Attachment B

Mount Veeder Fire Safe Council VTP # 2024-03

Biological Resource Assessment

As per SPR BIO-1, a reconnaissance level survey was conducted by the RPF, to determine what habitats were present within the project area. This habitat analysis informed the subsequent listed and non-listed species impact analysis. During the field reconnaissance, the following non-sensitive animal species were identified either visually or otherwise (i.e. scatt, tracks, etc…):

Black tail deer, wild pig, black bear, tree squirrel, ground squirrel, coyote, mountain lion, bobcat, bald eagle, red tail hawk, crow, raven, pileated woodpecker, blue jay, starling, oriole, robin, & hummingbird.

- The following are all rare, threatened, endangered, and Species of Special Concern with potential to occur within the project area. Species occurrences listed in the CNDDB within 0.7 miles of the project area were included along with species within the 9-quad with a high potential for occurrence, based on the results of reconnaissance level habitat surveys.

Birds

- A note on birds of prey and the treatments proposed on this project: The treatments proposed will have very little effect on the habitat types these species rely on. Most of the treatments are focused on removing dead and down debris, along with understory vegetation. The result will be the creation of better foraging habitat for birds of prey, due to the decrease in places for food sources to hide. A high degree of LWD will be retained throughout the units, as it is infeasible to treat all of this material. Also, LWD is not responsible for causing high intensity wildfire. This will ensure habitat is retained for prey species.

  These species usually create nests high off the ground in large old trees. These types of trees are not targeted for removal unless they are a rotten snag near a ridgeline fuel break. These trees will be assessed by an RPF or qualified biologist prior to removal.

Northern Spotted Owl (*Strix occidentalis caurina*)

Status: Federally Threatened; California Threatened

Habitat Requirements: Northern spotted owls (NSO) are old growth to second growth forest obligate birds that require permanent water and suitable nesting trees/snags (Zeiner et al. 1990a). Northern spotted owls use dense, old-growth forests, or mid- to late- seral stage forest, with a multi-layered canopy for breeding (Remsen 1978). Northern spotted owl nests are most often found on existing structures (old raptor nest, squirrel nest, red-tree vole nest), or debris piled on a broken topped tree; although, they have been found inside tree cavities.

In evaluating potential NSO habitat, the presence of a nest structure may be more important than the size or species of tree. Successful nest sites have canopy cover immediately above nests exceeding 85%.

The presence of high-quality foraging habitat is also very important. Early seral habitat can provide excellent foraging opportunities for the NSO. Its primary prey in this area is the dusky-footed woodrat (*Neotoma fuscipes*). The NSO breeds from southwestern British Columbia south through western Washington and western Oregon to Marin County, California. The breeding season is between February 1st to July 31st.

Potential for Occurrence: There are 10 documented activity centers within 0.7 miles of the project area. They are NAP0012, NAP0030, NAP0015, NAP0004, NAP0034, NAP0039, NAP0031, NAP0016, NAP0010, and NAP0020. No NSO surveys have been conducted since these detections were originally made. During SPR BIO-1 and BIO-10, reconnaissance and focused surveys (non-protocol level) were conducted throughout the MVFSC VTP area in search of NSO during daytime hours. No detections were made. The project proponent shall assume presence of 9 of the 10 ACs as per CDFW verification that one of the 10 ACs, NAP0039, is now merged with NAP0004. CDFW was consulted for technical assistance regarding the avoidance of take. The results are provided below along with the protection measures.

CDFW Consultation Results Regarding NSO Protections:

CDFW was contacted by FRM on 3/21/24 for technical support, regarding protections for these activity centers, as per Mitigation Measure BIO-2a. In the email correspondence, FRM proposed utilizing the U.S Fish and Wildlife document titled "*Estimating the Effects of Auditory and Visual Disturbance to Northern Spotted Owls in Northwestern California*", updated October 10, 2020. The guidance provides information for determining the appropriate nest buffer distance based on activities, and their potential increase to the ambient noise level.

CDFW also provided information that the AC NAP0039 is no longer active, as stated above. The email correspondence outlining these two key pieces of information are provided below. A copy of the email correspondence in it's entirety is located at the end of Attachment B for reference.

Project Specific Mitigation measures for NSO ACs (to be implemented around 9 ACs shown at mapped locations on Treatment Activities Map, in Attachment C)**:**

- SPR BIO-2: Require training on identification of NSO to all workers prior to beginning operations. If an NSO is observed during operations, all treatments shall stop within 500 ft of the location and the RPF or Biologist shall be notified.
- MM BIO-2a:
  - Mechanical treatments, manual treatments, and prescribed burning shall require a seasonal no treatment buffer within **500 ft** of the AC shown in Attachment C, between February 1st and July 31st.
  - Prior to Mechanical, manual, or prescribed fire treatments, the project proponent shall have an RPF or their supervised designee flag an STZ around each AC within the proposed treatment area.
  - Prescribed herbivory and herbicide use shall not require a seasonal restriction.

Bank swallow (*Riparia riparia*)
Status: State Threatened

Habitat Requirements**:** Bank swallows are summer residents of Mendocino County. They are primarily found in riparian and other lowland habitats. They forage predominantly over open riparian areas, but also over brushland, grassland, wetlands, water, and cropland.

Potential for Occurrence: Closest known occurrence location unknown but within 1.3 miles SW of the Partrick Redwood connector treatment. The record is very old and mapped as best guess by CNDDB. An egg set was collected on May 23rd 1893. No sightings occurred during field reconnaissance. There is potential habitat within the treatment area.

Potential Project Impact: Due to the potential habitat within the project area, there is a low to moderate potential for treatments to impact this species if present.

Mitigations: WLPZ protections prescribed in HYD-4 and BIO-4 will provide refuge for this species, particularly within their optimum foraging habitat. Furthermore, SPR BIO-2 training for workers will ensure operators are trained in the identification of this species. SPR BIO-10, focused surveys were conducted by FRM during preparation of the PSA and this species was not detected. Further focused surveys may be necessary during maintenance treatments to ensure this species has not immigrated into this area. SPR BIO-12 requiring nesting bird surveys between March-July will further reduce potential impact to this species. Overall, with these mitigations and protection measures, there is not expected to be an impact to this species from the proposed treatment activities.

Black swift (*Cypseloides niger*)
Status: SSC

Habitat Requirements: Black swifts nests in moist crevices or caves on sea cliffs above the surf, or on cliffs behind, or adjacent to, waterfalls in deep canyons. They forage over a wide variety of habitats and nest in mid-May laying 1 egg per season.

Potential for Occurrence: No sightings occurred during field reconnaissance. CNDDB documents an observation somewhere along the Sonoma/Napa county line 6 miles north of Sonoma. The required habitat does not exist in project area**.**

Potential Project Impact**:** There is no potential for this project to impact the Black swift due to the lack of habitat.

Black-crowned night heron (*Nycticorax nycticorax*)
Status**:** SSC

Habitat Requirements: Black-crowned night herons are common in wetlands across North America, including saltmarshes, freshwater marshes, swamps, streams, rivers, lakes, ponds, lagoons, tidal mudflats, canals, reservoirs, and wet agricultural fields. They require aquatic habitat for foraging and terrestrial vegetation for cover. They nest and roost in dense-foliaged trees and dense emergent wetlands. They are very common in large nesting colonies and feed along the margins of lacustrine, large riverine, and fresh and saline emergent habitats. They spend the winter in southern and coastal portions of their breeding range as well as across Mexico and Central America, where they use mangroves, marshes, swamps, lagoons, and flooded rice fields.

Potential for Occurrence: This species rookery has been observed 2 miles southeast of the project area in a dense eucalyptus stand June 18th 2011. The project area doesn't contain any wetlands or suitable habitat for this species and no sightings occurred during reconnaissance.

Potential Project Impact: No potential for impact due to lack of required habitat within the project area.

Double-crested cormorant (*Phalacrocorax auritus*)
Status: SSC

Habitat Requirements: The double-crested cormorant is a year-long resident along the entire coast of California and on inland lakes, in fresh, salt, and estuarine waters. They rest in the daytime and roost overnight beside water on offshore rocks, islands, steep cliffs, dead branches of trees, wharfs, jetties, or even transmission lines. Their perching sites must be barren of vegetation. They require a considerable length of water, or elevated perch, for a labored take-off. The cormorant's diet is nearly exclusively fish, supplemented with insects, crustaceans, or amphibians. Nests are mostly made of finger-size sticks, often with seaweed and flotsam, lined with grass.

Potential for Occurrence**:** No potential for occurrence due to the lack of required habitat within the project area.

Potential Project Impact**:** None.

Ferruginous hawk (*Buteo regalis*)
Status**:** SSC, BFS

Habitat Requirements: Ferruginous hawk are winter residents of Napa County. They frequent open grassland, sagebrush flats, desert scrub, low foothills surrounding valleys, and fringes of pinyon-juniper habitats. They roost in open areas, usually in a lone tree or utility pole.

Potential for Occurrence: The closest known occurrence of this species is over 5 miles from the project boundary. No sightings were made during field reconnaissance. There is a low potential for this species to occur within the project near the grasslands.

Potential Project Impact: The project has a very low potential to impact this species with the implementation of SPR BIO-12 nesting surveys during the breeding season. If anything the project is expected to improve foraging habitat while preserving nesting habitat.

Golden Eagle (*Aquila chrysaetos*)
Status**:** SP, SSC

Habitat Requirements: Golden eagles require open habitat for hunting, typically rolling foothills, mountain areas, sage-juniper flats, and desert. They require secluded cliffs with overhanging ledges and large trees for cover and nesting. Portions of Mendocino County contain habitat suitable for nesting and winter range for the golden eagle.

Potential for Occurrence: The closest known occurrence of this species is over 5 miles from the project boundary. So sightings were made during field reconnaissance.

Potential Project Impact**:** The project has a very low potential to impact this species with the implementation of SPR BIO-12 nesting surveys during the breeding season. If anything the project is expected to improve foraging habitat while preserving nesting habitat.

Great Blue Heron (*Ardea herodias*)
Status: SSC

Habitat Requirements: Great blue herons are common in shallow estuaries, and fresh and saline emergent wetlands. Foraging areas include river and creek banks, ponds, lakes, and watercourses in mountainous areas. Nest trees are called "rookery" trees; *A. herodias* is a colonial nester. This species requires lakes, ponds, streams, rivers, marshes, or wet meadows for foraging on aquatic invertebrates, frogs, snakes, and fish (Cogswell 1977). Great blue herons are yearlong residents of Mendocino County.

Potential for Occurrence: No potential for occurrence due to the lack of required habitat within the project area.

Potential Project Impact: None

Osprey (*Pandion haliaetus*)
Status**:** SSC, BFS

Habitat Requirements: Some osprey are year-round residents in Mendocino County, while the majority overwinter in Mexico and South America. Ospreys are strictly associated with large, fish-bearing waters, primarily in ponderosa pine through mixed conifer habitat types. Osprey are only able to dive up to three feet in depth, hence are typically associated with shallow fishing areas. These birds require open, clear water for foraging, such as rivers, lakes, reservoirs, estuaries, lagoons, swamps, marshes, and bays. Large trees, snags, and blown-out tree tops in open forest habitats are used for cover and nesting. Tall, open-branched "pilot trees" are required nearby for landing before approaching the nest and for practice by the young (Zeiner et al. 1990a). Nests are a platform of sticks near or on the top of large snags, blown-out trees, cliffs, or on human-made structures. Nests are usually next to fish-bearing water, however may be up to twelve miles away. Nests may be used year after year thus producing a large nest. Nest trees in California range from 30 to 81 inches dbh with nest heights averaging 135 feet (Airola and Shubert 1981). The osprey breeds in northern California from the Cascade Ranges south to Lake Tahoe, and along the coast to Marin County.

Potential for Occurrence: There is a low potential for this species to occur within the project area due to the lack of high quality feeding habitat they require.

Potential Project Impact: Very low potential for this species to be impacted by operations due to the low potential for occurrence and the class 1 protection measures outlined in HYD-4 and BIO-4.

White-Tailed Kite (*Elanus leucurus*)
Status: SSC, BFS

Habitat Requirements: White-tailed kites are yearlong residents in coastal and valley lowlands and are rarely found away from agricultural areas. White-tailed kites inhabit herbaceous and open stages of most habitats mostly in cismontane California. White-tailed kites forage for voles and other rodents in undisturbed, open grasslands, meadows, farmlands, and emergent wetlands (Waian and Stendall 1970). Nests are made of loosely piled sticks and twigs and lined with grass or straw. Nests are placed near the top of dense broadleaved deciduous trees, approximately 6-20 meters above ground.

Potential for Occurrence: There is a low to moderate potetential for this species to occur within the project area. Mainly due to the presence of vineyards within and near the treatment areas. There are multiple occurrences noted east of the project over 1.3 miles away. No sightings were made during field reconnaissance.

Potential Project Impact: The project has a very low potential to impact this species with the implementation of the SPRs below. If anything, the project is expected to improve foraging habitat while preserving nesting habitat. As described in the PEIR, the ecological restoration treatments will mostly retain large trees.

Mitigations: SPR BIO-2 training for workers will ensure operators are trained in the identification of this species. SPR BIO-10, focused surveys were conducted by FRM during preparation of the PSA and this species was not detected. Further focused surveys may be necessary during maintenance treatments to ensure this species has not immigrated into this area. SPR BIO-12 requiring nesting bird surveys between March-July will further reduce potential impact to this species. Overall, with these mitigations and protection measures, there is not expected to be an impact to this species from the proposed treatment activities.

Bald Eagle (*Haliaeetus leucocephalus*)

Status: SE, SP, BFS

Habitat Requirements: Bald eagles require large bodies of water or free-flowing rivers with abundant fish and adjacent snags, cliffs, or perches (Zeiner et al. 1990a). Perches are often high in large-limbed trees on snags, broken-topped trees, or on rocks near water. Nests are found in large, old-growth, or dominant live trees with open branches (Call 1978). Nest stands frequently have less than 40% canopy, with some foliage shading the nest, and are within a mile of a permanent water source. In the winter, they roost communally in dense, sheltered, remote conifer stands often within 10 to 12 miles from feeding areas. Although bald eagle populations are recovering in the western U.S., nesting bald eagles are still very rare in this region. Bald eagles are tolerant of human activity when feeding, and may congregate around fish processing plants, dumps, and below dams where fish concentrate. In winter, bald eagles can also be seen in dry, open uplands if there is access to open water for fishing.

Habitation Potential: Closest known occurrence of this species was a 1988 observation of an adult and two immatures wintering at Lake Hennessee which is over 5 miles NE of the project area. There is low potential for habitat within the project area due to the lack of preferred foraging. Open fish bearing water is rare within the project area. Class 1 streams are present, but they lack the access required by this species.

Potential Project Impact: Very low potential for this species to be impacted by operations due to

the low potential for occurrence and the class 1 protection measures outlined in HYD-4 and BIO-4.

Mammals

American Badger (*Taxidea taxus*)
Status: SSC

Habitat Requirements: A small carnivore, with a distinctive white badge-like mark on its forehead. This species is most abundant in drier open stages of most shrub, forest and herbaceous habitats, with friable soils (Zeiner et al. 1990b). They dig burrows in the friable soils and frequently reuse old burrows. They prey on burrowing rodents, especially ground squirrels and pocket gophers, also on birds, insects, reptiles and carrion. Their diet shifts seasonally depending on the availability of prey. American badgers are non-migratory and are found throughout most of California, except the northern North Coast area (Grinnell et al. 1937).

Potential for Occurrence: There is a low to moderate potential for occurrence. No sightings were made during reconnaissance surveys. The closest known occurrence is over 1.3 miles of the project area.

Potential Project Impact: Low. Treatments are not expected to harm this species or it's habitat. Habitat will be improved by increasing high quality foraging.

Fringed myotis (*Myotis thysanodes*)
Status: BFS

Habitat Requirements: Optimal habitats for the Fringed myotis are pinyon-juniper, valley and foothill grassland and hardwood-conifer habitats. They roost in caves, mines, buildings, and crevices. They forage around streams, lakes, and ponds.

Potential for Occurrence**:** There is potential marginal habitat in the form of cabins, barns, and other structures within the assessment area. The plan area is quite hot during the late summer months and there are no natural caves or mines within the assessment area.

Potential Project Impact: Low. Habitat is marginal within the project area and WLPZ protection measures will preserve foraging habitat for this species should it exist.

Pallid Bat (*Antrozous pallidus*)
Status: SSC

Habitat Requirements: Pallid bats occupy a wide variety of habitats, such as grasslands, shrublands, and forested areas of oak and pine, but prefer rocky outcrops with desert scrub (Zeiner et al. 1990b). The pallid bat roosts in caves, mines, crevices, buildings, under bridges, and occasionally in hollow trees. Day roosts are located at sites that provide protection from the

heat of the day; Night roosts are in more open areas such as porches or open buildings (Zeiner et al. 1990b). Pallid bats feed on a wide variety of relatively large ground dwelling or slow flying insects and arachnids (Zeiner et al. 1990b). Colonies of *A. pallidus*, as with most bats, will typically emerge about 1 hour after sunset, return to roost, and then forage again before dawn. This species specializes in foraging on insects on the ground, versus in the air, by listening for the insect footsteps. The pallid bat is found throughout most of the western U. S. and Mexico.

Potential for Occurrence: There is a CNDDB occurrence from 1935 within a portion of the project area along the Redwood Partrick connector treatment. No sightings occurred during reconnaissance surveys.

Potential Project Impact: low potential for impact, due to retention of large trees. If roost trees are detected they will be protected. This species may roost in the large old building, now the church, but there is no potential for impact from treatments, as the building is not proposed for alteration.

Mitigations: SPR BIO-2 training for workers will ensure operators are trained in the identification of this species. SPR BIO-10, focused surveys were conducted by FRM during preparation of the PSA and this species was not detected. These surveys were conducted approximately 1 hour before sunset up to sunset in the fall of 2023. Further focused surveys may be necessary during maintenance treatments. Overall, with these mitigations and protection measures, there is not expected to be an impact to this species from the proposed treatment activities.

Townsend's Big-Eared Bat (*Corynorhinus townsendii)*
Status: SSC

Habitat Requirements: *C. townsendii* inhabits southwestern British Columbia, Canada and most of the western U.S., east to the Great Plains, and south from western Texas into central Mexico. Isolated populations of central and eastern U.S. Townsend's big-eared bats are most common in mesic sites but are found in a variety of habitats including coastal conifer and broad-leaf forests, oak and conifer woodlands, arid grasslands and deserts, and high-elevation forests and meadows. Roosting, maternity and hibernacula sites in California include limestone caves, lava tubes, mine tunnels, buildings, and other man-made structures.

Roost structures that could be classified as cave analogues and that function as maternity roosts or hibernacula include large trees (minimum dbh of 8 ft.; adapted from maternity roosts in large redwood trees) with large basal hollows and an internal roost area large enough for flying forays (larger than the entrance). The roost ceiling must be dome-like (allowing for multiple bats to roost in clusters) and occur at least 1 ft. above the top of the entrance (allows for better protection from predators and changing microclimates). The only light penetrating the roost area must originate from the roost entrances so that the internal roost area remains semi-dark to dark. Suitable habitat is described as basal hollows in trees 42" dbh and greater having all of the following characteristics:

- An opening equal to or greater than 2 square feet.
- An internal cavity extending above the entrance equal to or greater than 12 inches.

- An internal cavity equal to or greater than 3 feet above the ground.

Potential for Occurrence: There is a very low potential for this species to occur due to the lack of suitable roost trees. There are no known Townsend's big-eared bat colonies and no known mine shafts, caves or large trees with basal hollows the project area. No potential trees within or adjacent to the plan area that meet the criteria for this species roosting habitat were observed. The closest known occurrence is just over 3 miles from the project area.

Yuma myotis (*Myotis yumanensis*)
Status: BFS

Habitat Requirements: *M. yumanensis* occurs from British Columbia, across the western U.S., and south into Baja and southern Mexico. This bat will use a variety of lowland western habitats, from scrub to coniferous forest, however these locales will always be near slow moving or standing water habitats. They roost in caves, mines, buildings, under bridges, and in cliff and tree crevices. The Yuma myotis will emerge just after sunset to forage. It is a low flier which primarily consumes aquatic emergent insects. No roosts, or evidence of their presence, was observed within the project area or project buffer during the site assessment. The habitat requirements for this species do not occur within the project area or the project buffer. The closest recorded location of this species is over 5 miles from the project area. No significant adverse impacts to Yuma myotis are expected as no forested or riparian areas will be impacted.

North American Porcupine (*Erethizon dorsatum*)
Status: SSC
Habitat Requirements: North American porcupines range from Canada, Alaska, and into northern Mexico, and primarily west of the Rocky Mountains. They are commonly found in coniferous and mixed forested areas, but have adapted to harsh environments such as shrublands, tundra, and deserts. They make their dens in hollow trees, decaying logs, and caves in rocky areas.
Potential for Occurrence: There is a low to moderate potential for this species to occur within the treatment units. No individuals were observed during field reconnaissance and the closest known occurrence is more than 4 miles from the project area.

Potential Project Impact: There is a low potential for this species to be impacted by operations. Ecological restoration treatments are expected to create improved potential habitat for this species in the long run.

Amphibians and Reptiles

California Giant Salamander (*Dicamptodon ensatus*)
Status: SSC
Habitation Requirements: California *Dicamptodon* salamanders are year round residents of California. In 1989, these salamanders were split into two species – California giant salamander (*Dicamptodon ensatus*) occurring south of the Mendocino County line and the coastal giant salamander (*Dicamptodon tenebrosus*) occurring in the north (Thomas et al. 2016). A hybrid zone exists approximately 6 miles north of Gualala; however outside of this area, the two species are known to be distinct (Thomas et al. 2016).
This species occurs in wet coastal forests in or near clear, cold permanent and semi-permanent streams and seepages.

Potential for Occurrence: Moderate potential for occurrence within project area. One collection on April 2nd 1981 by Wake et al,. Exact location unknown but mapped in the vicinity of mount Veeder road by CNDDB. No individuals identified during initial field reconnaissance.

Potential Project Impact: The potential for the project to impact this species is low. The watercourse protection measures, particularly SPR HYD-4 will ensure protection of individuals and critical habitat from damaging effects of treatments. Also, SPRs GEO-1, GEO-2, and GEO-3 will prevent ground disturbance during periods of soil saturation, when this species may wander outside the WLPZ.

California Red-Legged Frog (*Rana draytonii*)
Status: FT, SP, SSC

Habitation Requirements: California red-legged frogs (CRLF) primarily inhabit permanent or nearly permanent water sources (quiet streams, marshes, and ponds). Breeding tends to occur primarily in ponds, less likely in streams, and happens from November to April. This ranid frog will also use upland habitats outside of the breeding season and may be discovered under logs, rocks, and other debris during wet conditions. CRLF were historically believed to prefer only habitats and shorelines with extensive vegetation.
Potential for Occurrence: Low to moderate potential for occurrence within class 1 and II watercourses.

Potential Project Impact: The potential for the project to impact this species is low. The watercourse protection measures, particularly SPR HYD-4 and BIO-4 will ensure protection of individuals and critical habitat from damaging effects of treatments. Also, SPRs GEO-1, GEO-2, and GEO-3 will prevent ground disturbance during periods of soil saturation, when this species may wander outside the WLPZ.

California tiger salamander (*Ambystoma californiense*)
Status: FT, SSC

Habitation Requirements**:** The California tiger salamander is associated with annual grassland with seasonal rainwater ponds or vernal pools for breeding. They also use California ground squirrel burrows when migrating upland.
Potential for Occurrence**:** The closest known occurrence is greater then 1.3 miles from the project site. The project area lacks vernal pools. No sightings occurred during initial project

reconnaissance. Low potential for occurrence within class 1 and 2 watercourses due to lack of optimal habitat types (vernal pools).

Potential Project Impact**:** The potential for the project to impact this species is very low. Should this species occur within the project boundaries, the watercourse protection measures, particularly SPR HYD-4 and BIO-4 will ensure protection of individuals and critical habitat from damaging effects of treatments. Also, SPRs GEO-1, GEO-2, and GEO-3 will prevent ground disturbance during periods of soil saturation, when this species may wander outside the WLPZ.

Foothill Yellow-Legged Frog *(Rana boylii)*
Status: SSC; This species became a candidate for listing on July 7th, 2017. In 2019, CDFW published recommendations to list the FYLF based on a geographic Clade. This recommendation provides protection among populations which greatly need it and avoids unnecessary restrictions in areas where populations are healthy. The only Clade not listed is the Northwest/North Coast Clade. The project area falls within this zone, thus the FYLF is not listed under CESA.

Habitation Requirements**:** Foothill Yellow-Legged Frogs (FYLF) are associated with lower elevation streams draining the Pacific slope from west-central Oregon to northwestern Baja California. They have declined from over 50% of their historic range. Foothill yellow-legged frogs occupy a diverse range of ephemeral and permanent streams, rivers, and adjacent moist terrestrial habitats over the course of their complex life history. FYLF reproduce in the spring by depositing egg masses into glide habitats within larger watercourses (typically Class I waters). Egg masses are deposited on the down-stream side of cobble size rocks during April-May. Larval forms (tadpoles) rear in watercourses until early fall. Post-metamorphic frogs tend to stay in close proximity to their water source. Adults can migrate down the drainage network to channels that are broad and more sunlit. Seasonal variation in streamflow has a strong influence on life history and movement. Breeding and rearing typically occur in open sunny portions of class I and II watercourses which are gently flowing and low-gradient.

Potential for Occurrence: The species has listed observations surrounding the project area with the closest sighting .4 miles west. No sightings occurred during reconnaissance.

Potential Project Impact: The potential for the project to impact this species is very low. The watercourse protection measures, particularly SPR HYD-4 will ensure protection of individuals and critical habitat from damaging effects of treatments. Also, SPRs GEO-1, GEO-2, and GEO-3 will prevent ground disturbance during periods of soil saturation, when this species may wander outside the WLPZ.

Red-Bellied Newt (*Taricha rivularis*)
Status: SSC

Habitation Requirements: The red-bellied newt ranges within Mendocino, Sonoma, Humboldt, and Lake Counties. They are predominantly found in redwood forests, along the coast, however have also been detected in Douglas-fir, tan oak, mixed conifer, valley-foothill woodland, montane woodland, hardwood-conifer and madrone forest types, particularly when near streams. The preferred aquatic breeding habitats are moderate to fast-flowing streams with rocky substrates. Breeding coincides with the receding of streams after heavy winter rains.

Adults are terrestrial and the aquatic breeding phase lasts from February to May. After breeding, adults leave streams but usually stay in the same drainage; however, they are also known to travel several kilometers between breeding years. Underground retreats are used from May to October, and adults forage on the surface before and as they migrate to streams. (Thomas et al. 2016).

Potential for Occurrence: There is a low - moderate potential for individuals to occur within the project area, no known occurrences within 1.7 miles.

Mitigation: The watercourse protection measures, particularly SPR HYD-4 will ensure protection of individuals and critical habitat from damaging effects of treatments. Also, SPRs GEO-1, GEO-2, and GEO-3 will prevent ground disturbance during periods of soil saturation. This will protect this species during its breeding period, immediately following heavy winter rain events. SPR BIO-2 will require training for workers to identify and protect this species.

Western Pond Turtle (Emys marmorata)

Status: None

Habitat Requirements: The pond turtle is associated with permanent ponds, lakes, streams, or permanent pools along intermittent streams in a wide variety of habitats. It requires basking sites in the aquatic environment, grassy openings for nest sites, and nests are typically within 100 meters of a water source, although nests up to 500 meters have been recorded (Thomas et al. 2016).

Potential for Occurrence: The species has been observed approximately .9 miles southeast of the project site in agricultural reservoirs. Last observation 2 miles northeast of project site in August 2002. No sightings occurred during reconnaissance.

Potential Project Impact: The potential for the project to impact this species is low. The watercourse protection measures, particularly SPR HYD-4 will ensure protection of individuals and critical habitat from damaging effects of treatments. Nest sites near the project area have the potential to be impacted if located outside of the WLPZ. SPR BIO-2 will require training for workers to identify and avoid nesting sites during treatment.

Fish

Longfin smelt (*Spirinchus thaleichthys*)
Status: ST

Habitation Requirements: The longfin smelt is a candidate species for Federal listing. The longfin smelt is located in the San Francisco Bay-Delta region. Major habitat types include riverine and tidal wetlands, mud flat, and salt marsh, with substantial areas of diked wetland managed for hunting.

Potential for Occurrence: The closest known occurrence is greater than 1.7 miles from the project site. No sightings occurred during initial project reconnaissance.

Steelhead (*Oncorhynchus mykiss irideus)* [Northern California Distinct Population Segment]
Status: FT

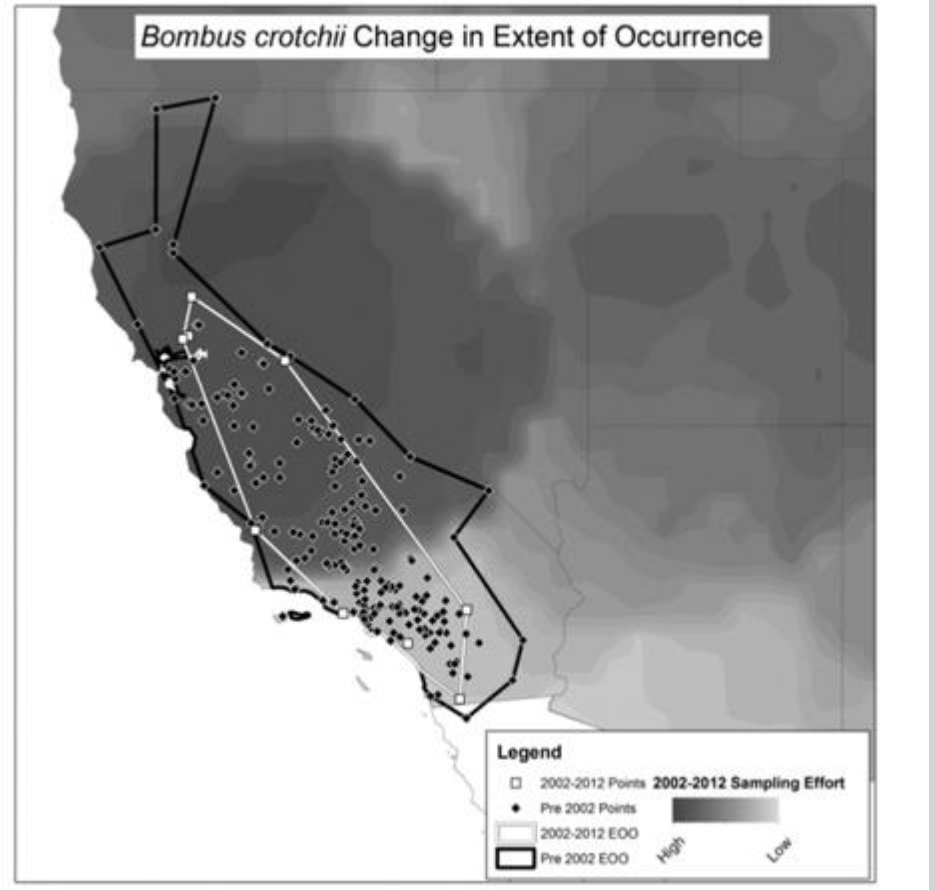
Habitation Requirements: Habitat requirements for steelhead are similar to Coho, and vary depending on temporal, spatial variables and a fishes' life-stage. The major life stages for most anadromous salmonids include the upstream migration of adults, spawning, incubation, juvenile rearing, and seaward migration of smolts. Combined, the generalized habitat requirements for all life stages of the steelhead include suitable stream flow, accessibility to spawning sites, suitable substrate composition for spawning and rearing, fish food production, water temperature and summer refugia areas.

Habitat Potential: This species is known to exist within the class I watercourses within and adjacent to the project.

Mitigations: No potential impact with the following mitigations. The watercourse protection measures, particularly SPR HYD-4 will ensure protection of individuals and critical habitat from damaging effects of treatments. Also, SPRs GEO-1, GEO-2, and GEO-3 will prevent sedimentation of watercourses. During periods where overland flow may occur, ground disturbing activity will cease. SPR BIO-2 will require training for workers to identify and protect this species.

Insects

Crotch bumblebee (*Bombus crotchii)*
Status: Candidate State Endangered
Habitation Requirements: The crotch bumblebee is native to California, Baja California and has been reported in Nevada. This bee lives in grassland and scrub habitat types. It nests underground and its food plants consist of milkweeds, dustymaidens, lupines, medics, phacelias, and sages. This bee tolerates hotter and drier habitat types than do most bumblebees.
Potential for Occurrence: The project area is within the current range of the Crotch Bumble bee, however recent increased survey efforts have suggested a change in the extent of occurrence of this species. See the figure below. This change in extent would indicate a low likelihood of this species occurring within the treatment areas. The closest known occurrence according to CNDDB was from a collection in 1910 and is located approximately 6.5 miles southwest of the project site in Sobre Vista. Based on the recent data around this species, this information is outdated and no longer accurate. Sightings did not occur during initial project reconnaissance. The potential for occurrence within the project area is moderate within the Timberhill property, and very low everywhere else. See the Treatment Activities map in Attachment C for this location. Most of the project area is heavily timbered. The Chapparal ecosystems which are present are not ideal habitat for this species due to the degree in which they are overgrown with manzanita, scrub oak, and other tall brush.



Potential Project Impact: Based on the above information, there is a low potential for this species to be impacted by the project in most of the vegetation types. There is an approximately 79 acre area of potential habitat within the timber hill property where broadcast burning has the potential to impact this species, should they be present.

Overall, The proposed project is expected to have an increase in potential habitat through the development of early successional forest types, associated with forest thinning. Also, the removal of small conifer trees from oak woodlands will allow for the expansion of grasslands. This is expected to have a net increase in floral resources and habitat creation over the long run.

Mitigations: Within the mapped bumble bee STZ (approximately 79 acres), broadcast burning shall be restricted to between October through February to avoid the potential bumble bee flight season. Treatment areas in occupied or suitable habitat will be divided into a sufficient number of treatment units such that the entirety of the habitat is not treated within the same year; the objective of this measure is to provide refuge for special-status bumble bees during treatment activities and temporary retention of suitable floral resources proximate to the treatment area. Treatments will be conducted in a patchy pattern to the extent feasible in occupied or suitable habitat, such that the entirety of the habitat is not burned or removed and untreated portions of occupied or suitable habitat are retained (e.g., fire breaks will be aligned to allow for areas of unburned floral resources for special-status bumble bees within the treatment area). Herbicides will not be applied to flowering native plants within occupied or suitable habitat to the extent feasible during the flight season (March through September).

Western bumblebee (*Bombus occidentalis*)
Status: Candidate State Endangered

Habitation Requirements: The western bumble bee was once very common in the western United States and western Canada. It is mostly currently restricted to high meadows and coastal environments. It requires floral resources, undisturbed nest sites and overwintering sites. Nesting habitat is typically underground, such as in old animal burrows, but also possibly above ground such as in cavities in logs. Overwintering sites are probably under plant litter and debris. Flight period in California is from early February to late November, peaking in late June and late September. Western bumble bees primarily nest in underground cavities such as old squirrel burrows on open west-southwest facing slopes bordered by trees. Colonies can contain as many as 1,685 workers and produce up to 360 new queens.

Potential for Occurrence:
The project area is within the historic range of the Western bumblebee, however it is outside the current range, according to the most up to date CDFW "Current and Historic Species Ranges" map. No sightings occurred during initial project reconnaissance. As a result, the potential for occurrence within the project area is low.

Potential Project Impact**:** Low, due to the potential for occurrence. Nevertheless, if this species is present, it would likely be within the same area mapped and protected as the Bumblebee STZ.
Mitigations: No additional mitigations.

Obscure Bumblebee (*Bombus caligninosus)*
Status: SSC
Habitat Requirements**:** The obscure bumble bee is a species of bumblebee native to the west coast of the United States, where its distribution extends from Washington through to Southern California. The workers are most often seen on Fabaceae, the legume family, while queens are most often seen on Ericaceae, the heath family, and males have been observed most often on Asteraceae, the aster family. Common plants visited by the workers include ceanothus, thistles, sweet peas, lupines, rhododendrons, Rubus, willows, and clovers.
Potential for Occurrence: The closest known occurrence of this species according to CNDDB is approximately within 1.5 miles near Mount Veeder. A set of collections were made in the 70's with no collections since then, exact location unknown but mapped as best guess. As with the Crotch bumble bee, there is potential habitat within the 79 acre area shown in the Treatment Activities map.

Potential Project Impact: See Crotch bumblebee discussion above.

Mitigations: No additional mitigations.

Crustaceans

California Freshwater Shrimp (*Syncaris pacifica*)
Status: state and federally endangered

Habitat Requirements**:** the California Freshwater shrimp can be found in freshwater coastal streams in Marin, Sonoma, and Napa counties. They require low gradients and high water quality along with underwater structure provided by vegetation.
Potential for Occurrence: No known sightings within 1.7 miles of project site, closest known occurrence is 3.5 miles southwest. Nevertheless, there is potential habitat within the class 1 and II watercourses.
Potential Project Impact: No potential impact with the following mitigations. The watercourse protection measures, particularly SPR HYD-4 will ensure protection of individuals and critical habitat from damaging effects of treatments. Also, SPRs GEO-1, GEO-2, and GEO-3 will prevent sedimentation of watercourses. During periods where overland flow may occur, ground disturbing activity will cease. SPR BIO-2 will require training for workers to identify and protect this species.

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Botany Report for The MVFSC VTP1

FRM TO #5

11/1/2023

Prepared for:

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Frontier Resource Management

Introduction:

The goal of this botanical survey and report is to search for special status plant species within the portion of the MVFSC VTP1, represented by Task Order #5. The treatment area is approximately 345 acres and is depicted on the attached map, located within sections 14, 15, 23, 24, 26 & 27 of T6N, R5W and sections 1 & 12 of T5N R5W and section 6 of T5N R4W MDBM, in the Sonoma and Napa USGS 7.5' quadrangles. The treatment areas are on the outskirts of Napa, CA between Mt Veeder Rd and Dry Creek Rd and have an elevation range of approximately 200 to 1,500 feet above sea level.

The entire project area is included in the Mount Veeder Fire Safe Council VTP. Shaded fuel breaks and ecological restoration treatment types shall be utilized, both of which have a low potential for impacting special status plant species. This is due to the minimal alterations to the vegetation community through the retention of large trees. Vegetation may be cut, masticated, grazed, and/or treated in accordance with the Standard Project Requirements (SPRs) and treatment specifications outlined in the CalVTP PSA. See the PEIR treatment descriptions for more detail.

Nevertheless, there is potential for special status plant species to be impacted individually, albeit not on a large community wide scale. During the initial reconnaissance surveys, it was thus determined that a seasonally specific, floristic survey was necessary to protect special status species from potential impact. With the implementation of these surveys, the potential for impact will be reduced to a level of insignificance.

Soils & Vegetation Types:

The following are the dominant soil types within the project area. Those comprising less than 5% of the total project area were omitted. Approximately 48% of the area contains 136 & 137 – Felton gravelly loam. This soil type is a gravelly, clay loam weathered from sandstone and shale. Soil depths range from 30-40 inches to lithic bedrock. Approximately 23% of the area contains the 112, 113, & 114 – Bressa-Dibble complex, which is comprised of silt clay loam weathered from sandstone and shale. Soil depths range from 30 – 40 inches to paralithic bedrock. Approximately 13% of the project area is comprised of 131, 132, & 133 – Fagan clay loam. This soil is a clay loam also weathered from sandstone and shale but is slightly deeper with between 40-60 inches to paralithic bedrock. The remaining 16% of the project area is comprised of many minor components of various soil types.

The vegetation types present are best characterized as mixed hardwood, chapparal, Coast redwood and Douglas-fir forests. The trees present are California bay *(Umbellularia californica),* Douglas-fir *(Pseudotsuga menziesii)*, Coast redwood *(Sequoia sempervirens),* Interior live oak *(Quercus wislizeni),* California black oak (*Quercus kolloggii*), Oregon white oak *(Quercus Garryana*), Valley oak (*Quercus lobata*), Pacific Madrone (*Arbutus menziesii)* and Knobcone pine *(Pinus attenuate).* The understory contains young saplings and seedlings of the overstory species as well as various forbs and grasses.

CNDDB & CNPS Special Status Plants Within the 9 Quads:

SNAME	CNAME	FEDLIST	CALLIST	RPLANTRANK
Astragalus tener var. tener	alkali milk-vetch	None	None	1B.2
Navarretia leucocephala ssp. bakeri	Baker's navarretia	None	None	1B.1
Amsinckia lunaris	bent-flowered fiddleneck	None	None	1B.2
Balsamorhiza macrolepis	big-scale balsamroot	None	None	1B.2
Hesperolinon breweri	Brewer's western flax	None	None	1B.2
Rhynchospora californica	California beaked-rush	None	None	1B.1
Ceanothus divergens	Calistoga ceanothus	None	None	1B.2
Astragalus claranus	Clara Hunt's milk-vetch	Endangered	Endangered	1B.1
Lupinus sericatus	Cobb Mountain lupine	None	None	1B.2
Layia septentrionalis	Colusa layia	None	None	1B.2
Hemizonia congesta ssp. congesta	congested-headed hayfield tarplant	None	None	1B.2
Lasthenia conjugens	Contra Costa goldfields	Endangered	None	1B.1
Lathyrus jepsonii var. jepsonii	Delta tule pea	None	None	1B.2
Downingia pusilla	dwarf downingia	None	None	2B.2
Navarretia leucocephala ssp. pauciflora	few-flowered navarretia	Endangered	Threatened	1B.1
Fritillaria liliacea	fragrant fritillary	None	None	1B.2
Streptanthus hesperidis	green jewelflower	None	None	1B.2
Erigeron greenei	Greene's narrow-leaved daisy	None	None	1B.2
Ceanothus purpureus	holly-leaved ceanothus	None	None	1B.2
Eryngium jepsonii	Jepson's coyote-thistle	None	None	1B.2

Leptosiphon jepsonii	Jepson's leptosiphon	None	None	1B.2
Sidalcea oregana ssp. valida	Kenwood Marsh checkerbloom	Endangered	Endangered	1B.1
Lilaeopsis masonii	Mason's lilaeopsis	None	Rare	1B.1
Castilleja ambigua var. meadii	Mead's owls-clover	None	None	1B.1
Trichostema ruygtii	Napa bluecurls	None	None	1B.2
Sidalcea hickmanii ssp. napensis	Napa checkerbloom	None	None	1B.1
Amorpha californica var. napensis	Napa false indigo	None	None	1B.2
Brodiaea leptandra	narrow-anthered brodiaea	None	None	1B.2
Viburnum ellipticum	oval-leaved viburnum	None	None	2B.3
Centromadia parryi ssp. parryi	pappose tarplant	None	None	1B.2
Ceanothus confusus	Rincon Ridge ceanothus	None	None	1B.1
Arctostaphylos stanfordiana ssp. decumbens	Rincon Ridge manzanita	None	None	1B.1
Trifolium hydrophilum	saline clover	None	None	1B.2
Extriplex joaquinana	San Joaquin spearscale	None	None	1B.2
Sagittaria sanfordii	Sanford's arrowhead	None	None	1B.2
Limnanthes vinculans	Sebastopol meadowfoam	Endangered	Endangered	1B.1
Chloropyron molle ssp. molle	soft salty bird's-beak	Endangered	Rare	1B.2
Alopecurus aequalis var. sonomensis	Sonoma alopecurus	Endangered	None	1B.1
Penstemon newberryi var. sonomensis	Sonoma beardtongue	None	None	1B.3
Ceanothus sonomensis	Sonoma ceanothus	None	None	1B.2
Blennosperma bakeri	Sonoma sunshine	Endangered	Endangered	1B.1
Symphyotrichum lentum	Suisun Marsh aster	None	None	1B.2
Horkelia tenuiloba	thin-lobed horkelia	None	None	1B.2

Castilleja affinis var. neglecta	Tiburon paintbrush	Endangered	Threatened	1B.2
Trifolium amoenum	two-fork clover	Endangered	None	1B.1

Survey Methods & Pre-field Research

Pre-field research along with reconnaissance surveys were conducted to determine the habitat and soil types present within the project area. Soils data from the USGS Web Soil Survey was analyzed, followed by field observations and ribbon tests to determine approximate clay to gravel ratios along with other qualities and characteristics. See the soil and vegetation assessment above.

Results of this habitat assessment were used to narrow the list of potential special status plants. For instance, plants requiring Ultramafic soils were omitted from the target list because these environments are absent from the study area. Perennial watercourses were noted, however, the CalVTP WLPZ protection measures outlined in SPR HYD-4 and SPR BIO-4 will prevent potential impact to plants within these habitats. Thus, riparian species were not included in the target list. The elevation range and lack of extreme soil pH levels were used to further narrow the list.

The survey dates were chosen based on the overlapping peak blooming periods of the target species list. The project area was surveyed on foot during the 3 seasonally specific blooming periods. All plant species encountered during the surveys were identified and are listed at the end of this report.

Special status plants include those which are state/federally listed as rare, threatened, or endangered; or those which have been given a rare plant rank of 1, 2, or 3 by the California Native Plant Society. The CNPS Rare plant rank is as follows:

- 1A: Plants presumed extirpated in California, and either rare or extinct elsewhere
- 1B: Plants rare, threatened or endangered in California and elsewhere.
- 2A: Plants presumed extirpated in California but more common elsewhere
- 2B: Plants rare, threatened, or endangered in California but more common elsewhere.
- 3: Plants on which more information is needed.

California Native Plant Society Threat Codes:

- .1 Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat)
- .2 Moderately threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat)
- .3 Not very threatened in California (less than 20% of occurrences threatened / low degree and immediacy of threat or no current threats known)

The survey area map along with the list of all plants encountered during the survey is included in the results section below.

Botany Survey Target Species

Scientific Name	Common Name	Federal Listing	State Listing	Rare Plant Rank	Bloom	Habitat
Astragalus tener var. tener	alkali milk-vetch	None	None	1B.2	Mar - Jun	Wetlands, occasionally in non-wetlands
Amsinckia lunaris	bent-flowered fiddleneck	None	None	1B.2	Mar - Jun	Roadsides (sometimes) and serpentine substrates (sometimes) in most forest types
Balsamorhiza macrolepis	big-scale balsamroot	None	None	1B.2	Mar - Jun	Foothill woodland, valley grassland
Hesperolinon breweri	Brewer's western flax	None	None	1B.2	May - Jul	Foothill woodland, valley grassland, Chaparral
Ceanothus divergens	Calistoga ceanothus	None	None	1B.2	Feb - Apr	Shady mesic areas in broadleafed upland forest and chaparral
Astragalus claranus	Clara Hunt's milk-vetch	Endangered	Endangered	1B.1	Mar - May	Grasslands, openings, blue oak/manzanita woodland. Rocky clay soils derived from volcanic or serpentine.
Lupinus sericatus	Cobb Mountain lupine	None	None	1B.2	Mar - Jun	Yellow Pine Forest, Foothill woodland, chaparral
Hemizonia congesta ssp. congesta	congested-headed hayfield tarplant	None	None	1B.2	Apr - Nov	Grassy sites, marsh edges
Lasthenia conjugens	Contra Costa goldfields	Endangered	None	1B.1	Mar - Jun	valley grassland, freshwater wetlands, usually wetlands
Navarretia leucocephala ssp. pauciflora	few-flowered navarretia	Endangered	Threatened	1B.1	May - Jun	Wetlands, vernal pools
Streptanthus hesperidis	green jewelflower	None	None	1B.2	May - Jul	Rocky serpentine in chapparal openings and woodlands
Erigeron greenei	Greene's narrow-leaved daisy	None	None	1B.2	May - Sep	Broadleafed upland forest
Ceanothus purpureus	holly-leaved ceanothus	None	None	1B.2	Mar - May	Vernally mesic areas on serpentine substrates (sometimes) in Chaparral
Leptosiphon jepsonii	Jepson's leptosiphon	None	None	1B.2	Mar - May	Roadsides (sometimes) and serpentine substrates (sometimes) in most forest types
Trichostema ruygtii	Napa bluecurls	None	None	1B.2	Jun - Oct	Broadleafed upland forest, chaparral, coastal scrub, coniferous forest

Sidalcea hickmanii ssp. napensis	Napa checkerbloom	None	None	1B.1	Apr - Jun	Fire follower
Amorpha californica var. napensis	Napa false indigo	None	None	1B.2	Apr - Jul	Broadleafed upland forest
Brodiaea leptandra	narrow-anthered brodiaea	None	None	1B.2	May - July	Foothill Woodland, Valley Grassland
Viburnum ellipticum	oval-leaved viburnum	None	None	2B.3	May - Jun	Yellow pine forest, chaparral
Centromadia parryi ssp. parryi	pappose tarplant	None	None	1B.2	Jul - Nov	Alkaline substrates in chaparral,grasslands, meadows, and seeps
Ceanothus confusus	Rincon Ridge ceanothus	None	None	1B.1	Feb - Jun	Broadleafed forest, chaparral. Often growing alongside RR manz
Arctostaphylos stanfordiana ssp. decumbens	Rincon Ridge manzanita	None	None	1B.1	Feb - Apr	Cismontane woodland and chaparral on rhyolitic soils.
Penstemon newberryi var. sonomensis	Sonoma beardtongue	None	None	1B.3	Apr - Aug	Shady mesic areas in broadleafed upland forest and chaparral
Ceanothus sonomensis	Sonoma ceanothus	None	None	1B.2	Feb - Apr	Broadleafed upland forest, chaparral, coastal scrub, coniferous forest
Blennosperma bakeri	Sonoma sunshine	Endangered	Endangered	1B.1	Feb - Apr	Wetlands; vernal pools
Horkelia tenuiloba	thin-lobed horkelia	None	None	1B.2	May - Jul	Chaparral and forested openings
Castilleja affinis var. neglecta	Tiburon paintbrush	Endangered	Threatened	1B.2	Apr - Jun	Valley grassland; serpentine bunchgrass communities
Trifolium amoenum	two-fork clover	Endangered	None	1B.1	Apr - Jun	Valley grassland; wetland riparian. Occasionally in non-wetland
Navarretia leucocephala ssp. bakeri	Baker's navarretia	None	None	1B.1	Apr-Jul	Wetlands, meadows, vernal-pools. Usually in wetlands but may occur in Meadows.
Layia septentrionalis	Colusa layia	None	None	1B.2	Apr - May	Foothill woodland, valley grassland, Chaparral
Sidalcea oregana ssp. valida	Kenwood Marsh checkerbloom	Endangered	Endangered	1B.1	Jun - Sep	freshwater-marsh. Usually in wetlands. If not, then in riparian areas.

Survey Results

Three seasonally specific surveys were conducted (an early, mid, and late season). The survey dates were chosen based on overlapping peak blooming periods for the target species. The survey dates were March 8th – 10th, May 8th, May 10th – 11th, August 31st, and September 7th. During these dates the surveyor traversed all areas shown on the attached map and identified every species encountered. When an unknown species was confronted, pictures and/or illustrations were obtained to key the individual in the office.

Napa False Indigo *(Amorpha californica var. napensis)*, a non-listed species with a rare plant rank of 1B.2 was identified on the CNDDB list as occurring somewhere near Partrick Road NW of Napa. The occurrence was listed as non-specific and needing field work. During the survey a small population of 6 individuals was located at the western edge of the "Partrick Rd to Redwood Rd connector" treatment area. They exist along the south side of the existing roadway. The plants were not in bloom at the time of discovery, in late August, but were successfully identified based on phenology of the leaves, fruiting bodies, and desiccated flowers. See the attached map for the exact location.

Another population (not yet listed in the CNDDB database) of 6 Napa False Indigo plants was discovered approximately 2.5 miles NE of the above location. All plants were under 2 feet tall at the time of the survey and appeared to have been established this spring. The surrounding area was recently treated with aggressive vegetation removal prior to FRM being contacted to perform environmental review. The resulting vegetation type is in the early successional stages of a mixed hardwood, Douglas-fir Forest. The area surrounding the NFI discovery should continue to be treated to prevent this species from being out competed by blackberry and other creeping vines in the area.

Protection Measures:

- These two populations were flagged with a 25 ft special treatment zone (STZ).
- Within this zone, the only treatment that will occur, is removing vines and other brush that is invading and putting the NFI at risk of being outcompeted.
- Heavy equipment use and burning will not occur within this STZ. However, heavy equipment may utilize the existing road that runs through one of the STZs.
- An RPF or botanist will meet with the crew prior to treatment to train identification and avoidance measures for this species.
- Workers will avoid falling small trees on these individuals and all woody debris and chips shall be removed from the project area (i.e., not left on top of or near individuals).
- The contractor will avoid crushing, cutting, or otherwise harming this plant during treatments.

Photographic Record

Photo 1: Napa False Indigo; Population A

Photo 2: Napa False Indigo; Population A

Photo 3: Napa False Indigo; Population B

Photo 4: Napa False Indigo; Population B

Identified Species

The following species were identified during the botanical survey:

Beaked hazelnut *(Corylus cornuta)*

Bigleaf maple (*Acer macrophyllum)*

Birchleaf mountain mahogany *(Cercocarpus montanus var. glaber)*

Black walnut *(Juglans californica)*

Blueblossom ceanothus *(Ceanothus thyrsiflorus)*

Blue dicks (*Dichelostemma capitatum)*

Bracken fern *(Pteridium aquilinum)*

Broadleaf lupine (*Lupinus latifolius)*

Bush poppy (*Dendromecon rigida)*

Buck brush *(Ceanothus cuneatus)*

California bay *(Umbellularia californica)*

California black oak *(Quercus Angustifolia)*

California buckeye *(Aesculus californica)*

California coffeeberry *(Frangula californica)*

California hedgenettle (*Stachys bullata)*

California maidenhair *(Adiantum jordanii)*

California scrub oak *(Quercus berberidifolia)*

California sweetshrub *(Calycanthus occidentalis)*

Canyon live oak *(Quercus chrysolepis)*

Chain fern *(Woodwardia fimbriata)*

Chamise *(Adenostama fasciculatum)*

Chicory *(Cichorium intybus)*

Coast live oak *(Quercus angustifolia)*

Coffee cliffbrake *(Pellaea andromedifolia)*

Common Foxglove (*Digitalis purpurea)*

Common snowberry *(Symphoricarpos albus)*

Common wooly sunflower *(Eriophyllum lanatum)*

Crimson clover (*Trifolium incarnatum)*

Creambush *(Holodiscus discolor)*

Deer brush *(Ceanothus integerrimus)*

Desert rockpurslane (*Calandrinia ciliate)*

Douglas-fir *(Pseudotsuga menziesii)*

Douglas iris (*Iris douglasiana)*

Dwarf rose *(Rosa gymnocarpa)*

Eastwood's manzanita (*Arctostaphylos glandulosa)*

Flowering dogwood (*Cornus florida)*

Greenleaf manzanita *(Arctostahylos patula)*

Himalayan blackberry *(Rubus armeniacus)*

Interior live oak *(Quercus wislizeni)*

Jepson ceanothus (*Ceanothus jepsonii)*

Lady fern *(Athyrium filix-femina)*

Leather oak *(Quercus durata)*

Marigold *(Calendula officinalis)*

Mediterranean lineseed (*Bellardia trixago)*

Montana chaparral pea (*Pickeringia montana)*

Mugwort *(Artemisia Douglasii)*

Naked buckwheat (*Eriogonum nudum)*

Napa False Indigo *(Amorpha californica var. napensis)*

Narrowleaf mule ears (*Wyethia angustifolia)*

Northern maidenhair *(Adiantum pedatum)*

Oregon white oak *(Quercus garryana)*

Pacific Aster *(Symphyotrichum chilense)*

Pacific false bindweed *(Calystegia purpurata)*

Pacific hound's tongue *(Adelinia grande)*

Pacific madrone *(Arbutus menziesii)*

Pacific ninebark *(Physocarpus capitatus)*

Pipestem clematis *(Clematis lasiantha)*

Poison hemlock *(Conium maculatum)*

Pointleaf manzanita *(Arctostaphylos pungens)*

Purple nightshade (*Solanum xanti)*

Red larkspur *(Delphinium nudicaule)*

Scotch broom *(Cytisus scoparius)*

Scrub oak *(Quercus gambelii)*

Shooting star *(Dodecatheon pulchellum)*

Short lily (*Calochortus amabilis)*

Silver Lupine *(Lupinus albifrons)*

Stinkwort *(Dittrichia graveolens)*

Sweet everlasting *(Pseudognaphalium obtusifolium)*

Toyon *(Heteromeles arbutifolia)*

Twolobe larkspur (*Delphinium nuttallianum)*

Valley oak (*Quercus lobata)*

Western sword fern *(Polystichum munitum)*

Winecup clarkia *(Clarkia purpurea)*

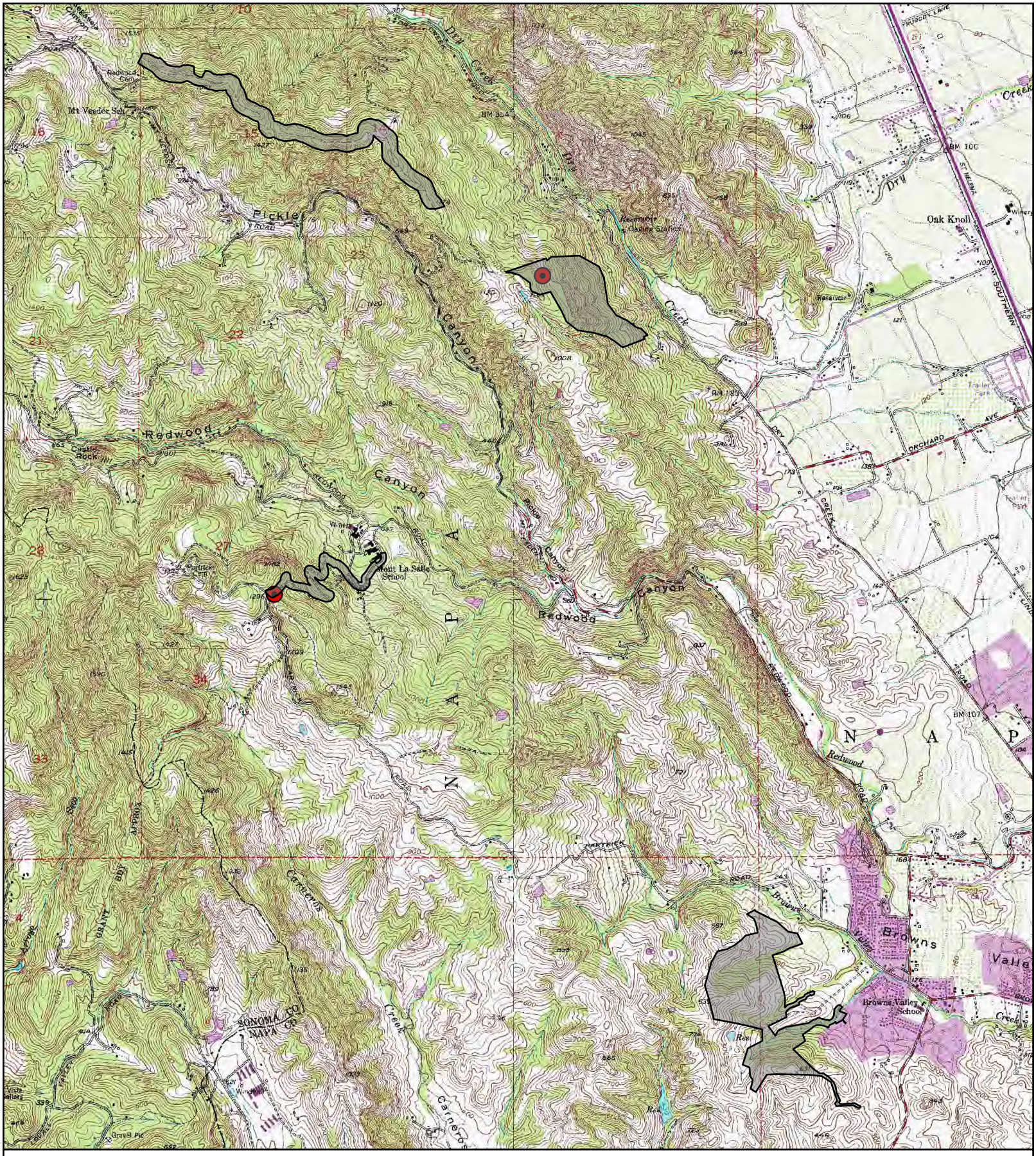
Wooly Indian paintbrush *(Castilleja foliolosa)*

Yarrow *(Achillea millefolium)*

Yellow monkeyflower *(Mimulus guttatus)*

Yellow star thistle *(Centaurea solstitialis)*

Yerba santa *(Eriodictyon californicaum)*



FRM

MVFSC VTP Task Order #5
Botany Survey

Scale: 1:48,000

BotanySurveys

Napa False Indigo Populations

N

JH 10/30/23

FRM

JH 10/30/23

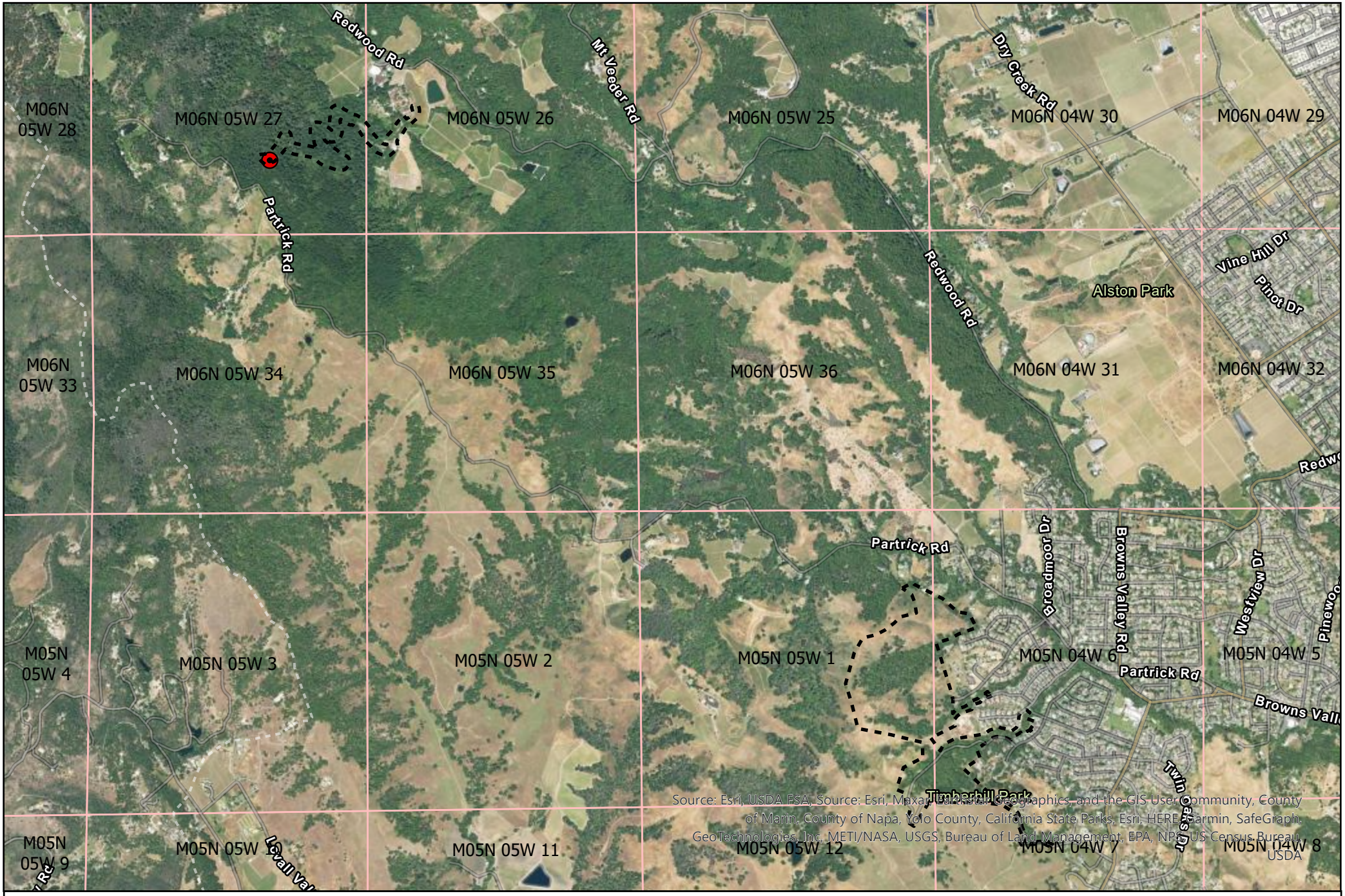
MVFSC VTP Task Order #5 Botany Survey
Orthographic Map North

Scale: 1:24,000

Botany Survey Area

Napa False Indigo Populations

N



FRM

JH 10/30/23

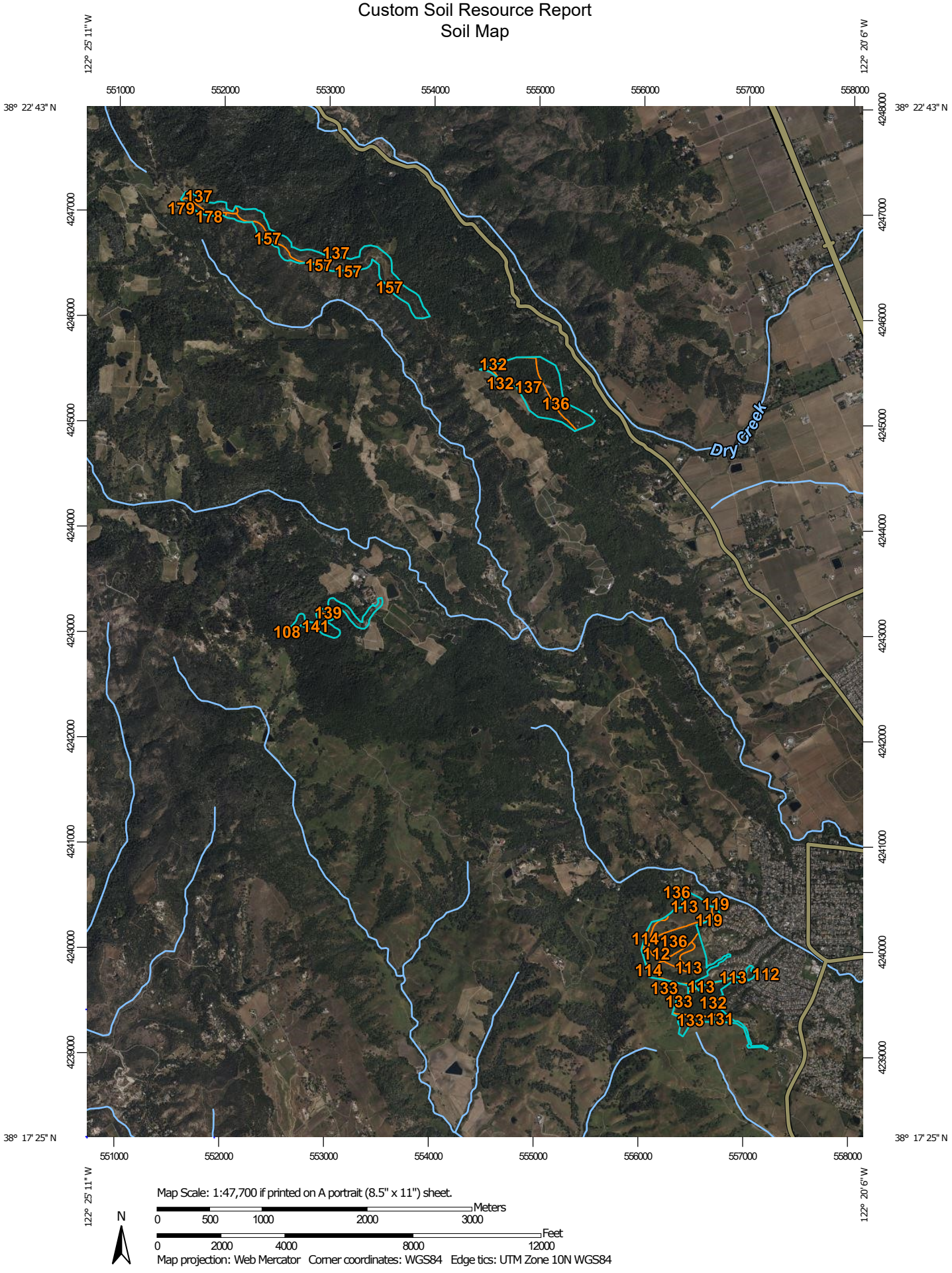
MVFSC VTP Task Order #5 Botany Survey
Orthographic Map South

Scale: 1:36,000

Botany Survey Area

Napa False Indigo Populations

N


122° 25' 11" W
122° 20' 6" W
38° 22' 43" N
38° 17' 25" N
551000
552000
553000
554000
555000
556000
557000
558000
4248000
4247000
4246000
4245000
4244000
4243000
4242000
4241000
4240000
4239000
137
179
178
157
137
157
157
157
132
132
137
136
Dry Creek
139
108
141
136
113
119
119
114
136
112
114
113
113
112
133
113
133
132
133
131
Map Scale: 1:47,700 if printed on A portrait (8.5" x 11") sheet.
N
Meters
0
500
1000
2000
3000
Feet
0
2000
4000
8000
12000
Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 10N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Napa County, California
Survey Area Data: Version 16, Sep 11, 2023

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

Date(s) aerial images were photographed: Mar 26, 2022—Apr 25, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
108	Boomer gravelly loam, volcanic bedrock, 11 to 43 percent slopes, MLRA 15	0.1	0.0%
112	Bressa-Dibble complex, 5 to 15 percent slopes	19.5	5.7%
113	Bressa-Dibble complex, 15 to 30 percent slopes	58.6	17.1%
114	Bressa-Dibble complex, 30 to 50 percent slopes	1.5	0.4%
119	Cole silt loam, 0 to 4 percent slopes, MLRA 14	1.5	0.4%
131	Fagan clay loam, 5 to 15 percent slopes	2.5	0.7%
132	Fagan clay loam, 15 to 30 percent slopes	31.6	9.2%
133	Fagan clay loam, 30 to 50 percent slopes	9.8	2.9%
136	Felton gravelly loam, 30 to 50 percent slopes	52.1	15.2%
137	Felton gravelly loam, 50 to 75 percent slopes	112.7	32.9%
139	Forward silt loam, 5 to 39 percent slopes, MLRA 15	13.6	4.0%
141	Forward-Kidd complex, 11 to 60 percent slopes, MLRA 15	13.5	3.9%
157	Lodo-Maymen-Felton association, 30 to 75 percent slopes	11.1	3.2%
178	Sobrante loam, 5 to 30 percent slopes	10.2	3.0%
179	Sobrante loam, 30 to 50 percent slopes	3.9	1.1%
Totals for Area of Interest		**342.2**	**100.0%**

Map Unit Descriptions

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

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the

References

1. California Natural Diversity Database, CNDDB.
2. https://www.calflora.org/
3. California Native Plant Society. https://www.cnps.org/
4. John D. Stewart, John O. Sawyer; illustrated by Andrea J. Pickart. Trees and Shrubs of California. 2001. University of California Press. Berkeley and Los Angeles, CA.
5. Elbert L. Little; Visual key by Susan Rayfield and Olivia Buehl. National Audubon Society Field Guide to Trees, Western Region, North America. Published by Alfred A. Knopf, 1980 Chanticleer Press, Inc.
6. CalVTP Programmatic Environmental Impact Report; https://bof.fire.ca.gov/projects-and-programs/calvtp/calvtp-programmatic-eir/
7. USGS Web soil Survey