Appendix B

Attachment B

Biological Resources

Tenmile Creek Forest Health CalVTP PSA Project ID: # 2024-17

Attachmnet B

TECHNICAL REPORT ◦ SEPTEMBER 2024

Tenmile Creek Watershed Forest Health Project Biological Resources Evaluation

PREPARED FOR

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Conservation District
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Cover photos: Top left: montane hardwood-conifer forest; top right: oak woodland; bottom right: *Arctostaphylos* sp. (manzanita); bottom left: montane hardwood-conifer forest , March 2024.

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1 INTRODUCTION

The Eel River Recovery Project and the Mendocino County Resource Conservation District are working with private landowners to implement vegetation treatments on 1,908 acres of privately owned land in Mendocino County in the Tenmile Creek watershed near Laytonville, California as part of the Tenmile Creek Watershed Forest Health Project (Project). Stillwater Sciences (Stillwater) has prepared this Biological Resources Evaluation to characterize biological resources in the 1,908-acre Project Area and assess the Project's potential for adverse effects on sensitive biological resources.

1.1 Project Location

The Tenmile Creek Watershed Forest Health Project is located in Mendocino County near Laytonville, CA (Figure 1). The total Project Area evaluated in this document encompasses 1,908 acres of non-industrial private land. Initial and maintenance treatments are proposed to occur over 921 acres on 24 private and one school district property (Phase I). The remaining 987 acres on three privately-owned parcels are in the planning stages for future forest health treatment implementation (Phase II) and have been evaluated for biological resources and potential impacts. However, treatment will not occur on these areas until funding becomes available. Though Project activities will happen on different timelines and many of the parcels are not contiguous, the entire 1,908 acres are considered one Project Area.

The Project is located within the Cahto Peak, Laytonville, and Tan Oak Park USGS 7.5" quadrangles. It is located in Sections 3, 10, 13, 14, 15, 21, 22 of Township 21 North, Range 15 West; Sections 8, 9, 18, 19, 21, 22, 23, 33, 34 in Township 22 North, Range 15 West; and Sections 14, 15, 21, 22 in Township 22 North, Range 16 West. Elevations in the Project Area range from approximately 1,250 feet to 2,900 feet above mean sea level.

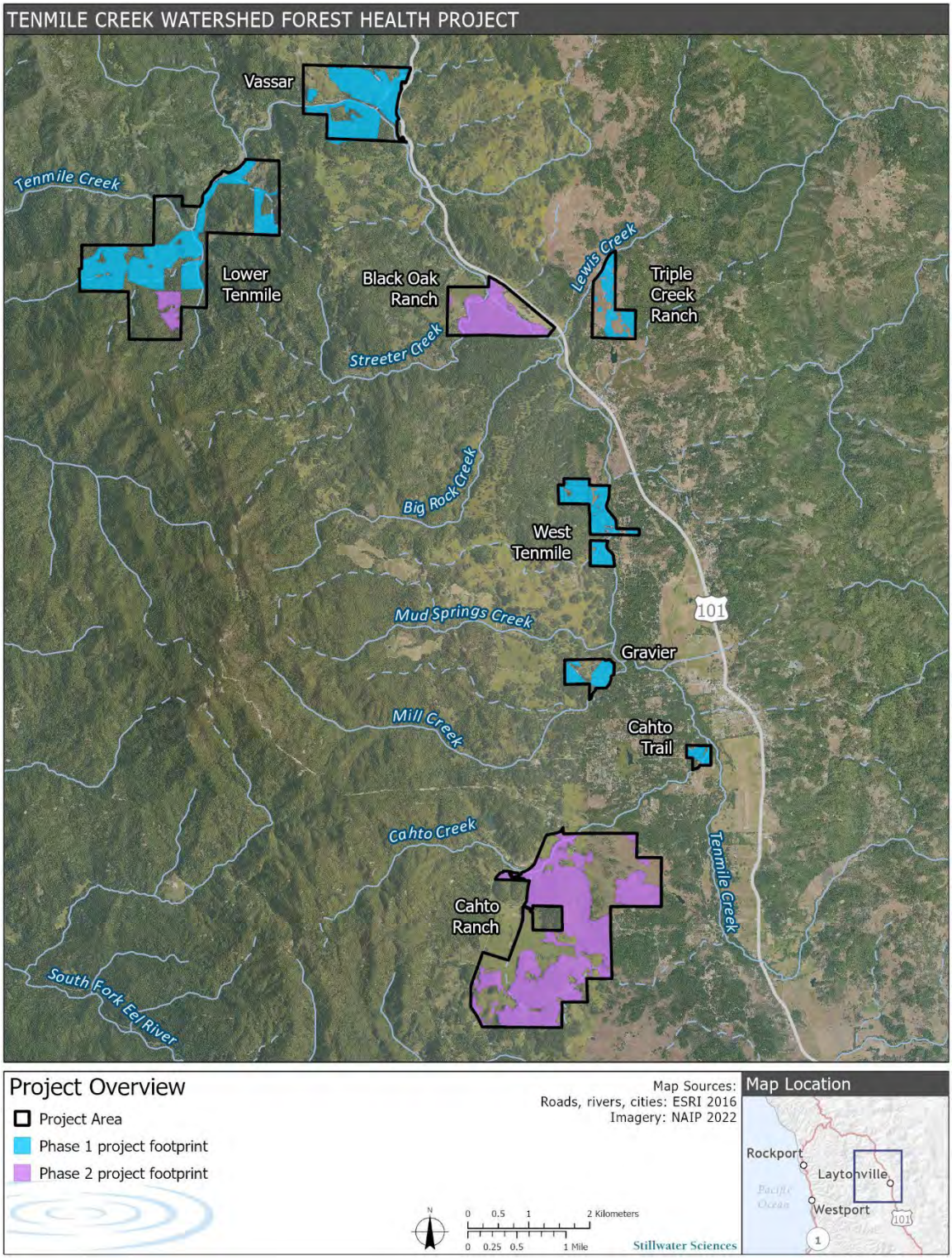

Figure 1. Project Area and vicinity, Laytonville, California.

2 PROJECT DESCRIPTION

The goal of the Project is to enhance forest health and ecological stability. Project objectives include reducing fuel loads, restoring oak woodlands, enhancing soil moisture and fertility, restoring native grasses and hydrologic functions, and creating employment opportunities to boost local socio-economic benefits.

Key management actions include thinning overstocked forest areas, creating shaded fuel breaks, and applying pile and prescribed burns to reduce surface and ladder fuels while enhancing ecosystem resilience and carbon storage. These efforts are designed to protect rural communities, promote biodiversity, and improve water yields.

2.1 Project Approach

The Project will utilize both mechanized and manual treatment methods. Mechanized treatments will occur predominantly on slopes less than 40% and averaging 30% throughout the Project Area. Manual treatment may include the use of chainsaws and/or other various hand mechanized or hand tools to prune trees and woody vegetation, buck (meaning to cut into smaller sizes and lengths) downed debris and materials, and to treat dead, dying, and diseased trees. Manual treatments may occur on slopes greater than 40% or where access of mechanized equipment is infeasible. Prescribed broadcast burning and pile burning will be used to achieve similar treatment prescriptions. Broadcast burning will aim to reimplement appropriate fire return intervals on approximately 347 acres. Pile burning or lop and scatter will also be utilized as a means of biomass removal or treatment in locations that are inaccessible to mechanical equipment.

No vegetation treatment work would take place within 100 feet of a Class I or II watercourse, within 30 feet of a Class III watercourse, or within 50 feet of a wetland. Plants and trees of cultural significance would not be removed.

2.1.1 Forest Fuels Reduction (Thinning)

Understory trees and brush would be thinned to reduce fire hazards, improve tree growth, stabilize carbon in retained trees, and increase forest resilience to high-intensity wildfire disturbances. Forest thinning activities may be manual or mechanical and must be designed to change stand structure to (1) concentrate carbon storage in widely spaced and larger trees that are more resilient to wildfire, drought, and pest outbreaks; (2) reduce the likelihood of wildfire transitioning into the forest canopy; and (3) provide co-benefits such as fish and wildlife habitat, increased biodiversity, and wildlife adaptation to climate change. Conifers that are overtopping black oak trees may be girdled[1] to create a wildlife snag, instead of being removed if removal or felling of those conifer trees could damage the surrounding oak trees.

2.1.2 Prescribed Fire and Cultural Fire

Fire would be applied to the landscape to reduce fuel loads, create heterogenous and diverse vegetation, maintain cultural practices of indigenous communities, and/or promote healthy ecosystem processes such as water storage and pest control. Prescribed fire (also referred to as

[1] Girdling is a technique used to kill a tree in place by removing a strip of the outer bark around the tree to cut off the nutrient flow between the roots and leaves of the tree.

controlled or prescribed burn) is a planned fire that is used under conditions and intensities that are controlled and are intended to meet certain burn objectives (e.g., maintaining or restoring desired plants within a plant community) (NRCS 2012). A prescription is a set of conditions that considers the considers the safety of the public and fire staff, weather, and probability of meeting the burn objectives (National Park Service 2024). Distinguished from prescribed fire, cultural fire is the intentional application of fire to the land by an Indigenous person or cultural group (e.g., family unit, Tribe, clan/moiety, or society) to achieve cultural goals or objectives, such as promoting the health of vegetation and animals that provide food, clothing, and ceremonial items (Roos 2020) and is based on Tribal or Traditional Indigenous law.

2.1.3 Invasive Plant Removal

An integrated pest management approach, focusing on manual hand treatments would be used to remove invasive species such as, but not limited to, *Rubus armeniacus* (Himalayan blackberry), *Cytisus scoparius* (Scotch broom), *Spartium junceum* (Spanish broom), *Genista monspessulana* (French broom), and other non-native species occurring within the Project Area.

2.1.4 Treatment Specifications

Fuel reduction treatments would be implemented following guidelines and specifications provided below:

- Lopping and scattering: Lopping is the severing or cutting of limbs, branches, treetops, and other woody plant material into lengths so that the remaining slash (branches, limbs, and treatment debris cut to be less than 4 inches in diameter) would lie close to the ground. Scattering is the spreading of lopped slash evenly over the ground so that no part of it remains more than 18 inches above the ground. Hand crews would lop and scatter slash on steeper slopes and areas with limited access where chipping, mastication, and burning piles is not feasible. Lopping and scattering would achieve the goals of thinning dense forest stands in less accessible areas and treating the cut trees to reduce fire risk and to increase the decomposition rate of the material.
- Pruning: Residual trees would be pruned by lopping low branches up to a minimum height of 8 feet (above the level of slash on the uphill side of the tree). Pruning would reduce ladder fuels and improve wood quality.
- Broadcast burning: Broadcast burns are controlled applications of fire to fuels under specified conditions that allow fire to be confined to a predetermined area to produce the fire behavior and characteristics required to meet forest health objectives identified in a detailed burn plan (USFS 2024). Broadcast burning of understory would be implemented in accordance with a specific prescription and burn plan that defines the desired maximum flame lengths and fire spread rates based on the fuel types, weather, slopes, aspect, staffing levels, and containment lines and strategies set out in a burn plan. Interior portions of prescribed fires may exceed the prescribed flame lengths planned at the control lines, but the overall prescription is designed to safely contain the fire within a planned fire perimeter. Burns could occur from January through December during which time conditions would be conducive to burning targeted fuels. Broadcast burning may require constructing new control lines or enhancing existing control lines. Control lines are boundaries—natural or humanmade—that firefighters use to control how and where a fire spreads and can include handlines, mow lines, and/or dozer lines.
- Slash treatment: All slash produced would be treated using one of the following methods:

- Chipping or masticating: Fuels present in areas adjacent to roads, landings, building pads and other accessible portions of the treatment areas would be hand fed into a power chipper and chips would be blown onto the ground. Mastication would reduce the size of residual down and dead vegetation by grinding, shredding, or chopping material and leaving it onsite as mulch.
- Piling and burning: Pile and burn operations would occur where vehicle access is available. Hand crews would place piles in existing openings and on compacted ground along roadsides as feasible. Piles would be burned during appropriate times of the year with favorable weather windows.

2.2 Avoidance and Minimization Measures

CEQA compliance for the Project will occur under the Program Environmental Impact Report (PEIR) for the California Vegetation Treatment Program (CalVTP). Therefore, the Project must comply with the PEIR's Standard Project Requirements (SPRs) to avoid or minimize adverse effects on biological resources.

Based on the likelihood of occurrence of biological resources and the analysis of potential environmental effects, SPRs have been identified below to avoid or minimize adverse effects on biological resources. The full description of all SPRs identified in this document is in Appendix A.

3 METHODS

Special-status species may be naturally rare or may have become reduced in numbers due to environmental changes and loss of habitat. Special-status species contribute to the biodiversity and stability of ecosystems. Individuals and populations of these species are important for the genetic diversity and survival of the species. Methods for evaluating the presence of botanical and wildlife resources within the Project Area are provided in the following sections.

3.1 Definitions

For the purposes of this report, special-status species were defined as those that are:

- listed, proposed, or under review as endangered or threatened under the federal Endangered Species Act or the California Endangered Species Act;
- designated by California Department of Fish and Wildlife (CDFW) as a Species of Special Concern;
- designated by CDFW as Fully Protected under the California Fish and Game Code (Sections 3511, 4700, 5050, and 5515);
- protected under the federal Bald and Golden Eagle Protection Act;
- designated as rare under the California Native Plant Protection Act; and/or
- included on CDFW's most recent *Special Vascular Plants, Bryophytes, and Lichens List* (CDFW 2024) with a California Rare Plant Rank (CRPR) of 1, 2, 3, or 4.

Sensitive natural communities were defined as those natural community types with a state ranking of S1 (critically imperiled), S2 (imperiled), or S3 (vulnerable) as listed in the most recent *California Sensitive Natural Communities List* (CDFW 2023).

3.2 Database Queries

Lists of special-status plant, fish, and wildlife species, designated critical habitat for federally listed and proposed endangered, threatened, and candidate species, and sensitive natural communities previously documented in the region of the Project Area were developed through a query of the following resources:

- U.S. Fish and Wildlife Service's (USFWS) Information for Planning and Conservation (IPaC) portal (USFWS 2024a);
- National Marine Fisheries Service's (NMFS), West Coast Region, California Species List Tool (NMFS 2016);
- CDFW's California Natural Diversity Database (CNDDB) (CDFW 2024); and
- California Native Plant Society's (CNPS) Inventory of Rare and Endangered Plants of California (CNPS 2024a).

The database queries were based on the U.S. Geological Survey 7.5-minute quadrangles in which the Project is located (Cahto Peak and Tan Oak Park) and the surrounding ten quadrangles (Laytonville, Lincoln Ridge, Leggett, Iron Peak, Dutchmans Knoll, Sherwood Peak, Longvale, Updegraff Ridge, Bell Springs, and Noble Butte), collectively referred to as the Project Vicinity. The USFWS IPaC query was based on the spatial extent of the Project Area.

3.3 Field Assessment and Existing Information Review

On March 13, 14, and 15, 2024, Stillwater biologists conducted an assessment of field habitat within the Project Area. Habitats were qualitatively evaluated for potential to support special-status species—including plants, fish, and wildlife—based on habitat types, habitat elements, and visual observation of species present. Vegetation types were classified using the California Wildlife Habitat Relationship (CWHR) habitat classification scheme (CDFW 2021). General habitats and other notable features in the assessment area were photographed.

The following resources were also reviewed to gain further information regarding species' potential to occur within the Project Area:

- Google Earth aerial imagery (Google Earth 2024).
- Soils data (NRCS 2024); and
- Wetlands and riparian data, including the National Wetland Inventory (USFWS 2024b).
- eBird (eBird 2024);
- North American Bat Acoustic Monitoring Portal (BatAMP) (Conservation Biology Institute and USFS 2024);

The preliminary lists of special-status plant, wildlife, and fish species were evaluated to determine the likelihood for each species' occurrence within the Project Area based on their habitat requirements and known distributions, field assessments of habitat within the Project Area, elevations (1,250–2,900 feet) in the Project Area, location and date of last recorded observation, and professional judgement. The likelihood of occurrence was rated as *high*, *moderate*, *low*, or *none* based on available information and professional judgement. If a species on the preliminary list requires habitat that is lacking within the Project Area (e.g., coastal dunes) or occurs outside the elevation range of the Project Area, the species' likelihood of occurrence was considered to be *none*.

Additionally, protocol-level special-status plant surveys were conducted in portions of the Project Area by Salix Natural Resource Management in April, May, June, and July 2024.

4 RESULTS

4.1 Vegetation and Habitats

The Project Area was mapped based on the initial site visit using CWHR vegetation types (Figures 2–8, Table 1). The Project Area is dominated by forested habitats with developed areas and open grasslands mixed throughout. Representative photographs of existing conditions are provided in Figures 9–14.

Table 1. California Wildlife Habitat Relationship types in the Project Area.

CWHR Type	Acres	Percent of Project Area	Habitat Description
Montane Hardwood-Conifer	1561.6	43.4%	The Montane Hardwood-Conifer habitat type was dominated by a mixture of Ponderosa pine (*Pinus ponderosa*), Douglas fir (*Pseudotsuga menziesii*), black oak (*Quercus kelloggii*), and madrone (*Arbutus menziesii*). Within the Project Area, this forest habitat type was most often observed lacking a substantial understory shrub layer.
Annual Grassland	862.4	24.0%	The Annual Grassland habitat type was characterized by open grasslands which were seasonally dormant at the time of the site assessment (March). Dominant species include primarily nonnative annual grass such as wild oats (*Avena* sp.) and various bromes (*Bromus* sp.).
Montane Hardwood	784.4	21.8%	The Montane Hardwood habitat type was dominated by madrone and oaks. Stands of black oak and madrone were mixed in size and age and were found to have some understory composed of nonnative grasses, bracken fern (*Pteridium aquilinum* var. *pubescens*), and California blackberry (*Rubus ursinus*).
Mixed Chaparral	149.8	4.2%	The Mixed Chapparal habitat type was composed almost entirely of dense, monotypic stands of manzanita shrubs (*Arctostaphylos manzanita* ssp. *manzanita)*. These stands were found exclusively growing in open clearings with no overstory and had little to no herbaceous understory.
Douglas-fir	141.6	3.9%	The Douglas-fir habitat type was primarily composed of Douglas-fir with low diameter at breast height growing closely together and forming a dense canopy layer. The understory was heavily shaded with occasional tanoak (*Notholithocarpus densiflorus* var. *densiflorus*) and sword fern (*Polystichum munitum*).
Montane Riparian	11.6	0.3%	The Montane Riparian habitat type was dominated by riparian hardwood trees such as bigleaf maple (*Acer macrophyllum*), alder (*Alnus spp.*), and willow (*Salix spp.*). Much of the vegetation in this habitat type was seasonally dormant at the time of the site assessment (March).
Developed/Active Channel/Water	86.4	2.4%	--
Total	3,597.8	100.0%	--

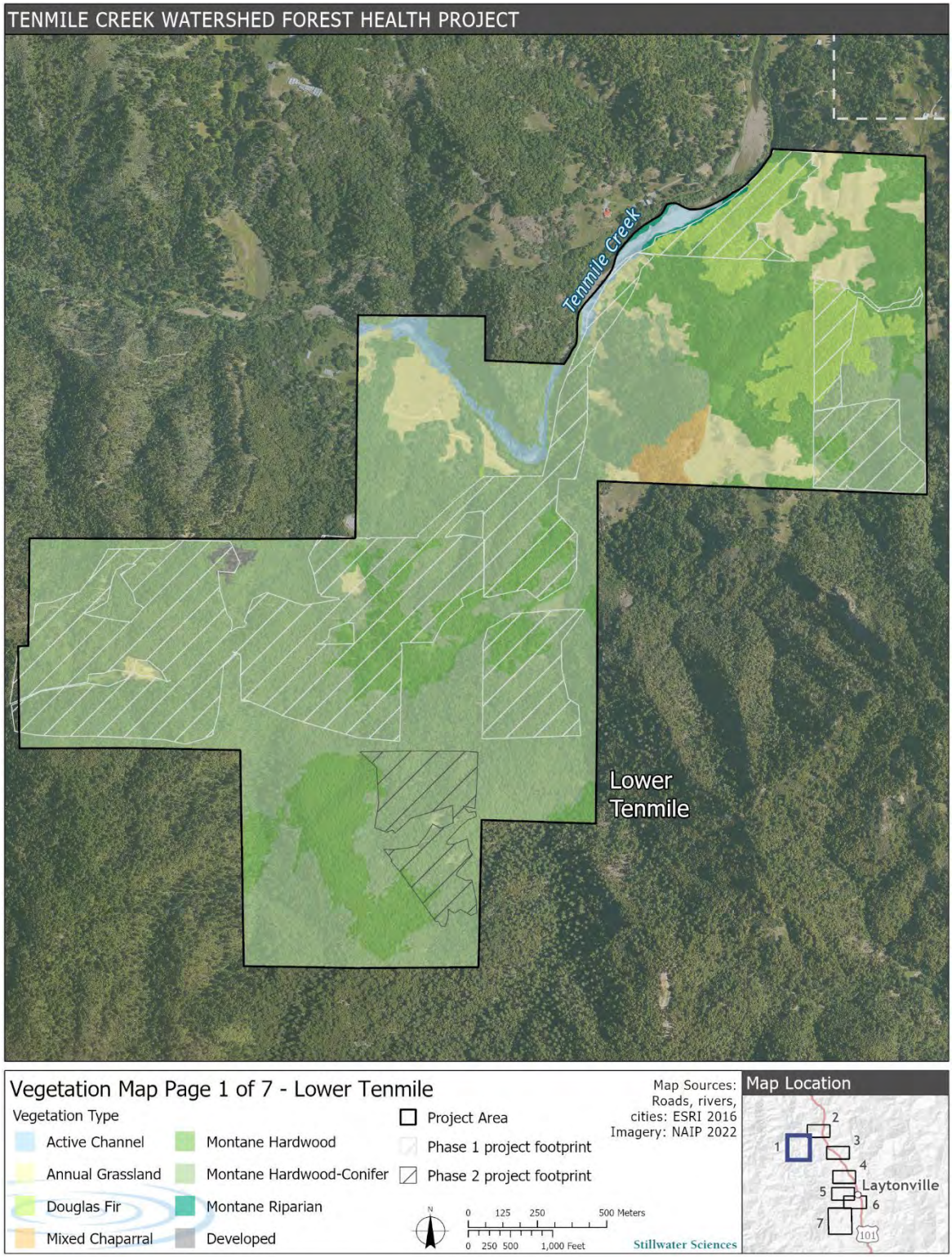

Figure 2. California Wildlife Habitat Relationship habitat types within the Project Area. Page 1 of 7.

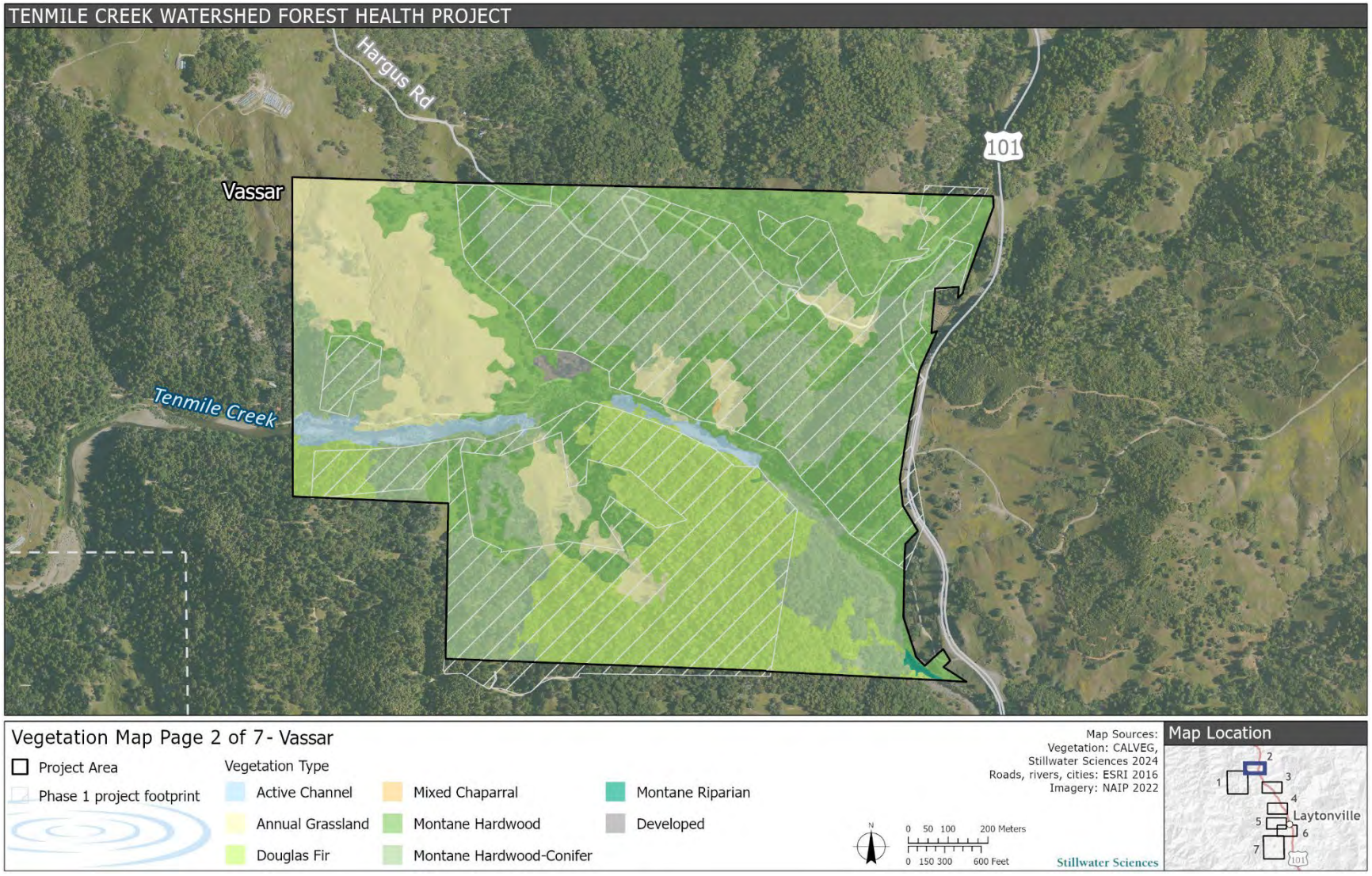

Figure 3. California Wildlife Habitat Relationship habitat types within the Project Area. Page 2 of 7.

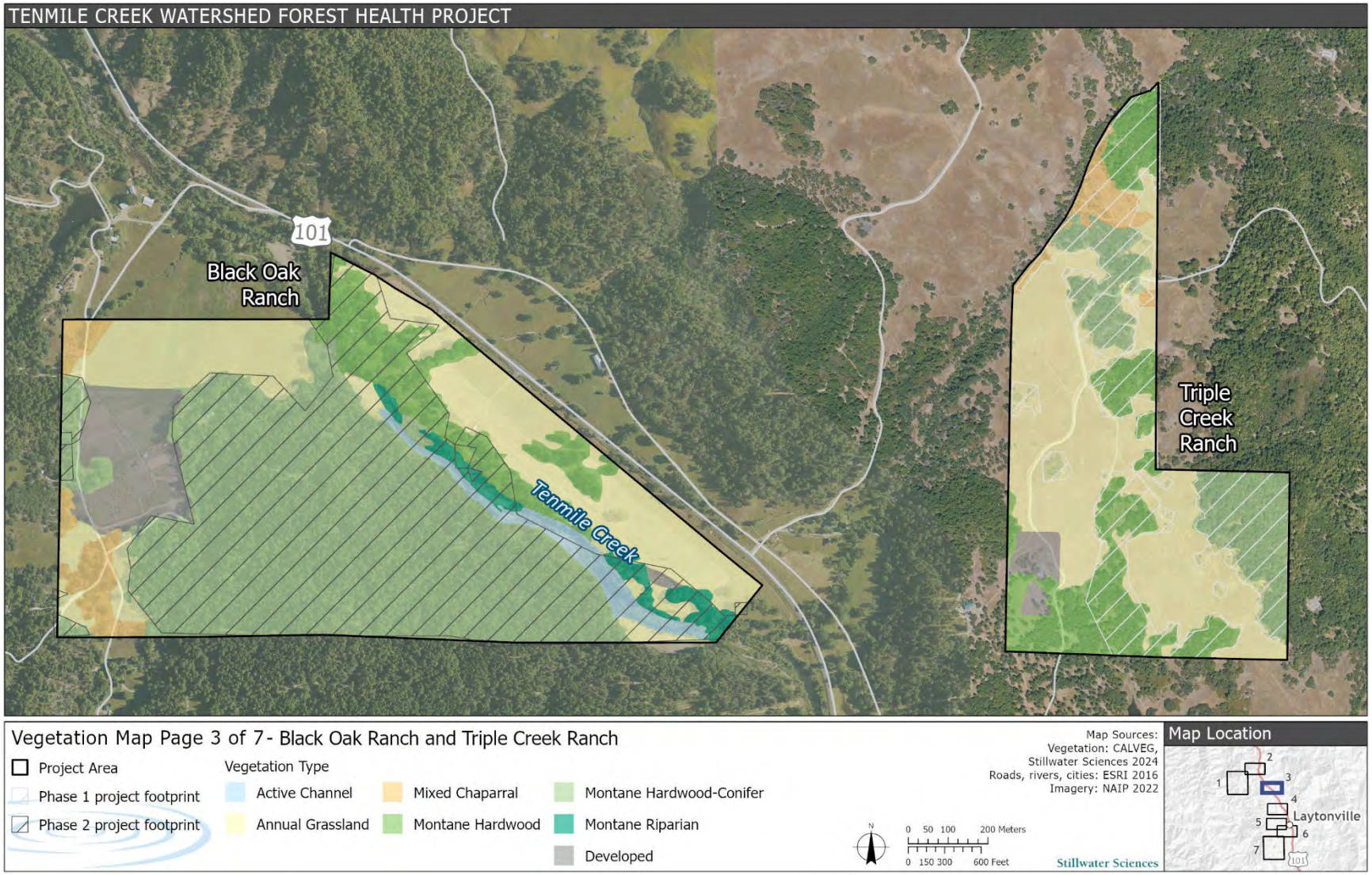

Figure 4. California Wildlife Habitat Relationship habitat types within the Project Area. Page 3 of 7.

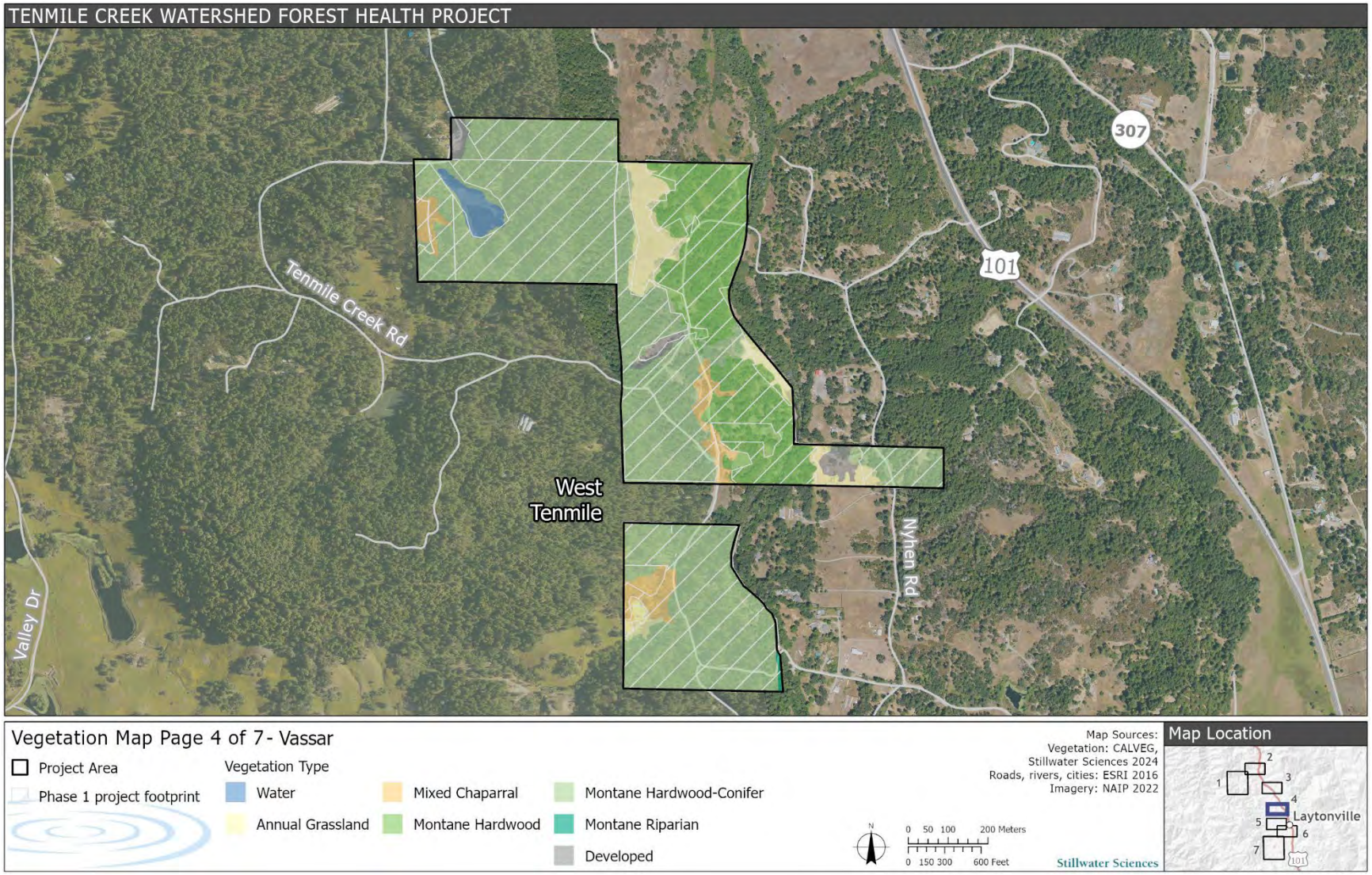

Figure 5. California Wildlife Habitat Relationship habitat types within the Project Area. Page 4 of 7.

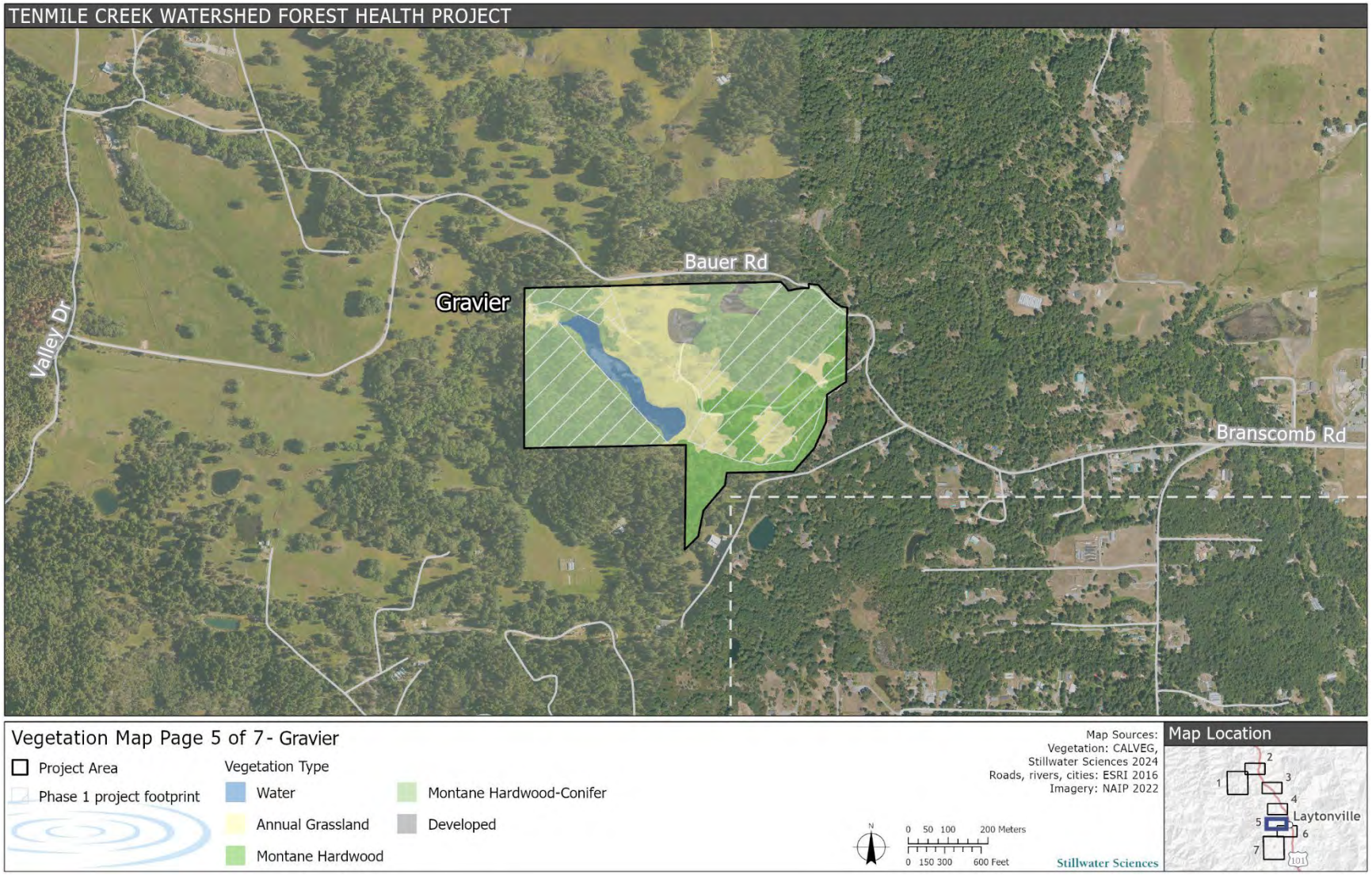

Figure 6. California Wildlife Habitat Relationship habitat types within the Project Area. Page 5 of 7.

Figure 7. California Wildlife Habitat Relationship habitat types within the Project Area. Page 6 of 7.

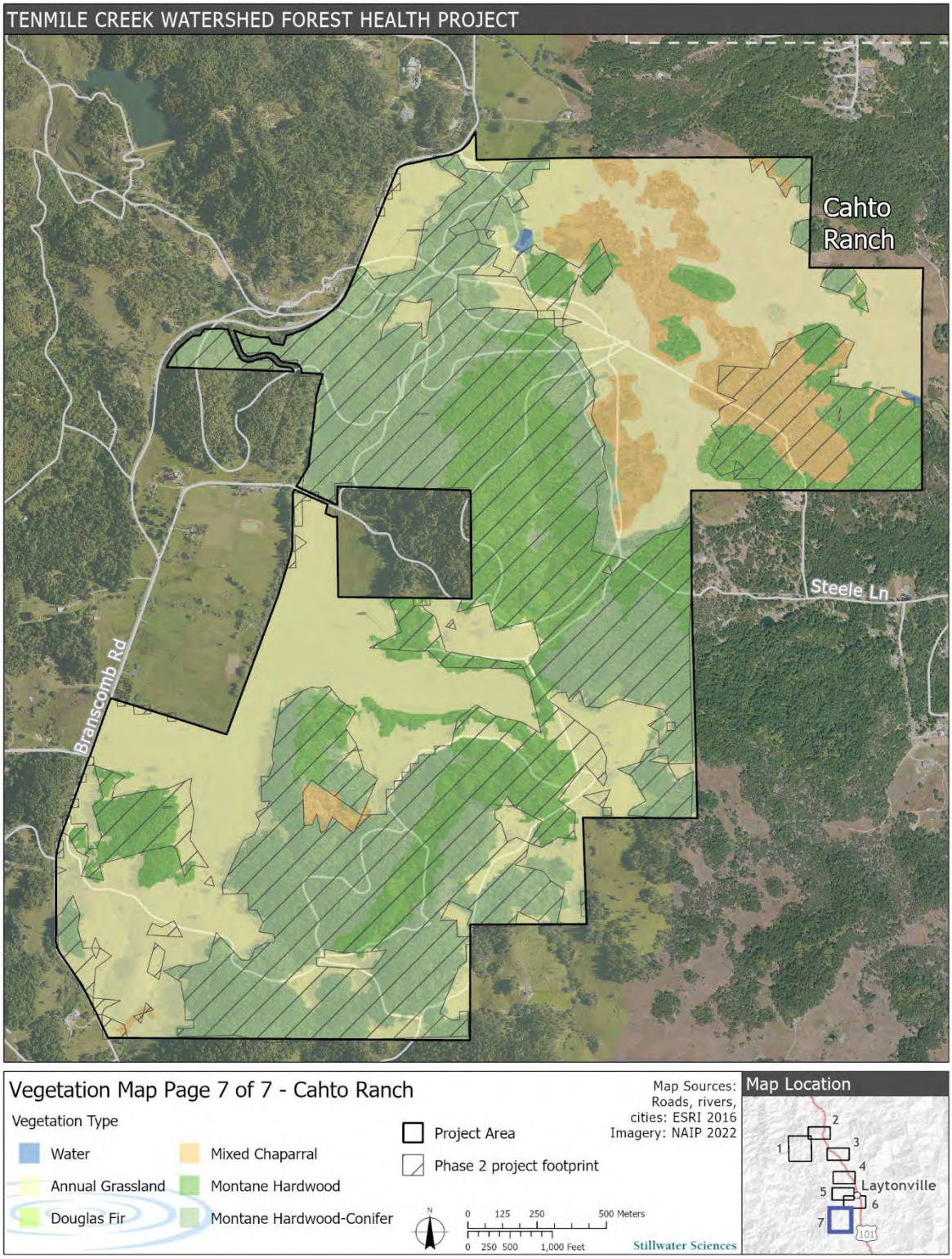

Figure 8. California Wildlife Habitat Relationship habitat types within the Project Area. Page 7 of 7.

Figure 9. Representative photographs of Montane Hardwood-Conifer habitat within the Project Area, taken in March 2024.

Figure 10. Representative photographs of Annual Grassland habitat (foreground) within the Project Area, taken in March 2024.

Figure 11. Representative photographs of Montane Hardwood habitat within the Project Area, taken in March 2024.

Figure 12. Representative photographs of Mixed Chaparral habitat within the Project Area, taken in March 2024.

Figure 13. Representative photographs of Douglas Fir habitat within the Project Area, taken in March 2024.

Figure 14. Representative photographs of Montane Riparian habitat within the Project Area, taken in March 2024.

4.2 Wetland Habitats

A formal delineation of waters and wetlands was not conducted for this Project. National Wetland Inventory (USFWS 2024b) riverine features in the Project Area include Tenmile Creek and its tributaries including Cahto Creek, Mud Springs Creek, Spring Creek, Peterson Creek, and other unnamed tributaries (Figures 15–21). Tenmile Creek is a Class I watercourse, the other riverine features in the Project Area are either Class I or Class II watercourses. Other NWI features in or near the Project Area include Freshwater Forested/Shrub Wetland, Freshwater Emergent Wetland, and Freshwater Pond (Figures 15–21). Reconnaissance-level surveys conducted in March 2024 confirmed riparian vegetation (e.g., bigleaf maple, alder, and willow) along the banks of many of the creeks in the Project Area.

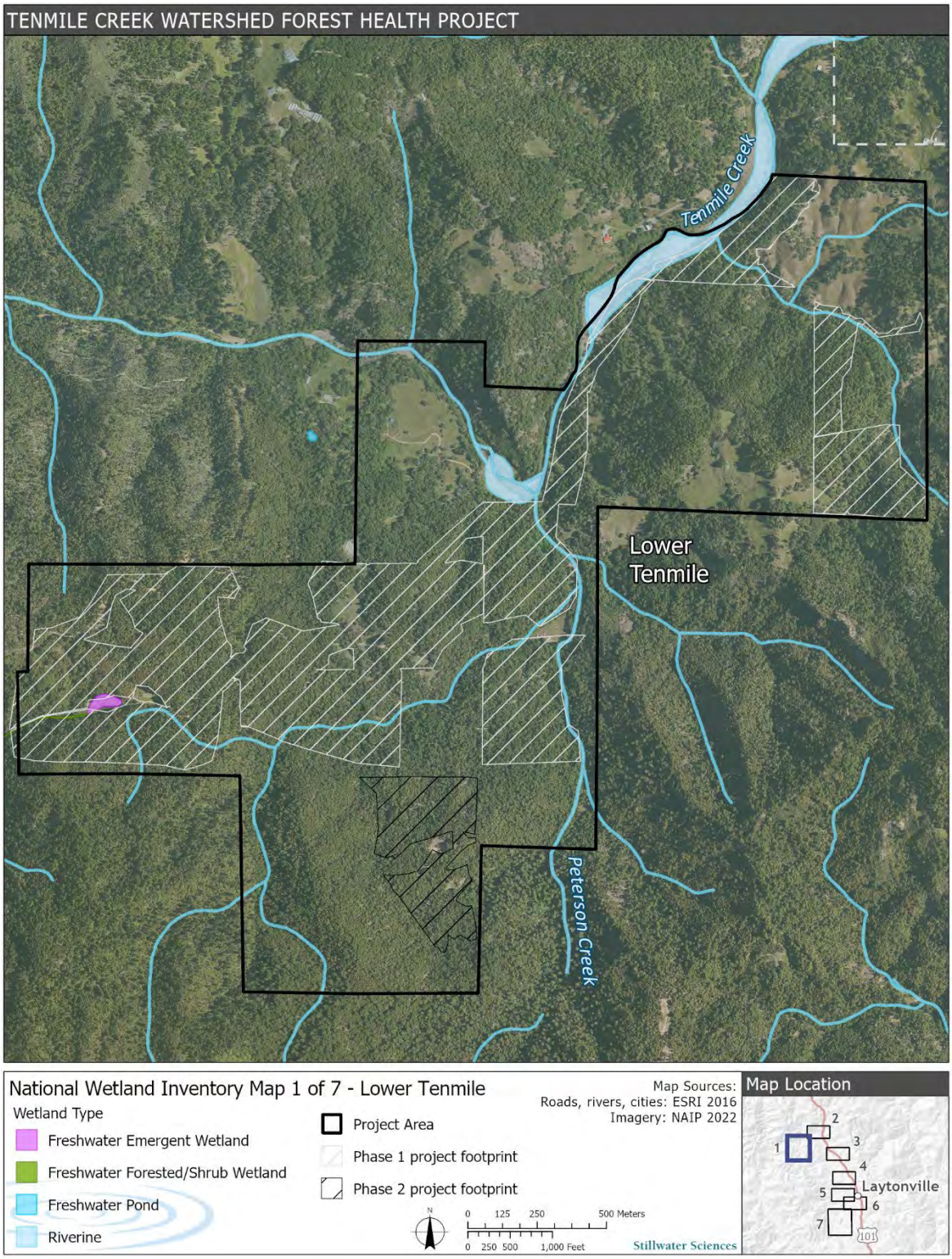

Figure 15. National Wetland Inventory mapped wetlands in the vicinity of the Project Area. Page 1 of 7.

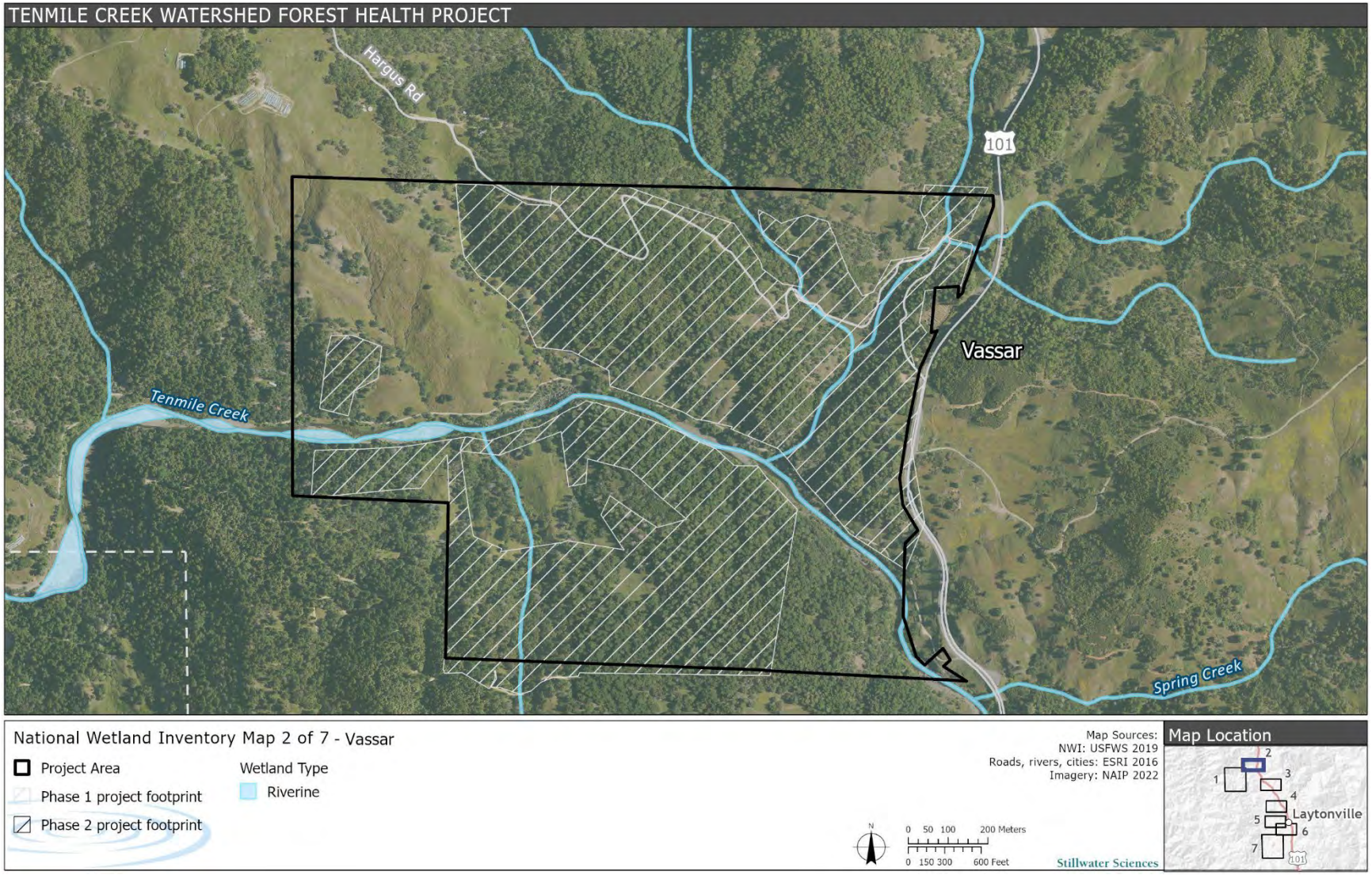

Figure 16. National Wetland Inventory mapped wetlands in the vicinity of the Project Area. Page 2 of 7.

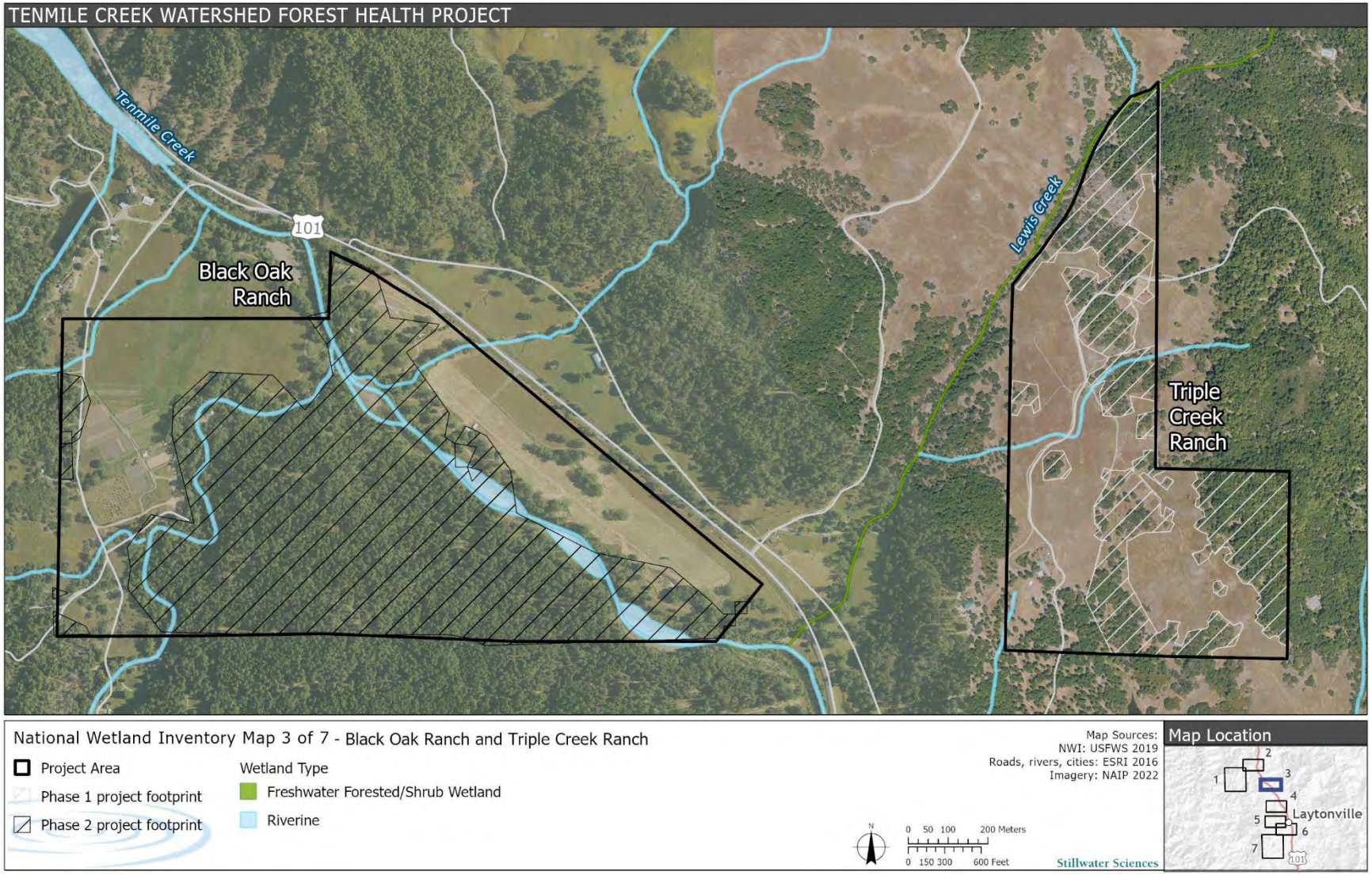

Figure 17. National Wetland Inventory mapped wetlands in the vicinity of the Project Area. Page 3 of 7.

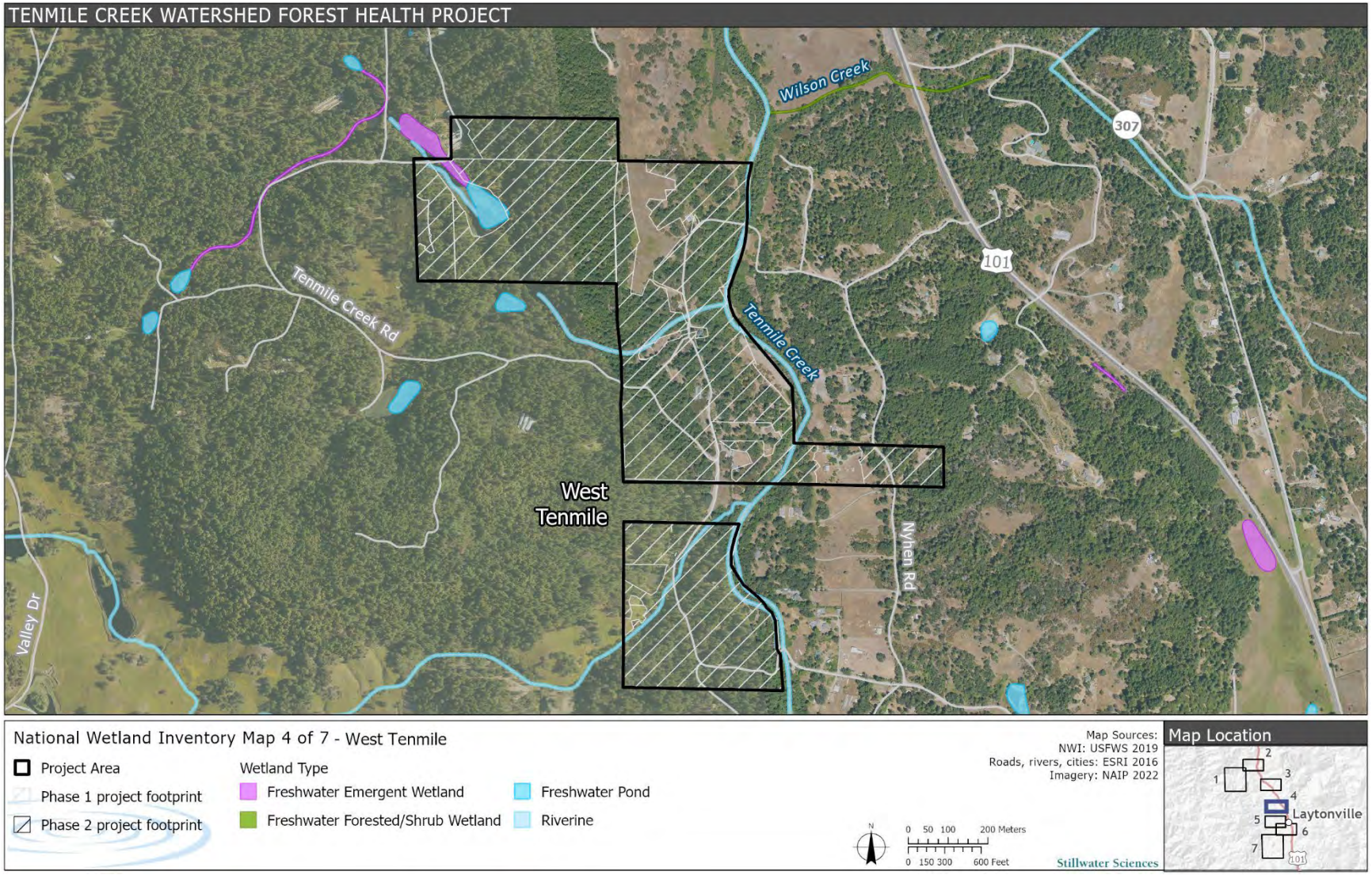

Figure 18. National Wetland Inventory mapped wetlands in the vicinity of the Project Area. Page 4 of 7.

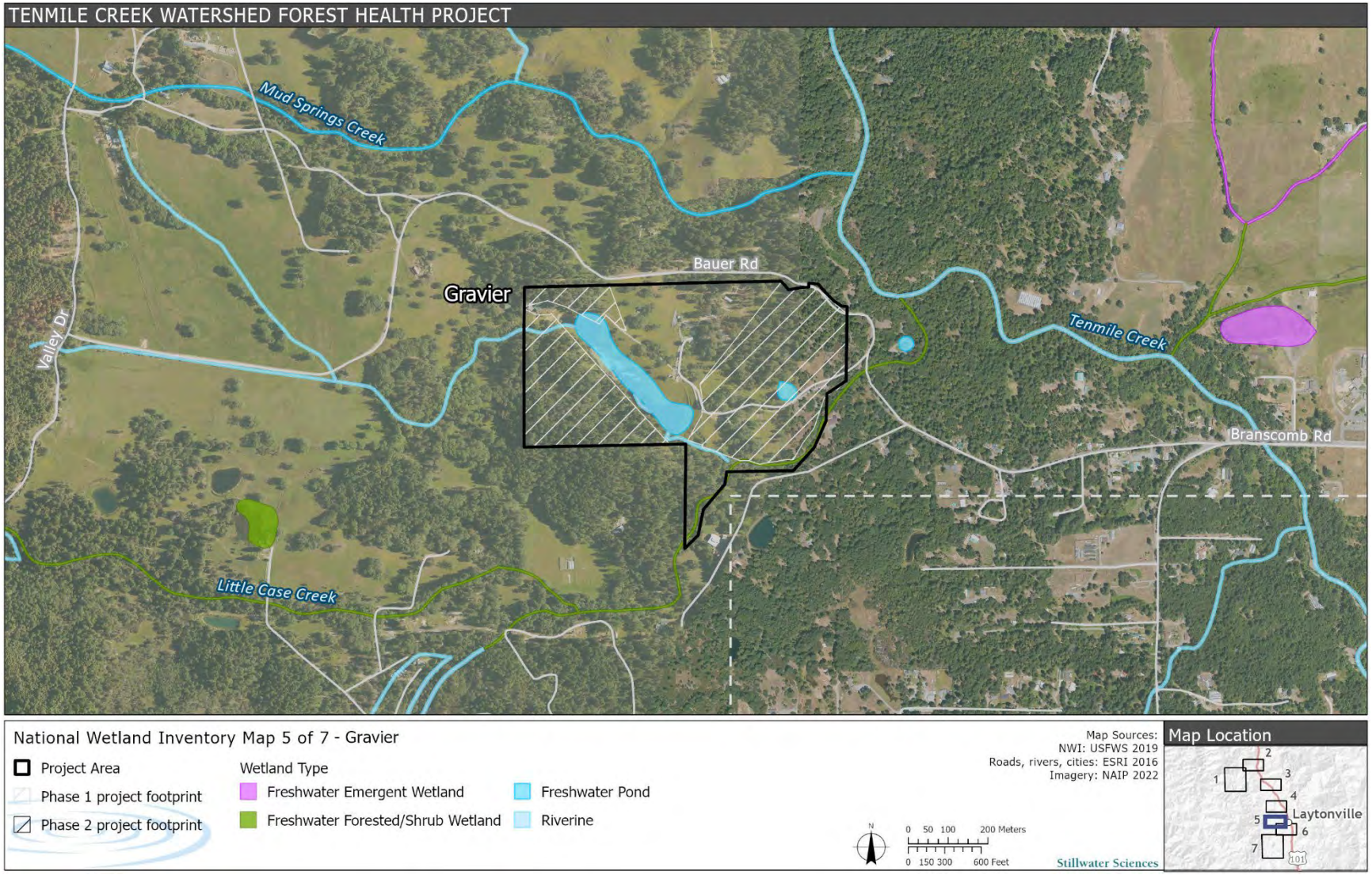

Figure 19. National Wetland Inventory mapped wetlands in the vicinity of the Project Area. Page 5 of 7.

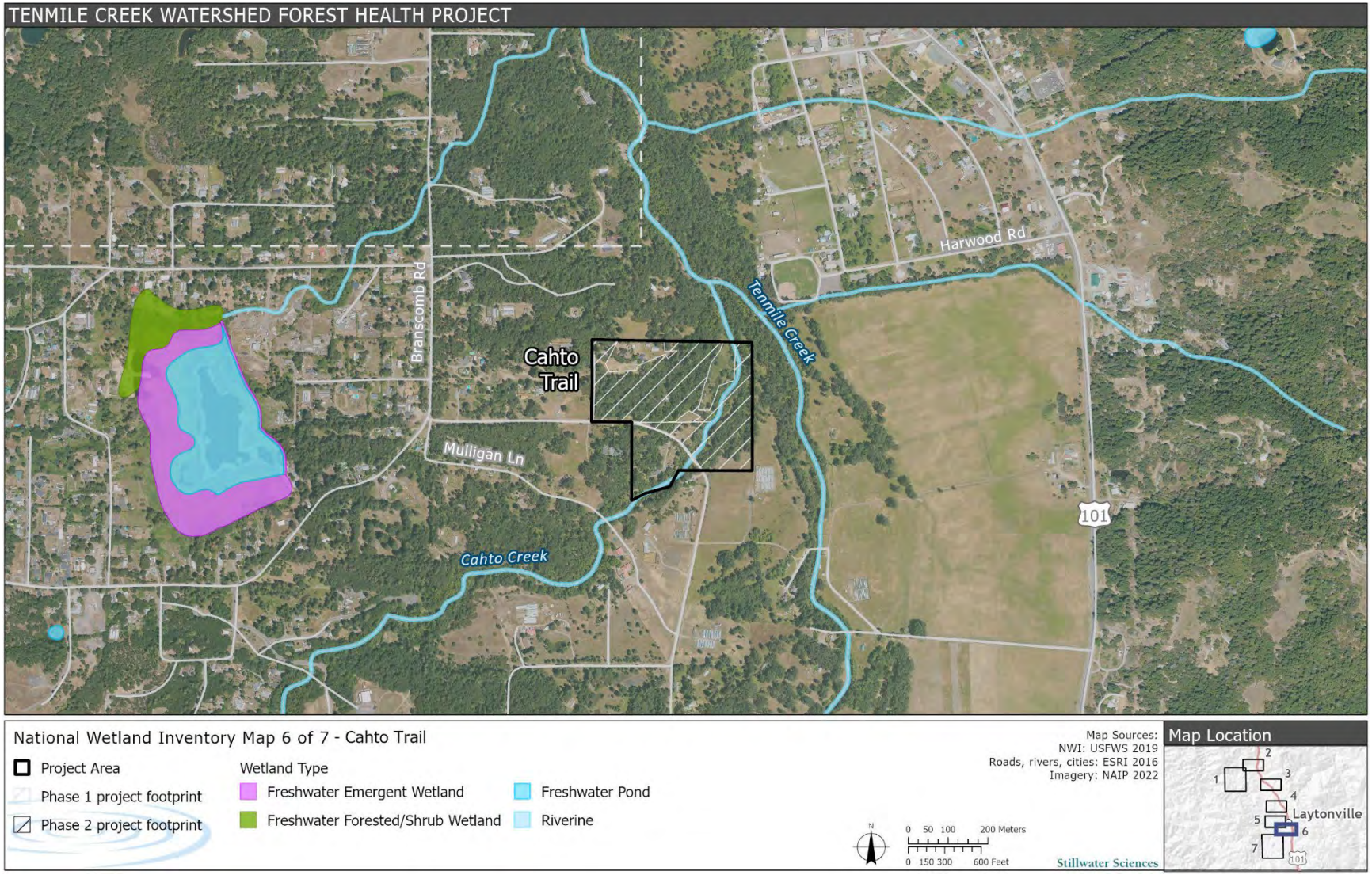

Figure 20. National Wetland Inventory mapped wetlands in the vicinity of the Project Area. Page 6 of 7.

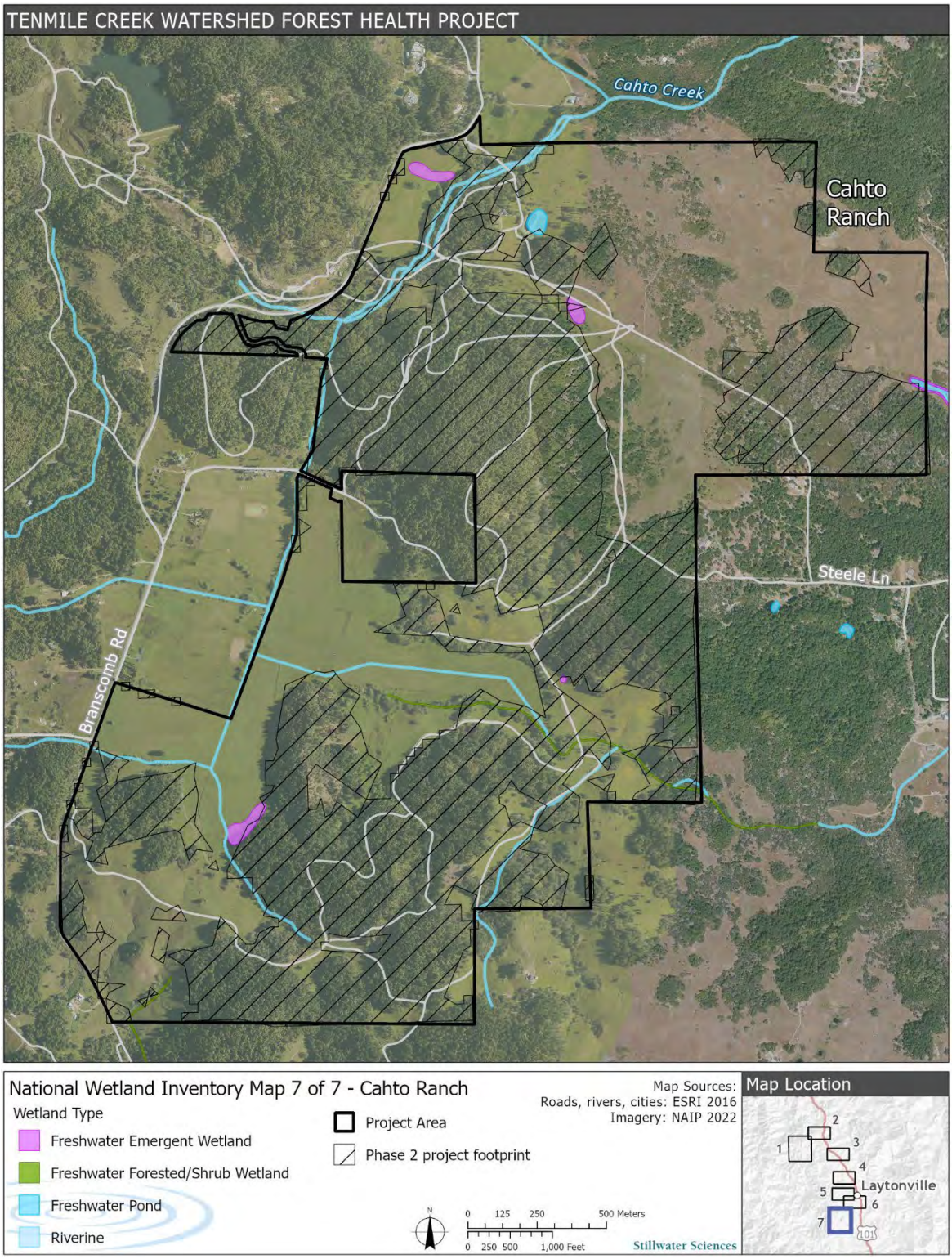

Figure 21. National Wetland Inventory mapped wetlands in the vicinity of the Project Area. Page 7 of 7.

4.3 Sensitive Natural Communities

Table 2 contains a list of Sensitive Natural Communities with potential to occur within the Project Area. This list was created by querying the Manual of California Vegetation Online Database (CNPS 2024b) for all vegetation alliances associated with each CWHR habitat type documented in the Project Area during reconnaissance-level surveys in March 2024. This list was then narrowed to include only alliances which 1) are listed as rare (state rank of S3, S2, or S1) and 2) have the potential to occur in the vicinity of the Project Area based on geographic range, habitat, and occurrence data (CNPS 2024b).

Table 2. Sensitive Natural Communities with the potential to occur within the Project Area.

Sensitive Natural Community	Common Name	State Status[1]	CWHR Type
Acer macrophyllum Forest & Woodland Alliance	Bigleaf maple forest and woodland	S3	Montane Hardwood-Conifer, Montane Hardwood, Douglas-fir
Heterotheca (*oregona*, *sessiliflora*) Herbaceous Alliance	Goldenaster patches	S3	Annual Grassland
Lasthenia glaberrima-Eleocharis macrostachya Herbaceous Alliance	Smooth goldfields - pale spike rush vernal pool bottoms	S2	Annual Grassland
Notholithocarpus densiflorus Forest Alliance	Tanoak forest	S3.2	Montane Hardwood
Quercus garryana (tree) Forest & Woodland Alliance	Oregon white oak woodland and forest	S3	Montane Hardwood
Umbellularia californica Forest & Woodland Alliance	California bay forest and woodland	S3	Montane Hardwood
Arctostaphylos (*bakeri*, *montana*) Shrubland Alliance	Baker's or Mt. Tamalpais manzanita chaparral	S3	Mixed Chaparral
Arctostaphylos (*canescens*, *manzanita*, *stanfordiana*) Shrubland Alliance	Hoary, common, and Stanford manzanita chaparral	S3	Mixed Chaparral
Arctostaphylos glandulosa Shrubland Alliance	Eastwood manzanita chaparral	S3	Mixed Chaparral
Arctostaphylos (*nummularia, sensitiva*) - *Chrysolepis chrysophylla* Shrubland Alliance	Glossy leaf manzanita - Golden chinquapin chaparral	S2	Mixed Chaparral
Ceanothus (*oliganthus*, *tomentosus*) Shrubland Alliance	Hairy leaf - woolly leaf ceanothus chaparral	S3	Mixed Chaparral
Quercus wislizeni – Quercus chrysolepis (*shrub*) Shrubland Alliance	Canyon live oak - Interior live oak chaparral	S3, S4	Mixed Chaparral
Tsuga heterophylla Forest Alliance	Western hemlock forest	S2	Douglas-fir
Carex nudata Herbaceous Alliance	Torrent sedge patches	S3	Montane Riparian
Fraxinus latifolia Forest & Woodland Alliance	Oregon ash groves	S3.2	Montane Riparian
Populus fremontii – Fraxinus velutina – Salix gooddingii Forest & Woodland Alliance	Fremont cottonwood forest and woodland	S3.2	Montane Riparian
Populus trichocarpa Forest & Woodland Alliance	Black cottonwood forest and woodland	S3	Montane Riparian

Sensitive Natural Community	Common Name	State Status[1]	CWHR Type
Rhododendron columbianum Shrubland Alliance	Western Labrador-tea thickets	S2	Montane Riparian
Vitis arizonica – Vitis girdiana Shrubland Alliance	Wild grape shrubland	S2	Montane Riparian

[1] State ranks for special-status natural communities:
S2 Imperiled
S3 Vulnerable
S4 Apparently Secure
0.2 Moderately threatened in California

4.4 Special-status Plants

Of the 68 special-status plant species previously documented in the Project Vicinity, 12 species were determined to have no potential to occur in the Project Area due to lack of suitable habitat (i.e., no serpentine soil); the remaining 56 special-status plant species have low, moderate, or high potential to occur within the Project Area (Table 2). However, no special-status species were identified during the protocol-level special-status plant surveys within the implementation areas of the Lower Tenmile, Vassar, Gravier, and West Tenmile portions of the Project Area by Salix Natural Resource Management in April, May, June, and July 2024. These areas all have work planned for the first year of implementation. A comprehensive list of all plant species documented within the Project Area during the special-status plant surveys is provided in Appendix A.

Table 3. Special-status plants with the potential to occur within the Project Area.

Scientific Name **(Common Name)**	**Lifeform**	**Status (Federal/State/CRPR)**	**Habitat**	**Likelihood to Occur within Project Area**
Alisma gramineum (grass alisma)	aquatic perennial rhizomatous herb	None/None/2B.2	Shallow freshwater marshes and swamps. Elevation: 1,280–5,905 ft. Bloom period: June–August.	**Low**. One recorded observation within two miles of the Project Area >40 years ago.
Angelica lucida (sea-watch)	perennial herb	None/None/4.2	Coastal bluff scrub, coastal dunes, coastal scrub, and coastal salt marshes and swamps. Elevation: 0–490 ft. Bloom period: April–September.	**None.** No suitable habitat and outside elevation range.
Arabis mcdonaldiana (McDonald's rockcress)	perennial herb	FE/CE/1B.1	Serpentinite in lower montane coniferous forests and upper montane coniferous forests. Elevation: 445–5,905 ft. Bloom period: May–July.	**None.** No suitable habitat.
Arctostaphylos auriculata (Mt. Diablo manzanita)	perennial evergreen shrub	None/None/1B.3	Sandstone in chaparral and cismontane woodlands. Elevation: 445–2,135 ft. Bloom period: January–March.	**Low**. Suitable habitat present. No observations within ten miles of the Project Area.
Arctostaphylos densiflora (Vine Hill manzanita)	perennial evergreen shrub	None/CE/1B.1	In acidic marine sand in chaparral. Elevation: 165–395 ft. Bloom period: February–April.	**None.** No suitable habitat and outside elevation range.
Arctostaphylos manzanita ssp. *elegans* (Konocti manzanita)	perennial evergreen shrub	None/None/1B.3	Volcanic soil in chaparral, cismontane woodlands, and lower montane coniferous forests. Elevation: 1,295–5,300 ft. Bloom period: (January) March–May (July).	**Moderate**. One recorded observation within two miles of the Project Area <20 years ago.
Arctostaphylos stanfordiana ssp. *raichei* (Raiche's manzanita)	perennial evergreen shrub	None/None/1B.1	Rocky and often serpentinite soil in chaparral and openings in lower montane coniferous forest. Elevation: 1,475–3,395 ft. Bloom period: February–April.	**Low**. Suitable habitat potentially present. No observations within ten miles of the Project Area.

Scientific Name **(Common Name)**	**Lifeform**	**Status (Federal/State/CRPR)**	**Habitat**	**Likelihood to Occur within Project Area**
Astragalus agnicidus (Humboldt County milk-vetch)	perennial herb	None/CE/1B.1	Disturbed areas, openings, and sometimes roadsides in broadleafed upland forests and North Coast coniferous forests. Elevation: 395–2,625 ft. Bloom period: (March) April–September.	**High**. Seventeen observations within ten miles of the Project Area >20 to two years ago.
Astragalus rattanii var. *rattanii* (Rattan's milk-vetch)	perennial herb	None/None/4.3	Gravelly soil and streambanks in chaparral, cismontane woodlands, and lower montane coniferous forests. Elevation: 100–2,705 ft. Bloom period: April–July.	**Low**. Suitable habitat present. No observations within ten miles of the Project Area.
Brasenia schreberi (watershield)	aquatic perennial rhizomatous herb	None/None/2B.3	Freshwater marshes and swamps. Elevation: 0–7,220 ft. Bloom period: June–September.	**Low**. One recorded observation within two miles of the Project Area >40 years ago.
Calamagrostis bolanderi (Bolander's reed grass)	perennial rhizomatous herb	None/None/4.2	Mesic areas in bogs and fens, broadleafed upland forests, closed-cone coniferous forests, coastal scrub, freshwater marshes and swamps, mesic meadows and seeps, and North Coast coniferous forests. Elevation: 0–1,495 ft. Bloom period: May–August.	**Low**. Suitable habitat present. No observations within ten miles of the Project Area.
Calochortus uniflorus (pink star-tulip)	perennial bulbiferous herb	None/None/4.2	Coastal prairies, coastal scrub, meadows and seeps, and North Coast coniferous forests. Elevation: 35–3,510 ft. Bloom period: Apr–June.	**Low**. Suitable habitat present. No observations within ten miles of the Project Area.
Calystegia atriplicifolia ssp. *buttensis* (Butte County morning-glory)	perennial rhizomatous herb	None/None/4.2	Sometimes roadsides and rocky areas in chaparral, lower montane coniferous forests, and valley and foothill grasslands. Elevation: 1,855–5,000 ft. Bloom period: May–July.	**Low**. Suitable habitat present. No observations within ten miles of the Project Area.

Scientific Name **(Common Name)**	**Lifeform**	**Status (Federal/State/CRPR)**	**Habitat**	**Likelihood to Occur within Project Area**
Calystegia collina ssp. *tridactylosa* (three-fingered morning-glory)	perennial rhizomatous herb	None/None/1B.2	Gravelly areas, openings, rocky areas and serpentinite in chaparral and cismontane woodlands. Elevation: 0–1,970 ft. Bloom period: April–June.	**Low**. Suitable habitat present. No observations within ten miles of the Project Area.
Ceanothus foliosus var. *vineatus* (Vine Hill ceanothus)	perennial evergreen shrub	None/None/1B.1	Chaparral. Elevation: 150–1,000 ft. Bloom period: March–May.	**Low**. Outside elevation range. Two observations within two miles of the Project Area >90 years ago.
Ceanothus gloriosus var. *exaltatus* (glory brush)	perennial evergreen shrub	None/None/4.3	Chaparral. Elevation: 100–2,000 ft. Bloom period: March–June (August).	**Low**. Suitable habitat present. No observations within ten miles of the Project Area.
Ceanothus gloriosus var. *gloriosus* (Point Reyes ceanothus)	perennial evergreen shrub	None/None/4.3	Sandy soil in closed-cone coniferous forests, coastal bluff scrub, coastal dunes, and coastal scrub. Elevation: 15–1,705 ft. Bloom period: March–May.	**None.** No suitable habitat.
Coptis laciniata (Oregon goldthread)	perennial rhizomatous herb	None/None/4.2	Mesic areas in meadows and seeps and streambanks in North Coast coniferous forests. Elevation: 0–3,280 ft. Bloom period: (February) March–May (September–November).	**High**. Twenty observations within ten miles of the Project Area <20 years ago.
Cypripedium californicum (California lady's-slipper)	perennial rhizomatous herb	None/None/4.2	Seeps, usually serpentinite, and streambanks in bogs and fens and lower montane coniferous forests. Elevation: 100–9,025 ft. Bloom period: April–August (September).	**Low**. Suitable habitat present. No observations within ten miles of the Project Area.
Cypripedium montanum (mountain lady's-slipper)	perennial rhizomatous herb	None/None/4.2	Broadleafed upland forests, cismontane woodlands, lower montane coniferous forests, and North Coast coniferous forests. Elevation: 605–7,300 ft. Bloom period: March–August.	**Low**. Suitable habitat present. No observations within ten miles of the Project Area.

Scientific Name **(Common Name)**	**Lifeform**	**Status (Federal/State/CRPR)**	**Habitat**	**Likelihood to Occur within Project Area**
Delphinium uliginosum (swamp larkspur)	perennial herb	None/None/4.2	Serpentinite seeps in chaparral and valley and foothill grasslands. Elevation: 1,115–2,000 ft. Bloom period: May–June.	**None.** No suitable habitat.
Eastwoodiella californica (swamp harebell)	perennial rhizomatous herb	None/None/1B.2	Mesic areas in bogs and fens, closed-cone coniferous forests, coastal prairies, freshwater marshes and swamps, meadows and seeps, and North Coast coniferous forests. Elevation: 5–1,330 ft. Bloom period: June–October.	**Low**. Suitable habitat present. No observations within ten miles of the Project Area.
Epilobium septentrionale (Humboldt County fuchsia)	perennial herb	None/None/4.3	Sometimes rocky or sandy soil in broadleafed upland forests and North Coast coniferous forests. Elevation: 150–5,905 ft. Bloom period: July–September.	**Low**. Suitable habitat present. No observations within ten miles of the Project Area.
Erigeron biolettii (streamside daisy)	perennial herb	None/None/3	Mesic or rocky areas in broadleafed upland forests, cismontane woodlands, and North Coast coniferous forests. Elevation: 100–3,610 ft. Bloom period: June–October.	**Low**. Suitable habitat present. No observations within ten miles of the Project Area.
Eriogonum kelloggii (Kellogg's buckwheat)	perennial herb	None/CE/1B.2	Rocky areas and serpentinite in lower montane coniferous forests. Elevation: 1,900–4,100 ft. Bloom period: (May) June–August.	**None.** No suitable habitat. Three observations ten within ten miles of the Project Area. Only observed in known serpentine soil.
Erythronium citrinum var. *citrinum* (lemon-colored fawn lily)	perennial bulbiferous herb	None/None/4.3	Usually in serpentinite in chaparral and lower montane coniferous forest. Elevation: 490–4,265 ft. Bloom period: March–May.	**Low**. Suitable habitat present. No observations within ten miles of the Project Area.
Erythronium revolutum (coast fawn lily)	perennial bulbiferous herb	None/None/2B.2	Mesic areas and streambanks in bogs and fens, broadleafed upland forests, and North Coast coniferous forests. Elevation: 0–5,250 ft. Bloom period: March–July (August).	**Moderate**. Three observations within ten miles to the north and south of the Project Area >90 to <20 years ago.

Scientific Name **(Common Name)**	**Lifeform**	**Status (Federal/State/CRPR)**	**Habitat**	**Likelihood to Occur within Project Area**
Fritillaria purdyi (Purdy's fritillary)	perennial bulbiferous herb	None/None/4.3	Usually in serpentinite in chaparral, cismontane woodlands, and lower montane coniferous forests. Elevation: 575–7,400 ft. Bloom period: March–June.	**Low**. Suitable habitat present. No observations within ten miles of the Project Area.
Gentiana setigera (Mendocino gentian)	perennial herb	None/None/1B.2	Mesic areas in lower montane coniferous forests and meadows and seeps. Elevation: 1,100–3,495 ft. Bloom period: (April–July) August–September.	**Low**. Suitable habitat present. No observations within ten miles of the Project Area.
Gilia millefoliata (dark-eyed gilia)	annual herb	None/None/1B.2	Coastal dunes. Elevation: 5–100 ft. Bloom period: April–July.	**None.** No suitable habitat and outside elevation range.
Hemizonia congesta ssp. *calyculata* (Mendocino tarplant)	annual herb	None/None/4.3	Sometimes serpentinite in cismontane woodlands and valley and foothill grasslands. Elevation: 740–4,595 ft. Bloom period: July–November.	**Low**. Suitable habitat present. No observations within ten miles of the Project Area.
Hemizonia congesta ssp. *congesta* (congested-headed hayfield tarplant)	annual herb	None/None/1B.2	Sometimes roadsides in valley and foothill grasslands. Elevation: 65–1,835 ft. Bloom period: April–November.	**Low**. Suitable habitat present. No observations within ten miles of the Project Area.
Hemizonia congesta ssp. *tracyi* (Tracy's tarplant)	annual herb	None/None/4.3	Openings and sometimes serpentinite in coastal prairies, lower montane coniferous forests, and North Coast coniferous forests. Elevation: 395–3,935 ft. Bloom period: (March–April) May–October.	**Low**. Suitable habitat present. No observations within ten miles of the Project Area.
Hesperolinon adenophyllum (glandular western flax)	annual herb	None/None/1B.2	Usually serpentinite in chaparral, cismontane woodland, and valley and foothill grassland. Elevation: 490–4,315 ft. Bloom period: May–August.	**Low**. One recorded observation within two miles of the Project Area >140 years ago.
Horkelia tenuiloba (thin-lobed horkelia)	perennial herb	None/None/1B.2	Mesic areas, openings, and sandy soil in broadleafed upland forests, chaparral, and valley and foothill grasslands. Elevation: 165–1,640 ft. Bloom period: May–July (August).	**Low**. One recorded observation within ten miles of the Project Area >60 years ago.

Scientific Name **(Common Name)**	**Lifeform**	**Status (Federal/State/CRPR)**	**Habitat**	**Likelihood to Occur within Project Area**
Hosackia gracilis (harlequin lotus)	perennial rhizomatous herb	None/None/4.2	Wetlands and roadsides in broadleafed upland forests, cismontane woodlands, closed-cone coniferous forests, coastal bluff scrub, coastal prairise, coastal scrub, marshes and swamps, meadows and seeps, North Coast coniferous forests, and valley and foothill grasslands. Elevation: 0–2,295 ft. Bloom period: March–July.	**Low**. Suitable habitat present. No observations within ten miles of the Project Area.
Lasthenia burkei (Burke's goldfields)	annual herb	FE/CE/1B.1	Mesic areas in meadows and seeps and vernal pools. Elevation: 50–1,970 ft. Bloom period: April–June.	**Low**. Suitable habitat potentially present. No observations within ten miles of the Project Area.
Lasthenia conjugens (Contra Costa goldfields)	annual herb	FE/None/1B.1	Mesic areas in cismontane woodlands, alkaline playas, valley and foothill grasslands, and vernal pools. Elevation: 0–1,540 ft. Bloom period: March–June.	**Low**. Suitable habitat present. No observations within ten miles of the Project Area.
Lathyrus glandulosus (sticky pea)	perennial rhizomatous herb	None/None/4.3	Cismontane woodlands. Elevation: 985–2,625 ft. Bloom period: April–June.	**Low**. Suitable habitat present. No observations within ten miles of the Project Area.
Leptosiphon aureus (bristly leptosiphon)	annual herb	None/None/4.2	Chaparral, cismontane woodlands, coastal prairies, and valley and foothill grasslands. Elevation: 180–4,920 ft. Bloom period: April–July.	**Low**. Suitable habitat present. No observations within ten miles of the Project Area.
Leptosiphon latisectus (broad-lobed leptosiphon)	annual herb	None/None/4.3	Broadleafed upland forests and cismontane woodlands. Elevation: 560–4,920 ft. Bloom period: April–June.	**Low**. Suitable habitat present. No observations within ten miles of the Project Area.
Leptosiphon rattanii (Rattan's leptosiphon)	annual herb	None/None/4.3	Sometimes gravelly and rocky soils in cismontane woodlands and lower montane coniferous forests. Elevation: 5,580–6,560 ft. Bloom period: May–July.	**None**. Outside elevation range.

Scientific Name **(Common Name)**	**Lifeform**	**Status (Federal/State/CRPR)**	**Habitat**	**Likelihood to Occur within Project Area**
Lilium rubescens (redwood lily)	perennial bulbiferous herb	None/None/4.2	Sometimes on roadsides and serpentinite in broadleafed upland forests, chaparral, lower montane coniferous forests, North Coast coniferous forests, and upper montane coniferous forests. Elevation: 100–6,265 ft. Bloom period: (March) April–August (September).	**Low**. Suitable habitat present. No observations within ten miles of the Project Area.
Limnanthes bakeri (Baker's meadowfoam)	annual herb	None/CR/1B.1	Freshwater marshes and swamps, meadows and seeps, vernally mesic valley and foothill grasslands, and vernal pools. Elevation: 575–2,985 ft. Bloom period: April–May.	**Moderate**. Five observations within five miles of the Project Area in the last 50–20 years.
Listera cordata (heart-leaved twayblade)	perennial herb	None/None/4.2	Bogs and fens, lower montane coniferous forests, and North Coast coniferous forests. Elevation: 15–4,495 ft. Bloom period: February–July.	**Low**. Suitable habitat present. No observations within ten miles of the Project Area.
Lomatium engelmannii (Engelmann's lomatium)	perennial herb	None/None/4.3	Serpentinite in chaparral, lower montane coniferous forests, and upper montane coniferous forests. Elevation: 2,855–8,990 ft. Bloom period: May–August.	**None.** No suitable habitat and outside elevation range.
Lomatium kogholiini (Wailaki lomatium)	perennial herb	None/None/1B.2	Serpentinite in lower montane coniferous forests. Elevation: 1,475–4,1,00 ft. Bloom period: April–June.	**None.** No suitable habitat. Two observations ten within ten miles of the Project Area. Only observed in known serpentine soil.
Lupinus milo-bakeri (Milo Baker's lupine)	annual herb	None/CT/1B.1	Often roadsides in cismontane woodlands and valley and foothill grasslands. Elevation: 1,295–1,410 ft. Bloom period: June–September.	**Low**. Suitable habitat present. No observations within ten miles of the Project Area.
Micranthes marshallii (Marshall's saxifrage)	perennial rhizomatous herb	None/None/4.3	Rocky areas and streambanks in riparian forests. Elevation: 295–6,990 ft. Bloom period: March–August.	**Low**. Suitable habitat present. No observations within ten miles of the Project Area.

Scientific Name **(Common Name)**	**Lifeform**	**Status (Federal/State/CRPR)**	**Habitat**	**Likelihood to Occur within Project Area**
Mitellastra caulescens (leafy-stemmed mitrewort)	perennial rhizomatous herb	None/None/4.2	Mesic areas and sometimes roadsides in broadleafed upland forests, lower montane coniferous forests, meadows and seeps, and North Coast coniferous forests. Elevation: 15–5,580 ft. Bloom period: (March) April–October.	**Low**. Suitable habitat present. No observations within ten miles of the Project Area.
Navarretia leucocephala ssp. *bakeri* (Baker's navarretia)	annual herb	None/None/1B.1	Mesic areas in cismontane woodlands, lower montane coniferous forests, meadows and seeps, valley and foothill grasslands, and vernal pools. Elevation: 15–5,710 ft. Bloom period: April–July.	**Low**. One observation within ten miles of the Project Area >120 years ago
Piperia candida (white-flowered rein orchid)	perennial herb	None/None/1B.2	Sometimes serpentinite in broadleafed upland forests, lower montane coniferous forests, and North Coast coniferous forests. Elevation: 100–4,300 ft. Bloom period: (March–April) May–September.	**High**. Twenty observations within ten miles to the north, south and west of the Project Area One recorded observation within two miles of the Project Area <20 years ago.
Pityopus californicus (California pinefoot)	achlorophyllous perennial herb	None/None/4.2	Mesic areas in broadleafed upland forests, lower montane coniferous forests, North Coast coniferous forests, and upper montane coniferous forest. Elevation: 50–7,300 ft. Bloom period: (March–April) May–August.	**Low**. Suitable habitat present. No observations within ten miles of the Project Area.
Pleuropogon hooverianus (North Coast semaphore grass)	perennial rhizomatous herb	None/CT/1B.1	Mesic areas in broadleafed upland forest, Meadows and seeps, North Coast coniferous forest Elevation: 35–2,200 ft. Bloom period: April–June.	**Moderate**. One population within ten miles observed five times >20 years ago and one observation within two miles of the Project Area >120 years ago.
Pleuropogon refractus (nodding semaphore grass)	perennial rhizomatous herb	None/None/4.2	Mesic areas in lower montane coniferous forests, meadows and seeps, North Coast coniferous forests, and riparian forests. Elevation: 0–5,250 ft. Bloom period: (February–March) April–August.	**Low**. Suitable habitat present. No observations within ten miles of the Project Area.

Scientific Name **(Common Name)**	**Lifeform**	**Status (Federal/State/CRPR)**	**Habitat**	**Likelihood to Occur within Project Area**
Potamogeton epihydrus (Nuttall's ribbon-leaved pondweed)	aquatic perennial rhizomatous herb	None/None/2B.2	Shallow freshwater marshes and swamps. Elevation: 1,210–7,125 ft. Bloom period: (June) July–September.	**Moderate**. One observation within two miles of the Project Area >30 years ago.
Ramalina thrausta (angel's hair lichen)	epiphytic fruticose lichen	None/None/2B.1	Dead twigs and other lichens in North Coast coniferous forests. Elevation: 245–1,410 ft. Bloom period: N/A	**Moderate**. One observation within five miles of the Project Area >30 years ago.
Rhynchospora globularis (round-headed beaked-rush)	perennial rhizomatous herb	None/None/2B.1	Freshwater marshes and swamps. Elevation: 150–195 ft. Bloom period: July–August	**None.** Outside elevation range.
Sedum eastwoodiae (Red Mountain stonecrop)	perennial herb	None/None/1B.2	Serpentinite in lower montane coniferous forests. Elevation: 1,970–3,935 ft. Bloom period: May–July.	**None.** No suitable habitat. Two observations ten within ten miles of the Project Area. Only observed in known serpentine soil.
Sidalcea malachroides (maple-leaved checkerbloom)	perennial herb	None/None/4.2	Often in disturbed areas in broadleafed upland forests, coastal prairies, coastal scrub, North Coast coniferous forests, and riparian woodland. Elevation: 0–2,395 ft. Bloom period: (March) April–August.	**Low**. Suitable habitat present. No observations within ten miles of the Project Area.
Silene bolanderi (Bolander's catchfly)	perennial herb	None/None/1B.2	Usually grassy openings, sometimes dry rocky slopes, canyons, or roadsides in edges of chaparral, cismontane woodlands, lower montane coniferous forests, meadows and seeps, and North Coast coniferous forests Elevation: 1,380–3,775 ft. Bloom period: May–June.	**Moderate**. Five observations within ten miles of the Project Area from >90 to six years ago.

Scientific Name **(Common Name)**	**Lifeform**	**Status (Federal/State/CRPR)**	**Habitat**	**Likelihood to Occur within Project Area**
Silene greenei ssp. *angustifolia* (Red Mountain catchfly)	perennial herb	None/CE/1B.2	Usually serpentinite and rocky areas in chaparral and lower montane coniferous forests. Elevation: 1,395–6,840 ft. Bloom period: May–June.	**Low**. Four observations within ten miles of the Project Area as recently as seven years ago. Only observed in known serpentine soil.
Sulcaria badia (grooved beard lichen)	epiphytic fruticose lichen	None/None/4.2	Usually bark of hardwoods and conifers in cismontane woodlands and lower montane coniferous forests. Elevation: 1,360–4,955 ft. Bloom period: N/A	**Low**. Suitable habitat present. No observations within ten miles of the Project Area.
Thermopsis robusta (robust false lupine)	perennial rhizomatous herb	None/None/1B.2	Broadleafed upland forests and North Coast coniferous forests Elevation: 490–4,920 ft. Bloom period: May–July.	**Moderate**. Five observations within 10 miles of the Project Area as recently as seven years ago.
Trifolium amoenum (two-fork clover)	annual herb	FE/None/1B.1	Coastal bluff scrub and sometimes in serpentinite in valley and foothill grasslands. Elevation: 15–1,360 ft. Bloom period: April–June.	**Low**. Suitable habitat present. No observations within ten miles of the Project Area.
Usnea longissima (Methuselah's beard lichen)	epiphytic fruticose lichen	None/None/4.2	Tree branches; usually on old growth hardwoods and conifers in broadleafed upland forests and North Coast coniferous forests. Elevation: 165–4,790 ft. Bloom period: N/A	**Low**. Two observations within ten miles of the Project Area >20 years ago.
Viburnum ellipticum (oval-leaved viburnum)	perennial deciduous shrub	None/None/2B.3	Chaparral, cismontane woodlands, and lower montane coniferous forests. Elevation: 705–4,595 ft. Bloom period: May–June.	**Low**. Four observations within ten miles of the Project Area >140 to >90 years ago.

Scientific Name **(Common Name)**	**Lifeform**	**Status (Federal/State/CRPR)**	**Habitat**	**Likelihood to Occur within Project Area**
Wyethia longicaulis (Humboldt County wyethia)	perennial evergreen shrub	None/None/1B.1	Rocky and often serpentinite soil in chaparral and openings in lower montane coniferous forest. Elevation: 1,475 – 3,395 ft. Bloom period: February–April.	**Low**. Suitable habitat present. No observations within ten miles of the Project Area.

[1] Status:

Federal

FE Federally endangered

None Not listed

State

CE State endangered

CR State rare

None Not listed

California Rare Plant Rank (CRPR):

1B Plants rare, threatened, or endangered in California and elsewhere

2B Plants rare, threatened, or endangered in California, but more common elsewhere

3 Plants about which more information is needed, on review list

4 Plants of limited distribution, on watch list

CRPR Threat Ranks:

0.1 Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat)

0.2 Moderately threatened in California (20–80% occurrences threatened / moderate degree and immediacy of threat)

0.3 Not very threatened in California (less than 20% of occurrences threatened / low degree and immediacy of threat or no current threats known)

[2] Months in parentheses are uncommon; N/A = Not applicable

4.5 Fish and Wildlife

Of the 30 special-status fish and wildlife species that were identified from the database queries conducted for the Project (described in Section 3.2), 11 have a high potential to occur within the Project Area, 11 have a moderate potential, five have a low potential, and three have no potential. Table 4 provides the likelihood for these special-status fish and wildlife species to occur, and for the 22 species with a moderate to high potential to occur, their sensitive life history timing, and an analysis of potential Project effects on individuals and their habitat are also provided.

Table 4. Special-status wildlife evaluated with the potential to occur within the Project Area and potential Project effects.

Common Name *Scientific Name*	Query Sources	Status[a] Federal/ State	Distribution in California	Habitat Association	Likelihood to Occur within Project Area	Sensitive Life History Timing[b]	Potential Project-related Effects on the Species and Habitat
Invertebrates							
Monarch butterfly (California overwintering population) *Danaus plexippus plexippus*	USFWS	FC/–	Range includes most of California; it breeds throughout California and overwinters in suitable groves along the California coast	Adults forage on a variety of flowering plants during breeding and migration; larva (caterpillars) require milkweed (*Asclepias* spp.) as a host plant. Overwinter roosts include eucalyptus (*Eucalyptus* sp.), Monterey pines (*Pinus radiata*), and Monterey cypress (*Hesperocyparis macrocarpa*) trees or groves.	**High:** Monarch butterflies have the potential to breed in the Project Area because *Asclepias cordifolia* (purple milkweed) was documented in the Lower Tenmile area during the 2024 special-status plant surveys (Appendix A). Also, flowering plants for which adults can forage for nectar are present in the Project Area. Monarch adults have been observed within 1.5 miles of the Project Area (Lower Tenmile) and larvae have been observed on *Asclepias* spp. within 4.5 miles of the Cahto Ranch (2013) (Western Monarch Milkweed Occurrence Database 2024). No critical habitat has been designated for this species.	Breeding season: March through October; purple milkweed blooms from March through July, while vegetative parts can be present one to two months before and after this period Overwintering season: November through February	Forest management activities can affect breeding habitat (milkweed) if it is removed or disturbed, and larvae may directly be harmed or killed if milkweed is disturbed during the breeding season.
Western bumble bee *Bombus occidentalis*	CDFW	–/SCE	Current range includes northern California and northern Sierra Nevada Mountains	Forages on flowering plants in chaparral, scrub, mountain meadows, forested openings, open grassy areas, and urban parks and gardens. Host plant genera include, but are not limited to, *Ceanothus, Centaurea, Chrysothamnus, Cirsium, Eriogonum, Geranium, Grindellia, Lupinus, Melilotus, Monardella, Rubus, Solidago,* and *Trifolium*. Nests underground in pre-existing cavities (abandoned small mammal burrows) but can also nest above ground in thatched grass, brush piles, fallen logs, and human-made structures.	**Low:** While foraging habitat and potential nesting sites occur within the Project Area, the species is generally rare in the southern portion of the range. Observations within the vicinity include two observations within two miles of Lower Tenmile (1981 and 1984) and one observation within ten miles of Vassar (1968) (CDFW 2024). The closest occurrence in the Bumble Bee Watch database is over 60 miles away (Xerces Society 2024).	Colony active period: March through October Overwintering period: November through February	Forest management activities are not expected to disturb nesting or foraging habitat because treatment activities will be restricted to forested areas, a habitat that western bumblebees generally do not forage or nest in.

Common Name *Scientific Name*	Query Sources	Status[a] Federal/ State	Distribution in California	Habitat Association	Likelihood to Occur within Project Area	Sensitive Life History Timing[b]	Potential Project-related Effects on the Species and Habitat
Crotch's bumble bee *Bombus crotchii*	CDFW	–/SCE	Range includes the southern Pacific Coast, Great Basin, Mojave Desert, Sonoran Desert, Central Valley, and adjacent foothills through most of southwestern California; recent observations mainly in southwestern and central California.	Forages on flowering plants in open grassland and scrub habitats. Host plant genera include, but are not limited to, *Antirrhinum, Asclepias, Chaenactis, Clarkia, Dendromecon, Eschscholzia, Eriogonum, Lupinus, Medicago, Phacelia, Salvia,* and *Phacelia*. Nests are often located underground. in pre-existing cavities (abandoned small mammal burrows), but can may also nest aboveground in thatched grass, brush piles, fallen logs, and human-made structures.	**Low:** Potential foraging habitat and nesting sites occur within the Project Area. The most recent occurrence is about 35 miles from Cahto Trail in 2022 (Xerces Society 2024), and the nearest CNDDB observation is about 1.5 miles from Lower Tenmile in 1978 (CDFW 2024).	Colony active period: March through September, while may occur as early as February or as late as October Overwintering period: September through March	Forest management activities are not expected to disturb nesting or foraging habitat because treatment activities will be restricted to forested areas, a habitat that Crotch's bumblebees generally do not forage or nest in.
Fish							
Coho salmon, Southern Oregon/Northern California Coast Evolutionary Significant Unit (ESU) *Oncorhynchus kisutch*	NMFS, CDFW	FT/ST	Range includes Punta Gorda north to the Oregon border	Low-gradient portions of coastal draining streams with sufficiently cool water temperatures. Adult spawning: fine to coarse gravel in pool tailouts or low-gradient riffles with nearby cover or deep pools. Juvenile rearing: instream pool habitats often associated with large wood or off-channel features that provide low-velocity protection from high flows and cover from predation and water temperatures less than approximately 17°C.	**High**: Present in waterways (e.g., Cahto Creek and Tenmile) within or adjacent to the Project. Juvenile coho salmon have been documented in Cahto Creek (Higgins 2023), a tributary to Tenmile Creek. Critical habitat is located on creeks (e.g., Cahto Creek, Tenmile Creek) within the Project Area.	Adult migration: fall and winter Spawning: few weeks following migration (December–February) Fry emergence: 3–4 months after spawning Juvenile rearing: year round Emigration from streams to mainstem: March–May Outmigration: April and May, peak in early May	While no in-water work would occur, mobilization of sediment, as a result of ground disturbance near waterways, could affect water quality and embeddedness of spawning gravel and affect the survival of eggs and health of juveniles and adults.
Chinook salmon, California Coastal ESU *Oncorhynchus tshawytscha*	NMFS	FT/–	Range includes Russian River (Sonoma County) north to Redwood Creek (Humboldt County)	Coastal draining streams. Adult spawning: medium gravel to small cobble in pool tails or low-gradient riffles with nearby cover or deep pools. Juvenile rearing: fry utilize shallow stream margins and juveniles utilize pool or deep run habitats with instream cover from winter flows and predation, often associated with large cobble, boulders, or large wood in water temperatures less than approximately 19°C.	**High:** Present in waterways (e.g., Cahto Creek and Tenmile) within or adjacent to the Project. Spawning adults were observed in Cahto Creek during the winter 2016/2017 survey season (Starks et al. 2017), which is a tributary to Tenmile Creek. Critical habitat is located on creeks (e.g., Cahto Creek, Tenmile Creek) within the Project Area.	Adult migration: fall and winter (September–early November) Spawning: few weeks following freshwater entry (November–January, peak in December) Fry emergence: late winter or spring Juvenile rearing: none Outmigration: February–late June, peak from March to May	While no in-water work would occur, mobilization of sediment, as a result of ground disturbance near waterways, could affect water quality and embeddedness of spawning gravel affect the survival of eggs and health of fry and adults.

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Steelhead, northern California distinct population segment (DPS) winter-run *Oncorhynchus mykiss irideus*	NMFS, CDFW	FT/–	Range includes Coastal streams from the Russian River (exclusive) north to Redwood Creek (Humboldt County)	Rivers and streams with cold water, clean gravel of appropriate size for spawning, and suitable rearing habitat. Adult spawning: medium to coarse gravel in pool tails or low-gradient riffles with nearby cover or deep pools. Juvenile rearing: pool or deep run habitats with instream cover from winter flows and predation, often associated with large cobble, boulders, or large wood in water temperatures less than approximately 22°C. Juveniles typically rear in fresh water for 1 or more years before migrating to the ocean.	**High:** Present in waterways (e.g., Cahto Creek and Tenmile) within or adjacent to the Project. Stillwater Sciences surveys in June 2023 and CDFW surveys in July 2009 observed steelhead/rainbow trout in Cahto Creek (Stillwater Sciences 2023, CDFG 2009). CNDDB occurrence from 2022 include Tenmile Creek and tributaries (e.g., Peterson Creek) (CDFW 2024). Designated critical habitat is located on creeks (e.g., Chato Creek and Tenmile Creek) within the Project Area.	Adult migration: October through March Spawning: late February through April Fry emergence: 6 weeks following hatching (April–June) Juvenile rearing: year-round Outmigration: late-winter and spring (February–June [peak in March and April] and October–November)	While no in-water work would occur, mobilization of sediment, as a result of ground disturbance near waterways, could affect water quality and embeddedness of spawning gravel affect the survival of eggs and health of fry, juveniles, and adults.
Steelhead, northern California DPS summer-run *Oncorhynchus mykiss irideus*	NMFS, CDFW	FT/SE	Range includes portions of Redwood Creek (Humboldt County) and the Mad, Eel, and Mattole River basins	Rivers and streams with cold water, clean gravel of appropriate size for spawning, and suitable rearing habitat; juveniles typically rear in fresh water for 1 or more years before migrating to the ocean. Adults require suitable pools for holding prior to spawning and tend to spawn in smaller, higher-gradient streams than winter-run steelhead. Adults are capable of spawning upstream of partial barriers to movement, which are only passable at intermediate stream flows.	**None:** Outside known distribution. CNDDB location in area notes that the population is extirpated (CDFW 2024). Not known to occur in the Tenmile Creek watershed. Designated critical habitat is not present within the Project Area.	Not applicable	Not applicable

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Tidewater goby *Eucyclogobius newberryi*	CDFW, USFWS	FE/–	Range includes San Diego County north to the mouth of the Smith River in Del Norte County	Typically in shallow waters of coastal lagoons and the uppermost zone of brackish large estuaries; prefer sandy substrate for spawning, but can be found on silt, mud, or rocky substrates; typically in shallow water, but can occur in water up to 15 feet in lagoons and within a wide range of salinity (0–42 ppt).	**None**: Outside the range and no suitable habitat present. The nearest CNDDB occurrence is from 1997 about 14 miles from the Project Area (CDFW 2024). Critical habitat has been designated for this species and is not present within the Project Area.	Not applicable	Not applicable
Pacific lamprey *Entosphenus tridentatus*	CDFW	–/SSC	Most coastal flowing watersheds between Mexico and Oregon.	Anadromous species that spawns and rears in freshwater before emigrating to the ocean to feed and grow. Generally distributed wherever salmon and steelhead occur. Adult spawning: coarse gravel or small cobble in pool tails or low-gradient riffles. Larval rearing: low-velocity areas where they burrow into fine silt and sand substrates that often contain organic matter. Water temperatures less than approximately 22°C.	**High:** Present in waterways within or adjacent to the Project. Holding adults documented in Cahto Creek in 2012 (Stillwater Sciences 2014). The nearest CNDDB occurrence is 13 miles from the Project Area in 1996 (CDFW 2024).	Adult migration: late winter to early summer Spawning: March through July Egg hatching: 15 days after eggs deposited into the redd Emergence: 15 days following hatching Juvenile rearing: 4–10 years Outmigration: fall to spring Ocean period: 18–40 months	While no in-water work would occur, mobilization of sediment, as a result of ground disturbance near waterways, could affect water quality and embeddedness of spawning gravel affect the survival of eggs and health of fry, juveniles, and adults.
Reptiles							
Northwestern pond turtle *Actinemys marmorata*	USFWS, CDFW	FPT/SSC	Range is from the Oregon border along the coast ranges to the Mexican border, and west of the crest of the Cascades and Sierras	Permanent, slow-moving fresh or brackish water with available basking sites and adjacent open habitats or forest for nesting	**Moderate:** Tenmile and Cahto Creek provide suitable aquatic habitat, while the extent of basking and breeding habitat has not been assessed. Northwest pond turtles have been observed within the Project Area (Vassar) in Tenmile Creek (1988) (CDFW 2024). Surveys conducted near Holland Reservoir in 2023 documented two individuals in off-channel pond habitat about 0.5 mile upstream of Cahto Ranch (Stillwater Sciences 2023). Additional observations include a CNDDB occurrence in a pond three miles south of Cahto Ranch (2017) and about eight miles from West Tenmile, Gravier, and Cahto Trail (2004) (CDFW 2024). Critical habitat has not been designated for this species.	General active period: February through November Mating: April–May Nesting: April–August Egg incubation: while unknown, laboratory hating occurred in 73–81 days Hatchling emergence: late-summer or fall, but some may overwinter and emerge the following spring Hibernation: winter in either aquatic or terrestrial habitat Estivation: summer in aquatic habitat	While no in-water work would occur, upland ground disturbance could directly affect upland nesting and hibernating habitat, which can cause mortality to incubating eggs and individuals.

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Amphibians							
Pacific tailed frog (also known as coastal-tailed frog) *Ascaphus truei*	CDFW	–/SSC	Coastal Mendocino County north to the Oregon border, with an isolated population in Shasta region	Occurs in montane hardwood-conifer, redwood, Douglas-fir and ponderosa pine habitats. Restricted to perennial montane streams. In and adjacent to cold, clear, moderate- to fast-flowing, perennial montane streams. Tadpoles require water below 15ºC.	**Low:** In 2023, Stillwater Sciences biologists measured water temperatures in the mainstem of Cahto Creek and the southern Cahto Creek tributary to be 12.5–13.5°C, which is suitable for tadpole development. However, these temperatures were recorded in early summer following a wet water year, and temperatures during a normal late-summer/fall (during tadpole development) likely exceed 15°C. It is anticipated that other creeks within the Project Area are also too warm based on these recordings. The majority of CNDDB occurrences are near the coast or more than 20 years old. The nearest occurrence is from 1999 about 1.5 miles from Lower Tenmile in Elder Creek and from 1996 about 7 miles of Cahto Ranch in the Middle Fork Tenmile River (CDFW 2024).	Not applicable	No Project effects are anticipated
Northern red-legged frog *Rana aurora*	CDFW	–/SSC	Ranges from Mills Creek in Mendocino County to Oregon border	Breeds in still or slow-moving water with emergent and overhanging vegetation, including wetlands, wet meadows, ponds, lakes, and low-gradient, slow moving stream reaches with permanent pools; uses adjacent uplands for dispersal and summer retreat	**High:** Suitable aquatic habitat for breeding and terrestrial habitat for cover and dispersal is present within the Project Area. Two occurrences about seven miles west of Lower Tenmile near Huckleberry Creek (2006, 2012). Several occurrences about ten miles south of Cahto Ranch (CDFW 2024).	Active period: year-round Egg laying: late November to April Egg hatching: about 4 weeks following egg laying Tadpole metamorphosis: 4–7 months following hatching Upland dispersal period: post-tadpole metamorphosis	While no in-water work would occur, mobilization of sediment, as a result of ground disturbance near waterways, could affect water quality and the survival of eggs and health of tadpoles, juveniles, and adults. Forest management activities in upland habitats, including use of vehicles and/or mechanized equipment, may result in direct injury or mortality of dispersing juveniles and adults.

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Foothill yellow-legged frog, North Coast clade *Rana boylii*	CDFW	–/SSC	North of San Francisco Bay through the Coast Range and Klamath Mountains	Shallow tributaries and mainstems of perennial streams and rivers, typically associated with cobble or boulder substrate	**High:** Suitable aquatic habitat is present in Tenmile Creek, Cahto Creek, and the southern and northern Cahto Creek tributaries. Many occurrences within the Project Area and in the Project vicinity, which include one occurrence within the Project Area (Lower Tenmile) along Fox Creek in 2018, another 2018 occurrence within one mile of Black Oak Ranch and West Tenmile along Big Rock Creek, and several observations within five miles of Lower Tenmile in McKinley Creek, Elder Creek, Tenmile Creek, and South Fork Eel River (CDFW 2024).	Active period: year-round Mating and egg-laying: occurs exclusively in streams and rivers from April until early July, after streams have slowed from winter runoff. Egg hatching: about four weeks following egg laying Tadpole metamorphosis: July to October Upland dispersal: post-tadpole metamorphosis	While no in-water work would occur, mobilization of sediment, as a result of ground disturbance near waterways, could affect water quality and the survival of eggs and health of tadpoles, juveniles, and adults. Forest management activities in upland habitats, including use of vehicles and/or mechanized equipment, may result in direct injury or mortality of juveniles and adults.
Southern torrent salamander *Rhyacotriton variegatus*	CDFW	–/SSC	Coastal drainages from near Point Arena in Mendocino County to the Oregon border	In and adjacent to cold, permanent, well-shaded mountain springs, waterfalls, and seeps with rocky substrate	**Moderate:** Tributaries within the Project Area likely provide suitable aquatic habitat with adjacent terrestrial refuge for cover. The most recent occurrence (2012) is about 1.5 mi southwest of Lower Tenmile in Skunk Creek, with several more historic occurrences (1985) within two miles of the Project Area (Lower Tenmile) in McKinley Creek, Elder Creek, and Tenmile Creek (CDFW 2024).	Breeding: may occur year-round, while peak oviposition period is in August and September Egg hatching: about 8 months following egg laying; peak egg hatching occurs in the spring Larval metamorphosis: 2–2.5 years following hatching	While no in-water work would occur, mobilization of sediment, as a result of ground disturbance near waterways, could affect water quality and the survival of eggs and health of developing larvae, juveniles, and adults.
Red-bellied newt *Taricha rivularis*	CDFW	–/SSC	Along the coast from near Bodega, Sonoma County, to near Honeydew, Humboldt County, and inland to Lower Lake and Kelsey Creek, Lake County	Breeding and larval development habitat includes rapid-flowing, permanent streams or rivers with rocky substrate in proximity to redwood forests and other coastal woodlands. Adult terrestrial habitat primarily includes redwood forests but also found within mixed conifer, valley-foothill woodland, montane hardwood and hardwood-conifer habitats.	**Moderate:** Tributaries within the Project Area likely provide suitable breeding habitat with adjacent coniferous forest (primarily comprised of Montane Hardwood Conifer CWHR habitat) for adults. The majority of occurrences are south of the Project Area (east of Fort Bragg), and a few occurrences have been documented about 7.5 miles east of Lower Tenmile (2004) and ten miles southeast of Cahto Ranch (2014) (CDFW 2024).	Breeding and egg laying: February–April Egg hatching: 16–34 days following egg laying, depending on temperature Larval metamorphosis: late summer to early fall Adult aestivation: summer months (terrestrial habitat)	While no in-water work would occur, mobilization of sediment, as a result of ground disturbance near waterways, could affect water quality and the survival of eggs and health of developing larvae, juveniles, and adults. Forest management activities in upland habitats, including use of vehicles and/or mechanized equipment, may result in direct injury or mortality of juveniles and adults.

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Birds							
American goshawk *Accipiter atricapillus*	CDFW	–/SSC	Nests in North Coast Ranges through Sierra Nevada, Klamath, Cascade, and Warner Mountains, in Mount Pinos and San Jacinto, San Bernardino, and White Mountains; winters along north coast, throughout foothills, and in northern deserts	Mature and old-growth stands of coniferous forest, and while found over a large range, they are more commonly found in middle and higher elevations (1,000–10,800 ft); nests in dense part of stands (> 60% canopy cover) near an opening	**Moderate:** May nest within coniferous forest stands within the Project Area, which primarily consists of second growth Montane Hardwood-Conifer habitat, with a mixture of Ponderosa pine (*Pinus ponderosa*), Douglas fir (*Pseudotsuga menziesii*), black oak (*Quercus kelloggii*), and madrone (*Arbutus menziesii*) that lacks a substantial shrub layer. Older- more-suitable nesting stands may be present in adjacent non-private lands. Foraging habitat present. Recent sightings of goshawks have occurred at the Angelo Coast Range Reserve, located about 3.5 miles from the Project (2012, 2015, 2019) (eBird 2024) The most recent CNDDB occurrence is 8.5 miles north of Lower Tenmile in the Hollow Tree Creek watershed (1997) (CDFW 2024).	General breeding season: February through August Nesting initiated: March or early-April Egg laying: late-April to early May Incubation period: 28–32 days following egg laying Nestling period: 34–35 days following hatching	Noise from vehicles and/or mechanized equipment or burning may affect breeding individuals, if nesting nearby, which could result in mortality of young if adults leave the nest. Due to the Project removing younger trees and brush, it is not anticipated that nests within large trees will be removed. The Project is to remove understory trees and brush, which is anticipated to ultimately enhance foraging opportunities and habitat (more open flyways within a forest structure and access to prey).
Golden eagle *Aquila chrysaetos*	USFWS	BGECP/FP	Species is an uncommon permanent resident and migrant throughout California, except center of Central Valley	Open woodlands and oak savannahs, grasslands, chaparral, sagebrush flats; nests on steep cliffs or medium to tall trees	**Moderate**: While cliffs appear absent from the Project Area, individuals may be nesting in forests within or adjacent to the Project Area. Suitable foraging habitat is present in grasslands within the Project Area. Numerous observations within 10 miles of the Project Area including several occurrences within the Project Area at Black Oak Ranch (2016, 2017), one observation about one mile from West Tenmile and Gravier (2024), and another observation about 3 miles south of Cahto Ranch (2015) (eBird 2024). Nearest CNDDB occurrence is about 25 miles away (1975) (CDFW 2024).	General breeding season: late January through August Nesting initiated: late January Egg laying: typically, in March, while may occur 1–3 months after nest is constructed Incubation period: 41–45 days following egg laying Nestling period: 45–81 days following hatching	If breeding is occurring within or near the treatment areas, noise from equipment (e.g., chainsaws) or burning may disturb eagles during the breeding season, which could result in indirect mortality to individuals. Since the Project is intended to remove younger trees and understory brush, no removal of nest trees is anticipated.

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Marbled murrelet *Brachyramphus marmoratus*	USFWS, CDFW	FT/SE	Nesting birds mostly concentrated near coastal waters in Del Norte and Humboldt counties, and in lesser numbers near San Mateo and Santa Cruz counties; species winters throughout the nesting range and in small numbers in southern California	Most time spent on the ocean; nests inland in large areas of old-growth conifers with suitable platforms, especially redwood or Douglas-fir forests near coastal areas	**Moderate**: Due to the densely forested habitat within the Project Area, which primarily consists of second growth CWHR Montane Hardwood-Conifer habitat, and the proximity of critical habitat being within and adjacent to the Project Area, there is a moderate potential that individuals may be roosting within or adjacent to the Project Area (especially in the Lower Tenmile parcel which is within and adjacent to critical habitat). There is a high potential for individuals to be flying over the Project Area during daily migrations to forage at the ocean. A single CNDDB record from 1995 is about 4.5 miles west of the Project Area (CDFW 2024). Critical habitat has been designated for this species. Designated critical habitat borders a small portion of the Project Area (Lower Tenmile). No Project activities will occur within critical habitat. All other treatment parcels within the Project Area are located within three miles of critical habitat (USFWS 2024c).	Nesting initiated: May, while as late as July Egg laying: variable occurring between March through August Incubation period: 28–30 days following egg laying Nestling period: 30 days following hatching	If nesting is occurring within or near the treatment areas, noise from equipment (e.g., chainsaws) or burning may disturb marbled murrelets during the breeding season, which could result in indirect mortality to individuals. Since the Project is intended to remove younger trees and understory brush, no removal of nest trees is anticipated.
Western snowy plover *Charadrius alexandrinus nivosus*	USFWS	FT/SSC	Species nests in locations along the California coast, including the Eel River in Humboldt County; nests in the interior of the state in the Central Valley, Klamath Basin, Modoc Plateau, and Great Basin, Mojave, and Colorado deserts; winters primarily along coast	Barren to sparsely vegetated beaches, barrier beaches, salt-evaporation pond levees, and shores of alkali lakes; also nests on gravel bars in rivers with wide flood plains; needs sandy, gravelly, or friable soils for nesting	**None:** Outside the range and no suitable habitat present. Documented occurrences are from distances more than 15 miles from the Project (eBird, CDFW 2024). Designated critical habitat is not present within the Project Area.	Not applicable	No Project effects are anticipated.
Yellow-billed cuckoo *Coccyzus americanus*	USFWS	FT/SE	Species breeds in limited portions of the Sacramento River and the South Fork Kern River; small populations may nest in Butte, Yuba, Sutter, San Bernardino, Riverside, Inyo, Los Angeles, and Imperial counties	Summer resident of valley foothill and desert riparian habitats; nests in open woodland with clearings and low, dense, scrubby vegetation	**Low:** Suitable riparian habitat may be present along creeks within the Project Area, while the cuckoo is not likely to occur as the closest known occurrence is more than 30 miles away (CDFW 2024, eBird 2024). Critical habitat is not present within the Project Area and is located about 75 miles east of the Project Area.	Not applicable	No Project effects are anticipated.

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Bald eagle *Haliaeetus leucocephalus*	USFWS	BGECP/SE	Species is a permanent resident and uncommon winter migrant, found nesting primarily in Butte, Lake, Lassen, Modoc, Plumas, Shasta, Siskiyou, and Trinity counties	Large bodies of water or rivers with abundant fish, uses snags or other perches; nests in advanced-successional conifer forest near open water	**Moderate:** Suitable nesting trees may be present within the Project Area. Eagles typically nest near foraging habitat, and the most suitable foraging habitat in the area is Holland Reservoir and the Eel River, which is about 0.4 miles and 2 miles from the Project Area, respectively. Observations of eagles have occurred along the Eel River and have also been observed annually since 2018 at the Angelo Coast Range Reserve (eBird 2024), which is about 3.5 miles from the Project.	Breeding season: February through August Nest building: typically 1 to 3 months before egg-laying	If breeding is occurring within or near the treatment areas, noise from equipment (e.g., chainsaws) or burning may disturb bald eagles during the breeding season, which could result in indirect mortality to individuals. Since the Project is intended to remove younger trees and understory brush, no removal of nest trees is anticipated. Project-related noise disturbance could result in temporary displacement of individuals flying in the vicinity of the nearby Holland Reservoir, where they may be present foraging.
Purple martin *Progne subis*	CDFW, USFWS	–/SSC	Summer resident and migrant; most densely populated in central and northern coastal conifer forests and smaller and more localized areas in the Sierra Nevada, interior foothills, and southern California	Conifer, valley-foothill, montane-hardwood forests with large snags in open areas; most nest sites located in upper slopes of hilly terrain; also may nest in human-made structures with cavities	**High**: Two occurrences within the Project Area (Black Oak Ranch in 2022 and Cahto Ranch in 2017). Numerous occurrences within five miles of the Project Area (eBird 2024). The nearest CNDDB occurrence is an observation of a breeding pair about ten miles west of the Project Area in 1994 (CDFW 2024).	Nesting bird season: February – August	Removing vegetation could result in direct mortality to nesting individuals, including eggs and young, if present and loss of nesting habitat.

Common Name ***Scientific Name***	**Query Sources**	**Status[a] Federal/ State**	**Distribution in California**	**Habitat Association**	**Likelihood to Occur within Project Area**	**Sensitive Life History Timing[b]**	**Potential Project-related Effects on the Species and Habitat**
Northern spotted owl *Strix occidentalis caurina*	USFWS, CDFW	FT/SSC	Range includes Northwestern California south to Marin County, and southeast to the Pit River area of Shasta County	Typically found in older forested habitats; nests in complex stands dominated by conifers, especially coastal redwood, with hardwood understories; some open areas are important for foraging.	**Moderate:** Suitable nesting, roosting, and/or foraging habitat is likely present within, or adjacent to, the Project Area. The forest structure within the Project Area, primarily consists of second growth Montane Hardwood-Conifer habitat, with a mixture of Ponderosa pine, Douglas fir, black oak, and madrone that lack a substantial shrub layer. . Habitat adjacent to the Project Area appears to consist of dense coniferous forest and mixed hardwood/conifer forest, which may support older more suitable nesting stands on non-private lands. The closest nesting owl location (activity center) (MEN0228) is about 0.7 miles south of the Project Area (Cahto Ranch) and was last documented in 1995. Another nearby activity center (MEN0012) is 1.15 miles west of Lower Tenmile and was last documented in 1998. Twelve other activity centers are within 7 miles of the Project Area. (CDFW 2024). Critical habitat is not present within the Project Area and is located about 2.5 miles west of the Project Area.	Breeding season: March 1 through September 30 Critical breeding season: March 1–July 15 Late-breeding season is July 16–September 30	Chainsaw noise disturbance and burning activities will not occur within 0.25 miles of known activity centers; therefore, no effects from these activities are anticipated on known activity centers. If breeding owls are present within 0.25 miles, then noise from chainsaws may disturb owls during the breeding season, and if chainsaw use occurs within 195 feet during the critical breeding season then owls may be disrupted to the point that breeding activities may be affected. Similarly, if burning occurs within 0.25 miles of an activity center during the breeding season, activity centers may be disturbed and if burning occurs within 0.25 miles during the critical breeding season, then breeding activities may be affected. Vegetation removal will occur within the home range (1.2 miles) of 2 known activity centers. While the goal of the Project is to remove understory trees and brush, the ultimate benefit will likely enhance foraging opportunities and habitat (more open flyways within a forest structure and access to prey).
Numerous other species, including but not limited to, Allen's hummingbird, chestnut-backed chickadee, western screech owl	USFWS	MBTA	Range encompasses California	Variable including, but not limited to, grasses, shrubs, and trees	**High:** Birds protected under the MBTA have been documented within the Project Area (e.g., Allen's hummingbird in 2017; chestnut-backed chickadee, oak titmouse, and wrentit in 2022; and rufous hummingbird in 2024) and within 5 miles of the Project Area (e.g., olive-sided flycatcher in 2022, and western screech owl in 2023) (eBird 2024).	Nesting bird season: February through August	Removing vegetation could result in direct mortality to nesting individuals, including eggs and young, if present and loss of nesting habitat.

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Mammals							
Pallid bat *Antrozous pallidus*	CDFW	–/SSC	Throughout California except for elevations greater than 3,000 m in the Sierra Nevada	Roosts in rock crevices, cavities in live or dead trees hollows, mines, caves, and a variety of vacant and occupied buildings; feeds in a variety of open woodland habitats and most frequently in riparian zone, in open oak savannah, and open mixed deciduous forest	**High:** Trees with cavities may provide roosting habitat. Bats may also roost in buildings on the parcels. Upland foraging habitat present. No known mines or caves are present. Species documented acoustically about two miles from the Project Area in 2020 (Conservation Biology Institute and USFS 2024). The nearest CNDDB occurrence is within eight miles of the Project Area (2004). The most recent CNDDB occurrence is from 2016 and is 17 miles north of the Project Area (CDFW 2024).	Maternity season: May 1 through August 31 Hibernating season: November 1 through March 31	Removing trees with cavities (roosting habitat), may result in mortality to bats, including non-volant young (young not able to fly), during the maternity season and to adults during the hibernating season. Any bats roosting in buildings would not likely be affected as no treatment activities will occur within 100 feet of any structure.
Townsend's big-eared bat *Corynorhinus townsendii*	CDFW	–/SSC	Throughout California, found in all but subalpine and alpine habitats, details of distribution not well known	Roosts in cavities, most often in tunnels, caves, mines, and buildings, but also rock shelters, preferentially close to water. Most abundant in mesic habitats, also found in oak woodlands, desert, vegetated drainages, caves or cave-like structures (including basal hollows in large trees, mines, tunnels, and buildings).	**High:** Roosting habitat may be present in any caves or mines and buildings in the Project Area, if present. Roosting may also occur in trees with large basil hollows for roosting, if present. Suitable foraging habitat present throughout the Project Area. No known mines or caves are present. Species documented acoustically about two miles from the Project in 2020 (Conservation Biology Institute and USFS 2024). The nearest CNDDB occurrence is from 1990 within one mile of the Project Are (Lower Tenmile), while more recent occurrences include 2017 and 2015, which are about 14 and 20 miles from the Project Area, respectively (CDFW 2024).	Maternity season: May 1 through August 31 Hibernating season: November 1 through March 31	Noise- and smoke-generating activities have the potential to disturb roosting bats in caves/mines and trees with large basil hollows, which could cause roost abandonment, which may also result in mortality to non-volant young (young unable to fly), depending on proximity to the source of the disturbance. Any bats roosting in buildings would not likely be affected as no treatment activities will occur within 100 feet of any structure.
Western red bat *Lasiurus frantzii*	CDFW	–/SSC	Near the Pacific Coast, Central Valley, and the Sierra Nevada	Roosts on foliage in forests and woodlands, and primarily in riparian trees such as sycamores and cottonwoods, while less in shrubs; feeds over a wide variety of habitats including grasslands, shrublands, open woodlands and forests, and croplands. Hibernates under leaves in forests.	**Moderate:** Riparian trees along creeks within the Project Area may provide roosting habitat; suitable foraging habitat present throughout the Project Area. Species documented acoustically about two miles from the Project in 2020 (Conservation Biology Institute and USFS 2024). The only CNDDB occurrence in the Project Vicinity is from 1998 and is 13 miles east of the Project Area (CDFW 2024).	Maternity season: May 1 through August 31 Hibernating season: November 1 through March 31	Removing riparian trees with foliage (roosting habitat), may result in mortality to bats, including non-volant young (young not able to fly). If individuals are present during the winter season, ground disturbance may result in injury or mortality to individuals roosting under leaves.

Common Name *Scientific Name*	Query Sources	Status[a] Federal/ State	Distribution in California	Habitat Association	Likelihood to Occur within Project Area	Sensitive Life History Timing[b]	Potential Project-related Effects on the Species and Habitat
Sonoma tree vole *Arborimus pomo*	CDFW	–/SSC	Along the North Coast from Sonoma County north to the Oregon border, generally along the fog belt	Primarily nests in old-growth or partially harvested old-growth stands, while also present in young stands. Associated with Douglas-fir, redwood, grand fir, and montane hardwood-conifer habitats in the fog belt. Feeds almost exclusively on Douglas fir needles.	**Moderate:** The existing forest structure of a mixed aged stand of Douglas-fir trees and redwoods may provide suitable nesting and foraging habitat. While rare to uncommon throughout its range, the species was documented (six nests) within the Project Area (Lower Tenmile) in 1984, and numerous observations of nests have occurred within five miles of the Project Area (CDFW 2024).	Breeding season: year-round, mainly February through September	Removing trees may result in direct mortality to individuals. While the goal of the Project is to remove understory trees and brush, the ultimate goal of the Project is to enhance forest health and providing opportunities for trees to grow larger in stature, which would be preferable to the vole.
Fisher, Northern California/Southern Oregon DPS *Pekania pekanti*	CDFW	–/SSC	The northern Coast Range, including the Trinity and Klamath forests	Dense (greater than 50% canopy cover), advanced-successional conifer forests, with complex forest structure; den in hollow trees and snags.	**Moderate:** Suitable habitat within the Project Area includes denning features such as hollow snags within dense conifer forests. The Project Area may also be used as a corridor to adjacent forests outside of the Project Area, which may provide higher-quality later-successional forests. While suitable habitat may be present in the area and the Project is within the range of the fisher, most occurrences within Project vicinity are over 100 years old, including one occurrence within the Project Area (Cahto Ranch) from 1889. The most recent occurrence is from 2012, about 23 miles southeast of the Project Area (CDFW 2024). The lack of observations may be due to the species being elusive.	Mating season: March and April Embryo development: approximately 10 months following breeding Gestation period: approximately 40 days, so kits are born between March and April (one year after mating and just before the new mating season begins). Weaning: 6–8 weeks following birth Dispersal period: fall	Removing trees with snags (denning habitat), especially between spring and fall, may result in harm or mortality to individuals. If breeding is occurring within or near the treatment areas, noise from equipment (e.g., chainsaws) or burning may disturb fishers during the breeding season, which could result in indirect mortality to individuals.
American badger *Taxidea taxus*	CDFW	–/SSC	Throughout the state except in the humid coastal forests of Del Norte County and the northwest portion of Humboldt County	Shrubland, open grasslands, fields, and alpine meadows with friable soils	**Low:** While suitable habitat (open grasslands) is present in the Project Area, the species is rare with only two historical CNDDB occurrences from 1945 and 1916, 2 and 15 miles from the Project Area, respectively (CDFW 2024).	Not applicable	No Project effects are anticipated.

Notes: CDFW = California Department Fish and Wildlife; CNDDB = California Natural Diversity Database; ppt = parts per thousand; USFWS = U.S. Fish and Wildlife Service

[a] Status codes:

Federal

FE	Listed as endangered under the federal Endangered Species Act
FT	Listed as threatened under the federal Endangered Species Act
FC	Federal candidate species
FPT	Federally proposed for listing as threatened
BGECP	Protected under the Bald and Golden Eagle Protection Act
MBTA	Protected under the Migratory Bird Treaty Act

State

SE	Listed as Endangered under the California Endangered Species Act
ST	Listed as Threatened under the California Endangered Species Act
SCE	State Candidate Endangered
SSC	CDFW Species of Special Concern
FP	Fully protected
–	No state status

[b] Sensitive life history timing was identified for species with a moderate to high potential to occur within the Project Area.

5 REFERENCES

CDFG (California Department of Fish and Game). 2009. Stream Inventory Report for Cahto Creek.

CDFW (California Department of Fish and Wildlife). 2021. California Wildlife Habitat Relationship System, version 10. Website. https://wildlife.ca.gov/Data/CWHR [Accessed July 2024]. Prepared by CDFW, Biogegraphic Data Branch, Sacramento, California.

CDFW. 2023. California Sensitive Natural Communities List. Website. https://wildlife.ca.gov/Data/VegCAMP/Natural-Communities [Accessed August 2024]. Prepared by CDFW, Sacramento, California.

CDFW. 2024. California Natural Diversity Database (CNDDB) Website. https://map.dfg.ca.gov/rarefind/index.html?ReturnUrl=%2frarefind%2fview%2fRareFind.aspx [Accessed March 2024]. Prepared by CDFW, Sacramento, California.

CNPS (California Native Plant Society). 2024a. Rare Plant Inventory (online edition, v9.5). Website https://www.rareplants.cnps.org. [Accessed July 2024].

CNPS. 2024b. A Manual of California Vegetation, Online Edition. California Native Plant Society, Sacramento, California. Available at: http://www.cnps.org/cnps/vegetation/.

Conservation Biology Institute and USFS (U.S. Department of Agriculture Forest Service). 2024. Bat Acoustic Monitoring Visualization Tool. https://visualize.batamp.databasin.org/ [Accessed August 2024].

eBird. 2024. eBird: An online database of bird distribution and abundance [web application]. http://www.ebird.org [Accessed: August 2024]. eBird, Cornell Lab of Ornithology, Ithaca, New York.

Google Earth. 2024. 39.6857°, -123.4935°. Web-based application. [Accessed March 2024].

Higgens. P. 2023. Tenmile Creek Water Temperature, Fish Community and Flow Summary Report: Water Year 2022.

National Park Service (U.S. Department of the Interior, National Park Service). 2024. Wildland fire: What is a prescribed fire? Website. https://www.nps.gov/articles/what-is-a-prescribed-fire.htm [Accessed July 2024.]

NMFS. 2016. West Coast Region, California Species List Tool.

NRCS (U.S. Department of Agriculture, Natural Resources Conservation Service). 2012. Prescribed burning fact sheet. Available at: https://efotg.sc.egov.usda.gov/references/public/ND/prescribed_burning_fact_sheet.pdf.

NRCS. 2024. Custom soil resource report for Mendocino County, California; for the Tenmile Creek Watershed Forest Health Project Laytonville Rancheria Biological Resources Evaluation

Project. Downloaded from NRCS Websoil Survey website: https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx

Roos, D. 2020. Native Americans used fire to protect and cultivate land: Indigenous people routinely burned land to drive, prey, clear underbrush, and provide pastures. Available at: https://www.history.com/news/native-american-wildfires.

Starks B., S. Powers, and S. Monday. 2017. Results of regional spawning ground surveys and estimates of total salmonid redd construction in the South Fork Eel River, Humboldt County California, 2016. California Coastal Salmonid Monitoring Program Annual Report prepared in partial fulfillment of California Department of Fish and Wildlife Fisheries Restoration Grant Program. Grantee Agreement Number: P1510507.

Stillwater Sciences. 2014. A conceptual framework for understanding factors limiting Pacific lamprey production in the Eel River basin. Prepared by Stillwater Sciences, Arcata, California for Wiyot Tribe, Loleta, California

Stillwater Sciences. 2023 Cahto Creek and Holland Reservoir Habitat Enhancement Biological Resource Evaluation. Prepared by Stillwater Sciences, Arcata, California for Mendocino Magic, Laytonville, California.

USFS (USDA Forest Service). 2024. Broadcast burning. Website. https://www.fs.usda.gov/detail/arp/landmanagement/resourcemanagement/?cid=fsm91_058292#:~:text=Broadcast%20Burning%20Broadcast%20burns%20are%20controlled%20applications%20of,health%20objectives%20identified%20in%20a%20detailed%20burn%20plan [Accessed July 2024].

USFWS (U.S. Fish and Wildlife Service). 2024a. IPaC – Information for Planning and Consultation. Federal endangered and threatened species that occur in or may be affected by projects requested. Prepared by USFWS, Arcata Fish and Wildlife Office, Arcata, California.

USFWS. 2024b. National Wetlands Inventory (NWI) wetlands and riparian polygon data. Geospatial wetlands data. Website. http://www.fws.gov/wetlands/ [Accessed July 2024]. USFWS, Arlington, Virginia.

USFWS. 2024c. USFWS threatened and endangered species active critical habitat report. Website. https://ecos.fws.gov/ecp/report/table/critical-habitat.html [Accessed August 2024].

Western Monarch and Milkweed Occurrence Database. 2024. Data accessed from the Western Monarch Milkweed Mapper, a project by the Xerces Society, U.S. Fish and Wildlife Service, Idaho Department of Fish and Game, and Washington Department of Fish and Wildlife. Available: www.monarchmilkweedmapper.org. [Accessed August 2024].

Xerces Society. 2024. Data accessed from Bumble Bee Watch, a collaborative website to track and conserve North America's bumble bees. Available at https://www.bumblebeewatch.org/. Accessed: 8/8/2024

Appendices

Appendix A

Comprehensive Plant Species List

Table A-1. Comprehensive list of plant species documented within the implementation areas of the Lower Tenmile, Vassar, Gravier, and West Tenmile portions of the Project Area by Salix Natural Resource Management in April, May, June, and July 2024.

Scientific name	Common name	Family	Native status
Acer macrophyllum	bigleaf maple	Sapindaceae	Native
Achillea millefolium	common yarrow	Asteraceae	Native
Achyrachaena mollis	blow wives	Asteraceae	Native
Acmispon americanus var. *americanus*	Spanish lotus	Fabaceae	Native
Acmispon brachycarpus	hairy hill lotus	Fabaceae	Native
Acmispon glaber	deerweed	Fabaceae	Native
Acmispon parviflorus	rose-flowered lotus	Fabaceae	Native
Acmispon wrangelianus	Chilean trefoil	Fabaceae	Native
Adelinia grande	hound's tongue	Boraginaceae	Native
Adenocaulon bicolor	trail plant	Asteraceae	Native
Adiantum jordanii	California maidenhair fern	Pteridaceae	Native
Aesculus californica	California buckeye	Sapindaceae	Native
Agoseris grandiflora var. *leptophylla*	giant mountain dandelion	Asteraceae	Native
Agoseris heterophylla	mountain dandelion	Asteraceae	Native
Agoseris retrorsa	spear-leaved dandelion	Asteraceae	Native
Agrostis pallens	Diego bent grass	Poaceae	Native
Aira caryophyllea	silver European hairgrass	Poaceae	Non-native
Aira elegans	elegant hairgrass	Poaceae	Non-native
Allotropa virgata	sugar stick	Ericaceae	Native
Alnus rhombifolia	white alder	Betulaceae	Native
Anisocarpus madiodes	woodland madia	Asteraceae	Native
Anthoxanthum odoratum	vanilla grass	Poaceae	Non-native
Apocynum androsaemifolium	bitter dogbane	Apocynaceae	Native
Aquilegia formosa	crimson columbine	Ranunculaceae	Native
Arbutus menziesii	Pacific madrone	Ericaceae	Native
Arctostaphylos glandulosa ssp. *cushingiana*	Cushing manzanita	Ericaceae	Native
Arctostaphylos glandulosa ssp. *glandulosa*	Eastwood manzanita	Ericaceae	Native
Arctostaphylos manzanita ssp. *manzanita*	common manzanita	Ericaceae	Native
Arctostaphylos manzanita var. *glaucescens*	common manzanita	Ericaceae	Native
Arctostaphylos patula	greenleaf manzanita	Ericaceae	Native
Arctostaphylos stanfordiana ssp. *stanfordiana*	Stanford's manzanita	Ericaceae	Native
Artemisia douglasiana	mugwort	Asteraceae	Native
Asclepias cordifolia	purple milkweed	Apocynaceae	Native
Asyneuma prenanthoides	California harebell	Campanulaceae	Native
Athyrium filix-femina var. *cyclosorum*	lady fern	Woodsiaceae	Native
Avena sativa	wild oats (glabrous lemma)	Poaceae	Non-native
Avena sp.	oats	Poaceae	Non-native
Baccharis glutinosa	marsh baccharis	Asteraceae	Native
Baccharis pilularis ssp. *consanguinea*	coyote brush	Asteraceae	Native
Berberis nervosa	dwarf Oregon-grape	Berberidaceae	Native
Berula erecta	cut-leaved water parsnip	Apiaceae	Native
Brassica nigra	black mustard	Brassicaceae	Non-native

Scientific name	Common name	Family	Native status
Briza maxima	large rattlesnake grass	Poaceae	Non-native
Briza minor	small rattlesnake grass	Poaceae	Non-native
Bromus diandrus	ripgut grass	Poaceae	Non-native
Bromus hordeaceus	soft chess	Poaceae	Non-native
Bromus madritensis ssp. *rubens*	foxtail broom	Poaceae	Non-native
Bromus sitchensis var. *carinatus*	California brome	Poaceae	Native
Bromus sitchensis var. *sitchensis*	Sitka brome	Poaceae	Native
Bromus vulgaris	common brome	Poaceae	Native
Calamagrostis rubescens	pine grass	Poaceae	Native
Calocedrus decurrens	incense-cedar	Cupressaceae	Native
Calochortus tolmiei	hairy star tulip	Liliaceae	Native
Cardamine californica	California milkmaids	Brassicaceae	Native
Cardamine oligosperma	western bittercress	Brassicaceae	Native
Carduus pycnocephalus	Italian thistle	Asteraceae	Non-native
Carex brevicaulis	short stem sedge	Cyperaceae	Native
Carex leptopoda	slender footed sedge	Cyperaceae	Native
Carex nudata	torrent sedge	Cyperaceae	Native
Carex praegracilis	field sedge	Cyperaceae	Native
Carex tumulicola	split awn sedge	Cyperaceae	Native
Ceanothus cuneatus var. *cuneatus*	buckbrush	Rhamnaceae	Native
Ceanothus incanus	coastal whitethorn	Rhamnaceae	Native
Ceanothus integerrimus var. *macrothyrsus*	deerbrush	Rhamnaceae	Native
Ceanothus velutinus	snowbrush	Rhamnaceae	Native
Centaurea solstitialis	yellow starthistle	Asteraceae	Non-native
Cephalanthera austiniae	phantom orchid	Orchidaceae	Native
Cerastium sp.	chickweed	Caryophyllaceae	Non-native
Chlorogalum pomeridianum var. *pomeridianum*	soap plant	Agavaceae	Native
Cirsium brevistylum	Indian thistle	Asteraceae	Native
Cirsium occidentale var. *venustum*	venus thistle	Asteraceae	Native
Cirsium vulgare	bull thistle	Asteraceae	Non-native
Clarkia concinna ssp. *concinna*	red ribbons	Onagraceae	Native
Clarkia purpurea ssp. *quadrivulnera*	winecup clarkia	Onagraceae	Native
Clarkia unguiculata	woodland clarkia	Onagraceae	Native
Claytonia perfoliata ssp. *perfoliata*	miner's lettuce	Montiaceae	Native
Clinopodium douglasii	yerba santa	Lamiaceae	Native
Collinsia heterophylla var. *heterophylla*	purple Chinese houses	Plantaginaceae	Native
Collomia heterophylla	varied-leaf collomia	Polemoniaceae	Native
Corallorhiza maculata	spotted coralroot	Orchidaceae	Native
Cornus nuttallii	Pacific dogwood	Cornaceae	Native
Cornus sericea ssp. *sericea*	red osier dogwood	Cornaceae	Native
Corylus cornuta var. *californica*	California hazelnut	Betulaceae	Native
Crepis vesicaria ssp. *taraxacifolia*	beaked hawksbeard	Asteraceae	Non-native
Croton setiger	turkey mullein	Euphorbiaceae	Native
Cynosurus echinatus	hedgehog grass	Poaceae	Non-native
Cyperus eragrostis	nutsedge	Cyperaceae	Native
Cytisus scoparius	Scotch broom	Fabaceae	Non-native
Dactylis glomerata	orchard grass	Poaceae	Non-native
Danthonia californica	California oatgrass	Poaceae	Native

Scientific name	Common name	Family	Native status
Daucus carota	Queen Anne's lace	Apiaceae	Non-native
Daucus pusillus	wild carrot	Apiaceae	Native
Delphinium nudicaule	scarlet larkspur	Ranunculaceae	Native
Deschampsia elongata	slender hairgrass	Poaceae	Native
Dicentra formosa	Pacific bleeding heart	Papaveraceae	Native
Dichelostemma congestum	fork-toothed ookow	Themidaceae	Native
Diplacus aurantiacus	orange monkey bush	Phrymaceae	Native
Dipterostemon capitatum	blue dicks	Themidaceae	Native
Dipterostemon capitatum ssp. *capitatum*	blue dicks	Themidaceae	Native
Drymocallis glandulosa ssp. *glandulosa*	sticky cinquefoil	Rosaceae	Native
Dryopteris arguta	coastal wood fern	Dryopteridaceae	Native
Elymus caput-medusae	Medusa head	Poaceae	Non-native
Elymus glaucus ssp. glaucus	wild rye	Poaceae	Native
Epilobium brachycarpum	panicled willowherb	Onagraceae	Native
Epilobium ciliatum	willowherb	Onagraceae	Native
Epilobium minutum	minute willowherb	Onagraceae	Native
Equisetum arvense	horsetail	Equisetaceae	Native
Equistetum laevigatum	smooth scouring rush	Equisetaceae	Native
Erigeron bonariensis	flax-leaved horseweed	Asteraceae	Non-native
Erigeron canadensis	horseweed	Asteraceae	Native
Eriophyllum lanatum var. *achilleoides*	yarrow-leaved sunflower	Asteraceae	Native
Erodium moschatum	whitestem filaree	Geraniaceae	Non-native
Erysimum capitatum var. *capitatum*	western wallflower	Brassicaceae	Native
Erythranthe guttata	seep-spring monkey flower	Phrymaceae	Native
Eschscholzia californica	California poppy	Papaveraceae	Native
Euchiton gymnocephalus	creeping cudweed	Asteraceae	Non-native
Euchiton spp.	cudweed	Asteraceae	Non-native
Euphorbia crenulata	Chinese caps	Euphorbiaceae	Native
Eurybia radulina	roughleaf aster	Asteraceae	Native
Festuca bromoides	brome fescue	Poaceae	Non-native
Festuca californica	California fescue	Poaceae	Native
Festuca microstachys	small fescue	Poaceae	Native
Festuca occidentalis	western fescue	Poaceae	Native
Festuca octoflora	sixweeks grass	Poaceae	Native
Festuca perennis	Italian rye grass	Poaceae	Non-native
Festuca subulata	bearded fescue	Poaceae	Native
Festuca subuliflora	crinkle-awn fescue	Poaceae	Native
Fragaria vesca	strawberry	Rosaceae	Native
Frangula californica ssp. *californica*	California coffeeberry	Rhamnaceae	Native
Fraxinus latifolia	Oregon ash	Oleaceae	Native
Fritillaria affinis	mission bells	Liliaceae	Native
Galium aparine	cleavers	Rubiaceae	Non-native
Galium californicum var. *californicum*	California bedstraw	Rubiaceae	Native
Galium triflorum	sweet-scented bedstraw	Rubiaceae	Native
Gamochaeta ustulata	purple cudweed	Asteraceae	Native
Genista monspessulana	French broom	Fabaceae	Non-native
Geranium dissectum	cut-leaved geranium	Geraniaceae	Non-native
Geranium molle	dovefoot geranium	Geraniaceae	Non-native
Goodyera oblongifolia	rattlesnake plantain	Orchidaceae	Native

Scientific name	Common name	Family	Native status
Hieracium albiflorum	white hawkweed	Asteraceae	Native
Hirschfeldia incana	summer mustard	Brassicaceae	Non-native
Holcus lanatus	velvet grass	Poaceae	Non-native
Holodiscus discolor var. *discolor*	oceanspray	Rosaceae	Native
Hordeum brachyantherum ssp. *brachyantherum*	northern barley	Poaceae	Native
Hordeum marinum	Mediterranean barley	Poaceae	Non-native
Hypericum concinnum	gold wire	Hypericaceae	Native
Hypericum performatum ssp. *perforatum*	Klamath weed	Hypericaceae	Non-native
Hypochaeris glabra	smooth cats ear	Asteraceae	Non-native
Hypochaeris radicata	hairy cats ear	Asteraceae	Non-native
Iris macrosiphon	bowl-tubed iris	Iridaceae	Native
Iris purdyi	Purdy's iris	Iridaceae	Native
Juncus balticus ssp. *ater*	Baltic rush	Juncaceae	Native
Juncus bolanderi	Bolander's rush	Juncaceae	Native
Juncus bufonius var. *bufonius*	toad rush	Juncaceae	Native
Juncus effusus	common rush	Juncaceae	Native
Juncus effusus ssp. *pacificus*	common rush	Juncaceae	Native
Juncus patens	common rush	Juncaceae	Native
Juncus tenuis	slender rush	Juncaceae	Native
Kickxia elata	sharp leaved fluellin	Plantaginaceae	Non-native
Lamium purpureum	purple dead nettle	Lamiaceae	Non-native
Lasthenia californica ssp. *californica*	California goldfields	Asteraceae	Native
Lathyrus angulatus	Angled pea vine	Fabaceae	Non-native
Lathyrus latifolius	everlasting pea	Fabaceae	Non-native
Lathyrus sulphureus var. *sulphureus*	Brewer's pea	Fabaceae	Native
Lathyrus torreyi	Redwood pea	Fabaceae	Native
Lathyrus vestitus	common pacific pea	Fabaceae	Native
Leontodon saxatilis ssp. *saxatilis*	hawkbit	Asteraceae	Non-native
Leptosiphon androsaceus	false babystars	Polemoniaceae	Native
Leucanthemum vulgare	ox-eyed daisy	Asteraceae	Non-native
Ligusticum apifolium	lovage	Apiaceae	Native
Limnanthes douglasii ssp. *nivea*	snowwhite meadowfoam	Limnanthaceae	Native
Linum bienne	western blue flax	Linaceae	Non-native
Lithophragma affine	common woodland star	Saxifragaceae	Native
Logfia filaginoides	California cottonrose	Asteraceae	Native
Logfia gallica	narrowleaf cottonrose	Asteraceae	Non-native
Lomatium dasycarpum ssp. *dasycarpum*	woolly fruited lomatium	Apiaceae	Native
Lonicera hispidula	hairy honeysuckle	Caprifoliaceae	Native
Lupinus bicolor	miniature lupine	Fabaceae	Native
Lupinus polyphyllus var. *polyphyllus*	meadow lupine	Fabaceae	Native
Luzula sp.	wood rush	Juncaceae	Native
Lysimachia arvensis	scarlet pimpernel	Myrsinaceae	Native
Lysimachia latifolia	Pacific star flower	Myrsinaceae	Native
Madia elegans	common madia	Asteraceae	Native
Madia exigua	small tarweed	Asteraceae	Native
Madia gracilis	slender tarweed	Asteraceae	Native
Maianthemum racemosum	branched Solomon's seal	Ruscaceae	Native
Malva neglecta	cheese weed	Malvaceae	Non-native

Scientific name	Common name	Family	Native status
Marah sp.	manroot	Cucurbitaceae	Native
Matricaria discoidea	pineapple weed	Asteraceae	Native
Medicago polymorpha	bur clover	Fabaceae	Non-native
Melica californica	California melic	Poaceae	Native
Melica geyeri	Geyer's onion	Poaceae	Native
Melica harfordii	Harford's melic	Poaceae	Native
Mentha pulegium	pennyroyal	Lamiaceae	Non-native
Micropus californicus var. *californicus*	q-tips	Asteraceae	Native
Monardella villosa var. *villosa*	coyote mint	Lamiaceae	Native
Navarretia intertexta	Interwoven navarretia	Polemoniaceae	Native
Nemophila parviflora var. *parviflora*	small-flowered nemophila	Hydrophyllaceae	Native
Notholithocarpus densiflorus var. *densiflorus*	tanoak	Fagaceae	Native
Oemleria cerasiformis	oso berry	Rosaceae	Native
Osmorhiza berteroi	mountain sweet-cicely	Apiaceae	Native
Oxalis corniculata	creeping wood sorrel	Oxalidaceae	Non-native
Pedicularis densiflora	Indian warrior	Orobanchaceae	Native
Penstemon heterophyllus	Foothill penstemon	Plantaginaceae	Native
Pentagramma triangularis ssp. *triangularis*	gold-backed fern	Pteridaceae	Native
Perideridia spp.	yampah	Apiaceae	Native
Phacelia sp.	phacelia	Hydrophyllaceae	Native
Phalaris sp.	harding grass	Poaceae	Native
Philadelphus lewisii	mock orange	Hydrangeaceae	Native
Physocarpus capitatus	Pacific ninebark	Rosaceae	Native
Pinus lambertiana	sugar pine	Pinaceae	Native
Pinus ponderosa	Ponderosa pine	Pinaceae	Native
Piperia elegans ssp. *elegans*	elegant piperia	Orchidaceae	Native
Piperia elongata	dense-flowered rein orchid	Orchidaceae	Native
Piperia transversa	mountain piperia	Orchidaceae	Native
Plantago lanceolata	English plantain	Plantaginaceae	Non-native
Plectritis sp.	plectritis	Valerianaceae	Native
Poa kelloggii	Kellogg's blue grass	Poaceae	Native
Poa pratensis ssp. *pratensis*	Kentucky blue grass	Poaceae	Non-native
Poa secunda ssp. *secunda*	pine bluegrass	Poaceae	Native
Polypodium californicum	California polypody	Polypodiaceae	Native
Polystichum imbricans	rock sword fern	Dryopteridaceae	Native
Polystichum munitum	sword fern	Dryopteridaceae	Native
Populus fremontii	Fremont's poplar	Betulaceae	Native
Primula hendersonii	Henderson's shooting star	Primulaceae	Native
Prunella vulgaris var. *vulgaris*	self-heal	Lamiaceae	Non-native
Pseudognaphalium californicum	ladies tobacco	Asteraceae	Native
Pseudognaphalium stramineum	cottonbatting plant	Asteraceae	Native
Pseudotsuga menziesii	Douglas-fir	Pinaceae	Native
Psilocarphus sp.	wooly marbles	Asteraceae	Native
Pteridium aquilinum var. *pubescens*	western bracken fern	Dennstaedtiaceae	Native
Pyrola aphylla	leafless wintergreen	Ericaceae	Native
Pyrola picta	wintergreen	Ericaceae	Native
Quercus agrifolia var. *agrifolia*	coast live oak	Fagaceae	Native
Quercus chrysolepis	canyon live oak	Fagaceae	Native
Quercus garryana var. *garryana*	Oregon white oak	Fagaceae	Native

Scientific name	Common name	Family	Native status
Quercus kelloggii	black oak	Fagaceae	Native
Quercus lobata	valley oak	Fagaceae	Native
Quercus xmorehus	Oracle oak	Fagaceae	Native
Ranunculus occidentalis var. *occidentalis*	western buttercup	Ranunculaceae	Native
Rhinotropis californica	California milkwort	Polygalaceae	Native
Ribes sanguineum var. *glutinosum*	pink-flowering currant	Grossulariaceae	Native
Ribes spp.	gooseberry	Grossulariaceae	Native
Rosa gymnocarpa	wood rose	Rosaceae	Native
Rubus armeniacus	Himalaya berry	Rosaceae	Non-native
Rubus leucodermis	white-stemmed raspberry	Rosaceae	Native
Rubus parviflorus	thimbleberry	Rosaceae	Native
Rubus ursinus	trailing blackberry	Rosaceae	Native
Rumex crispus	curly dock	Polygonaceae	Non-native
Salix scouleriana	Scouler's willow	Salicaceae	Native
Salix sitchensis	Sitka willow	Salicaceae	Native
Sanicula bipinnatifida	purple sanicle	Apiaceae	Native
Sanicula crassicaulis	pacific snakeroot	Apiaceae	Native
Sanicula laciniata	coast sanicle	Apiaceae	Native
Saxifraga mertensiana	saxifrage	Saxifragaceae	Native
Scandix pecten-veneris	Shepherd's needle	Apiaceae	Non-native
Sedum radiatum	coast range stonecrop	Crassulaceae	Native
Sedum spathulifolium	pacific stonecrop	Crassulaceae	Native
Senecio sylvaticus	woodland groundsel	Asteraceae	Non-native
Senecio vulgaris	common butterweed	Asteraceae	Non-native
Sherardia arvensis	field madder	Rubiaceae	Native
Silene laciniata var. californica	indian pink	Caryophyllaceae	Native
Silybum marianum	milkthistle	Asteraceae	Non-native
Sisyrinchium bellum	blue-eyed grass	Iridaceae	Native
Solanum sp.	nightshade	Solanaceae	Native
Sonchus asper ssp. *asper*	prickly sow thistle	Asteraceae	Non-native
Sonchus oleraceus	common sow thistle	Asteraceae	Non-native
Stachys ajugoides var. *rigida*	hedge nettle	Lamiaceae	Native
Stachys rigida var. *quercetorum*	rough hedgenettle	Lamiaceae	Native
Stellaria sp.	chickweed	Caryophyllaceae	Non-native
Stephanomeria virgata	twiggy leaf plant	Asteraceae	Native
Stipa pulchra	purple needle grass	Poaceae	Native
Symphoricarpos albus var. *laevigatus*	common snowberry	Caprifoliaceae	Native
Taraxacum officinale	dandelion	Asteraceae	Non-native
Taraxia ovata	suncup	Onagraceae	Native
Tauschia sp.	compound umbels	Apiaceae	Native
Tellima grandiflora	fringe cups	Saxifragaceae	Native
Tolpis barbata	European milkwort	Asteraceae	Non-native
Torilis arvensis	tall sock destroyer	Apiaceae	Non-native
Torreya californica	California nutmeg	Taxaceae	Native
Toxicodendron diversilobum	poisonoak	Anacardiaceae	Native
Toxicoscordion fremontii	Fremont's death camas	Melanthiaceae	Native
Trichostema lanceolatum	vinegar weed	Lamiaceae	Native
Trifolium ciliolatum	tree clover	Fabaceae	Native
Trifolium depauperatum var. *depauperatum*	dwarf sack clover	Fabaceae	Native

Scientific name	Common name	Family	Native status
Trifolium dubium	shamrock clover	Fabaceae	Non-native
Trifolium fragiferum	strawberry clover	Fabaceae	Non-native
Trifolium fucatum	bull clover	Fabaceae	Native
Trifolium hirtum	rose clover	Fabaceae	Non-native
Trifolium incarnatum	crimson clover	Fabaceae	Non-native
Trifolium microcephalum	small-headed clover	Fabaceae	Native
Trifolium oliganthum	few-flowered clover	Fabaceae	Native
Trifolium repens	white clover	Fabaceae	Non-native
Trifolium subterraneum	subterraneum clover	Fabaceae	Non-native
Trifolium variegatum var. *variegatum*	white-tipped clover	Fabaceae	Native
Trifolium wildenovii	Tomcat clover	Fabaceae	Native
Trillium albidum	giant wake robin	Melanthiaceae	Native
Triteleia hyacinthina	wild hyacinth	Themidaceae	Native
Triteleia laxa	Ithuriel's spear	Themidaceae	Native
Umbellularia californica	laurel	Lauraceae	Native
Vaccinium ovatum	evergreen huckleberry	Ericaceae	Native
Vancouveria planipetala	redwood inside-out-flower	Berberidaceae	Native
Verbascum thapsus	woolly mullein	Scrophulariaceae	Non-native
Verbena lasiostachys	western verbena	Verbenaceae	Native
Veronica americana	brooklime	Plantaginaceae	Native
Vicia americana var. *americana*	American vetch	Fabaceae	Native
Vicia benghalensis	purple vetch	Fabaceae	Non-native
Vicia hirsuta	hairy vetch	Fabaceae	Non-native
Vicia sativa	spring vetch	Fabaceae	Non-native
Vicia sp.	vetch	Fabaceae	Native
Vicia villosa	hairy vetch	Fabaceae	Non-native
Viola ocellata	wedge-leaved violet	Violaceae	Native
Viola purpurea	goosefoot violet	Violaceae	Native
Whipplea modesta	modesty	Hydrangeaceae	Native
Woodwardia fimbriata	giant chain fern	Blechnaceae	Native
Wyethia sp.	mule's ears	Asteraceae	Native
Xerophyllum tenax	beargrass	Melanthiaceae	Native
Zeltnera sp.	Centaury	Gentianaceae	Native