

Sue-meg New Well Project Description

Project Location

The proposed project is in Sue-meg State Park (SSP) within the North Coast Redwoods District (Figure 1). SSP is located 5 minutes north of the city of Trinidad in Humboldt County.

Purpose of Project

The purpose of this project is to explore two possible well sites and provide a reliable source of well water for SSP (Figure 2). SSP will no longer need to rely on Penn Creek during the busy peak season to make drinking water if a reliable water source is found from either well site and a new well is developed. This would most likely reduce the water treatment process and help protect the natural resources within the creek.

Existing Conditions

The location of the potential well site 1 and utility lines and well site 2 utility lines are in areas previously disturbed by Park activities. Well site 2 is located on a narrow social trail.

Botanical surveys were conducted on August 27, 2024 by CSP Environmental Scientist Michelle Forsy, March 28, 2025 by CSP Environmental Scientist Mae McLean, and April 1, 2025 by CSP Environmental Scientist Claudia Voigt in accordance with the California Department of Fish and Wildlife's (CDFW) Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities (2018). (See species list in appendix)

Well Site 1 is located within an area that is mowed regularly and on a hillslope. The species observed include velvet grass (*Holcus lanatus*), orchard grass (*Dactylis glomerata*), sweet vernal grass (*Anthoxanthum odoratum*), wild cucumber (*Marah oregana*), lady fern (*Athyrium filix-femina*), Himalaya blackberry (*Rubus armeniacus*), Western coltsfoot (*Petasites frigidus* var. *Palmatius*), and hedge nettle (*Stachys mexicana*). The utility line will be adjacent to the existing disturbed road and avoid any wet areas.

Access to well site 2 is planned through an existing overgrown seasonally inundated road used by PG&E and a narrow social trail. All of the well site 2 project area is composed of species typical to wet Sitka spruce forest (*Picea sitchensis* Alliance, S2 G5) with an upper canopy comprised of Sitka spruce and few redwoods (*Sequoia sempervirens*) and grand firs (*Abies grandis*). The point provided for the well site itself is on an overgrown 1 ft. wide trail with an understory shrub layer of six ft. tall very dense salal (*Gaultheria shallon*) in an open Sitka spruce forest with many standing dead trees and downed logs. The few other species present are all native (salmonberry (*Rubus spectabilis*), false lily of the valley (*Maianthemum dilatatum*), Smith's fairy bells (*Prosartes smithii*), and deer fern (*Struthiopteris spicant*)) with the exception of one tall pampas grass (*Cortaderia jubata*). The understory along the access road also includes California cascara (*Frangula pursushina*), big leaf maple (*Acer macrophyllum*), red and evergreen huckleberry (*Vaccinium parvifolium* and *ovatum*). Other common native forbs found along the access road include western brook-foam (*Boykinia occidentalis*) and pig-a-back plant (*Tolmiea diplomenziesii*). Many non-native species are present along the access road including English ivy (*Hedera helix*), crocosmia (*Crocasmia x crocosmiflora*), creeping buttercup (*Ranunculus repens*), and periwinkle (*Vinca major*).

Sitka spruce stands encompass approximately 400 out of the total 640 acres of Sue-meg State Park. No tree removal is anticipated as part of this project. The removal of any common native plants in the project area will not negatively impact the overall health of these populations as they occur throughout the park and surrounding areas. The project will not significantly impact sensitive communities.

Soils observed at this location were 10 YR 3/3 with no redoximorphic features. The proposed project area includes a combination of facultative (FAC) species and Facultative Wetland (FACW) species, which is common in mild climate conditions present in coastal Humboldt County where the soils do not dry out in the dry months. Wetland conditions are not present at this location.

Project Description

Well drilling and installation will be conducted by a commercial well drilling company. Well Site 1 will be drilled first with a Pilot Hole. If a reliable source of water is found, Well Site 1 will be developed and Well Site 2 will not be developed. If a reliable source of water is not found at Well Site 1, then a Pilot Hole will be drilled at Well Site 2. If reliable water is found at Well Site 2, then the well will be developed.

Ground disturbance includes the drilling at the two possible well sites. The well casing will be a diameter of 10 in. and no more than 350 ft. deep at both locations. A concrete slab will be poured on top of the ground surface around the well casing. The size of the slab will be approximately 6 ft. by 6 ft., and 6 in. thick. A small wooden structure will be placed on the slab to cover the well, and it will be no more than 9 ft. high. There will be a temporary surface disturbance where the drill rig will sit. The drill rig when deployed will be a length of 33 ft., a width of 11.5 ft. and a height of 41 ft. The weight of the drill rig is approximately 45,300 pounds. Best Management Practices (BMPs) will be used to control possible off-site movement of the drilling slurry which can be found in Figures 3 - 9.

If reliable water is found at one of the well sites, a 24 in. deep by 16 in. wide trench will be dug and the new utility lines shown in Figure 2 will be installed. If well site 2 is selected, the section that passes under Patrick's Point Drive will be directionally bored by a contract. Spoils will be used for backfilling the new open trench after the utility lines have been installed. The well will have the following setbacks: at least 150 feet from septic leach fields and septic tanks and 100 feet from septic lines.

Park staff will follow the draw down test and water quality testing as required per the State Water Resource Control Board. The State Parks WSPS will work directly with the State Water Resource Control Board and follow all mandated drinking water requirements.

Access to Well Site 2 will include minor tree limbing for the drilling machine. This includes cutting limbs of shrubs and trees if in the path of the drilling machine. Shrubs are expected to grow back.

Natural Resource Protection

1. Botanical surveys were conducted using California Department of Fish and Wildlife's Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities (2018). No individuals or populations of special status plants were found.
2. If modification or disturbance to vegetation is deemed necessary at any time during the typical bird breeding period (May 1 to July 31), a State Parks biologist will conduct breeding bird surveys within the area of potential disturbance. If occupied nests are detected, work will either be suspended until the birds have fledged, or a spatial buffer will be applied to protect the nest. The size of the spatial buffer will be determined by the State Parks biologist based on the species found and the nest location.
3. All utility lines shall be located before ground disturbance starts. No trees will be removed during the construction, and no roots over 2 inches will be cut.
4. All removed soil and vegetation shall be left on site within the project area to ensure that non-native plant material and seeds are not transported to another location in the park.
5. No fill, soil, or construction materials or staging of equipment and hand tools shall be piled on top of the existing vegetation.
6. No ground-disturbing activities are permitted outside delineated work areas unless authorized in advance by a DPR approved Environmental Scientist.
7. Staging of construction equipment and project materials will occur on road surfaces or previously hardened surfaces to minimize soil and duff compaction of the native habitat.
8. All construction equipment used on this project shall be clean and free of soil and plant material before arrival at the project site to prevent the potential introduction of new invasive non-native plant species.

Cultural Resources Protection

In the event that previously unknown cultural resources (including but not limited to dark soil containing shell, bone, flaked stone, groundstone, or deposits of historic trash) are encountered during project construction by anyone, the project manager will put work on hold at that specific location and workers will redirect to other tasks. A DPR-qualified archaeologist will record and evaluate the find and work with the project manager to implement avoidance, preservation, or recovery measures as appropriate prior to any work resuming at that specific location.

In the event that human remains are discovered, work will cease immediately in the area of the find and the project manager will notify the DPR cultural resource specialist assigned to this project. Any human remains and/or funerary objects will be left in place or returned to the point of discovery and covered with soil. The DPR Sector Superintendent or cultural resource specialist will notify the County Coroner, in accordance with section 7050.5 of the California Health and Safety Code.

Well Site 1 Botanical Species List: Sue-meg New Well Project

Growth Form	Botanical Name	Common Name	Family	Native
Tree	<i>Alnus rubra</i>	red alder	Betulaceae	yes
Tree	<i>Morella californica</i>	wax myrtle	Myricaceae	yes
Tree	<i>Picea sitchensis</i>	Sitka spruce	Pinaceae	yes
Shrub	<i>Frangula purshiana</i>	California cascara	Rhamnaceae	yes
Shrub	<i>Gaultheria shallon</i>	salal	Ericaceae	yes
Shrub	<i>Hedera helix</i>	English ivy	Araliaceae	no
Shrub	<i>Oemleria cerasiformis</i>	oso-berry	Rosaceae	yes
Shrub	<i>Rubus armeniacus</i>	Himalayan blackberry	Rosaceae	no
Shrub	<i>Rubus parviflorus</i>	thimbleberry	Rosaceae	yes
Shrub	<i>Rubus spectabilis</i>	salmonberry	Rosaceae	yes
Shrub	<i>Rubus ursinus</i>	California blackberry	Rosaceae	yes
Shrub	<i>Sambucus racemosa</i> var. <i>racemosa</i>	red elderberry	Adoxaceae	yes
Shrub	<i>Vaccinium ovatum</i>	evergreen huckleberry	Ericaceae	yes
Shrub	<i>Vaccinium parvifolium</i>	California red huckleberry	Ericaceae	yes
Herb	<i>Bellis perennis</i>	English daisy	Asteraceae	no
Herb	<i>Boykinia occidentalis</i>	western brook-foam	Saxifragaceae	yes
Herb	<i>Cardamine hirsuta</i>	hairy bittercress	Brassicaceae	no
Herb	<i>Claytonia sibirica</i>	candy flower	Montiaceae	yes
Herb	<i>Digitalis purpurea</i>	common foxglove	Plantaginaceae	no
Herb	<i>Galium aparine</i>	bedstraw	Rubiaceae	yes
Herb	<i>Heracleum maximum</i>	cow parsnip	Apiaceae	yes
Herb	<i>Hypochaeris radicata</i>	rough cat's-ear	Asteraceae	no
Herb	<i>Iris douglasiana</i>	Douglas iris	Iridaceae	yes
Herb	<i>Lamium galeobdolon</i>	Yellow archangel	Lamiaceae	no
Herb	<i>Leucanthemum vulgare</i>	ox-eye daisy	Asteraceae	no
Herb	<i>Lysimachia latifolia</i>	Pacific starflower	Myrsinaceae	yes
Herb	<i>Maianthemum dilatatum</i>	two-leaved false-Solomon's-seal	Ruscaceae	yes
Herb	<i>Marah oregana</i>	coast man-root	Cucurbitaceae	yes
Herb	<i>Osmorhiza</i> sp.	sweet cicely	Apiaceae	yes
Herb	<i>Petasites frigidus</i> var. <i>palmatus</i>	western colt's foot	Asteraceae	yes
Herb	<i>Plantago erecta</i>	dot-seed plantain	Plantaginaceae	yes
Herb	<i>Prunella vulgaris</i>	selfheal	Lamiaceae	unk

Herb	<i>Ranunculus repens</i>	common creeping buttercup	Ranunculaceae	no
Herb	<i>Raphanus sativus</i>	wild radish	Brassicaceae	no
Herb	<i>Stachys sp.</i>	hedge-nettle	Lamiaceae	yes
Herb	<i>Taraxacum officinale</i>	dandelion	Asteraceae	no
Herb	<i>Viola sempervirens</i>	redwood violet	Violaceae	yes
Graminoid	<i>Anthoxanthum odoratum</i>	sweet vernal grass	Poaceae	no
Graminoid	<i>Carex leptopoda</i>	slender-footed sedge	Cyperaceae	yes
Graminoid	<i>Dactylis glomerata</i>	orchard grass	Poaceae	no
Graminoid	<i>Holcus lanatus</i>	velvet grass	Poaceae	no
Graminoid	<i>Juncus effusus</i>	soft rush	Juncaceae	yes
Graminoid	<i>Luzula sp.</i>	wood rush	Juncaceae	yes
Fern and Fern Ally	<i>Athyrium filix-femina</i>	lady fern	Dryopteridaceae	yes
Fern and Fern Ally	<i>Polystichum munitum</i>	sword fern	Dryopteridaceae	yes
Fern and Fern Ally	<i>Pteridium aquilinum var. pubescens</i>	bracken fern	Dennstaedtiaceae	yes
Fern and Fern Ally	<i>Struthiopteris spicant</i>	deer fern	Blechnaceae	yes

Well Site 2 Botanical Species List:– Sue-meg New Well Project

Growth Form	Botanical Name	Common Name	Family	Native
Tree	<i>Abies grandis</i>	grand fir	Pinaceae	yes
Tree	<i>Acer macrophyllum</i>	big-leafed maple	Sapindaceae	yes
Tree	<i>Alnus rubra</i>	red alder	Betulaceae	yes
Tree	<i>Morella californica</i>	wax myrtle	Myricaceae	yes
Tree	<i>Picea sitchensis</i>	Sitka spruce	Pinaceae	yes
Tree	<i>Sequoia sempervirens</i>	coast redwood	Cupressaceae	yes
Tree	<i>Tsuga heterophylla</i>	western hemlock	Pinaceae	yes
Shrub	<i>Frangula purshiana</i>	California cascara	Rhamnaceae	yes
Shrub	<i>Gaultheria shallon</i>	salal	Ericaceae	yes
Shrub	<i>Hedera helix</i>	English ivy	Araliaceae	no
Shrub	<i>Lonicera involucrata</i>	twinberry	Caprifoliaceae	yes
Shrub	<i>Rubus parviflorus</i>	thimbleberry	Rosaceae	yes
Shrub	<i>Rubus spectabilis</i>	salmonberry	Rosaceae	yes
Shrub	<i>Sambucus racemosa var. racemosa</i>	red elderberry	Adoxaceae	yes
Shrub	<i>Vaccinium ovatum</i>	evergreen huckleberry	Ericaceae	yes
Shrub	<i>Vaccinium parvifolium</i>	California red huckleberry	Ericaceae	yes
Herb	<i>Bellis perennis</i>	English daisy	Asteraceae	no

Herb	<i>Boykinia occidentalis</i>	western brook-foam	Saxifragaceae	yes
Herb	<i>Cardamine oligosperma</i>	little bittercress	Brassicaceae	yes
Herb	<i>Claytonia sibirica</i>	candy flower	Montiaceae	yes
Herb	<i>Crocasmia x crocosmiifolia</i>	montbretia	Iridaceae	no
Herb	<i>Geum macrophyllum</i> var. <i>macrophyllum</i>	large-leaved avens	Rosaceae	yes
Herb	<i>Heracleum maximum</i>	cow parsnip	Apiaceae	yes
Herb	<i>Hypochaeris radicata</i>	rough cat's-ear	Asteraceae	no
Herb	<i>Maianthemum dilatatum</i>	two-leaved false-Solomon's-seal	Ruscaceae	yes
Herb	<i>Marah oregana</i>	coast man-root	Cucurbitaceae	yes
Herb	<i>Mentha pulegium</i>	European pennyroyal	Lamiaceae	no
Herb	<i>Osmorhiza purpurea</i>	purple sweet cicely	Apiaceae	yes
Herb	<i>Oxalis oregana</i>	redwood sorrel	Oxalidaceae	yes
Herb	<i>Petasites frigidus</i> var. <i>palmatius</i>	western colt's foot	Asteraceae	yes
Herb	<i>Plantago lanceolata</i>	English plantain	Plantaginaceae	no
Herb	<i>Prosartes smithii</i>	Smith's fairy bells	Liliaceae	yes
Herb	<i>Prunella vulgaris</i>	selfheal	Lamiaceae	unk
Herb	<i>Ranunculus repens</i>	common creeping buttercup	Ranunculaceae	no
Herb	<i>Rumex</i> sp.	dock	Polygonaceae	unk
Herb	<i>Sanicula crassicaulis</i>	Pacific sanicle	Apiaceae	yes
Herb	<i>Senecio jacobaea</i>	tansy ragwort	Asteraceae	no
Herb	<i>Stachys</i> sp.	hedge-nettle	Lamiaceae	yes
Herb	<i>Stellaria media</i>	common chickweed	Caryophyllaceae	no
Herb	<i>Tolmiea diplomenziesii</i>	pig-a-back plant	Saxifragaceae	yes
Herb	<i>Trifolium repens</i>	white clover	Fabaceae	no
Herb	<i>Veronica anagallis-aquatica</i>	great water speedwell	Plantaginaceae	no
Herb	<i>Vinca major</i>	big periwinkle	Apocynaceae	no
Herb	<i>Viola sempervirens</i>	redwood violet	Violaceae	yes
Graminoid	<i>Bromus</i> sp.	brome	Poaceae	unk
Graminoid	<i>Carex leptopoda</i>	slender-footed sedge	Cyperaceae	yes
Graminoid	<i>Carex obnupta</i>	slough sedge	Cyperaceae	yes
Graminoid	<i>Carex</i> sp.	sedge	Cyperaceae	yes
Graminoid	<i>Cortaderia jubata</i>	jubata grass	Poaceae	no
Graminoid	<i>Luzula parviflora</i>	small-flowered wood rush	Juncaceae	yes
Graminoid	<i>Scirpus microcarpus</i>	small-fruited bulrush	Cyperaceae	yes
Fern and Fern Ally	<i>Athyrium filix-femina</i>	lady fern	Dryopteridaceae	yes
Fern and Fern Ally	<i>Polypodium scolieri</i>	leather-leaved polypody	Polypodiaceae	yes

Fern and Fern Ally	<i>Polystichum munitum</i>	sword fern	Dryopteridaceae	yes
Fern and Fern Ally	<i>Struthiopteris spicant</i>	deer fern	Blechnaceae	yes