service's Critical Habitats (United States Fish and Wildlife Service 2022); the San Francisco Estuary Institute's California Aquatic Resources Inventory (San Francisco Estuary Institute 2017); the National Park Service's National Register of Historic Places (National Park Service 2022); the United States Environmental Protection Agency's Superfund Site Boundaries (United State Environmental Protection Agency 2022); the California Environmental Protection Agency's Cortese List Sites

(California Environmental Protection Agency 2022); and the California Department of Fish and Wildlife's Oak Woodlands (California Department of Fish and Wildlife 2022c).

CEQA Analysis

II. Agriculture and Forestry Resources

a) Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California resources Agency, to non-agricultural use?

Two affected wells are located in Farmland: one in Prime Farmland in Alameda County, and one in Farmland of Statewide Importance in Kern County (California Department of Conservation 2022e). No affected wells are located in Unique Farmland.

d) Would the project result in the loss of forest land or conversion of forest land to non-forest use?

Thirty-one affected wells are located in forest land: 24 in hardwood woodland, four in conifer forest, three in hardwood forest (California Department of Forestry and Fire Protection 2022a). No affected wells are located in conifer woodland, and the category desert woodland was excluded from analysis. *See table below; note that table continues onto next page.*

Table 1. Affected wells in forest land

Well(s)	Water System	Forest Type	County
5	2700534	Hardwood Woodland	Monterey
1	2700579	Hardwood Woodland	Monterey
1	2700624	Hardwood Woodland	Monterey
2, 3	2700674	Hardwood Woodland	Monterey
8	2700787	Hardwood Woodland	Monterey
1	2701498	Hardwood Woodland	Monterey
2	2701633	Hardwood Woodland	Monterey
1	2702110	Hardwood Woodland	Monterey

2	2702388	Hardwood Woodland	Monterey
203-01	2710019	Hardwood Woodland	Monterey
3	4200531	Hardwood Woodland	Santa Barbara
1	4200619	Hardwood Woodland	Santa Barbara
1, 2	4200802	Hardwood Woodland	Santa Barbara
3	4200807	Hardwood Woodland	Santa Barbara
1	4200837	Hardwood Woodland	Santa Barbara
Bonita, San Andreas	4410017	Hardwood Woodland	Santa Cruz
1	5200540	Hardwood Woodland	Tehama
2	5200645	Hardwood Woodland	Tehama
11	5610017	Hardwood Woodland	Ventura
East	5700615	Hardwood Woodland	Yolo
1	5700754	Hardwood Woodland	Yolo
New Section	0800552	Conifer Forest	Del Norte
5	0800700	Conifer Forest	Del Norte
1	0800800	Conifer Forest	Del Norte
1	4400684	Conifer Forest	Santa Cruz
5	2210900	Hardwood Forest	Mariposa
1	2800015	Hardwood Forest	Napa
Salt Creek	5210801	Hardwood Forest	Tehama

IV. Biological Resources

a) Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by CDFW or USWFS?

Seventy-eight affected wells are co-located with special status species. One well is located near a presumed-extant nesting site of prairie falcon (*Falco mexicanus*), a sensitive bird species; 15 wells are co-located with occurrences of species federal listed as Endangered and 25 wells are co-located with species federally listed as Threatened; and 15 wells (14 of which are among the 15 near

federally-listed species) are co-located with species listed by California as Endangered, and 52 wells are co-located with species listed by California as Threatened (California Department of Fish & Wildlife 2022a). *See map on following page.*

Eighteen affected wells are located in critical habitats: six in delta smelt habitat (all of which are on land in the Delta, not in water), three in Coachella Valley milk vetch habitat and another one in both Coachella Valley milk-vetch and Coachella valley fringe-toed lizard habitat, two in California red-legged frog habitat (two water systems), two in Santa Cruz tarplant habitat (one water system), and one each in the habitats of peninsular bighorn sheep, California tiger salamander, southwestern willow flycatcher (United States Fish and Wildlife Service 2022). *See table following map; delta smelt rows italicized to reflect the fact that smelt “habitat” includes dry lands in Delta, which is where the wells are—not in the aquatic habitat smelt actually occupy immediately downstream.*

Figure 1. Affected wells co-located with species of concern from the California Natural Diversity Database

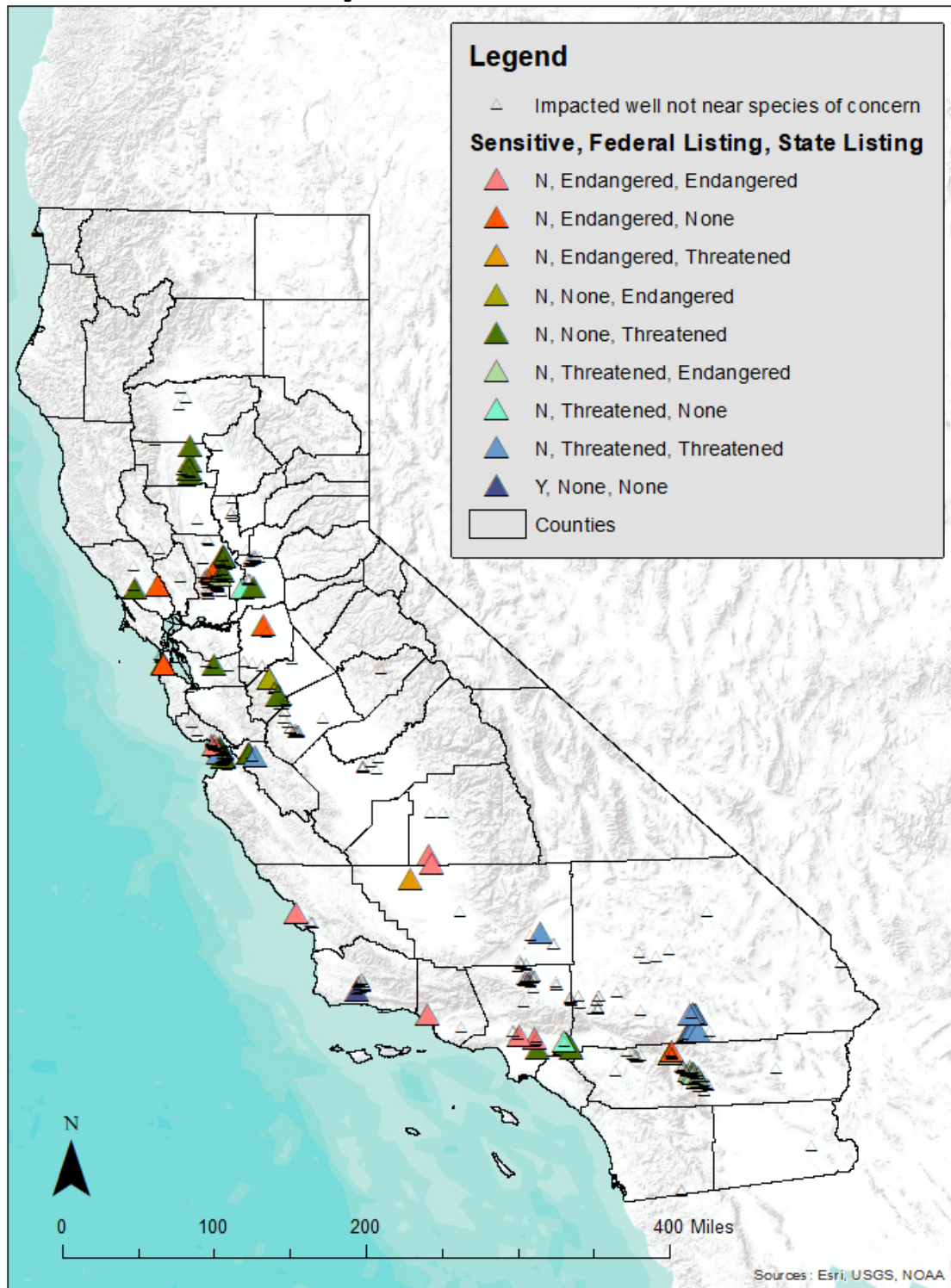


Table 2. Affected wells co-located with Species of Concern Critical Habitat

Well(s)	Water System	USFWS Critical Habitat Species of concern	County
5664-1	3310001	Coachella Valley milk-vetch & Coachella Valley fringe-toed lizard	Riverside
6805-1	3310001	Peninsular bighorn sheep	Riverside
24, 29, 37	3310008	Coachella Valley milk-vetch	Riverside
1	3500552	California tiger salamander	San Benito
1, 4	3910018	<i>Delta smelt</i>	San Joaquin
7	3810702	<i>Delta smelt</i>	San Joaquin
2	4400758	California red-legged frog	Santa Cruz
1	4400763	California red-legged frog	Santa Cruz
1	4400774	Zayante band-winged grasshopper	Santa Cruz
3, 18	4410011	Santa Cruz tarplant	Santa Cruz
1, 2	4800804	<i>Delta smelt</i>	Solano
11	5610017	Southwestern willow flycatcher	Ventura
1	5700552	<i>Delta smelt</i>	Yolo

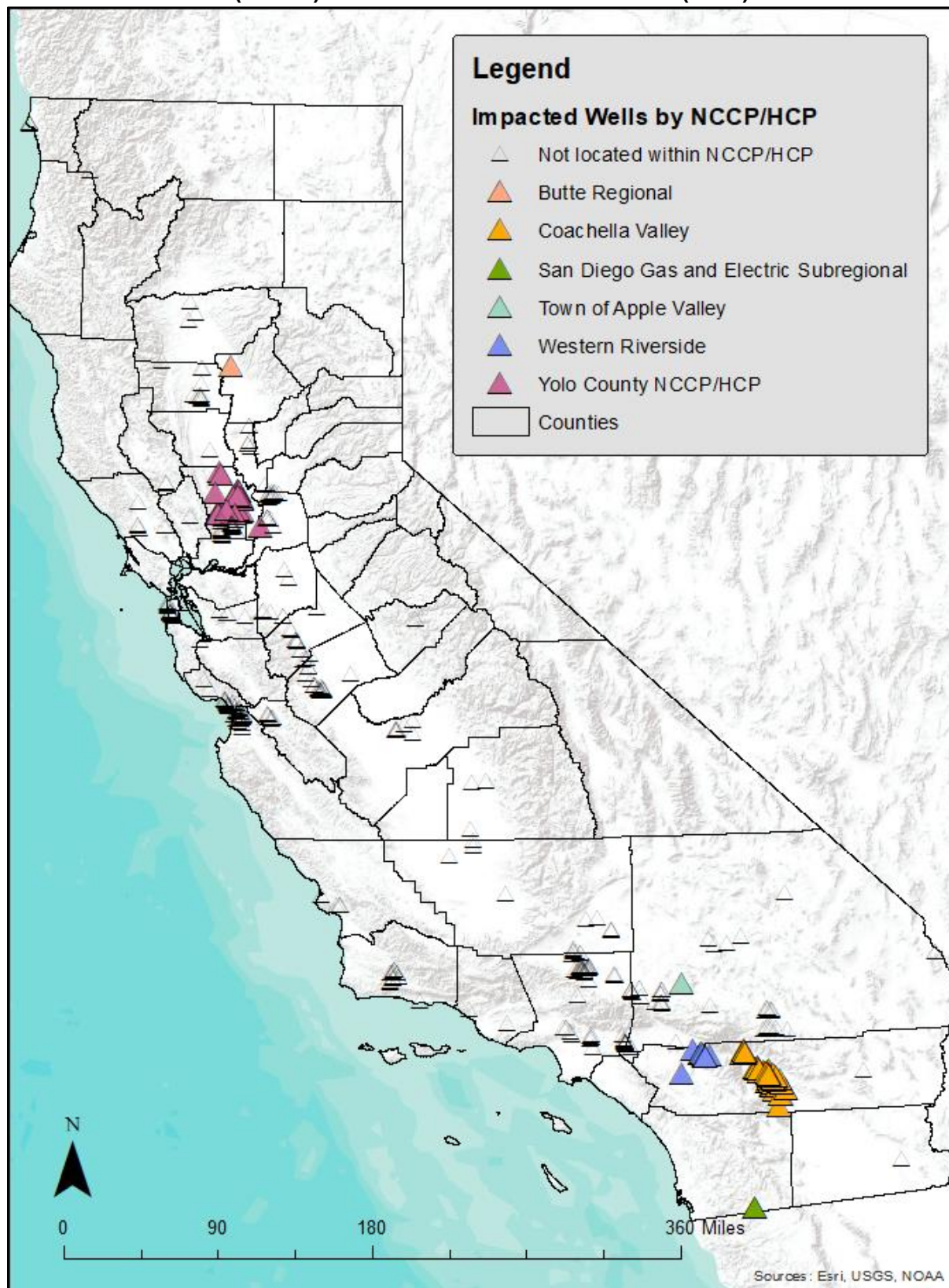
c) Would the project have a substantial adverse effect on federal protected wetlands as defined in Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

Two affected wells, each in a different water system, are located in wetlands (San Francisco Estuary Institute 2017). CA2400175 (Well 2) is in a Depressional Seasonal Natural Emergent Wetland (pond) near Volta in central-western Merced County. CA1010057 (Well 7) is in a Lacustrine Unnatural Non-vegetated wetland (reservoir) in central-western Fresno County, which appears to be the Fresno-Clovis Regional Wastewater Treatment Facility southwest of Fresno.

f) Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

One hundred and thirty-two affected wells are located inside the boundary of a NCCP/HCP (California Department of Fish & Wildlife 2022b). Most are either within the Coachella Valley (77 wells) or Yolo County (40 wells) NCCP/HCP. See *map on following page*.

Figure 2. Affected wells located within the boundaries of a Natural Communities Conversation Plan (NCCP) or Habitat Conservation Plan (HCP)



V. Cultural Resources

a) Would the project cause a significant adverse change in the significance of a historical resource as defined in § 15064.5?

Three affected wells, all within the CA3810011 water system, are located in the Golden Gate Park Historic District in the City of San Francisco (National Park Service 2022).

VI. Geology and Soils

a) i) Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving the rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?

One affected well, Well 1 for water system CA3600141 (Mitsubishi Cement Plant Cushenbury in San Bernardino County) is located in the Alquist-Priolo Fault Zone for the Furnace Thrust fault (California Department of Conservation 2022a).

a) iii) Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction?

Fourteen affected wells are located in liquefaction zones (California Department of Conservation 2022c). See *table below*.

Table 3. Affected wells subject to seismic liquefaction hazard

Well(s)	Water system	County
1, 5	0110010	Alameda
GOU GN-3	1910043	Los Angeles
32	1910126	Los Angeles
14	1910173	Los Angeles
VO-1, VO-2	1910179	Los Angeles
Serramonte, Hickey	3810001	San Mateo
01-19, 01-20	4410009	San Mateo
2	4410020	San Mateo
11	5610017	Ventura
2	5610063	Ventura

a) iv) Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving landslides?

One affected well, Well 1 for water system CA3902181 in Alameda County, is located within a landslide hazard zone (California Department of Conservation 2022b).

VIII. Hazards and Hazardous Materials

d) Would the project be located on a site which is included on the list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

Seven affected wells are located within Superfund site boundaries: five within the San Fernando Valley site (two water systems), one in the Tracy Defense Depot site in Tracy, and one in the Watkins-Johnson Company Stewart Division Plant in Scotts Valley (United States Environmental Protection Agency 2022). No affected wells are located within 100 meters of a site on the Cortese List (California Department of Environmental Protection 2022). *See table below.* Four affected wells are in high-potential radon zones (two wells in two systems in Tulare Co., one well in Ventura Co., one well in San Mateo Co.) (California Department of Conservation 2022d).

Table 4. Affected wells within Superfund sites

Well(s)	Water System	Superfund Site	County
GOU GN-3, GOU GS-3	1910043	San Fernando Valley (Area 1)	Los Angeles
VO-1, VO-2, VO-7	1910179	San Fernando Valley (Area 1)	Los Angeles
7	3910702	Tracy Defense Depot	San Joaquin
1	4400774	Watkins-Johnson Co., Stewart Div. Plant	Santa Cruz

h) Would the project expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

Nine affected wells are in locations exposed to wildfire hazard risk; one well is in a Local Resources Area (LRA) Very High Fire Hazard Zone and eight wells are in State Resources Area (SRA) Very High Fire Hazard Zones (California Department of Forestry and Fire Protection 2022b).

Table 5. Affected wells within Very High Fire Hazard Zones

Well	Water System	Resources Area	County
2	3301534	Local	Riverside
1	1900894	State	Los Angeles
5	2210900	State	Mariposa
1	2701498	State	Monterey
1	3600141	State	San Bernardino
3	4200807	State	Santa Barbara
2	5200645	State	Tehama
1	5201147	State	Tehama
11	5610017	State	Ventura

IX. Hydrology and Water Quality

b) Would the project substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the groundwater table level (e.g., the production rate of pre-existing wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?

Four hundred and ninety-two (492) impacted wells (all but nine of the wells impacted by the proposed regulation) are within High Priority Groundwater, and 92 of them are also within a Critically Overdrafted Basin (California Department of Water Resources 2022).

j) Would the project (expose people or structures to significant risk of loss, injury or death involving) inundation by seiche, tsunami, or mudflow?

No affected wells are in a Tsunami Hazard Zone (California Department of Conservation 2022f).

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