Notice of Exemption

County Clerk

Appendix E

Print Form

To: Office of Planning and Research P.O. Box 3044, Room 113 Sacramento, CA 95812-3044

County of: Sonoma and Mendocino Counties

From: (Public Agency): Gualala Community Services District 42455 CA-1, Sea Ranch, CA 95497

(Address)

Project Title: _____Gualala Community Services District Wastewater Improvement Project

Project Applicant: Gualala Community Services District (GCSD)

Project Location - Specific:

42455 California State Route 1 in Sea Ranch, California, and surrounding service area

Project Location - City: Sea Ranch / Gualala Project Location - County: Sonoma and Mendocino

Description of Nature, Purpose and Beneficiaries of Project:

The GCSD has identified deficiencies in their wastewater facility that have the potential to result in violations to water quality standards and public health and safety. Therefore, the GCSD proposes to construct upgrades to the existing wastewater facility and associated lift stations and interceptor tanks.

Name of Public Agency Approving Project: Gualala Community Services District

Name of Person or Agency Carrying Out Project: Gualala Community Services District

Exempt Status: (check one):

- Ministerial (Sec. 21080(b)(1); 15268);
- □ Declared Emergency (Sec. 21080(b)(3); 15269(a));
- □ Emergency Project (Sec. 21080(b)(4); 15269(b)(c));
- Categorical Exemption. State type and section number: Class 1 CEQA Categorical Exemption 15301 Existing Facilities
- □ Statutory Exemptions. State code number:

Reasons why project is exempt:

The project involves the "operation, repair, maintenance, permitting, leasing, licensing, or minor alteration of existing public or private structures, facilities, mechanical equipment, or topographical features, involving negligible or no expansion of existing or former use."

Lead Agency			
Contact Person	Chris Troyan, General Manager	Area Code/Telephone/Extension	(707)785-2331

If filed by applicant:

- 1. Attach certified document of exemption finding.
- 2. Has a Notice of Exemption been filed by the public agency approving the project? Yes No

Signature: _____ Date: _____ Date: _____ General Manager

Signed by Lead Agency Signed by Applicant

Authority cited: Sections 21083 and 21110, Public Resources Code. Reference: Sections 21108, 21152, and 21152.1, Public Resources Code. Date Received for filing at OPR:

EXEMPTION FINDING – CERTIFIED DOCUMENT

PROJECT BACKGROUND

The Gualala Community Services District (GCSD; District) operates a septic tank effluent pump (STEP) station collection system and a tertiary wastewater treatment plant (WWTP) which serves the Gualala business district and nearby residences. The GCSD WWTP is located at 42455 California State Route 1 in Sea Ranch, California (**Figure 1**; **Figure 3**). The GCSD WWTP was constructed in 1993, with operation commencing in 1993. The GCSD collection system serves single-family, multi-family, and commercial connections. The collection system includes four lift stations, existing septic tanks, and related gravity sewers and force mains. The Sonoma County Water Agency (CSA 6) currently owns and operates the Sea Ranch North (SRN) WWTP (primary treatment), which is located approximately 0.7 miles south of the GCSD WWTP (**Figure 2**). Primary effluent from the SRN WWTP is combined with raw sewage from the town of Gualala and treated, filtered, and disinfected at the GCSD WWTP. The treated wastewater is used for irrigation on the Sea Ranch Golf Links. The GCSD WWTP, STEP collection system is referred to as the 'Wastewater Facility' throughout this memorandum.

The District has identified deficiencies in the Wastewater Facility that have the potential to result in violations to water quality standards and public health and safety. Therefore, the District proposes to construct upgrades to the existing Wastewater Facility (Proposed Project). Proposed Project upgrades are based on recommendations within the State Water Resources Control Board (SWRCB) Grant Funded Wastewater Planning Project Engineering Report (2021) (Engineering Report; MCE, 2021). The Engineering Report was conditionally accepted by the SWRCB in a letter dated December 7, 2021 (**Attachment 1**). The Proposed Project would adhere to all recommended provisions within the letter. All components of the Proposed Project would be constructed within the property boundaries and easements of the existing WWTPs, associated collection system lift stations, and STEP collection systems (up to 180 interceptor tanks) (Project Site; **Figure 2, Figure 4**). The Proposed Project would include updates to the existing wastewater treatment infrastructure, as described in **Table 1**. A site plan showing improvements to be made at the GCSD WWTP and four lift stations is shown on **Figures 5** and **6a/6b**, respectively.

In support of the Proposed Project, a Biological Memorandum (Attachment 2) and Cultural Survey Report (Attachment 3) were commissioned to determine potential sensitive biological and cultural resources within the Development Vicinity. Native American consultation was conducted, with results detailed in Attachment 3. Upgrades associated with the Sea Ranch North WWTP are limited to minor replacement/repair of existing infrastructure/machinery and involve no ground disturbance. Therefore, the biological and cultural reports were focused on the GCSD WWTP, STEP system interceptor tanks, and lift station locations.

The Biological Memorandum concluded that the impact area of the Project Site is restricted to ruderal/developed habitat that is not suitable for supporting special-status animal species and no special-status plants were observed during the biological survey. The Cultural Survey Report concludes that the entire GCSD WWTP area and associated road and pipeline alignments, as well as the location of the four lift stations and STEP system tanks, have been heavily graded and little or no natural topography or soil strata remain that could retain archaeological sites or materials. In addition, some portions of the Project Site exhibit steep slopes that are unlikely to contain any historic or prehistoric sites. Ground disturbance to occur at the four lift stations would be minor and only occur to previously disturbed ground, as disturbance would only occur to replace existing structures; no cultural resources were observed at the lift station locations and the likelihood of discovering resources during construction is anticipated to be low. Consultation efforts resulted in additional consultation and monitoring requests from the Kashia Band of Pomo Indians of the Stewarts Point Rancheria and the Manchester/Point Arena Band of Pomo Indians.







− GCSD Wastewater Improvement Project / 221565 ■

Figure 3 Aerial Photograph



SOURCE: Vivid Maxar aerial photograph, 5/1/2020; Mendocino County, 2021; ESRI, 2022; AES-Montrose, 7/6/2022 − GCSD Wastewater Improvement Project / 221565 ■

Figure 4 Areas of Potential Ground Disturbance



- GCSD Wastewater Improvement Project / 221565

Figure 5 GCSD WWTP Site Plan



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Figure 6a Lift Station 1 & 3 Site Plans



The District's approval of the Proposed Project is a discretionary action that triggers the need for compliance with the California Environmental Quality Act (CEQA). The District may choose to file a Notice of Exemption (NOE) for the Proposed Project, pursuant to CEQA Guidelines Article 19, Section 15300 through Section 15332. There are 33 potential Classes of CEQA Categorial Exemptions for projects which have been determined not to have a significant effect on the environment. Projects that fall within one of these Classes are declared categorically exempt from the requirement for the preparation of environmental documents. The Proposed Project falls under the Class 1 CEQA Categorical Exemption 15301 – Existing Facilities. The Class 1 exemption consists of the "operation, repair, maintenance, permitting, leasing, licensing, or minor alteration of existing public or private structures, facilities, mechanical equipment, or topographical features, involving negligible or no expansion of existing or former use." The sections below describe the proposed project upgrades in detail and justify their qualification for a Class 1 CEQA exemption.

PROJECT DESCRIPTION

PROPOSED PROJECT UPGRADES

Upgrades associated with the Proposed Project would occur within the existing footprints of the GCSD WWTP and associated collection system (STEP System interceptor tank locations and Lift Stations 1 through 4), the access road to the GCSD WWTP, and the SRN WWTP. All potential ground disturbance associated with construction would only occur within previously disturbed areas; no ground disturbance would occur at the SRN WWTP. All locations of potential ground disturbance are depicted on **Figure 4**. Construction would not exceed 8 feet below ground surface at any location and additions to each existing structure would not exceed 10,000 square feet. Individual Project components are listed in **Table 1**. The Engineering Report includes detailed explanations and figures for each Proposed Project component, of which a brief overview is presented below. Where appropriate, the relevant section of the Engineering Report is referenced.

Component	Engineering Report Section*	Description
GCSD WWTP	7.2.1	Aeration/Sludge Storage Basins – New Floating Aerator and basin
		repurposing
	7.2.2	Secondary Sedimentation – RAS Pump Station
	Tertiary Filtration – Sludge Pond	
	7.2.5	Tertiary Storage and Reclamation (Pond 1 liner)
	7.2.6A	Sludge Storage Basin
	7.2.6B	Sludge Dewatering Facilities
	7.2.8	Septage Receiving Facility
	7.3.1	Upgrade and Replace Roof and Siding on Control Building
	7.3.2	New Administration Building
	7.3.3	New Vehicle/Equipment Storage
	7.3.4	New Chemical Storage Room
	7.3.5	Potable Water Booster Pump and Bladder Tank
	7.3.6	Emergency Fire Flow at GCSD WWTP
	7.3.7	Access Road Improvements
	7.3.8	Emergency Access for Pipeline Repairs

TABLE 1 PROPOSED PROJECT COMPONENTS

STEP System Rehabilitation	7.4.2	Rehabilitation of STEP Systems	
Collection	7.4.3	Upgrades to Lift Station Number 1	
System Pump		Upgrades to Lift Station Number 2	
Station		Upgrades to Lift Station Number 3	
Upgrades		Upgrades to Lift Station Number 4	
Sea Ranch	7.4.4	SRN Aeration/Pond/Pump Improvements	
North WWTP			
Improvements			
*SWRCB Grant Funded Wastewater Planning Project Engineering Report (2021)			

GCSD WWTP Upgrades

Aeration / Sludge Storage Basins – Section 7.2.1

There are no provisions to satisfy the Title 22 reliability/redundancy requirements for biological treatment. The existing sludge storage basin (south of the aeration basin; see **Figure 5**) would be repurposed to an emergency aeriation basin for Title 22 compliance. Repurposing would require minor piping modifications to convert the existing sludge basin into a short-term retention basin and would consist of installing a new six-inch force main from manhole A to the southwest side of the sludge basin to connect to the existing six-inch outlet piping. Construction would involve maintenance to existing infrastructure with hand tools and trenching in a currently developed area of the GCSD WWTP to install the new force main, not to exceed 42 inches in depth.

Secondary Sedimentation – Section 7.2.2

One of the two existing Return Activated Sludge (RAS) centrifugal pumps is nearing the end of its life expectancy. Furthermore, the sludge lines out of each clarifier are tied together and operators are unable to isolate them. Secondary effluent piping is routed directly to filtration with no provisions to reroute flows back to the aeriation basin. To correct these deficiencies, the RAS pump would be replaced and separate sludge effluent lines would be installed for each clarifier, modifying the effluent piping to allow flow diversion to the scum manhole. Construction would involve maintenance to existing infrastructure with hand tools and minor trenching to install the sludge effluent lines, not to exceed 36 inches in depth.

Tertiary Filtration – Section 7.2.3

Tertiary filtration improvements are necessary, as there is potentially insufficient capacity available relative to wet weather flows. Only the total flow entering both filters is monitored; thus, the individual surface loading rates are not monitored when both filters are in service. Individual effluent sample ports are not available for collecting turbidity grab samples, and no provisions exist for routing substandard effluent to the short-term emergency storage basin. To correct these deficiencies, a magnetic flow meter would be installed immediately upstream of the travelling bridge filter or disc filter and sample ports would be installed on the effluent lines of each process unit. Additionally, a turbidity meter would be installed upstream of the contact chamber. Tertiary filtration improvements are depicted on Figure 7.2.3-1 of the Engineering Report. Construction would involve maintenance to existing infrastructure with hand tools and no ground disturbance would occur. The GCSD WWTP is currently not running at permitted/designed capacity; the capacity of the GCSD WWTP would not increase as a result of the Proposed Project.

<u>Tertiary Storage and Reclamation – Section 7.2.5</u>

The liner on Pond 1 is damaged and the south slope is compromised. To prevent groundwater degradation, the liner on Pond 1 would be replaced with a new 60-millimeter liner. In order to do this, the current rock slope protection would be removed via backhoe, excavator, flatbed truck, service truck(s), small hydraulic tools, and hand tools, and the damaged slope regraded, with the new liner replaced over the existing earthen slopes. All construction would take place within the existing developed pond with no new ground disturbance.

<u> Sludge Storage Basin – Section 7.2.6A</u>

The sludge storage basin lacks several key elements typically used to manage the sludge process, such as lack of a decant mechanism to collect supernatant, no wet well to convey supernatant back to the aeration basin, and no floor drain piping system to dredge digested /settled sludge. A new sludge storage basin would be constructed directly south of the existing sludge basin in a currently disturbed area of the GCSD WWTP. The existing sludge storage basin would be repurposed to an emergency aeriation basin for Title 22 compliance (see Section 7.2.1 above). Construction of the new sludge storage basin would last approximately 16 weeks, involve approximately 500 cubic yards of cut and 3000 cubic yards of fill material, pouring of concrete, and various plumbing/mechanical modifications. Grading would occur on slopes of less than 10% and no trees would be removed.

<u>Sludge Dewatering Facilities – Section 7.2.6B</u>

No sludge dewatering facilities exist, as sludge has historically been buried on site. A Biosolids Management Plan was prepared for the Proposed Project (MCE, 2020), which includes estimates for solids production as well as an analysis for biosolids dewatering and disposal. To meet Regional Water Quality Control Board (RWQCB) requirements to provide a long-term plan for sludge disposal, the Proposed Project would construct new paved drying beds with dewatering bags directly west of Pond 1, which is currently used as an area for sludge disposal. Photo 1 of **Figure 7** depicts the current location proposed for the new sludge dewatering facilities. The bags would be stored within small shallow constructed drying beds consisting of an asphalt pad enclosed by a concrete stem

wall featuring an underdrain system to route leachate to a drain system where it would ultimately be returned to the aeration basin. Once the bags are full, they would be cut open and the sludge spread to further dry. Once fully dried, approximately 10 percent of the original bag contents would constitute solids, which would then be hauled away. Design plans for the drying beds are depicted on Figure 7.2.6-2 of the Engineering Report. Construction would involve removal and clearing of existing sludge via hauling off-site to an approved waste disposal facility and pouring asphalt for drying bed pads and access roadways surrounding the pads. A concrete loading dock would be constructed adjacent to the pads to allow pick up of dried material. Minor trenching (up to 36 inches in depth) would occur within currently disturbed areas to connect the leachate to the existing aeriation basin; no trees would be removed during construction.

Currently, sludge generated by the WWTP is hauled off-site to the Lystek Facility per year (MCE, 2021). The Proposed Project would create a more efficient dewatering process, which would lead to a decrease in the amount of sludge that needs to be hauled off site. Consequently, this would result in a decrease in overall truck trips and lower impacts to the environment from truck emissions.



PHOTO 1: Proposed sludge dewatering location.



PHOTO 2: Proposed new vehicle/equipment storage structure location.



PHOTO 3: Current Access road to GCSD WWTP.



PHOTO 4: Segment of the overgrown main interceptor pipeline route.

- GCSD Wastewater Improvement Project / 221565

Figure 7 Site Photographs

<u>Septage Receiving Facility – Section 7.2.8</u>

The GCSD WWTP has rudimentary facilities for septage disposal and there is no viable method to measure pH or meter/screen septage. The current septage receiving facility east of the existing aeration basin would be removed and replaced with a new septage receiving facility. The new facility would be constructed within the existing septage receiving facility footprint with minor ground disturbance. Site preparation would include removing 4 to 8 inches of soil and adding 4 to 6 inches of compacted base. Design plans for the proposed septage receiving facility are depicted in Figure 7.2.8-1 of the Engineering Report.

Operational, Administrative, and other Facility Upgrades – Section 7.3

Control Building - Upgrade and Replace Roof and Siding - Section 7.3.1

Portions of the existing control building on the GCSD WWTP site are deteriorating and made of flammable material. Therefore, proposed building upgrades include flashing to protect eaves and overhangs for fire prevention, appropriate screens on roof and eave vents for improved fire protection, new fire-resistant siding, and new plumbing retrofits to accommodate potable water supplied the building. Construction would not involve ground disturbance or expansion of the existing building.

New Administration Building – Section 7.3.2

Portions of the existing 1,000-sf administration building are not habitable for employees due to structure deterioration; the Proposed Project would demolish the existing building and construct a new 1,511-square foot building (see Figure 7.3.2-1 of the Engineering Report) in its place, directly west of the existing control building. Construction would involve the use of flatbed trucks, backhoe, crane, concrete truck(s), and various hydraulic and manual hand tools. Construction would last approximately 24 weeks. All materials would be hauled off-site to an approved waste facility.

New Vehicle/Equipment Storage – Section 7.3.3

The current 600-sf structure (metal containers) for equipment and materials storage has extreme corrosion and adverse atmospheric conditions and does not provide for protection of critical GCSD vehicles and equipment. A new 2,925-square foot covered metal structure (plus 9,000-sf of paving for parking) would be constructed directly west of the existing storage structures, which would be removed. The general area around the storage structure would be paved. Figure 7.3.3-1 of the Engineering Report depicts a schematic of the proposed site plan. Photo 2 of **Figure 7** depicts the proposed location of the new vehicle/equipment storage structure. The area is currently disturbed. Construction would involve a backhoe, small grader, dump truck, flatbed truck, concrete truck, asphalt paving machine, service trucks, and hydraulic and manual hand tools. Construction would last approximately 24 weeks.

New Chemical Storage Room – Section 7.3.4

Chemicals are currently stored in 50-gallon drums outside the control building. A new wood 144-square foot chemical storage room would be constructed adjacent to the existing chemical feed room to contain these drums. The chemical storage room would be constructed in a currently disturbed area of the GCSD WWTP. Construction would involve service trucks, flatbed trucks, concrete trucks, and hydraulic and manual hand tools. Construction would last approximately 12 weeks.

Potable Water – Section 7.3.5

Currently, only recycled water is available at the GCSD WWTP; potable water is required for employee use and safety. A 5,000-gallon potable water tank would be installed north of the existing control building in a currently developed area, and water would be conveyed by trucks on a bi-monthly basis. A small booster pump and bladder tank would convey water from the tank to the new administration building and existing operations building. New plumbing would be installed along the north side of the control building with all critical fixtures being retrofitted with new plumbing and appurtenances. Construction would involve minor trenching (no deeper than 36 inches) within a currently developed area of the GCSD WWTP and maintenance of existing infrastructure with hand tools.

Emergency Fire Flow – Section 7.3.6

There are no existing means of providing fire flows at the GCSD WWTP, which is located in a densely wooded area prone to fire risk. A water main/intake piping would be constructed from the existing tertiary pond and connect to two new fire hydrants. The location of the proposed fire hydrants and associated piping is depicted on Figure 7.3.3-1 of the Engineering Report. Installation of emergency fire flow components would involve minor trenching (no deeper than 36 inches) within the currently developed area of the GCSD WWTP.

<u> Access Road Improvements – Section 7.3.7</u>

The current 3,300-foot long/15-foot wide access road to the GCSD WWTP is unpaved and portions have washed out during storm events. Approximately 200 linear feet of the access road would be regraded at a depth of 6 to 8 inches with 3 to 4 inches of aggregate base rock added on top. Approximately 20 to 40 linear feet of the access road would be paved. Previously, 200 linear feet of the access road had washed-out and was reconstructed; this reconstructed portion requires modifications to the existing culvert inlet structures, which would include rock riprap added to the culvert crossing inlets and a galvanized flared headwall. Headwalls would be constructed on the upstream (intake) side of the culverts. Some of the existing headwalls are currently undersized and occasional flood over the existing culvert inlets during high rain events, causing damage to the road. Concrete would be used as reinforcement for some of the modified headwalls. Three existing culverts would be replaced to provide adequate drainage flow for runoff during wet-weather periods. The replaced culverts would be installed between 3 and 6 feet deep and new culverts would range in size from 12 to 24 inches in diameter. Photo 3 of **Figure 7** depicts a photo of the existing access road. Access road improvements are depicted on Figure 7.3.4-1 of the Engineering Report. Before culverts are replaced or the headwall installed, GCSD would be required to obtain a Lake and Streamed Alteration Agreement (LSAA) from the California Department of Fish and Wildlife (CDFW) to ensure all potential impacts on the environment are avoided or mitigated.

Emergency Access for Pipeline Repairs – Section 7.3.8

Portions of the main interceptor pipeline that run from the GCSD WWTP to South Highway 1 southwest of the GCSD WWTP are constructed within cross-country reaches and non-accessible areas, thus significantly impairing access for inspections and emergency repairs. Inaccessible alignments would be cleared and grubbed to allow required maintenance equipment to gain access. The location of the main interceptor pipeline segments to receive clearing/grubbing are depicted on **Figure 4**, as well as Figure 7.3.5-1 of the Engineering Report (purple and red segments). Photo 4 of **Figure 7** depicts a section of the overgrown main interceptor pipeline route. Clearing/grubbing of 1,055 linear feet of main interceptor pipeline would be done via removal of all exiting debris, brush, and shrubs from the existing pipeline alignment with hand tools. Clearing/grubbing would be restricted to removal of surface debris, brush, and shrubs, and would not disturb the root system of an any tree/shrub or result in ground disturbance. The Biological Memorandum (**Attachment 3**) concluded that the impact area is restricted

to ruderal/developed habitat that is not suitable for supporting special-status animal species and no special-status plants were observed during the biological survey. Additionally, the Cultural Survey Report (Attachment 3) concludes that the entire GCSD WWTP area and associated road and pipeline alignments have been heavily graded and little or no natural topography or soil strata remain that could retain archaeological sites or materials. Where appropriate, these reports recommend measures to mitigate potential impacts to sensitive resources during construction activities.

<u>STEP System Rehabilitation – Section 7.4.2</u>

There are over 180 existing interceptor tanks that require rehabilitation or replacement; up to 180 are proposed to be repaired under this project. The interceptor tanks are located within residential yards. **Figure 4** shows the general area of the GCSD service area and the location of the interceptor tanks. The Proposed Project includes replacement of old and deteriorated pumps and tanks, electrical wiring repairs, repairs on access hatches, and relocation of corroded electrical pull boxes currently located within the effluent tanks. Figures 7.4.2-1 and 7.4.2-2 of the Engineering Report include detailed plans for rehabilitation of existing interceptor tanks. All improvements would replace or repair existing infrastructure within the STEP system. Excavation depth would range from approximately 2 to 8 feet below ground surface, depending on the extent of work required in order to access the existing tanks. Any soil disturbance would take place within imported sterile sand or backfill created at the time of the original installation. Soil would be dug via hand and hydraulic tools with a backhoe used occasionally when necessary.

Collection System Lift Station Upgrades – Section 7.4.3

Components of existing Lift Stations 1 through 3 have deteriorated; the Proposed Project would replace the existing piping, valving, access hatches, and wet-well pump guide rail systems at Lift Stations 1 through 3. There is currently no flow metering devised at Lift Stations 1 through 4; the Proposed Project would install new control panels at Lift Stations 1 and 2. Lift Station 4 would receive various improvements, including installation of emergency raw sewage quick-connect assemblies, new check valves, and Supervisory Control and Data Acquisition Programmable Logic Controllers. Detailed engineering plans for Lift Stations 1-3), and 7.4.3-4 (Lift Station 4) of the Engineering Report and depicted on **Figures 6a** and **6b**. In order to replace existing infrastructure at the lift stations, minor disturbance to previously disturbed ground would occur. All improvements would replace existing infrastructure or install new equipment within the existing Lift Stations. No more than 4 feet of soil would be disturbed vertically in order to access the lift station piping, manifolds, and mechanicals. Disturbance would occur directly above the existing infrastructure within a previously disturbed area, with no more than 20 square feet of surface area disturbed. Soil would be dug via backhoes, flatbed trucks, service trucks, loaders, and manual and hydraulic hand tools.

Sea Ranch North WWTP Improvements - Section 7.4.4

GCSD's ability to attenuate high inflow/infiltration flow from the SRN collection system is constrained by the existing pump capacity and the existing inlet configuration at the SRN primary pond. Therefore, the Proposed Project would install a fiberglass floating decant located on the west end of the Primary Pond basin (see **Figure 2** for SRN location) in order to minimize the amount of sludge and settled solids. Intermediate piping from the floating decant to the existing inlet would consist of four-inch rubber piping suspended by floats. This improvement would not result in new ground disturbance as it would be attached to the west end of the existing

basin and float on the basin water. Improvements would only involve repair of existing mechanics with hand tools.

CONCLUSION

All upgrades associated with the Proposed Project would occur within existing improved areas of the Wastewater Facility. Proposed upgrades include repair, maintenance, and minor alteration of the Wastewater Facility and associated mechanical equipment and topographical features, with negligible or no expansion of the former use. The capacity of the GCSD WWTP and SRN WWTP would not increase as a result of the Proposed Project. Project components would not have a significant effect on the environment and would qualify for a Class 1 CEQA Categorical Exemption. Furthermore, a Biological Memorandum and Cultural Survey Report were commissioned to determine potential sensitive biological and cultural resources within the disturbed area of the Project Site. The Biological Memorandum concluded that the impact area of the Project Site is restricted to ruderal/developed habitat that is not suitable for supporting special-status animal species and no special-status plants were observed during the biological survey. The Cultural Survey Report conclude that the entire GCSD WWTP area and associated road and pipeline alignments, as well as the four lift station locations and STEP system interceptor tank locations, have been heavily graded and little or no natural topography or soil strata remaining that could retain archaeological sites or materials. Where appropriate, these reports recommend measures to mitigate potential impacts to sensitive resources during construction activities.

This White Paper serves as an exemption finding of a Class 1 CEQA Categorical Exemption 15301 – Existing Facilities and has been certified by the Lead Agency, Gualala Community Services District.

Chris Trovan

Chris Troyan 🧳 General Manager, GCSD

REFERENCES

MC Engineering, Inc. (MCE), 2020. Gualala Community Services District Biosolids Management Plan.

MCE, 2021. State Water Resources Control Board (SWRCB) Grant Funded Wastewater Planning Project Engineering Report. ATTACHMENT 1 – CONDITIONAL ACCEPTANCE LETTER





State Water Resources Control Board Division of Drinking Water

December 7, 2021

Mr. Matthias St. John Executive Officer North Coast Regional Water Quality Control Board 5550 Skylane Blvd., Suite A Santa Rosa, CA 95403-1072

GUALALA COMMUNITY SERVICES DISTRICT, WATER RECLAMATION TREATMENT FACILITY AND RECYCLED WATER USE AREAS; TITLE 22 ENGINEERING REPORT CONDITIONAL ACCEPTANCE (4990023-701)

Dear Mr. St. John,

The Division of Drinking Water (DDW) has reviewed the Title 22 Engineering Report (Report) submitted by Gualala Community Services District (GCSD) dated, November 2021. The Report is a resubmittal that describes the recycled water system's improvements for increasing chlorine contact chamber mixing and contact time, tracer test validation and the way recycled water criteria (RWC), Title 22 of CCR compliance is maintained. The GCSD previous conditional acceptance from DDW is dated, July 7, 2021 based on review of earlier Report(s) dated May 11, 2021, May 2020, May 2019, and February 2018.

The GCSD operates and maintains a wastewater treatment facility (WWTF) for producing disinfected tertiary recycled water (RW). The reuse of the RW is for golf course turf irrigation at Sea Ranch Golf Links (SRGL). The discharge of RW at SRGL is regulated under two permits, the Waste Discharge Requirement (WDR) Order #92-120 for GCSD and Water Reclamation Requirement (WRR) Order #92-121 for GCSD and SRGL. The source of wastewater to WWTF is from service zones of Gualala and the Sea Ranch North's (SRN) WWTF (WDR Order #94-4), owned by Sonoma County Water. The Gualala community's wastewater is delivered by lift stations to WWTF. The SRN WWTF is located within the Sea Ranch golf link area and serves the private residential community of The Sea Ranch North Association (TSRNA) located south of Gualala. The SRN WWTF's delivers partially processed (aerated) wastewater, which is introduced in the aeration basin of WWTF for increasing BOD loading and improving treatment performance. GCSD has provision to discharge RW to SRGL's percolation pond during period(s) of excessive rain, which is not permitted and requires reporting to the Regional Board within 30 days of any disposal.

The Report states the existing discharge permit(s) do not reflect the changes undertaken by the three parties (GCSD, Sonoma County Water and Sea Ranch Golf Links) for wastewater processing and recycled water use. The intent is to have all the three parties, reclamation and discharge requirements renewed into one single WDR order with GCSD as the sole discharger and RW produced used at Sea Ranch Golf Links.

E. JOAQUIN ESQUIVEL, CHAIR | EILEEN SOBECK, EXECUTIVE DIRECTOR

Project Description

The GCSD operates the WWTF and sewer collection system for the community of Gualala and Sea Ranch North Association (SRNA). The WWTF is permitted for a flow of 0.291 MGD, which comprises of 0.131 MGD of dry weather influent flow from GCSD's collection system and 0.160 MGD of aerated wastewater from SRN WWTF. The wastewater from TSRNA is of residential origin that is screened and aerated at SNR WWTF and pumped to GCSD's WWTF. The Gualala community's wastewater is collected from both residential and commercial septic tanks, where the septic tank effluent is pumped and discharged to the collection system main line and delivered via lift stations to GCSD's WWTF. The treatment process consists of extended aeration activated sludge, secondary clarification, coagulation, and tertiary filtration. The process has two parallel filtration systems consisting of travelling bridge filter, and Nova Disk filter. GCSD uses the Nova Disk filter only as a back-up, when flows exceed travelling bridge filtration capacity (filter loading rate of about 414,700 GPD). The Report states the operation of disk filter has not been needed due to improvements made at lift station #2. The improvements have reduced the operating time and frequency of pumping at lift station #2, which has consequentially lowered the peak hourly flows to WWTF. Nevertheless, GCSD is required to maintain filtration redundancy and reliability for operating at all flow conditions. The filtered recycled water is disinfected with total chlorine to produce the disinfected tertiary recycled water (RW). A chlorine contact chamber (CCC) provides for the disinfection contact time (CT) requirements. The CCC was recently enhanced to promote mixing and increasing modal contact time. An 80-foot-long orifice pipe was installed at the downstream side of CCC in addition to the existing 80-foot-long orifice pipe located at the upstream end of CCC. Both orifice pipes are 1.5-inch diameter PVC pipes having 1/8-inch holes at 18-inch spacing along the entire length of the pipe(s). The upstream orifice pipe is equipped with a 3 hp pump and the downstream orifice pipe has 1 hp pump. A tracer test was performed in October 2021 to validate the increase in chlorine contact time. The tracer test results showed a modal contact time of 240 minutes for attaining peak tracer concentration at an average flow of 95 GPM. The resulting baffling factor was determined to be 1 and the minimum chlorine residual to meet the disinfection CT of 450 mg/l-min at 95 GPM is 1.9 mg/l. The testing shows that for meeting the minimum modal contact time of 90 minutes as stipulated by 60301.230 (a)(1), the peak flow must be less than 253 GPM (364,800 gpd). Therefore, the governing maximum process flow for CCC to comply with the CT disinfection requirements will be the disk filter's maximum loading rate capacity of 187 GPM (269,568 gpd).

The Report shows the WWTF design influent flows and historical influent flows. The design influent flows are stated as 0.131 MGD for average dry weather flow (ADWF), 0.151 MGD for average wet weather flow (AWWF) and 0.269 MGD for peak hourly flow (PHF). The historical influent flows are stated as 0.058 MGD (ADWF), 0.062 MGD for average annual flow, 0.162 MGD for peak dry weather flow, 0.219 peak hourly dry weather flow and 0.213 MGD for peak hourly wet weather flow. The WWTF has three holding ponds providing for a total storage capacity of 20 million gallons for the RW, which is subsequently delivered to TSRGL for landscape irrigation.

The State Water Resources Control Board, Division of Drinking Water (DDW) has reviewed the Report and deemed it to be conditionally acceptable. The existing WWTF is permitted for producing effluent of disinfected tertiary recycled water quality and its application is acceptable for the RW uses in accordance with the Title 22, Recycling Water Criteria. DDW requests that the following provisions be included in the updated permit.

Recommended Provisions

General

- 1. The GCSD recycled water program must comply with all applicable requirements set forth in Titles 17 and 22 of the California Code of Regulations (CCR) for the production, distribution, and use of recycled water.
- 2. The WWTF's treatment capacity is rated at 187 GPM (269,568 GPD) based on the amenability of maximum filtration loading rate with the chlorine contact chamber flow rate for maintaining compliance with the minimum modal contact time of 90 minutes, pursuant to §60301.230.
- 3. All recycled water produced at GCSD's WWTF must be filtered using the travelling bridge filter and/or Nova Disk Filter as described in the Title 22 Engineering Report. No changes, additions, or modifications can be made to the filtration treatment unless approval is obtained from DDW and RWQCB.
- 4. Per §60301.320 and 60349, the wastewater must be coagulated prior to filtration and the coagulant dosing shall be provided with mandatory and reliability features including alarms for uninterrupted coagulant feed.
- 5. Per §60301.320 the traveling bridge automatic backwash filter is subject to the following conditions:
 - a. Filter Loading not to exceed 2 gallons per minute per square foot of surface area.
 - b. Turbidity of the filtered wastewater not to exceed any of the following:
 - i. An average of 2 NTU within a 24-hour period.
 - ii. 5 NTU more than 5 percent of the time within a 24-hour period; and
 - iii. 10 NTU at any time.
- 6. The Nova Ultra Screen filtration is an acceptable filtration technology, approved by DDW (approval letter dated, November 12, 2009 by previously known as California Department of Public Health) and subject to the following conditions:

Filter loading rates up to 6 gpm/ft²

- a. Loading rate shall not exceed 6 gpm/ft².
- b. Turbidity in the filtered water shall not exceed: an average of 2 NTU in a 24-hour period, 5 NTU more than 5 percent of the time within 24-hour period, and 10 NTU at any time.
- c. Acceptance of this filtration technology up to a loading rate of 6 gpm/ft² is contingent upon it being complemented with a disinfection process which has been demonstrated to be capable of reliably achieving **4 log** inactivation of plague forming unit of F-specific bacteriophage MS2, or polio virus in the filtered wastewater. A virus that is at least as resistant to disinfection as polio virus may be used for purposes of demonstration.
- d. Acceptance of the filter screen specified as AISI 316 steel micronic screen mesh, having a nominal size rating of 20 microns and reportedly can remove particles down to 10 microns when operated using "dynamic tangential filtration". Other screen materials will require additional demonstration studies prior to individual acceptance by DDW and Regional Board.
- e. Pretreatment process shall be designed and operated to ensure that the turbidity of influent to the filter does not exceed 5 NTU for more than 15 minutes within a 24-hour period and never exceeds 10 NTU.
- f. Individual operations plan shall include scheduled inspections and assessment of the screen condition as an operational safeguard. This should include a routine visual inspection at least monthly, and a more in-depth assessment of the filter condition at

least annually. Inspection frequencies may change as filter condition and performance experience is gained with time.

- g. Individual operations plans shall provide for assurances that adequate sludge wasting is practiced for ensuring against solids buildup in the filter vessel.
- Filter Loading rates exceeding 6 gpm/ft² and up to 16 gpm/ft²
- h. Loading rate shall not exceed 16 gpm/ft².
- i. Conditions outlined above: b, d, e, f, and g shall apply.
- j. Acceptance of this filtration technology up to a loading rate of 16 gpm/ft² is contingent upon it being complemented with a disinfection process which has been demonstrated to be capable of reliably achieving **5 log** inactivation of plague forming unit of F-specific bacteriophage MS2, or polio virus in the filtered wastewater. A virus that is at least as resistant to disinfection as polio virus may be used for purposes of demonstration.
- 7. Per §60301.230(a), the RW subsequent to filtration must be disinfected to meet the following criteria: (a) The filtered wastewater has been disinfected by either: (1) A chlorine disinfection process following filtration that provides a CT (the product of total chlorine residual and modal contact time measured at the same point) value of not less than 450 milligram-minutes per liter at all times with a modal contact time of at least 90 minutes, based on peak dry weather design flow; or (2) A disinfection process that, when combined with the filtration process, has been demonstrated to inactivate and/or remove 99.999 percent of the plaque forming units of F-specific bacteriophage MS2, or polio virus in the wastewater. A virus that is at least as resistant to disinfection as polio virus may be used for purposes of the demonstration.

The GCSD's use of total chlorine for disinfection and minimum CT required must be maintained based on acceptable tracer study results, design influent flows and historical influent flow rates described in the Title 22 Engineering Report dated, November 2021. The low chlorine alarm set point(s) in the SCADA must be established for the respective flow rate(s), modal contact time and final total chlorine residual(s) to meet the disinfection CT value of 450 mg-min/l (shown in tables below). GCSD must maintain operational reliability of upstream (manhole C) and downstream (Manhole B) pumps that are used for enhanced mixing and flow metering upstream of manhole C to have representative measurement of the flow being conveyed through the chlorine contact chamber. The WWTF operations plan shall be updated to reflect all the operational parameters required for chlorine disinfection process including alarm set points and reliability features.

Tablet Beelgit Innaener i	••••						
Flow Scenario	Flow (Q),	Theoretical	Modal	Final Total Chlorine			
	MGD	Detention Time,	Contact Time	Residual (mg/l) reqd. for			
	(GPM)	minutes	(TDT*BF)	min. 450 mg-min/l			
		(TDT=V/Q)		_			
Average Dry Weather	0.131(91)	251	251	1.80			
Design Flow							
Average Wet Weather	0.151(105)	217	217	2.07			
Design Flow							
Peak Hourly Design	0.269(187)	122	122	3.69			
Flow							

 Table: Design Influent Flow, Minimum Chlorine Residual Set Point

Note: Chlorine Contact Chamber Volume(V)=22,800 gallons, Baffling Factor (BF)=1.0, Tracer test dated October 2021

Table [.]	Historical	Influent Flo	w Minimum	Chlorine	Residual	Set Point
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Flow Scenario	Flow (Q), MGD (GPM)	Theoretical Detention Time, minutes (TDT=V/Q)	Modal Contact Time (TDT*BF)	Final Total Chlorine Residual (mg/l) reqd. for min. 450 mg-min/l
Peak Hourly Wet	0.213(148)	154	154	2.91
Weather Flow				
Average Annual Flow	0.062(43)	530	530	0.85
Peak Hourly Dry	0.219(152)	150	150	3
Weather Flow				
Peak Dry Weather	0.162(113)	202	202	2.23
Flow				
Average Dry Weather Flow	0.058(40)	570	570	0.79

Note: Chlorine Contact Chamber Volume(V)=22,800 gallons, Baffling Factor (BF)=1.0, Tracer test dated October 2021

- 8. Per §60301.230(b), the median concentration of total coliform bacteria measured in the disinfected effluent must not exceed an MPN of 2.2 per 100 milliliters utilizing the bacteriological results of the last seven days for which analyses have been completed and the number of total coliform bacteria must not exceed an MPN of 23 per 100 milliliters in more than one sample in any 30-day period. No sample shall exceed an MPN of 240 total coliform bacteria per 100 milliliters.
- 9. Per Articles 8 and 10 of the RWC, Title 22 of CCR, GCSD must always maintain the reliability features and contingency measures for WWTF process and ensure inadequately treated RW is not being delivered to the RW users.
- 10. The GCSD must always provide enough qualified personnel to operate the WWTF effectively to achieve the required level of treatment. Qualified personnel must be those meeting requirements to Division 7, Chapter 9 (commencing with Section 13625) of the California Water Code.
- 11. The GCSD must not bypass untreated or partially treated wastewater from the WWTF, or any intermediate unit processes, to the point of use. Temporary diversion of excess untreated and/or off spec process flow must be to a permanently dedicated raw wastewater storage pond and not to any storage pond connected to delivering to the recycled water distribution system. The diverted wastewater must be returned to the headworks for full treatment.

Use Site Prohibition and Requirements

- 12. The application and use of disinfected tertiary recycled water must be in accordance with the Recycled Water Criteria, Title 22 of CCR. GCSD as the RW producer must ensure updated agreement(s) are maintained with the RW user(s) as deemed necessary to reflect upon current RW uses and practices, and for the following to be adhered:
 - a. An Engineering Report must be submitted to DDW and RWQCB for review and approval of any future use of RW or expansion of irrigated areas beyond those described in the approved Title 22 Engineering Report.
 - b. Plans for future uses of RW or expanded irrigated areas, when available must be submitted to DDW and the County Department of Environmental Health (County DEH) for review and approval.
 - c. No irrigation with or impoundment of RW can take place within 50 feet or 100 feet of any domestic water supply well.

- d. Any use of recycled water must comply with the following:
 - i. RW irrigation runoff must be confined to the recycled water use area unless the runoff does not pose a public health threat and is authorized by the regulatory agency.
 - ii. Spray, mist, or runoff must not enter dwellings, designated outdoor eating areas, or food handling facilities.
 - iii. Drinking water fountains must be protected against contact with recycled water spray, mist, or runoff.
- e. All recycled water use areas must be posted with signs that are visible to the public, in a size no less than 4 inches high by 8 inches wide, that states the following: "RECYCLED WATER DO NOT DRINK". Each sign must display an international symbol like that shown in Figure 60310-A, §60310, Title 22 of CCR. DDW may accept alternative signage and wording, or an educational program, provided the applicant demonstrates to DDW that the alternative approach will assure an equivalent degree of public notification. These signs need to be placed in conspicuous places including at each entrance to the RW irrigated area.
- f. No physical connection can be made or allowed to exist between the recycled water system and any separate system conveying potable water. If a swivel-ell device is planned to be used, the construction plan must be submitted to DDW and RWQCB for review and approval.
- g. The installation of recycled water pipeline(s) with respect to water mains shall be in accordance with the separation criteria pursuant to §64572, Chapter 16, California Waterworks Standards. The plans for the installation of the recycled water pipeline(s) must be submitted to DDW and RWQCB for review, and written approval shall be obtained prior to installation.
- h. The recycled water system in the irrigated areas must not include hose bibs. Only quick couplers that differ from those used on the potable water system can be used.
- i. RW use sites shut down tests must be performed every four years and reuse site inspections must be performed annually. Each must be monitored by the County DEH or DDW. The inspections and testing must be performed by a cross connection control specialist certified by the California-Nevada section of the American Water Works Association or an organization with equivalent certification requirements. A written report documenting the result of the inspection or testing for the prior year must be submitted to the County DEH and DDW within 30 days following completion of the inspection or testing.

Operations, Maintenance and Reporting

- 13. The GCSD must update the operations plans for the WWTF, which shall be submitted to DDW and RWQCB for approval as there are changes or modifications to the WWTF chlorine disinfection process and /or its operations.
- 14. A preventive maintenance program must be maintained for the WWTF to ensure all equipment is kept in a reliable operating condition.
- 15. Operating records must be maintained at the WWT or a central depository. The operating records must include: all analyses specified in the recycled water criteria; records of operational problems, plant and equipment breakdowns, diversions to emergency storage or disposal, and all corrective or preventive action(s) taken.
- 16. Process or equipment failures triggering an alarm must be recorded and maintained as a separate record file. The recorded information must include the time and cause of failure and corrective action taken.

17. Any discharge of untreated or partially treated wastewater to the use area, and the cessation of same, must be reported immediately by telephone to the RWQCB, DDW, and the local health officer.

If you have any questions regarding this letter, please contact Mir Ali at (805) 566-9767 or via email at <u>mir.ali@waterboards.ca.gov</u> or me at (818) 551-2046 or via email at <u>Ginachi.Amah@waterboards.ca.gov</u>.

Sincerely,

Ginachi Amah, D. Env, P.E. Recycled Water Unit Chief Division of Drinking Water <u>State Water Resources Control Board</u> 500 North Central Avenue, Suite 500 Glendale, CA 91203

cc:

Janice Oakley, Sonoma District, State Water Resources Control Board – Division of Drinking Water (via email)

Aide Ortiz, Recycled Water Unit, State Water Resources Control Board – Division of Drinking Water (via email)

Cathleen Goodwin, North Coast Regional Water Quality Control Board

RWU File

ATTACHMENT 2 – BIOLOGICAL MEMORANDUM



ANALYTICAL ENVIRONMENTAL SERVICES 1801 7TH STREET, SUITE 100 SACRAMENTO, CA 95811 (916) 447-3479 | FAX (916) 447-1665

BIOLOGICAL MEMORANDUM

То:	Mark Carey
	MC Engineering
From	David Pfuhler, Biologist
From:	Analytical Environmental Services
Project:	Gualala Community Services District Wastewater Improvement Project
Date:	1/10/2022

1.0 INTRODUCTION

The Gualala Community Services District (GCSD; District) operates a septic tank effluent pump (STEP) station collection system and a tertiary wastewater treatment plant (WWTP) which serves the Gualala business district and nearby residences. The Sonoma County Water Agency currently owns and operates the Sea Ranch North WWTP, which is located approximately 0.7 miles south of the GCSD WWTP. Primary effluent from the Sea Ranch North WWTP is combined with raw sewage from the town of Gualala and treated, filtered, and disinfected at the GCSD WWTP. The treated wastewater is used for irrigation on the Sea Ranch Golf Links.

The District has identified deficiencies in the GCSD WWTP facilities and the Sea Ranch North WWTP collection system that have the potential to result in violations to water quality standards and public health and safety. Therefore, the District proposes to construct upgrades to the existing WWTPs and associated facilities (Proposed Project). Improvements would include upgrades to the GCSD WWTP, septic tank effluent pump station, four lift stations, STEP system interceptor tanks, aeration improvements at the Sea Ranch North WWTP, and various access road improvements at the GCSD WWTP. Upgrades associated with the four lift stations and the Sea Ranch North WWTP are limited to minor replacement/repair of existing infrastructure/machinery. No ground disturbance would occur at the Sea Ranch North WWTP and all improvements to the STEP interceptor tanks would repair existing infrastructure, with soil disturbance only occurring within previously disturbed redeposited fill located on top of the tanks. The STEP system tanks are located in residential yards in disturbed areas. These areas were not surveyed during the initial site visit as the locations had not been defined and were determined to have low biological sensitivity due to their location in residential yards. The biological survey was focused on areas to experience disturbance that could potentially impact biological resources: the GCSD WWTP and four lift station locations.

The majority of the Proposed Project upgrades would take place at the GCSD WWTP, which is located at 42455 California State Route 1 in Sea Ranch, California, 1.5 miles east of U.S. Highway 1 and the Pacific Ocean (**Figures 1, 2**, and **3**). The GCSD WWTP is located in Sonoma County, in an un-sectioned portion of Township 11 North, Range 15 West, as depicted on the Gualala, CA United States Geological Survey (USGS) quadrangle. The elevations at the GCSD WWTP range from approximately 80 to 300 feet above



- GCSD Wastewater Improvement Project - Biological Memorandum / 221565





mean sea level. The nearest natural water sources to the GCSD WWTP consist of the South Fork of the Gualala River, located approximately 1/8-mile to the north of the GCSD WWTP. The four lift stations would experience minor disturbance to previously disturbed land in order to replace existing structures and are located at various locations north of the GCSD WWTP as depicted on **Figure 2**.

2.0 METHODOLOGY

The following information was obtained and reviewed:

- Aerial photographs and topographic maps of the Project Site and surrounding area (Figures 2 & 3);
- U.S. Fish and Wildlife Service (USFWS) Information for Planning and Conservation (IPaC) list, updated November 12, 2021 (Attachment A);
- California Natural Diversity Database (CNDDB) list, updated January 6, 2022 (Attachment A);
- California Native Plant Society (CNPS) list, updated January 6, 2022 (Attachment A);
- Natural Resources Conservation Service (NRCS) custom soils report, updated November 12, 2021 (Attachment B); and
- USFWS National Wetlands Inventory (NWI) map of wetland features, updated November 12, 2021 (Attachment C).

A biological resources survey was conducted on the Project Site on September 24, 2021. The survey was conducted by walking throughout the entirety of the Project Site. The survey focused primarily on sensitive habitat areas such as riparian, wetland, and oak woodland habitats. Transects were walked where accessible. All other areas where work has been proposed have been surveyed. Binoculars were used to assist in surveying efforts.

Data was collected via a Trimble Geo XH hand-held GPS receiver. Survey goals consisted of identifying habitat types, sensitive habitats, wetlands, and waters of the U.S, and special-status species. Sensitive habitats include those that are designated by CDFW, considered by local experts to be communities of limited distribution, or likely to be waters of the U.S. or State by the appropriate regulatory agencies. Habitat requirements of special-status species were compared to habitats observed, which were determined based on aerial photographs, ground-truthing, and background data review.

3.0 ENVIRONMENTAL SETTING

3.1 Soil Types

The Project Site and vicinity are comprised of several soil types, summarized below and shown in **Attachment B**:

- Bigriver loamy sand: This soil is very well drained with a low runoff class. Depth to restrictive features and the water table is generally in excess of 80 inches. Bigriver loamy sand is not considered prime farmland.
- Bruhel-Shinglemill complex: These are well drained soils with a medium runoff class and no frequency of flooding or ponding. The depth to water table is more than 80 inches and the depth to restrictive feature is 40-60 inches. These soils are not considered prime farmland and are not rated as hydric soils.
- Coastal beaches: Coastal beaches are poorly drained but have a very low runoff class. These soils
 frequently flood and are considered hydric and sit at the water table.

- Dystropepts: This soil is a well-drained soil with a depth to water table greater than 80 inches. These soils have no frequency of flooding or ponding and are not considered hydric soils.
- Hugo loam: Hugo loam is typically found within mountain slopes and is not considered prime farmland. This soil is well drained with a high runoff class.
- Kneeland loam: This soil is well drained with a medium runoff class. Kneeland loam is considered a farmland of statewide importance.
- Mendocino sandy clay loam: This soil is well drained with a very high runoff class. Depth to
 restrictive features is 60 to 80 inches, and the water table is generally in excess of 80 inches.
 Mendocino sandy clay loam sand is not considered prime farmland.
- Rohnerville loam: This soil is moderately well drained with a high runoff class. Depth to
 restrictive features and the water table is generally in excess of 80 inches. Rohnerville loam may
 be considered prime farmland if properly drained.
- Terrace escarpments: This soil type identifies drainage features, such as the manmade basins.
- Windyhollow loam: This soil is moderately well drained with a high runoff class. The depth to
 restrictive layers is greater than 80 inches and the depth to water table is about 30 to 48 inches.
 Windyhollow loams are not hydric soils and do not have a frequency of ponding or flooding.
- Yolo sandy loam, overwash: This soil is moderately well drained with a low runoff class. Depth to
 restrictive features and the water table is generally in excess of 80 inches. Yolo sandy loam,
 overwash may be considered prime farmland if properly drained, infrequently flooded, or
 protected from frequent flooding.

All project components would occur on relatively flat ground with slopes of less than 10 percent, with the exception of the main interceptor pipeline segments proposed for emergency access grubbing, which are located on slopes between 5 and 20 percent. However, clearing and grubbing would be restricted to removal of surface debris and would not disturb the root system of any tree/shrub, soil would not be disturbed, and these soil types are not highly prone to erosion. Therefore, disturbance to soils on slopes over 10 percent would not occur.

3.2 Habitat Types

Prior to the site visit, a desktop review of the Project Site was performed. The NWI map identified the existing WWTP manmade basins, but did not identify other wetlands or aquatic habitat on site. The WWTP is within an area of unidentified flood risk, according to the Federal Emergency Management Agency (FEMA, 2021). Each of the lift stations are within Flood Zone X, designated as an area of minimal flood hazard (FEMA, 2021). Habitats observed on the Project Site of the GCSD WWTP during the site visit include ruderal/developed, mixed woodland, and manmade basin (**Figure 4**). Habitats observed on the Project Sites of the four lift stations are all ruderal/developed. These habitats are discussed in detail below.

Ruderal Developed

This habitat type occurs throughout the Project Site where all disturbance is planned. This area has been highly disturbed during the construction of the current facility and through its operation (**Figure 4**). Dominant vegetation within this habitat type consists of pampas grass (*Cortaderia selloana*), English plantain (*Plantago lanceolata*), common bracken (*Pteridium aquilinum*), aromatic sumac (*Rhus aromatica*), and coyote brush (*Baccharis pilularis*) with a non-native grass understory. Tan oaks (*Notholithocarpus densiflorus*) grew along access roads throughout the Project Site.



There are up to 180 STEP tanks proposed for repair throughout the town of Gualala. Each of these locations fall within this habitat as they are found underneath maintained residential properties. Each of the tanks were not surveyed during the initial site visit; however, they are not anticipated to occur on or within proximity of sensitive resources due to the nature of previous disturbance and current use of the lands and tanks.

Mixed Woodland

This habitat type borders all of the disturbed areas of the WWTP and Lift Station 4. Secondary succession following the construction of the facility has left those areas that are not used to be colonized by local tree species and a thin shrub understory is present below the tree layer. The tree layer within this habitat type was dominated by Douglas fir (*Psuedotsuga menziesii*) and California Redwood (*Sequoia sempervirens*). The understory vegetation included Himalayan blackberry (*Rubus armeniacus*), French broom (*Genista monspessulana*), western sword fern (*Polystichum munitum*), madrone (*Arbutus menziesii*), and coyote brush.

Man-made Basin

Man-made basins exist throughout the Project Site and are lined features used for WWTP operations. Water is directed to these basins and outflow is controlled by WWTP staff. The margin of the basin was dominated by cotton-batting plant (*Pseudognaphalium stramineum*), barnyard grass (*Echinochloa spp.*), and storksbill (*Erodium spp.*).

3.3 Special-Status Species

Data review and special-status species searches list 38 special-status plant species and 27 special-status wildlife species with the potential to occur in the region of the Project Site (Attachment A). The name, regulatory status, distribution, habitat requirements, period of identification, and potential to occur for each species are listed in **Table 1**. The potential for special-status species to occur on the Project Site was determined based on the site-specific habitats and the individual needs of each special-status species that may occur within the vicinity of the Project Site. As shown in **Table 1**, the Project Site contains suitable habitat for seven special-status plant species. However, the impact area is restricted to ruderal/developed habitat types. This habitat type is not suitable for supporting these special-status plants. Special-status plants were not observed on the Project Site during the site visit. Additionally, there is no suitable habitat for special-status animal species on the Project Site.

3.4 Wildlife Movement

Wildlife movement is currently restricted across the Project Site by existing development and security fencing around the WWTP. The impact area would be limited to ruderal/developed habitat and would not impact wildlife use of movement of undeveloped habitat.

3.5 Critical Habitat

No designated or proposed critical habitat occurs on the Project Site (**Attachment A**). The nearest critical habitat is designated for California red-legged frog approximately 12.7 miles north of the Project Site (USFWS, 2021).

3.6 Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act (16 U.SC. 668-668c) prohibits anyone, without a permit issued by the Secretary of the Interior, from "taking" bald or golden eagles, including their parts, nests, or eggs.

TABLE 1 - REGIONALLY OCCURRING SPECIAL-STATUS SPECIES

SCIENTIFIC NAME COMMON NAME	FEDERAL/ STATE/CNPS STATUS	DISTRIBUTION	HABITAT REQUIREMENTS	IDENTIFICATION PERIOD	POTENTIAL TO OCCUR ON PROJECT SITE
Plants					
Abronia umbellate var. breviflora Pink sand verbena	//1B.1	Found in Del Norte, Humboldt, Marin, Mendocino, Sonoma counties.	Found in coastal dunes at elevations from 5 to 10 meters above msl.	Jun-Oct	No. Habitat for this species does not occur on the Project Site.
<i>Agrostis blasdalei</i> Blasdale's bent grass	//1B.2	Known to occur in Mendocino, Marin, Santa Cruz, San Mateo, and Sonoma Counties. Known from fewer than fifteen occurrences.	Found in coastal bluff scrub, coastal dunes, and coastal prairie at elevations from 5 to 150 meters above msl.	May - July	No. Habitat for this species does not occur on the Project Site.
Arctostaphylos nummularia ssp. Mendocinoensis Pygmy manzanita	//1B.2	Known to occur Mendocino county in coastal quads.	Closed-cone coniferous forest (acidic sandy clay), pygmy pine forest, chaparral. Elevation 90-200 meters.	March – May, January	No. Habitat for this species does not occur on the Project Site.
<i>Astragalus agnicidus</i> Humboldt County milk-vetch	/CE/1B.1	Found in Humboldt and Mendocino counties.	This species occurs in broadleafed upland forest, in openings of north coast coniferous forest, disturbed areas, and sometimes roadsides. The known elevation range is from 180 to 800 meters.	April to September	Yes. This species may occur on the mixed woodland present on the Project Site, but would not occur within an impact area. This species was not observed during the site visit.
Calystegia purpurata ssp. Saxicola Coastal bluff morning- glory	//1B.2	Known to occur in Lake, Mendocino, Contra Costa, Marin and Sonoma counties.	Occurs in coastal dunes, coastal scrub and north coast coniferous forest. Elevations range from 10-105 meters.	May-September	Yes. This species may occur on the mixed woodland present on the Project Site, but would not occur within an impact area. This species was not observed during the site visit.
<i>Campanula californica</i> Swamp harebell	//1B.2	Known to occur in Mendocino, Marin, Santa Cruz*, and Sonoma counties.	A perennial rhizomatous herb found in bogs and fens, closed-cone coniferous forest, coastal prairie, meadows and seeps, marshes and	June-October	No. Habitat for this species does not occur on the Project

SCIENTIFIC NAME COMMON NAME	FEDERAL/ STATE/CNPS STATUS	DISTRIBUTION	HABITAT REQUIREMENTS	IDENTIFICATION PERIOD	POTENTIAL TO OCCUR ON PROJECT SITE
		(* = Presumed Extirpated)	swamps (freshwater), and north coast coniferous forest. Elevation range 1-405 meters.		Site.
<i>Carex californica</i> California sedge	//2B.2	Known to occur in Mendocino and Sonoma counties especially within coastal quads.	Bogs and fens, Closed-cone coniferous forest, Coastal prairie, Marshes and swamps (margins), Meadows and seeps. Elevations range from 90- 335 meters.	May-August	No. Habitat for this species does not occur on the Project Site.
<i>Carex lyngbyei</i> Lyngbye's sedge	//2B.2	Known to occur in Del Norte, Humboldt, Mendocino, and Marin counties.	Marshes and swamps (brackish or freshwater). Elevations from 0-10 meters.	April-August	No. Habitat for this species does not occur on the Project Site.
Carex saliniformis Deceiving sedge	//1B.2	Known to occur in Humboldt, Mendocino, Santa Cruz, and Sonoma counties.	Found in coastal prairie, coastal scrub, meadows, seeps, marshes, and swamps at elevations from 3-230 meters amsl.	Jun(Jul)	No. Habitat for this species does not occur on the Project Site.
Castilleja ambiqua ssp. humboldtiensis Humboldt Bay owl's flower	//1B.2	Known to occur in Humboldt, Marin and Mendocino counties	Found in marshes and swamps (coastal salt). Elevations range from 0-3 meters	April-August	No. Habitat for this species does not occur on the Project Site.
Castilleja mendocinensis Mendocino Coast paintbrush	//1B.2	Known to occur in Humboldt and Mendocino counties in California and in Oregon.	Found in coastal bluff scrub, closed cone coniferous forest, coastal dunes, coastal prairie, and coastal scrub. Elevations range from 0-160 meters.	April-August	Yes. This species may occur on the mixed woodland present on the Project Site, but would not occur within an impact area. This species was not observed during the site visit.
<i>Cuscuta pacifica var.</i> papillata Mendocino dodder	//1B.2	Known to occur in Mendocino and Sonoma counties	Coastal dunes. Elevation range from 0-50 meters	(Jun) Jul-Oct	No. Habitat for this species does not occur on the Project Site.
Erigeron supplex Supple daisy	//1B.2	Known to occur in Mendocino and Sonoma counties; historical records include Humboldt and Marin counties (CNPS, 2016).	Perennial herb occurs in coastal bluff scrub and coastal prairie. Elevations range from 10-50 meters (CNPS, 2016).	May-July	No. Habitat for this species does not occur on the Project
SCIENTIFIC NAME COMMON NAME	FEDERAL/ STATE/CNPS STATUS	DISTRIBUTION	HABITAT REQUIREMENTS IDENTIFICATIO		POTENTIAL TO OCCUR ON PROJECT SITE
---	----------------------------------	---	---	--	--
					Site.
Erysimum concinnum Bluff wallflower	//1B.2	Known to occur in Del Norte, Humboldt, Marin, Mendocino, and Sonoma counties.	Annual/perennial herb occurs in coastal bluff scrub, coastal dunes, and coastal prairie. Elevation ranges from 0-185 meters	ual/perennial herb occurs in coastal bluff b, coastal dunes, and coastal prairie. Feb-Jul ation ranges from 0-185 meters	
<i>Fritillaria roderickii</i> Roderick's fritillary	/CE/1B.1	Known to occur in Mendocino and Sonoma counties.	A perennial bulbiferous herb found in coastal bluff scrub, coastal prairie, and valley and foothill grassland.	perennial bulbiferous herb found in coastal uff scrub, coastal prairie, and valley and foothill March-May assland.	
<i>Gilia capitata</i> Pacific gilia	//1B.2	Known to occur in Del Norte, Humboldt, Mendocino, and Sonoma counties.	An annual herb found in coastal bluff scrub, chaparral (openings), coastal prairie, and valley April-A and foothill grassland.		No. Habitat for this species does not occur on the Project Site.
Gilia capitata ssp. tomentosa woolly-headed gilia	//1B.1	Known to occur in Marin and Sonoma counties.	An annual herb that is found in serpentinite, rocky, outcrops, coastal bluff scrub, and valley and foothill grasslands. Elevation range: 10-220 meters.	May-July	No. Habitat for this species does not occur on the Project Site.
Glyceria grandis American manna grass	//2B.3	Known range within California includes Fresno, Humboldt, Mendocino, Mono and Placer Counties (CNPS, 2013).	A rhizomatous herb in the grass family (Poaceae). It occurs in meadows and seeps; bogs and fens; and along the streambanks and lake margins of marshes and swamps. It can be found at elevations ranging from 15 to 1,980 meters above mean sea level.	June-August	No. Habitat for this species does not occur on the Project Site.
<i>Hesperevax sparsiflora</i> Short-leaved evax	//1B.2	Known to occur in Oregon and Del Norte, Humboldt, Mendocino, Marin, Santa Cruz, San Francisco*, San Mateo, and Sonoma counties.	An annual herb found in coastal bluff scrub sandy), coastal dunes, and coastal prairie. March-June Elevation ranges from 0-215 meters.		No. Habitat for this species does not occur on the Project Site.
Hesperocyparis pygmaea Pygmy cypress	//1B.2	Known to occur in Mendocino and Sonoma counties.	Occurs in closed-cone coniferous forest, usually with podzol-like soils. Elevations range form 30- 600 meters.		No. Habitat for this species does not occur on the Project Site.
<i>Horkelia marinensis</i> Point Reyes horkelia	//1B.2	Known to occur in Mendocino, Monterey, Marin, Santa Cruz, San Mateo, and Sonoma counties.	A perennial herb found in sandy soils in coastal dunes, coastal prairie, and coastal scrub. May-Septembe Elevation ranges from 5-755 meters.		No. Habitat for this species does not occur on the Project Site.

SCIENTIFIC NAME COMMON NAME	FEDERAL/ STATE/CNPS STATUS	DISTRIBUTION	HABITAT REQUIREMENTS	IDENTIFICATION PERIOD	POTENTIAL TO OCCUR ON PROJECT SITE
<i>Horkelia tenuiloba</i> thin-lobed horkelia	//1B.2	Known to occur in Mendocino, Marin, and Sonoma counties.	Perennial herb found in mesic openings, sandyMendocino, Marin, andsoils. Broadleafed upland forest, chaparral, andvalley and foothill grassland. Elevations from: 50-500 meters.		No. Habitat for this species does not occur on the Project Site.
Kopsiopsis hookeri small groundcone	//2B.3	Known to occur in Del Norte, Humboldt, Mendocino, Marin, Sonoma, and Trinity counties. Also occurs in Oregon and Washington (CNPS, 2019).	Perennial rhizomatous herb (parasitic). Occurs in north Coast coniferous forest, open woodlands. Generally associated with <i>Gaultheria shallon</i> , occasionally on <i>Arbutus menziesii</i> , <i>Arctostaphylos</i> <i>uva-ursi</i> . Elevations; 90-885 meters	April-August	No. Habitat for this species does not occur on the Project Site.
Lasthenia californica ssp. bakeri Baker's goldfields	//1B.2	Coastal California in Mendocino, Marin, San Luis Obispo, and Sonoma Counties	A perennial herb found in meadows and seeps, marshes and swamps, grassland, woodland, and openings in closed cone coniferous forests, in elevation ranges from <510 meters above msl. Found in closed-coned coniferous forest openings, coastal scrub, and freshwater meadows, seeps, marshes, and swamps.	April-October	No. Habitat for this species does not occur on the Project Site.
<i>Lasthenia burkei</i> Burke's goldfields	FE/CE/1B.1	Known to occur in Lake, Mendocino, Napa, and Sonoma Counties	Annual herb occurs in meadows and seeps (mesic), and vernal pools at elevations from 15- 600 meters	April-June	No. Habitat for this species does not occur on the Project Site.
Lasthenia californica ssp macrantha Perennial goldfields	//1B.2	Known to occur in Del Norte, Humboldt, Mendocino, Marin, Santa Cruz, San Luis Obispo, San Mateo, and Sonoma counties.	A perennial herb found in coastal bluff scrub, coastal dunes, and coastal scrub. Elevation ranges from 5-520 meters.	January- November	No. Habitat for this species does not occur on the Project Site.
<i>Lasthenia conjugens</i> Contra Costa goldfields	FE//1B.1	Known to occur in Alameda, Contra Costa, Mendocino (though may be extirpated), Monterey, Marin, Napa, Santa Barbara (though may be extirpated), Santa Clara (though may be extirpated), and Sonoma counties.	Cismontane woodland, Playas (alkaline), Valley and foothill grassland, and Vernal pools/mesic. Elevations: 0-470 meters.	March-June	No. Habitat for this species does not occur on the Project Site.
Lathyrus palustris marsh pea	//2B.2	Known to occur in Del Norte, Humboldt, and Mendocino counties in California and Oregon and Washington states.	Found in mesic conditions within bogs and fens, coastal prairies, coastal scrub, lower montane coniferous forests, marshes and swamps, and North coast coniferous forests. Elevations range from 1-100 meters.	March-August	No. Habitat for this species does not occur on the Project Site.
Lilium maritimum	//1B.1	Known to occur in Mendocino, Marin, San	A perennial bulbiferous herb found sometimes in	May-August	Yes. This species may

SCIENTIFIC NAME COMMON NAME	FEDERAL/ STATE/CNPS STATUS	DISTRIBUTION	HABITAT REQUIREMENTS	IDENTIFICATION PERIOD	POTENTIAL TO OCCUR ON PROJECT SITE
Coast lily		Francisco?*, San Mateo*, and Sonoma counties.	roadsides but also broadleafed upland forest, closed-cone coniferous forest, coastal prairie, coastal scrub, marshes and swamps (freshwater), North Coast coniferous forest. Elevation ranges from 5-475 meters.		occur on the mixed woodland present on the Project Site, but would not occur within an impact area. This species was not observed during the site visit.
<i>Microseris paludosa</i> marsh microseris	//1B.2	Known to occur in Mendocino, Monterey, Marin, San Benito, Santa Cruz, San Francisco (though may be extirpated), San Luis Obispo, San Mateo (though may be extirpated), Solano, and Sonoma counties (CNPS, 2019).	Perennial herb found in moist valley and foothill grasslands, open woodlands, closed-cone coniferous forest, coastal scrub. Elevations range from; 5-355 meters.	April-July	Yes. This species may occur on the mixed woodland present on the Project Site, but would not occur within an impact area. This species was not observed during the site visit.
<i>Oenothera wolfi</i> Wolf's evening primrose	//1B.1	Found in Del Norte, Humboldt, Mendocino, and Trinity counties.	A perennial herb found in coastal bluff scrub, coastal dunes, coastal prairie, and lower montane coniferous forest at elevations ranging from 3- 800 meters amsl.	May-Oct	Yes. This species may occur on the mixed woodland present on the Project Site, but would not occur within an impact area. This species was not observed during the site visit.
Piperia candida White-flowered rein orchid	//1B.2	Known to occur in Del Norte, Humboldt, Mendocino, Santa Clara, Santa Cruz, Siskiyou, San Mateo, Sonoma, and Trinity counties.	A perennial herb found sometimes in serpentinite soil in broadleafed upland forest, lower montane coniferous forest, and North Coast coniferous forest. Elevations range from 30-1500 meters.		Yes. This species may occur on the mixed woodland present on the Project Site, but would not occur within an impact area. This species was not observed during the site visit.
Potamogeton	//2B.2	Known to occur in El Dorado, Madera,	A perennial rhizomatous herb found in marshes	June-September	No. Habitat for this

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<i>epihydrus</i> Nuttall's ribbon-leaved pondweed		Mendocino, Modoc, Mariposa, Placer, Plumas, Shasta, and Tuolumne counties.	and swamps (assorted shallow freshwater).		species does not occur on the Project Site.
Sidalcea calycosa ssp. rhizomata Point Reyes checkerbloom	//1B.2	Known to occur in Mendocino, Marin, and Sonoma counties (CNPS, 2016).	Marshes and swamps (freshwater, near coast). Elevations range from 3-75 meters (CNPS, 2010).	April-September	No. Habitat for this species does not occur on the Project Site.
Sidalcea malviflora ssp. purpurea Purple-stemmed checkerbloom	//1B.2	Known to occur in Mendocino, Marin, and Sonoma counties.	Rhizomatous perennial annual herb found meadows, coastal prairie, open coastal forest, and broadleafed upland forest. Elevation range 00-30 meters.	May-June	No. Habitat for this species does not occur on the Project Site.
Trifolium buckwestiorum Santa Cruz clover	//1B.1	Found in Mendocino, Monterey, Santa Cruz, and Sonoma counties.	An annual herb that occurs disturbed areas or along gravelly margins within broadleafed upland forest, cismontane woodland, and coastal prairie. Elevation range: 105-710 meters.	April -October	No. Habitat for this species does not occur on the Project Site.
<i>Trifolium trichocalyx</i> Monterey clover	FE/CE/1B.1	Endemic to California. Known only the Monterey peninsula. Historic observations are limited to Monterey and Mendocino Counties.	Requires a fire regime. Occurs on the remains of burned closed-cone coniferous forests. Requires sandy soil and an open canopy.	April-June	No. Habitat for this species does not occur on the Project Site.
<i>Trifolium amoenum</i> Showy Indian clover	FE//1B.1	Known to occur in Alameda (though may be extirpated), Marin, Napa (though may be extirpated), Santa Clara (though may be extirpated), San Mateo, Solano (though may be extirpated), and Sonoma (though may be extirpated/uncertain) counties.	Annual herb found in coastal bluff scrub and valley and foothill grassland habitats sometime in serpentinite at elevations ranging from 5 - 415 meters.	April-June	No. Habitat for this species does not occur on the Project Site.
Animals					
Amphibians					
Ascaphus truei Pacific tailed frog	/CSC/	Distributed from Mendocino County, north along the coast and east to Shasta County in California and in Oregon, Washington and along the north coast of British Columbia almost to Alaska.	:h / in d along it to Inhabits cold, clear, rocky streams in wet forests (sometimes areas without trees. Occurs at elevations that range from near sea level to 2,560 meters		No. Habitat for this species does not occur on the Project Site.
Dicamptodon ensatus California giant	/CSC/	Known to occur in Mendocino, Lake, Glenn, Sonoma, Marin, San Mateo, Santa Cruz and	Occurs in wet coastal forests near streams and seepages.	N/A	Yes. This species may occur on the mixed

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salamander		historically Monterey counties.			woodland present on the Project Site, but would not occur within an impact area. This species was not observed during the site visit.
Rana boylii Foothill yellow-legged frog	/CE,CSC/	Known from California and Oregon.	Require shallow, flowing water in moderate sized streams with some cobble substrate.	November- March (breeding) June-August (non-breeding)	No. Habitat for this species does not occur on the Project Site.
<i>Rana draytonii</i> California red-legged frog	FT/CSC/	Known to occur along the Coast from Mendocino County to Baja and inland through the northern Sacramento Valley to the foothills of the Sierra Nevadas, south to eastern Tulare County, and possibly eastern Kern County. Accepted range excludes the Central Valley.	Occurs in permanent and temporary pools of streams, marshes, and ponds with dense grassy and/or shrubby vegetation. Elevations range from 0-1160 m.	November – March (breeding) June - August (non-breeding)	No. Habitat for this species does not occur on the Project Site.
Rhyacotriton variegatus Southern torrent salamander	/CSC/	In California, this species occurs throughout humid coastal drainages from near Point Arena in southern Mendocino County to the Oregon border in the coniferous belt, and north into Oregon along the coast and inland into the Cascade Mountains. A single record exists from the Sacramento River drainage near Dunsmuir, Siskiyou County.	Habitat includes cold, clear well-shaded streams, waterfalls and seepages, particularly those running through talus and under rocks all year. Found primarily on north-facing slopes in the southern part of their range where forests are warmer and drier. Can be located at elevations from sea level to 1,390-1,500 meters.	October - April	No. Habitat for this species does not occur on the Project Site.
<i>Taricha rivularis</i> Red-bellied newt	/CSC/	Known to occur in the Coast Range from Mendocino County to San Diego County. Also known in the Peninsular Ranges, south of Boulder Creek, and in the southern Sierra Nevada foothills.	Occurs primarily in valley-foothill hardwood, hardwood-conifer, coastal scrub, and mixed chaparral but may occur in annual grassland and mixed conifer forests. Elevation ranges from sea level to 1,830 meters.		No. Habitat for this species does not occur on the Project Site.
Birds		-		r	
Ammodramus savannarum Grasshopper sparrow	/CSC/	Breeding range occurs in portions of western California, including most coastal counties south to extreme northwest Baja California (where	Consists of moderately open grasslands and prairies with patchy bare ground. Selects different components of vegetation depending	March- September Year Round	No. Habitat for this species does not occur on the Project

SCIENTIFIC NAME COMMON NAME	FEDERAL/ STATE/CNPS STATUS	DISTRIBUTION	HABITAT REQUIREMENTS	IDENTIFICATION PERIOD	POTENTIAL TO OCCUR ON PROJECT SITE
		resident). Also, the western Sacramento Valley and along the western edge of the Sierra Nevada. Wintering range is extreme Southern California and Baja.	on grassland ecosystem. In the southwest and west, occupies more lush areas with shrub cover in arid grasslands.		Site.
Brachyramphus marmoratus Marbled murrelet	FT/CE/	FT/CE/ FT/CE/ FT/CE/ FT/CE/ FT/CE/ FT/CE/ FT/CE/ FT/CE/ FT/CE/ FT/CE/ FT/CE/ FT/CE/ FOund from the western Aleutian Islands through coastal southern and southeastern Alaska, British Columbia, Washington, Oregon, and northern central California. FT/CE/ FT/CE/		Year round	No. Habitat for this species does not occur on the Project Site.
Charadrius alexandrines nivosus Western snowy plover	FT/CSC/	The Pacific coast breeding population of the western snowy plover (Charadrius alexandrinus nivosus) currently extends from Damon Point, Washington, to Bahia Magdalena, Baja California, Mexico. The snowy plover winters mainly in coastal areas from southern Washington to Central America.	Snowy plovers (Pacific coast population) breed primarily above the high tide line on coastal beaches, sand spits, dune-backed beaches, sparsely vegetated dunes, beaches at creek and river mouths, and salt pans at lagoons and estuaries. In winter, snowy plovers are found on many of the beaches used for nesting as well as on beaches where they do not nest, in manmade salt ponds, and on estuarine sand and mud flats.	All Year	No. Habitat for this species does not occur on the Project Site.
<i>Coccyzus americanus</i> yellow-billed cuckoo	FT/CE/	Known to occur throughout much of the eastern and central US. They winter in South America east of the Andes, and migrate through Central America. In the West, much of the Cuckoo's riparian habitat has been developed, leading to possible extirpation of cuckoos from British Columbia, Washington, Oregon, and Nevada.	Prefer isolated woodland riparian corridors surrounded by extensive arid uplands habitat including low, scrubby vegetation, overgrown orchards, abandoned farmland, and dense thickets along streams and marshes. Nests and seeks cover in dense foliage, deciduous trees and shrubs.	May-September	No. Habitat for this species does not occur on the Project Site.
Fratercula cirrhata tufted puffin	/CSC/	Breed on the coast from Capetown, California north. Small colonies are also established on the Farallon Islands near San Francisco and on Prince Island in the Channel Islands in southern California.	Breed on steep rocky islands and mainland cliffs. Colonies can be established on small islets and rocks or larger offshore islands.	May-October	No. Habitat for this species does not occur on the Project Site.
<i>Strix occidentalis caurina</i> Northern spotted owl	FT/CT; CSC/	Geographic range extends from British Colombia to northwestern California south to San Francisco. The breeding range includes the Cascade Range, North Coast Ranges, and the	Resides in mixed conifer, redwood, and Douglas- fir habitats, from sea level up to approximately 2,300 meters. Appear to prefer old-growth forests, but use of managed (previously logged)	Year-round	No. Habitat for this species does not occur on the Project Site.

SCIENTIFIC NAME COMMON NAME	FEDERAL/ STATE/CNPS STATUS	DISTRIBUTION	HABITAT REQUIREMENTS	IDENTIFICATION PERIOD	POTENTIAL TO OCCUR ON PROJECT SITE
		Sierra Nevada. Some breeding populations also occur in the Transverse Ranges and Peninsular Ranges.	lands is not uncommon. Owls do not appear to use logged habitat until approximately 60 years after logging unless some larger trees or snags remain after logging. Nesting habitat is a tree or snag cavity, or the broken top of a large tree. Requires a nearby, permanent source of water. Foraging habitat consists of any forest habitat with sufficient prey (e.g. flying squirrels, mice, and voles).		
Fish					
Eucyclogobius newberryi Tidewater goby	FE/CSC/	Brackish water habitats along the California coast from Agua Hedionda Lagoon, San Diego Co. to the mouth of the Smith River.	Found in shallow lagoons and lower stream reaches, they need fairly still but not stagnant water & high oxygen levels.	Consult Agency	No. Habitat for this species does not occur on the Project Site.
Lavinia symmetricus parvipinnis Gualala roach	/CSC/	Range is confined to the Gualala River and its tributaries, all of which occur in Mendocino and Sonoma Counties.	Data pertaining to Gualala roach habitat requirements are lacking but it is assumed they are similar to those of their most proximate relatives, which generally are small warm streams within intermittent aquatic features. Females deposit their eggs repeatedly in between rock crevices.	Consult Agency	No. Habitat for this species does not occur on the Project Site.
Oncorhynchus mykiss irideus pop. 16 Northern California coastal (Or Northern California) summer steelhead	FT//	Northern California coastal summer steelhead are patchily distributed in Redwood Creek, and the Mad, Van Duzen, Middle Fork Eel, and Mattole rivers. It is possible they also remain in the Norther Fork Eel, Upper Mainstem Eel, and South Fork Eel rivers.	Require adequate flows to reach the cool waters of over-summering habitats. Steep well-shaded, narrow tributaries and deep pools with ledges, caverns, and bubble curtains are optimal.	Consult Agency	No. Habitat for this species does not occur on the Project Site.
Oncorhynchus kisutch pop. 4 Coho salmon [Central California Coast ESU]	FE/CE/	This ESU is known to occur throughout the major rivers and tributaries from the Noyo River, south of Fort Bragg, to the San Lorenzo River, east of Santa Cruz. The distribution includes Marin, Mendocino, San Francisco, San Mateo, Santa Cruz, and Sonoma counties.	Spawning: streams with pool and riffle complexes. For successful breeding, require cold water and gravelly streambeds.	Oncorhynchus kisutch pop. 4 Coho salmon [Central California Coast ESU]	No. Habitat for this species does not occur on the Project Site.

SCIENTIFIC NAME COMMON NAME	FEDERAL/ STATE/CNPS STATUS	DISTRIBUTION	HABITAT REQUIREMENTS	IDENTIFICATION PERIOD	POTENTIAL TO OCCUR ON PROJECT SITE
<i>Danus plexippus</i> Monarch butterfly	/FC/	Known to occur in Mexico and north America. Populations that occur where winter conditions are not suitable travel along well-established migratory routes to overwintering areas. Overwintering sites are known to occur in Mexico and coastal California.	Vigratory populations begin migration in the fall and can be found along established migratory routes where nectar sources are available. During preeding (typically February to March), monarch putterflies require milkweed to lay their eggs on. Overwintering monarchs require sites with sufficient roosts for the population (such as eucalyptus trees) that provide appropriate sunlight and shelter from the wind. Where climate is suitable for yearround habitation, monarchs are found in areas with nectar sources and milkweed as breeding can occur yearround.Yearrou		No. Habitat for this species does not occur on the Project Site.
Lycaeides argyrognomon lotis Lotis blue butterfly	FE//	Believed to be extinct in the wild. There may be remnant populations along the Mendocino Coast, however, this species has not been observed in the wild since 1994.	Requires wet meadows or bogs. Eggs and caterpillars require seaside bird's-foot trefoil to serve as a host plant.	Consult Agency	No. Habitat for this species does not occur on the Project Site.
Speyeria zerene behrensii Behren's silverspot butterfly	FE//	Known to occur at San Bruno Mountain and Sign Hill near South San Francisco in San Mateo County, in the hills near Pleasanton in Alameda County, at Sears Point in Sonoma County, and in the hill between Vallejo and Cordelia in Solano County.	Native annual grassland communities and adjacent hills. Larval food plant is Johnny jump-up (<i>Viola pedunculata</i>).	May-July (mating flight) Wet Season (larvae)	No. Habitat for this species does not occur on the Project Site.
<i>Syncaris pacifica</i> California freshwater shrimp	FE/CE/	Known only throughout Marin, Napa, and Sonoma counties.	Small, low-gradient, perennial coastal streams. Prefers relatively shallow streams with depths of 12-36 inches, exposed live roots of trees such as alder and willow, undercut banks greater than 6 inches, overhanging woody debris or stream vegetation and vines. Elevations range from 0- 116 meters.	Consult Agency	No. Habitat for this species does not occur on the Project Site.
Reptiles					
<i>Chelonia mydas</i> Green sea turtle	InvolusionGlobally distributed and generally found in tropical and subtropical waters along continental coasts and islands between 30° North and 30° South. In the eastern North Pacific, occurs from Baja California to southernNests on oceanic beaches, feeds in benthic grounds in coastal areas, and frequents convergence zones in the open ocean.		Consult Agency	No. Habitat for this species does not occur on the Project Site.	

SCIENTIFIC NAME COMMON NAME	FEDERAL/ STATE/CNPS STATUS	DISTRIBUTION	HABITAT REQUIREMENTS	IDENTIFICATION PERIOD	POTENTIAL TO OCCUR ON PROJECT SITE
		Alaska.			
<i>Emys marmorata</i> western pond turtle	/CSC/	Distribution ranges from Washington to northern Baja California.	Inhabit rivers, streams, lakes, ponds, reservoirs, stock ponds, and permanent wetland habitats with basking sites.	Year-round	No. Habitat for this species does not occur on the Project Site.
Mammals					
<i>Aplodontia rufa nigra</i> Point Arena mountain beaver	FE/CSC/	Endemic to California. Distribution includes the coastal areas of Mendocino County.	ornia. Distribution includes the Mendocino County. Requires an underground burrow system with soft, well-drained soils in close proximity to riparian habitat and coastal scrub or coniferous forest. Prefers cool gullies on northern facing slopes.		No. Habitat for this species does not occur on the Project Site.
Arborimus pomo Sonoma tree vole	/CSC/	Distributed along the North Coast from Sonoma County north to the Oregon border. This species is more or less restricted to the fog belt.	Occurs in old-growth forest and other forest types, primarily Douglas-fir, redwood, and montane hardwood-conifer habitats.	All Year (nocturnal)	No. Habitat for this species does not occur on the Project Site.
Corynorhinus townsendii Townsend's big-eared bat	/CSC/	Known to occur throughout California, excluding subalpine and alpine habitats. Its range extends through Mexico to British Columbia and the Rocky Mountain states. Also occurs in several regions of the central Appalachians.	Requires caves, mines, tunnels, buildings, or other cave analog structures such as hallowed out redwoods for roosting. Hibernation sites must be cold, but above freezing.	Year-round	No. Habitat for this species does not occur on the Project Site.
Martes caurina Pacific Marten, Coastal Distinct Population Segment	FT//	The marten occurs in forested habitats throughout boreal North America, reaching its southernmost extent in the Sierra Nevada of California and the southern Rocky Mountains of New Mexico	Coastal martens are associated with closed- canopy, late-successional, mesic coniferous forests with complex physical structure near the ground. Complex ground structure provides protection from predators and protective thermal microenvironments. Structure near the ground may be provided by the lower branches of living trees, tree boles in various stages of decay, coarse woody debris, shrubs, and rockfields.	Year-round	No. Habitat for this species does not occur on the Project Site.
<i>Taxidea taxus</i> American badger	/CSC/ Found throughout most of California in suitable habitat occurs in the drier open stages of most shrub, forest, and herbaceous habitats with friable soils. Badgers are generally associated with treeless regions, prairies, parklands, and cold desert areas.		All Year	No. Habitat for this species does not occur on the Project Site.	

SOURCE: Attachment A

STATUS CODES

Federal: U.S. Fish and Wildlife Service

- FE Federally Endangered
- FT Federally Threatened
- FC Candidate for Federal Listing

State: California Department of Fish and Game

- CE California Listed Endangered
- CT California Listed Threatened
- CSC California Species of Special Concern

CNPS: California Native Plant Society

- 1A Plants Presumed Extinct in California
- 1B Plants Rare, Threatened, or Endangered in California and Elsewhere
- 28 Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere

CNPS Threat Ranks:

- 0.1 Seriously Threatened in California
- 0.2 Fairly Threatened in California

No suitable habitat for bald or golden eagles is present on or adjacent to the Project Site; therefore, the Proposed Project is not in conflict with the Bald and Golden Eagle Protection Act.

3.7 Coastal Barrier Resources System

The Proposed Project will not impact and is not located within or near the Coastal Barrier Resources System or its adjacent wetlands, marshes, estuaries, inlets, and near-shore waters.

3.8 Federal Endangered Species Act

The U.S. Fish and Wildlife Service (USFWS) implements the Federal Endangered Species Act (ESA) of 1973 (16 USC Section 1531 et seq.). Threatened and endangered species on the federal list (50 CFR Subsection 17.11, 17.12) are protected from "take" (direct or indirect harm), unless a Section 10 Permit is granted to an individual or a Section 7 consultation and a Biological Opinion with incidental take provisions are rendered to a lead federal agency. The Proposed Project does not contain suitable habitat for federally listed species and will therefore not impact any species listed under the ESA.

3.9 Fish and Wildlife Coordination Act

The Fish and Wildlife Coordination Act (FWCA; 16 USC 661-667e) authorizes the Secretaries of Agriculture and Commerce to provide assistance to and cooperate with Federal and State agencies to protect, rear, stock, and increase the supply of game and fur-bearing animals, as well as to study the effects of domestic sewage, trade wastes, and other polluting substances on wildlife. The Proposed Project will not impact any bodies of water and will not require compliance under the FWCA.

3.10 Magnunson-Stevens Fishery Conservation and Management Act

The Magnuson-Stevens Fishery Conservation and Management Act (MSMA) mandates the conservation and management of fishery resources off the coasts of the U.S., anadromous species, and Continental Shelf fishery resources of the U.S., including the conservation and management of highly migratory species through the implementation and enforcement of international fishery agreements. The revised MSMA mandates the identification and protection of essential fish habitat (EFH) for managed species during the review of projects conducted under federal permits that have the potential to affect such habitat. The Proposed Project will not impact EFH either directly or indirectly and is therefore not in conflict with the MSMA.

3.11 Safe Drinking Water Act/Sole Source Aquifer Protection

The Safe Drinking Water Act (SDWA; 42 U.S.C. §300f et seq.) was established to protect the quality of drinking water in the U.S. The EPA defines a sole source aquifer (SSA) as one where the aquifer supplies at least 50 percent of the drinking water for its service area and there are no reasonably available alternative drinking water sources should the aquifer become contaminated. The Proposed Project is not located within the boundaries of an SSA.

3.12 Wild and Scenic Rivers

There are no wild or scenic rivers as defined by the National Park Service within the service area of the GCSD WWTP (NPS, 2022). The nearest wild and scenic river is the Eel River 48.8 miles northeast in the town of Willits.

4.0 **RESULTS AND RECOMENDATIONS**

4.1 Sensitive Habitat

As discussed above, the Project Site contains ruderal/developed habitat, mixed woodland, and manmade basins. Direct construction impacts to habitat would be limited to ruderal/disturbed habitat. Mixed woodland would not be converted for the Proposed Project. The man-made basins are components of the existing WWTP infrastructure and are therefore not considered sensitive. Indirect impacts would be limited through adherence to the Storm Water Pollution Prevention Plan (SWPPP), which will be prepared in accordance with applicable state guidelines. Ruderal/developed habitat. Operations would be limited to the ruderal/developed habitat and would not require ongoing impacts to habitat. Operational activities would include ongoing operation of the WWTP and lift stations and would not generate new indirect impacts to habitat. Impacts to sensitive habitat as a result of the Project would be less-than-significant.

4.2 Nesting Migratory Birds

Migratory birds and their nests are protected from "take" by the Migratory Bird Treaty Act (MBTA; 16 U.SC. 703-711), which makes it unlawful to "...pursue, hunt, take, capture, kill, attempt to take, capture or kill, possess or any part, nest, or egg of any such bird..." (50 CFR 10). Potentially occurring nesting migratory birds within 500 feet of the Project Site could be affected if vegetation removal or loud noise-producing activities associated with construction occur during the general nesting season (February 15 through September 15). **BMP 1** is recommended to reduce potential impacts to nesting migratory birds during the construction designated for the WWTP facility, or any additional access work and ground disturbance needed for the STEP system interceptor tank and lift station improvements.

BMP 1

- If construction activities (e.g., building, grading, ground disturbance, removal of vegetation) are scheduled to occur during the general nesting season (February 15 September 15), a preconstruction nesting bird survey shall be conducted by a qualified biologist throughout accessible areas of suitable habitat within 500 feet of proposed construction activity. The survey shall occur no more than 5 days prior to the scheduled onset of construction. If construction is delayed or halted for more than 5 days, another preconstruction survey for nesting bird species shall be conducted. If no nesting birds are detected during the preconstruction survey, no additional surveys or mitigation measures are required.
- If nesting bird species are observed within 500 feet of construction areas during the survey, appropriate "no construction" buffers shall be established. The size and scale of nesting bird buffers shall be determined by a qualified biologist and shall be dependent upon the species observed and the location of the nest. Buffers shall be established around active nest locations. The nesting bird buffers shall be completely avoided during construction activities. The buffers may be removed when the qualified wildlife biologist confirms that the nest(s) is no longer occupied and all birds have fledged.

With implementation of **BMP 1**, the Proposed Project would be in compliance with the MBTA.

4.3 Special-status Species

Though special-status species may occur on the Project Site, suitable habitat for special-status species does not occur within the impact area. Therefore, construction of the Proposed Project would not result

in impacts to special-status species. While the current force main path could not be accessed during the site visit, the area is thickly grown with non-native and invasive plants with poor habitat for the special-status plants and animals listed above and it is unlikely that they would occur in this location. Construction would be temporary in nature, and operation would result in ongoing use of the existing WWTP. This would be a less-than-significant impact.

4.4 Wildlife Movement

Areas along the Gualala River and the intermittent channel adjacent to the Project Site composed of riparian vegetation may foster wildlife movement, however, the Proposed Project would not overlap with the riparian habitat and thus would not significantly impede potential wildlife movement. There would be a less-than-significant impact.

5.0 CONCLUSION

The Project Site contains a mixture of ruderal/developed habitat, mixed woodland, and manmade basins. Critical Habitat does not occur on the Project Site and the Proposed Project would not impact wildlife movement corridors. The Proposed Project would be limited to ruderal/developed habitat and would not impact sensitive habitat or special-status species. **BMP 1** is recommended in order to avoid potential impacts to nesting birds that may occur outside of the impact area, but that may be impacted by construction noise. With implementation of **BMP 1**, impacts to sensitive biological resources would be less-than-significant.

6.0 **REFERENCES**

FEMA, 2021. FEMA Flood Map Service Center: Search By Address. Available online at: <u>https://msc.fema.gov/portal/search?AddressQuery=gualala%20ca#searchresultsanchor</u>. Accessed October 2021.

National Park Service (NPS), 2022. National Wild and Scenic River System in the U.S. Available online at: https://nps.maps.arcgis.com/apps/MapJournal/index.html?appid=ba6debd907c7431ea765071e 9502d5ac#

USFWS, 2021. Critical Habitat Mapper. Available online at: <u>https://fws.maps.arcgis.com/home/webmap/viewer.html?webmap=9d8de5e265ad4fe09893cf7</u> <u>5b8dbfb77</u>. Accessed October 2021.



SPECIAL-STATUS SPECIES SEARCHES





Query Criteria: Quad IS (Gualala (3812375) OR Saunders Reef (3812376) OR Color:Red'> OR Zeni Ridge (3812384) OR Eureka Hill (3812385) OR McGuire Ridge (3812374) OR Style='color:Red'> OR Style='

Element Code	Species	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
AAAAF02020	Taricha rivularis	None	None	G2	S2	SSC
	red-bellied newt					
AAAAH01020	<i>Dicamptodon ensatus</i> California giant salamander	None	None	G3	S2S3	SSC
AAAAJ01020	Rhyacotriton variegatus southern torrent salamander	None	None	G3G4	S2S3	SSC
AAABA01010	Ascaphus truei Pacific tailed frog	None	None	G4	S3S4	SSC
AAABH01022	Rana draytonii California red-legged frog	Threatened	None	G2G3	S2S3	SSC
AAABH01050	Rana boylii foothill yellow-legged frog	None	Endangered	G3	S3	SSC
ABNNN11010	Cerorhinca monocerata rhinoceros auklet	None	None	G5	S3	WL
ABNNN12010	<i>Fratercula cirrhata</i> tufted puffin	None	None	G5	S1S2	SSC
ABPBXA0020	Ammodramus savannarum grasshopper sparrow	None	None	G5	S3	SSC
AFCHA02010	Oncorhynchus gorbuscha pink salmon	None	None	G5	S1	
AFCHA02034	Oncorhynchus kisutch pop. 4 coho salmon - central California coast ESU	Endangered	Endangered	G5T2T3Q	S2	
AFCHA0209Q	Oncorhynchus mykiss irideus pop. 16 steelhead - northern California DPS	Threatened	None	G5T2T3Q	S2S3	
AFCJB19025	<i>Hesperoleucus parvipinnis</i> Gualala roach	None	None	G4T1T2	S3	SSC
AFCQN04010	<i>Eucyclogobius newberryi</i> tidewater goby	Endangered	None	G3	S3	
AMACC08010	Corynorhinus townsendii Townsend's big-eared bat	None	None	G4	S2	SSC
AMAFA01011	Aplodontia rufa nigra Point Arena mountain beaver	Endangered	None	G5T1	S1	SSC
AMAFF23030	Arborimus pomo Sonoma tree vole	None	None	G3	S3	SSC
AMAFJ01010	<i>Erethizon dorsatum</i> North American porcupine	None	None	G5	S3	
AMAJC03010	<i>Eumetopias jubatus</i> Steller sea lion	Delisted	None	G3	S2	



Selected Elements by Element Code California Department of Fish and Wildlife California Natural Diversity Database



Element Code	Species	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
AMAJF04010	Taxidea taxus	None	None	G5	S3	SSC
	American badger					
ARAAD02030	Emys marmorata	None	None	G3G4	S3	SSC
	western pond turtle					
CTT31100CA	Northern Coastal Bluff Scrub	None	None	G2	S2.2	
	Northern Coastal Bluff Scrub					
CTT41100CA	Coastal Terrace Prairie	None	None	G2	S2.1	
	Coastal Terrace Prairie					
CTT52110CA	Northern Coastal Salt Marsh	None	None	G3	S3.2	
	Northern Coastal Salt Marsh					
CTT52200CA	Coastal Brackish Marsh	None	None	G2	S2.1	
	Coastal Brackish Marsh					
CTT52410CA	Coastal and Valley Freshwater Marsh Coastal and Valley Freshwater Marsh	None	None	G3	S2.1	
IIHYM24250	Bombus occidentalis	None	None	G2G3	S1	
	western bumble bee					
IIHYM24380	Bombus caliginosus	None	None	G4?	S1S2	
	obscure bumble bee					
IILEPG5013	Plebejus anna lotis	Endangered	None	G5TH	SH	
	lotis blue butterfly					
IILEPJ6088	Speyeria zerene behrensii	Endangered	None	G5T1	S1	
	Behren's silverspot butterfly					
IILEPP2012	Danaus plexippus pop. 1	Candidate	None	G4T2T3	S2S3	
	monarch - California overwintering population					
NLLEC5P420	Usnea longissima	None	None	G4	S4	4.2
	Methuselah's beard lichen				_	_
NLT0032640	Hypogymnia schizidiata	None	None	G2G3	S2	1B.3
				0004	0.0	(5.0
NL10042560	Suicaria spiralifera	None	None	G3G4	S2	1B.2
		None	Nono	<u></u>	60	10.0
PDAST3M3Z0	supple daisy	none	None	62	52	10.2
PDAST5I 040	Lasthenia conjugens	Endangered	None	G1	S1	1B 1
1 DAG132040	Contra Costa goldfields	Endangered	None	01	01	10.1
PDAST5L0C4	l asthenia californica ssp. bakeri	None	None	G3T1	S1	1B 2
1 2/10102001	Baker's goldfields	Nono	Nono	0011		10.2
PDAST5L0C5	Lasthenia californica ssp. macrantha	None	None	G3T2	S2	1B.2
	perennial goldfields					
PDAST6E0D0	Microseris paludosa	None	None	G2	S2	1B.2
	, marsh microseris					
PDASTE5011	Hesperevax sparsiflora var. brevifolia	None	None	G4T3	S3	1B.2
	short-leaved evax					



Selected Elements by Element Code California Department of Fish and Wildlife California Natural Diversity Database



Element Code	Species	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
PDBRA160E3	Erysimum concinnum	None	None	G3	S2	1B.2
	bluff wallflower					
PDCAM02060	Campanula californica	None	None	G3	S3	1B.2
	swamp harebell					
PDCON040D2	Calystegia purpurata ssp. saxicola	None	None	G4T2T3	S2S3	1B.2
	coastal bluff morning-glory					
PDCUS011A2	Cuscuta pacifica var. papillata	None	None	G5T1	S1	1B.2
	Mendocino dodder					
PDFAB0F080	Astragalus agnicidus	None	Endangered	G2	S2	1B.1
	Humboldt County milk-vetch					
PDFAB250P0	<i>Lathyrus palustris</i> marsh pea	None	None	G5	S2	2B.2
PDFAB402J0	Trifolium trichocalyx Monterey clover	Endangered	Endangered	G1	S1	1B.1
PDFAB402W0	Trifolium buckwestiorum Santa Cruz clover	None	None	G2	S2	1B.1
PDMAL11012	Sidalcea calycosa ssp. rhizomata Point Reyes checkerbloom	None	None	G5T2	S2	1B.2
PDMAL110E0	Sidalcea malachroides maple-leaved checkerbloom	None	None	G3	S3	4.2
PDMAL110FL	Sidalcea malviflora ssp. purpurea	None	None	G5T1	S1	1B.2
PDNYC010N4	Abronia umbellata var. breviflora	None	None	G4G5T2	S2	1B.1
PDONA0C1K0	Oenothera wolfii	None	None	G2	S1	1B.1
	Wolf's evening-primrose					
PDORO01010	Kopsiopsis hookeri	None	None	G4?	S1S2	2B.3
	small groundcone					
PDPLM040B6	Gilia capitata ssp. pacifica Pacific gilia	None	None	G5T3	S2	1B.2
PDPLM040B9	Gilia capitata ssp. tomentosa woolly-headed gilia	None	None	G5T2	S2	1B.1
PDRAN0A020	Coptis laciniata Oregon goldthread	None	None	G4?	S3?	4.2
PDROS0W0B0	Horkelia marinensis Point Reves horkelia	None	None	G2	S2	1B.2
PDROS0W0E0	Horkelia tenuiloba	None	None	G2	S2	1B.2
	thin-lobed horkelia	-				
PDSCR0D3N0	Castilleja mendocinensis	None	None	G2	S2	1B.2
	Mendocino Coast paintbrush					
PDSCR0D402	Castilleja ambigua var. humboldtiensis Humboldt Bay owl's-clover	None	None	G4T2	S2	1B.2



Selected Elements by Element Code California Department of Fish and Wildlife

California Natural Diversity Database



DI.

Element Code	Species	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
PGCUP04032	Hesperocyparis pygmaea	None	None	G1	S1	1B.2
	pygmy cypress					
PMCYP032D0	Carex californica	None	None	G5	S2	2B.2
	California sedge					
PMCYP037Y0	Carex lyngbyei	None	None	G5	S3	2B.2
	Lyngbye's sedge					
PMCYP03BY0	Carex saliniformis	None	None	G2	S2	1B.2
	deceiving sedge					
PMLIL0V0M0	Fritillaria roderickii	None	Endangered	G1Q	S1	1B.1
	Roderick's fritillary					
PMLIL1A0C0	Lilium maritimum	None	None	G2	S2	1B.1
	coast lily					
PMORC1X050	Piperia candida	None	None	G3	S3	1B.2
	white-flowered rein orchid					
PMPOA04060	Agrostis blasdalei	None	None	G2	S2	1B.2
	Blasdale's bent grass					
PMPOA2Y080	Glyceria grandis	None	None	G5	S3	2B.3
	American manna grass					
PMPOT03080	Potamogeton epihydrus	None	None	G5	S2S3	2B.2
	Nuttall's ribbon-leaved pondweed					
PPLYC01080	Lycopodium clavatum	None	None	G5	S3	4.1
	running-pine					

Record Count: 72

Inventory of Rare and Endangered Plants of California



Search Results

38 matches found. Click on scientific name for details

Search Criteria: <u>CRPR</u> is one of [1A:1B:2A:2B] , <u>Quad</u> is one of [3812375:3812376:3812386:3812385:3812384:3812374:3812364]

▲ SCIENTIFIC NAME	COMMON NAME	FAMILY	LIFEFORM	BLOOMING PERIOD	FED LIST	STATE LIST	GLOBAL RANK	STATE RANK	CA RARE PLANT RANK	рното
<u>Abronia umbellata</u> <u>var. breviflora</u>	pink sand- verbena	Nyctaginaceae	perennial herb	Jun-Oct	None	None	G4G5T2	S2	1B.1	©2021 Scot Loring
<u>Agrostis blasdalei</u>	Blasdale's bent grass	Poaceae	perennial rhizomatous herb	May-Jul	None	None	G2	S2	1B.2	No Photo Available
<u>Arctostaphylos</u> <u>nummularia ssp.</u> <u>mendocinoensis</u>	pygmy manzanita	Ericaceae	perennial evergreen shrub	Jan	None	None	G3?T1	S1	1B.2	No Photo Available
<u>Astragalus</u> agnicidus	Humboldt County milk- vetch	Fabaceae	perennial herb	Apr-Sep	None	CE	G2	S2	1B.1	No Photo Available
<u>Calystegia</u> purpurata ssp. <u>saxicola</u>	coastal bluff morning-glory	Convolvulaceae	perennial herb	(Mar)Apr- Sep	None	None	G4T2T3	S2S3	1B.2	No Photo Available
<u>Campanula</u> <u>californica</u>	swamp harebell	Campanulaceae	perennial rhizomatous herb	Jun-Oct	None	None	G3	S3	1B.2	No Photo Available
<u>Carex californica</u>	California sedge	Cyperaceae	perennial rhizomatous herb	May-Aug	None	None	G5	S2	2B.2	No Photo Available
<u>Carex lyngbyei</u>	Lyngbye's sedge	Cyperaceae	perennial rhizomatous herb	Apr-Aug	None	None	G5	S3	2B.2	No Photo Available
<u>Carex saliniformis</u>	deceiving sedge	Cyperaceae	perennial rhizomatous herb	Jun(Jul)	None	None	G2	S2	1B.2	No Photo Available
<u>Castilleja ambigua</u> <u>var.</u> humboldtiensis	Humboldt Bay owl's-clover	Orobanchaceae	annual herb (hemiparasitic)	Apr-Aug	None	None	G4T2	S2	1B.2	No Photo Available
<u>Castilleja</u> <u>mendocinensis</u>	Mendocino Coast paintbrush	Orobanchaceae	perennial herb (hemiparasitic)	Apr-Aug	None	None	G2	S2	1B.2	No Photo Available
<u>Cuscuta pacifica</u> var. papillata	Mendocino dodder	Convolvulaceae	annual vine (parasitic)	(Jun)Jul- Oct	None	None	G5T1	S1	1B.2	No Photo Available

11:07 AM <u>Eriger</u>	xəlddns uo.	supple daisy	Asteraceae	Inventory of Rare and Endangere perennial herb	ed Plants of Califo May-Jul	ornia - Search None	None	G2	S2	18.2	No Photo
<u>Erysin</u> concir	<u>unu</u>	bluff wallflower	Brassicaceae	annual/perennial herb	Feb-Jul	None	None	C3	S2	1B.2	Available No Photo
Fritille	aria roderickii	Roderick's fritillary	Liliaceae	perennial bulbiferous herb	Mar-May	None	CE	G1Q	S1	1B.1	Available No Photo
<u>Gilia a</u> pacif <u>i</u>	<u>capitata ssp.</u> <u>ca</u>	Pacific gilia	Polemoniaceae	annual herb	Apr-Aug	None	None	G5T3	S2	1B.2	© 2016 Steve Matson
<u>Gilia (</u> tome	<u>capitata ssp.</u> ntosa	woolly-headed gilia	Polemoniaceae	annual herb	May-Jul	None	None	G5T2	S2	18. 1.1	© 2008 Vernon Smith
<u>Glyce</u>	<u>ria grandis</u>	American manna grass	Poaceae	perennial rhizomatous herb	Jun-Aug	None	None	G5	S3	2B.3	No Photo Available
<u>Hespé</u> <u>spars</u> i brevif	erevax iflora var. olia	short-leaved evax	Asteraceae	annual herb	Mar-Jun	None	None	G4T3	ß	1B.2	© 2006 Doreen L. Smith
<u>Hespe</u> pygm	erocyparis aea	pygmy cypress	Cupressaceae	perennial evergreen tree		None	None	G1	S1	18.2	© 2009 Neal Kramer
<u>Horke</u> mari <u>r</u>	elia <u>nensis</u>	Point Reyes horkelia	Rosaceae	perennial herb	May-Sep	None	None	62	22	1B.2	© 2017 John Doyen
Horke	elia tenuiloba	thin-lobed horkelia	Rosaceae	perennial herb	May- Jul(Aug)	None	None	G2	S2	18.2	© 1994 Doreen L. Smith
<u>Hypo</u> schiziu	<u>gymnia</u> diata	island tube lichen	Parmeliaceae	foliose lichen		None	None	G2G3	S2	1B.3	No Photo Available
<u>Kopsi</u>	opsis hookeri	small groundcone	Orobanchaceae	perennial rhizomatous herb (parasitic)	Apr-Aug	None	None	G4?	S1S2	2B.3	No Photo Available
<u>Lasthi</u> <u>califo</u> <u>baker</u> replants.	<u>enia</u> <u>rnica ssp.</u> į	Baker's goldfields sult?fm=T&cror=1A:1B:2	Asteraceae A:2B&sI=1&quad=381237	perennial herb 5:3812376:3812386:3812385:381	Apr-Oct 2384:3812374:38	None 12364:	None	G3T1	S1	1B.2	©2015

2/4

<u>Lasthenia</u> <u>californica ssp.</u> <u>macrantha</u>	perennial goldfields	Asteraceae	perennial herb	Jan-Nov	None	None	G3T2	S2	1B.2	© 2013 John Doyen
<u>Lasthenia</u> conjugens	Contra Costa goldfields	Asteraceae	annual herb	Mar-Jun	FE	None	G1	S1	1B.1	© 2013 Neal Kramer
<u>Lathyrus palustris</u>	marsh pea	Fabaceae	perennial herb	Mar-Aug	None	None	G5	S2	2B.2	© 2016 Keir Morse
<u>Lilium maritimum</u>	coast lily	Liliaceae	perennial bulbiferous herb	May-Aug	None	None	G2	S2	1B.1	No Photo Available
<u>Microseris</u> paludosa	marsh microseris	Asteraceae	perennial herb	Apr- Jun(Jul)	None	None	G2	S2	1B.2	No Photo Available
<u>Oenothera wolfii</u>	Wolf's evening- primrose	Onagraceae	perennial herb	May-Oct	None	None	G2	S1	1B.1	No Photo Available
<u>Piperia candida</u>	white-flowered rein orchid	Orchidaceae	perennial herb	(Mar)May- Sep	None	None	G3	S3	18.2	©2016 Barry Rice
<u>Potamogeton</u> <u>epihydrus</u>	Nuttall's ribbon-leaved pondweed	Potamogetonaceae	perennial rhizomatous herb (aquatic)	(Jun)Jul- Sep	None	None	G5	S2S3	2B.2	Louis-M. Landry, 2010
<u>Sidalcea calycosa</u> <u>ssp. rhizomata</u>	Point Reyes checkerbloom	Malvaceae	perennial rhizomatous herb	Apr-Sep	None	None	G5T2	S2	1B.2	No Photo Available

<u>Sidalcea malviflora</u>	purple-	Malvaceae	perennial	May-Jun	None	None	G5T1	S1	1B.2	
<u>ssp. purpurea</u>	stemmed		rhizomatous herb							No
	checkerbloom									Ava
<u>Sulcaria spiralifera</u>	twisted horsehair lichen	Parmeliaceae	fruticose lichen (epiphytic)		None	None	G3G4	S2	1B.2	
										©
										S
										Lo
<u>Trifolium</u>	Santa Cruz	Fabaceae	annual herb	Apr-Oct	None	None	G2	S2	1B.1	
<u>buckwestiorum</u>	clover									No
										Ava
T.:: [N /	Falaaaaa		A	FF	CE	C1	C1	1 0 1	

1/6/22, 1	1:07 AM		Inv	entory of Rare and Endanger	ed Plants of Califo	rnia - Sear	ch Result				
	<u>ırıfoılum</u>	ivionterey	гарасеае	annuai nerb	Apr-Jun	FE	CE	GI	21	I B. I	
	<u>trichocalyx</u>	clover									No Photo
											Available

Showing 1 to 38 of 38 entries

Suggested Citation:

California Native Plant Society, Rare Plant Program. 2022. Inventory of Rare and Endangered Plants of California (online edition, v9-01 1.0). Website https://www.rareplants.cnps.org [accessed 6 January 2022].

CONTACT US	ABOUT THIS WEBSITE	ABOUT CNPS	CONTRIBUTORS
Send questions and comments	About the Inventory	About the Rare Plant Program	The Calflora Database
to <u>rareplants@cnps.org</u> .	Release Notes	<u>CNPS Home Page</u>	<u>The California Lichen Society</u>
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The Consortium of California

<u>Herbaria</u>

<u>CalPhotos</u>



United States Department of the Interior

FISH AND WILDLIFE SERVICE Arcata Fish And Wildlife Office 1655 Heindon Road Arcata, CA 95521-4573 Phone: (707) 822-7201 Fax: (707) 822-8411



In Reply Refer To: Consultation Code: 08EACT00-2022-SLI-0050 Event Code: 08EACT00-2022-E-00134 Project Name: GCSD Lift Station 1 November 12, 2021

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

To Whom It May Concern:

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

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

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

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

(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

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

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq*.), and projects affecting these species may require development of an eagle conservation plan

(http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

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

Attachment(s):

Official Species List

Official Species List

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

This species list is provided by:

Arcata Fish And Wildlife Office 1655 Heindon Road Arcata, CA 95521-4573 (707) 822-7201

Project Summary

08EACT00-2022-SLI-0050
Some(08EACT00-2022-E-00134)
GCSD Lift Station 1
Guidance
Gualala WWTP Lift Station

Approximate location of the project can be viewed in Google Maps: <u>https://www.google.com/maps/@38.7806991,-123.54709867076843,14z</u>



Counties: Mendocino County, California

Endangered Species Act Species

There is a total of 17 threatened, endangered, or candidate species on this species list.

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

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

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

1. <u>NOAA Fisheries</u>, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Pacific Marten, Coastal Distinct Population Segment <i>Martes caurina</i> There is proposed critical habitat for this species. The location of the critical habitat is not	Threatened
available. Species profile: <u>https://ecos.fws.gov/ecp/species/9081</u>	
Point Arena Mountain Beaver Aplodontia rufa nigra	Endangered
No critical habitat has been designated for this species.	
Species profile: https://ecos.fws.gov/ecp/species/7727	

Birds

NAME	STATUS
Marbled Murrelet Brachyramphus marmoratus Population: U.S.A. (CA, OR, WA) There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: <u>https://ecos.fws.gov/ecp/species/4467</u>	Threatened
Northern Spotted Owl <i>Strix occidentalis caurina</i> There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: <u>https://ecos.fws.gov/ecp/species/1123</u>	Threatened
 Western Snowy Plover <i>Charadrius nivosus nivosus</i> Population: Pacific Coast population DPS-U.S.A. (CA, OR, WA), Mexico (within 50 miles of Pacific coast) There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: <u>https://ecos.fws.gov/ecp/species/8035</u> 	Threatened
Yellow-billed Cuckoo <i>Coccyzus americanus</i> Population: Western U.S. DPS There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: <u>https://ecos.fws.gov/ecp/species/3911</u>	Threatened
Reptiles	

NAME	STATUS
Green Sea Turtle <i>Chelonia mydas</i> Population: East Pacific DPS No critical habitat has been designated for this species. Species profile: <u>https://ecos.fws.gov/ecp/species/6199</u>	Threatened
Leatherback Sea Turtle <i>Dermochelys coriacea</i> There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: <u>https://ecos.fws.gov/ecp/species/1493</u>	Endangered
Amphibians	STATUS
California Red-legged Frog <i>Rana draytonii</i> There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: <u>https://ecos.fws.gov/ecp/species/2891</u>	Threatened
Fishes NAME	STATUS

Tidewater Goby Eucyclogobius newberryi	Endangered
There is final critical habitat for this species. The location of the critical habitat is not available.	-
Species profile: <u>https://ecos.fws.gov/ecp/species/57</u>	

Insects

NAME	STATUS
Behren's Silverspot Butterfly Speyeria zerene behrensii No critical habitat has been designated for this species. Species profile: <u>https://ecos.fws.gov/ecp/species/900</u>	Endangered
Lotis Blue Butterfly <i>Lycaeides argyrognomon lotis</i> There is proposed critical habitat for this species. The location of the critical habitat is not available. Species profile: <u>https://ecos.fws.gov/ecp/species/5174</u>	Endangered
Monarch Butterfly <i>Danaus plexippus</i> No critical habitat has been designated for this species. Species profile: <u>https://ecos.fws.gov/ecp/species/9743</u>	Candidate
Crustaceans NAME	STATUS
California Freshwater Shrimp <i>Syncaris pacifica</i> No critical habitat has been designated for this species. Species profile: <u>https://ecos.fws.gov/ecp/species/7903</u>	Endangered
Flowering Plants	STATUS
Burke's Goldfields <i>Lasthenia burkei</i> No critical habitat has been designated for this species. Species profile: <u>https://ecos.fws.gov/ecp/species/4338</u>	Endangered
Contra Costa Goldfields <i>Lasthenia conjugens</i> There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: <u>https://ecos.fws.gov/ecp/species/7058</u>	Endangered
Showy Indian Clover <i>Trifolium amoenum</i> No critical habitat has been designated for this species. Species profile: <u>https://ecos.fws.gov/ecp/species/6459</u>	Endangered

Critical habitats

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



United States Department of the Interior

FISH AND WILDLIFE SERVICE Arcata Fish And Wildlife Office 1655 Heindon Road Arcata, CA 95521-4573 Phone: (707) 822-7201 Fax: (707) 822-8411



In Reply Refer To: Consultation Code: 08EACT00-2022-SLI-0048 Event Code: 08EACT00-2022-E-00131 Project Name: GCSD Lift Station 2 November 12, 2021

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

To Whom It May Concern:

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

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

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

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

(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

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

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Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq*.), and projects affecting these species may require development of an eagle conservation plan

(http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

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

Attachment(s):

Official Species List

Official Species List

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

This species list is provided by:

Arcata Fish And Wildlife Office 1655 Heindon Road Arcata, CA 95521-4573 (707) 822-7201

Project Summary

Consultation Code:08EACT00-2022-SLI-0048Event Code:Some(08EACT00-2022-E-00131)Project Name:GCSD Lift Station 2Project Type:GuidanceProject Description:GCSD Lift Station 2Project Location:Fore the station 2

Approximate location of the project can be viewed in Google Maps: <u>https://www.google.com/maps/@38.776819700000004,-123.54097238477095,14z</u>



Counties: Mendocino County, California

Endangered Species Act Species

There is a total of 17 threatened, endangered, or candidate species on this species list.

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

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

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

1. <u>NOAA Fisheries</u>, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Pacific Marten, Coastal Distinct Population Segment <i>Martes caurina</i> There is proposed critical habitat for this species. The location of the critical habitat is not	Threatened
available. Species profile: <u>https://ecos.fws.gov/ecp/species/9081</u>	
Point Arena Mountain Beaver Aplodontia rufa nigra	Endangered
No critical habitat has been designated for this species.	
Species profile: https://ecos.fws.gov/ecp/species/7727	

Birds

NAME	STATUS
Marbled Murrelet Brachyramphus marmoratus Population: U.S.A. (CA, OR, WA) There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: <u>https://ecos.fws.gov/ecp/species/4467</u>	Threatened
Northern Spotted Owl <i>Strix occidentalis caurina</i> There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: <u>https://ecos.fws.gov/ecp/species/1123</u>	Threatened
 Western Snowy Plover Charadrius nivosus nivosus Population: Pacific Coast population DPS-U.S.A. (CA, OR, WA), Mexico (within 50 miles of Pacific coast) There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: <u>https://ecos.fws.gov/ecp/species/8035</u> 	Threatened
Yellow-billed Cuckoo <i>Coccyzus americanus</i> Population: Western U.S. DPS There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: <u>https://ecos.fws.gov/ecp/species/3911</u>	Threatened
Reptiles	

NAME	STATUS
Green Sea Turtle <i>Chelonia mydas</i> Population: East Pacific DPS No critical habitat has been designated for this species. Species profile: <u>https://ecos.fws.gov/ecp/species/6199</u>	Threatened
Leatherback Sea Turtle <i>Dermochelys coriacea</i> There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: <u>https://ecos.fws.gov/ecp/species/1493</u>	Endangered
NAME	STATUS
California Red-legged Frog <i>Rana draytonii</i> There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: <u>https://ecos.fws.gov/ecp/species/2891</u>	Threatened
Fishes NAME	STATUS

 Tidewater Goby Eucyclogobius newberryi
 Endangered

 There is final critical habitat for this species. The location of the critical habitat is not available.
 Species profile: https://ecos.fws.gov/ecp/species/57

Insects

NAME	STATUS
Behren's Silverspot Butterfly Speyeria zerene behrensii No critical habitat has been designated for this species. Species profile: <u>https://ecos.fws.gov/ecp/species/900</u>	Endangered
Lotis Blue Butterfly <i>Lycaeides argyrognomon lotis</i> There is proposed critical habitat for this species. The location of the critical habitat is not available. Species profile: <u>https://ecos.fws.gov/ecp/species/5174</u>	Endangered
Monarch Butterfly <i>Danaus plexippus</i> No critical habitat has been designated for this species. Species profile: <u>https://ecos.fws.gov/ecp/species/9743</u>	Candidate
Crustaceans NAME	STATUS
California Freshwater Shrimp <i>Syncaris pacifica</i> No critical habitat has been designated for this species. Species profile: <u>https://ecos.fws.gov/ecp/species/7903</u>	Endangered
Flowering Plants	STATUS
Burke's Goldfields <i>Lasthenia burkei</i> No critical habitat has been designated for this species. Species profile: <u>https://ecos.fws.gov/ecp/species/4338</u>	Endangered
Contra Costa Goldfields <i>Lasthenia conjugens</i> There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: <u>https://ecos.fws.gov/ecp/species/7058</u>	Endangered
Showy Indian Clover <i>Trifolium amoenum</i> No critical habitat has been designated for this species. Species profile: <u>https://ecos.fws.gov/ecp/species/6459</u>	Endangered

Critical habitats

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


United States Department of the Interior

FISH AND WILDLIFE SERVICE Arcata Fish And Wildlife Office 1655 Heindon Road Arcata, CA 95521-4573 Phone: (707) 822-7201 Fax: (707) 822-8411



In Reply Refer To: Consultation Code: 08EACT00-2022-SLI-0047 Event Code: 08EACT00-2022-E-00129 Project Name: Lift Station 3 November 12, 2021

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

To Whom It May Concern:

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

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

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

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

(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

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

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq*.), and projects affecting these species may require development of an eagle conservation plan

(http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

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

Attachment(s):

Official Species List

1

Official Species List

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

This species list is provided by:

Arcata Fish And Wildlife Office 1655 Heindon Road Arcata, CA 95521-4573 (707) 822-7201

Project Summary

Consultation Code:08EACT00-2022-SLI-0047Event Code:Some(08EACT00-2022-E-00129)Project Name:Lift Station 3Project Type:GuidanceProject Description:WWTP lift stationProject Location:Image: Coloration of the station of the s

Approximate location of the project can be viewed in Google Maps: <u>https://www.google.com/maps/@38.772993,-123.53896186971184,14z</u>



Counties: Mendocino County, California

Endangered Species Act Species

There is a total of 16 threatened, endangered, or candidate species on this species list.

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

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

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

1. <u>NOAA Fisheries</u>, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Pacific Marten, Coastal Distinct Population Segment <i>Martes caurina</i> There is proposed critical habitat for this species. The location of the critical habitat is not	Threatened
available. Species profile: <u>https://ecos.fws.gov/ecp/species/9081</u>	
Point Arena Mountain Beaver Aplodontia rufa nigra	Endangered
No critical habitat has been designated for this species.	
Species profile: https://ecos.fws.gov/ecp/species/7727	

Birds

NAME	STATUS
Marbled Murrelet Brachyramphus marmoratus Population: U.S.A. (CA, OR, WA) There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: <u>https://ecos.fws.gov/ecp/species/4467</u>	Threatened
Northern Spotted Owl <i>Strix occidentalis caurina</i> There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: <u>https://ecos.fws.gov/ecp/species/1123</u>	Threatened
 Western Snowy Plover <i>Charadrius nivosus nivosus</i> Population: Pacific Coast population DPS-U.S.A. (CA, OR, WA), Mexico (within 50 miles of Pacific coast) There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: <u>https://ecos.fws.gov/ecp/species/8035</u> 	Threatened
Yellow-billed Cuckoo <i>Coccyzus americanus</i> Population: Western U.S. DPS There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: <u>https://ecos.fws.gov/ecp/species/3911</u>	Threatened
Reptiles	

NAME	STATUS
Leatherback Sea Turtle <i>Dermochelys coriacea</i> There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: <u>https://ecos.fws.gov/ecp/species/1493</u>	Endangered
Amphibians	CTATIC
California Red-legged Frog <i>Rana draytonii</i>	Threatened

There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: <u>https://ecos.fws.gov/ecp/species/2891</u>

Fishes

NAME	STATUS
Tidewater Goby Eucyclogobius newberryi	Endangered
There is final critical habitat for this species. The location of the critical habitat is not available.	-
Species profile: <u>https://ecos.fws.gov/ecp/species/57</u>	

Insects

NAME	STATUS
Behren's Silverspot Butterfly <i>Speyeria zerene behrensii</i> No critical habitat has been designated for this species. Species profile: <u>https://ecos.fws.gov/ecp/species/900</u>	Endangered
Lotis Blue Butterfly <i>Lycaeides argyrognomon lotis</i> There is proposed critical habitat for this species. The location of the critical habitat is not available. Species profile: <u>https://ecos.fws.gov/ecp/species/5174</u>	Endangered
Monarch Butterfly <i>Danaus plexippus</i> No critical habitat has been designated for this species. Species profile: <u>https://ecos.fws.gov/ecp/species/9743</u>	Candidate
Crustaceans NAME	STATUS
California Freshwater Shrimp Syncaris pacifica No critical habitat has been designated for this species. Species profile: <u>https://ecos.fws.gov/ecp/species/7903</u>	Endangered
Flowering Plants	STATUS
Burke's Goldfields <i>Lasthenia burkei</i> No critical habitat has been designated for this species. Species profile: <u>https://ecos.fws.gov/ecp/species/4338</u>	Endangered
Contra Costa Goldfields <i>Lasthenia conjugens</i> There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: <u>https://ecos.fws.gov/ecp/species/7058</u>	Endangered
Showy Indian Clover <i>Trifolium amoenum</i> No critical habitat has been designated for this species. Species profile: <u>https://ecos.fws.gov/ecp/species/6459</u>	Endangered

Critical habitats

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



United States Department of the Interior

FISH AND WILDLIFE SERVICE Arcata Fish And Wildlife Office 1655 Heindon Road Arcata, CA 95521-4573 Phone: (707) 822-7201 Fax: (707) 822-8411



In Reply Refer To: Consultation Code: 08EACT00-2022-SLI-0046 Event Code: 08EACT00-2022-E-00127 Project Name: Lift Station 4 November 12, 2021

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

To Whom It May Concern:

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

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

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

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

(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

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

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq*.), and projects affecting these species may require development of an eagle conservation plan

(http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

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

Attachment(s):

Official Species List

Official Species List

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

This species list is provided by:

Arcata Fish And Wildlife Office 1655 Heindon Road Arcata, CA 95521-4573 (707) 822-7201

Project Summary

Consultation Code:	08EACT00-2022-SLI-0046
Event Code:	Some(08EACT00-2022-E-00127)
Project Name:	Lift Station 4
Project Type:	Guidance
Project Description:	lift station upgrade
Project Location:	

Approximate location of the project can be viewed in Google Maps: <u>https://www.google.com/maps/@38.765878799999996,-123.52640445175868,14z</u>



Counties: Mendocino County, California

Endangered Species Act Species

There is a total of 17 threatened, endangered, or candidate species on this species list.

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

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

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

1. <u>NOAA Fisheries</u>, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Pacific Marten, Coastal Distinct Population Segment <i>Martes caurina</i> There is proposed critical habitat for this species. The location of the critical habitat is not	Threatened
available. Species profile: <u>https://ecos.fws.gov/ecp/species/9081</u>	
Point Arena Mountain Beaver Aplodontia rufa nigra	Endangered
No critical habitat has been designated for this species.	
Species profile: https://ecos.fws.gov/ecp/species/7727	

Birds

NAME	STATUS
Marbled Murrelet Brachyramphus marmoratus Population: U.S.A. (CA, OR, WA) There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: <u>https://ecos.fws.gov/ecp/species/4467</u>	Threatened
Northern Spotted Owl <i>Strix occidentalis caurina</i> There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: <u>https://ecos.fws.gov/ecp/species/1123</u>	Threatened
 Western Snowy Plover Charadrius nivosus nivosus Population: Pacific Coast population DPS-U.S.A. (CA, OR, WA), Mexico (within 50 miles of Pacific coast) There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: <u>https://ecos.fws.gov/ecp/species/8035</u> 	Threatened
Yellow-billed Cuckoo <i>Coccyzus americanus</i> Population: Western U.S. DPS There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: <u>https://ecos.fws.gov/ecp/species/3911</u>	Threatened
Reptiles	

NAME	STATUS
Green Sea Turtle <i>Chelonia mydas</i> Population: East Pacific DPS No critical habitat has been designated for this species. Species profile: <u>https://ecos.fws.gov/ecp/species/6199</u>	Threatened
Leatherback Sea Turtle <i>Dermochelys coriacea</i> There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: <u>https://ecos.fws.gov/ecp/species/1493</u>	Endangered
Amphibians NAME	STATUS
California Red-legged Frog <i>Rana draytonii</i> There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: <u>https://ecos.fws.gov/ecp/species/2891</u>	Threatened
Fishes NAME	STATUS

 Tidewater Goby Eucyclogobius newberryi
 Endangered

 There is final critical habitat for this species. The location of the critical habitat is not available.
 Species profile: https://ecos.fws.gov/ecp/species/57

Insects

NAME	STATUS
Behren's Silverspot Butterfly Speyeria zerene behrensii No critical habitat has been designated for this species. Species profile: <u>https://ecos.fws.gov/ecp/species/900</u>	Endangered
Lotis Blue Butterfly <i>Lycaeides argyrognomon lotis</i> There is proposed critical habitat for this species. The location of the critical habitat is not available. Species profile: <u>https://ecos.fws.gov/ecp/species/5174</u>	Endangered
Monarch Butterfly <i>Danaus plexippus</i> No critical habitat has been designated for this species. Species profile: <u>https://ecos.fws.gov/ecp/species/9743</u>	Candidate
Crustaceans NAME	STATUS
California Freshwater Shrimp <i>Syncaris pacifica</i> No critical habitat has been designated for this species. Species profile: <u>https://ecos.fws.gov/ecp/species/7903</u>	Endangered
Flowering Plants	STATUS
Burke's Goldfields <i>Lasthenia burkei</i> No critical habitat has been designated for this species. Species profile: <u>https://ecos.fws.gov/ecp/species/4338</u>	Endangered
Contra Costa Goldfields <i>Lasthenia conjugens</i> There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: <u>https://ecos.fws.gov/ecp/species/7058</u>	Endangered
Showy Indian Clover <i>Trifolium amoenum</i> No critical habitat has been designated for this species. Species profile: <u>https://ecos.fws.gov/ecp/species/6459</u>	Endangered

Critical habitats

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



United States Department of the Interior

FISH AND WILDLIFE SERVICE Sacramento Fish And Wildlife Office Federal Building 2800 Cottage Way, Room W-2605 Sacramento, CA 95825-1846 Phone: (916) 414-6600 Fax: (916) 414-6713



In Reply Refer To: Consultation Code: 08ESMF00-2021-SLI-2842 Event Code: 08ESMF00-2022-E-01075 Project Name: Gualala WWTP November 12, 2021

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

To Whom It May Concern:

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

Please follow the link below to see if your proposed project has the potential to affect other species or their habitats under the jurisdiction of the National Marine Fisheries Service:

http://www.nwr.noaa.gov/protected_species/species_list/species_lists.html

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

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utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

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(http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

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www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

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Official Species List

Official Species List

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This species list is provided by:

Sacramento Fish And Wildlife Office

Federal Building 2800 Cottage Way, Room W-2605 Sacramento, CA 95825-1846 (916) 414-6600

Project Summary

Consultation Code:08ESMF00-2021-SLI-2842Event Code:Some(08ESMF00-2022-E-01075)Project Name:Gualala WWTPProject Type:WASTEWATER FACILITYProject Description:guidance constraintsProject Location:Facility

Approximate location of the project can be viewed in Google Maps: <u>https://www.google.com/maps/@38.7623334,-123.51349619544405,14z</u>



Counties: Sonoma County, California

Endangered Species Act Species

There is a total of 11 threatened, endangered, or candidate species on this species list.

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Mammals

NAME	STATUS
Point Arena Mountain Beaver <i>Aplodontia rufa nigra</i> No critical habitat has been designated for this species. Species profile: <u>https://ecos.fws.gov/ecp/species/7727</u>	Endangered
Birds NAME	STATUS
Marbled Murrelet Brachyramphus marmoratus Population: U.S.A. (CA, OR, WA) There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: <u>https://ecos.fws.gov/ecp/species/4467</u>	Threatened
Northern Spotted Owl <i>Strix occidentalis caurina</i> There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: <u>https://ecos.fws.gov/ecp/species/1123</u>	Threatened
 Western Snowy Plover Charadrius nivosus nivosus Population: Pacific Coast population DPS-U.S.A. (CA, OR, WA), Mexico (within 50 miles of Pacific coast) There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: <u>https://ecos.fws.gov/ecp/species/8035</u> 	Threatened

Reptiles

NAME	STATUS
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Fishes NAME	STATUS
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Insects NAME	STATUS
Behren's Silverspot Butterfly <i>Speyeria zerene behrensii</i> No critical habitat has been designated for this species. Species profile: <u>https://ecos.fws.gov/ecp/species/900</u>	Endangered
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Crustaceans	STATUS
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Critical habitats

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



NRCS CUSTOM SOILS REPORT



United States Department of Agriculture

Natural Resources Conservation Service A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants Custom Soil Resource Report for Mendocino County, Western Part, California



Preface

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

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

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

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

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

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

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

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How Soil Surveys Are Made

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

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

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

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

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

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

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

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

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

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

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

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

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

Soil Map

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



	MAP LEGEND			MAP INFORMATION
Area of In	terest (AOI) Area of Interest (AOI)	8	Spoil Area Stony Spot	The soil surveys that comprise your AOI were mapped at 1:24,000.
Solis Construction Special Special	Soil Map Unit Polygons Soil Map Unit Lines Soil Map Unit Points Point Features Blowout Borrow Pit Clay Spot Closed Depression	Ø ♥ ► Water Feat Transporta ++ ►	Very Stony Spot Wet Spot Other Special Line Features tures Streams and Canals ation Rails Interstate Highways	Warning: Soil Map may not be valid at this scale.Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.Please rely on the bar scale on each map sheet for map measurements.Source of Map:Natural Resources Conservation Service
÷ ◎ < ⇒ ∻ ◎ 0 > +	Gravel Pit Gravelly Spot Landfill Lava Flow Marsh or swamp Mine or Quarry Miscellaneous Water Perennial Water Rock Outcrop Saline Spot	Backgrour	US Routes Major Roads Local Roads nd Aerial Photography	 Web Soil Survey URL: Coordinate System: Web Mercator (EPSG:3857) Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required. This product is generated from the USDA-NRCS certified data as of the version date(s) listed below. Soil Survey Area: Mendocino County, Western Part, California Survey Area Data: Version 16, Sep 6, 2021
:: = \$ \$ Ø	Sandy Spot Severely Eroded Spot Sinkhole Slide or Slip Sodic Spot			Soil map units are labeled (as space allows) for map scales 1:50,000 or larger. Date(s) aerial images were photographed: Jul 3, 2019—Jul 5, 2019 The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
225	Windyhollow loam, 0 to 5 percent slopes	0.1	100.0%
Totals for Area of Interest		0.1	100.0%

Map Unit Descriptions

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

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

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

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

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

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

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

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

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

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

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

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

Mendocino County, Western Part, California

225—Windyhollow loam, 0 to 5 percent slopes

Map Unit Setting

National map unit symbol: hmq4 Elevation: 0 to 980 feet Mean annual precipitation: 40 inches Mean annual air temperature: 54 degrees F Frost-free period: 250 to 330 days Farmland classification: Prime farmland if irrigated

Map Unit Composition

Windyhollow and similar soils: 85 percent Minor components: 15 percent Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Windyhollow

Setting

Landform: Marine terraces Landform position (two-dimensional): Backslope Landform position (three-dimensional): Riser, tread Down-slope shape: Linear Across-slope shape: Linear Parent material: Alluvium derived from igneous, metamorphic and sedimentary rock

Typical profile

A - 0 to 16 inches: loam Bt1 - 16 to 24 inches: clay loam Bt2 - 24 to 43 inches: gravelly clay loam Bt3 - 43 to 61 inches: clay loam

Properties and qualities

Slope: 0 to 5 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: About 30 to 48 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: High (about 9.3 inches)

Interpretive groups

Land capability classification (irrigated): 2w Land capability classification (nonirrigated): 3w Hydrologic Soil Group: C Ecological site: R004BY059CA - Loamy Terrace (Perennial Grass) Hydric soil rating: No

Minor Components

Flumeville

Percent of map unit: 4 percent Landform: Marine terraces Hydric soil rating: Yes

Biaggi

Percent of map unit: 4 percent Hydric soil rating: No

Mallopass

Percent of map unit: 4 percent Hydric soil rating: No

Unnamed, steeper slopes

Percent of map unit: 3 percent Hydric soil rating: No

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United States Department of Agriculture

Natural Resources Conservation Service A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants Custom Soil Resource Report for Mendocino County, Western Part, California



Preface

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

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

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

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

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

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

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How Soil Surveys Are Made

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

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

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

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

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

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

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

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

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

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

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

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

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

Soil Map

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



	MAP LEGEND			MAP INFORMATION		
Area of In	iterest (AOI) Area of Interest (AOI)		Spoil Area Stony Spot	The soil surveys that comprise your AOI were mapped at 1:24,000.		
Solis Construction Special Construction Special Construction Special Construction Special Construction Special Construction Construction Special Construction Constructio	Soil Map Unit Polygons Soil Map Unit Lines Soil Map Unit Points Point Features Blowout Borrow Pit Clay Spot Closed Depression	Image: Constraint of the second	/ery Stony Spot Net Spot Other Special Line Features res Streams and Canals on Rails nterstate Highways	Warning: Soil Map may not be valid at this scale.Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.Please rely on the bar scale on each map sheet for map measurements.Source of Map:Natural Resources Conservation Service		
÷ © 0 ≥ +	Gravel Pit Gravelly Spot Landfill Lava Flow Marsh or swamp Mine or Quarry Miscellaneous Water Perennial Water Rock Outcrop Saline Spot	<pre></pre>	JS Routes Major Roads Local Roads Aerial Photography	 Web Soil Survey URL: Coordinate System: Web Mercator (EPSG:3857) Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required. This product is generated from the USDA-NRCS certified data as of the version date(s) listed below. Soil Survey Area: Mendocino County, Western Part, California Survey Area Data: Version 16, Sep 6, 2021 		
∵: ➡ ♦ Ø	Sandy Spot Severely Eroded Spot Sinkhole Slide or Slip Sodic Spot			Soil map units are labeled (as space allows) for map scales 1:50,000 or larger. Date(s) aerial images were photographed: Jul 3, 2019—Jul 5, 2019 The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.		

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
116	Bruhel-Shinglemill complex, 2 to 15 percent slopes	0.1	100.0%
Totals for Area of Interest		0.1	100.0%

Map Unit Descriptions

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

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

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

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

Mendocino County, Western Part, California

116—Bruhel-Shinglemill complex, 2 to 15 percent slopes

Map Unit Setting

National map unit symbol: hmkl Elevation: 50 to 1,300 feet Mean annual precipitation: 35 to 55 inches Mean annual air temperature: 52 to 54 degrees F Frost-free period: 250 to 330 days Farmland classification: Not prime farmland

Map Unit Composition

Bruhel and similar soils: 50 percent Shinglemill and similar soils: 25 percent Minor components: 23 percent Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Bruhel

Setting

Landform: Hills, mountains Landform position (two-dimensional): Backslope Landform position (three-dimensional): Mountainflank, side slope Down-slope shape: Concave Across-slope shape: Convex Parent material: Residuum weathered from sandstone

Typical profile

H1 - 0 to 4 inches: loam
H2 - 4 to 21 inches: clay loam
H3 - 21 to 41 inches: gravelly clay loam
H4 - 41 to 45 inches: weathered bedrock

Properties and qualities

Slope: 2 to 15 percent
Depth to restrictive feature: 40 to 60 inches to paralithic bedrock
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 6.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 3e Hydrologic Soil Group: B Ecological site: F004BL102CA - Salt-affected marine terraces with eolian sand parent materials Hydric soil rating: No

Description of Shinglemill

Setting

Landform: Marine terraces Landform position (two-dimensional): Backslope Landform position (three-dimensional): Tread Down-slope shape: Concave Across-slope shape: Concave Parent material: Fluviomarine deposits derived from sedimentary rock

Typical profile

H1 - 0 to 8 inches: loam H2 - 8 to 15 inches: loam H3 - 15 to 25 inches: clay loam

H4 - 25 to 63 inches: sandy clay

Properties and qualities

Slope: 2 to 15 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 12 to 30 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: High (about 9.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 3w Hydrologic Soil Group: C/D Ecological site: F004BL102CA - Salt-affected marine terraces with eolian sand parent materials Hydric soil rating: Yes

Minor Components

Tropaquepts

Percent of map unit: 5 percent Landform: Marine terraces Hydric soil rating: Yes

Abalobadiah

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

Flumeville

Percent of map unit: 5 percent Landform: Marine terraces Hydric soil rating: Yes

Gibney

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

Unnamed, gentler or steeper slopes Percent of map unit: 3 percent Hydric soil rating: No

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United States Department of Agriculture

Natural Resources Conservation Service A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants Custom Soil Resource Report for Mendocino County, Western Part, California



Preface

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

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

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

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

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

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

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How Soil Surveys Are Made

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

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

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

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

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

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

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

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

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

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

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

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

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

Soil Map

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



	MAP LEGEND			MAP INFORMATION		
Area of In	iterest (AOI) Area of Interest (AOI)		Spoil Area Stony Spot	The soil surveys that comprise your AOI were mapped at 1:24,000.		
Solis Construction Special Construction Special Construction Special Construction Special Construction Special Construction Construction Special Construction Constructio	Soil Map Unit Polygons Soil Map Unit Lines Soil Map Unit Points Point Features Blowout Borrow Pit Clay Spot Closed Depression	Image: Constraint of the second	/ery Stony Spot Net Spot Other Special Line Features res Streams and Canals on Rails nterstate Highways	Warning: Soil Map may not be valid at this scale.Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.Please rely on the bar scale on each map sheet for map measurements.Source of Map:Natural Resources Conservation Service		
÷ © 0 ≥ +	Gravel Pit Gravelly Spot Landfill Lava Flow Marsh or swamp Mine or Quarry Miscellaneous Water Perennial Water Rock Outcrop Saline Spot	<pre></pre>	JS Routes Major Roads Local Roads Aerial Photography	 Web Soil Survey URL: Coordinate System: Web Mercator (EPSG:3857) Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required. This product is generated from the USDA-NRCS certified data as of the version date(s) listed below. Soil Survey Area: Mendocino County, Western Part, California Survey Area Data: Version 16, Sep 6, 2021 		
∵: ➡ ♦ Ø	Sandy Spot Severely Eroded Spot Sinkhole Slide or Slip Sodic Spot			Soil map units are labeled (as space allows) for map scales 1:50,000 or larger. Date(s) aerial images were photographed: Jul 3, 2019—Jul 5, 2019 The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.		

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
139	Dystropepts, 30 to 75 percent slopes	0.1	100.0%
Totals for Area of Interest		0.1	100.0%

Map Unit Descriptions

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

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

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

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

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

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

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

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

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

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

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

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

Mendocino County, Western Part, California

139—Dystropepts, 30 to 75 percent slopes

Map Unit Setting

National map unit symbol: hmlk Elevation: 10 to 1,500 feet Mean annual precipitation: 35 to 55 inches Mean annual air temperature: 48 to 57 degrees F Frost-free period: 250 to 330 days Farmland classification: Not prime farmland

Map Unit Composition

Dystropepts and similar soils: 75 percent Minor components: 25 percent Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Dystropepts

Setting

Landform: Marine terraces Landform position (two-dimensional): Backslope Landform position (three-dimensional): Riser Down-slope shape: Concave Across-slope shape: Convex Parent material: Residuum weathered from sandstone and shale

Properties and qualities

Slope: 30 to 75 percent Depth to restrictive feature: More than 80 inches Drainage class: Well drained Depth to water table: More than 80 inches Frequency of flooding: None Frequency of ponding: None

Minor Components

Rock outcrop

Percent of map unit: 10 percent Landform: Marine terraces Landform position (two-dimensional): Backslope Landform position (three-dimensional): Riser Down-slope shape: Concave Across-slope shape: Convex Hydric soil rating: No

Vizcaino

Percent of map unit: 8 percent Landform: Marine terraces Landform position (two-dimensional): Backslope Landform position (three-dimensional): Riser Down-slope shape: Concave Across-slope shape: Convex Hydric soil rating: No

Abalobadiah

Percent of map unit: 7 percent Landform: Marine terraces Landform position (two-dimensional): Backslope Landform position (three-dimensional): Riser Down-slope shape: Concave Across-slope shape: Convex Hydric soil rating: No

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	MAP LEGEND			MAP INFORMATION		
Area of In	iterest (AOI) Area of Interest (AOI)		Spoil Area Stony Spot	The soil surveys that comprise your AOI were mapped at 1:24,000.		
Solis Construction Special Construction Special Construction Special Construction Special Construction Special Construction Construction Special Construction Constructio	Soil Map Unit Polygons Soil Map Unit Lines Soil Map Unit Points Point Features Blowout Borrow Pit Clay Spot Closed Depression	Image: Constraint of the second	/ery Stony Spot Net Spot Other Special Line Features res Streams and Canals on Rails nterstate Highways	Warning: Soil Map may not be valid at this scale.Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.Please rely on the bar scale on each map sheet for map measurements.Source of Map:Natural Resources Conservation Service		
÷ © 0 ≥ +	Gravel Pit Gravelly Spot Landfill Lava Flow Marsh or swamp Mine or Quarry Miscellaneous Water Perennial Water Rock Outcrop Saline Spot	US RoutesMajor RoadsLocal RoadsBackgroundMainAerial Photography		 Web Soil Survey URL: Coordinate System: Web Mercator (EPSG:3857) Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required. This product is generated from the USDA-NRCS certified data as of the version date(s) listed below. Soil Survey Area: Mendocino County, Western Part, California Survey Area Data: Version 16, Sep 6, 2021 		
∵: ➡ ♦ Ø	Sandy Spot Severely Eroded Spot Sinkhole Slide or Slip Sodic Spot			Soil map units are labeled (as space allows) for map scales 1:50,000 or larger. Date(s) aerial images were photographed: Jul 3, 2019—Jul 5, 2019 The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.		

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
116	Bruhel-Shinglemill complex, 2 to 15 percent slopes	0.1	100.0%
Totals for Area of Interest		0.1	100.0%

Map Unit Descriptions

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

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

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

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

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

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

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

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

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

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

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

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

Mendocino County, Western Part, California

116—Bruhel-Shinglemill complex, 2 to 15 percent slopes

Map Unit Setting

National map unit symbol: hmkl Elevation: 50 to 1,300 feet Mean annual precipitation: 35 to 55 inches Mean annual air temperature: 52 to 54 degrees F Frost-free period: 250 to 330 days Farmland classification: Not prime farmland

Map Unit Composition

Bruhel and similar soils: 50 percent Shinglemill and similar soils: 25 percent Minor components: 23 percent Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Bruhel

Setting

Landform: Hills, mountains Landform position (two-dimensional): Backslope Landform position (three-dimensional): Mountainflank, side slope Down-slope shape: Concave Across-slope shape: Convex Parent material: Residuum weathered from sandstone

Typical profile

H1 - 0 to 4 inches: loam
H2 - 4 to 21 inches: clay loam
H3 - 21 to 41 inches: gravelly clay loam
H4 - 41 to 45 inches: weathered bedrock

Properties and qualities

Slope: 2 to 15 percent
Depth to restrictive feature: 40 to 60 inches to paralithic bedrock
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 6.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 3e Hydrologic Soil Group: B Ecological site: F004BL102CA - Salt-affected marine terraces with eolian sand parent materials Hydric soil rating: No

Description of Shinglemill

Setting

Landform: Marine terraces Landform position (two-dimensional): Backslope Landform position (three-dimensional): Tread Down-slope shape: Concave Across-slope shape: Concave Parent material: Fluviomarine deposits derived from sedimentary rock

Typical profile

H1 - 0 to 8 inches: loam H2 - 8 to 15 inches: loam H3 - 15 to 25 inches: clay loam

H4 - 25 to 63 inches: sandy clay

Properties and qualities

Slope: 2 to 15 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 12 to 30 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: High (about 9.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 3w Hydrologic Soil Group: C/D Ecological site: F004BL102CA - Salt-affected marine terraces with eolian sand parent materials Hydric soil rating: Yes

Minor Components

Tropaquepts

Percent of map unit: 5 percent Landform: Marine terraces Hydric soil rating: Yes

Abalobadiah

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

Flumeville

Percent of map unit: 5 percent Landform: Marine terraces Hydric soil rating: Yes

Gibney

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

Unnamed, gentler or steeper slopes Percent of map unit: 3 percent Hydric soil rating: No

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United States Department of Agriculture

Natural Resources Conservation Service A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants Custom Soil Resource Report for Mendocino County, Western Part, California; and Sonoma County, California



Preface

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

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

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

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

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

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

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How Soil Surveys Are Made

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

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

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

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

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

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

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

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

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

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

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

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

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

Soil Map

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



MAP LEGEND				MAP INFORMATION		
Area of Int	erest (AOI) Area of Interest (AOI)	8	Spoil Area Stony Spot	The soil surveys that comprise your AOI were mapped at scales ranging from 1:20,000 to 1:24,000.		
Soils	Soil Map Unit Polygons Soil Map Unit Lines	00 V	Very Stony Spot Wet Spot	Warning: Soil Map may not be valid at this scale.		
Special	Soil Map Unit Points Special Point Features		Other Special Line Features	misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed		
o M	Blowout Borrow Pit	Transport	Streams and Canals	Please rely on the bar scale on each map sheet for map		
\$ ☆	Clay Spot Hi Rails Closed Depression Interstate Highways Gravel Pit US Routes Gravelly Spot Major Roads Landfill Local Roads	measurements. Source of Map: Natural Resources Conservation Service Web Soil Survey URL:				
 ©		~	Major Roads Local Roads	Coordinate System: Web Mercator (EPSG:3857) Maps from the Web Soil Survey are based on the Web Mercator		
۸ ج	Lava Flow Backgro Marsh or swamp Mine or Quarry		n d Aerial Photography	distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.		
0	Miscellaneous Water Perennial Water			This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.		
× +	Rock Outcrop Saline Spot			Soil Survey Area: Mendocino County, Western Part, California Survey Area Data: Version 16, Sep 6, 2021		
:: = 	Sandy Spot Severely Eroded Spot			Soil Survey Area: Sonoma County, California Survey Area Data: Version 15, Sep 10, 2021		
∨ ≱ ø	Slide or Slip Sodic Spot			Your area of interest (AOI) includes more than one soil survey area. These survey areas may have been mapped at different scales, with a different land use in mind, at different times, or at different levels of detail. This may result in map unit symbols, soil properties, and interpretations that do not completely agree across soil survey area boundaries.		

MAP LEGEND

MAP INFORMATION

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jul 3, 2019—Jul 5, 2019

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Map Unit Legend (North Gualala WWTP)

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI	
107	Bigriver loamy sand, 0 to 5 percent slopes	2.8	2.0%	
Subtotals for Soil Survey Area	•	2.8	2.0%	
Totals for Area of Interest		140.5	100.0%	

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI	
ChA	Coastal beaches	1.3	0.9%	
HhF	Hugo loam, 30 to 50 percent slopes	74.9	53.3%	
KnD	Kneeland loam, 9 to 15 percent slopes	41.5	29.5%	
MmF	Mendocino sandy clay loam, 30 to 50 percent slopes	11.8	8.4%	
RrC	Rohnerville loam, 0 to 9 percent slopes	6.6	4.7%	
TeG	Terrace escarpments	0.2	0.1%	
YmB	Yolo sandy loam, overwash, 0 to 5 percent slopes	1.5	1.1%	
Subtotals for Soil Survey Area		137.7	98.0%	
Totals for Area of Interest		140.5	100.0%	

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

Mendocino County, Western Part, California

107—Bigriver loamy sand, 0 to 5 percent slopes

Map Unit Setting

National map unit symbol: hmk5 Elevation: 0 to 120 feet Mean annual precipitation: 45 to 90 inches Mean annual air temperature: 50 to 55 degrees F Frost-free period: 270 to 365 days Farmland classification: Not prime farmland

Map Unit Composition

Bigriver and similar soils: 80 percent *Minor components:* 19 percent *Estimates are based on observations, descriptions, and transects of the mapunit.*

Description of Bigriver

Setting

Landform: Flood plains Landform position (two-dimensional): Backslope Landform position (three-dimensional): Mountainbase Down-slope shape: Concave Across-slope shape: Linear Parent material: Alluvium derived from sandstone

Typical profile

H1 - 0 to 6 inches: loamy sand *H2 - 6 to 63 inches:* stratified loamy sand to silt loam

Properties and qualities

Slope: 0 to 5 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): High (2.00 to 6.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: FrequentNone
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 6.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 4w Hydrologic Soil Group: A Ecological site: F004BK101CA - Fog-influenced, stream terraces Hydric soil rating: No

Minor Components

Cottoneva

Percent of map unit: 14 percent Hydric soil rating: No

Riverwash

Percent of map unit: 5 percent Landform: Channels Hydric soil rating: Yes

Sonoma County, California

ChA—Coastal beaches

Map Unit Setting

National map unit symbol: hfbr Elevation: 0 to 10 feet Mean annual precipitation: 42 to 48 inches Mean annual air temperature: 52 to 57 degrees F Frost-free period: 190 to 210 days Farmland classification: Not prime farmland

Map Unit Composition

Beaches, coastal: 85 percent Minor components: 15 percent Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Beaches, Coastal

Setting

Landform: Beaches Parent material: Beach sand

Typical profile

H1 - 0 to 6 inches: sand H2 - 6 to 60 inches: coarse sand

Properties and qualities

Slope: 1 to 5 percent
Drainage class: Poorly drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): High to very high (5.95 to 19.98 in/hr)
Depth to water table: About 0 inches
Frequency of flooding: Frequent
Maximum salinity: Slightly saline to strongly saline (4.0 to 16.0 mmhos/cm)
Sodium adsorption ratio, maximum: 15.0
Available water supply, 0 to 60 inches: Very low (about 2.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 8 Hydric soil rating: Yes

Minor Components

Unnamed

Percent of map unit: 15 percent Hydric soil rating: No

HhF—Hugo loam, 30 to 50 percent slopes

Map Unit Setting

National map unit symbol: hff2 Elevation: 800 to 3,000 feet Mean annual precipitation: 60 inches Mean annual air temperature: 57 degrees F Frost-free period: 200 to 300 days Farmland classification: Not prime farmland

Map Unit Composition

Hugo and similar soils: 85 percent *Minor components:* 15 percent *Estimates are based on observations, descriptions, and transects of the mapunit.*

Description of Hugo

Setting

Landform: Mountain slopes Landform position (two-dimensional): Backslope Landform position (three-dimensional): Side slope Down-slope shape: Concave Across-slope shape: Concave Parent material: Residuum weathered from sedimentary rock

Typical profile

- H1 0 to 8 inches: loam
- H2 8 to 31 inches: gravelly sandy clay loam
- H3 31 to 48 inches: gravelly clay loam
- H4 48 to 59 inches: weathered bedrock

Properties and qualities

Slope: 30 to 50 percent
Depth to restrictive feature: 40 to 60 inches to paralithic bedrock
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 6.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 6e Hydrologic Soil Group: B Ecological site: F004BK102CA - Fog-influenced, low elevation mountain slopes Hydric soil rating: No

Minor Components

Josephine

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

Laughlin

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

Atwell

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

KnD—Kneeland loam, 9 to 15 percent slopes

Map Unit Setting

National map unit symbol: hfg6 Elevation: 3,000 feet Mean annual precipitation: 40 inches Mean annual air temperature: 54 degrees F Frost-free period: 280 to 310 days Farmland classification: Farmland of statewide importance

Map Unit Composition

Kneeland and similar soils: 85 percent *Minor components:* 15 percent *Estimates are based on observations, descriptions, and transects of the mapunit.*

Description of Kneeland

Setting

Landform: Hills Landform position (two-dimensional): Backslope Landform position (three-dimensional): Side slope Down-slope shape: Concave Across-slope shape: Convex Parent material: Residuum weathered from sedimentary rock

Typical profile

H1 - 0 to 13 inches: loam

- H2 13 to 35 inches: clay loam
- H3 35 to 45 inches: unweathered bedrock

Properties and qualities

Slope: 9 to 15 percent Depth to restrictive feature: 20 to 40 inches to lithic bedrock Drainage class: Well drained Runoff class: Medium Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 1.98 in/hr) Depth to water table: More than 80 inches Frequency of flooding: None Frequency of ponding: None Available water supply, 0 to 60 inches: Low (about 5.8 inches)

Interpretive groups

Land capability classification (irrigated): 4e Land capability classification (nonirrigated): 4e Hydrologic Soil Group: C Ecological site: R004BY062CA - Coastal Terrace Uplands Hydric soil rating: No

Minor Components

Rohnerville

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

Steinbeck

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

Kinman

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

MmF—Mendocino sandy clay loam, 30 to 50 percent slopes

Map Unit Setting

National map unit symbol: hfh9 Elevation: 1,500 feet Mean annual precipitation: 40 to 65 inches Mean annual air temperature: 52 to 55 degrees F Frost-free period: 285 to 310 days Farmland classification: Not prime farmland

Map Unit Composition

Mendocino and similar soils: 85 percent *Minor components:* 15 percent *Estimates are based on observations, descriptions, and transects of the mapunit.*

Description of Mendocino

Setting

Landform: Hills Landform position (two-dimensional): Backslope Landform position (three-dimensional): Side slope Down-slope shape: Concave Across-slope shape: Concave Parent material: Residuum weathered from sedimentary rock

Typical profile

H1 - 0 to 18 inches: sandy clay loam H2 - 18 to 40 inches: sandy clay H3 - 40 to 59 inches: weathered bedrock

Properties and qualities

Slope: 30 to 50 percent
Depth to restrictive feature: 40 to 60 inches to paralithic bedrock
Drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 6.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 6e Hydrologic Soil Group: C Ecological site: F004BK102CA - Fog-influenced, low elevation mountain slopes Hydric soil rating: No

Minor Components

Goldridge

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

Empire

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

Hugo

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

RrC—Rohnerville loam, 0 to 9 percent slopes

Map Unit Setting

National map unit symbol: hfj9 Elevation: 100 to 1,000 feet Mean annual precipitation: 40 inches Mean annual air temperature: 52 degrees F Frost-free period: 290 to 310 days Farmland classification: Prime farmland if irrigated

Map Unit Composition

Rohnerville and similar soils: 85 percent Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Rohnerville

Setting

Landform: Terraces Landform position (two-dimensional): Backslope Landform position (three-dimensional): Side slope Down-slope shape: Linear Across-slope shape: Linear Parent material: Alluvium derived from sedimentary rock

Typical profile

H1 - 0 to 16 inches: loam *H2 - 16 to 25 inches:* sandy clay loam *H3 - 25 to 35 inches:* sandy clay *H4 - 35 to 60 inches:* sandy clay

Properties and qualities

Slope: 0 to 9 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: High (about 9.6 inches)

Interpretive groups

Land capability classification (irrigated): 2e Land capability classification (nonirrigated): 3e Hydrologic Soil Group: C Ecological site: R004BY063CA - LOAMY UPLAND Hydric soil rating: No

Minor Components

Kinman

Percent of map unit: 4 percent Hydric soil rating: No

Kneeland

Percent of map unit: 4 percent Hydric soil rating: No

Baywood

Percent of map unit: 4 percent Hydric soil rating: No

Noyo

Percent of map unit: 3 percent Hydric soil rating: No

TeG—Terrace escarpments

Map Unit Setting

National map unit symbol: hfkc Mean annual precipitation: 14 inches Mean annual air temperature: 61 degrees F Farmland classification: Not prime farmland

Map Unit Composition

Terrace escarpments: 85 percent *Minor components:* 15 percent *Estimates are based on observations, descriptions, and transects of the mapunit.*

Description of Terrace Escarpments

Setting

Landform: Terraces Landform position (two-dimensional): Backslope Landform position (three-dimensional): Side slope Down-slope shape: Concave Across-slope shape: Convex Parent material: Alluvium

Typical profile

H1 - 0 to 60 inches: variable

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 8 Hydric soil rating: No

Minor Components

Unnamed

Percent of map unit: 10 percent Hydric soil rating: No

Unnamed

Percent of map unit: 5 percent Landform: Drainageways Hydric soil rating: Yes

YmB—Yolo sandy loam, overwash, 0 to 5 percent slopes

Map Unit Setting

National map unit symbol: hfkr
Elevation: 0 to 3,500 feet
Mean annual precipitation: 12 to 30 inches
Mean annual air temperature: 59 degrees F
Frost-free period: 200 to 350 days
Farmland classification: Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season

Map Unit Composition

Yolo and similar soils: 85 percent Minor components: 15 percent Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Yolo

Setting

Landform: Alluvial fans Landform position (two-dimensional): Backslope Landform position (three-dimensional): Side slope Down-slope shape: Linear Across-slope shape: Linear Parent material: Alluvium derived from sedimentary rock

Typical profile

H1 - 0 to 8 inches: sandy loam *H2 - 8 to 60 inches:* loam

Properties and qualities

Slope: 0 to 5 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: NoneOccasional
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: High (about 9.2 inches)

Interpretive groups

Land capability classification (irrigated): 2w Land capability classification (nonirrigated): 3w Hydrologic Soil Group: B Ecological site: R014XG918CA - Loamy Fan Hydric soil rating: No

Minor Components

Zamora

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

Cortina

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

Pleasanton

Percent of map unit: 4 percent Hydric soil rating: No

Unnamed

Percent of map unit: 1 percent Landform: Flood plains Hydric soil rating: Yes

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NATIONAL WETLAND INVENTORY



Lift Station 1



November 12, 2021

Wetlands



Estuarine and Marine Deepwater

Estuarine and Marine Wetland

- Freshwater Forested/Shrub Wetland
 - Freshwater Pond

Freshwater Emergent Wetland

Lake Other Riverine



Lift Station 2



November 12, 2021

Wetlands

- Estuarine and Marine Wetland

Estuarine and Marine Deepwater

- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond

Lake Other Riverine



Lift Station 3



Wetlands

- Estuarine and Marine Wetland

Estuarine and Marine Deepwater

Freshwater Forested/Shrub Wetland

Freshwater Emergent Wetland

Freshwater Pond

Lake Other Riverine base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.



Lift Station 4



November 12, 2021

Wetlands

- Estuarine and Marine Wetland

Estuarine and Marine Deepwater

- Freshwater Emergent Wetland Freshwater Forested/Shrub Wetland
- Freshwater Pond

Lake Other Riverine



GCSD WWTP



October 18, 2021

Wetlands

- Estuarine and Marine Wetland

Estuarine and Marine Deepwater

- arine Wetland
- Freshwater Pond

Freshwater Emergent Wetland

Freshwater Forested/Shrub Wetland

Lake Other Riverine



ATTACHMENT 3 – CULTURAL SURVEY REPORT

Confidential Appendix – contact Lead Agency to view

Chris Troyan, General Manager, Gualala Community Services District