
MITIGATED
NEGATIVE DECLARATION / INITIAL STUDY
AND
MITIGATION MONITORING PROGRAM

PREPARED FOR

SONOMA COUNTY
AGRICULTURAL PRESERVATION AND OPEN SPACE DISTRICT

***Estero Trail Easement: Designation of Trail
Corridors and Associated Staging Areas
Project***

PCAS # QE441300

October 2016



Prepared by
Sonoma County Permit and Resource Management Department
Environmental Review Division
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Mitigated Negative Declaration **Sonoma County Permit and Resource Management Department**

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Pursuant to Section 15071 of the State CEQA Guidelines, this summary of findings and the attached Initial Study and mitigations constitute the Mitigated Negative Declaration as proposed for or adopted by the Sonoma County Agricultural Preservation and Open Space District for the project described below:

- Project Title:** Estero Trail Easement: Designation of Trail Corridors and Staging Areas Project
- Project Location Address:** 17000 Valley Ford Cutoff/Highway 1, Valley Ford, Sonoma County
Assessor Parcel Number 026-030-011
- Lead Agency:** Sonoma County Agricultural Preservation and Open Space District
- Decision Making Body:** Board of Directors of the Sonoma County Agricultural Preservation and Open Space District
- Project Proponent:** Sonoma County Agricultural Preservation and Open Space District

Project Description: The Sonoma County Agricultural Preservation and Open Space District (District) proposes to designate trail corridors and associated staging areas pursuant to an existing trail easement within an existing conservation easement.

Environmental Finding: The District has determined, on the basis of the attached Initial Study that the project described above will not have a substantial adverse impact on the environment, provided that the mitigation measures identified in the Initial Study are included in the project.

Initial Study: See attached. For more information, call Sheri Emerson at 707-565-7358.

Mitigation Measures: Included in attached Initial Study. The project proponent, the District, has agreed to ensure that all mitigation measures are implemented.

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INTRODUCTION

The Sonoma County Agricultural Preservation and Open Space District (District) holds both a conservation easement (Conservation Easement) and a public trail easement (Trail Easement) on property located on Valley Ford Cutoff, west of the town of Valley Ford, and owned by Alfred and Joseph Bordessa (Bordessa Ranch). The purpose of the Conservation Easement is to preserve and protect the Conservation Values of the property, including natural resources, habitat connectivity, open space and scenic views, agricultural resources, and recreation and education. The purpose of the Trail Easement is to ensure that trail corridors and associated staging areas are established and made available to the public in perpetuity for low-intensity public outdoor recreational and educational purposes consistent with the Conservation Easement. Under the terms of the Trail Easement, the District must designate and survey the precise locations of two 50-foot-wide pedestrian-only trail corridors, not to exceed 5 miles in length, and two staging areas, not to exceed 1.5 acres in total combined area. The District is partnering with the Sonoma County Regional Parks Department (Regional Parks) to determine the appropriate location of the trail corridors and associated staging areas. The District is acting as the lead agency for purposes of environmental review under the California Environmental Quality Act (CEQA). The District has contracted with Sonoma County Permit and Resource Management Department (PRMD) to assist in that environmental review.

The sole action to be taken at this time is the District's designation and recordation of the trail corridors and associated staging areas pursuant to the Trail Easement (the Project). Design and construction of the staging areas and the future trail alignment (anticipated to be approximately 5 feet wide) within the trail corridors will occur at a later date and will be subject to further environmental review. Under the terms of the Trail Easement, the District may designate another public agency or nonprofit organization as the Operating Entity to design, construct, operate, and maintain the trail and associated staging areas. The Operating Entity will be a responsible agency for purposes of environmental review under CEQA.

This informational document has been prepared by PRMD staff to identify the potential environmental impacts of a pedestrian-use-only trail system at the site, and will be used by project decision-makers, responsible and trustee agencies under CEQA, and the public. The Initial Study describes and analyzes the likely impacts of designating the trail corridors and staging areas, as well as future construction, operation, and maintenance of the proposed trail. A trail plan identifying the precise location of the future trail alignment within the trail corridors and possible restrictions on the level of use has not yet been prepared. Therefore, the analysis of potential impacts associated with future construction, operation and maintenance of the proposed trail is necessarily programmatic in nature based on the information available at this time. Additional environmental

review will occur in conjunction with the trail planning process.

The District, in consultation with Regional Parks, has reviewed the information regarding the proposed trail corridors and staging areas and other project details and has determined that it is appropriate to prepare an Initial Study and Mitigated Negative Declaration. A Mitigated Negative Declaration may be adopted if the project would result in less than significant impacts with mitigation measures incorporated into the project.

This report is the Initial Study required by CEQA. The report was prepared by Rich Stabler, Senior Environmental Specialist with the Sonoma County Permit and Resource Management Department (PRMD), Environmental Review Division. Information on the project was provided by Sheri Emerson and Jacob Newell of the District and Karen Davis-Brown and Steve Ehret of Regional Parks. Technical studies referred to in this document are available for review at PRMD. Please contact Rich Stabler at (707) 565-8352, for more information.

PROJECT LOCATION AND EXISTING CONDITIONS

The proposed project is located on the 495-acre Bordessa Ranch property, at 17000 Valley Ford Cutoff, in unincorporated Sonoma County, west of the town of Valley Ford (Highway 1) (Figure 1). The Bordessa Ranch is bordered by State Highway 1 on the north and extends to the Estero Americano on its south, encompassing rolling hills and two prominent knolls. Existing adjacent land uses are mostly rural agricultural. Site elevations range from sea level at the Estero to about 400 feet at the highest knoll on the northwestern corner.

The Estero Americano is a scenic and biologically rich coastal estuary in Sonoma County. The Estero Americano is designated critical habitat for steelhead trout by NOAA Fisheries Service, is identified by the California Department of Fish and Wildlife as containing some of the most significant habitat areas in the State, and is listed as an impaired water body by the State Water Resources Control Board due to historic land uses. Because of the lack of publicly owned land along the Estero, there has been limited public access and recreational opportunities within the estuary.

The project site is primarily undeveloped and is currently used for grazing livestock. Existing structures that support the on-going cattle ranching operation at the site include:

- Fencing to allow ongoing cattle grazing
- A large barn and various sheds and outbuildings
- A concrete water tank, spring boxes and concrete water troughs
- Two 2,500-gallon water tanks

- A gate at the property entrance, and access road from Highway 1 to the large barn, and a small vehicular bridge across the central creek.

The undeveloped parts of the project site consist of gently to steeply sloped hillsides, with annual grassland, rocky outcrops, stock ponds, springs, and hillside seeps. In addition, a perennial creek and several smaller drainages are located on the property and support riparian vegetation. Habitats on the site support a wide variety of wildlife and bird species. The project site is currently not accessible to the public. The Conservation Easement established a Forever Wild area and two Natural Areas on the property (see Figure 3). Development within this area is restricted to fences for managed grazing only and no public access improvements will be allowed, with the exception of a narrow area designated as “Trail Corridor within Forever Wild and Natural Areas (Figure 3).”

PURPOSE AND NEED FOR THE PROJECT

The Trail Easement held by the District commits the District to designate two 50-foot-wide pedestrian-only trail corridors, up to a maximum of 5 miles in length, and associated staging areas, not to exceed 1.5 acres in size in total combined area, to provide for low-intensity public outdoor recreational and educational uses on the property consistent with the Conservation Easement. The trail corridors are intended to provide public access from Highway 1 to scenic vista points and possible limited public access to the Estero Americano. The purpose of this project is to designate the two trail corridors and associated staging areas. The precise alignment of the future trail within the trail corridors will be determined at a later date.

FUTURE USES

The existing Conservation Easement states that non-commercial low-intensity outdoor recreational and environmental education uses are compatible uses on the property. Uses must be dispersed, nonexclusive, and non-motorized activities that do not adversely impact the natural resources or agriculture on the property. Examples include hiking, nature study, bird watching, sightseeing, picnicking, outdoor education, docent-led tours, scientific research and observation, limited seasonal access to the Estero Americano for recreational uses such as kayaking and canoeing—if and to the extent the District determines such access is compatible with sensitive resources associated with the Estero—and other such uses similar in nature and intensity.

Project Background

In 2012, the District purchased a Conservation Easement and Trail Easement over the Bordessa Ranch. The Trail Easement is intended to provide public access to the property and the Estero Americano for low-intensity public outdoor recreational and educational purposes. The District, in consultation with Regional Parks, is planning the trail corridors and staging area locations. Regional Parks has received a grant from the State Coastal Conservancy to partially fund the trail planning and environmental assessment. Informal public meetings were held to discuss the project proposal and get public feedback on May 8, 2014, and November 4, 2015, and a CEQA Notice of Preparation was circulated to resource agencies and the public on October 31, 2014.

PROJECT DESCRIPTION

The proposed project would establish two pedestrian-only trail corridors with associated staging areas (trailheads/parking lots) that would allow for low-intensity public access to pursue outdoor, recreational, and educational uses. As outlined in the Trail Easement, future uses may include hiking, nature study, bird watching, sightseeing, picnicking, outdoor education, docent-led tours, scientific research and observation, and other similar uses. Future uses may also include limited, seasonal walk-in access to the Estero for pedestrians and hand-carried, non-motorized boats, such as kayaks and canoes, if and to the extent the District determines that such access is compatible with sensitive resources associated with the Estero and the property. The District may place limitations on the nature, hours, and season of public access to the access road, bridge, and gate, as well as the staging areas and trail corridors, as it deems appropriate for natural resources protection.

The proposed trail corridors consist of two 50-foot wide alignments that total just under 5 miles in length. The anticipated trail system would be the principal means for providing public access to the property and the Estero. Within the two trail corridors, the trails would be constructed for pedestrian use only and are anticipated to be approximately 5-foot wide; constructed of compacted native material or other permeable surface; and include wet crossings or footbridges at ephemeral stream crossings (type and precise location to be determined). Trail marker, posts, and benches, would be placed along the trail to assist users.

The existing main access road, gate, and bridge may be improved or replaced in the same or similar locations. Two staging areas of 1.5 acres in total combined area would be designated to accommodate parking for trail users. One staging area would be located to the north near Highway 1, and the other would be located south of the existing barn and Agricultural Building Envelope (Figure 2). The future development of the staging areas would include extension of the existing access road to both staging areas. The entry road to the staging areas will provide operations, maintenance, emergency, and public access to the trail system. Staging area development would include a permeable surface, with accessible parking, and may also include the following features: portable

restroom facilities, bicycle parking, picnic tables, benches, trash & recycle containers, and operations signage. Potable water will not be provided.

Two trail corridors, the east trail corridor and the west trail corridor, are proposed to allow users to experience a variety of landscapes, degrees of difficulty, trail length, and scenic vistas, while minimizing impacts on natural resources (see Figure 2). Small bridges used only for public pedestrian use and trail and ranch operations may be constructed, reconstructed and maintained within the corridors. Although the current project establishes the location of the 50-foot-wide trail corridors, the final trail alignment within the corridors will be refined through a future planning process.

West Trail Corridor – This 2.01 mile trail corridor is proposed to be located on the western side of the unnamed creek traversing the property. The corridor begins from the northern staging area and then loops around climbing the western knoll. It then ascends to a vista in the northwest corner of the property and loops back to descend the western knoll and return to the beginning of the trail corridor (see Figure 2).

East Trail Corridor – This trail corridor, not exceeding 2.75 miles, could be accessed from either the northern or southern staging areas. From the southern staging area, the corridor heads south to the Estero Americano, makes a small loop, then runs back up to the southern staging area. From here it runs east crossing the unnamed creek at the existing bridge location; it then traverses the ridge following the unnamed creek to the Estero, and then heads east along the Estero and north above the creek on the eastern edge of the property looping back to the existing bridge creek crossing or up to the northern creek crossing and west to the northern staging area.

Boater access to the Estero Americano, if provided, would be via the East Trail Corridor and would include one or more of the following methods to route access to open water:

- Signage directing users to specific routes that may change seasonally.
- A seasonally used formal trail with temporary matting laid down in the mudflats to reduce erosion and turbidity.
- A seasonal buoyant boardwalk that would extend into the Estero to launch boats.

Details of future construction of the trail alignment within the trail corridors will be determined in a future trail planning process. For purposes of this analysis, it is assumed that trail construction will conform to Regional Parks' trail construction standards and will include the following:

- Clearing and grubbing of the existing plants (consisting of mostly non-native annual grasses).
- Minor grading of native soils to compacted trail bed at a maximum width of 5 feet wide.
- Grading to maintain a running slope between 2.5% to 10% and a

- maximum cross slope of 5%.
- Installation of approximately 12 new seasonal stream crossings (see Figure 2) -
 - Puncheon or
 - Armored crossing - 4"-9" riprap to 12" depth in approximately an 8 foot by 10 foot area or
 - Foot bridges.
 - Installation of raised trail bed through seasonal wet seeps
 - Boardwalk or
 - Crushed rock for form drainage lenses – on 4"-6" riprap raised surface.
 - Installation of up to three benches including concrete footings
 - Maximum of twelve trail marking posts – 6"x 6" posts.
 - Maximum of eight interpretive signs up to size 36"x48"

Site Operations

The hours of operation are still to be determined and limitations maybe placed on the nature, hours, and season of public access to the access road, bridge, gate, staging areas, and trails, to provide appropriate resource protection. Walk-in access to the Estero for pedestrians, kayaks, and canoes will require a determination by the District that such access is compatible with sensitive resources associated with the Estero and the property. For purposes of environmental review, it is assumed that normal trail operating hours for public use would be sunrise to sunset seven days a week, and that access to the Estero for pedestrians, kayaks, and canoes is allowed.

Figure 1 – Location Map

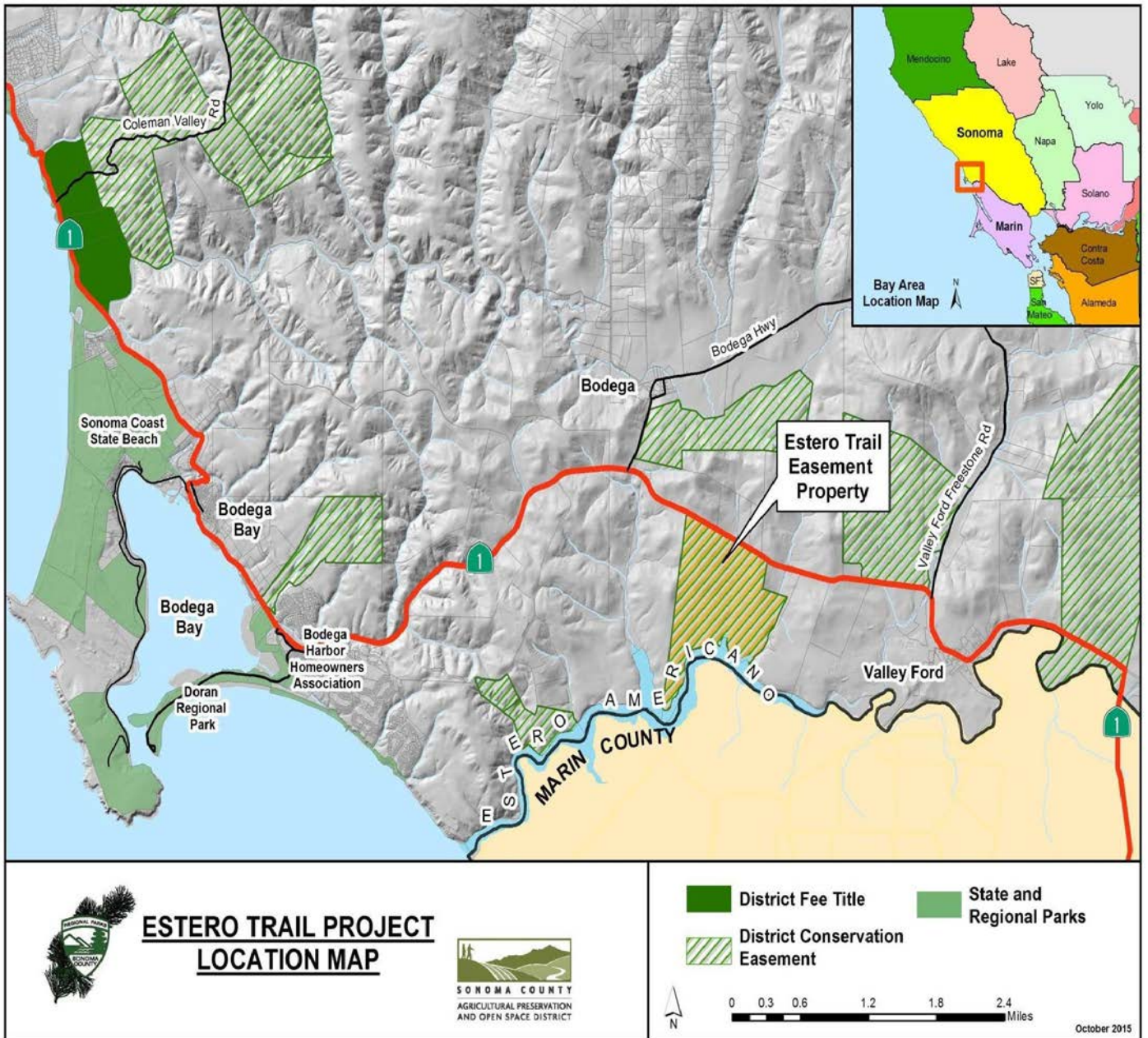


Figure 2 – Site Plan

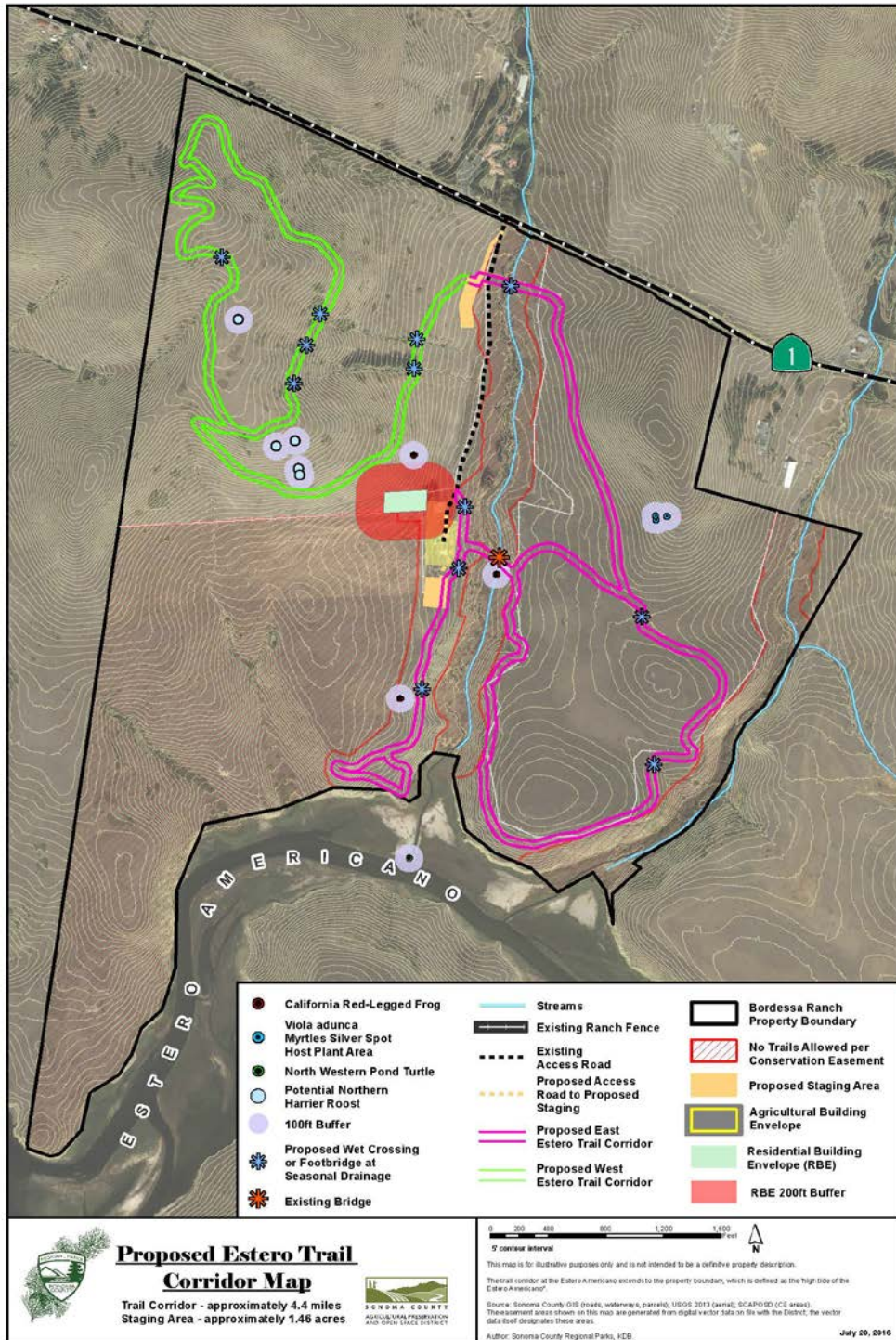
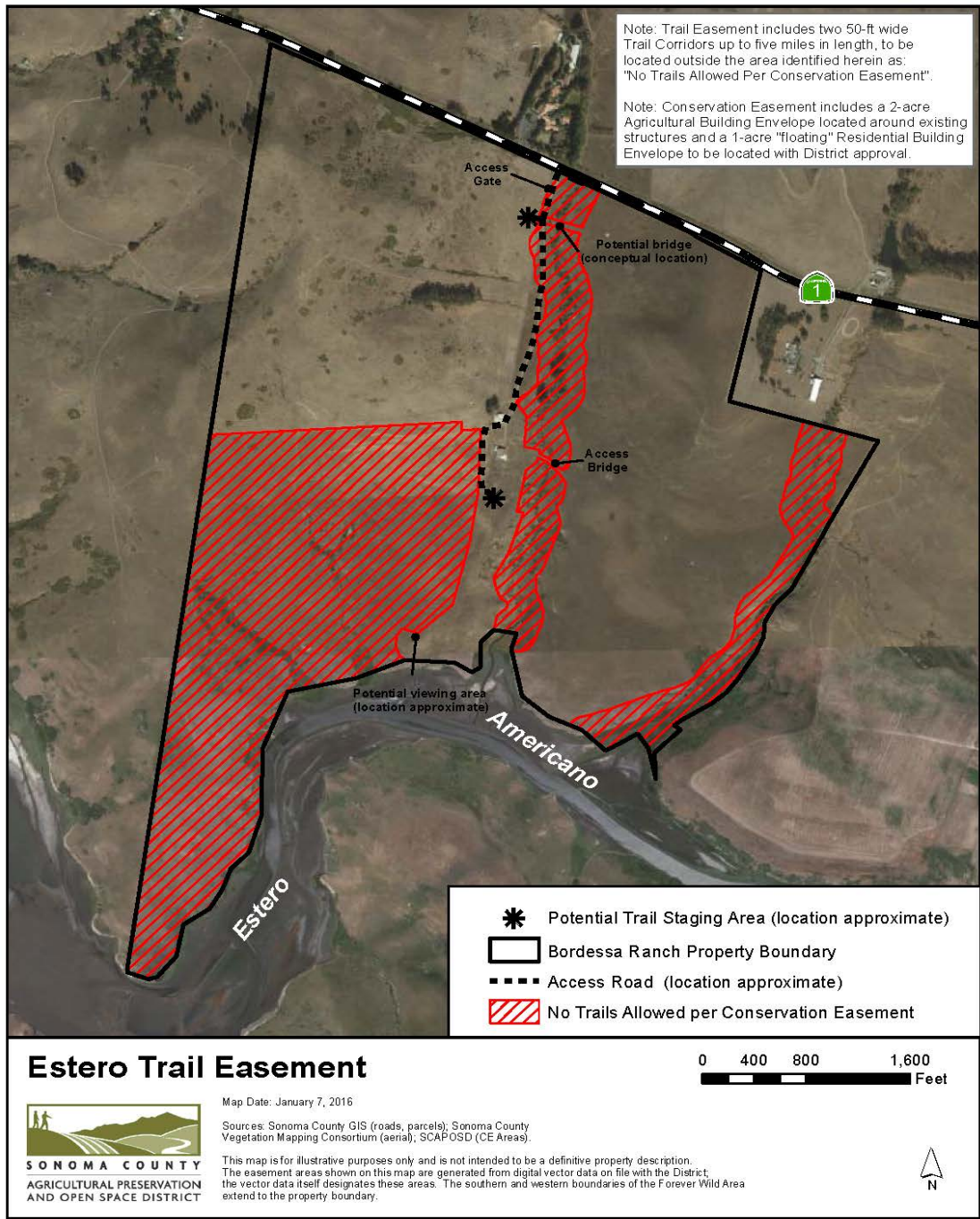


Figure 3 – Aerial View



ISSUES RAISED BY THE PUBLIC OR AGENCIES

A referral letter was circulated to inform and solicit comments from local residents within the project area, selected relevant local, state, and federal agencies, and to special interest groups that were anticipated to take interest in the project.

Attendees at two public meetings on the project, held May 9, 2014, and November 4, 2015, identified several concerns regarding the proposed project as summarized below:

- The project could increase trespassing on nearby private properties and could result in liability to local landowners.
- Grazing and public access are incompatible.
- The project could result in a loss of available grazing lands.
- The project could result in damage to the ecosystem within the Estero Americano.
- Views from local properties and Highway 1 could be affected.
- Maintaining adequate public safety.
- Risk of fire, spread of livestock diseases, increased trash caused by trail users.

RESPONSIBLE, TRUSTEE, AND PERMITTING AGENCIES

1. The U. S. Army Corps of Engineers (Corps) will require a Nationwide Permit/or Individual Permit under Section 404 of the Clean Water Act for impacts to onsite wetlands
2. The Regional Water Quality Control Board (RWQCB) will require either a Section 401 Water Quality Certification, Waiver of Waste Discharge Requirements for impacts to onsite wetlands.
3. The Sonoma County Permit and Resource Management Department (PRMD) may require a grading permit for construction, ADA compliance, and storm water permit for trail and staging area construction.
4. The California Coastal Commission will likely require a Coastal Development Permit to construct the proposed project
5. California Department of Fish and Wildlife is a Trustee Agency under CEQA with

regard to impacts, if any, to: (i) the fish and wildlife of the state, (ii) designated rare or endangered native plants, and (iii) other important natural resources.

6. California Coastal Conservancy (Project Funding)
7. California Department of Transportation (Caltrans) (Possibly a temporary encroachment permit during construction)
8. State Lands Commission is a CEQA trustee agency with regard to state-owned "sovereign" lands, such as the beds of navigable waters like the Estero Americano.
9. An Operating Entity, such as Sonoma County Regional Parks, may be designated by the District to assume responsibility for development and operation of the future trail system. That Operating Entity would be a responsible agency.
10. The NOAA Fisheries (NMFS) may draft a Biological Opinion and an Incidental Take Permit for listed fish species listed under the Federal Endangered Species Act.
11. The US Fish and Wildlife Service may draft a Biological Opinion and an Incidental Take Permit for species listed under the Federal Endangered Species Act that are under their jurisdiction.

Initial Study Checklist

This checklist is based on Appendix G of the State CEQA Guidelines. For each item, one of four responses is given:

No Impact: The project would not have the impact described. The project may have a beneficial effect, but there is no potential for the project to create or add increment to the impact described.

Less Than Significant Impact: The project would have the impact described, but the impact would not be significant. Mitigation is not required, although the project applicant may choose to modify the project to avoid the impacts.

Potentially Significant Unless Mitigated: The project would have the impact described, and the impact could be significant. One or more mitigation measures have been identified that will reduce the impact to a less than significant level.

Potentially Significant Impact: The project would have the impact described, and the impact could be significant. The impact cannot be reduced to less than significant by incorporating mitigation measures. An environmental impact report must be prepared for this project.

Each question on the checklist was answered by evaluating the project as proposed, that is, without considering the effect of any added mitigation measures. The checklist includes a discussion of the impacts and mitigation measures that have been identified. Sources used in this Initial Study are numbered and listed at the end of the document. Following the discussion of each checklist item one or more sources used are noted in parentheses.

The District has agreed to accept all mitigation measures listed in this checklist as conditions of approval of the proposed project and to obtain all necessary permits.

1. AESTHETICS

Would the project:

a) Have a substantial adverse effect on a scenic vista?	Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No impact
	-----	-----	-----	-----
			X	

The proposed designation of the trail corridors and staging areas and the eventual development and use of the trail and staging areas would occur on existing agricultural land in a rural area. No structures or improvements are proposed at this

time. Structures that could be implemented with future development of the trails, including parking areas, fences, and restrooms, would be small scale, unobtrusive, and designed to be consistent with a rural agricultural landscape. These features would be smaller than other residential and agricultural buildings at the site. No significant impacts to a scenic vista would occur.

b) Substantially damage scenic resources, including, but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway?	Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No impact
	-----	-----	X	-----

The trail corridors and staging areas were selected within the Conservation Easement to avoid trees and rock outcroppings, and no tree removal would be required for eventual development of the trails and associated staging areas. Although the future trail would be visible from Highway 1, a state scenic highway, features would be close to the ground surface and would not result in substantial damage to scenic resources.

c) Substantially degrade the existing visual character or quality of the site and its surroundings?	Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No impact
	-----	-----	X	-----

The designation of the trail corridors and staging areas would not change the existing visual character of the site. Low-intensity outdoor recreational uses are proposed as conjunctive uses with existing agricultural uses at the site. The new use would not substantially alter the visual character of the site or surrounding land as described in response 1. a) above.

d) Create a new source of substantial light or glare which would adversely affect day or nighttime view in the area?	Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No impact
	-----	-----	-----	X

Proposed future outdoor recreation would be limited to daylight hours and no new sources of light would be introduced. Accordingly, no light or glare impacts would result.

2. AGRICULTURE AND FOREST RESOURCES

In determining whether impacts to agricultural resources are significant environmental

effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board.

Would the project:

a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No impact
	-----	-----	----- X -----	-----

The Department of Conservation (DOC) Farmland Mapping and Monitoring Program (FMMP) identifies and designates important farmlands throughout the State. The project area is designated as Grazing Land, and much of the proposed site is an active cattle ranch. While Grazing Land constitutes 'agricultural land' per Public Resources Code Section 21060, they are not considered Prime, Unique, or of Statewide Importance, and any minor conversion that would occur via the designation of trail corridors and staging areas would be less than significant.

b) Conflict with existing zoning for agricultural use, or a Williamson Act Contract?	Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No impact
	-----	-----	-----	----- X -----

The project site is not in Williamson Act contract, and no impacts would occur. The project is proposed under the terms of the Conservation Easement.

c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code section 4526) or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?	Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No impact
	-----	-----	-----	----- X -----

The project parcel is zoned Land Extensive Agriculture and is not zoned Timberland Production. The proposed project would not conflict with existing zoning for, or cause

rezoning of, forest land or timberland.

d) Result in the loss of forest land or conversion of forest land to non-forest use?	Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No impact
	-----	-----	-----	----- X

The project site primarily contains annual and perennial grasslands with a few small eucalyptus groves and scattered conifers. The proposed trail corridors and staging areas avoid any forested areas and would not result in the loss of forest land or conversion of forest land to non-forest use.

e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No impact
	-----	-----	-----	----- X

As required in the Conservation Easement, the proposed low intensity outdoor recreational uses are compatible with livestock grazing currently occurring at that site. (Also see responses above for direct project impacts). As a result, the project would not cause other changes that would result in conversion of Farmland to non-agricultural use or forest land to non-forest use.

3. AIR QUALITY

Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations.

Would the project:

a) Conflict with or obstruct implementation of the applicable air quality plan?	Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No impact
	-----	-----	-----	----- X

The proposed project is located in the Northern Sonoma County Air Pollution Control District (NSCAPCD) of the North Coast Air Basin, which is currently in attainment for all state and federal ambient air quality standards. Since that is the case, the NSCAPCD is not required to prepare or implement an air quality plan and there is currently no applicable air quality plan. Because there is no applicable air quality plan, the project would have no impact.

b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No impact
		X		

As stated above, the proposed project is located in the North Coast Air Basin, where air quality is regulated by the Northern Sonoma County Air Pollution Control District (NSCAPCD). The NSCAPCD is in attainment for all state and federal ambient air quality standards. Therefore, the NSCAPCD is not required to prepare or implement an air quality plan. In addition, the NSCAPCD has not established explicit thresholds of significance for construction or operational activities. Accordingly, the NSCAPCD recommends that CEQA analysis follow the CEQA guidance and thresholds of significance used in the neighboring San Francisco Bay Area Air Basin, which is regulated by the Bay Area Air Quality Management District (BAAQMD).

The proposed designation of the trail corridors and staging areas will have no effect on air quality. While that is the case, this section evaluates potential impacts that could result from the eventual development and use of the trails and staging areas, including the access road, access gate, and bridges. The eventual development of trails and staging areas would result in some emissions associated with construction, use, and maintenance.

Construction Emissions

During the construction period, limited grading of the trails, staging areas, and access road would result in increased dust from travel on unpaved surfaces and from site earthwork, resulting in PM10 emissions. Vehicle and equipment exhaust emissions would also increase during construction (e.g., ozone precursors [volatile organic compounds or VOC and NOx], CO and PM10 and PM2.5). Heavy-duty diesel and gasoline-powered construction equipment at the work sites would likely include loaders, graders, compactors, a backhoe, trucks, and delivery, a water truck and crew vehicles. Implementation of **Mitigation Measure AQ-1** (see below) would reduce potential impacts of grading and use of construction vehicles and equipment to a less-than significant level. The project would not violate any air quality standard or contribute substantially to an existing or projected air quality violation

Operations and Maintenance Emissions

During operations and maintenance of the future trails and staging areas, the primary emissions would be from vehicle trips of trail users and from maintenance and public safety staff. No permanent stationary sources of emissions would be associated with the proposed project. An estimated daily total of 74 vehicle trips on weekdays and 131 trips on weekend days weekend days would be generated at full buildout of the trail system. Regional air quality plans anticipate and allow for population and infrastructure growth in the region. Furthermore, these vehicle trips would not necessarily be new trips added to the region as it is likely that many future park users currently travel by vehicle to other recreational destinations within the county. This

very low level of vehicle trips would not result in any violations of air quality standards or contribute substantially to an existing or projected violation. To confirm that there is no potential for a significant impact under this question, the Bay Area Air Quality Management District (BAAQMD) screening criteria (BAAQMD, 2011) were reviewed. Although a regional park is not listed in the criteria, a similar use is City Park, which would involve a higher intensity and density of development than the proposed project. The proposed project falls well below the City Park screening criteria of a city park with 67 acres construction and 2,600 acres of park operations and the proposed. Conservatively, the proposed Estero Trail project would include about 5 miles in combined length of 5-ft wide trail, which is about 3 acres, as well as two staging areas of 1.5 acres in total combined area, which in total is about 4.5 acres, well below the published thresholds. Project construction would be much less than the screening criteria provided by the BAAQMD. Accordingly, additional emissions analysis for construction or operational regional criteria pollutants is not warranted, and the project would generate a less than significant impact with implementation of MM AIR-1 below.

c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No impact
	-----	-----	----- X -----	-----

This specific question is related to regional criteria pollutant impacts. As discussed previously, the proposed project is within the NSCAPCD, which is designated as attainment for all state and federal ambient air quality standards. The non-attainment regional pollutants of concern for the adjacent Bay Area Air Basin (under the BAAQMD’s jurisdiction) are ozone, PM10, and PM2.5. Ozone is not emitted directly into the air, but is a regional pollutant formed by a photochemical reaction in the atmosphere. Ozone precursors— ROG and NOX—react in the atmosphere in the presence of sunlight to form ozone. Therefore, the BAAQMD does not have a recommended ozone threshold, but it does have regional thresholds of significance for ROG and NOX. Construction and operational regional emissions are discussed separately above and the anticipated impacts are less than significant.

In developing thresholds of significance for air pollutants, the BAAQMD considered the emission levels for which a project’s individual emissions would be cumulatively considerable. The designation of trail corridors and staging areas would not have a cumulative effect on ozone because it would not generate traffic that would result in new emissions of ozone precursors (hydrocarbons and NOx). The eventual development of trails and staging areas would result in some emissions associated with construction, use, and maintenance. According to the BAAQMD CEQA Guidelines (May 2011), “If a project exceeds the identified significance thresholds, its emissions would be cumulatively considerable, resulting in significant adverse air quality impacts to the region’s existing air quality conditions”. As discussed in impact (b) above, the projects emissions related to the eventual operations and maintenance would be less than significant and would not exceed the daily thresholds of significance. Therefore, cumulative impacts would be less than significant.

During construction (grading), fugitive dust (PM10) would be generated from site grading and other earth-moving activities. The majority of this fugitive dust will remain localized and will be deposited near the project site. The BAAQMD does not have a quantitative threshold for fugitive dust. The BAAQMD's Air Quality Guidelines recommend that projects addresses fugitive dust emissions through application of Best Management Practices (BMPs). The project does not currently include any dust control measures, resulting in the potential for a significant impact. Fugitive dust control measures identified in the BAAQMD's Air Quality Guidelines are included below in **Mitigation Measure AQ-1**, and would reduce localized dust impacts to less than significant.

Neither designation of the trail corridors and staging areas nor the operation of the trails and staging areas would have a long-term effect on PM10 and PM2.5, and dust generation would be insignificant. However, there could be a significant short-term emission of dust (which would include PM10) during construction of the actual trails. These emissions would not be significant at the project level, and would not substantially contribute to a cumulative impact. Nevertheless, implementation of the following mitigation measure would reduce any construction-related air quality impacts. The District will ensure that the operating entity implements Mitigation Measure AQ-1. Implementation of this measure will reduce any minor impact from the project to less than significant.

Mitigation Measure AQ-1:

The following dust control measures shall be implemented:

- A. Water or dust palliative shall be sprayed on unpaved construction and staging areas at least twice daily during construction.**
- B. Trucks hauling soil, sand and other loose materials over public roads shall cover the loads, or shall keep the loads at least two feet below the level of the sides of the container, or shall wet the load sufficiently to prevent dust emissions.**
- C. Paved roads shall be swept as needed to remove soil that has been carried onto them from the project site. Operate all construction vehicles and equipment with emission levels that meet current air quality standards.**
- D. Minimize idling times either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.**
- E. Limit vehicle speeds to 15 mph on unpaved surfaces.**
- F. Replant disturbed areas as quickly as possible, and always prior to the winter rains.**
- G. Post a publicly-visible sign with the telephone number and person to contact at the Operating Entity regarding dust complaints. This person shall respond and take any necessary corrective action within 48 hours. The Air District's phone number shall also be visible to**

ensure compliance with applicable regulations.

d) Expose sensitive receptors to substantial pollutant concentrations?	Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No impact
		X		
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A sensitive receptor is defined as the following: Facilities or land uses that include members of the population that are particularly sensitive to the effects of air pollutants, such as children, the elderly, and people with illnesses. Examples include schools, hospitals, and residential areas.

Designation of the trail corridors and staging areas would not result in any increase in pollutant concentrations. The project is located in a remote area and the proposed trail corridors, staging areas, and access road have been designed to be located as far away from adjacent residences as possible (the nearest residence is about 1100 feet away). Future development of the trails and staging areas will not result in a long-term substantial increase in emissions, but during construction there could be minor dust emissions. Dust emissions will be reduced to less than significant by incorporation of Mitigation Measure AQ-1 described in item 3c above, and the District will ensure that the operating entity implements Mitigation Measure AQ-1.

e) Create objectionable odors affecting a substantial number of people?	Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No impact
				X
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Construction equipment used for the eventual development of trails and staging areas may generate some odors during project construction. While that is the case, as discussed previously, the project is located in a remote area and the proposed trail corridors and staging areas have been designed to be as far away from adjacent residences as possible (the nearest residence is about 1100 feet away). The impact would be less than significant and it would be a short-term impact that ceases upon completion of construction.

4. BIOLOGICAL RESOURCES

The proposed designation of the trail corridors and staging areas will not affect biological resources. This section evaluates potential impacts that could result from the eventual development and use of the trails and staging areas, including the access road, access gate, and bridge.

Two site visits were conducted by County biological staff (Richard Stabler, Laura Peltz, and Crystal Acker) on April 15, and June 23, 2014. During the April site visit, staff surveyed the East Trail corridor, including the access to the Estero Americano; areas along the existing access road that may be used for future parking or staging; and the barn and surrounding area to potentially be used for staging and parking. Staff also conducted a reconnaissance survey of the central unnamed creek on the property to determine its potential to support special status species and identify the need for species-specific targeted surveys. During the June 23 site visit, staff surveyed the West Trail corridor and nearby aquatic features. Staff also conducted a dip-net survey for California freshwater shrimp within the central creek up- and downstream of the existing bridge crossing (see the section on California freshwater shrimp in this report for further details of this survey).

The site visits were reconnaissance-level surveys to document conditions on the property in the vicinity of potential improvements associated with the trail, identify potential for special status wildlife species to be present on site, identify habitat for these species in the vicinity of the trail and associated improvements, and recommend measures to minimize potential impacts from designation of trail corridors and associated staging areas and trail easement recordation, and trail development and operation. The surveys of the trail corridors and staging areas consisted of staff walking the general trail corridor and surrounding area in a widely-spaced and meandering pattern to maximize coverage. The site visits were reconnaissance level for the purpose of designating trail corridors and staging areas for eventual development of trails and associated staging areas (parking lots). To adequately prepare for these site visits, staff reviewed the following informational resources:

- A review of special status animal occurrences within 5 miles of the site and for the Valley Ford United States Geological Survey (USGS) 7.5' quadrangle from the California Natural Diversity Database (CNDDDB) (CDFW, 2014); and
- The U.S. Fish and Wildlife Service (USFWS)'s species list for the Valley Ford quadrangle.

Prior assessments at the site that were also used in this analysis include:

- Bordessa Property Site Assessment by Sonoma County Agricultural Preservation and Open Space District June 10, 2010.
- Intensive bird surveys conducted by Emily Heaton in 2011 and 2012 and described in her report *Summary of Findings from Bird Surveys on the Bordessa Ranch, Final Report: 2011 and 2012 Survey* (2012);
- The *Bordessa Ranch Conservation Easement Baseline Documentation* report prepared by Rob Evans and Associates to document physical features, land use, easements, as well as biological and hydrologic features on the property relative to the Deed and Agreement conveying a conservation easement to the District (2012).

Existing Plant Communities and Habitats

Several plant communities are present, including brackish and freshwater marshes, and coastal prairie. Five habitat types are found on site and are characterized briefly below.

Overall, the grassland is dominated by exotic species, mostly annual grasses and by the invasive exotic perennial, velvet grass (*Holcus lanatus*).

Annual Grassland

The predominant habitat type on site is annual grassland, which makes up the majority of the East Trail, and the West Trail, including the access to the Estero, and staging areas. As mentioned previously, non-native plants dominate this habitat type. The East Trail corridor and the access to the Estero are open with very few shrubs. The West Trail corridor is also predominantly open, though the north facing slope nearest to Highway 1 has more shrubs, including gorse (*Ulex europaeus*), sweet-briar rose (*Rosa rubiginosa*) and coyote bush (*Baccharis pilularis*), and a few trees (Monterey pine). Within the grassland habitat, there are numerous areas of seeping groundwater and areas of wet meadow vegetation. There are also intermittent drainages along the slopes draining to the central creek. These areas are dominated by annual exotic grasses and the noxious weedy perennial, velvet grass.

Riparian

Riparian habitat is present along the central creek. The northern portion is dominated by dense willow and some gorse. The middle portion upstream of the existing bridge is still dominated by willow, but is somewhat more open with pond-like vegetation including longleaf pondweed (*Potamogeton nodosus*) and rushes (*Juncus* sp.). There are several blue gum eucalyptus (*Eucalyptus globules*), along the central creek north of the existing bridge that act as riparian vegetation. The southern portion of the creek is open with more pond-like and marsh vegetation with scattered willows.

Riparian habitat is also present along two other small drainages within the Forever Wild area in the southwest corner of the property, and the creek forming the eastern border of the property located outside the study area for the trail corridor (Rob Evans and Associates, 2012).

Eucalyptus

There is a eucalyptus grove located along an intermittent drainage. The West Trail corridor crosses the drainage below the eucalyptus grove. Understory plants in the grove include Douglas-fir (*Pseudotsuga menziesii*), wax myrtle, hawthorn, cream bush, wild rose, gorse, sword fern, and coyote bush (Rob Evans and Associates, 2012). The eucalyptus may provide nesting and roosting habitat for raptors and other birds.

Lacustrine

There are several small ponds on the property. Ponds in proximity to the trail corridor (Ponds 1, 2 and 3) are described in more detail in this report in the California Red-legged Frog section. In general, these are small features formed in depressions or dammed portions of intermittent drainages that contain standing water. There is an additional pond within the Forever Wild Area (outside the trail corridor study area) that likely provides habitat for wildlife on-site.

Marsh

Marsh habitat is located along the Estero Americano at the southern property boundary and at the mouth of the central creek. The marsh is vegetated primarily by pickleweed (*Salicornia pacifica*), but also contains alkali heath (*Frankenia salina*), saltgrass (*Distichlis spicata*), brass buttons (*Cotula coronopifolia*), fat hen (*Atriplex prostrata*), and annual rabbitfoot grass (*Polypogon monspeliensis*) (Acker, 2014). The marsh grades into brackish and freshwater marsh proceeding upstream in the central creek (Rob Evans and Associates, 2012).

There is also a lot of exposed ground within the marsh. During the drier portion of the year, the marsh is not inundated by daily tides. The ground surface was dry and consolidated, and easy to walk across during our April and June site visits.

Would the project:

a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No impact
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Special Status Plant Species

A total of 40 plant species were identified within the region as a result of the California Natural Diversity Database search (CNDDDB, 2014). Many of these plants are not expected to occur within the trail corridors, because their primary habitat requirements are lacking (i.e., no fully inundated tidal marsh, freshwater marsh, dunes, chaparral, etc.), and/or the project is far from their known or expected range within the region.

Overall, of the 40 plant species identified, a total of 13 species were determined to be not present due to a complete lack of suitable habitat within the proposed trail corridors and staging areas and/or non-observation during surveys. Six species were determined to be unlikely to be present due to highly unsuitable habitat, (i.e., tidal marsh species- Estero marshland is not fully tidal; dune/sand species that can also be found in coastal grassland, but rarely are). There are 18 species that are sometimes or always associated with grassland habitats which is the most common habitat type found on-site. None of these were observed during April or June surveys; in addition, each has a low potential for presence within the Estero trail corridors and staging areas. None of these were determined to have Moderate Potential or higher due to the poor quality of the on-site habitat and lack of sightings in the vicinity. Due to the weedy nature of the annual grassland habitat present within the area of the proposed project, conditions are not suitable to support the majority of the rare plants species.

One plant species, pale yellow hayfield tarplant is present within the proposed trail corridors and likely will be present within the future trail alignment. It is ranked by the

California Native Plant Society as a 1B.2 plant species, where the 1B designation means it is “Rare, threatened, or endangered in California and elsewhere” and the .2 simply means that the species is “Fairly endangered in California”. In any case, this species of tarplant is an annual that can seed into new areas each growing season. Individuals of the species were observed scattered throughout the uplands to the east and west, and in some of the flat lands. In addition, scattered discrete patches of blue violet (Myrtle's silverspot host plant) were found in the uplands to the east.

No impact to special status plant species would result from designation and recordation of the proposed trail corridors and staging areas. Construction impacts that may result from future development of the trails and staging areas will be avoided/minimized with use of the following measure. Once the trail is established, future trail use and maintenance is not expected to have an impact on rare plants and/or native plant communities because the trail will be aligned to avoid rare plant populations and rare native plant communities.

The following Mitigation Measure would minimize or avoid impacts to rare plant species from future construction of trails and staging areas, reducing the potential impact to a level of insignificance. District shall ensure that the operating entity implements Mitigation Measure BIO-1.

Mitigation Measure BIO-1:

- 1. Once the future trail alignment within the trail corridors has been determined, blooming period surveys within the final trail alignment should be conducted a year prior to construction to more precisely determine where rare plants are located and location will be flagged and avoided. Field visits would likely need to be conducted monthly from March through August to capture all the potential blooming periods.**
- 2. Because the focal rare plant species are annuals, including the tarplant, they can change location from year to year. To preserve the seedbank of these species, all topsoil near rare plant locations within the future trail alignment footprint should be collected and re-distributed in adjacent areas prior to trail construction.**
- 3. Discrete patches of native vegetation should be avoided by the project, if feasible, especially the early blue violet in the Eastern Hills (Myrtle's silverspot host plant).**

Special Status Wildlife Species

American badger

The American badger, a California Species of Special Concern, is an uncommon, permanent resident found throughout most of the state. They are found in a variety of habitats, and are most abundant in drier open stages of shrub, forest, and herbaceous habitats that have friable soils (Zeiner, et al. 1990). Badgers are carnivorous, eating primarily small rodents, especially ground squirrels and pocket gophers, but also take a variety of other smaller prey (Zeiner, et al. 1990). Badgers dig their own burrows,

and often reuse old burrows, but may dig new ones each night (Zeiner, et al. 1990). They are active year-round, though less so in winter. Badgers breed in summer and early fall, and implantation of the embryos is delayed, and young are typically born in March and April (Zeiner, et al. 1990). The young remain underground until the age of 6-8 weeks old. At age 3-4 months of age, badgers disperse to live in their own burrows (Martinelli. S., CDFW Wildlife Biologist, personal communication, 2010).

The CNDDDB lists numerous occurrences of American badger in the general area, including an occurrence at the project property (CDFW, 2014). County biologists observed many badger burrows along the trail corridor at several locations in the annual grasslands. Some were fairly recently used, with well-defined openings and relatively freshly disturbed soil at the entrance, indicating that badgers are actively using the project area. Others appeared older and not maintained, showing signs of collapse and abandonment. Due to the distribution of the existing burrows and propensity for badgers to continually dig new burrows, we assume badger burrows could be present along any of the trail corridors or within the staging areas at any given time, and that current burrow locations do not necessarily represent the locations that will be occupied at the time of trail construction.

Potential Project Impacts

No impact to American badgers would result from designation and recordation of the proposed trail corridors and staging areas. Future construction activities, including grading, equipment staging, or other site disturbances that may occur, could result in destruction of badger burrows. Burrow entrances could be destroyed, or ground disturbance could cause collapse of underground portions of the burrow. The removal of inactive badger burrows would not be considered a substantial adverse impact, but active burrows may be encountered. This species may be present on the site at any time of the year, and the removal of active dens could result in the direct mortality of individual adult badgers that are denning in project area, or of young if construction activities occur during the natal season.

Badgers using burrows directly impacted by the project would be able to establish new dens elsewhere in the grassland habitat on site. Badgers are somewhat tolerant of human activities (Zeiner, et al. 1990), so use of the trail is not expected to cause badgers to abandon the area. Because badger may occur anywhere within the grassland habitat on site and making up the majority of the trail corridor alignment, we do not recommend any specific measures for routing of the trail corridor, other than avoidance of active burrows in the year of construction. The following measures would minimize impacts to active badger dens and minimize conflicts with trail users. District shall ensure that the operating entity implements Mitigation Measure BIO-2.

Mitigation Measure BIO-2:

- 1. If feasible, conduct all ground-disturbing activities between September 1 and February 28 to avoid the natal season for American badger. If it is not feasible to conduct ground-disturbing activities to avoid natal season for American badger, complete the following:**
 - a. Conduct a survey by a qualified biologist for natal burrows within seven days prior to any ground-disturbing activity. The area to be**

employed to minimize impacts to the Species of Special Concern will also minimize impacts to these bat species should they be present.

Pallid bats occupy a variety of habitats at low elevation including grasslands, shrublands, woodlands and forests. It is most common in open, dry habitats with rocky areas for roosting. Pallid bat day roosts are in caves, crevices, mines, and occasionally hollow trees and buildings. Night roosts can be more open, and can include porches and open buildings. Most pallid bats are social, roosting in groups of 20 to over 100. They are very sensitive to disturbance of roosting sites. Pallid bat may be present in the area at any time of year (Zeiner, et. al, 1990). Maternity colonies form in early April, and may have 12 to 100 individuals. Pallid bat eat many types of insects, foraging over open ground, taking prey from the ground or gleaning it from vegetation. The nearest CNDDDB occurrence is located approximately 4 miles north of the site (CDFW, 2014).

Townsend's big-eared bat is found throughout California, with the exception of alpine and sub-alpine habitats, and may be present at any time of year. They require caves, mines, tunnels, buildings, or other human-made structures for roosting, and roost in the open on the walls or ceilings of these structures (CDFG, 2000). Townsend's big-eared bat is extremely sensitive to disturbances of roost sites (CDFG, 2000). They prey on moths or other soft-bodied insects, gleaning them from brush or feeding along habitat edges (CDFG, 2000). The nearest CNDDDB occurrence is approximately 3.4 miles west of the site (CDWF, 2014).

While there were no direct or indirect (guano, urine staining, body streaks) observations of bat presence during the site visits, bats may be present on site. The site provides suitable foraging habitat. Though limited in number and distribution, trees on site may provide roosting habitat for pallid bat or tree roosting bat species. The barn and adjacent structures may provide roosting habitat, though current use of the barn in association with ranching activities and occasional human presence in the barn may limit the suitability of the habitat, particularly to those species most sensitive to human presence, such as Townsend's big eared-bat and pallid bat. The trail corridor lacks caves, tunnel, or rocky areas that could be used for roosting.

No impact to special status bat species would result from designation and recordation of the proposed trail corridors and staging areas. Use of the barn or building interiors for trail purposes is not proposed in conjunction with future development of the trails and staging areas. Therefore, roosting habitat in these structures would not be disturbed. Future development and use of the trails and staging areas could impact bats if construction activities in close proximity to an active maternity roost disturb the roost to the extent that it causes bats to abandon the roost and their young. Mitigation measure BIO-3 will reduce the potential impacts to a level of insignificance. District shall ensure that the operating entity implements Mitigation Measure BIO-3.

Mitigation Measure BIO-3:

- 1. Restrict construction activities to the daylight hours to avoid impacts to foraging or night-roosting bats.**
- 2. Require a qualified biologist to survey trees with the potential to support special-status bats within 100 feet of construction activities 7 days or**

less prior to the onset of construction. If there is no evidence that bats are present, such as visual or acoustic detection, guano, urine staining, or strong odors, no further mitigation is required.

- a. If a maternity roost is identified within 100 feet of construction activities, create and maintain a buffer around the bat roost until such time that the roost is no longer occupied. Consult with the California Department of Fish and Wildlife to determine the appropriate size of the no-disturbance buffer.**
- 3. Bat roosts initiated within 100 feet of construction activities after construction in the specific area has already begun will be presumed to be unaffected by construction activities and a buffer will not be required.**
- 4. Under all circumstances, the “take” of individuals, including direct mortality of individuals or the destruction of roosts while bats are presents, is prohibited.**

Special Status Bird Species

The project site provides suitable habitat for numerous special status bird species including tree-nesting, shrub/scrub/grassland nesting and ground nesting species. The trail corridor avoids removal of mature trees. Many colonial nesting species could use the project property or the Estero Americano for foraging, however, nesting colonies were not observed on the property during numerous bird surveys by Ms. Heaton (2012) or staff site visits in 2014. Only those species most likely to be impacted by the trail construction and operation, particularly grassland and ground nesting/wintering species, marsh or riparian nesting species, or those with an elevated status requiring additional discussion, are described in detail below. However, the measures recommended below are sufficient to address impacts to all special status bird species that may occur on the property.

Common bird species also use the project property. Most birds (and their eggs) in the United States, including non-status species, are given special protection under the Migratory Bird Treaty Act (MBTA) of 1918. The mitigations measures recommended below for Mitigation Measure BIO-3 and BIO-4, are sufficient to address impacts to birds protected by the MBTA.

Grasshopper Sparrow

Grasshopper sparrow is a California Species of Special Concern and is a summer resident in Sonoma County and breeding of this species on site is assumed. In general, grasshopper sparrows prefer short to middle-height, moderately open grasslands with scattered shrubs. These sparrows forage primarily on the ground or from low vegetation; bare ground may be important. Grasshopper sparrows feed primarily on insects and also eat other invertebrates, as well as grass and forb seeds. They use scattered shrubs for singing perches, and breed from early April to mid-July, with a peak in May and June. Grasshopper sparrows build nests domed with grasses and with a side entrance, usually hidden in depressions at the base of grass clumps

with the rim approximately level to the ground. Grasshopper sparrows have been recorded on the project property during June 2011

Bryant's Savannah Sparrow

Bryant's savannah sparrow is a subspecies of savannah sparrow that occupies salt marsh and moist grasslands within and just above the fog belt, and infrequently drier grasslands. It is the only subspecies of savannah sparrow that breeds in Sonoma County. Cup-shaped nests are constructed on the ground, hidden by overhanging vegetation. Savannah sparrows often sing from perches such as low shrubs, grass clumps, and fences. During past winter surveys, savannah sparrows were found distributed widely across the property. During the 2011 breeding season, Bryant's savannah sparrows were observed in various locations, both in grazed and ungrazed grasslands. During the April 15, 2014 site visit, County biologists again observed a Bryant's savannah sparrow. Much like the grasshopper sparrow, the trail corridor passes through grassland and transitional zone habitat that could be used by Bryant's savannah sparrow.

Short-eared Owl

Short-eared owl is a California Species of Special Concern that inhabits marshes and grasslands and is typically an evening hunter, but can also be active in the day and at night. Short-eared owl nests and roosts on the ground, and require dense vegetation, often tall grasses, for cover. Short-eared owls shift wintering and breeding sites in response to cycles in local prey abundance, resulting in variation in numbers and range, and can be nomadic.

Short-eared owl in general occurs in Sonoma County in the winter months and only one breeding record is known for Sonoma County (from Annadel State Park) and one for Marin County (from Point Reyes National seashore, both from 1979).

A good number of short-eared owls inhabited the Bordessa Ranch during the 2010-2011 and 2011-2012 winter seasons. At least twenty owls were observed in 2010-2011 and at least 18 in 2011-2012, with the landowner reporting seeing even higher numbers. Owls were flushed from communal roost sites in ungrazed grassland. The location of the main roost shifted between visits and between years, but all roost sites were found in grassland habitat dense enough and tall enough (about 30-60cm) to effectively conceal roosting owls. Based on owl observations and signs (pellets, whitewash, feathers), roosting is generally concentrated in the Forever Wild portion of the property.

As with the other grassland bird species, shifting grazing patterns over time may influence the suitability of habitat for short-eared owl on the site, particularly as short-eared owl use of the site seems to correspond to taller, ungrazed areas. Owl use on the trail corridor alignment could shift over time if some areas become more heavily grazed, or alternatively, are left ungrazed for a period of time.

Burrowing Owl

The burrowing owl is a California Species of Special Concern and is a small, ground-dwelling species of open, dry grassland and desert habitats, and may be found in prairie, rolling hills, and ranchlands. Burrowing owls are active both day and night, and can often be seen standing at burrow entrances during the day. They nest underground, using abandoned small mammal burrows and feed mostly on insects and small vertebrates. Breeding occurs from March through August, with the peak in April and May, but nesting by burrowing owls has not been documented in Sonoma County in over 20 years. Past studies in winter seasons of 2010-2011 and 2011-2012 have found evidence of burrowing owls on the property, including pellets and whitewash, around numerous badger burrow entrances. In addition, burrowing owls have been detected in some locations in the Forever Wild Area in the southwest corner of the property, along the access to the Estero, and at the southernmost point of the East Trail corridor. No burrowing owls were detected during the last breeding season surveys conducted in 2011.

Based on the lack of observations during the breeding season and lack of documented breeding in general for Sonoma County, it is unlikely burrowing owls use the site for breeding.

Northern Harrier

Northern harrier is a California Species of Special Concern and can occupy numerous open habitats such as fresh and saltwater marsh, grasslands, meadows, ungrazed or lightly grazed pastures, desert sinks, sagebrush flats and some croplands. Habitat elements include abundant prey (rodents (often voles) and songbirds), vegetative cover, and scattered perches such as shrubs or fence posts. Northern harriers nest on the ground in dense, tall vegetation. (Davis and Niemela, 2008).

In California, northern harriers occur year round within the breeding range, but tend to be more broadly distributed and in higher numbers in winter and during migration periods. Harriers typically roost communally in the winter. The CNDDDB does not include any records within 5 miles of the project site; nevertheless, breeding in Sonoma County is known to occur in coastal grasslands and within marshes, as well as near the Petaluma River and San Pablo Bay, and may also occur near the Laguna de Santa Rosa. Northern harrier was observed on site in both the breeding and non-breeding season though in greater numbers in the non-breeding season.

White-Tailed Kite

White-tailed kite is a State Fully Protected Species and nesting occurrences considered sensitive and are tracked in the CNDDDB. White-tailed kite is a year-round resident of coastal and valley lowlands that forages in undisturbed, open grasslands, meadows, farmlands and emergent wetlands. It makes a nest near the top of dense oaks, willows, or other tree stand, in close proximity to open foraging habitat but may also use tall shrubs. It preys on voles, or other small vertebrates that are active during the day, and often observed hovering while searching for prey. In winter, kites can roost communally, often in a small stand of trees, but sometimes on the ground.

The Sonoma County Breeding Bird Atlas shows possible breeding in the atlas block that includes the project site (Burrige, 1995; Breeding Bird Atlas, 2014). Kites were

seen on-site perching on fences and in trees in winter of 2010-2011 and 2011-2012 but none were observed during breeding season surveys. This is likely a reflection of the fact that tree nesting habitat is somewhat limited on the property, though trees and shrubs along the property's drainages could potentially be used for nesting.

California Black Rail

California black rail is State-listed as Threatened and is also a Fully Protected species. California black rail is a secretive resident of saline, brackish and fresh emergent wetlands. The most common habitats include tidal emergent wetlands dominated by pickleweed and brackish marsh with bulrush and pickle weed. Freshwater marsh habitats usually include bulrushes, cattails and saltgrass. California black rail typically inhabits the high wetland zones near the upper limit of tidal flooding. During extreme high tides, rail may depend on the upper wetland zone and adjoining upland or freshwater wetland vegetation for cover. California black rail build a loose cup nest at or near the ground in dense vegetation, often within pickleweed in areas characterized by water depths of about one inch.

The black rail population in Sonoma County is primarily concentrated in the marshes of San Pablo Bay and the Petaluma River and there are no occurrences in the CNDDDB within 5 miles of the project site (CDFW, 2014). California black rail has not been observed on the project property or within the Estero watershed. Salt marsh near the upper tidal zone and transitional marsh along the lower reaches of the central creek may provide some suitable habitat for black rail.

California Clapper Rail

California clapper rail is federally and State listed as Endangered and is also a State Fully Protected Species. The U.S. Fish and Wildlife Service has issued a Recovery Plan addressing California clapper rail within the Recovery Plan for Tidal Marsh Ecosystems of Northern and Central California. According to the Recovery Plan, "California clapper rails occur almost exclusively in tidal and brackish marshes with unrestricted daily tidal flows, adequate invertebrate prey food supply, well developed tidal channel networks, and suitable nesting and escape cover providing refugia during extreme high tides. Lack of extensive blocks of tidal marsh with suitable structure is the ultimate limiting factor for the species' recovery." Clapper rails are considered secretive and difficult to see in dense vegetation, but can be seen more easily along the edges of tidal sloughs. Clapper rails are omnivores and are opportunistic feeders. They require a complex network of sloughs to provide cover and abundant populations of invertebrates for foraging.

Nests are typically located in the upper middle tidal marsh or high tidal marsh zones, but not within upland habitat transition zones. The nest must be at an elevation to prevent total inundation at high tide with dense pickleweed or gumplant vegetation often selected as the nest location. Nesting may begin in late February/early March and extend through August. California clapper rail are now restricted almost entirely to the San Francisco Bay Estuary and a narrow band of land along the Marin and Sonoma Coast, and the recovery plan states that California clapper rail formerly occurred in Humboldt Bay, and in the Marin-Sonoma embayments, which include Bodega Harbor, Tomales Bay, Drakes/Limantour Estero, and Bolinas Lagoon. The

only recent occurrences of California clapper rail in the general vicinity of the Estero Trail project are records of rails in Tomales Bay from the late 1990's and 2012 and there are no known occurrences of California clapper rail in the Estero Americano watershed and the trail corridor does not pass through or near suitable habitat for California clapper rail.

San Francisco Common Yellowthroat

San Francisco common yellowthroat is one of four subspecies of common yellowthroat in California and one of two that occurs in Sonoma County. Breeding range maps for San Francisco common yellowthroat show the northern limit of the breeding range ending to the south of the Marin County line near in the project property area, however, there is uncertainty in the understanding of the range boundary for the subspecies.

In the San Francisco Bay Area, San Francisco common yellowthroat breeds primarily in brackish marsh, freshwater marsh, riparian woodland/swamp, but also in salt marsh and rarely upland. This yellowthroat inhabits the ecotone between moist habitats and uplands. Common yellowthroat also can use small and relatively isolated patches of habitat, including swales and seeps.

Common yellowthroats nest on or near the ground or over water in dense vegetation including emergent aquatic vegetation and dense shrubs. There are no occurrences within 5 miles of the project property and the subspecies was not observed during site surveys.

Potential Impacts to Special Status Birds and Migratory Birds

No impact to special status bird species or migratory birds would result from designation and recordation of the proposed trail corridors and staging areas. Future vegetation clearing, pruning, or ground disturbance in areas actively occupied by nesting birds could result in direct mortality of adult birds, eggs, or young.

Construction could also cause mortality to eggs or young if construction activities (e.g., noise, human activity) in close proximity to an active nest cause adult birds to abandon the nest (for example, northern harrier is especially sensitive to disturbance of nest sites (Heaton, 2012)). Trail vegetation maintenance such as mowing may also impact nesting birds if done in the nesting season. Trail construction could result in destruction or disturbance of occupied burrowing owl burrows if present in the construction year. Vegetation clearing, ground disturbance, and trail construction will reduce the quantity of nesting habitat on a temporary and permanent basis. After the construction of project is complete, areas temporarily disturbed by construction activities will be restored to their preconstruction condition. The permanent trail footprint (approximately 0.6 acres) and staging areas (up to 1.5 acres), located predominantly in annual grassland, would represent only a small percentage of the 495-acre project property, and of the 21,528 acres of grassland habitat in the watershed. The trail corridors avoid the eucalyptus groves on the site, and avoid removal of mature trees. Impacts to riparian habitat are limited to the locations of an existing bridge crossing and a new potential second trail crossing, and impacts to tree nesting or riparian species would be minimal.

As some birds are sensitive to the presence of humans, use of the trails by people may reduce the use of habitat adjacent to the trail for nesting. This impact is most likely for grassland and ground nesting species (including some special status species) that are nesting or are likely to be nesting on site (grasshopper sparrow, savannah sparrow, northern harrier). This could also affect grassland species not currently known to nest on site but for which suitable nesting habitat exists. These species could become established prior to construction (e.g., short-eared owl or burrowing owl).

Trail use could reduce the use of habitat adjacent to the trail for winter roosting by short-eared owls and northern harriers, which can be sensitive to human disturbance. Because short-eared owls can be nomadic and shift winter roosts sites in response to varying prey and vegetation conditions, and because other grassland is present on the property and in the watershed, this effect is not expected to result in a substantial adverse impact. The probable northern harrier winter roost site that was identified by Heaton in 2012 is located away from but in the general area of the West Trail corridor. However, since northern harrier roost sites are generally occupied only in the late evening and night (Dr. Eugene. S. Hunn, Personal Communication, July 2016) it is unlikely that they would become impacted by trail users. Since northern harrier roost sites are generally reused over many years, measures to avoid impacts to this feature are included below. In addition, burrowing owl winter habitat may also be affected, though burrowing owls have been known to use areas of human activity, including parks (Gervais et al., 2008).

No impact to special status bird species or migratory birds would result from designation and recordation of the proposed trail corridors and staging areas. However, future operation of the trails and staging areas could result in potential impacts to special status birds and migratory birds. Mitigation Measure BIO-4, below, will minimize the potential for direct impacts to nesting special status birds and birds protected by the MTBA and will assist in the effort to manage other grassland habitat on the project property to provide for continued availability of habitat for these species. District shall ensure that the operating entity implements Mitigation Measure BIO-4.

Mitigation Measure BIO-4:

Trail Routing

- 1. Route the trail to use the open, less vegetated area of the tidal flat and avoid dense marsh vegetation. Place signage at the end of the upland terminus of the access to the Estero directing people to stay out of sensitive marsh vegetation. During the summer months when tidal influence is not present and the marsh is dry and more easily accessible, place temporary directional markers to mark the portage route.**
- 2 During the breeding season prior to construction, survey habitat in proximity of the Estero access to confirm absence of black rail. If black rail is present, coordinate with CDFW to develop and implement measures to avoid impacts to black rail for the portage route, including establishing an appropriate buffer distance from black rail nesting sites.**

Construction

3. **Additional bird surveys should be conducted by a qualified biologist in the winter and breeding season prior to construction to characterize continued use of the site by burrowing owl, short-eared owl, northern harrier, and nesting special status species. Route the future trail alignment to avoid areas of use for nesting or winter roosting by these species.**
 - a. **For burrowing owl, surveys should be conducted according to methods outlined in Guidance for Burrowing Owl Conservation (CDFG, 2008). If burrowing owls are found in the trail corridor DFW shall be consulted to assist in the determination of the future trail alignment. The future trail alignment should be routed away from occupied burrows to the distance recommended by DFW.**
4. **If feasible, remove vegetation and conduct ground-disturbing activities only between September 1 and February 15 to avoid bird-nesting season. If it is not feasible to remove vegetation outside of bird-nesting season, complete the following:**
 - a. **A qualified biologist shall conduct a bird-nesting survey no more than 7 days prior to ground-disturbing or vegetation removal activities in a specific construction work area. The area to be surveyed shall include all construction activity areas, including staging areas, to a distance of 250 feet outside construction areas. Survey results will remain valid for a period of 7 days following the date of the survey.**
 - b. **If an active nest is found, consult with the California Department of Fish and Wildlife (CDFW) to determine the appropriate buffer size and then establish the buffer zone using fencing, pin flags, yellow caution tape, or other CDFW-approved material. Vegetation clearing and construction activities shall be postponed within the buffer zone; no construction-related activity shall be allowed to occur within this area until it is determined that the young have fledged, the nest is vacated, and there is no evidence of second nesting attempts. A qualified biologist shall regularly monitor the buffer area during construction activities to evaluate the nest(s).**
 - c. **If an active nest is found within the survey area after the completion of the pre-construction surveys and after construction activities have begun, all construction activities shall cease immediately until a qualified biologist has evaluated the nest and, if required, a CDFW-approved buffer zone has been created. If establishment of a buffer zone is not feasible, contact CDFW for further avoidance and impact minimization guidelines (e.g., acceptable noise and activity guidelines).**

5. **For construction in the non-nesting season, conduct a pre-construction survey for occupied owl burrows. If occupied burrows are found, establish a 50-meter (160-foot) buffer and prohibit work within the buffer until such time as the burrow is not occupied, or consult with CDFW to determine if a different buffer may be appropriate. Once the burrow is no longer occupied, if it must be removed for trail construction, construct a replacement burrow in suitable habitat away from the trail alignment.**
6. **Temporary disturbance areas shall be restored with plant species native to the site.**

Operations

1. **Conduct vegetation removal that exists greater than 5-ft of the trail footprint only between September 1 and February 15 to avoid bird-nesting season. If it is not feasible to remove vegetation outside of bird-nesting season, conduct a survey of the work area prior to vegetation maintenance and if nests are present, delay vegetation removal until after consultation with California Department of Fish Wildlife to establish a safe distance from nest sites to the needed activity or until after the young have fledged the nest.**
2. **Information on sensitive bird species should be included in interpretive signage for the project, including the importance of aquatic habitat, upland habitat, and the importance of removing trash and staying on marked trails.**

Special Status Amphibians and Reptiles

California Red-Legged Frog California Red-Legged Frogs (CRLF) are Federally Listed as Threatened and are pond-dwelling amphibians that generally live in the vicinity of permanent aquatic habitats. The most optimal habitat is characterized by dense, shrubby riparian vegetation associated with deep (more than 2.3 feet in depth), still, or slow-moving water often found in livestock ponds and pools within perennial streams. Although CRLF are found in ephemeral streams and ponds, populations cannot be maintained where all surface waters are absent. Reproduction occurs at night in permanent ponds or slack-water pools of streams during the winter and early spring (late November-through April).

For CRLF, essential habitat components generally include breeding habitat, non-breeding habitat and migration corridors. Breeding habitat consists of ponds with adequate depth and hydrology as well as slow moving streams with pond-like vegetation. Breeding in this region of the species range is generally late January to late February, depending upon weather conditions. Nonbreeding habitat typically includes riparian areas that have adequate moisture for survival during the summer months, sufficient cover to moderate temperature during extremes in the local climate,

and provide protection from predators with features like deep pools, and/or dense vegetation. While migration corridors for CRLF are not necessarily restricted to specific landscape features, roadways and areas that lack cover are obvious hazards to CRLF movement. Typically, forested riparian communities, grasslands, open meadows, and agricultural fields are known to be used as migration corridors by CRLF.

There are 10 occurrences of CRLF in the CNDDDB within 5 miles of the project property, the nearest on a tributary to Americano Creek in the vicinity of Valley Ford. In addition, staff observed three CRLF tadpoles in the central creek on the project site while conducting dip net surveys for California freshwater shrimp. Also during site surveys in 2014, staff observed juvenile and adult CRLF on the project site (see Figure 2 for exact locations).

Since this is the case, any one of the numerous seeps and small drainages along the trail corridors or staging areas could provide summer habitat for CRLF, including habitat for dispersing juveniles that may be displaced by adults from higher quality habitat at the site, including the ponds and central unnamed creek. CRLF could be present in upland portions of the trail corridors when migrating between habitat features, dispersing overland, foraging or taking shelter in underground burrows (i.e., aestivating). Upland areas are less likely to have CRLFs when compared to the seeps, drainages and ponds on the site. CRLF could occupy small mammal burrows along the 50-ft trail corridor alignment as summer refuges or aestivation habitat, particularly those in proximity to the ponds, seeps or other drainages, since those would likely retain more soil moisture.

No impacts to CRLF will occur from designating and recording the trail corridors and staging areas. However, future development of the trails could result in direct impacts to CRLF from trail and staging area construction as well as from changes to the access road, and would result in impacts to CRLF habitat. Trail construction activities could result in injury or mortality to CRLF if frogs are present within the trail construction and staging areas. This would most likely occur during wet times of the year when overland movements are more common, or in areas located in close proximity to ponds, the central creek, or seeps or other drainages, but could occur at any time. Construction could also result in injury or mortality to CRLF that seek refuge in construction materials or equipment left overnight. Indirect impacts to CRLF habitat could occur from accidental spills during fueling of construction equipment occurring in proximity to aquatic habitat.

Measures for avoiding or minimizing these construction-related impacts are included below in Mitigation Measure BIO-5. With implementation of the measures, construction would not have a substantial adverse impact on CRLF.

Future development of the trails would avoid direct impacts to breeding habitat for CRLF, because the trail corridors, within which the future trail will be constructed, would avoid the central creek and ponds located on site, with the exception of the potential new upper creek crossing (which could be a bridge structure or rocked low-water crossing) and possible improvements to the existing creek crossing (access bridge). The exact nature and extent of work at these locations are not known at this time; however, the work areas for these features would be minor and would not result

in a substantial loss of breeding habitat. Recommendations to avoid and minimize impacts to CRLF breeding habitat are included below.

Trail construction may result in removal of summer aestivation habitat, at locations where the trail corridor crosses small drainages or seeps. These armored crossings may be rocked to prevent muddy trail conditions. This could result in minor permanent losses of aestivation habitat, (approximately 0.02 acre), but such losses would be very small in relation to the overall trail footprint and amount of seep and drainage habitat on the property, and would not significantly reduce the amount of summer habitat.

Permanent impacts to upland dispersal, foraging, or aestivation habitat would include the loss of the narrow trail footprint (approximately 0.6 acre) and staging/parking areas (1.5 acres). This habitat type is present throughout the majority of the project property, and the small loss from these areas would not substantially impair the ability of frogs to disperse, forage or aestivate on the property.

Impacts to CRLF could result from operation of the trail. These may include injury or mortality to CRLF or disturbance of breeding habitat if trail users leave the trail alignment to explore nearby aquatic features or attempt to catch frogs or tadpoles. These could also include increased predation if trash left behind by trail users attracts additional CRLF predators to the site.

Injury or mortality to CRLF could result from trail maintenance activities if heavy equipment, mowers or vehicles are used in vegetation/trail maintenance.

Indirect impacts to downslope aquatic habitat could result from erosion during and following trail construction, and over the long term if the trail is not properly maintained. However, appropriate trail design techniques, as included in the project description (such as appropriate trail gradient, cross slopes, and installation of foot bridges or rocked crossings, drainage lenses, and rolling grade breaks), will minimize long-term erosion from the trails.

While designation of the trail corridors and staging areas would not result in any impact to CRLF, measures for avoiding or minimizing potential impacts associated with future development, use, and maintenance of the trails and staging areas are included below in Mitigation Measure BIO-5. District shall ensure that the operating entity implements Mitigation Measure BIO-5. With implementation of the measures, the construction and operation of the future trail and staging areas would not have a substantial adverse impact on CRLF.

Mitigation Measure BIO-5

- 1. To the extent feasible, route the future trail alignment within the 50-ft corridor away from ponds, the central creek (except at designated crossings), and the seep adjacent to the water trough on the access to the Estero. To the extent feasible, route the future trail alignment away from seeps and drainages to minimize disturbance of CRLF. If this is not feasible, these features should be demarcated as a sensitive habitat area**

or fenced with wildlife friendly fencing to prevent trail users from approaching or disturbing CRLF in these habitats.

2. Design the creek crossings to the extent feasible to avoid work in the wetted portion of the channel.
3. Where crossings of seeps cannot be avoided, use small footbridges as opposed to rocked crossings to the extent feasible, particularly where there are areas of standing water.
4. For construction activities within 200 feet of ponds, creeks, seeps, and drainages on the property, install wildlife exclusion fencing to minimize the likelihood of frogs entering the work area. The exclusion fence shall be a minimum of 42 inches tall and buried at least 6 inches or otherwise adequately secured to prevent frogs from crawling under the fence. Locations of exclusion fencing shall be determined by a qualified biologist and shown on the project plans.
5. A qualified biologist (USFWS-approved) shall survey the construction area within 48 hours prior to the onset of activities. If any life stage of CRLF is found and these individuals are likely to be killed or injured by work activities, the biologist shall move them from the site before work activities begin. If CRLF are found, the qualified biologist shall contact USFWS and move the CRLF to a safe location outside the work area that will remain undisturbed throughout project construction. Individual CRLF shall be relocated to habitat appropriate to their life stage and monitored by the biologist until it is determined they are not imperiled by predators or other dangers.
6. The qualified biologist shall be present at the construction site until the initial habitat disturbance has been completed. After this time, the operating entity shall designate an individual to monitor on-site compliance with all conditions related to CRLF. This person shall receive the worker awareness training included in Number 8 below. The on-site monitor and qualified biologist shall have the authority to stop work that may result in impacts to CRLF. If CRLF are found during construction, all work shall halt within 50 feet of the CRLF, until the CRLF is relocated by the qualified-biologist. If work is halted, USFWS shall be notified within 24 hours. Only a USFWS-approved biologist shall participate in the capture or handling of CRLF.
7. A worker environmental awareness program shall be conducted by a qualified biologist to provide construction personnel with information on their responsibilities with regard to CRLF. At a minimum, the training shall describe the species and its habitat and life cycle, the importance of the species and its habitat, measures that are being implemented to conserve the species, actions to take in the event CRLF are observed in the work area, and consequences for non-compliance.

- 8. Construction-related holes, capable of entrapping wildlife, shall be covered at the end of each work day in a manner that prevents entrapment. Prior to commencing work activities each day, all trenches shall be thoroughly inspected for animals.**
- 9. All construction pipes, culverts or other similar structures stored overnight at the site shall either be securely capped prior to storage or thoroughly inspected by the qualified biologist or on-site monitor before it is moved, capped or buried.**
- 10. Any debris or equipment left overnight shall be checked daily prior to its use in order to avoid injury or mortality to CRLF.**
- 11. During construction, all trash that may attract predators shall be properly contained, removed from the work site, and disposed of regularly. Following construction, all trash and construction debris shall be removed from work areas.**
- 12. All refueling, maintenance and staging of equipment and vehicles shall not occur within the Forever Wild or Natural Areas, and shall be at least 60 feet from the riparian habitat or wetlands and not in a location from which a spill would drain directly toward aquatic habitat. The monitor shall ensure contamination of habitat does not occur during such operations. Prior to the onset of work, the operating entity shall ensure that a plan is in place for prompt and effective response to any accidental spills. All workers shall be informed of the importance of preventing spills and of the appropriate measures to take should a spill occur.**
- 13. Erosion control and other water quality Best Management Practices (BMPs) shall be implemented to avoid sedimentation and disturbance into downstream and adjacent aquatic habitats. Tightly woven fiber matting or similar material shall be used for erosion control to ensure CRLF do not get trapped. Plastic monofilament netting, photodegradable products, or similar material shall not be used at the site because animals may become entangled or entrapped in it.**
- 14. The number of construction access routes, size of construction staging areas, and the total area of activity shall be limited to the minimum necessary to achieve the project goal. Routes and boundaries shall be clearly demarcated.**
- 15. Provide a worker environmental awareness program for staff performing routine and ongoing trail maintenance activities at the property.**
- 16. Hand labor shall be used to control exotic and unwanted vegetation. The use of chemical agents and mechanical equipment within the stream channel shall be avoided.**

- 18. Information on CRLF should be included in interpretive signage for the project, including the importance of aquatic habitat, upland habitat, and the importance of removing trash and staying on marked trails.**
- 19. To the extent USFWS determines mitigation is required, compensate for permanent loss of summer aestivation and upland habitat through on-site enhancement (with cooperation of the property owner) or off-site purchase of mitigation credits. Examples of on-site enhancement could include enhancement of Pond 3 to provide CRLF breeding habitat, or restoration or enhancement of native grasslands and removal of invasive plant species, or control of aquatic predators. A compensatory mitigation plan should be developed through coordination with USFWS.**

Western Pond Turtle

Western pond turtles are a California Species of Special Concern and generally live in ponds, lakes, slow moving streams, or permanent pools alongside streams with abundant vegetation for cover. Pond turtles require basking sites such as partially submerged logs, rocks, floating vegetation, or open mud banks. They build nests in sandy banks on slow moving streams, or away from streams, in friable soil with relatively high humidity, and may be located a considerable distance (400 m or more) from aquatic habitat, but most are closer if nesting substrate and exposures are suitable. Most nesting areas are characterized by sparse vegetation, and slope aspect is generally south or west-facing. Egg laying occurs from March to August depending on local conditions. Western pond turtle can also use uplands for refugia and overwintering, digging in friable loam soils and leaf-duff to hide. Duration of use of upland habitat and distance traveled is variable, and may depend on local habitat conditions.

County biologists observed western pond turtle on the project site on April 15, 2014, at the mouth of the central creek near the confluence with the Estero Americano. The banks of the central unnamed creek is likely to provide suitable breeding habitat. Adjacent uplands provide suitable refugia and nesting habitat. Other pond features near the trail alignment could also be used by western pond turtle.

No impacts to western pond turtle will occur from designating and recording the trail corridors and staging areas. However, future development of the proposed trail could result in both direct impacts to western pond turtle from trail construction and operation, and impacts to western pond turtle habitat.

Trail construction activities could result in injury or mortality to western pond turtle if turtles are present within the trail construction and staging areas. Turtle eggs, hatchlings in the nest, or adult turtles concealed in refugia could be harmed by construction activities because they may not be easily seen. Portions of the trail corridor in closest proximity to aquatic habitat would be most likely to be used for nesting or refugia, but turtles can move a significant distance, so turtles could be present along most of the trail corridor alignment. Recommendations for avoiding impacts to turtles during construction are included below. With implementation of the

measures, the construction would not have a substantial adverse impact on western pond turtle.

Future development of the trails would avoid direct impacts to aquatic habitat for western pond turtle because the trails would avoid the central creek and ponds on site, with the exception of the potential new upper crossing (which could be a bridge structure or rocked low-water crossing) and possible improvements to the existing crossing. The nature and extent of work at these locations are not known at this time; however, the work areas for these features would be minor and would not result in a substantial loss of aquatic habitat.

Permanent impacts to upland nesting, refugia or dispersal habitat would include the loss of the narrow trail footprint and permanent parking areas (approximately 2.1 acres). This habitat type is present throughout the majority of the project property, and the small loss from these areas would not substantially impair the ability of western pond turtle to nest, use upland refugia, or disperse on the property.

While designation of the trail corridors and staging areas would not result in any impact to western pond turtle, measures for avoiding or minimizing potential impacts associated with future development, use, and maintenance of the trails and staging areas are included below in mitigation measure, BIO-6. District shall ensure that the operating entity implements Mitigation Measure BIO-6. Implementation of these measures will ensure that any impacts to western pond turtles from construction, use, and maintenance of future trails and staging areas would be less than significant.

Mitigation Measure BIO-6

- 1. Within two days prior to the commencement of construction activities, a qualified biologist shall survey the work area for western pond turtle adults, juveniles, and nests. If no western pond turtles or nests are observed in the work area, construction activities may proceed. If western pond turtle nests are found, a buffer area of 50 feet shall be established around the nesting site until the turtles are no longer occupying the nest. These buffers shall be indicated by temporary fencing. If western pond turtle adults or subadults are found either during the surveys or thereafter, the turtle(s) must be allowed to move out of the project area on their own, or a CDFW-approved biologist shall move the turtle(s) to the nearest suitable habitat at least 300 feet outside the work area. A qualified biologist shall be on call and capable of responding to the work site to determine the presence of western pond turtle and relocate turtles as needed. The operator shall designate a person to monitor on-site compliance with all mitigation measures. The biologist shall ensure that the monitor receives proper training. The on-site monitor shall check daily for animals under any equipment as well as in the construction area prior to the start of construction activities each day.**
- 2. A worker environmental awareness program shall be conducted by a qualified biologist to provide construction personnel with information on their responsibilities with regard to the western pond turtle. At a**

minimum, the training shall describe the species and their habitats, the importance of the species and its habitat, measures that are being implemented to conserve the species, and actions to take in the event turtles are observed in the work area.

- 3. Erosion control and other water quality Best Management Practices (BMPs) shall be implemented to avoid sedimentation and disturbance into downstream and adjacent aquatic habitats**
- 4. Information on western pond turtle shall be included in interpretive signage for the project, including the importance of aquatic habitat, upland habitat for nesting, and the importance of removing trash.**

Special Status Fishes

Tidewater Goby

The tidewater goby inhabits brackish waters of coastal lagoons, estuaries and marshes and is federally listed as Endangered. The species is typically found in waters less than 3.3 feet deep with salinities of less than 12 parts per thousand, though it has been documented in salinities to 42 parts per thousand. Typical habitat is characterized by brackish, shallow lagoons and lower stream reaches where the water is fairly still but not stagnant. Tidewater gobies generally select habitat within the fresh-saltwater interface. Physical habitat factors can fluctuate daily and by season. Tidewater gobies feed mainly on small aquatic crustaceans and insect larvae plucked from the bottom, sifted from sediment by mouth, or captured in mid-water. Marsh vegetation provides cover for growth and refuge from scouring winter flows.

The Estero Americano is designated critical habitat for the tidewater goby. The U.S. Fish and Wildlife Service considers the Estero to be occupied habitat, and tidewater gobies were collected there in October of 1999. Bimonthly fish sampling conducted in the Estero Americano in 1988 and 1989 found only a few individuals of tidewater goby. Biologists conducting the study thought the low number of gobies was likely attributable to high salinity concentrations in the upper Estero Americano, along with impacts to tidal wetland habitat from livestock use. During summer months, when the sandbar forms across the Estero mouth at the Pacific Ocean and inflow from freshwater streams is low, salinity levels in the upper estuary are often hypersaline.

Longfin smelt

Longfin smelt is State listed as Threatened and is an anadromous fish species that lives in open ocean, bays, estuaries, and rivers. It typically inhabits open channels and bays. Most have a two-year life cycle, spawning in low salinity or freshwater reaches of coastal rivers and streams, primarily from January – March. Spawning occurs over sandy, gravel or rocky substrates or aquatic plants. Most longfin smelt die after spawning and larvae typically rear downstream in brackish water. Longfin smelt are mostly found in water cooler than 22 degrees C and are usually found mid-water or near the bottom, but move up and down in the water column following their prey (zooplankton) at night.

Eight longfin smelt were caught in otter trawl sampling conducted in the Estero in 1988-1999, in the lower part of the estuary downstream from the project site. It is possible that longfin smelt could be present in the open water of the Estero in the vicinity of the project property, though the area along the project site would not provide spawning habitat.

Steelhead

Steelhead are anadromous rainbow trout that are federally listed as Threatened within the Estero Americano and its tributary, Ebabias Creek, which are also designated as Critical Habitat for the species. However, according to the Gold Ridge Resource Conservation District's Estero Watershed Management Plan, past agricultural land uses have eliminated steelhead spawning habitat within the Estero. "Due to conditions in the estuary and its tributaries such as declines in year-round freshwater flow, siltation of former spawning areas, denuded stream corridors, fish passage barriers, and poor water quality, the system does not currently provide suitable habitat for salmonids." Thus the project site does not provide suitable spawning habitat for steelhead or other salmonids. Though the watershed is not thought to currently support a population of steelhead, potential negative effects to designated critical habitat are addressed below. The Estero Americano along the project property may be used by the adult form of steelhead for feeding, but the designation of trails and staging areas as well as the future development and use of the future trail system would have no impact on this life-stage.

The access to the Estero for small non-motorized boats would likely increase portage across areas subject to daily tidal inundations in the winter months when the sandbar at the mouth of the Estero is open. This would not impact special status fish species habitat because this area is not breeding habitat for longfin smelt, steelhead, and tidewater goby breeding burrows would not be present since the area is exposed during low tide.

Designation of the trail corridors and staging areas would not result in any direct impact to special status fish species. Measures for avoiding or minimizing potential impacts associated with future development, use, and maintenance of the trails and staging areas are included below. District shall ensure that the operating entity implements Mitigation Measure BIO-7. Implementation of these measures would ensure that indirect impacts from sediment affecting special status fish species and their designated critical habitat will be less than significant.

Mitigation Measure BIO-7

- 1. The Operating Entity shall prepare a sediment control plan as part of the Storm Water Pollution Prevention Plan (SWPPP) for implementation by the Contractor. The focus shall be to prevent sediment from entering surface drainages within the project area. The sediment control plan shall include temporary, construction-related sediment control that may include, but not be limited to, silt fencing, sediment traps, fiber rolls, and/or barriers. The source of each specific sediment control measure proposed by the contractor must be documented in the sediment control plan.**

2. **Temporary disturbance areas shall be restored with plants native to the site.**
3. **The Operating Entity shall inspect the trail regularly and following large storm events to identify areas of erosion and make necessary repairs.**

Special Status Invertebrates

Myrtle's Silverspot Butterfly

Myrtle's silverspot butterfly is federally listed as Endangered. It is a medium sized (2.2-inch wingspan) butterfly of the brush foot family. Myrtle's silverspot butterflies lay eggs on the dried leaves and stems of western dog violet, the larval host plant. After hatching, the caterpillars spin a silk pad in foliage or leaf litter where they pass the winter. In spring, the caterpillars immediately seek out the host plant. After 7-10 weeks, the caterpillars form pupa from leaf debris and silk. Adults emerge in about 2 weeks, and can live for about 5 weeks. Adults are in flight from about late June to early September. Adults feed on nectar from flowers including but not limited to gumplant, yellow sand verbena, mints, bull thistle, and seaside daisy.

The CNDDDB includes numerous occurrences within 5 miles of the property; the closest is approximately one mile south of the site, a population which was last surveyed in 2003. Other known populations in the vicinity include a population north of the Estero de San Antonio and populations at Point Reyes National Seashore. While Myrtle's silverspot butterfly have not been observed on site during the site surveys, a small patch (with approximately 150 individual flowers) of western dog violet was found during an April survey in the grassland habitat (see Figure 2). No other occurrences of western dog violet were found on-site. The property contains several plant species that are known nectar sources for Myrtle's silverspot butterfly, including several composites, and species within the mint family among others.

Based on presence of the larval host plant, adult nectar sources, and extant populations in the project vicinity, it is possible that Myrtle's silverspot butterfly may be present and could reproduce on the property. While that is the case, since the distribution and abundance of the host plant appears to be extremely limited on-site, it is expected that if Myrtle's silverspot butterfly is present, its distribution and abundance would be very limited as well.

While designation of the trail corridors and staging areas will not impact this species, future construction of the trails could result in the destruction of larval host plants or the removal of nectar sources of Myrtle's silverspot butterfly. If this species is reproducing on site, destruction of the larval host plant could result in the direct take of eggs, larvae, or pupa. Because this butterfly species could be present on or around host plants in various life stages throughout the year, avoidance of take through the use of seasonal construction constraints is infeasible.

The loss of nectar plants due to the construction of the trail would not be a substantial adverse impact because of the large areas of similar grassland species available on the project site and adjacent properties.

In its 5-year status review for Myrtle's silverspot butterfly, USFWS describes inadvertent trampling by recreationalists as a threat to the larval life stage, though it considers this impact to be small when compared to the intensity and duration of trampling by cattle in pastures that support the host plant. The 5-year review also states that illegal collection of adults is considered a present-day threat. If occupied host plants were present in close proximity to the future trail, and trail users went off trail, trampling of the host plant could occur. Also, If butterflies are present at the site, the future trail could increase access for illegal collectors.

While designation of the trail corridors and staging areas would not result in any impact to Myrtle's silverspot butterfly, measures for avoiding or minimizing potential impacts associated with future development, use, and maintenance of the trails are included below. District shall ensure that the operating entity implements Mitigation Measure BIO-8. Implementation of these measures would ensure that impacts to Myrtle's silverspot butterfly would be less than significant.

Mitigation Measure BIO-8

- 1. Within the designated trail corridors and staging areas, route the future trail alignment to avoid the occurrences of the host plant, Western dog violet, to the furthest feasible distance possible.**
 - a. Because plant populations and locations may shift in location and size from year to year, a qualified botanist shall conduct additional targeted surveys for Western dog violet to identify any locations within the trail corridor.**
 - b. Once the specific trail alignment has been selected, a qualified botanist shall conduct targeted surveys for Western dog violet in the blooming period immediately preceding trail construction.**
 - c. The botanist shall flag and map all locations of Western dog violet, and the trail shall be re-routed to avoid the plant with a buffer of 25 feet. If a 25-foot buffer is not feasible due to the limited width of the trail corridor or other reasons, the host plant shall be demarcated or fenced as a sensitive habitat area to prevent trail users from approaching the plants.**
 - d. If any occurrences are found within 25 feet of proposed construction activities or staging areas, these occurrences shall be protected with temporary fencing to prevent inadvertent trampling during construction. A worker environmental awareness program shall be conducted by a qualified biologist to provide construction personnel with information on their responsibilities with regard to Myrtle's silverspot butterfly. At a minimum, the training shall describe the species and its habitat and life cycle, the importance of the species and its habitat and host plant, measures that are being implemented to conserve the species, actions to take in the event it is observed in the work area, and consequences for non-compliance.**

- 2. Include information about Myrtle's silverspot butterfly habitat, life cycle, and protection measures in interpretive signage for the project, including the importance of not trampling or picking the host plant.**

Monarch Butterfly

While monarchs have no formal status, winter roost sites are considered sensitive by the California Department of Fish and Wildlife. Monarchs migrate in the fall from northern breeding grounds to temperate wintering grounds along the coast, from northern Mendocino County to Baja California, Mexico. Winter roosts are typically located in wind-protected tree groves (eucalyptus, Monterey pine, and cypress). Monarchs arrive on the coast in early October and depart in March to migrate north to breeding grounds.

Local occurrences include wintering sites approximately 5 miles to the west around Bodega Bay and 5 miles to the south near Dillon Beach. The project site is not a known wintering site for monarchs. Eucalyptus or pine on the property may provide potential wintering habitat, particularly the more dense eucalyptus groves about 200 feet from the Western trail corridor and in the central creek. Site surveys occurred outside of the fall and winter roosting season, therefore, use of the site for wintering is unknown.

Even if these sites are being used by wintering monarchs, however, the trail corridors and staging areas avoid the eucalyptus groves on the site, and construction of the future trails and staging areas would not involve removal of mature trees. Therefore impacts to this species from the proposed project would be insignificant.

San Francisco Forktail Damselfly

The San Francisco forktail damselfly has no formal status and is endemic to a small range in the greater San Francisco Bay area. It occupies small, mostly open seeps, ponds, and canals with floating vegetation. These damselflies lay their eggs in aquatic plants, and larvae cling to submerged plants. Adults forage among herbs and shrubs. The species appears somewhat adaptable, but prefers sluggish shallow water without many fish. Larvae overwinter, and the adult flight period is March to November.

The CNDDDB includes two occurrences of San Francisco forktail damselfly within 5 miles of the project site, near Dillon Beach. The species was also observed in 2003 at the nearby Estero Americano Preserve. Ponds or seeps on the project property could provide habitat for this species. Sluggish pools in the central creek could provide habitat; however, the abundance of fish such as mosquitofish may limit suitability of the habitat. Mosquitofish have been implicated in the decline of native damselflies.

The trail corridors and staging areas avoid ponds on site, and impacts to the central creek from future trail development are limited to possible improvements to the existing crossing and installation of a new upstream crossing. These impacts would be small and localized. Crossings at seasonal drainage of trails could impact potential damselfly habitat if placed in standing pools in seeps or drainages. While the total number of crossings needed remain unknown, not more than twelve new crossings are expected, and thus would not constitute a substantial reduction in habitat for this

species if they are present (please see Figure 2 for the general locations of the additional crossings). Therefore impacts to this species from the proposed project would be less than significant.

<p>b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?</p>	<p>Potentially Significant Impact</p> <p>-----</p>	<p>Less than Significant with Mitigation Incorporation</p> <p style="font-size: 2em;">X</p> <p>-----</p>	<p>Less than Significant Impact</p> <p>-----</p>	<p>No impact</p> <p>-----</p>
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The project area is located adjacent to the Estero Americano, which is part of the Gulf of the Farallones National Marine Sanctuary and according to NOAA, is one of the most important biological areas on the entire Northern California Coast. The Estero Americano is a key coastal area and contains a variety of diverse plant communities including: coastal prairie, perennial grasslands, northern coastal scrub, freshwater seep, and coastal brackish marsh.

The project property consists of rolling, predominantly south-sloping, hills and open pasture, and extends to the Estero Americano. The project property has historically been and is currently used for livestock grazing. Most of the riparian plant community that exists onsite occurs within a centrally located unnamed creek that runs generally from north to south through the middle of the property, and another creek follows the eastern boundary of the property. Other small drainages drain the west and northwest portions of the property but generally lack complex riparian habitat. The elevation ranges from 390 feet at the hilltop on the western half of the project property to sea-level at the Estero.

The dominant plant community on-site is annual grasslands making up the majority of the East Trail and West Trail corridors and staging areas. Human-mediated disturbances such as grazing have allowed non-native grassland to establish in areas that likely were coastal prairie and scrub, or other native vegetation. Due to past uses on-site, non-native plant species are common and dominate much of the grasslands on-site. The East Trail corridor, which includes access to the Estero, is generally open with very few shrub species. The West Trail corridor is also predominantly open, though the north facing slope nearest to Highway 1 has more shrubs, including common gorse, sweet-briar rose, and coyote bush, as well as a few trees (the latter outside existing outside of the trail corridors). Within the grassland habitat, there are numerous areas of seeping groundwater and areas of wet meadow vegetation. There are also intermittent drainages along the slopes draining to the central unnamed creek.

The Coastal Act specifically calls for protection of environmentally sensitive habitat areas (ESHAs), which it defines as: “Any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments”.

General habitat types/features present on the property include rolling to steeply sloped

hillsides vegetated by annual grassland, rocky outcrops, upland seeps, a few developed springs and ponds, Estero marshland, an unnamed perennial creek running north-south through the approximate center of the property, and several smaller drainages that support riparian vegetation.

The natural communities that would be considered as ESHAs that occur within the project property include, riparian scrub, freshwater seep, and federal-designated Critical Habitat for steelhead and freshwater and brackish marsh habitat. Of these, some freshwater seeps and seasonal wetlands are the only applicable sensitive natural communities within the trail corridors and staging areas with the potential to be impacted by future development of the trails, access roads and staging areas.

While designation of the trail corridors and staging areas would not result in any impact to any riparian habitat or wetlands, potential impacts to these wetlands from the future development of the trails and staging areas are assessed and mitigated in Section 4C below. District shall ensure that the operating entity implements Mitigation Measure BIO-9.

c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No impact
	-----	X	-----	-----

Potential for Wetlands and Other Waters to Occur Within the Trail Corridors and Staging Areas

Regulatory Framework

The Army Corps Of Engineers (ACOE) regulates “Waters of the United States”, including adjacent wetlands, under Section 404 of the federal Clean Water Act. Waters of the United States include navigable waters, interstate waters, territorial seas and other waters that may be used in interstate or foreign commerce. Potential wetland areas are identified by the presence of (1) hydrophytic vegetation, (2) hydric soils, and (3) wetland hydrology. All three parameters must be present, under normal circumstances, for an area to be designated as a jurisdictional wetland under the Clean Water Act. Areas that are inundated for sufficient duration and depth to exclude growth of hydrophytic vegetation are subject to Section 404 jurisdiction as “other waters” and are often characterized by an ordinary high water mark (OHWM). The discharge of dredged or fill material into a Waters of the U.S. (including wetlands) generally requires a permit from the ACOE under Section 404 of the Clean Water Act.

“Waters of the State” are regulated by the Regional Water Quality Control Board (RWQCB) under Section 401 of the federal Clean Water Act and the state Porter-Cologne Water Quality Control Act. Waters of the State are defined by the Porter-Cologne Act as any surface water or groundwater, including saline waters, within the

boundaries of the State. RWQCB jurisdiction includes “isolated” wetlands and waters that may not be regulated by the ACOE under Section 404 (such as roadside ditches). Section 401 of the Clean Water Act specifies that any activity subject to a permit issued by a federal agency must also obtain State Water Quality Certification (401 Certification) that the proposed activity will comply with state water quality standards. If a proposed project does not require a federal permit, but does involve dredge or fill activities that may result in a discharge to Waters of the State, the RWQCB has the option to regulate the dredge and fill activities under its state authority through its Waste Discharge Requirements (WDR) program.

The Sonoma County Local Coastal Plan defines wetlands as: “Areas where the water table is at, near, or above the land surface long enough to bring about the formation of hydric soils or to support the growth of plants which normally are found to grow in water or wet ground. Wetlands are here defined to include marshes, ponds, seeps, and reservoirs.”

The California Coastal Commission (CCC) Administrative Regulations [Section 13577 (b)] provide a more explicit definition: “Wetlands are lands where the water table is at, near, or above the land surface long enough to promote the formation of hydric soils or to support the growth of hydrophytes, and shall also include those types of wetlands where vegetation is lacking and soil is poorly developed or absent as a result of frequent or drastic fluctuations of surface water levels, wave action, water flow, turbidity or high concentrations of salt or other substance in the substrate. Such wetlands can be recognized by the presence of surface water or saturated substrate at some time during each year and their location within, or adjacent to, vegetated wetlands or deepwater habitats.” Therefore, in effect, the CCC requires the observation of only one diagnostic feature of a wetland - wetland hydrology, dominance of wetland vegetation (hydrophytes), or presence of hydric soils - as a basis for asserting jurisdiction under the Coastal Act.

The CCC has a “no net loss” policy for wetlands. However, wetland impacts can be approved (after all feasible avoidance, minimization, and mitigation measures are implemented) when associated with an improvement to public access under California Coastal Act Section 30001.5: “The legislature further finds and declares that the basic goals of the state for the coastal zone are to: . . . (c) Maximize public access to and along the coast and maximize public recreational opportunities in the coastal zone consistent with sound resources conservation principles and constitutionally protected rights of private property owners.” The proposed Estero Trail would meet the CCC basic goal of maximizing public access to coastal areas.

Potentially Jurisdictional Wetlands Observed Within the Easement Area

Seasonal wet meadows and upland seeps are present within both the West Trail and East Trail corridors and staging areas. Many such features were observed in the Western Hill, Eastern Hills, and Flat Lands survey areas, and at least some of these cannot be avoided and will have to be traversed by the future trail alignment.

Designation and recordation of trail corridors and staging areas will not result in any impact to wetlands or other waters; however, future development of the trails and staging areas could result in an impact. Prior to determining the final alignment of the future trail, formal wetland delineation, using both the ACOE three-parameter

procedure and the CCC 1-parameter procedure, will need to be conducted within the proposed alignment to determine the full extent of existing wetlands under both jurisdictions. Consistent with industry standards, a delineation of the entire property is not recommended to serve as a “constraints map” because wetlands have already been determined to be present in areas that cannot be avoided by trail siting (i.e., a wetland flowing downslope must be crossed eventually by a perpendicular trail). Mapping the entire site would provide little data to aid in locating the final trail alignment and thus does not warrant the effort.

It is possible that a large percentage of the grassland habitat within the trail corridors will meet the CCC’s 1-parameter wetland definition, due to the presence of Facultative grasses and herbs throughout most of the grassland, such as little quaking grass, six-week fescue, velvet grass, Kentucky bluegrass, shining peppergrass, birdsfoot trefoil, black medic, yellow glandweed, narrow leaved plantain, curly dock and fiddle dock. A site visit with CCC staff may be helpful to determine final jurisdictional boundaries of seasonal wetlands (upland seeps and wet meadows).

Potentially Jurisdictional Other Waters Observed Within the Easement Area

Two defined intermittent drainage channels are present within the Western Hill survey area (please see Figure 2). Currently, the trail corridors cross these drainage channels, and future development of the trails could involve construction of crossings, which could potentially be considered fill in a jurisdictional area under both ACOE and CCC criteria. Locating the crossings towards the bottom of the slope where vegetation is sparse would limit impacts to riparian/hydrophytic vegetation.

In addition, the central creek channel/riparian corridor has one existing bridge that may need to be improved for future trail use, and one newly proposed crossing to be constructed upstream (please see Figure 2 for general locations). Both of these actions would likely have some level of impact to jurisdictional areas. The exact location of the new crossing has not been determined. If feasible, a clear-span bridge would be a superior alternative to limit impacts to stream channel and riparian resources. Other than these crossings, the preliminary trail alignment would not impact the creek corridor.

While designation of the trail corridors and staging areas would not result in any impacts to wetlands or other waters, the following mitigation measure will ensure that any impacts to wetlands associated with future development, use, and maintenance of the trails and staging areas would be less than significant. District shall ensure that the operating entity implements Mitigation Measure BIO-9. Implementation of this measure would reduce any impacts to less than significant.

Mitigation Measure BIO-9

- 1. To avoid impacts to wetlands as much as feasible, and to provide data for required permit submissions, a formal wetland delineation, using both the ACOE 3-parameter procedure and the CCC 1-parameter procedure, shall be conducted within the proposed staging areas, access roads, and trail corridors to determine the full extent of existing wetland areas prior to construction plan development.**
- 2. Buffers shall be established between the trail alignment and adjacent**

wetlands to discourage off-trail exploration and to preserve existing hydrology sources. Consistent with Local Coastal Plan requirements, buffer width should be a minimum of 100 feet from the wetland edge. In some cases, such as when a species requires habitat adjacent to a wetland for part of its life or when nearby development poses increased hazards to a wetland or wetland species, larger buffer areas should be considered.

As mentioned previously, the Local Coastal Plan (LCP) requires (ESHAs), including rare plant communities, individual rare plants, wetlands, and stream channel/riparian areas, be protected from indirect impacts of adjacent development by non-developed buffer areas. The appropriate width of a buffer can vary, and is determined on a case-by-case basis; however, a minimum width of 100 feet is typically recommended. Some passive uses, such as trails, are allowed within buffer areas but larger-scale ground disturbance, such as the staging areas and access road extensions, should be located outside of protective buffers, if feasible. However, it appears that will not be possible in all cases, given the concentration of wet meadow/upland seep wetlands present in the Flat Lands survey area, where the access road and staging areas will be located. Where sufficient buffers are not feasible, the following mitigation measure shall be implemented to reduce impacts to wetlands and riparian habitat to less than significant.

Mitigation Measure BIO-10

Trail construction could result in a physical loss of some wetland habitat within the trail footprint. The Operating Entity shall comply with the terms and conditions of all applicable wetland permitting agencies including the Army Corps of Engineers, California Water Quality Control Board, and the California Coastal Commission. The appropriate mitigation replacement ratios vary depending on the amount, functions, and values of the habitat. Compensatory mitigation will be required for losses of wetlands at a minimum of 1:1 and up to a 5:1 replacement ratio.

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No impact
	-----	-----	----- X -----	-----

Wetland vegetation present along the riparian area of the central creek and associated wetland scrub vegetation have a high potential to support nesting migratory birds. Measures have been incorporated into this project to avoid the take of migratory birds and their nests that could result from future construction, use, and maintenance of the trails; accordingly no significant impact to migratory birds is anticipated (please see Mitigation Measure BIO-4 for details).

Future development of the trails and staging areas would not interfere substantially with terrestrial wildlife movements, as it will consist of unpaved trails and staging areas and will not block movement through the site.

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No impact
	-----	-----	-----	----- X

As discussed in 4 (b), the project does not involve the removal of trees and would not otherwise conflict with local plans or policies protecting biological resources.

f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No impact
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Habitat conservation plans and natural community conservation plans are site-specific plans to address effects on sensitive species of plants and animals. The project site is not located in an area subject to a habitat conservation plan or natural community conservation plan.

5. CULTURAL RESOURCES

Would the project:

a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No impact
	-----	-----	-----	-----
				X

Tom Origer & Associates (2013) conducted a review of the property and no historic structures were identified on-site or in the immediate vicinity of the project.

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No impact
	-----	-----	-----	-----
		X		

The proposed project will be located in an area that has been disturbed by agricultural activities, including grazing and some grading for home sites and barns. Tom Origer & Associates (2013) conducted a record search at the Northwest Information Center (NWIC), Sonoma State University, to determine if there are known archaeological sites in the vicinity, and conducted an ethnographic and historical research for the project, and determined that there is a low likelihood of prehistoric archaeological resources being present at the site. Although the area is disturbed, there is a possibility that the future development of trails and staging areas could unearth archaeological materials during construction. The following mitigation measure will reduce this impact to less than significant.

Mitigation Measure Cult-1:

If archaeological or paleontological materials are discovered during project construction, construction will cease in the immediate vicinity of the find until a qualified archaeologist is consulted to determine the significance of the find, and has recommended appropriate measures to protect the resource. Further disturbance of the resource will not be allowed until those recommendations deemed appropriate have been implemented.

c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No impact
	-----	-----	-----	-----
		X		

Paleontological resources are generally found in rock bearing material. The proposed project will require minimal excavations in mostly disturbed areas, thus, the likelihood

of finding paleontological resources is remote. See discussion and Mitigation Measure Cult-1 under Section 5 (b).

d) Disturb any human remains, including those interred outside of formal cemeteries?	Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No impact
		X		
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No known burial sites occur on the project site. In the event that human remains are unearthed during future construction of the trails and staging areas, state law requires that the County Coroner be notified to investigate the nature and circumstances of the discovery. At the time of discovery, work in the immediate vicinity would cease until the Coroner permitted work to proceed. If the remains were determined to be prehistoric, the find would be treated as an archaeological site and the mitigation measure described in item 5(b) above would apply. Therefore, less than significant impacts to human remains are anticipated with implementation of the proposed project.

6. GEOLOGY AND SOILS

Would the project:

- a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?	Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No impact
	-----	-----	-----	-----
				X

The project site is not located in a fault rupture hazard zone identified by the Alquist-Priolo Earthquake Fault Zoning Act, Special Publication 42, Revised 1997, Fault-Rupture Hazards Zones in California, or located within any other area with substantial evidence of a known fault. Therefore, there will be no impact from the exposure of people or structures to adverse effects from a known fault-rupture hazard zone as a result of this project.

ii. Strong seismic ground shaking?	Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No impact
	-----	-----	-----	-----
				X

All of Sonoma County is subject to strong seismic ground shaking. However, the possible uses of the future trail system are low-intensity recreational uses that will not expose people or structures to substantial adverse risk from ground shaking.

iii. Seismic-related ground failure, including liquefaction?	Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No impact
	-----	-----	-----	-----
				X

The site is mapped as having a very low susceptibility to liquefaction (ABAG, 2013). As such, liquefaction and lateral spreading impacts would be less than significant.

iv. Landslides?

Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No impact
			X

The proposed project is the designation of trail corridors and staging areas. Future improvements would include development of staging areas, access road, and new pedestrian-only trails. Excavations for these improvements are expected to be minimal. Typical trail building and construction techniques, consistent with Regional Parks standards, would be sufficient to avoid or minimize exposure of people to potential substantial adverse effects, including the risk of loss, injury, or death involving landslides.

b) Result in substantial soil erosion or the loss of topsoil?

Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No impact
	X		

Designation of the trail corridors and staging areas would not result in any soil erosion or loss of topsoil. Future development of the trails, access road, and staging areas, however, will entail some grading. Stockpiles and other graded areas outside of the footprint of the existing hardscapes and rock-covered access road could represent a potential source of soil erosion if not properly protected following construction.

While the designation of the trail corridors and staging areas would have no impact, unregulated grading, as well as vegetation removal, during construction of future trails and staging areas has the potential to increase soil erosion from the site, which could adversely impact downstream water quality in the Estero.

The County grading ordinance and adopted BMPs require installation of adequate erosion prevention and sediment control BMPs. These ordinance requirements and adopted BMPs are specifically designed to maintain potential project water quality impacts at a less than significant level during and post construction.

There are numerous storm water BMPs that can be used to accomplish this goal. These include measures such as silt fencing, straw wattles, and construction entrances to control soil discharges. Storm water BMPs also include primary and secondary containment for petroleum products, paints, and other materials of concern. Although the precise type and size of the storm water BMPs will be determined when the trail plan is developed, all storm water facilities must be in accordance with the adopted Sonoma County Best Management Practice Guide. Compliance with the County grading ordinance and Best Management Practices Guide will ensure that soil erosion from development of the trail and staging areas will be less than significant.

c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No impact
	-----	-----	-----	----- X -----

See 6 (a)(i)-iv for a discussion.

d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No impact
	-----	-----	-----	----- X -----

The project would not create substantial risk to life or property from expansive soils.

e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No impact
	-----	-----	-----	----- X -----

The proposed project would be an unmanned facility with no water or sewage facilities.

7. GREENHOUSE GAS EMISSIONS

Would the project:

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No impact
	-----	-----	-----	-----
			X	

The project site is located in the Northern Sonoma County Air Pollution Control District. The NSCAPCD does not have adopted significance thresholds for greenhouse gas emissions (GHG). GHG is a global issue, therefore the District is using the Bay Area Air Quality Management District's (BAAQMD) significance threshold as an appropriate threshold for analyzing GHGs (BAAQMD, 2010). The BAAQMD threshold is defined in terms of carbon dioxide equivalent (CO₂e), a metric that accounts for the emissions from various greenhouse gases based on their global warming potential. If annual emissions of operational-related GHGs exceed the threshold of 1,100 metric tons/year, the proposed project would result in a cumulatively considerable contribution of GHG emissions and a cumulatively significant impact to global climate change.

The Initial Study uses the BAAQMD significance threshold, based on staff's independent conclusion that BAAQMD staff's analysis of this threshold is reasonable and supported by substantial evidence.

Construction is not subject to BAAQMD's thresholds of significance (BAAQMD Air Quality CEQA Thresholds of Significance - Table 2-1). Nevertheless, Best Management Practices (BMPs) are applied to projects during the construction phase to reduce GHG emissions. These construction phase BMPs include:

- A. Minimize idling times either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes
- B. Maintain and properly tune equipment in accordance with the manufacturer's specifications
- C. Recycle demolition materials to the extent feasible
- D. Use alternative fueled (e.g., biodiesel, electric) construction vehicles/equipment to the extent feasible.

According to the BAAQMD CEQA Guidelines (May 2011), the for land use development projects (including public land uses and related facilities) the threshold is annual emissions less than 1,100 metric tons per year (MT/yr) of CO₂e; or 4.6 MT CO₂e/SP/yr.

Based upon the estimates in the traffic study for the proposed project, the trail access, once open, would be expected to generate 74 weekday trips and about 134 weekend day trips at full build-out which based on an average 25 mile trip with a vehicle that

gets roughly 10 MPG conservatively translates to 221.98 metric tons per year. This is well below the 1,100 metric tons per year threshold level of use and therefore the impact is less than significant.

b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No impact
	-----	-----	-----	-----
			X	

On September 27, 2005, the Sonoma County Board of Supervisors established a Countywide greenhouse gas reduction target. The target is to reduce emissions 25 percent below 1990 levels by 2015, which exceeds the State target. The same goal has been adopted by all nine cities in Sonoma County. The County has not yet adopted a Greenhouse Gas Reduction Plan or Strategy that would apply to the project.

The proposed project would be considered to have a significant impact relative to GHG if it would conflict with the State goal of reducing GHG emissions in California to 1990 levels by 2020, as set forth by the California Global Warming Solutions Act of 2006. Designation of the trail corridors and staging areas involves no greenhouse gas emissions and would, therefore, have no impact on the statewide goal of reducing GHG emissions. Future development, use, and maintenance of pedestrian-only trails would generate only very low emissions, and thus would not conflict with the timeline mandated by the Act. See also discussion under section 7(a), above.

8. HAZARDS AND HAZARDOUS MATERIALS

Would the project:

a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No impact
	-----	-----	-----	-----
		X		

Designation of the trail corridors and associated staging areas would not involve the routine transportation, use or disposal of hazardous materials. However, construction and maintenance of the future trail and staging areas could involve occasional transport, use, or disposal of hazardous materials, including fuels and herbicides. Improper storage or handling of these materials could result in spills.

Designation of the trail corridors and staging areas would not involve the transport, use, or disposal of hazardous materials and, therefore, would result in no impacts. Potential impacts from possible spills can be reduced to a less-than-significant level by requiring standard approved construction methods for handling hazardous

materials. District shall ensure that the operating entity implements Mitigation Measure HAZ-1. Implementation of this measure would reduce potential impacts to less than significant levels.

Mitigation Measure HAZ-1:

- **The construction contract will require that any storage of flammable liquids or other hazardous materials be in compliance with the Sonoma County Fire Code and section 7-1.01G of the Caltrans Standard Specification (2006) (or the functional equivalent) for the protection of surface waters. In the event of a spill of hazardous materials the Contractor will immediately call the emergency number 9-1-1 to report the spill, and will take appropriate actions to contain the spill to prevent further migration of the hazardous materials to storm water drains or surface waters.**

b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No impact
	-----	X	-----	-----

See response to item 8 a) above.

c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No impact
	-----	-----	-----	X

There are no existing or proposed schools within 0.25 miles of the project site.

d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No impact
	-----	-----	-----	X

A search of the State Water Resources Control Board's GeoTracker and the California Department of Toxic Substances Control (DTSC)'s EnviroStor online databases was conducted to identify hazardous materials sites within 0.25 mile of the project site. GeoTracker includes the following types of environmental cases: leaking underground storage tank sites; land disposal sites; military sites; DTSC cleanup sites; other cleanup sites; permitted underground storage tank facilities; and permitted hazardous waste generators. Two leaky underground storage tanks are documented at two Valley Ford service stations. One site is under remediation and the other site has

been closed. Neither site poses a risk to soil or groundwater at the Project site. EnviroStor includes federal Superfund sites, state response sites, voluntary cleanup sites, school cleanup sites, corrective action sites, and tiered permit sites. The project site is not included on these lists of hazardous materials sites.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No impact
	-----	-----	-----	-----
				X

The project site is not located within an airport land use plan or within 2 miles of a public or public use airport.

f) For a project located within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No impact
	-----	-----	-----	-----
				X

There are no known private airstrips in the vicinity of the project site.

g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No impact
	-----	-----	-----	-----
				X

The project would not impair implementation of, or physically interfere with, any adopted emergency response plan or emergency evacuation plan.

h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No impact
	-----	-----	-----	-----
			X	

The project site is located in a moderate fire hazard severity zone (Sonoma County, 2014). The project does not include construction of buildings occupied by people, and use and maintenance of the future trail alignment would not substantially increase fire risks at the site. In addition there will be no smoking allowed, and no fire or barbeque pits.

9. HYDROLOGY AND WATER QUALITY

Would the project:

a) Violate any water quality standards or waste discharge requirements?	Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No impact
	-----	-----	-----	-----
				X

See discussion under Section 9 (c) and 9 (d) below.

b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No impact
	-----	-----	-----	-----
				X

The proposed project would not include the development of a new well or require potable water.

c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No impact
	-----	-----	-----	-----
			X	

The project would not alter the course of a stream or river or substantially alter the existing drainage pattern onsite. Designation of the trail corridors would not physically alter existing drainage patterns on the project site. Construction of the future trail and staging areas would include some grading, and small cuts and small fills. Construction plans must be designed in conformance with the County grading ordinance and adopted best management practices, requiring depiction and installation of adequate erosion prevention and sediment control facilities. Project inspections ensure that all work is constructed according to the approved plans. Best management practices are specifically designed to maintain potential project water quality impacts at a less than significant level during and post construction.

There are numerous storm water best management practices that can be utilized to accomplish this goal. These include measures such as silt fencing, straw wattles, and construction entrances to control soil discharges. Storm water best management practices also include primary and secondary containment for petroleum products, paints, lime and other materials of concern.

The location of the storm water best management practices are site specific and predicated by the development. Although the precise type and size of the storm water best management practices that will be used will be determined when a trail plan is developed, all storm water systems must be in accordance with the adopted Sonoma County Best Management Practice Guide. All stockpiling will be in compliance with the County's grading ordinance and impacts will be less than significant.

d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No impact
	-----	-----	-----	-----
			X	

The proposed project would not alter the course of a stream or river or substantially alter the existing drainage pattern onsite. In addition, it would not create any impervious surfaces, and therefore would not substantially increase the rate or amount of surface runoff.

e) Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?	Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No impact
	-----	-----	-----	-----
			X	

The proposed project would not create any impervious surfaces, and therefore would not substantially increase the rate or amount of surface runoff. Storm water drainage systems to control runoff are required by the County grading ordinance and may take many forms, such as site grading, swales, ditches, small or single run drain pipes, a piping system or network, or a combination of all these. Compliance with the County grading ordinance will ensure that runoff is controlled and does not exceed system capacity.

f) Otherwise substantially degrade water quality?	Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No impact
	-----	-----	X	-----

See discussions 6(b) above.

g) Place housing within a 100-year hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No impact
	-----	-----	-----	X

The project will not result in the construction of any housing.

h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No impact
	-----	-----	-----	X

The proposed project does not include the construction of new structures that would impede or redirect flood flows.

i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No impact
	-----	-----	-----	X

See items 9d and 9h above.

j) Inundation by seiche, tsunami, or mudflow?	Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No impact
	-----	-----	-----	X

Flooding can occur due to tsunamis, seiches, or mudflows. Tsunamis are waves caused by an underwater earthquake, landslide, or volcanic eruption. Since the project site is located mostly in far upstream within the Estero, impacts due to a tsunamis are very unlikely. A seiche is a rhythmic motion of water in a partially or completely landlocked waterbody caused by landslides, earthquake-induced ground accelerations, or ground offset. There are a few small ponds located near the

proposed trail alignment that could potentially experience seiche waves from a significant seismic event. However, none of these ponds are large enough to cause dangerous flooding. A mudflow or mudslide is the most rapid and fluid type of downhill mass wasting. The soils at the site are stable and the project would not expose people to mudflows.

10. LAND USE AND PLANNING

Would the project:

a) Physically divide an established community?	Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No impact
	-----	-----	-----	-----
				X

The project site is located in a rural area on a large parcel and would not divide an established community. Existing and proposed land uses are consistent with the Conservation Easement for the property.

b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No impact
	-----	-----	-----	-----
			X	

The proposed project was evaluated for consistency with Sonoma County General Plan and the Local Coastal Plan (Sonoma County, 2013a). The site is located within California Coastal Commission jurisdiction and is governed by the California Coastal Act and the California Coastal Plan.

The site is designated in the General Plan and zoning code for Land Extensive Agriculture. Portions of the site are within the Riparian Corridor (RC) and Scenic Resource (SR) combining districts. The minimum parcel size is 640 acres. Outdoor recreational uses are encouraged in the County General Plan Open Space and Resource Conservation Element.

GOAL ORSC-17: *Establish a countywide park and trail system that meets future recreational needs of the County's residents while protecting agricultural uses. The emphasis of the trail system should be near urban areas and on public land.*

Objective ORSC-17.1: *Provide for adequate parklands and trails primarily in locations that are convenient to urban areas to meet the outdoor*

recreation needs of the population, while not negatively impacting agricultural uses.

Policy OSRC-17d includes the Sonoma Coast Trail that would extend from Black Point southward to the Estero Americano and is consistent with California State Coastal Plan Policy 145 that calls for establishment of a coastal trail system statewide.

The conservation easement allows low-intensity outdoor recreational and environmental education purposes, such as hiking, nature study, and other uses similar in nature and intensity, which do not adversely impact the conservation values of the easement and are compatible with existing agricultural uses are allowed. The locations of the trail corridors and staging areas were developed after consultation with the landowners regarding their concerns about potential impacts to their agricultural operation.

c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No impact
	-----	-----	-----	-----
				X

The project does not conflict with any habitat conservation plans or natural community conservation plans adopted in Sonoma County.

11. MINERAL RESOURCES

Would the project:

a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No impact
	-----	-----	-----	-----
				X

The project site is not located within a known mineral resource deposit area (Sonoma County, 1994).

b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No impact
	-----	-----	-----	-----
				X

The project site is not a mineral resource recovery site (Sonoma County, 1994).

12. NOISE

Would the project result in:

a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No impact
			X	
	-----	-----	-----	-----

The proposed project is limited to designation of trail corridors and staging areas for future development of pedestrian-only trails with associated parking areas. No motorized uses are permitted by the trail easement, and future use of the trails would be limited to daytime hours. In addition, the nearest offsite receptors are about 1000 feet away. Accordingly, the project and future use of the trail would not generate significant noise and would not expose people to noise levels in excess of applicable standards in the Sonoma County General Plan.

b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No impact
				X
	-----	-----	-----	-----

Because the typical construction equipment used for the development and maintenance of trails and staging areas is generally small tractors, graders and hand tools, future construction and operation of the trails and staging areas will not generate any groundborne vibration or groundborne noise.

c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No impact
				X
	-----	-----	-----	-----

A described above in 12 (a), the future use of the trails and staging areas would not substantially increase noise levels.

d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No impact
		X		
	-----	-----	-----	-----

The proposed project is limited to designation of trail corridors and staging areas for future development of pedestrian-only trails and associated parking areas.

Construction of future trails and staging areas is anticipated to be completed in phases as funding is available. Construction activities, which may include clearing and grubbing, grading and compaction may generate temporary noise that will cease when construction is finished. Construction noise associated with the trails will occur intermittently along the 5-mile trail alignment. The nearest existing receptors are about 1000 feet away from the trail corridors and staging areas. Accordingly, construction noise is not anticipated to result in a substantial temporary or periodic increase in noise. The following mitigation measure will further ensure that any noise impact from construction activities is less than significant.

Mitigation Measure NOISE 1:

Construction activities for this project shall be restricted as follows:

- **Except for actions taken to prevent an emergency, or to deal with an existing emergency, all construction activities shall be restricted to the hours from 7:00 am to 7:00 pm on weekdays and 9:00 am to 7:00 pm on weekends.**

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No impact
	-----	-----	-----	----- X

The project site is not located within an airport land use plan or within 2 miles of a public or public use airport.

f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No impact
	-----	-----	-----	----- X

The project site is not located within the vicinity of a private airstrip.

13. POPULATION AND HOUSING

Would the project:

a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No impact
	-----	-----	-----	-----
				X

The project will have no direct or indirect effect on population.

b) Displace substantial numbers of existing housing necessitating the construction of replacement housing elsewhere?	Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No impact
	-----	-----	-----	-----
				X

No housing will be displaced by the project.

c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No impact
	-----	-----	-----	-----
				X

No people will be displaced by the project.

14. PUBLIC SERVICES

Would the project:

- | | Potentially Significant Impact | Less than Significant with Mitigation Incorporation | Less than Significant Impact | No impact |
|---|--------------------------------|---|------------------------------|-----------|
| a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services: | | | | |

- i. Fire protection?

X

The project designates trail corridors and staging areas for the eventual construction of trails and staging areas, leading to low intensity outdoor recreational use. The project does not include construction of buildings occupied by people. In addition, there will be no smoking allowed, and no fire or barbeque pits. Accordingly, the project and future uses would not result in an increased need for fire protection.

- ii. Police?

Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No impact

X

The Sonoma County Sheriff will continue to serve this area. There will be little or no increased need for police protection resulting from use of the proposed trails and staging areas.

- iii. Schools, parks, or other public facilities?

Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No impact

X

The project designates trail corridors and associated staging areas for the eventual construction of trails and staging areas, leading to low-intensity outdoor recreational use. Since there are no onsite employees or residential units proposed, the project would not result in residents or occupants that would require schools, parks, or other public facilities.

15. RECREATION

Would the project:

a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No impact
	-----	-----	-----	-----
				X

The proposed project is limited to the designation of trail corridors and staging areas for the eventual development of pedestrian-only trail. The trail system, once constructed, will provide new, low-intensity outdoor recreational opportunities and would have no effect on population growth or the distribution of the population, and is likely to have beneficial impacts by providing increased recreational opportunities and possibly reducing use and impacts of other parks.

b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No impact
	-----	-----	-----	-----
		X		

The proposed project is limited to the designation of trail corridors and staging areas for the eventual development of pedestrian-only trails. The trails, once constructed, will provide recreational and educational opportunities. Ultimately the site could offer hiking, nature study, bird watching, sightseeing, picnicking, outdoor education, docent-led tours, scientific research and observation, and limited seasonal access to the Estero Americano for recreational uses such as hiking, bird watching and non-motorized boat use.

Possible adverse physical impacts of the trail alignment and possible future uses are evaluated in this Initial Study. These impacts can be reduced to a less than significant level with implementation of mitigation measures identified throughout this document.

16. TRANSPORTATION / TRAFFIC

Would the project:

	Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No impact
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	-----	-----	-----	X -----

The proposed project is limited to designation of trail corridors and staging areas for the eventual development of pedestrian-only trails. The project does not include any improvements to State Highway 1 or existing vehicle turnouts along the State's right-of-way. The proposed project does not conflict with any applicable transportation/traffic plan, ordinance or policy.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No impact
b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	-----	-----	X -----	-----

The proposed project is limited to designation of trail corridors and staging areas for the eventual development of pedestrian-only trails, and would not result in a substantial increase in vehicle trips. Construction is anticipated to be completed in phases as funding is available. The additional vehicle trips required for project construction and delivery of materials would not substantially increase congestion or lower standards of service during the temporary construction period. Based upon the estimates in traffic study generated for the proposed project, the trail access, once open, would be expected to generate 13 weekday peak hours trips and about 25 Saturday midday peak hour trips. Therefore, the proposed project would not result in a substantial increase in traffic congestion.

c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No impact
	-----	-----	-----	-----
				X

The proposed project would not result in any change in air traffic patterns. No impact would occur.

d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No impact
	-----	-----	-----	-----
		X		

During future construction and routine maintenance of the trails, some large equipment may be trailered to the project site but will not create a hazard as these are compatible with the existing roadway system.

Based upon the analysis in the traffic study generated for the proposed project, the required minimum stopping sight distance access onto Highway 1 is 500-ft. While the sight distance to the south is adequate (550-ft) the view from the driveway to the north is obstructed by shrubbery and would be a substantial hazard if left unmaintained.

Mitigation Measure TRAFFIC-1:

- **Remove sufficient vegetation north of the driveway to provide sight distance of at least 500 feet. All necessary roadside vegetation removal shall be required prior to any construction at the site and shall be maintained on an annual basis.**
- **The Operating Entity shall provide advanced notice to area residents and emergency agencies when employing temporary traffic control measures for the movement of equipment and materials.**

e) Result in inadequate emergency access?	Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No impact
	-----	-----	-----	-----
				X

The access road on the property will be improved to County standards, which will provide adequate emergency access. The project would not close lanes on Highway 1 or otherwise result in inadequate access to emergency vehicles.

f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No impact
	-----	-----	-----	----- X -----

The project would not conflict with policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities. This area of Highway 1 is not designated as a bicycle route in the Sonoma County Bicycle and Pedestrian Plan (2010), there are no transit routes, and no designated pedestrian facilities that would be impacted by the project. The project would eventually lead to pedestrian-only trails in furtherance of public use and recreational goals and policies.

17. UTILITIES AND SERVICE SYSTEMS

Would the project:

a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No impact
	-----	-----	-----	-----
				X

The proposed project is limited to designation of trail corridors and staging areas for the eventual development of pedestrian-only trails. Only portable bathroom facilities will be provided. Therefore, no treatment of wastewater would be required, and no impacts resulting from exceeding wastewater treatment standards would occur.

b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No impact
	-----	-----	-----	-----
				X

The proposed project is limited to designation of trail corridors and staging areas for the eventual development of pedestrian-only trails. The future trail project would include portable pump-out toilets only. The low-intensity use would not require significant new water or wastewater facilities or treatment capacity and no impacts would occur.

c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No impact
	-----	-----	-----	-----
			X	X

Please see discussion in Section 9(e).

d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No impact
	-----	-----	-----	-----
				X

The proposed trail dedication would eventually result in low-intensity recreational uses. No potable water will be provided, and therefore no new or expanded entitlements would be needed.

e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No impact
	-----	-----	-----	X
	-----	-----	-----	-----

The proposed project would not require an on-site septic system and would not result in the need for new wastewater treatment capacity.

f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No impact
	-----	-----	X	-----
	-----	-----	-----	-----

Sonoma County has a solid waste management program in place that provides solid waste collection and disposal services for the entire County. Waste generated by the project is expected to be limited by the low-intensity uses proposed. The County's program can accommodate the permitted collection and disposal of the waste that will result from the proposed project.

g) Comply with federal, state, and local statutes and regulations related to solid waste?	Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No impact
	-----	-----	-----	X
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The project would comply with federal, state and local statutes and regulations related to solid waste. See discussion under 17(f).

18. MANDATORY FINDINGS OF SIGNIFICANCE

a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No impact
	-----	----- X	-----	-----

The proposed project is limited to designation of trail corridors and staging areas for the eventual development of pedestrian-only trails. Development and use of the trail system could have potentially significant impacts in the areas of biological resources, cultural resources, erosion and sedimentation, water quality, and transportation/traffic as described in this Initial Study. Implementation of the mitigation measures specified in this Initial Study would reduce these significant impacts to less than significant levels.

b) Does the project have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No impact
	-----	-----	----- X	-----

The project site is located in a rural area with limited and low density development in the project vicinity. Based on a review of current and recent planning applications on file with PRMD, there is one application for consideration of land use changes in the vicinity, Sonoma Coast Villa located across Highway 1 from the Project site. This pending project would convert an existing restaurant and inn to a residential treatment facility. The traffic study for that project showed a reduction in traffic volumes and related improved circulation on and off Highway 1 compared with existing conditions. Therefore no significant cumulatively considerable traffic impacts would occur.

No other nearby projects are known that would affect grazing practices or involve new recreational uses. The project will comply with regulations adopted to protect the environment, and therefore would not have impacts which are cumulatively considerable.

c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No impact
	-----	-----	X	-----

The project involves designation of trail corridors and staging areas for the eventual development of pedestrian-only trails. The trail system would provide low intensity recreational and education uses at the site and will not result in substantial adverse effects on human beings.

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Rare Plant/Wetland Habitat Assessment- Estero Trail site, Crystal Acker, Environmental Specialist, 2014.

APPENDIX A. WILDLIFE ASSESSMENT

APPENDIX B. RARE PLANT/WETLAND HABITAT ASSESSMENT



MITIGATION MONITORING PROGRAM

Sonoma County Permit and Resource Management Department

2550 Ventura Ave, Santa Rosa, CA 95403
(707) 565-1900 Fax (707) 565-1103

Pursuant to Section 21081.6 of the Public Resources Code, the mitigation measures listed in this program are to be implemented as part of the project. This program identifies the time at which each mitigation measure is to be implemented and the person(s) responsible. The signature of each responsible person will indicate completion of their portion of the mitigation measure.

Project: Estero Trail Project

Project Applicant: Sonoma County Agricultural Preservation and Open Space District

Location: 16997 Highway 1, Valley Ford, Sonoma County

Assessor Parcel Number 026-030-011

Lead Agency: Sonoma County Agricultural Preservation and Open Space District

Decision Making Body: Board of Directors of the Sonoma County Agricultural Preservation and Open Space District

P.P.R #

SCH #

Date Approved:

Contact Person(s): Richard Stabler

Time of Implementation

- Design:* The mitigation measure will be incorporated into the project design and/or included in the plans and contract special provisions prior to awarding a construction contract.
- Pre-Construction:* The mitigation measure will be implemented before construction begins.
- Construction:* The mitigation measure will be implemented during construction.
- Post-Construction:* The mitigation measure will be implemented after project construction.

Responsible Persons

The Permit and Resource Management Department will designate an Environmental Specialist. The operating entity will designate a Design Engineer and a Construction Engineer.

The Environmental Specialist will certify that a review of the project and plans and specifications was made with the Design Engineer prior to advertising for construction bids or otherwise initiating project construction. The Design Engineer will identify how each mitigation measure has been incorporated into the project. The Construction Engineer (or other person identified in the program) will certify that the mitigation measure has been implemented.

Environmental Record

Before the construction contract is awarded, the Design Engineer will forward the mitigation monitoring program to the Construction Engineer, with a copy to the Environmental Specialist. At completion of construction the Construction Engineer will return the original signed mitigation monitoring program to the Environmental Specialist for filing.

RECORD OF COMPLIANCE

The Environmental Specialist has reviewed the project design, and plans and specifications with the Design Engineer to assure that the responsibility for completion of the mitigation measures has been assigned and plans and specifications incorporate the appropriate mitigation measures.

Environmental Specialist _____ date _____

Mitigation Measure AQ-1:

The following dust control measures shall be implemented:

- Water or dust palliative shall be sprayed on unpaved construction and staging areas at least twice daily during construction.
- Trucks hauling soil, sand and other loose materials over public roads shall cover the loads, or shall keep the loads at least two feet below the level of the sides of the container, or shall wet the load sufficiently to prevent dust emissions.
- Paved roads shall be swept as needed to remove soil that has been carried onto them from the project site. Operate all construction vehicles and equipment with emission levels that meet current air quality standards.
- Minimize idling times either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.
- Limit vehicle speeds to 15 mph on unpaved surfaces.
- Replant disturbed areas as quickly as possible, and always prior to the winter rains.
- Post a publicly-visible sign with the telephone number and person to contact at the Operating Entity regarding dust complaints. This person shall respond and take any necessary corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.

Time of Implementation: Design, Construction

Method: Incorporated into the project design

X Included in the project plans and specifications (contractor will implement)

County forces

Other (specify)

Design Engineer certifies that this mitigation measure has been incorporated into the project.

Comments:

Construction Engineer certifies that this mitigation measure was implemented and monitored during construction.

Comments:

Mitigation Measure BIO-1:

- 1. Once the future trail alignment within the trail corridors has been determined, blooming period surveys within the final trail alignment should be conducted a year prior to construction to more precisely determine where rare plants are located and location will be flagged and avoided. Field visits would likely need to be conducted monthly from March through August to capture all the potential blooming periods.**
- 2. Because the focal rare plant species are annuals, including the tarplant, they can change location from year to year. To preserve the seedbank of these species, all topsoil near rare plant locations within the future trail alignment footprint should be collected and re-distributed in adjacent areas prior to trail construction.**
- 3. Discrete patches of native vegetation should be avoided by the project, if feasible, especially the early blue violet in the Eastern Hills (Myrtle's silverspot host plant).**

Time of Implementation: Design, Construction

Method: Incorporated into the project design

Included in the project plans and specifications (contractor will implement)

County forces

X Other (specify) County to hire a revegetation specialist to implement

Environmental Specialist certifies that this mitigation measure has been incorporated into the project.

Comments:

Mitigation Measure BIO-2:

1. If feasible, conduct all ground-disturbing activities between September 1 and February 28 to avoid the natal season for American badger. If it is not feasible to conduct ground-disturbing activities to avoid natal season for American badger, complete the following:

a. Conduct a survey by a qualified biologist for natal burrows within seven days prior to any ground-disturbing activity. The area to be surveyed will include all construction sites and staging areas, to a buffer of 50 feet outside the boundary of the disturbance area. Survey results will remain valid for a period of 21 days following the date of the survey.

b. In the event that an active natal burrow is discovered in the surveys area, postpone all ground-disturbing construction activities within this area until the Operating Entity consults with the California Department of Fish and Wildlife to determine the appropriate size of a no-disturbance buffer. This area will be flagged and no ground-disturbing activity will be allowed to occur here until it is determined that the young have dispersed the natal burrow.

2. Outside the natal season, conduct a survey for active badger burrows within seven days prior to any ground-disturbing activity. The area to be surveyed will include all construction sites and staging areas, to a buffer of 50 feet outside the boundary of the disturbance area. Exclusion techniques will be used to passively relocate any badgers that are present in the disturbance area or within 50 feet of project activities. Exclusion techniques, such as installation of a one-way door in the burrow entrance, would exclude badgers from entering the burrow. Burrows with exclusion techniques will be monitored to confirm badger usage has been discontinued. After badger use has been discontinued, burrows outside the disturbance area, but within 50 feet of construction activities, will be temporarily covered with plywood sheets or similar material. Burrows within the project work area will be hand-excavated and collapsed to prevent reoccupation.

3. A qualified biologist shall conduct a worker environmental awareness program to provide construction personnel with information on their responsibilities with regard to the American badger. At a minimum, the training shall describe the species and their habitat, the importance of the species and its habitat, measures that are being implemented to conserve the species, and actions to take in the event badgers are observed in the work area.

4. Include information about sensitive habitats and badger presence in interpretive signage for the project.

Time of Implementation: Design, Pre-Construction, Construction

Method: Incorporated into the project design

X Included in the project plans and specifications (contractor will implement) **or**

County forces

Other (specify)

Design Engineer certifies that this mitigation measure has been incorporated into the project.

Comments:

Construction Engineer certifies that this mitigation measure was implemented and monitored during construction.

Comments:

Mitigation Measure BIO-3:

1. Restrict construction activities to the daylight hours to avoid impacts to foraging or night-roosting bats.

2. Require a qualified biologist to survey trees with the potential to support special-status bats within 100 feet of construction activities 7 days or less prior to the onset of construction. If there is no evidence that bats are present, such as visual or acoustic detection, guano, urine staining, or strong odors, no further mitigation is required.

a. If a maternity roost is identified within 100 feet of construction activities, create and maintain a buffer around the bat roost until such time that the roost is no longer occupied. Consult with the California Department of Fish and Wildlife to determine the appropriate size of the no-disturbance buffer.

3. Bat roosts initiated within 100 feet of construction activities after construction in the specific area has already begun will be presumed to be unaffected by construction activities and a buffer will not be required.

4. Under all circumstances, the "take" of individuals, including direct mortality of individuals or the destruction of roosts while bats are presents, is prohibited.

Time of Implementation: Design, Pre-Construction, Construction

Method: Incorporated into the project design

X Included in the project plans and specifications (contractor will implement) **or**

County forces

Other (specify)

Design Engineer certifies that this mitigation measure has been incorporated into the project.

Comments:

Construction Engineer certifies that this mitigation measure was implemented and monitored during construction.

Comments:

Mitigation Measure BIO-4:

Trail Routing

1. Route the trail to use the open, less vegetated area of the tidal flat and avoid dense marsh vegetation. Place signage at the end of the upland terminus of the access to the Estero directing people to stay out of sensitive marsh vegetation. During the summer months when tidal influence is not present and the marsh is dry and more easily accessible, place temporary directional markers to mark the portage route.

2 During the breeding season prior to construction, survey habitat in proximity of the Estero access to confirm absence of black rail. If black rail is present, coordinate with CDFW to develop and implement measures to avoid impacts to black rail for the portage route, including establishing an appropriate buffer distance from black rail nesting sites.

Construction

3. Additional bird surveys should be conducted by a qualified biologist in the winter and breeding season prior to construction to characterize continued use of the site by burrowing owl, short-eared owl, northern harrier, and nesting special status species. Route the future trail alignment to avoid areas of use for nesting or winter roosting by these species.

a. For burrowing owl, surveys should be conducted according to methods outlined in Guidance for Burrowing Owl Conservation (CDFG, 2008). If burrowing owls are found in the trail corridor DFW shall be consulted to assist in the determination of the future trail alignment. The future trail alignment should be routed away from occupied burrows to the distance recommended by DFW.

4. If feasible, remove vegetation and conduct ground-disturbing activities only between September 1 and February 15 to avoid bird-nesting season. If it is not feasible to remove vegetation outside of bird-nesting season, complete the following:

a. A qualified biologist shall conduct a bird-nesting survey no more than 7 days prior to ground-disturbing or vegetation removal activities in a specific construction work area. The area to be surveyed shall include all construction activity areas, including staging areas, to a distance of 250 feet outside construction areas. Survey results will remain valid for a period of 7 days following the date of the survey.

b. If an active nest is found, consult with the California Department of Fish and Wildlife (CDFW) to determine the appropriate buffer size and then establish the buffer zone using fencing, pin flags, yellow caution tape, or other CDFW-approved material. Vegetation clearing and construction activities shall be postponed within the buffer zone; no construction-related activity shall be allowed to occur within this area until it is determined that the young have fledged, the nest is vacated, and there is no evidence of second nesting attempts. A qualified biologist shall regularly monitor the buffer area during construction activities to evaluate the nest(s).

c. If an active nest is found within the survey area after the completion of the pre-construction surveys and after construction activities have begun, all construction activities shall cease immediately until a qualified biologist has evaluated the nest and, if required, a CDFW-approved buffer zone has been created. If establishment of a buffer zone is not feasible, contact CDFW for further avoidance and impact minimization guidelines (e.g., acceptable noise and activity

guidelines).

5. For construction in the non-nesting season, conduct a pre-construction survey for occupied owl burrows. If occupied burrows are found, establish a 50-meter (160-foot) buffer and prohibit work within the buffer until such time as the burrow is not occupied, or consult with CDFW to determine if a different buffer may be appropriate. Once the burrow is no longer occupied, if it must be removed for trail construction, construct a replacement burrow in suitable habitat away from the trail alignment.

6. Temporary disturbance areas shall be restored with plant species native to the site.

Operations

1. Conduct vegetation removal that exists greater than 5-ft of the trail footprint only between September 1 and February 15 to avoid bird-nesting season. If it is not feasible to remove vegetation outside of bird-nesting season, conduct a survey of the work area prior to vegetation maintenance and if nests are present, delay vegetation removal until after consultation with California Department of Fish Wildlife to establish a safe distance from nest sites to the needed activity or until after the young have fledged the nest.

2. Information on sensitive bird species should be included in interpretive signage for the project, including the importance of aquatic habitat, upland habitat, and the importance of removing trash and staying on marked trails.

Time of Implementation: Design, Pre-Construction, Construction

Method: Incorporated into the project design

Included in the project plans and specifications (contractor will implement) **or**

County forces

Other (specify)

Design Engineer certifies that this mitigation measure has been incorporated into the project.

Comments:

Construction Engineer certifies that this mitigation measure was implemented and monitored during construction.

Comments:

Mitigation Measure BIO-5

1. To the extent feasible, route the future trail alignment within the 50-ft corridor away from ponds, the central creek (except at designated crossings), and the seep adjacent to the water trough on the access to the Estero. To the extent feasible, route the future trail alignment away from seeps and drainages to minimize disturbance of CRLF. If this is not feasible, these features should be demarcated as a sensitive habitat area or fenced with wildlife friendly fencing to prevent trail users from approaching or disturbing CRLF in these habitats.

2. Design the creek crossings to the extent feasible to avoid work in the wetted portion of the channel.

3. Where crossings of seeps cannot be avoided, use small footbridges as opposed to rocked crossings to the extent feasible, particularly where there are areas of standing water.

4. For construction activities within 200 feet of ponds, creeks, seeps, and drainages on the property, install wildlife exclusion fencing to minimize the likelihood of frogs entering the work area. The exclusion fence shall be a minimum of 42 inches tall and buried at least 6 inches or otherwise adequately secured to prevent frogs from crawling under the fence. Locations of exclusion fencing shall be determined by a qualified biologist and shown on the project plans.

5. A qualified biologist (USFWS-approved) shall survey the construction area within 48 hours prior to the onset of activities. If any life stage of CRLF is found and these individuals are likely to be killed or injured by work activities, the biologist shall move them from the site before work activities begin. If CRLF are found, the qualified biologist shall contact USFWS and move the CRLF to a safe location outside the work area that will remain undisturbed throughout project construction. Individual CRLF shall be relocated to habitat appropriate to their life stage and monitored by the biologist until it is determined they are not imperiled by predators or other dangers.

6. The qualified biologist shall be present at the construction site until the initial habitat disturbance has been completed. After this time, the operating entity shall designate an individual to monitor on-site compliance with all conditions related to CRLF. This person shall receive the worker awareness training included in Number 8 below. The on-site monitor and qualified biologist shall have the authority to stop work that may result in impacts to CRLF. If CRLF are found during construction, all work shall halt within 50 feet of the CRLF, until the CRLF is relocated by the qualified-biologist. If work is halted, USFWS shall be notified within 24 hours. Only a USFWS-approved biologist shall participate in the capture or handling of CRLF.

7. A worker environmental awareness program shall be conducted by a qualified biologist to provide construction personnel with information on their responsibilities with regard to CRLF. At a minimum, the training shall describe the species and its habitat and life cycle, the importance of the species and its habitat, measures that are being implemented to conserve the species, actions to take in the event CRLF are observed in the work area, and consequences for non-compliance.

8. Construction-related holes, capable of entrapping wildlife, shall be covered at the end of each work day in a manner that prevents entrapment. Prior to commencing work activities each day, all trenches shall be thoroughly inspected for animals.

9. All construction pipes, culverts or other similar structures stored overnight at the site shall either be securely capped prior to storage or thoroughly inspected by the qualified biologist or on-site monitor before it is moved, capped or buried.

10. Any debris or equipment left overnight shall be checked daily prior to its use in order to avoid injury or mortality to CRLF.

11. During construction, all trash that may attract predators shall be properly contained, removed from the work site, and disposed of regularly. Following construction, all trash and construction debris shall be removed from work areas.

12. All refueling, maintenance and staging of equipment and vehicles shall not occur within the Forever Wild or Natural Areas, and shall be at least 60 feet from the riparian habitat or wetlands and not in a location from which a spill would drain directly toward aquatic habitat. The monitor shall ensure contamination of habitat does not occur during such operations. Prior to the onset of work, the operating entity shall ensure that a plan is in place for prompt and effective response to any accidental spills. All workers shall be informed of the importance of preventing spills and of the appropriate measures to take should a spill occur.

13. Erosion control and other water quality Best Management Practices (BMPs) shall be implemented to avoid sedimentation and disturbance into downstream and adjacent aquatic habitats. Tightly woven fiber matting or similar material shall be used for erosion control to ensure CRLF do not get trapped. Plastic monofilament netting, photodegradable products, or similar material shall not be used at the site because animals may become entangled or entrapped in it.

14. The number of construction access routes, size of construction staging areas, and the total area of activity shall be limited to the minimum necessary to achieve the project goal. Routes and boundaries shall be clearly demarcated.

15. Provide a worker environmental awareness program for staff performing routine and ongoing trail maintenance activities at the property.

16. Hand labor shall be used to control exotic and unwanted vegetation. The use of chemical agents and mechanical equipment within the stream channel shall be avoided.

18. Information on CRLF should be included in interpretive signage for the project, including the importance of aquatic habitat, upland habitat, and the importance of removing trash and staying on marked trails.

19. To the extent USFWS determines mitigation is required, compensate for permanent loss of summer aestivation and upland habitat through on-site enhancement (with cooperation of the property owner) or off-site purchase of mitigation credits. Examples of on-site enhancement could include enhancement of Pond 3 to provide CRLF breeding habitat, or restoration or enhancement of native grasslands and removal of invasive plant species, or control of aquatic predators. A compensatory mitigation plan should be developed through coordination with USFWS.

Time of Implementation: Design, Construction

- Method: Incorporated into the project design
- Included in the project plans and specifications (contractor will implement)
- County forces

___ Other (specify)

Design Engineer certifies that this mitigation measure has been incorporated into the project.

Comments:

Construction Engineer certifies that this mitigation measure was implemented and monitored during construction.

Comments:

Mitigation Measure BIO-6

- 1. Within two days prior to the commencement of construction activities, a qualified biologist shall survey the work area for western pond turtle adults, juveniles, and nests. If no western pond turtles or nests are observed in the work area, construction activities may proceed. If western pond turtle nests are found, a buffer area of 50 feet shall be established around the nesting site until the turtles are no longer occupying the nest. These buffers shall be indicated by temporary fencing. If western pond turtle adults or subadults are found either during the surveys or thereafter, the turtle(s) must be allowed to move out of the project area on their own, or a CDFW-approved biologist shall move the turtle(s) to the nearest suitable habitat at least 300 feet outside the work area. A qualified biologist shall be on call and capable of responding to the work site to determine the presence of western pond turtle and relocate turtles as needed. The operator shall designate a person to monitor on-site compliance with all mitigation measures. The biologist shall ensure that the monitor receives proper training. The on-site monitor shall check daily for animals under any equipment as well as in the construction area prior to the start of construction activities each day.**
- 2. A worker environmental awareness program shall be conducted by a qualified biologist to provide construction personnel with information on their responsibilities with regard to the western pond turtle. At a minimum, the training shall describe the species and their habitats, the importance of the species and its habitat, measures that are being implemented to conserve the species, and actions to take in the event turtles are observed in the work area.**
- 3. Erosion control and other water quality Best Management Practices (BMPs) shall be implemented to avoid sedimentation and disturbance into downstream and adjacent aquatic habitats**
- 4. Information on western pond turtle shall be included in interpretive signage for the project, including the importance of aquatic habitat, upland habitat for nesting, and the importance of removing trash.**

Time of Implementation: Design, Construction

Method: Incorporated into the project design

X Included in the project plans and specifications (contractor will implement)

County forces

Other (specify)

Design Engineer certifies that this mitigation measure has been incorporated into the project.

Comments:

Construction Engineer certifies that this mitigation measure was implemented and monitored during construction.

Comments:

<p>Mitigation Measure BIO-7</p> <ol style="list-style-type: none">1. The Operating Entity shall prepare a sediment control plan as part of the Storm Water Pollution Prevention Plan (SWPPP) for implementation by the Contractor. The focus shall be to prevent sediment from entering surface drainages within the project area. The sediment control plan shall include temporary, construction-related sediment control that may include, but not be limited to, silt fencing, sediment traps, fiber rolls, and/or barriers. The source of each specific sediment control measure proposed by the contractor must be documented in the sediment control plan.2. Temporary disturbance areas shall be restored with plants native to the site.3. The Operating Entity shall inspect the trail regularly and following large storm events to identify areas of erosion and make necessary repairs.
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Time of Implementation: Design, Construction

Method: Incorporated into the project design

Included in the project plans and specifications (contractor will implement)

County forces

Other (specify)

Design Engineer certifies that this mitigation measure has been incorporated into the project.

Comments:

Construction Engineer certifies that this mitigation measure was implemented and monitored during construction.

Comments:

Mitigation Measure BIO-8

- 1. Within the designated trail corridors and staging areas, route the future trail alignment to avoid the occurrences of the host plant, Western dog violet, to the furthest feasible distance possible.**
 - a. Because plant populations and locations may shift in location and size from year to year, a qualified botanist shall conduct additional targeted surveys for Western dog violet to identify any locations within the trail corridor.**
 - b. Once the specific trail alignment has been selected, a qualified botanist shall conduct targeted surveys for Western dog violet in the blooming period immediately preceding trail construction.**
 - c. The botanist shall flag and map all locations of Western dog violet, and the trail shall be re-routed to avoid the plant with a buffer of 25 feet. If a 25-foot buffer is not feasible due to the limited width of the trail corridor or other reasons, the host plant shall be demarcated or fenced as a sensitive habitat area to prevent trail users from approaching the plants.**
 - d. If any occurrences are found within 25 feet of proposed construction activities or staging areas, these occurrences shall be protected with temporary fencing to prevent inadvertent trampling during construction. A worker environmental awareness program shall be conducted by a qualified biologist to provide construction personnel with information on their responsibilities with regard to Myrtle’s silverspot butterfly. At a minimum, the training shall describe the species and its habitat and life cycle, the importance of the species and its habitat and host plant, measures that are being implemented to conserve the species, actions to take in the event it is observed in the work area, and consequences for non-compliance.**
- 2. Include information about Myrtle’s silverspot butterfly habitat, life cycle, and protection measures in interpretive signage for the project, including the importance of not trampling or picking the host plant.**

Time of Implementation: Design, Pre-Construction, Construction

Method: Incorporated into the project design

X Included in the project plans and specifications (contractor will implement)

X County forces

Other (specify)

Design Engineer certifies that this mitigation measure has been incorporated into the project.

Comments:

Construction Engineer certifies that this mitigation measure was implemented and monitored during construction.

Comments:

	<p>Mitigation Measure BIO-9</p> <p>1. To avoid impacts to wetlands as much as feasible, and to provide data for required permit submissions, a formal wetland delineation, using both the ACOE 3-parameter procedure and the CCC 1-parameter procedure, shall be conducted within the proposed staging areas, access roads, and trail corridors to determine the full extent of existing wetland areas prior to construction plan development.</p> <p>2. Buffers shall be established between the trail alignment and adjacent wetlands to discourage off-trail exploration and to preserve existing hydrology sources. Consistent with Local Coastal Plan requirements, buffer width should be a minimum of 100 feet from the wetland edge. In some cases, such as when a species requires habitat adjacent to a wetland for part of its life or when nearby development poses increased hazards to a wetland or wetland species, larger buffer areas should be considered.</p>
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Time of Implementation: Design, Construction

Method: Incorporated into the project design

Included in the project plans and specifications (contractor will implement)

County forces

Other (specify)

Design Engineer certifies that this mitigation measure has been incorporated into the project.

Comments:

Construction Engineer certifies that this mitigation measure was implemented and monitored during construction.

Comments:

Mitigation Measure BIO-10

Trail construction could result in a physical loss of some wetland habitat within the trail footprint. Appropriate mitigation replacement ratios vary depending on the amount, functions, and values of the habitat. Compensatory mitigation will be required for losses of wetlands at a minimum of 1:1 and up to a 4:1 replacement ratio.

Time of Implementation: Construction

Method: Incorporated into the project design

Included in the project plans and specifications (contractor will implement)

County forces

Other (specify)

Design Engineer certifies that this mitigation measure has been incorporated into the project.

Comments:

Construction Engineer certifies that this mitigation measure was implemented and monitored during construction.

Comments:

Mitigation Measure Cult-1:

If archaeological or paleontological materials are discovered during project construction, construction will cease in the immediate vicinity of the find until a qualified archaeologist is consulted to determine the significance of the find, and has recommended appropriate measures to protect the resource. Further disturbance of the resource will not be allowed until those recommendations deemed appropriate have been implemented.

Time of Implementation: Design, Construction

- Method: Incorporated into the project design
- Included in the project plans and specifications (contractor will implement)
- County forces
- Other (specify)

Design Engineer certifies that this mitigation measure has been incorporated into the project.

Comments:

Construction Engineer certifies that this mitigation measure was implemented and monitored during construction.

Comments:

	<p><i>Mitigation Measure HAZ-1:</i></p> <ul style="list-style-type: none"> <i>The construction contract will require that any storage of flammable liquids or other hazardous materials be in compliance with the Sonoma County Fire Code and section 7-1.01G of the Caltrans Standard Specification (2006) (or the functional equivalent) for the protection of surface waters. In the event of a spill of hazardous materials the Contractor will immediately call the emergency number 9-1-1 to report the spill, and will take appropriate actions to contain the spill to prevent further migration of the hazardous materials to storm water drains or surface waters.</i>
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Time of Implementation: Design, Construction

- Method: Incorporated into the project design
- Included in the project plans and specifications (contractor will implement)
- County forces
- Other (specify)

Design Engineer certifies that this mitigation measure has been incorporated into the project.

Comments:

Construction Engineer certifies that this mitigation measure was implemented and monitored during construction.

Comments:

	<p>Mitigation Measure NOISE 1:</p> <p>Construction activities for this project shall be restricted as follows:</p> <ul style="list-style-type: none">• Except for actions taken to prevent an emergency, or to deal with an existing emergency, all construction activities shall be restricted to the hours from 7:00 am to 7:00 pm on weekdays and 9:00 am to 7:00 pm on weekends.
--	---

Time of Implementation: Design, Construction

Method: Incorporated into the project design

Included in the project plans and specifications (contractor will implement)

County forces

Other (specify)

Design Engineer certifies that this mitigation measure has been incorporated into the project.

Comments:

Construction Engineer certifies that this mitigation measure was implemented and monitored during construction.

Comments:

	<p>Mitigation Measure TRAFFIC-1:</p> <p>Remove sufficient vegetation north of the driveway to provide sight distance of at least 500 feet. All necessary roadside vegetation removal shall be required prior to any construction at the site and shall be maintained on an annual basis.</p> <p>The Operating Entity shall provide advanced notice to area residents and emergency agencies when employing temporary traffic control measures for the movement of equipment and materials.</p> <ul style="list-style-type: none"> •
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Time of Implementation: Design, Construction

- Method:
- Incorporated into the project design
 - Included in the project plans and specifications (contractor will implement)
 - County forces
 - Other (specify)

Design Engineer certifies that this mitigation measure has been incorporated into the project.

Comments:

Construction Engineer certifies that this mitigation measure was implemented and monitored during construction.

Comments:

Estero Trail

Wildlife Resources Evaluation



Prepared for:

Sonoma County Agricultural Preservation and Open Space District

Prepared by:

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Sonoma County Permit and Resource Management Department

October 2014

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Appendix C. Wildlife Species Observed on the Project Property during the April and June 2014 Site Visits

Introduction

The Sonoma County Agricultural Preservation and Open Space District (District) and the Sonoma County Regional Parks Department (Regional Parks) are joint sponsors of the Estero Trail Master Plan, and the District is acting as the lead agency for purposes of environmental review under the California Environmental Quality Act (CEQA). This document has been prepared by Sonoma County Permit and Resource Management Department (PRMD) staff to identify the potential wildlife impacts of a trail in the proposed location and the impacts of construction, operation, and maintenance of the proposed trail project for decision-makers, as well as responsible and trustee agencies under CEQA, and for the public.

The proposed Estero Trail project (Project) is located west of Valley Ford in unincorporated Sonoma County on the Bordessa Ranch, bordered by Highway 1 on the north and the Estero Americano on its south (see Figure 1). The Bordessa Ranch address listed is 17000 Valley Ford Cutoff. In 2010, the District was approached by the Bordessas inquiring about District purchase of a Conservation Easement over the property including a public access trail. In 2012, the District prevented imminent subdivision of the ranch through purchase of a Conservation Easement. Under the terms of the agreement between Alfred and Joseph Bordessa and the District, the District will retain the Conservation Easement over the Property in perpetuity to preserve its important natural, agricultural, and scenic values, as well as a trail easement, to provide for public outdoor recreational opportunities. The District began work with Regional Parks to develop the trail easement and public access. Regional Parks received a grant from the State Coastal Conservancy for environmental review and easement trail planning.

The purpose of the proposed project is to establish a long-term plan for the Estero Trail to provide for natural resource protection and to enable public recreational and educational access. The Master Plan will be the guiding document and the basis for future implementation of projects and programs within the Bordessa property for the Estero Trail system.

Project Setting

As described in the Gold Ridge Resource Conservation District's *Estero Americano Watershed Plan*, the Estero Americano is a fjord-like estuary that extends from the Pacific Ocean, just south of Bodega Harbor, to the town of Valley Ford 4.0 miles inland. Its main tributary, Americano Creek, is about 7.6 miles in length and drains the upper third of the Estero Americano Watershed before flowing into the tidal estuary at Valley Ford. The estuary is considered a "seasonal estuary" due to the formation of a sand bar at the mouth of the estuary during the late spring and summer months that blocks the tidal influence. The Estero Americano and Americano Creek drain an area of 39 square miles. (GRRCD, 2007) The project property is located in the lower portion of the watershed. The predominant land use in the watershed is grazing.

The estuary is located in the Pacific Flyway and its mudflats, open water, and marshes provide seasonally important foraging habitat for migratory waterfowl and shorebirds, and resident wading birds (GRRCD, 2007). The Estero estuary to the mean high water line is within the boundaries of the Gulf of the Farallones National Marine Sanctuary upstream to the bridge at Valley Ford Estero Road (NOAA, 2008).

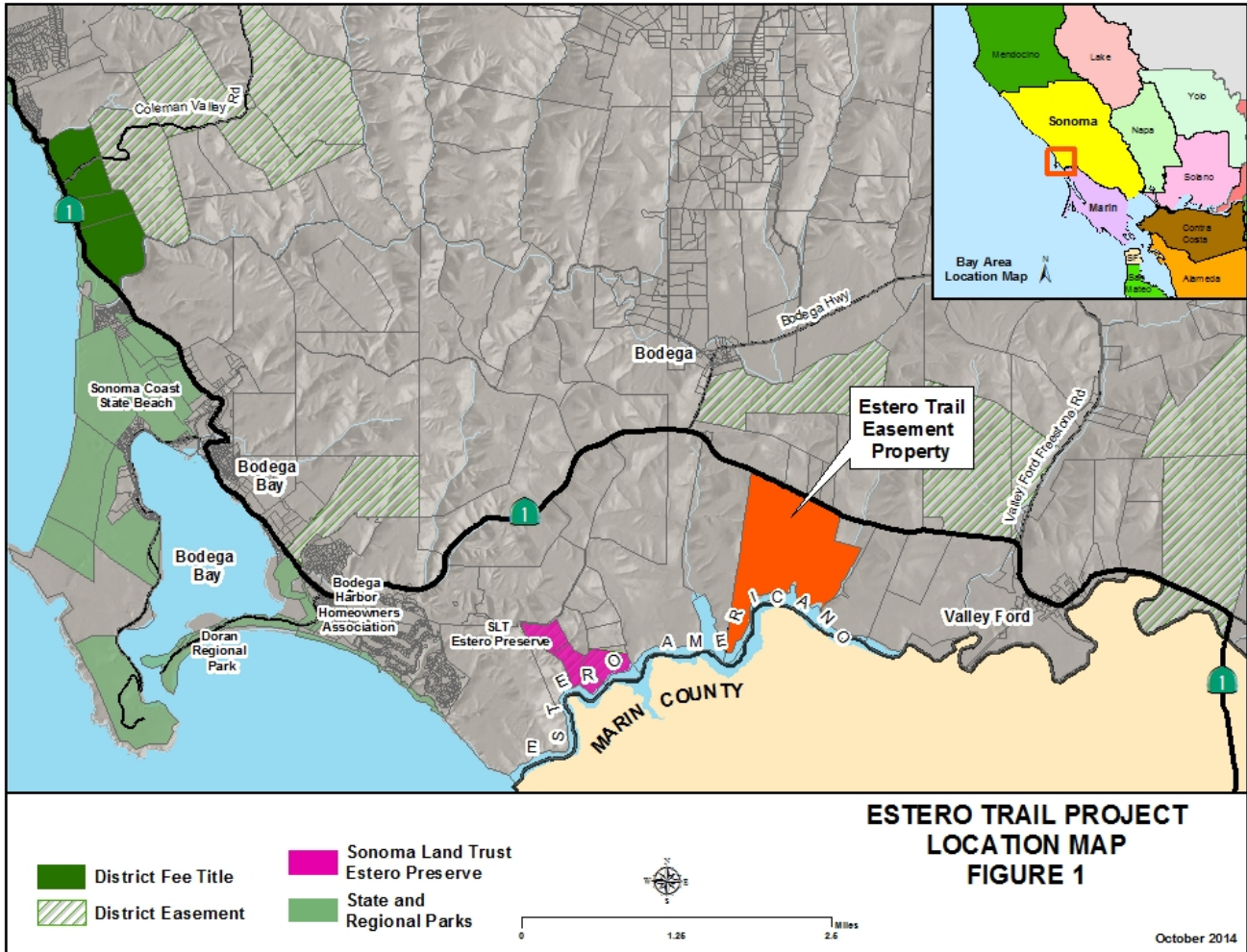


Figure 1. Location Map

Sonoma County has a climate of typically dry summers and mild, wet winters, with 90 percent of the rainfall occurring from November through April. The project property is about 3 miles inland from the coast. The climate is influenced by the Pacific Ocean and is characterized by mild seasonal temperatures, strong prevailing northwest winds, often with low clouds and fog during the summer months. Mean annual precipitation varies from 30 to 38 inches. (Rob Evans and Associates, 2012)

The project property consists of rolling, predominantly south-sloping, hills and open pasture, and extends south to the Estero Americano, with 1.3 miles of Estero Americano frontage. The project property has historically been and is currently used for livestock grazing. An unnamed creek runs generally from north to south through the middle of the property, and another creek follows the eastern boundary of the property. Other small drainages drain the west and northwest portions of the property. The elevation ranges from 390 feet at the hilltop on the western half of the project property to sea-level at the Estero. (Rob Evans & Associates, 2012)

Plant communities and habitat at the project property are described below under Existing Plant Communities and Habitats.

Project Description

The proposed project would establish two main pedestrian only trail corridors with associated staging areas (parking lots) that would allow for low-intensity public access to pursue outdoor recreational and educational uses (See Figure 2). The proposed future uses may include hiking, nature study, bird watching, sightseeing, picnicking, outdoor education, docent-led tours, scientific research and observation, as well as limited seasonal access to the Estero Americano for recreational uses such as kayaking and canoeing.

The proposed trail alignments consist of two 50-foot wide and not more than 5-miles in length trails. The proposed five-mile trail system is the principal means for providing public access to the property and the Estero. The trails will be constructed for pedestrian use and hand-carried non-motorized boats, kayaks and canoes. The trail will be 5-foot wide compacted native material or other permeable surface including rocked wet crossings only for any stream crossings. Trail marker posts and benches would be placed along the trail.

The existing main access road and gate or improved replacements, are expected to remain in similar locations. Two staging areas 1.5 acres in combined sizes would be added to accommodate parking for trail users not to exceed 1.5 acres in size. Staging areas may include one or more of the following: restroom facilities, accessible parking, bicycle parking, picnic tables, benches, trash & recycle containers, and operations signage.

Phase 1

Staging Area Improvements would consist of entry road improvements and road extension to provide operations, maintenance, emergency vehicle access, and public access to the larger southern staging area. Gates and the existing ranch bridge would also be evaluated and if needed be repaired or replaced.

There are two options for the larger southern staging area to be constructed in Phase 1 of the project:

1. A large southern staging area located south of the existing barn within the developmental envelope.
2. A large southern staging area located just north of the existing barn within the developmental envelope.

Staging area development would include a rocked permeable surface, with accessible parking, a portable restroom, bicycle parking, and one or more of the following picnic tables, benches, trash & recycle containers, and operations signage.

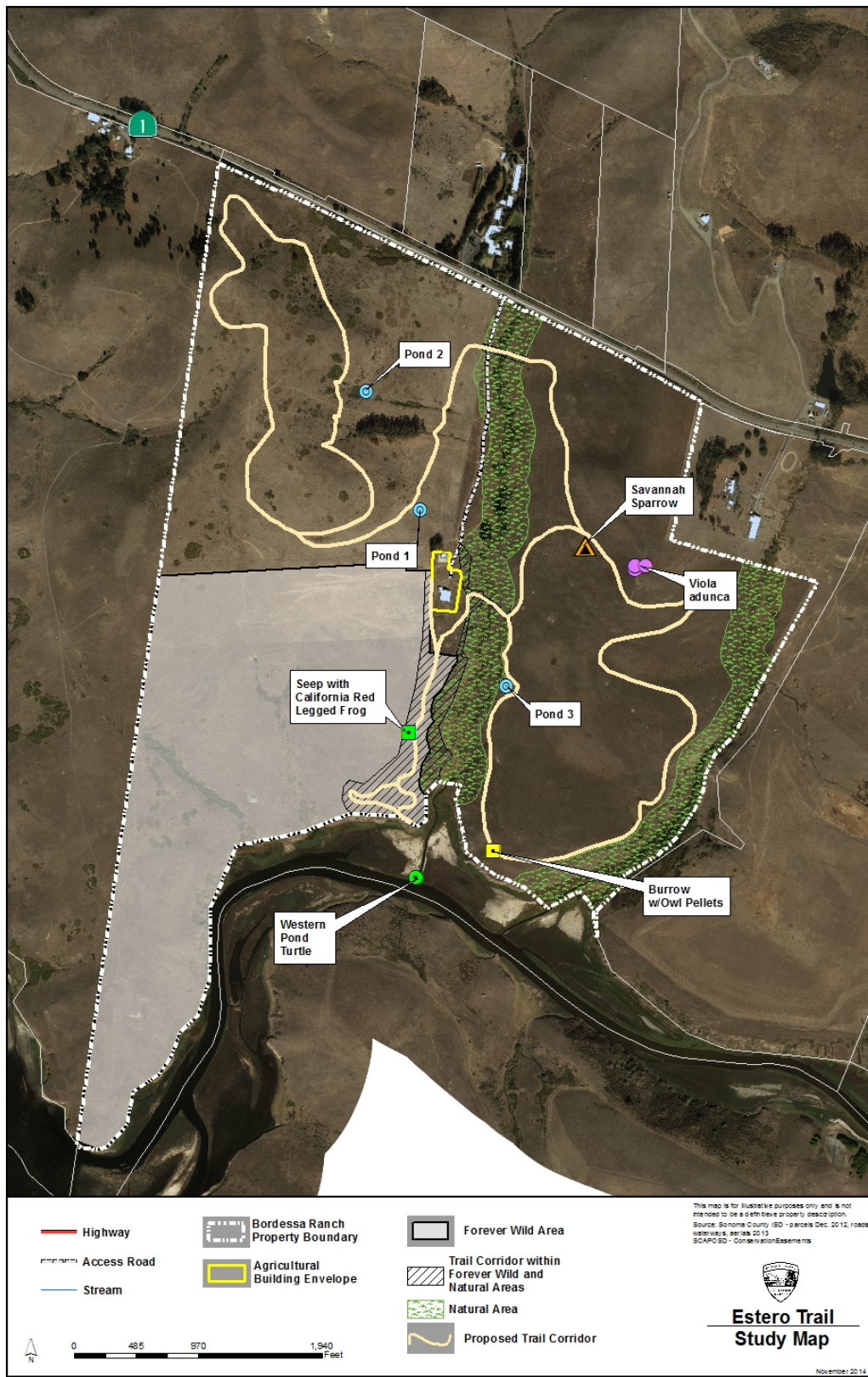


Figure 2. Estero Trail Study Map

Trails

Two trail easements, the east trail and west trail, are routed to allow users to experience a variety of landscapes, degrees of difficulty, trail length, and scenic vistas. Although the project establishes a trail preliminary alignment within a 50-foot corridor, actual location of the trails will be determined through additional design work and compliance with the trail development guidelines and standards.

West Trail: This trail alignment will be constructed on the western side of the unnamed creek traversing the property. The alignment will start from the staging area and extend to the Estero looping to a lookout point; it will also run north from the staging along the entry road and then climb the western knoll ascending to a vista in the northwest corner of the property, and back to the beginning of the trail.

- Development of this trail will require clearing and grubbing of the existing annual grasses, minor grading work, installation of armored drainage crossings, installation of a drainage lens, and rolling grade breaks. Natural compacted trail bed 5' wide and 2.5 miles in length.
- Will maintain a running slope between 2.5% to 10% and a maximum cross slope of 5%.
- Armored (rocked) wet crossings - 4"-9" riprap to 12" depth in approx 8x10 area, minimum of eight.
- Drainage lens – crushed quarried rock on 4"-6" riprap raised surface. Minimum 200lf
- Benches (location to be determined) - concrete footing - minimum of three
- Trail Mark Posts – 6x6 post – minimum of six

East Trail: This trail segment will begin at the staging area and head east and cross the unnamed creek at the existing bridge location, then traverse the top of the ridge following the creek to the Estero, then east and north above the creek on the eastern edge of the property, and finally loop back across the property to the existing bridge creek crossing.

Development of this trail will require clearing and grubbing of the existing annual grasses, minor grading work, and installation of rock armored drainage crossings, and other minor drainage features.

- Natural compacted trail bed 5' minimum of 1.6 miles in length
- Will maintain a running slope between 2.5% to 10% and a maximum cross slope of 5%
- Armored wet crossings, 4"-9" riprap to 12" depth in approx 8x10 area, minimum of four.
- Drainage lens – crushed quarried rock on 4"-6" riprap raised surface. Minimum of 200lf
- Benches along the trail (location to be determined) Concrete footing. Minimum of three.

- Trail Mark Posts – 6x6 post – minimum of six

Phase 2

Improvements would include the construction of a second staging easement area, and if necessary boat drop off, and spur trail connector and creek crossing.

This additional staging area would be located approximately 500-feet from Highway 1 and of the entry road for perpendicular or diagonal parking on the west side of the entry road.

The staging area development would include a rocked permeable surface, and may include one or more of the following: accessible parking, portable restroom, bicycle parking, benches, trash & recycle containers, and operations signage.

If necessary, depending on the placement of the larger staging area the entry road may be extended by installing a rocked surface beyond the existing barn and terminate in a turn-around to allow users to drop-off equipment (i.e. kayak or canoe), and park in the staging areas north of the ranch buildings.

Trail

A spur trail would be constructed on the east side of the existing creek bridge and run north along the creek and cross the creek at the Conservation Easement defined creek crossing location (Figure 2). The crossing new will be evaluated for a possible bridge or seasonal rocked crossing to also be included within the project.

- Development of this trail will require clearing and grubbing of the existing annual grasses, minor grading work, installation of armored drainage crossings, installation of a drainage lens, and rolling grade breaks. Natural compacted trail bed 5' minimum of 0.5 miles in length
- Will maintain a running slope between 2.5% to 10% and a maximum cross slope of 5%

Operations

The District may place limitations on the nature, hours, and season of public access to the Access Road, Bridge, Gate staging areas, and trail corridors, or a portion thereof as they deem appropriate for resource protection.

The District will open to public access through an Operating Entity also approved by the State Coastal Conservancy.

Normal trail operating hours are sunrise to sunset seven days a week. Some trails maybe closed as needed during wet season.

Study Methodology

Two site visits were conducted by County biological staff (Richard Stabler, Laura Peltz, and Crystal Acker) on April 15 and June 23, 2014. During the April site visit, the authors surveyed the East Trail corridor, spur trail from the East Trail corridor, the trail corridor to the Estero

Americano, areas along the existing access road that may be used for future parking or staging, and the barn and surrounding area to potentially be used for staging and parking. We also conducted a reconnaissance survey of the central unnamed creek on the property to determine its potential to support special status species and identify the need for species-specific targeted surveys.

During the June site visit, the authors surveyed the West Trail corridor and nearby aquatic features. We also conducted a dip-net survey for California freshwater shrimp within the central creek up- and downstream of the existing bridge crossing (see the section on California freshwater shrimp in this report for further details of this survey). We returned after dark on the evening of the 23rd to conduct surveys for adult California red-legged frogs (see the section on California red-legged frog or further details on this survey).

The site visits were reconnaissance-level surveys to document conditions on the property in the vicinity of potential improvements associated with the trail, identify potential for special status wildlife species to be present on site, identify habitat for these species in the vicinity of the trail and associated improvements, and recommend measures to minimize potential impacts from trail easement recordation, trail development and operation. The surveys of the trail corridors, staging and parking areas consisted of the authors walking the general trail corridor and surrounding area in a widely-spaced and meandering pattern to maximize coverage. The site visits were not intended to be an exhaustive survey of the entire property for planning or management purposes other than for the purpose of trail development. To adequately prepare for our site visits, we reviewed the following informational resources:

- A review of special status animal occurrences within 5 miles of the site and for the Valley Ford United States Geological Survey (USGS) 7.5' quadrangle from the California Natural Diversity Database (CNDDDB) (CDFW, 2014); and
- The U.S. Fish and Wildlife Service (USFWS)'s species list for the Valley Ford quadrangle.

Prior assessments at the site that were also used in this analysis include:

- Intensive bird surveys conducted by Emily Heaton in 2011 and 2012 and described her report *Summary of Findings from Bird Surveys on the Bordessa Ranch, Final Report: 2011 and 2012 Survey* (2012);
- The *Bordessa Ranch Conservation Easement Baseline Documentation* report prepared by Rob Evans and Associates to document physical features, land use, easements, as well as biological and hydrologic features on the property relative to the Deed and Agreement conveying a conservation easement to the District (2012).

Existing Plant Communities and Habitats

Plant communities and habitat types found on site are characterized briefly below. For additional detail on the plant composition on site and along the trail corridor, please refer to the *Rare Plant/Wetland Habitat Assessment- Estero Trail Site* (Acker, 2014) and *Bordessa Ranch Conservation Easement Baseline Documentation* (Rob Evans and Associates, 2012).

Annual Grassland

The predominant habitat type on site is annual grassland, which makes up the majority of the East Trail, West Trail and Estero access trail corridor and staging areas. Non-native plants dominant this habitat type. The East Trail corridor and Estero access trail corridor are open with very few shrubs. The West Trail corridor is also predominantly open, though the north facing slope nearest to Highway 1 has more shrubs including gorse (*Ulex europaeus*), sweet-briar rose (*Rosa rubiginosa*) and coyote bush (*Baccharis pilularis*), and a few trees (Monterey pine). Within the grassland habitat, there are numerous areas of seeping groundwater and areas of wet meadow vegetation. There are also intermittent drainages along the slopes draining to the central creek.

Riparian

Riparian habitat is present along the central creek. The northern portion is dominated by dense willow and some gorse. The middle portion upstream of the existing bridge is still dominated by willow, but is somewhat more open with pond-like vegetation including longleaf pondweed (*Potamogeton nodosus*) and juncus (*Juncus* sp.). There are several blue gum eucalyptus (*Eucalyptus globules*), along the central creek north of the existing bridge. The southern portion of the creek is open with more pond-like and marsh vegetation with scattered willows.

Riparian habitat is also present along two other small drainages within the Forever Wild area in the southwest corner of the property, and the creek forming the eastern border of the property located outside the study area for the trail corridor easement (Rob Evans and Associates, 2012).

Eucalyptus

There is a eucalyptus grove located along an intermittent drainage on the western . The West Trail corridor crosses the drainage below the eucalyptus grove. Understory plants in the grove include Douglas-fir (*Pseudotsuga menziesii*), wax myrtle, hawthorn, cream bush, wild rose, gorse, sword fern, and coyote bush (Rob Evans and Associates, 2012). The eucalyptus may provide nesting and roosting habitat for raptors and other birds.

Lacustrine

There are several small ponds on the property. Ponds in proximity to the trail corridor (Ponds 1, 2 and 3) are described in more detail in this report in the California Red-legged Frog section. In general, these are small features formed in depressions or dammed portions of intermittent drainages that contain standing water. There is an additional pond within the Forever Wild Area (outside the trail corridor study area) that likely provides habitat for wildlife on-site.

Marsh

Marsh habitat is located along the Estero Americano at the southern property boundary and at the mouth of the central creek. The marsh is vegetated primarily by pickleweed (*Salicornia pacifica*), but also contains alkali heath (*Frankenia salina*), saltgrass (*Distichlis spicata*), brass buttons (*Cotula coronopifolia*), fat hen (*Atriplex prostrata*), and annual rabbitfoot grass (*Polypogon monspeliensis*) (Acker, 2014). The marsh grades into brackish and freshwater marsh proceeding upstream in the central creek (Rob Evans and Associates, 2012).

There is also a lot of exposed ground within the marsh. During the drier portion of the year, the marsh is not inundated by daily tides. The ground surface was dry and consolidated, and easy to walk across during our April and June site visits.

Special Status Species – Impacts and Recommendations

For the purposes of this report, “special status species” refers to those taxonomic groups included within the California Department of Fish and Wildlife’s Special Animals List (2014). According to CDFW, “Special Animals” is a broad term used to refer to all the animal taxa tracked by the Department of Fish and Wildlife’s California CNDDDB, regardless of their legal or protection status. The Special Animals List includes species, subspecies, or Evolutionarily Significant Units (ESU) where at least one of the following conditions applies:

- Officially listed or proposed for listing under the State and/or Federal Endangered Species Acts;
- Taxa considered by CDFW to be a Species of Special Concern (SSC);
- Taxa which meet the criteria for listing, even if not currently included on any list, as described in Section 15380 of the California Environmental Quality Act Guidelines;
- Taxa that are biologically rare, very restricted in distribution, or declining throughout their range but not currently threatened with extirpation;
- Population(s) in California that may be peripheral to the major portion of a taxon’s range but are threatened with extirpation in California;
- Taxa closely associated with a habitat that is declining in California at a significant rate (e.g. wetlands, riparian, vernal pools, old growth forests, desert aquatic systems, native grasslands, valley shrubland habitats, etc.);
- Taxa designated as a special status, sensitive, or declining species by other state or federal agencies, or a non-governmental organization (NGO) and determined by the CNDDDB to be rare, restricted, declining, or threatened across their range in California.

The following table is a list of sensitive species potentially occurring or known to occur in the region of the proposed project. As described under study methodology, we compiled the list from a review the USFWS 7.5 minute quadrangle (quad) list for the Valley Ford quad, a CNDDDB 5-mile radius record search and Valley Ford USGS 7.5 minute quad list (CDFW, 2014), and prior surveys performed at the site (Heaton, 2012; Rob Evans and Associates, 2012).

Species not likely to be impacted by the project due to lack of suitable habitat on site, or if their range does not lie within the project area are discussed only within the table. Taxa with potential suitable habitat on site that may be impacted by the project, or species that warrant further explanation are described in the text.

Table 1. Sensitive species potentially occurring or known to occur in the region of the proposed project.

Scientific Name	Common Name	Status	General Habitat Description	Habitat Present/Absent	Rationale
Mammals					
<i>Arborimus pomo</i>	Sonoma tree vole	SSC	North coast fog belt from Oregon border to Sonoma Co. In Douglas fir, redwood & montane hardwood-conifer forests. Feeds almost exclusively on Douglas fir needles. Will occasionally take needles of grand fir, hemlock or spruce.	A	No conifer forests present on site.
<i>Antrozous pallidus</i>	pallid bat	SSC	Deserts, grasslands, shrublands, woodlands & forests. Most common in open, dry habitats with rocky areas for roosting. Roosts must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.	HP	Barn on site could provide roosting habitat.
<i>Corynorhinus townsendii</i>	Townsend's big-eared bat	SSC	Throughout CA in a wide variety of habitats. Most common in mesic sites. Roosts in the open, hanging from walls & ceilings. Roosting sites limiting. Extremely sensitive to human disturbance.	HP	Barn on site could provide roosting; however roosting may be limited by the occasional human presence in the barn due to species sensitivity to human presence.
<i>Lasiurus cinereus</i>	hoary bat	M	Prefers open habitats or habitat mosaics, w/ access to trees for cover & open areas or habitat edges for feeding. Roosts in dense foliage of medium to large trees. Feeds primarily on moths. Requires water.	HP	Limited habitat since there few trees on site that do not have particularly dense foliage. Eucalyptus grove could provide marginal habitat.
<i>Myotis evotis</i>	long-eared myotis	M	Found in all brush, woodland, & forest habitats from sea level to about 9000 ft. Prefers coniferous woodlands & forests. Nursery colonies in buildings, crevices, spaces under bark, & snags. Caves used primarily as night roosts.	HP	Barn on site could provide roosting habitat, though preferred coniferous woodland and forest habitat is not present.

Scientific Name	Common Name	Status	General Habitat Description	Habitat Present/Absent	Rationale
<i>Myotis thysanodes</i>	fringed myotis	H	In a wide variety of habitats, optimal habitats are pinyon-juniper, valley foothill hardwood & hardwood-conifer. Uses caves, mines, buildings or crevices for maternity colonies and roosts.	HP	Barn on site could provide roosting habitat.
<i>Taxidea taxus</i>	American badger	SSC	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. Need sufficient food, friable soils & open, uncultivated ground. Prey on burrowing rodents. Dig burrows.	HP	Species present. Recent and abandoned badger burrows observed within the grassland habitat.
Birds					
<i>Accipiter cooperii</i>	Cooper's hawk	WL	(Nesting). Woodland, chiefly of open, interrupted or marginal type. Nest sites mainly in riparian growths of deciduous trees, as in canyon bottoms on river flood-plains; also, live oaks.	HP	Species observed on-property in winter and probable sighting flying over property in spring by Heaton. Marginal nesting habitat -riparian trees of limited density/distribution.
<i>Agelaius tricolor</i>	tricolored blackbird	SSC	(Nesting colony). Requires open water, protected nesting substrate, & foraging area with insect prey within a few km of the colony.	HP	Some emergent and willow thicket habitat present, though discontinuous in nature. No individuals or nesting colony observed. Nearest CNDDDB occurrence approx. 3 mi E of site on American Creek.
<i>Aquila chrysaetos</i>	golden eagle	FP WL BCC	(Nesting and wintering). Rolling foothills, mountain areas, sage-juniper flats, & desert. Cliff-walled canyons provide nesting habitat in most parts of range; also, large trees in open areas.	HP	Observed on property in winter by Heaton. Site provides foraging habitat, unlikely to support nesting due to lack of preferred cliff/canyon habitat and limited tall trees.
<i>Ammodramus savannarum</i>	grasshopper sparrow	SSC	(Nesting). Dense grasslands on rolling hills, lowland plains, in valleys & on hillsides on lower mountain slopes. Favors native grasslands with a mix of grasses, forbs & scattered shrubs. Loosely	HP	Species present on property. Species observed by Heaton in suitable grassland habitat during nesting season.

Scientific Name	Common Name	Status	General Habitat Description	Habitat Present/Absent	Rationale
			colonial when nesting.		
<i>Ardea alba</i>	great egret	--	(Nesting colony). Colonial nester in large trees. Rookery sites located near marshes, tide-flats, irrigated pastures, and margins of rivers and lakes.	HP	Suitable marsh foraging habitat present. No nesting colonies were observed in the limited suitable nest trees on the property. Observed on the Estero by Heaton.
<i>Ardea herodias</i>	great blue heron	--	(Nesting colony). Colonial nester in tall trees, cliffsides, and sequestered spots on marshes. Rookery sites in close proximity to foraging areas: marshes, lake margins, tide-flats, rivers and streams, wet meadows.	HP	Suitable foraging habitat present. No nesting colonies were observed in the limited suitable nest trees on the property. Observed by pond and on the Estero in winter by Heaton.
<i>Asio flammeus</i>	Short-eared owl	SSC	(Nesting). Found in swamp lands, both fresh and salt; lowland meadows; irrigated alfalfa fields. Tule patches/tall grass needed for nesting/daytime seclusion. Nests on dry ground in depression concealed in vegetation.	HP	Species observed winter roosting in ungrazed grassland by Heaton (2012). Probable but unconfirmed summer presence by Heaton and property owner.
<i>Athene cunicularia</i>	burrowing owl	SSC BCC	(Burrow sites & winter observations). Open, dry annual or perennial grasslands, deserts & scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably, the CA ground squirrel.	HP	Species observed on property using mammal burrows in winter by Heaton (2012), primarily in grazed or open grassland areas.
<i>Brachyramphus marmoratus</i>	marbled murrelet	FT SE	(Nesting). Feeds near-shore; nests inland along coast, from Eureka to Oregon border & from Half Moon Bay to Santa Cruz. Nests in old-growth redwood-dominated forests, up to six miles inland, often in Douglas firs.	A	No suitable old-growth habitat on the property.
<i>Buteo regalis</i>	ferruginous hawk	WL BBC	(Wintering). Open grasslands, sagebrush flats, desert scrub, low foothills & fringes of pinyon-juniper habitats. Eats mostly lagomorphs, ground squirrels, and mice. Population trends may follow	HP	Suitable winter hunting habitat present. Species observed overhead in ungrazed grassland on property by Heaton (2012). Outside of nesting

Scientific Name	Common Name	Status	General Habitat Description	Habitat Present/Absent	Rationale
			lagomorph population cycles.		range.
<i>Charadrius alexandrinus nivosus</i>	western snowy plover	FT SSC	(Nesting). Federal listing applies only to the Pacific coastal population. Sandy beaches, salt pond levees & shores of large alkali lakes. Needs sandy, gravelly or friable soils for nesting.	A	No suitable nesting habitat due to lack of sandy, friable soils.
<i>Circus cyaneus</i>	northern harrier	SSC	(Nesting). Coastal salt & fresh-water marsh. Nest & forage in grasslands, from salt grass in desert sink to mountain cienegas. Nests on ground in shrubby vegetation, usually at marsh edge; nest built of a large mound of sticks in wet areas.	HP	Suitable marsh and grassland habitat present. Species observed on property in winter and in suitable nesting habitat in breeding season by Heaton.
<i>Coccyzus americanus occidentalis</i>	western yellow-billed cuckoo	FT SE	(Nesting). Riparian forest nester, along the broad, lower flood-bottoms of larger river systems. Nests in riparian jungles of willow, often mixed with cottonwoods, w/ lower story of blackberry, nettles, or wild grape.	A	Western yellow-billed cuckoos require large blocks of riparian habitat for breeding. The western yellow-billed cuckoo currently nests almost exclusively in low to moderate elevation riparian woodlands that cover 50 acres (ac) (20 hectares (ha)) or more (USFWS, 2013b). Property does not provide suitable nesting habitat due to limited extent of willow scrub riparian habitat. Nearest CNDDDB occurrence approx. 3 mi NW of site on Salmon Creek(CDFW, 2014).
<i>Cypseloides niger</i>	black swift	SSC BCC	(Nesting). Coastal mountains. Breeds in small colonies on cliffs behind or adjacent to waterfalls in deep canyons and sea-bluffs above surf; forages widely.	A	No suitable waterfall/cliff or sea-bluff habitat present.
<i>Egretta thula</i>	snowy egret	--	(Nesting colony). Colonial nester, with nest sites situated in protected beds of dense tules. Rookery sites situated close to foraging areas: marshes, tidal-flats, streams, wet meadows, and	HP	Suitable foraging areas present. Marginal nesting areas on central drainage near Estero. Species observed on the Estero by Heaton. No nesting colonies

Scientific Name	Common Name	Status	General Habitat Description	Habitat Present/Absent	Rationale
			borders of lakes.		observed.
<i>Elanus leucurus</i>	white-tailed kite	FP	(Nesting). Rolling foothills/valley margins w/scattered oaks & river bottomlands or marshes next to deciduous woodland. Open grasslands, meadows, or marshes for foraging close to isolated, dense-topped trees for nesting and perching.	HP	Foraging habitat present. Species observed in winter by Heaton. Dense topped nesting tree habitat limited, but use is possible.
<i>Geothlypis trichas sinuosa</i>	San Francisco (saltmarsh) common yellowthroat		Resident of the San Francisco Bay region, in fresh and salt water marshes. Requires thick, continuous cover down to water surface for foraging; tall grasses, tule patches, willows for nesting.	HP	Marsh habitat and central drainage provide suitable habitat. No CNDDDB occurrences within 5 miles (CDFW, 2014).
<i>Laterallus jamaicensis coturniculus</i>	California black rail	ST FP BCC	Inhabits freshwater marshes, wet meadows & shallow margins of saltwater marshes bordering larger bays. Needs water depths of about 1 inch that does not fluctuate during the year & dense vegetation for nesting habitat.	HP	Species not known from the Estero (Heaton, 2012). Saltwater/brackish marsh present at the mouth of the central drainage, however, density of vegetation in the area of the Estero access is sparse and unlikely to provide suitable habitat. Lower portions of the central drainage could provide freshwater marsh habitat. Nearest CNDDDB occurrence approx 11 mi s of site on Pt. Reyes peninsula (CDFW, 2014).
<i>Nycticorax nycticorax</i>	black-crowned night heron	--	(Nesting colony). Colonial nester, usually in trees, occasionally in tule patches. Rookery sites located adjacent to foraging areas: lake margins, mud-bordered bays, marshy spots.	HP	Suitable foraging habitat present. Willow scrub in central drainage may provide nesting habitat, though no nesting colonies observed. Sub-adult of the species observed by pond in Forever Wild area by Heaton.
<i>Pandion haliaetus</i>	osprey	WL	(Nesting). Ocean shore, bays, fresh-water lakes, and larger streams. Large nests built in tree-tops within 15 miles of a good fish-producing body of	HP	Estero provides suitable hunting habitat. Species observed overhead on property by Heaton and Peltz.

Scientific Name	Common Name	Status	General Habitat Description	Habitat Present/Absent	Rationale
			water.		No osprey nests observed on property.
<i>Passerculus sandwichensis alaudinus</i>	Bryant's savannah sparrow	SSC	Inhabit coastal salt marshes and moist grasslands, primarily within and just beyond the fog belt.	HP	Savannah sparrows observed in suitable grassland habitat on property in winter by Heaton and in breeding season by Heaton (2012) and Peltz (2014).
<i>Pelecanus erythrorhynchus</i>	American white pelican	SSC	(Nesting colony). Colonial nester on large interior lakes. Nests on large lakes, providing safe roosting and breeding places in the form of well-sequestered islets.	HP	Suitable nesting habitat not present. Estero provides migratory habitat. Species observed on Estero by Peltz.
<i>Pelecanus occidentalis californicus</i>	California brown pelican	FE SE FP	(Nesting colony). Colonial nester on coastal islands just outside the surf line. Nests on coastal islands of small to moderate size which afford immunity from attack by ground-dwelling predators.	A	No suitable coastal nesting habitat present. Unlikely to be present on the Estero as far inland as the property.
<i>Phalacrocorax auritus</i>	double-crested cormorant	WL	(Nesting colony). Colonial nester on coastal cliffs, offshore islands, & along lake margins in the interior of the state. Nests along coast on sequestered islets, usually on ground with sloping surface, or in tall trees along lake margins.	HP	Suitable nesting habitat not present. Estero provides foraging habitat. No nesting colony observed on property. Species observed on Estero by (Heaton 2012).
<i>Picooides nuttali</i>	Nuttall's woodpecker	BCC	(Nesting.) Oak forest and woodlands. Requires standing snag or hollow tree for nest cavity.	HP	Nesting habitat is marginal due to lack of woodland and is limited to the eucalyptus groves and cluster of pines near barn complex. Species observed on site in breeding season by Heaton (2012).
<i>Rallus longirostris obsoletus</i>	California clapper rail	FE SE FP	Salt-water & brackish marshes traversed by tidal sloughs in the vicinity of San Francisco Bay. Associated with abundant growths of pickleweed, but feeds away from cover on invertebrates from mud-bottomed sloughs.	HP	Species not known from the Estero (Heaton, 2012). Saltwater/brackish marsh present at the mouth of the central drainage, however, density of vegetation in the area of the Estero access is sparse and

Scientific Name	Common Name	Status	General Habitat Description	Habitat Present/Absent	Rationale
					unlikely to provide suitable habitat. Nearest CNDDDB occurrence approx 8 mi. S of site at Walker Creek (CDFW, 2014).
<i>Selasphorus sasin</i>	Allen's hummingbird	BCC	(Nesting). Breeds in coastal lowlands of the Upper Sonoran and Transition life zones. Prefers coastal sage scrub, soft chaparral, ravines & canyons, broken coastal forests, oak woodlands & riparian-lined watercourses.	HP	Suitable shrub and riparian habitat on site. A probable Allen's hummingbird was observed by Heaton (2012) in drainage near entrance gate in nesting season.
<i>Strix occidentalis caurina</i>	Northern spotted owl	FT SSC	Old-growth forests or mixed stands of old-growth & mature trees. Occasionally in younger forests w/patches of big trees. High, multistory canopy dominated by big trees, many trees w/cavities or broken tops, woody debris & space under canopy.	A	Property lacks old-growth or mature forest habitat.
Herptiles					
Sonoma DPS California tiger salamander	<i>Ambystoma californiense</i>	FT ST	Central Valley populations federal-listed as threatened. Santa Barbara & Sonoma County populations federal-listed as endangered. Found associated with long lasting vernal pools or other seasonal water sources for breeding. Need underground refuges, i.e., ground squirrel burrows. Critical habitat designation within Sonoma County is limited to the Santa Rosa Plain for the Sonoma County population.	A	The property is well out of the known range of CTS in Sonoma County and there are no published occurrences within 9 miles of the project site.
<i>Emys marmorata</i>	western pond turtle	SSC	Associated with permanent or nearly permanent water in a wide variety of habitats. Requires basking sites. Nest sites may be found up to 0.5 km from water.	HP	Species observed on property at confluence of central drainage with the Estero by Stabler and Peltz (2014). Central drainage provides suitable aquatic habitat.

Scientific Name	Common Name	Status	General Habitat Description	Habitat Present/Absent	Rationale
<i>Rana draytonii</i>	California red-legged frog	FT SSC	Lowlands & foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation. Requires 11-20 weeks of permanent water for larval development. Must have access to aestivation habitat.	HP	Property provides breeding and aestivation habitat. Species observed at multiple locations on property by Stabler and Peltz, and tadpoles were observed in the central drainage.
Fish					
<i>Eucycloglobius newberryi</i>	tidewater goby	FE SSC	Brackish water habitats along the CA coast. Found in shallow lagoons and lower stream reaches, they need fairly still but not stagnant water & high oxygen levels.	HP	Drainages on property do not provide habitat. The Estero along the property is designated critical habitat for the species. The species has been found in the Estero downstream of the property in extremely low numbers-high summer salinity thought to be limiting factor to species in Estero (GRRCD, 2007).
<i>Oncorhynchus kisutch</i>	Central California Coast coho salmon	FE SE	Federal listing includes all naturally spawned populations of coho salmon from Punta Gorda in northern California south to the San Lorenzo River in central California (inclusive). Need cover, cool water & sufficient dissolved oxygen.	A	The Estero is not known to currently support a population of coho salmon and the property does not provide suitable spawning or rearing habitat for coho. Historical reports of coho in the Estero exist (Spence, et al., 2005). All accessible stream reaches in the CCC coho Evolutionarily Significant unit are designated critical habitat.
<i>Oncorhynchus mykiss</i>	Central California Coast steelhead	FT	Listing includes all naturally spawned anadromous steelhead populations below natural and manmade impassable barriers in California streams from the Russian River to Aptos Creek (inclusive). Also San Francisco & San Pablo Bay Basins.	A	The Estero is designated critical habitat for steelhead. Drainages on property are not designated critical habitat. The central creek has a silty substrate and does not provide suitable spawning or rearing habitat. The Estero at the project site may be

Scientific Name	Common Name	Status	General Habitat Description	Habitat Present/Absent	Rationale
					a migratory corridor.
<i>Oncorhynchus tshawytscha</i>	California Coastal chinook salmon	FT	Federal listing refers to naturally spawned coastal spring & fall Chinook salmon between Redwood Creek in Humboldt County & the Russian River in Sonoma County.	A	The Estero is not designated critical habitat for Chinook and is not known to support a population of Chinook salmon.
<i>Spirinchus thaleichthys</i>	longfin smelt	FC ST	Euryhaline, nektonic & anadromous. Found in open waters of estuaries, mostly in middle or bottom of water column. Prefer salinities of 15-30 ppt, but can be found in completely freshwater to almost pure seawater. Bay-Delta DPS is a candidate species. State listing is throughout range.	HP	Species has been found on the Estero (GRRCD, 2007). Drainages on property do not provide suitable habitat.
<i>Thaleichthys pacificus</i>	eulachon	FT SSC	Found in Klamath River, Mad River, Redwood Creek & in small numbers in Smith River & Humboldt Bay tributaries. Spawn in lower reaches of coastal rivers w/ moderate water velocities & bottom of pea-sized gravel, sand & woody debris.	A	Outside federally listed range. Nearest CNDDDB occurrence from Bodega Bay (CDFW, 2014). Silty substrate does not provide suitable spawning habitat.
Invertebrates					
<i>Callophrys mossii bayensis</i>	San Bruno elfin butterfly	FE	Coastal, mountainous areas with grassy ground cover, mainly in the vicinity of San Bruno Mountain, San Mateo County. Colonies are located on steep, north-facing slopes within the fog belt. Larval host plant is <i>Sedum spathulifolium</i> .	A	Property lacks steep, north facing slopes with suitable conditions for larval host plant <i>Sedum spathulifolium</i> (shallow weathered soils associated with rocky substrates that occur at 275-325 m elevation). All known locations are restricted to San Mateo County (USFWS, 2010).
<i>Coelus globosus</i>	globose dune beetle	--	Inhabitant of coastal sand dune habitat, from Bodega head in Sonoma County south to Ensenada, Mexico. Inhabits foredunes and sand hummocks; it burrows beneath the sand surface and is most common beneath	A	No sand dunes within the project limits.

Scientific Name	Common Name	Status	General Habitat Description	Habitat Present/Absent	Rationale
			dune vegetation.		
<i>Danaus plexippus</i>	monarch butterfly	--	Winter roost sites extend along the coast from northern Mendocino to Baja California, Mexico. Roosts located in wind-protected tree groves (eucalyptus, Monterey pine, cypress), with nectar and water sources nearby.	HP	Eucalyptus and pine on the property could provide winter roosting habitat. Nearest CNDDDB occurrence approx 4.8 mi from the site near Dillon Beach (CDFW, 2014).
<i>Ischnura gemina</i>	San Francisco forktail damselfly	--	Endemic to the San Francisco Bay area. Small, marshy ponds and ditches with emergent and floating aquatic vegetation.	HP	Ponds or swales on property or ponded areas in central drainage could provide habitat. Two CNDDDB occurrences located approximately 5 miles south of the site near Dillon Beach (CDFW, 2014).
<i>Lichnanthe ursina</i>	bumblebee scarab beetle	--	Inhabits coastal sand dunes from Sonoma Co south to San Mateo Co. Usually flies close to sand surface near the crest of the dunes.	A	No dune habitat present.
<i>Speyeria zerene myrtleae</i>	Myrtle's silverspot butterfly	FE	Restricted to the foggy, coastal dunes/hills of the Point Reyes peninsula; larval food plant thought to be restricted to <i>Viola adunca</i> .	HP	Annual grassland habitat present. <i>Viola adunca</i> present on-site, along with several potential nectar plants.
<i>Syncaris pacifica</i>	California freshwater shrimp	FE SE	Endemic to Marin, Napa, & Sonoma Cos. Found in low elevation, low gradient streams where riparian cover is moderate to heavy. Shallow pools away from main streamflow. Winter: undercut banks w/exposed roots. Summer: leafy branches or roots submerged in water.	HP	Central drainage appears to contain pools of sufficient depth to remain hydrated year-round, summer habitat, and some limited winter habitat. Species not found in dip-net surveys by Stabler and Peltz.
<i>Vespericola marinensis</i>	Marin hesperian	--	Found in moist spots in coastal brushfield and chaparral vegetation in Marin County. Under leaves of cow-parship, around spring seeps, in leafmold along streams, in alder woods & mixed evergreen forest.	A	General habitat type present on site. All occurrences are from Marin County.

Key to Status Codes:

FE	Federal-listed as Endangered	SE	State-listed as Endangered
FT	Federal-listed as Threatened	ST	State-listed as Threatened
FC	Federal Candidate	SR	State Rare (plants only)
BCC	USFWS Birds of Conservation Concern	SC	State Candidate
		FP	CDFW Fully Protected Species
		SSC	CDFW California Special Concern Species
		WL	CDFW Watch List
H	Western Bat Working Group (WBWG) High Priority		
M	WBWG Medium Priority		

* Strictly pelagic species from the USFWS list are not included in the table.

Special Status Mammals

American badger (*Taxidea taxus*)

Status

California Species of Special Concern

Habitat and Distribution

The American badger, a California Species of Special Concern, is a widespread, uncommon resident across California. It is found in a variety of habitats, and is most abundant in drier open stages of shrub, forest, and herbaceous habitats, that have friable soils (Zeiner, et al. 1990). Badgers are carnivorous, eating primarily small rodents, especially ground squirrels and pocket gophers, but also take a variety of other smaller prey (Zeiner, et al. 1990). Badgers dig their own burrows, and often reuse old burrows, but may dig new ones each night (Zeiner, et al. 1990). They are active year-round, though less so in winter. Badgers breed in summer and early fall, and implantation of the embryos is delayed, and young are typically born in March and April (Zeiner, et al. 1990). The young remain underground until the age of 6-8 weeks old. At age 3-4 months of age, badgers disperse to live in their own burrows (Martinelli, personal communication, 2010).

The CNDDDB lists numerous occurrences of American badger in the general area, including an occurrence at the project property (CDFW, 2014).

Occurrence at the Site

We observed many badger burrows along the trail corridor at several locations in the annual grasslands. Some were fairly recently used, with well defined openings and relatively freshly disturbed soil at the entrance, indicating that badgers are actively using the project area. Others appeared older and not maintained, showing signs of collapse and abandonment. Due to the distribution of the existing burrows and propensity for badgers to continually dig new burrows, we assume badger burrows could be present along any of the trail corridors or within the staging areas at any given time, and that current burrow locations do not necessarily represent the locations that will be occupied at the time of trail construction.

Potential Impacts

Project construction activities, including grading, equipment staging, or other site disturbances could result in destruction of badger burrows. Burrow entrances could be destroyed, or ground disturbance could cause collapse of underground portions of the burrow. The removal of inactive badger burrows would not be considered a substantial adverse impact, but active burrows may be encountered. This species may be present on the site at any time of the year, and the removal of active dens could result in the direct mortality of individual adult badgers that are denning in project area, or of young if construction activities occur during the natal season.

Badgers using burrows directly impacted by the project would be able to establish new dens elsewhere in the grassland habitat on site. Badgers are somewhat tolerant of human activities (Zeiner, et al. 1990), so use of the trail is not expected to cause badgers to abandon the area. Because badger may occur anywhere within the grassland habitat on site and making up the majority of the trail easement alignment, we do not recommend any specific measures for routing of the trail easement, other than avoidance of active burrows in the year of construction.

Recommendations

The following measures are recommended to minimize impacts to active badger dens and minimize conflicts with trail users.

1. If feasible, conduct all ground-disturbing activities between September 1 and February 28 to avoid the natal season for American badger. If it is not feasible to conduct ground-disturbing activities to avoid natal season for American badger, complete the following:
 - a. Conduct a survey for natal burrows within seven days prior to any ground-disturbing activity. The area to be surveyed will include all construction sites and staging areas, to a buffer of 50 feet outside the boundary of the disturbance area. Survey results will remain valid for a period of 21 days following the date of the survey.
 - b. In the event that an active natal burrow is discovered in the surveyed area, postpone all ground-disturbing construction activities, within 50 feet of the active natal burrow. No ground-disturbing activity will be allowed to occur within this area until it is determined that the young have dispersed the natal burrow.
2. Outside the natal season, conduct a survey for active badger burrows within seven days prior to any ground-disturbing activity. The area to be surveyed will include all construction sites and staging areas, to a buffer of 50 feet outside the boundary of the disturbance area. Exclusion techniques will be used to passively relocate any badgers that are present in the disturbance area or within 50 feet of project activities. Exclusion techniques, such as installation of a one-way door in the burrow entrance, would exclude badgers from entering the burrow. Burrows with exclusion techniques will be monitored to confirm badger usage has been discontinued. After badger use has been discontinued, burrows outside the disturbance area, but within 50 feet of construction activities, will be temporarily covered with plywood sheets or similar material. Burrows within the project work area will be hand-excavated and collapsed to prevent reoccupation.

3. A qualified biologist shall conduct a worker environmental awareness program to provide construction personnel with information on their responsibilities with regard to the American badger. At a minimum, the training shall describe the species and their habitat, the importance of the species and its habitat, measures that are being implemented to conserve the species, and actions to take in the event badgers are observed in the work area.
4. Include information about sensitive habitats and badger presence in interpretive signage for the project.

Special status bats

The CNDDDB search identified several bat species occurrences within five miles of the project, including pallid bat (*Antrozous pallidous*), Townsend's big-eared bat (*Corynorhinus townsendii*), fringed myotis (*Myotis thysanodes*), long-eared myotis (*Myotis evotis*), and hoary bat (*Lasiurus cinereus*) (CDFW, 2014).

Status

Pallid bat and Townsend's big-eared bat are California Species of Special Concern. Fringed myotis, long-eared myotis, and hoary bat do not have formal status, they are considered sensitive species by CDFW (see Table 1.) Though fringed myotis, long-eared myotis, and hoary bat are not discussed in further detail here, the measures employed to minimize impacts to the Species of Special Concern will also minimize impacts to these bats.

Habitat and Distribution

Pallid bat

Pallid bats occupy a variety of habitats at low elevation including grasslands, shrublands, woodlands and forests. It is most common in open, dry habitats with rocky areas for roosting. Pallid bat day roosts are in caves, crevices, mines, and occasionally hollow trees and buildings. Night roosts can be more open, and can include porches and open buildings. Most pallid bats are social, roosting in groups of 20 to over 100. They are very sensitive to disturbance of roosting sites. Pallid bat may be present in the area at any time of year (Zeiner, et. al, 1990). Maternity colonies form in early April, and may have 12 to 100 individuals. Pallid bat eat many types of insects, foraging over open ground, taking prey from the ground or gleaning it from vegetation. The nearest CNDDDB occurrence is located approximately 4 miles north of the site (CDFW, 2014).

Townsend's big-eared bat

Townsend's big-eared bat is found throughout California, with the exception of alpine and sub-alpine habitats, and may be present at any time of year. They require caves, mines, tunnels, buildings, or other human-made structures for roosting, and roost in the open on the walls or ceilings of these structures (CDFG, 2000). Townsend's big-eared bat is extremely sensitive to disturbances of roost sites (CDFG, 2000). They prey on moths or other soft-bodied insects, gleaning them from brush or feeding along habitat edges (CDFG, 2000). The nearest CNDDDB occurrence is approximately 3.4 miles west of the site (CDWF, 2014).

Occurrence at the Site

While there were no direct or indirect (guano, urine staining, body streaks) observations of bat presence during the site visits, bats may be present on site. The site provides suitable foraging habitat. Though limited in number and distribution, trees on site may provide roosting habitat for pallid bat or tree roosting bat species. The barn and adjacent structures may provide roosting habitat, though current use of the barn in association with ranching activities and occasional human presence in the barn may limit the suitability of the habitat, particularly to those species most sensitive to human presence, such as Townsend's big eared-bat and pallid bat. The trail corridor lacks caves, tunnel, or rocky areas that could be used for roosting.

Potential Impacts

Use of the barn or building interiors for trail purposes is not proposed for the project. Therefore, the project would not impact roosting habitat in these structures. The project could result in direct mortality of bats if trees are removed while they are occupied by bats. The project could also impact bats if construction activities in close proximity to an active maternity roost disturb the roost to the extent that it causes bats to abandon the roost and their young.

Recommendations

1. Restrict construction activities to the daylight hours to avoid impacts to foraging or night-roosting bats.
2. Require a qualified biologist to survey trees with the potential to support special-status bats within 100 feet of construction activities 7 days or less prior to the onset of construction. If there is no evidence that bats are present, such as visual or acoustic detection, guano, urine staining, or strong odors, no further mitigation is required.
 - a. If a maternity roost is identified within a tree scheduled to be removed or within 100 feet of construction activities, create and maintain a buffer around the bat roost until such time that the roost is no longer occupied. Consult with the California Department of Fish and Wildlife to determine the appropriate size of the no-disturbance buffer.
3. Bat roosts initiated within 100 feet of construction activities after construction in the specific area has already begun will be presumed to be unaffected by construction activities and a buffer will not be required.
4. Under all circumstances, the "take" of individuals, including direct mortality of individuals or the destruction of roosts while bats are presents, is prohibited.
5. If a non-breeding day roost or hibernacula is found in a tree scheduled to be removed, apply for a Memorandum of Understanding with CDFW, that would include provisions for the safe eviction of bats under the direction of a qualified bat biologist by opening the roosting area at dusk to allow air flow through the cavity, or by an alternative measure that does not result in take. Tree removal will then follow no later than the following day so that there will be one night between initial disturbance and tree removal, allowing bats to leave the roost during dark hours, thereby increasing their chance of finding new roosts with a minimum of potential predation during daylight.

Special Status Birds

The project property provides suitable habitat for numerous special status bird species, as indicated in Table 1, including tree-nesting, shrub/scrub/grassland nesting and ground nesting species. In general, the trail corridor avoids removal of mature trees. Many colonial nesting species could use the project property or the Estero Americano for foraging, however, nesting colonies were not observed on the property during numerous bird surveys by Ms. Heaton (2012) or our site visits in 2014. Only those species most likely to be impacted by the trail construction and operation, particularly grassland and ground nesting/wintering species, marsh or riparian nesting species, or those with an elevated status requiring additional discussion, are described in detail below. However, the measures recommended below are sufficient to address impacts to all special status bird species that may occur on the property.

Common bird species also use the project property. Most birds (and their eggs) in the United States, including non-status species, are given special protection under the Migratory Bird Treaty Act (MBTA) of 1918. The measures recommended below are sufficient to address impacts to birds protected by the MBTA.

More extensive detail on life history and use of the site by the species addressed below can be found in the bird survey report by Emily Heaton (2012).

Grasshopper sparrow (*Ammodramus savannarum*)

Status

Grasshopper sparrow is a California Species of Special Concern, with breeding listed as the season of concern¹.

Habitat and Distribution

In general, grasshopper sparrows in California prefer short to middle-height, moderately open grasslands with scattered shrubs (Unitt, 2008). These sparrows forage primarily on the ground or from low vegetation; bare ground may be important (Vickery, 1996). Grasshopper sparrows feed primarily on insects and also eat other invertebrates, as well as grass and forb seeds (CDFG, 2008). They use scattered shrubs for singing perches, and breed from early April to mid-July, with a peak in May and June (CDFG, 2008). Grasshopper sparrows build nests domed with grasses and with a side entrance, usually hidden in depressions at the base of grass clumps with the rim approximately level to the ground (Vickery, 1996).

Grasshopper sparrow is a summer resident in Sonoma County. The CNDDDB does not list any nesting occurrences within 5 miles of the project site (CDFW, 2014). The Sonoma County Breeding Bird Atlas (online resource) 2011-2015, lists confirmed breeding for grasshopper sparrow in the census block including the project property, as well as several nearby blocks (Breeding Bird Atlas, 2014).

¹ Given the distribution and abundance of many taxa in California vary greatly seasonally, the “season of concern” corresponds to the season, or seasons, for which a specific taxon is ranked for conservation priority on the BSSC list (CDFG, 2008).

Occurrence at the Site

Heaton detected grasshopper sparrows on the project property during her June 2011 survey, concentrated on the flat ridge southwest of the barn, on the slopes of the surrounding drainages, and on the ridge southwest of the pond (see Figure 3). Two of these areas are adjacent to or within the Estero access trail corridor and project staging/parking area. Heaton noted that grasshopper sparrows on the site seemed to prefer grassland of intermediate heights (about 1-2 feet (30-60 cm)) with some diversity of grass and herb species. Breeding of this species on site is assumed.

No grasshopper sparrows were identified in our 2014 site visits, however, on more than one occasion, sparrows flushed from suitable habitat on the trail corridor ahead of our survey before they could be identified, and continued use of the site is likely.

Grasshopper sparrow populations can fluctuate between years. This may be the result of population shifts to take advantage of variable habitat suitability caused by annual differences in rainfall or disturbance such as grazing (Unitt, 2008). In general, much of the trail corridor passes through grassland habitat that could be used by grasshopper sparrow. The localized suitability of habitat for grasshopper sparrow along the trail corridor may shift in response to changing conditions. Heaton noted that the western half of the property had been ungrazed for a few years at the time of her surveys. During our April 15, 2014 site visit, we observed cattle grazing within the northwestern portion of the property (the West Trail location), and observed cattle tracks on the Estero mudflats on the western half of the property, indicating that grazing patterns of the site shift over time. Drought conditions may also influence habitat suitability and may heighten the effects of grazing. Grasshopper sparrows may be present in areas where they were not observed during site surveys, or absent in areas previously occupied.

Bryant's savannah sparrow (*Passerculus sandwichensis alaudinus*)

Status

California Species of Special Concern (with year-round listed as the season of concern)

Habitat, and Distribution

Bryant's savannah sparrow is a subspecies of savannah sparrow that occupies salt marsh and moist grasslands within and just above the fog belt, and, infrequently, drier grasslands (Fitton 2008). It is the only subspecies that breeds in Sonoma County. In winter, other subspecies of savannah sparrow move into the county. Savannah sparrows eat primarily animal matter (insect eggs, insects and other invertebrates) during the breeding season and primarily vegetable matter during winter (seeds and fruit) (Fitton, 2008). They forage on the ground or in low growing plants (Zeiner, et al., 1990). In salt marsh, they prefer areas 1.5 to 3 m above mean sea level, above cord grass stands, often near the transition to grassland (Fitton, 2008). In grassland, they often use areas where herbaceous vegetation is relatively short, often near swales or drainages (Fitton, 2008). Cup nests are constructed on the ground, hidden by overhanging vegetation (CWHR account). Savannah sparrows often sing from perches such as low shrubs, grass clumps, and fences (Fitton, 2008).

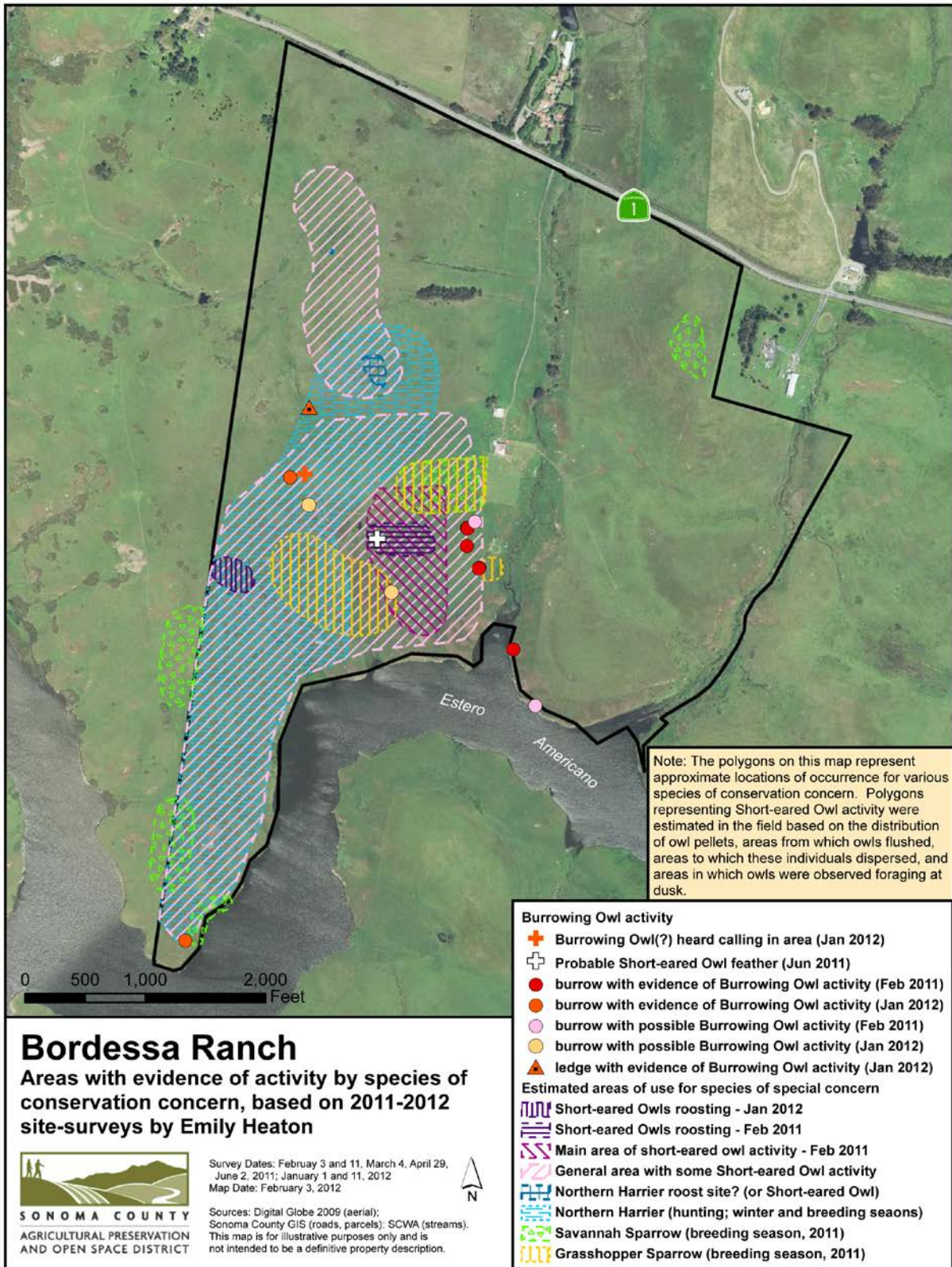


Figure 3. Approximate Locations of Occurrences for Bird Species of Conservation Concern.

Figure Source: Heaton, 2012.

The CNDDDB does not list any occurrences within 5 miles of the project property (CDFW, 2014). However, the Sonoma County Breeding Bird Atlas (Burridge, 1995; Breeding Bird Atlas, 2014) and Marin County Breeding Bird Atlas (Shuford, 1993) show numerous probable and confirmed breeding occurrences in the project vicinity.

Occurrence at the Site

During winter surveys, savannah sparrows were distributed widely across the property. During the 2011 breeding season surveys, Bryant's Savannah Sparrows were dispersed across the property and occurred at various locations, both in grazed and ungrazed grassland (See Figure 3) (Heaton, 2012). Ms. Heaton noted that in most locations where savannah sparrows were present, the grassland habitat was of an intermediate height, generally 1-2 feet (30-60 cm), though they were also present in one location where the grass was significantly shorter.

During the April 15 site visit, Peltz observed a savannah sparrow perched on sweetbriar shrubs in annual grassland habitat near the junction between the East Trail and spur trail corridors, and another near a seep above a water trough on the Estero access trail.

As with grasshopper sparrow, in general, much of the trail corridor passes through grassland habitat that could be used by savannah sparrow. In addition, the marsh to grassland transitional zone near the south end of the Estero access trail also provides suitable habitat. The localized suitability of grassland habitat for savannah sparrow along the trail corridor may shift in response to changing conditions, such as grazing or annual climate patterns influencing grassland growth. Savannah sparrows may be present in areas where they were not observed during site surveys, or absent in areas previously occupied.

Short-eared owl (*Asio flammeus*)

Habitat and Distribution

Short eared owl is a California Species of Special Concern, with breeding listed as the season of concern. It inhabits marshes and grasslands. It is typically a crepuscular hunter, but can also be active in the day and at night (Roberson, 2008). Short-eared owl nests and roosts on the ground, and requires dense vegetation, often tall grasses, for cover (CWHR). In the non-breeding season, it forms large communal roosts (Wiggins et al., 2006).

Short-eared owls shift wintering and breeding sites in response to cycles in local prey abundance, resulting in variation in numbers and range, and can be nomadic (Roberson, 2008; Wiggins et al., 2006). In California, California vole is an important food source.

Short-eared owl is a year-round resident in some parts of California, while in others it is a wintering species. Birds increase the population in the state during winter months, generally between October and early March (Roberson, 2008). In Sonoma County, it occurs in the winter months. Only one breeding record is known for Sonoma County (from Annadel State Park) and one for Marin County (from Point Reyes National seashore, both from 1979 (Burridge, 1995; Shuford, 1993).

Occurrence at the Site

A good number of Short-eared Owls inhabited the Bordessa Ranch during the 2010-2011 and 2011-2012 winter seasons (Heaton, 2012). At least twenty owls were observed in 2010-2011

and at least 18 in 2011-2012, with the landowner reporting seeing even higher numbers. Owls were flushed from communal roost sites in ungrazed grassland. The location of the main roost shifted between visits and between years; (see Figure 3). All roost sites were found in grassland habitat dense enough and tall enough (about 30-60cm) to effectively conceal roosting owls. Based on owl observations and signs (pellets, whitewash, feathers), Heaton determined that short-eared owl was using a majority of the western ungrazed portion of the property. Roosting was concentrated in the Forever Wild portion of the property.

Heaton did not observe any owls directly during the 2011 breeding season survey, though a fresh likely short-eared owl feather was found near the pond in the Forever Wild area along with owl pellets. The land owners reported seeing owls in April-May of 2011 and in summer of 2010., Ms. Heaton concluded that if owls do nest on the property, it is likely that most of the individuals that winter there migrate to distant breeding grounds for nesting based on the species' life history and the lack of any evidence that large numbers of owls occur on the property during the breeding season.

Our 2014 surveys did not coincide with the winter season for short-eared owl, so we cannot make conclusions regarding continued use of the site for winter roosting; however. Heaton's observations showed roosting over more than one year, so it is likely roosting continues. We did not observe evidence of short-eared owl during our surveys, which correspond to the breeding season, though the survey of the trail corridor did not include the pond in the Forever Wild area where the possible breeding season evidence was observed by Heaton. Confirmation of breeding would be a significant find as there is currently only one recorded breeding occurrence in Sonoma County.

As with the other grassland species, shifting grazing patterns over time may influence the suitability of habitat for short-eared owl on the site, particularly as short-eared owl use of the site seems to correspond to taller, ungrazed areas (Heaton, 2012). Owl use on the trail corridor alignment could shift over time if some areas become more heavily grazed, or alternatively, are left ungrazed for a period of time.

Burrowing owl (*Athene cunicularia*)

Status

The burrowing owl is a California Species of Special Concern, with breeding listed as the season of concern.

Habitat and Distribution

The burrowing owl is a small, ground-dwelling species of open, dry grassland and desert habitats, and may be found in prairie, rolling hills, and ranchlands. Burrowing owls are active both day and night, and can often be seen standing at burrow entrances during the day. They nest underground, using abandoned ground squirrel and other small mammal burrows, though in soft soil than can dig their own burrow (CDFG, 1999). They feed mostly on insects, but also feed on small vertebrates. Breeding occurs from March through August, with the peak in April and May (CDFG, 1999). Nesting by burrowing owls has not been documented in Sonoma County in over 20 years (Shuford, 1993; Burrige, 1995; Gervais et al., 2008). However, the Sonoma County Breeding Bird Atlas 2011-2015, lists a "possible" breeding occurrence for the census block which includes the project site (Breeding Bird Atlas, 2014). Burrowing owl is only

infrequently observed in Sonoma County during the nonbreeding (winter) season (Bolander and Parmeter, 2000; Burrige, 1995).

The CNDDDB includes one occurrence of burrowing owl approximately 5 miles northwest of the site consisting of three adults observed near burrows in February 2007 (CDFW, 2014).

Occurrence at the Site

Heaton (2012) found evidence of burrowing owls, including pellets and whitewash, around numerous badger burrow entrances during site surveys in 2010-2011 and 2011-2012 winter seasons, a burrowing owl was seen by Gene Hunn on March 4, 2011, and a probable borrowing owl call was heard calling on January 11, 2012 (Heaton, 2012). Locations where burrowing owls were observed by Heaton are shown on Figure 3, in general located in the Forever Wild Area in the southwest corner of the property, along the Estero access trail corridor, and at the southernmost point of the East Trail corridor. No burrowing owls were detected during the 2011 breeding season surveys. Heaton noted that burrows being used by burrowing owl generally occurred where “1) the grassland habitat was much more open and exposed (as compared to that used by Short-eared Owls), with clumps of thatch being fairly sparse; or 2) vantage points (e.g. a ledge created by a gully) that would allow an owl to survey the surrounding area for predators were present.”

We did not observe burrowing owls during our site surveys of the trail corridors on April 15 and June 23, 2014. This is consistent with regional patterns of burrowing owl occurrence (i.e. wintering only). Old pellets were observed near a fully collapsed badger burrow near the east trail alignment overlooking the Estero (see Photo 5 in Appendix A), similar in location to burrows observed by Ms. Heaton in 2011. A nearby rock showed whitewash. Due to the collapsed nature of the burrow and old appearance of the pellets, we concluded this burrow was not occupied, but could have been used in the winter preceding our survey. One other unidentified owl pellet was discovered on a rock near the Estero access trail (see Photo 12 in Appendix A), but no burrows were found in the immediate vicinity, and we cannot say if the pellet was from a burrowing owl or another species. We did not observe any other evidence of burrowing owl activity along the trail corridor. Because our site visits were outside of the wintering season, we cannot draw conclusions regarding continued wintering use of the site. However, badger dens or other mammal burrows along the trail alignment provide suitable habitat for owls.

Based on the lack of observations during the breeding season and lack of documented breeding in general for Sonoma County, it is unlikely burrowing owl uses the site for breeding.

Northern harrier (*Circus cyaneus*)

Status

Northern harrier is a California Species of Special Concern, with breeding listed as the reason of concern.

Habitat and Distribution

Northern harriers occupy numerous open habitats such as fresh and saltwater marsh, grasslands, meadows, ungrazed or lightly grazed pastures, desert sinks, sagebrush flats and some croplands. Habitat elements include abundant prey (rodents (often voles) and songbirds),

vegetative cover, and scattered perches such as shrubs or fence posts. Northern harriers nest on the ground in dense, tall vegetation. (Davis and Niemela, 2008)

In California, northern harriers occur year round within the breeding range, but tend to be more broadly distributed and in higher numbers in winter and during migration periods (Davis and Niemela, 2008). Harriers typically roost communally in the winter (Smith, et al., 2011). The CNDDDB does not include any records within 5 miles of the project site (CDFW, 2014). Nevertheless, breeding in Sonoma County is known to occur in coastal grasslands and within marshes, as well as near the Petaluma River and San Pablo Bay, and may also occur near the Laguna de Santa Rosa (Burrige, 1995; Breeding Bird Atlas, 2014).

Occurrence at the Site

Northern harrier was observed on site in both the breeding and non-breeding season though in greater numbers in the non breeding season (Heaton, 2012). Northern harrier activity was often concentrated on the hillside northwest of the barn. During her January 11, 2012 survey, Heaton found a likely northern harrier communal roost site in an area of dense, tall (2-2.5 feet) grassland (see Figure 3). During the 2011 breeding season surveys, harriers were observed flying above and hunting on the project property (Heaton, 2011).

Our April and June 2014 surveys were conducted outside of the winter period when communal roosting is likely to occur. Therefore, it is not known if the communal roost site is still being used, though harriers are known to be philopatic and have high site fidelity for roosts, often using the same roost over multiple years (Heaton, 2012).

Taller grasslands on the project property provide suitable breeding habitat for northern harrier. Marsh habitat along the Estero on the property east and west of the proposed portage/ launch route, though the area in the immediate vicinity of the portage/ launch route primarily consists of open ground with only sparse vegetation that would not be suitable breeding habitat.

White-tailed kite (*Elanus leucurus*)

Status

White-tailed kite is a CDFW Fully Protected Species per the Fish and Game Code Section 3511.

Habitat and Distribution

White-tailed kite nesting occurrences are considered sensitive and are tracked in the CNDDDB. White-tailed kite is a year-round resident of coastal and valley lowlands that forages in undisturbed, open grasslands, meadows, farmlands and emergent wetlands. It makes a nest near the top of a dense oak, willow, or other tree stand, in close proximity to open foraging habitat (CDFG, 2005), but may also use tall shrubs (Dunk, 1995). It preys on voles, or other small vertebrates that are active during the day. It is often observed hovering while searching for prey (CDFG, 2005). In winter, kites can roost communally, often in a small stand of trees, but sometimes on the ground (Dunk, 1995).

No nesting occurrences are included in the CNDDDB within 5 miles of the project site (CDFW, 2014). However, the Sonoma County Breeding Bird Atlas shows possible breeding in the atlas

block that includes the project site (Burrige, 1995; Breeding Bird Atlas, 2014), and confirms breeding in an adjacent atlas block (Breeding Bird Atlas, 2014).

Occurrence at the Site

Heaton observed white-tailed kite at the project property in winter of 2010-2011 and 2011-2012. Kite activity appeared to be concentrated near the top of the two westernmost drainages and in the pasture to the west of the barn complex (Heaton, 2012). Kites were seen perching on fences and in trees. Heaton did not observe any kites during breeding season surveys in 2011, and we did not observe any during our April and June survey of 2014. However, it is possible that kites could breed on-site or forage during the breeding months. In general, tree nesting habitat is somewhat limited on the property, though trees and shrubs along the property's drainages could be used.

California black rail (*Laterallus jamaicensis coturniculus*)

Status

California black rail is state listed as Threatened and is also a Fully Protected species.

Habitat and Distribution

California black rail is a secretive resident of saline, brackish and fresh emergent wetlands. The most common habitats include tidal emergent wetlands dominated by pickleweed and brackish marsh with bulrush and pickweed. Freshwater marsh habitats usually include bulrushes, cattails and saltgrass. California black rail typically inhabits the high wetland zones near the upper limit of tidal flooding, not low wetland areas with considerable annual and/or daily fluctuations in water levels. During extreme high tides, rail may depend on the upper wetland zone and adjoining upland or freshwater wetland vegetation for cover. Little is known about range size or territoriality. (CDFG, 1999b)

California black rail eats isopods, insects and other arthropods from mud and vegetation (CDFG, 1999b), though some studies have also shown that seeds can also be a component of their diet (Eddleman, et al., 1994).

California black rail build a loose cup nest at or near the ground in dense vegetation, often within pickweed (CDFG, 1999b). Nesting habitat is characterized by areas with water depths of about one inch (CDFG, 2005b).

The black rail population in Sonoma County is primarily concentrated in the marshes of San Pablo Bay and the Petaluma River (Burrige, 1995). There are no occurrences in the CNDDDB within 5 miles of the project site (CDFW, 2014). California black rail is not known to occur in the Estero but bird surveys in this estuary have been limited (Heaton, 2012). The CNDDDB includes several occurrences along the margins of Tomales Bay in Marin County to the south (CDFW, 2014). Burrige (1995), describes a small population to the north in Bodega Bay from the early 1990s.

Occurrence at the Site

California black rail has not been observed on the project property or within the Estero watershed. Salt marsh near the upper tidal zone and transitional marsh along the lower reaches of the central creek may provide some suitable habitat for black rail.

A majority of the trail corridor does not pass through or near suitable habitat for California black rail. The proposed Estero boat portage access passes through an area that is predominantly open ground with a low density of scattered pickleweed (see Photos 13 and 14 in Appendix A), subject to large daily fluctuations in tides, as well as periods of extended lack of inundation in summer (since the Estero is cut off from tidal inundation during summer months due to the sandbar that forms at the mouth (GRRCD, 2007)). These extremes in tidal fluctuations make the marsh habitat unsuitable for black rail. Areas of brackish marsh to the west, and to the east (on the opposite side of the central creek) provide more dense pickleweed dominated vegetation. However, these areas are also subject to large fluctuations in tidal inundation, and the abrupt transition to steep grassland slopes leaves little in the way of escape areas for rail during very high tides. The transitional marsh along the lower portion of the central creek outlet is dominated by saltgrass and has suitable dense vegetation, year-round water from outflow of the creek, and provides escape areas upstream during very high tide events, making this area potentially suitable habitat, although limited in extent.

California clapper rail (*Rallus longirostris obsoletus*)

Status

California clapper rail is federally and state listed as Endangered and is also a state Fully Protected Species. Critical habitat has not been designated for this species.

Habitat, and Distribution

The U.S. Fish and Wildlife Service has issued a Recovery Plan addressing California clapper rail within the *Recovery Plan for Tidal Marsh Ecosystems of Northern and Central California* (2013). According to the Recovery Plan, "California clapper rails occur almost exclusively in tidal and brackish marshes with unrestricted daily tidal flows, adequate invertebrate prey food supply, well developed tidal channel networks, and suitable nesting and escape cover providing *refugia* during extreme high *tides*. Lack of extensive blocks of tidal marsh with suitable structure is the ultimate limiting factor for the species' recovery."

Clapper rails are considered secretive and difficult to see in dense vegetation, but can be seen more easily along the edges of tidal sloughs. Clapper rails are omnivores and are opportunistic feeders. They require a complex network of sloughs to provide cover and abundant populations of invertebrates for foraging (USFWS, 2013).

Nests are typically located in the upper middle tidal marsh or high tidal marsh zones, but not within upland habitat transition zones. The nest must be at an elevation to prevent total inundation at high tide. Vegetation must be high (19.7 inches or greater) for nest concealment. In San Francisco Bay, dense pickleweed or gumplant vegetation is often selected as the nest location. The nest is a platform surrounded by vegetation that is pulled together to form a canopy. Nesting may begin in late February/early March and extend through August. (USFWS, 2013)

Clapper rails exhibit strong territorial defense, particularly during the late winter and early breeding seasons. A 1991-1992 radiotelemetry study in south San Francisco Bay indicated an average home range of 11.6 acres and an average core use area of 2.2 acres (Albertson, 1995). Home ranges can vary by season and from marsh to marsh. (USFWS, 2013)

Adults rails and eggs/nestlings are vulnerable to a wide variety of avian and native and non-native mammalian predators. Red fox and Norway rats are significant nest predators U.S. Fish and Wildlife Service considers the California clapper rail sensitive to human disturbance, though sensitivity varies between marshes and between individuals (USFWS, 2013).

Suitability of many marshes for California clapper rail is limited by their small size (USFWS, 2010b). Large marshes increase the distance to upland predator dens, tend to have fewer edge effects such as contamination, human disturbance, and litter to attract additional predators, provide the increased complexity of tidal sloughs and vegetation needed for foraging and cover, and provide more elevation-dependent nesting sites and high-tide refugia (USFWS, 2013).

California clapper rail are now restricted almost entirely to the San Francisco Bay Estuary (USFWS, 2013). The Recovery Plan Central Coast Recovery Unit does include a narrow band of land along the Marin and Sonoma Coast, and the plan states that California clapper rail formerly occurred in Humboldt Bay, and in the Marin-Sonoma embayments, which include Bodega Harbor, Tomales Bay, Drakes/Limantour Estero, and Bolinas Lagoon (USFWS, 2013). The only recent occurrences of California clapper rail in the general vicinity of the Estero Trail project are records of rails in Tomales Bay from the late 1990's and 2012. It is unknown whether clapper rails are currently breeding in Tomales Bay, but suitable habitat now exists (USFWS, 2013). Recovery actions for the Central Coast Recovery Unit include the establishment of 800 acres of suitable marsh habitat in Tomales Bay.

Occurrence at the Site

There are no known occurrences of California clapper rail in the Estero Americano watershed (Heaton, 2012; USFWS, 2013). The project property is not within the boundaries of the Central Coast Recovery Unit for California clapper rail, which extends inland about a half-mile from the mouth of the Estero, approximately 2.5 miles from the site. There are no specific habitat restoration or rail population goals set for the Estero in the Recovery Plan.

The trail corridor does not pass through or near suitable habitat for California clapper rail. The Estero access for boat portage passes through an area that is predominantly open ground with a low density of scattered pickleweed (Photos 13 and 14 in Appendix A), subject to periods of extended lack of inundation in summer (since the Estero is cut off from tidal inundation during summer months due to the sandbar that forms at the mouth (GRRCD, 2007)). Vegetation height in this area does not provide sufficient cover for nesting. At the time of the April 2014 site visit, cattle tracks were prevalent in the mud, indicating a relatively high level of disturbance in the mudflat.

Areas of pickleweed marsh to the west, and to the east (on the opposite side of the central creek) provide more dense vegetation. However, these areas are also subject to seasonal periods without inundation, are limited in overall extent, and lack a complex network of tidal sloughs needed for foraging. As with black rail, the abrupt transition to steep grassland slopes leaves little in the way of escape areas for rail during very high tides. Tidal slough habitat required for feeding is also limited in extent and complexity within the project vicinity.

The Estero Americano Watershed Management Plan indicates that there are 240 acres of coastal brackish marsh in the watershed (2007). This marsh occurs as a relatively narrow band along the Estero at the foot of generally steep slopes bordering the Estero. Marsh areas are widest at the mouths of drainages that enter the Estero. Seasonal variations in inundation, limited distribution, prevalence of edge areas, and steep transition to uplands may limit the suitability the marsh as habitat for California clapper rail.

Based on the above, and the lack of known occurrences in the watershed, it is very unlikely that California clapper rail is present at the project property or on the Estero.

San Francisco (saltmarsh) common yellowthroat (*Geothlypis trichas sinuosa*)

Status

San Francisco (or saltmarsh) common yellowthroat is a California Species of Special Concern, with year-round designated as the season of concern.

Habitat and Distribution

San Francisco common yellowthroat is one of four subspecies of common yellowthroat in California (Gardali and Evens, 2008) and one of two that occurs in Sonoma County (Burrige, 1995). Breeding range maps for San Francisco common yellowthroat show the northern limit of the breeding range ending to the south of the Marin County line near in the project property area, however, there is uncertainty in the understanding of the range boundary for the subspecies (Gardali and Evens, 2008), and so the subspecies is addressed here.

In the San Francisco Bay Area, San Francisco common yellowthroat breeds primarily in brackish marsh, freshwater marsh, riparian woodland/swamp, but also in salt marsh and rarely upland (Gardali and Evens, 2008). This yellowthroat inhabits the ecotone between moist habitats and uplands. Common yellowthroat also can use small and relatively isolated patches of habitat, including swales and seeps (Gardali and Evens, 2008).

Common yellowthroats nest on or near the ground or over water in dense vegetation including emergent aquatic vegetation and dense shrubs (Zeiner, et al., 1990). Nest sites include herbaceous vegetation, cattails, tules, sometimes coyote brush (Gardali and Evens, 2008) and willow thickets (CDFW, 2014).

There are no occurrences within 5 miles of the project property in the CNDDDB (CDFW, 2014). The Sonoma County Breeding Bird Atlas indicates possible breeding for common yellowthroat (not identified to subspecies level) for the atlas block that includes the project property (Breeding Bird Atlas, 2014).

Occurrence at the Site

Common yellowthroat was not observed during site surveys by Heaton or our site surveys. However, wetland vegetation and willow thicket along the central creek and emergent wetland in the transitional marsh area near the central creek mouth provides suitable habitat for this species.

Potential Impacts to Special Status Birds

Vegetation clearing, pruning, or ground disturbance in areas actively occupied by nesting birds could result in direct mortality of adult birds, eggs, or young. Construction could also cause mortality to eggs or young if construction activities (e.g., noise, human activity) in close proximity to an active nest cause adult birds to abandon the nest (for example, northern harrier is especially sensitive to disturbance of nest sites (Heaton, 2012). Trail vegetation maintenance such as mowing may also impact nesting birds if done in the nesting season. The measures listed below will minimize the potential for direct impacts to nesting special status birds and birds protected by the MTBA.

Trail construction could result in destruction or disturbance of occupied burrowing owl burrows if present in the construction year. For burrowing owls, CDFW's Guidance for Burrowing Owl Conservation (CDFG, 2008b) states that to avoid disturbance to burrowing owls, generally a buffer should be implemented of 50 meters (160 feet) from occupied burrows during the non-breeding season.

Vegetation clearing, ground disturbance, and trail construction will reduce the quantity of nesting habitat on a temporary and permanent basis. After the construction of project is complete, areas temporarily disturbed by construction activities will be restored to their preconstruction condition. The permanent trail footprint (approximately 0.6 acres) and staging areas (up to 1.5 acres), located predominantly in annual grassland, would represent only a small percentage of the 495-acre project property, and of the 21,528 acres of grassland habitat in the watershed (GRRCD, 2007). The trail corridors avoid the eucalyptus groves on the site, and in general, avoid removal of mature trees. Impacts to riparian habitat are limited to the locations of an existing bridge crossing and a new potential second trail crossing, and impacts to tree nesting or riparian species would be minimal.

As some birds are sensitive to the presence of humans, use of the trails by people may reduce the use of habitat adjacent to the trail for nesting. This impact is most likely for grassland and ground nesting species (including some special status species) that are nesting or are likely to be nesting on site (grasshopper sparrow, savannah sparrow, northern harrier). This could also affect grassland species not currently known to nest on site but for which suitable nesting habitat exists. These species could become established prior to construction (e.g., short-eared owl or burrowing owl). Ground nesting birds or their young could also be disturbed, injured or killed if trail users allow dogs to run off-leash.

Trail use could also affect wintering use of the site for short-eared owl, burrowing owl and northern harrier. While breeding is listed as the season of concern for these species, according the California Bird Species of Special Concern Report (Shuford and Gardali, 2008), this should not preclude conservation efforts at other seasons. Trail use could reduce the use of habitat adjacent to the trail for winter roosting by short-eared owls and northern harriers, which can be sensitive to human disturbance (Heaton, 2012). Because short-eared owls can be nomadic and shift winter roosts sites in response to varying prey and vegetation conditions, and because other grassland is present on the property and in the watershed, this affect is not expected to result in a substantial adverse impact. The probable northern harrier winter roost site that was identified by Heaton in 2012 is located on or adjacent to the West Trail corridor, and if still in use, could be impacted by noise or visual disturbances from trail users. Since northern harrier roost sites are often reused over many years, measures to avoid impacts to this feature are included below. Burrowing owl winter habitat may also be affected, though burrowing owls have been known to use areas of human activity, including parks (Gervais et al., 2008). A recommendation is included below to manage other grassland habitat on the project property to provide for continued availability of habitat for these species.

If trail users were to allow dogs to run off-leash, winter roost site could also be subject to disturbance, and wintering birds could be flushed from roosts, or for burrowing owls, could be disturbed or injured in their burrows. Recommendations to reduce impacts to nesting and winter habitat use are included below.

The portage route at the marsh passes through an area of open mudflat and sparse marsh vegetation not suitable for special status species including black rail. Denser marsh in transitional marsh near the creek outlet that could provide suitable black rail habitat should be avoided. Measures are included below to prevent impacts to black rail.

Recommendations

Easement and Trail Routing

1. Record the trail corridor easement to avoid the northern harrier roost site by 160 feet.
2. Additional bird surveys should be conducted in the winter and breeding season prior to construction to characterize continued use of the site by burrowing owl, short-eared owl, northern harrier, and nesting special status species and route the trail to avoid areas of use for nesting or winter roosting by these species to the extent feasible.
 - a. For burrowing owl, surveys should be conducted according to methods outlined in *Guidance for Burrowing Owl Conservation* (CDFG, 2008). If burrowing owls are found in the trail corridor area, the trail should be routed to avoid destruction of occupied burrows. The trail should be routed away from occupied burrows to the maximum distance feasible.
3. Route the portage route to use the open, less vegetated area of the tidal flat and avoid dense marsh vegetation. Place signage at the end of the upland terminus of the Estero access trail directing people to stay out of sensitive marsh vegetation. During the summer months when tidal influence is not present and the marsh is dry and more easily accessible, consider placement of temporary directional markers to mark the portage route.
4. During the breeding season prior to construction, survey habitat in proximity of the Estero boat launch access to confirm absence of black rail. If black rail is present, coordinate with CDFW to develop and implement measures to avoid impacts to black rail for the portage route, including establishing an appropriate buffer distance from the portage route.
5. The trail alignment and associated improvements should avoid tree removal to the extent feasible.

Construction

6. Remove vegetation and conduct ground disturbing activities only between September 1 and February 15 to avoid bird-nesting season. If it is not feasible to remove vegetation outside of bird-nesting season, complete the following:
 - a. Conduct a bird-nesting survey no more than 7 days prior to ground-disturbing or vegetation removal activities in a specific construction work area. The area to be

surveyed will include all construction activity areas, including staging areas, to a buffer of 250 feet outside the project footprint. Survey results will remain valid for a period of 7 days following the date of the survey.

- b. If an active nest is found, consult with the California Department of Fish and Wildlife (CDFW) to determine the appropriate buffer size and then establish the buffer zone using fencing, pin flags, yellow caution tape, or other CDFW-approved material. Vegetation clearing and construction activities will be postponed within the buffer zone; no construction-related activity will be allowed to occur within this area until it is determined that the young have fledged, the nest is vacated, and there is no evidence of second nesting attempts. Regional Parks will require a qualified biologist regularly monitor the buffer area during construction activities to evaluate the nest(s).
 - c. If an active nest is found after the completion of the pre-construction surveys and after construction activities have begun, all construction activities will cease immediately until a qualified biologist has evaluated the nest and a CDFW-approved buffer zone has been created. If establishment of a buffer zone is not feasible, contact CDFW for further avoidance and impact minimization guidelines.
7. For construction in the non-nesting season, conduct a pre-construction survey for occupied owl burrows. If occupied burrows are found, establish a 50-meter (160 ft) buffer and prohibit work within the buffer until such time as the burrow is not occupied, or consult with CDFW to determine if a different buffer may be appropriate. Once the burrow is no longer occupied, if it must be removed for trail construction, construct a replacement burrow in suitable habitat away from the trail alignment
 8. Temporary disturbance areas should be restored with plant species native to the site.

Operational Impacts

9. Include information on special status bird species in interpretive signage for the project, including the importance of nesting and wintering habitat and importance of keeping dogs on leash and staying on official established trails.
10. Conduct vegetation removal only between September 1 and February 1 to avoid bird-nesting season. If it is not feasible to remove vegetation outside of bird-nesting season, conduct a survey of the work area prior to vegetation maintenance and if nests are present, delay vegetation removal until after the young have fledged the nest.
11. Through the Rangeland Management Plan prepared for the project property, manage grassland areas on the property to provide a mix of nesting and wintering habitats preferred by grasshopper sparrow, savannah sparrow, northern harrier, short-eared owl, and burrowing owl.
12. Develop and implement a comprehensive monitoring program for birds.
13. Implement a management plan to allow for adjustments in park uses, management, and/or enhancement of appropriate habitats if negative impacts on birds are detected.

Special Status Amphibians and Reptiles

California red-legged frog (CRLF) (*Rana draytonii*)

Status

Federally Threatened, California Species of Special Concern

Habitat and Distribution

CRLFs are pond-dwelling amphibians that generally live in the vicinity of permanent aquatic habitats including livestock ponds and pools in perennial streams (Jennings and Hayes, 1994). The most optimal habitat is characterized by dense, shrubby riparian vegetation associated with deep (more than 2.3 feet in depth), still, or slow-moving water (Hayes and Jennings, 1988). Although CRLFs are found in ephemeral streams and ponds, populations cannot be maintained where all surface water disappears (Jennings and Hayes, 1994). Hayes, 1994). Reproduction occurs at night in permanent ponds or slack-water pools of streams during the winter and early spring (late November-through April). CRLF populations have declined largely because of habitat loss and the introduction of nonnative aquatic predators such as green sunfish, red-swamp crayfish and bullfrogs (Jennings and Hayes, 1994).

For CRLF, essential habitat components generally include breeding habitat, non-breeding habitat and migration corridors. Breeding habitat consists of ponds with adequate depth and hydrology as well as slow moving streams with pond-like vegetation. Breeding in this region of the species range is generally late January to late February, depending upon weather conditions. Nonbreeding habitat typically includes riparian areas that have adequate moisture for survival during the summer months, sufficient cover to moderate temperature during extremes in the local climate, and provide protection from predators with features like deep pools, and/or dense vegetation. While migration corridors for CRLF are not necessarily restricted to specific landscape features, roadways and areas that lack cover are obvious hazards to CRLF movement. Typically, forested riparian communities, grasslands, open meadows, and agricultural fields are known to be used as migration corridors by CRLF.

Breeding habitat

All life history stages are most likely to be encountered in and around breeding sites, which are known to include coastal lagoons, marshes, springs, permanent and semi-permanent natural ponds, ponded and backwater portions of streams, as well as artificial impoundments such as stock ponds, irrigation ponds, and siltation ponds. CRLF egg masses are usually found in ponds or in backwater pools in creeks attached to emergent vegetation such as *Typha* and *Scirpus*. However, egg masses have been found in areas completely denuded of vegetation. CRLF larvae remain in these habitats until metamorphosis in the summer months. Young CRLF can occur in slow moving, shallow riffle zones in creeks or along the margins of ponds.

Summer habitat

CRLF often disperse from their breeding habitat to forage and seek summer habitat if water is not available. In the summer, CRLF are often found close to a pond or a deep pool in a creek where emergent vegetation, undercut banks, or semi-submerged rootballs afford shelter from predators. CRLF may also take shelter in small mammal burrows and other refugia on the

banks up to 100 meters from the water any time of the year and can be encountered in smaller, even ephemeral bodies of water in a variety of upland settings (Jennings and Hayes, 1994; USFWS, 2002).

Upland habitat

CRLF are frequently encountered in open grasslands occupying seeps and springs. Such bodies may not be suitable for breeding but may function as foraging habitat or refugia for dispersing frogs. During periods of wet weather, starting with the first rains, some individuals make overland excursions through upland habitats (USFWS, 2002).

Dispersal Habitat

CRLF may move up to 3 kilometers (1.88 miles) up or down drainages and are known to wander throughout riparian woodlands up to several dozen meters from the water (Rathbun et al. 1993). Dispersing frogs have been recorded to cover distances from 0.40 kilometer (0.25 mile) to more than 3.2 kilometers (2 miles) without apparent regard to topography, vegetation type, or riparian corridors (Bulger, et al., 2003).

Distribution

There are 10 occurrences of CRLF in the CNDDDB within 5 miles of the project property, the nearest on a tributary to Americano Creek in the vicinity of Valley Ford (the polygon for this occurrence encompasses a portion of the project property) (CDFW, 2014).

Occurrence at the Site

During surveys in April and June, 2014, we found tadpoles, juvenile and adult CRLF on the project site. During the April 15 site visit, a juvenile CRLF was observed basking adjacent to a seep with some open water that is located just upslope from a watering trough along the proposed spur trail down to the Estero.

Based on the presence of the juvenile, and potentially suitable breeding habitat at the project site, we conducted night surveys to further characterize use of habitat by CRLF at the site, particularly aquatic habitat in close proximity to the potential trail corridor. We conducted the survey on June 23, 2014, beginning at 9:15 p.m. It was a clear, cool evening with no moon visible. We used JustRite incandescent 4 d-cell headlamps and a 4 d-cell incandescent maglight to conduct an eyeshine survey of the following features.

Survey Results

Pond 1

This is a small (approximately 35 feet by 25 feet), exposed upland pond likely carved out of a hillside seep or spring source, well vegetated with *Typha*, *Juncus*, and some *Scirpus* (see Photo 21 in Appendix A). It is located about 50 feet and down a steep slope from the West Trail loop. The feature provides abundant cover abundant with limited open water. We found two juvenile CRLF and four adults. An additional three frogs retreated underwater prior to identification. In total, we identified six CRLF in this feature.

Pond 2

This is a small (approximately 20 feet by 15 feet), steep-sided pond surrounded by a thick growth of *Baccharis* and some *Scirpus*, located approximately 200 feet east and downslope of the proposed West Trail loop and north of a large eucalyptus grove (see Figure 2, and Photo 22 in Appendix A). Water depth in the pool was in excess of 3.5 feet. We observed diving beetles and two chorus frog tadpoles. Water quality seemed poor and recent cattle disturbance was evident and raccoon tracks were abundant. We did not observe CRLF in this feature.

Central Creek

We surveyed the central creek in the vicinity of the existing bridge crossing, but were unable to find adult frogs. Two frogs, likely ranids, were able to escape prior to identification.

Additionally, we observed three CRLF tadpoles in the central creek while conducting dip net surveys for California freshwater shrimp (described below).

Discussion

Based on the survey results, we assume presence of CRLF on the entire project site, with the exception of aquatic habitat within the lower reaches of the creek that are inundated by brackish water.

Pond 1

Based on the number of CRLF observed (including both juveniles and adults) given the size of the feature, the fact that it was still hydrated at the June site visit, and that it provides plentiful cover, we conclude that this feature provides important summer habitat and likely breeding habitat for CRLF.

Pond 2

Based upon the poor overall quality of the habitat and the lack of any evidence of CRLF during our night surveys, it is unlikely that CRLFs currently use this feature as habitat.

Pond 3

This small pond (approximately 50 feet by 30 feet) is located about 30 feet west of the East Trail corridor, with an outlet that runs to the central creek. It is heavily grown over with cattail (see Photo 23 in Appendix A). The lack of open water makes it unsuitable for breeding. It may provide marginal summer holding habitat.

Central Creek

Though we did not observe adults in the central creek, we assume adults may be present in this feature throughout the year due to abundant cover and pools which remain hydrated, and it is certainly being used for breeding, as evidenced by the presence of CRLF tadpoles. Bullfrogs are present in the creek, and likely prey on CRLF and tadpoles. In addition, other predators such as mosquitofish are present which may affect breeding success. Nevertheless, the central creek appears to be an important habitat feature for CRLF in this region.

Summer and Upland Habitat

Any one of the numerous seeps and small drainages along the trail corridor could provide summer habitat for CRLF, including habitat for dispersing juveniles that may be displaced by adults from higher quality habitat at the site, including the ponds and central unnamed creek.

CRLF could be present in upland portions of the trail alignment when migrating between habitat features, dispersing overland, foraging or aestivating. While this area is less likely to have CRLFs when compared to the seeps, drainages and ponds on the site, encounters with CRLFs on the trail alignment would be more likely during the rainy season. CRLF could occupy small mammal burrows along the trail corridor alignment as summer refuges or aestivation habitat, particularly those in proximity to the ponds, seeps or other drainages, since those would likely retain more soil moisture.

Other Habitat

Note that other aquatic habitat exists on the property, particularly the creek forming the eastern boundary of the project property, and the pond within the Forever Wild portion of the property. Though these features were not within the scope of the surveys, they could serve as other sources of breeding or summer habitat for the CRLF population on the property.

Critical Habitat

The project is not located within critical habitat for CRLF, though lands in Marin County directly opposite the project across the Estero are designated as such.

Potential Impacts

The proposed trail could result in direct impacts to CRLF from trail construction and operation, and would result in impacts to CRLF habitat.

Trail construction activities could result in injury or mortality to CRLF if frogs are present with the trail construction and staging areas. This would be most likely to occur during wet times of the year when overland movements are more common, or in areas located in close proximity to ponds, the central creek, or seeps or other drainages, but could occur at any time. Construction could also result in injury or mortality to CRLF that seek refuge in construction materials or equipment left overnight. Indirect impacts to CRLF habitat could occur from accidental spills during fueling of construction equipment occurred in proximity to aquatic habitat. Recommendations for avoiding or minimizing these construction-related impacts are included below. With implementation of the measures, the construction would not have a substantial adverse impact on CRLF.

The proposed trail corridor avoids direct impacts to breeding habitat for CRLF, because it avoids direct impacts to the central creek and ponds on site, with the exception of the potential new upper creek crossing (which could be a bridge structure or rocked low-water crossing) and possible improvements to the existing creek crossing. The nature and extent of work at these locations are not known at this time, however, the work areas for these features would be minor and would not result in a substantial loss of breeding habitat. Recommendations to avoid and minimize impacts to CRLF breeding habitat are included below.

Trail construction may result in removal of summer holding habitat at locations where the trail corridor crosses small drainages or seeps. These armored crossings may be rocked to prevent muddy trail conditions. This could result in small permanent losses of summer habitat

(approximately 0.02 acre), but would be very small in relation to the overall trail footprint and amount of seep and drainage habitat on the property, and would not significantly reduce the amount of summer habitat.

Permanent impacts to upland dispersal, foraging, or aestivation habitat would include the loss of the narrow trail footprint (approximately 0.6 acre) and staging/parking areas (1.5 acres). This habitat type is present throughout the majority of the project property, and the small loss from these areas would not substantially impair the ability of frogs to disperse, forage or aestivate on the property.

Impacts to CRLF could result from operation of the trail. These may include injury or mortality to CRLF or disturbance of breeding habitat if trail users leave the trail alignment to explore nearby aquatic features or attempt to catch frogs or tadpoles. These could also include increased predation if trash left behind by trail users attracts additional CRLF predators to the site.

Injury or mortality to CRLF could result from trail maintenance activities if heavy equipment, mowers or vehicles, or chemical pesticides/herbicides are used in vegetation/trail maintenance.

Indirect impacts to downslope aquatic habitat could result from erosion during and following trail construction, and over the long term if the trail is not properly maintained. Appropriate trail design techniques, as included in the project description (such as appropriate trail running slopes, cross slopes, and installation of rocked crossings, drainage lenses, and rolling grade breaks), will minimize long term erosion from the trails. The District may close trails or portions of trails in the wet season as needed to address overly muddy conditions.

Due to the extent of jurisdictional wetlands on site, we anticipate that a Section 404 Clean Water Act permit will be required from the U.S. Army Corps of Engineers, necessitating Section (7) Endangered Species Act consultation, and that consultation will include assessing impacts to CRLF for compliance with the Federal Endangered Species Act.

Recommendations

1. To the extent feasible, record the trail easement away from ponds, the central creek (except at designated crossings), and the seep adjacent to the water trough on the Estero access trail. To the extent feasible, route the trail away from ponds, seeps, creeks and drainages to minimize disturbance of CRLF. If this is not feasible, these features should be demarcated as a sensitive habitat area or fenced with wildlife friendly fencing to prevent trail users from approaching or disturbing CRLF in these habitats.
2. Design the creek crossings to avoid work in the wetted portion of the channel.
3. Where crossings of seeps cannot be avoided, use small footbridges as opposed to rocked crossings to the extent feasible, particularly where there are areas of standing water.
4. Schedule construction between April 15 and November 15 to avoid impacting CRLF during the wet season.
5. For construction activities within 200 feet of ponds, creeks, seeps, and drainages on the property, install wildlife exclusion fencing to minimize the likelihood of frogs entering the work area. The exclusion fence will be a minimum of 42 inches tall and buried at least 6 inches or otherwise adequately secured to prevent frogs from crawling under the fence.

Locations of exclusion fencing shall be determined by a qualified biologist and shown on the project plans.

6. A qualified biologist shall survey the construction area within 48 hours of the onset of activities. If any life stage of CRLF is found and these individuals are likely to be killed or injured by work activities, the approved biologist will be allowed sufficient time to move them from the site before work activities begin. If CRLF are found, the qualified biologist will contact USFWS and move the CRLF to a safe location outside the work area that will remain undisturbed throughout project construction. Individual CRLF will be relocated to habitat appropriate to their life stage and monitored by the biologist until it is determined they are not imperiled by predators or other dangers.
7. The qualified biologist shall be present at the construction site until the initial habitat disturbance has been completed. After this time, the County will designate an individual to monitor on-site compliance with all conditions related to CRLF. This person shall receive the worker awareness training included in Number 8 below. The on-site monitor and qualified biologist will have the authority to stop work that may result in impacts to CRLF. If CRLF are found during construction, all work will halt within 50 feet of the CRLF, until the CRLF is relocated by the qualified-biologist. If work is halted, USFWS will be notified within 24 hours. Only a USFWS-approved biologist will participate in the capture or handling of CRLF.
8. A worker environmental awareness program shall be conducted by a qualified biologist to provide construction personnel with information on their responsibilities with regard to CRLF. At a minimum, the training shall describe the species and its habitat and life cycle, the importance of the species and its habitat, measures that are being implemented to conserve the species, actions to take in the event CRLF are observed in the work area, and consequences for non-compliance.
9. Construction related holes, capable of entrapping wildlife, shall be covered at the end of each work day in a manner that prevents entrapment. Prior to commencing work activities each day, all trenches will be thoroughly inspected for animals.
10. All construction pipes, culverts or other similar structures stored overnight at the site will either be securely capped prior to storage or thoroughly inspected by the qualified biologist or on-site monitor before it is moved, capped or buried.
11. Any debris or equipment left overnight will be checked daily prior to its use in order to avoid injury or mortality to CRLF.
12. During project activities, all trash that may attract predators will be properly contained, removed from the work site, and disposed of regularly. Following construction, all trash and construction debris will be removed from work areas.
13. All refueling, maintenance and staging of equipment and vehicles will occur at least 60 ft from the riparian habitat or wetlands and not in a location from where a spill would drain directly toward aquatic habitat. The monitor will ensure contamination of habitat does not occur during such operations. Prior to the onset of work, the District will ensure that a plan is in place for prompt and effective response to any accidental spills. All workers will be informed of the importance of preventing spills and of the appropriate measures to take shall a spill occur.

14. Erosion control and other water quality Best Management Practices (BMPs) will be implemented to avoid sedimentation and disturbance into downstream and adjacent aquatic habitats. Tightly woven fiber matting or similar material shall be used for erosion control to ensure CRLF do not get trapped. Plastic monofilament netting, photodegradable products, or similar material will not be used at the site because animals may become entangled or entrapped in it.
15. The number of construction access routes, size of staging areas, and the total area of activity will be limited to the minimum necessary to achieve the project goal. Routes and boundaries will be clearly demarcated.
16. Provide a worker environmental awareness program for staff performing routine and ongoing trail maintenance activities at the property.
17. Hand labor should be used to control exotic and unwanted vegetation. The use of chemical agents and mechanical equipment within the stream channel should be avoided. Only with regulatory approval, should herbicides be used to control unwanted species. Only herbicides that have been registered for use in an aquatic environment should be used on target vegetation.
18. CRLF surveys should occur prior to trail maintenance activities that require use of motor vehicles, heavy equipment or result in ground disturbance.
19. Information on CRLF should be included in interpretive signage for the project, including the importance of aquatic habitat, upland habitat, and the importance of removing trash and staying on marked trails.
20. Compensate for a permanent loss of summer holding and upland habitat through on-site enhancement (with cooperation of the property owner) or off-site purchase of mitigation credits at a minimum 1:1 ratio, and loss of breeding habitat (if any) at a 3:1 ratio. Examples of on-site enhancement could include enhancement of Pond 3 to provide CRLF breeding habitat, or restoration or enhancement of native grasslands and removal of invasive plant species, or control of aquatic predators. A compensatory mitigation plan should be developed through coordination with USFWS.
21. All conditions of Section (7) consultation with USFWS for CRLF shall be implemented.

Western pond turtle (*Emys marmorata*)

Status

California Species of Special Concern

Habitat and Distribution

Western pond turtles are omnivorous, feeding on aquatic plant material, invertebrates, and even carrion. Individual turtles generally live in ponds, lakes, slow moving streams, or permanent pools alongside streams with abundant vegetation for cover. Pond turtles require basking sites such as partially submerged logs, rocks, floating vegetation, or open mud banks (CDFG,

2000b). They build nests in sandy banks on slow moving streams, or away from streams, in friable soil with relatively high humidity (CDFG, 2000b). Nests may be located a considerable distance (400 m or more) from aquatic habitat, but most are closer if nesting substrate and exposures are suitable (Jennings, 2000). Most nesting areas are characterized by sparse vegetation, and slope aspect is generally south or west-facing (Holland, 1994). Egg laying occurs from March to August depending on local conditions (CDFG, 2000b), though most occurs in May and June (Jennings and Hayes, 1994). The natural incubation period is 80 to over 100 days (Holland, 1994). Hatchlings may overwinter in the nest and emerge in spring (Jennings and Hayes, 1994). Western pond turtle can also use uplands for refugia and overwintering, digging in friable loam soils and leaf-duff to hide. Duration of use of upland habitat and distance traveled is variable, and may depend on local habitat conditions (Jennings and Hayes, 1994; Rathbun, et al., 2002; Pilliod, et al, 2013).

There are multiple occurrences of western pond turtle within 5 miles of the project, including one from Ebabias Creek in the Estero Americano watershed.

Occurrence at the Site

We observed a western pond turtle on the project site on April 15, 2014, at the mouth of the central creek near the confluence with the Estero Americano. The banks of the central unnamed creek likely would provide suitable breeding habitat. Adjacent uplands provide suitable refugia and nesting habitat. Other pond features near the trail alignment (Ponds 1 and 2) could also be used by western pond turtle.

Note that other aquatic habitat exists on the property, particularly the creek forming the eastern boundary of the project property, and the pond within the Forever Wild portion of the property. Though these features were not within the scope of the surveys, they could serve as other sources of aquatic habitat for western pond turtles on the property.

Potential Impacts

The proposed trail could result in both direct impacts to western pond turtle from trail construction and operation, and impacts to western pond turtle habitat.

Trail construction activities could result in injury or mortality to western pond turtle if turtles are present with the trail construction and staging areas. Turtle eggs, hatchlings in the nest, or adult turtles concealed in refugia could be harmed by construction activities because they may not be easily seen. Portions of the trail corridor in closest proximity to aquatic habitat would be most likely to be used for nesting or refugia, but turtles can move a significant distance, so turtles could be present along most of the trail corridor alignment. Recommendations for avoiding impacts to turtles during construction are included below. With implementation of the measures, the construction would not have a substantial adverse impact on western pond turtle.

The proposed trail corridor avoids direct impacts to aquatic habitat for western pond turtle, because it avoids direct impacts to the central creek and ponds on site, with the exception of the potential new upper crossing (which could be a bridge structure or rocked low-water crossing) and possible improvements to the existing crossing. The nature and extent of work at these locations are not known at this time, however, the work areas for these features would be minor and would not result in a substantial loss of aquatic habitat. Recommendations to avoid and minimize impacts to western pond turtle aquatic habitat are included below.

Permanent impacts to upland nesting, refugia or dispersal habitat would include the loss of the narrow trail footprint and permanent parking areas (approximately 2.13 acres). This habitat type is present throughout the majority of the project property, and the small loss from these areas would not substantially impair the ability of western pond turtle to nest, use upland refugia, or disperse on the property.

Injury or mortality to western pond turtle could result from trail maintenance activities if heavy equipment, mowers or vehicles, or chemical pesticides/herbicides are used in vegetation/trail maintenance. Impacts of trail use could include disturbance of turtles if trail users leave the trail alignment to explore nearby aquatic features or attempt to catch turtles. Impacts may also include disturbance of nests from trail users or their pets, though this has a limited likelihood of occurring given the narrow trail corridor and its overall location on upper slopes and ridges away from the stream corridors. Trail use could also result in increased predation if trash left behind by trail users attracts additional western pond predators to the site. Measures are included below to minimize impacts to western pond turtle from trail use and maintenance.

Recommendations

1. To the extent feasible, the trail should be routed away from aquatic habitat to minimize disturbance of western pond turtle. If this is not feasible, aquatic habitats should be demarcated or fenced as a sensitive habitat area to prevent trail users from approaching or disturbing turtles in aquatic habitat.
2. Prior to construction activities, a qualified biologist should survey the work area at within two days of the commencement of project activity for western pond turtle adults, juveniles, and nests.

If no western pond turtles or nests are observed in the work area, construction activities may proceed.

If western pond turtle nests are found, a buffer area of 50 feet shall be established around the nesting site until the turtles are no longer occupying the nest. These buffers shall be indicated by temporary fencing.

If western pond turtle adults or subadults are found either during the surveys or thereafter, the turtle(s) must be allowed to move out of the project area on their own, or a DFW-approved biologist shall move the turtle(s) to the nearest suitable habitat at least 300 feet outside the work area.

A qualified biologist shall be on call and capable of responding to the work site to determine the presence of western pond turtle and relocate turtles as needed. The operator shall designate a person to monitor on-site compliance with all mitigation measures. The biologist shall ensure that the monitor receives proper training. The on-site monitor shall check daily for animals under any equipment as well as in the construction area prior to the start of construction activities each day.

3. A worker environmental awareness program shall be conducted by a qualified biologist to provide construction personnel with information on their responsibilities with regard to the western pond turtle. At a minimum, the training shall describe the species and their habitats, the importance of the species and its habitat, measures that are being implemented to conserve the species, and actions to take in the event turtles are observed in the work area.

4. Erosion control and other water quality Best Management Practices (BMPs) will be implemented to avoid sedimentation and disturbance into downstream and adjacent aquatic habitats.
5. Information on western pond turtle should be included in interpretive signage for the project, including the importance of aquatic habitat, upland habitat for nesting, and the importance of removing trash and keeping dogs on leash.
6. Western pond turtle/nest surveys should occur prior to trail maintenance activities that require use of motor vehicles, heavy equipment or result in ground disturbance.

Special Status Fishes

Because the fish species addressed here would be impacted in similar ways by the project, the discussion of impacts and recommendations is consolidated at the end of this section, following the individual accounts for all fish species.

Tidewater goby (*Eucyclogobius newberryi*)

Status

Federally listed as Endangered (currently proposed for downlisting to Threatened), California Species of Special Concern

Habitat and Distribution

The tidewater goby inhabits brackish waters of coastal lagoons, estuaries and marshes. The species is typically found in waters less than 1 meter (3.3 feet) deep with salinities of less than 12 parts per thousand, though it has been documented in salinities to 42 parts per thousand. Typical habitat is characterized by brackish, shallow lagoons and lower stream reaches where the water is fairly still but not stagnant. Tidewater gobies generally select habitat within the fresh-saltwater interface. Physical habitat factors can fluctuate daily and by season. The lagoonal nature of many habitats tends to decrease short-term variation, but annual variation can still be wide. Winter rains and increased stream flows can cause flooding, breaching, and flushing of lagoonal waters, decreasing salinity levels to near fresh water conditions (USFWS, 2005).

Tidewater gobies feed mainly on small aquatic crustaceans and insect larvae plucked from the bottom, sifted from sediment by mouth, or captured in mid-water. Marsh vegetation provides cover for growth and refuge from scouring winter flows (USFWS, 2005).

Tidewater gobies reproduce year-round, with females laying multiple clutches per year, though in the bay area, a peak in spawning does occurs in late summer to fall (Moyle et al., 1995). The male tidewater goby digs a breeding burrow, often after the lagoon has closed to the ocean. The preferred breeding substrate is clean, coarse sand (USFWS, 2005). Females compete to lay their eggs in the burrow and the male remains in the burrow to guard their eggs.

The Estero Americano is designated critical habitat for the tidewater goby. The U.S. Fish and Wildlife Service considers the Estero to be occupied habitat, and tidewater gobies were

collected there in October of 1999 (USFWS, 2005). Bimonthly fish sampling conducted in the Estero Americano in 1988 and 1989 found only a few individuals of tidewater goby. Biologists conducting the study thought the low number of gobies was likely attributable to high salinity concentrations in the upper Estero Americano, along with impacts to tidal wetland habitat from livestock use. During summer months, when the sandbar forms across the Estero mouth at the Pacific Ocean and inflow from freshwater streams is low, salinity levels in the upper estuary are often hypersaline (>34 parts per thousand or above ocean salinity levels) (GRRCD, 2007).

Occurrence at the Site

Tidewater goby could be present in the Estero in the main channel in summer months when the bar closes the Estero from tidal influence, though if present, individuals of this species would be expected only in extremely low numbers. In winter months when the bar is open, tidewater goby could be present in the main channel and inundated portions of the marsh.

Longfin smelt (*Spirinchus thaleichthys*)

Status

State Threatened

Ecology, Habitat, and Distribution

Longfin smelt is an anadromous fish species that lives in open ocean, bays, estuaries, and rivers. It typically inhabits open channels and bays. Most have a two-year life cycle, spawning in low salinity or freshwater reaches of coastal rivers and streams, primarily from January – March (CDFG, 2009b). Spawning occurs over sandy, gravel or rocky substrates or aquatic plants (Moyle, 2002). Most longfin smelt die after spawning. (Moyle, 2002). Larvae typically rear downstream in brackish water. Longfin smelt are mostly found in water cooler than 22 degrees C and are usually found mid-water or near the bottom, but move up and down in the water column following their prey (zooplankton) at night (CDFG, 2009b).

Scattered populations of longfin smelt occur along the Pacific coast, with the San Francisco Bay Estuary supporting the southernmost and largest population in California (CDFG, 2009). Most descriptions of longfin smelt life history in California focus on San Francisco Bay populations, and relatively little is known of north coast populations (CDFG, 2009b).

The San Francisco Bay-Delta Distinct Population Segment is a Candidate Species for listing. The USFWS determined that listing of longfin smelt is not warranted throughout the remainder of its range, including the project area. Longfin smelt is state listed throughout its range.

Occurrence at the Site

Eight longfin smelt were caught in otter trawl sampling conducted in the Estero in 1988-1999, in the lower part of the estuary downstream from the project site (GRRCC, 2007). It is possible that longfin smelt could be present in the open water of the Estero in the vicinity of the project property, though the area along the project site would not provide spawning habitat.

Central California Coast Steelhead (*Oncorhynchus mykiss*)

Status

Federally listed as threatened.

Habitat and Distribution

Steelhead are anadromous rainbow trout. The steelhead within the Central California Coast DPS are “winter-run,” meaning that adults return to their freshwater spawning grounds from late fall to April (NMFS 2001). Some steelhead survive to return to the ocean then spawn again in subsequent years. Steelhead construct nests called redds in spawning gravel, generally prefer gravel sized 0.5 to 6 inches dominated by 2- to 3-inch gravel (Flosi, et al 1998), and need gravel that is free from excessive sediment that can smother eggs. Egg development is temperature dependent, varying from about 19 days at 60 degrees F to about 80 days at 42 degrees F (NMFS 2001). Steelhead hatch as “alevins” (a larval life stage dependent on food stored in a yolk sac), and emerge from the gravel as “fry.” In their first summer, fry generally rear in shallow habitats such as pool tailouts, shallow riffles, and edgewater habitats. In winter, they are often found under large boulders in shallow riffles and quiet backwater and edge areas (Flosi, et al 1998). Cover in the form of boulders, root wads and woody debris provides important summer and winter habitat. Later as they grow, juveniles move into the deeper water of riffles and pools. Steelhead prefer rearing water temperatures between 53 to 58 degrees F, and have an upper lethal limit around 75 degrees F (NMFS 2001). Pools provide a cool water refuge for higher summer temperatures. Juvenile steelhead remain in fresh water 1-3 years, migrate to the ocean as “smolts” (typically between March and June) and then spend 2-3 years in the ocean before returning to spawn in their natal stream.

The Estero Americano and its tributary, Ebabias Creek, are designated as *Critical Habitat* for steelhead by the National Oceanic and Atmospheric Administration. However, according to the Gold Ridge Resource Conservation District’s Estero Watershed Management Plan, “Due to conditions in the estuary and its tributaries such as declines in year-round freshwater flow, siltation of former spawning areas, denuded stream corridors, fish passage barriers, and poor water quality, the system does not currently provide suitable habitat for salmonids” (GRRCD, 2007). A single adult steelhead was caught in gill net sampling in the Estero in 1988-1999, though this was thought to be a stray from another watershed (GRRCD, 2007), and three steelhead were observed in the watershed during surveys by Merritt Smith Consulting (1996). However, steelhead are thought to be extirpated from the watershed (NOAA, 2008b).

Occurrence at the Site

The central unnamed creek on the project site does not provide suitable habitat for steelhead as based on field observations is it is heavily embedded with sediment, is likely poorly oxygenated, and generally lacks suitable spawning gravels.

Though the watershed is not thought to currently support a population of steelhead, effects to designated critical habitat are addressed below. The Estero Americano along the project property would be a migratory corridor for steelhead.

Potential Impacts to Special Status Fishes

The access route to the Estero for kayakers may require installation of semi-permanent matting to allow canoers and kayakers to portage across areas subject to daily tidal inundations in the winter months when the sandbar at the mouth of the Estero is open. This would have very

limited impacts to potential special status fish species habitat. This area is not breeding habitat for longfin smelt or steelhead, and tidewater goby breeding burrows would not be present in the matting area since it is exposed during low tide, but placement of the matting may result in a very small reduction of marsh vegetation which could be used for cover for special status fish species when inundated. However, marsh vegetation at this location is extremely sparse from long periods without tidal inundation in the summer months, and shows evidence of prior disturbance by cattle grazing (as observed on the April 15, 2014 site visit). Therefore, the impact would not substantially adversely affect special status fish habitat.

Erosion from the property as a result of trail construction or operation may contribute sediment to the Estero which could affect aquatic habitat for special status fish species, such as sandy breeding habitat for tidewater goby or spawning habitat for longfin smelt, though this effect would be small compared to historical land uses in the Estero. Development and implementation of strategies to reduce sedimentation, including from recreational sources, is included as an action in the USFWS's Recovery Plan for the tidewater goby (2005).

Standard best management practices for erosion prevention during construction, as described below under recommendations, would minimize impacts from construction.

Proper trail design techniques, as included in the project description (such as appropriate trail running slopes, cross slopes, and installation of rock crossings, drainage lenses, and rolling grade breaks), will minimize long term erosion from the trails. The District may close trails or portions of trails in the wet season as needed to address overly muddy conditions. Other recommendations are included below.

Recommendations

1. The District or the Contractor will provide a sediment control plan as part of the Storm Water Pollution Prevention Plan (SWPPP) for implementation by the Contractor. The focus will be to prevent sediment from entering surface drainages within the project area. The sediment control plan will include temporary, construction-related sediment control that may include, but not be limited to, silt fencing, sediment traps, fiber rolls, and/or barriers. The source of each specific sediment control measure proposed by the contractor must be documented in the sediment control plan.
2. Temporary disturbance areas should be restored with plants native to the site.
3. Staff should inspect the trail regularly and following large storm events to identify areas of erosion and make necessary repairs.

Special Status Invertebrates

California freshwater shrimp (*Syncaris pacifica*)

Status

Federally Endangered, State Endangered

Habitat and Distribution

The California freshwater shrimp is a decapods crustacean of the family Atyidae and is believed to be the only extant species of the genus. They are generally less than 50 millimeters (2.17 inches) (Eng 1981) in postorbital length (from eye orbit to tip of tail). Females are generally larger than males by the time they reach sexual maturity, at the end of the second summer. Juveniles and males typically appear translucent to nearly transparent while mature females are often brown with a tan dorsal stripe. They are found in low elevation, low gradient, freshwater, perennial streams in Marin, Napa, and Sonoma counties. During the winter, habitat includes shallow margins of stream pools containing undercut banks and exposed living fine-root material that provide shelter and refuge from high water velocities associated with winter storm events. During the summer months, California freshwater shrimp are often associated with submerged leafy branches. It is believed both winter and summer habitat components need to be found in close proximity in order for this species to persist for prolonged periods. (USFWS, 2011)

California freshwater shrimp has been found on Ebabias Creek, a tributary to the Estero Americano. The confluence of Ebabias Creek with the Estero Americano is located approximately 1.8 miles upstream of the Estero's confluence with the central creek on the project property. The Salmon Creek and Stemple Creek watersheds also have populations of California freshwater shrimp within 5 miles of the project property, as the crow flies.

Occurrence at the Site

During the April 15 site visit, we observed suitable shrimp habitat within the central creek, consisting of low gradient, low velocity, well hydrated pools with overhanging vegetation (willow, blackberry, sedges). Based on potential habitat and the nearby occurrence on Ebabias Creek, we concluded a survey for California freshwater shrimp should be conducted, and Mr. Stabler (TEO-048470-4 and SC-4131) obtained authorization from USFWS to conduct the survey. During the June 23, 2014 site visit, Mr. Stabler and Ms. Peltz conducted a survey for shrimp in suitable habitat within the central creek approximately 430 feet upstream to approximately 1000 feet downstream of the existing bridge crossing the central creek, to the downstream limit of suitable shrimp habitat as determined by a transition to salt marsh habitat. A d-frame 20 mm mesh aquatic dip net was used to sweep areas within the study area that could contain shrimp. This included areas within the water column, submerged vegetation and roots, and along the banks and bottom of the creek. No shrimp were found during the survey.

We found numerous mosquitofish (*Gambusia affinis*) during the dip net survey. The recovery plan for California freshwater shrimp states that mosquitofish may prey on shrimp, and because of the relatively recent introduction of exotic fish such as mosquitofish, the shrimp probably has not developed defense mechanisms that would reduce its risk of predation (USFWS, 1998). Other possible predators listed in the recovery plan include predaceous diving beetles and dragonfly and damselfly nymphs, all of which were present in the dip net surveys. The abundance of mosquitofish and other potential predators may reduce the suitability of the central creek habitat for shrimp.

Based on the negative findings of the survey, it is unlikely that California freshwater shrimp are present within the central creek. Though we were unable to access the proposed upper crossing corridor due to extremely dense vegetation including gorse and willow thickets, the creek becomes much narrower and shallower, and the gradient increases slightly, making it less suitable for shrimp.

Potential Impacts

The trail corridor avoids direct impacts to the central creek, with the exception of the potential new upper crossing (which could be a bridge structure or rocked low-water crossing) and possible improvements to the existing crossing. Improvements to the existing crossing would not impact California freshwater shrimp based on absence of shrimp from the lower portion of the creek.

Recommendations

Once the upper crossing location has been precisely determined, if construction activities require work within the flowing water or would disturb overhanging bank vegetation, the crossing location should be evaluated as to whether it provides suitable shrimp habitat, and if so, an additional dip net survey should be conducted to verify absence of shrimp.

If shrimp are present, the crossing should be designed to avoid work within the water or removal of overhanging vegetation.

Myrtle's silverspot butterfly (*Speyeria zerene myrtleae*)

Status

Federally Endangered

Habitat and Distribution

Myrtle's silverspot butterfly is a medium sized (2.2-inch wingspan) butterfly of the brush foot family (Nymphalidae). Myrtle's silverspot butterflies lay eggs on the dried leaves and stems of *Viola adunca*, the larval host plant. After hatching, the caterpillars spin a silk pad in foliage or leaf litter where they pass the winter. In spring, the caterpillars immediately seek out the host plant. After 7-10 weeks, the caterpillars form pupa from leaf debris and silk. Adults emerge in about 2 weeks, and can live for about 5 weeks. Adults are in flight from about late June to early September. Adults feed on nectar from flowers including but not limited to gumplant (*Grindelia rubicaulis*), yellow sand verbena (*Abronia latifolia*), mints (*Monardella spp.*), bull thistle (*Cirsium vulgare*) and seaside daisy (*Erigeron glaucus*). (USFWS, 2007; USFWS, 2009).

The CNDDDB includes numerous occurrences within 5 miles of the property; the closest is approximately one mile south of the site, a population which was last surveyed in 2003 (CDFW, 2014). Other known populations in the vicinity include a population north of the Estero de San Antonio and populations at Point Reyes National Seashore.

Occurrence at the Site

We did not observe Myrtle's silverspot butterfly on site during the site surveys. We observed a small patch (with approximately 150 individual flowers) of *Viola adunca* during the April site visit along the East Trail corridor in the grassland habitat (see Figure 2). We did not find *Viola adunca* along the Estero access trail corridor. We also did not observe *Viola adunca* on the West Trail corridor. However, the West Trail corridor was surveyed in June, at a time when the plant was no longer in bloom at the site.

The property contains several plant species that are known nectar sources for Myrtle's silverspot butterfly, including several composites, and species within the mint family among others (Acker, 2014).

Based on presence of the larval host plant, adult nectar sources, and extant populations in the project vicinity, it is possible that Myrtle's silverspot butterfly may be present and could reproduce on the property. While that is the case, since the distribution and abundance of the host plant appears to be extremely limited on-site, it is expected that if Myrtle's silverspot butterfly is present its distribution and abundance would be very limited as well.

Potential Impacts

Trail construction could result in the destruction of larval host plants or the removal of nectar sources of Myrtle's silverspot butterfly. If this species is reproducing on site, destruction of the larval host plant could result in the direct take of eggs, larvae, or pupa. Because this butterfly species could be present on or around host plants in various life stages throughout the year, avoidance of take through the use of seasonal construction constraints is unfeasible.

The loss of nectar plants due to the construction of the trail would not be a substantial adverse impact because of the large areas of similar grassland species available on the project site and adjacent properties.

In its 5-year status review for Myrtle's silverspot butterfly, USFWS describes inadvertent trampling by recreationalists as a threat to the larval life stage, though it considers this impact to be small when compared to the intensity and duration of trampling by cattle in pastures that support the host plant. The 5-year review also states that illegal collection of adults is considered a present-day threat (USFWS, 2009). If occupied host plants were present in close proximity to the trail, and trail users went off trail, trampling of the host plant could occur. If butterflies are present at the site, the trail could increase access for illegal collectors.

Due to the extent of jurisdictional wetlands on site, we anticipate that a Section 404 Clean Water Act permit will be required from the U.S. Army Corps of Engineers, necessitating Section (7) Endangered Species Act consultation, and that consultation will include assessing impacts to Myrtle's silverspot butterfly for compliance with the Federal Endangered Species Act.

Recommendations

1. Route the trail to avoid the host plant, *Viola adunca*. The trail easement should be routed to avoid the known occurrences of *Viola adunca* by 50 feet. Because plant populations and locations may shift in location and size from year to year, and because the West Trail corridor was surveyed after blooming had ceased, a qualified botanist should conduct additional targeted surveys for *Viola adunca* to identify its locations within the trail corridor. Once the specific trail alignment has been selected, the qualified botanist should conduct targeted surveys for *Viola adunca* in the blooming period immediately preceding trail construction. The botanist will flag and map all locations of *Viola adunca*, and trail will be re-routed to avoid the plant with a buffer of 50 feet. If a 50-foot buffer is not feasible due to the limited width of the trail easement or other reasons, the host plant should be demarcated or fenced as a sensitive habitat area to prevent trail users from approaching the plants. If any occurrences are found within 50 feet of proposed construction activities or staging areas, protect these occurrences with temporary fencing to prevent inadvertent trampling during construction.

2. Implement all conditions of the Biological Opinion from USFWS for Myrtle's silverspot butterfly.
3. A worker environmental awareness program shall be conducted by a qualified biologist to provide construction personnel with information on their responsibilities with regard to myrtle's silverspot butterfly. At a minimum, the training shall describe the species and its habitat and life cycle, the importance of the species and its habitat and host plant, measures that are being implemented to conserve the species, actions to take in the event it is observed in the work area, and consequences for non-compliance.
4. Include information about Myrtle's silverspot butterfly habitat, life cycle, and protection measures in interpretive signage for the project, including the importance of not trampling or picking the host plant.

Monarch butterfly (*Danaus plexippus*)

Status

No formal status. Winter roost sites are considered sensitive by CDFW and are tracked in the CNDDDB.

Habitat and Distribution

Monarchs migrate in the fall from northern breeding grounds to temperate wintering grounds along the coast, from northern Mendocino County to Baja California, Mexico. Winter roosts are typically located in wind-protected tree groves (eucalyptus, Monterey pine, and cypress). Monarchs arrive on the coast in early October and depart in March to migrate north to breeding grounds (California Department of Parks and Recreation, 2007).

Occurrences in the CNDDDB include wintering sites approximately 5 miles to the west around Bodega Bay and 5 miles to the south near Dillon Beach (CDFW, 2014).

Occurrence at the Site

The project site is not a known wintering site for monarchs. Eucalyptus or pine on the property may provide potential wintering habitat, particularly the more dense eucalyptus groves near the Western trail corridor and in the central creek. Site surveys occurred outside of the fall and winter roosting season, therefore, use of the site for wintering is unknown.

Potential Impacts

The trail corridors avoid the eucalyptus groves on the site, and in general, avoid removal of mature trees. Therefore impacts to wintering trees are very unlikely. If removal of eucalyptus or Monterey pine for the project becomes necessary, the recommendations below should be implemented.

Recommendations

1. Avoid removal of monarch butterfly wintering habitat (eucalyptus, Monterey pine) to the extent feasible.

2. If removal of suitable Monarch butterfly habitat must occur during the wintering season, October 1 – March 31, a biologist will survey for the species prior to tree removal. If the species is present, tree removal will be delayed until the species has moved from the site.

San Francisco forktail damselfly (*Ischnura gemina*)

Status

The San Francisco forktail damselfly has no formal status.

Habitat and Distribution

The San Francisco forktail damselfly is endemic to a small range (probably less than 5000 square miles) in the greater San Francisco Bay area (NatureServe, 2014). It is not listed or designated a California Species of Special Concern; however, it is tracked in the California Natural Diversity Database and included on CDFW's Special Animals List (2014). It occupies small, mostly open seeps, ponds, and canals with floating vegetation. These damselflies lay their eggs in aquatic plants, and larvae cling to submerged plants. Adults forage among herbs and shrubs. The species appears somewhat adaptable, but prefers sluggish shallow water without many fish. Larvae overwinter, and the adult flight period is March to November. (NatureServe, 2014).

The CNDDDB includes two occurrences of San Francisco forktail damselfly within 5 miles of the project site, from near Dillon Beach (CDFW, 2014). The species was also observed in 2003 at the nearby Estero Americano Preserve (Sonoma Land Trust, 2007).

Occurrence at the Site

Ponds or seeps on the project property could provide habitat for this species. Sluggish pools in the central creek could provide habitat, however, the abundance of fish such as mosquitofish may limit suitability of the habitat. Mosquitofish have been implicated in the decline of native damselflies in Hawaii (Nico et al., 2014).

Potential Impacts

The project avoids direct impacts to ponds on site, and impacts to the central creek are limited to possible improvements to the existing crossing and installation of a new upstream crossing. These impacts would be small and localized. Rocked crossings for the trails could impact potential damselfly habitat if placed in standing pools in seeps or drainages. 12 rocked crossings are expected, and would not constitute a substantial reduction in habitat for this species.

Recommendations

1. Design the creek crossings to avoid work in the wetted portion of the channel.
2. Where crossings of seeps or drainages cannot be avoided, use small footbridges as opposed to rocked crossings to the extent feasible, particularly where there are areas of standing water.
3. Design rocked crossings to avoid pooled water to the extent feasible.

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Appendix A. Site Photographs

Appendix B. Species Lists

Appendix C. Wildlife Species Observed on the Project Property during the April and June 2014 Site Visits

Mammals

American badger	<i>Taxidea taxus</i>	Burrows only
Black-tailed deer	<i>Odocoileus hemionus columbianus</i>	
jackrabbit	<i>Lepus californicus</i>	

Birds

Mallard	<i>Anas platyrhynchos</i>
California quail	<i>Callipepla californica</i>
American white pelican	<i>Pelecanus erythrorhynchos</i>
Turkey vulture	<i>Cathartes aura</i>
Osprey	<i>Pandion haliaetus</i>
Red-tailed hawk	<i>Buteo jamaicensis</i>
Eurasian collared dove	<i>Streptopelia decaocto</i>
Mourning dove	<i>Zenaida macroura</i>
Black phoebe	<i>Sayornis nigricans</i>
Western kingbird	<i>Tyrannus verticalis</i>
Western scrub jay	<i>Aphelocoma californica</i>
Common raven	<i>Corvus corax</i>
Tree swallow	<i>Tachycineta bicolor</i>
Barn swallow	<i>Hirundo rustica</i>
Western bluebird	<i>Sialia mexicana</i>
California towhee	<i>Melospiza crissalis</i>
Savannah sparrow	<i>Passerculus sandwichensis</i>
White-crowned sparrow	<i>Zonotrichia leucophrys</i>
Red-winged blackbird	<i>Agelaius phoeniceus</i>
Brewer's blackbird	<i>Euphagus cyanocephalus</i>
House finch	<i>Carpodacus mexicanus</i>
American goldfinch	<i>Spinus tristis</i>
House sparrow	<i>Passer domesticus</i>

Reptiles and Amphibians

Garter snake	<i>Thamnophis sp.</i>
Western pond turtle	<i>Emys marmorata</i>
California red-legged frog	<i>Rana draytonii</i>
American bullfrog	<i>Rana catesbeiana</i>
Pacific chorus frog	<i>Pseudacris regilla</i>

Fish and Aquatic

Invertebrates

Mosquitofish	<i>Gambusia affinis</i>
Threespine stickleback	<i>Gasterosteus aculeatus</i>
Water boatman	
Predatory diving beetle	



Photo 1. Entrance Road with general location of potential Phase 2 parking on the left and general location of a portion of the West Trail on the right. (4/15/14)



Photo 2. Looking north along the Estero access trail alignment toward the barn and potential Phase 1 southern staging area. (4/15/14)



Photo 3. Looking north along the central creek from near the East Trail corridor. (4/14/14)



Photo 4. Looking south towards the Estero Americano and lower portion of the central creek from the East Trail corridor. (4/15/14)



Photo 5. Collapsed badger burrow with old owl pellets indicating probable former use by burrowing owl, southern edge of the East Trail corridor overlooking the Estero. (4/15/14)



Photo 6. Recent badger burrow in the southeast quadrant of the eastern trail corridor. (4/15/14)



Photo 7. Typical grassland habitat along the East Trail corridor. (4/15/14)



Photo 8. *Viola adunca* located near the East Trail corridor near the knoll in the northeast corner of the property. (4/15/14)



Photo 9. Small drainage located on the East Trail corridor draining to central creek near the eucalyptus stand. (4/15/14)



Photo 10. Approximate location for Phase 2 spur trail creek crossing. (4/15/14)



Photo 11. Looking towards the Estero Americano from the near Estero access trail (West Trail). (4/15/14)



Photo 12. Unidentified pellet on rock near Estero access trail corridor (West Trail). (4/15/14).



Photo 13. Looking south toward the Estero and the portage launch route from the southernmost upland limit of the trail. (4/15/14)



Photo 14. Standing at the Estero looking north across the salt marsh/mudflat towards the southernmost upland limit of the Estero access trail corridor. (4/15/14)



Photo 15. Transitional marsh habitat near the mouth of the central creek. (4/15/14)



Photo 16. Small seep-supported wetland on West Trail corridor. (6/23/14)



Photo 17. Grassland at summit of West Trail corridor. (6/23/14)



Photo 18. Northernmost portion of West Trail corridor. (6/23/14)



Photo 19. Existing bridge across central creek. (4/15/14)



Photo 20. Central creek upstream from existing bridge. (4/15/14)



Photo 21. Pond 1 near West Trail corridor. California red-legged frogs observed in this feature during night surveys. (6/23/14)



Photo 22. Pond 2 east of West Trail corridor. California red-legged frogs not observed in this feature during night surveys. (6/23/14)



Photo 23. Pond 3 near East Trail corridor. (4/15/14)



Photo 24. California red-legged frog at seep above water trough along Estero access trail corridor. (4/15/14)

U.S. Fish & Wildlife Service
Sacramento Fish & Wildlife Office
Federal Endangered and Threatened Species that Occur in
or may be Affected by Projects in the
VALLEY FORD (502C)
U.S.G.S. 7 1/2 Minute Quad

Database last updated: September 18, 2011

Report Date: March 25, 2014

Listed Species

Invertebrates

Haliotes cracherodii
black abalone (E) (NMFS)

Haliotes sorenseni
white abalone (E) (NMFS)

Speyeria zerene myrtleae
Myrtle's silverspot butterfly (E)

Syncaris pacifica
California freshwater shrimp (E)

Fish

Eucyclogobius newberryi
critical habitat, tidewater goby (X)
tidewater goby (E)

Oncorhynchus kisutch
coho salmon - central CA coast (E) (NMFS)
Critical habitat, coho salmon - central CA coast (X) (NMFS)

Oncorhynchus mykiss
Central California Coastal steelhead (T) (NMFS)
Central Valley steelhead (T) (NMFS)
Critical habitat, Central California coastal steelhead (X) (NMFS)

Oncorhynchus tshawytscha
California coastal chinook salmon (T) (NMFS)

Amphibians

Rana draytonii

California red-legged frog (T)

Critical habitat, California red-legged frog (X)

Reptiles

Caretta caretta

loggerhead turtle (T) (NMFS)

Chelonia mydas (incl. *agassizi*)

green turtle (T) (NMFS)

Dermochelys coriacea

leatherback turtle (E) (NMFS)

Lepidochelys olivacea

olive (=Pacific) ridley sea turtle (T) (NMFS)

Birds

Brachyramphus marmoratus

marbled murrelet (T)

Charadrius alexandrinus nivosus

western snowy plover (T)

Diomedea albatrus

short-tailed albatross (E)

Pelecanus occidentalis californicus

California brown pelican (E)

Strix occidentalis caurina

northern spotted owl (T)

Mammals

Arctocephalus townsendi

Guadalupe fur seal (T) (NMFS)

Balaenoptera borealis

sei whale (E) (NMFS)

Balaenoptera musculus
blue whale (E) (NMFS)

Balaenoptera physalus
finback (=fin) whale (E) (NMFS)

Eubalaena (=Balaena) glacialis
right whale (E) (NMFS)

Eumetopias jubatus
Steller (=northern) sea-lion (T) (NMFS)

Physeter catodon (=macrocephalus)
sperm whale (E) (NMFS)

Plants

Delphinium bakeri
Baker's larkspur (E)

Delphinium luteum
Critical habitat, yellow larkspur (X)
yellow larkspur (E)

Lasthenia conjugens
Contra Costa goldfields (E)

Trifolium amoenum
showy Indian clover (E)

Key:

- (E) Endangered - Listed as being in danger of extinction.
- (T) Threatened - Listed as likely to become endangered within the foreseeable future.
- (P) Proposed - Officially proposed in the Federal Register for listing as endangered or threatened.
- (NMFS) Species under the Jurisdiction of the [National Oceanic & Atmospheric Administration Fisheries Service](#). Consult with them directly about these species.
- Critical Habitat - Area essential to the conservation of a species.

- (PX) Proposed Critical Habitat - The species is already listed. Critical habitat is being proposed for it.
- (C) Candidate - Candidate to become a proposed species.
- (V) Vacated by a court order. Not currently in effect. Being reviewed by the Service.
- (X) Critical Habitat designated for this species

CNDDDB Quad Species List 48 records.

Element Type	Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status	CA Rare Plant Rank	Quad Code	Quad Name	Data Status	Taxonomic Sort
Animals - Amphibians	Rana boylei	foothill yellow-legged frog	AAABH01050	None	None	SSC	-	3812238	Valley Ford	Unprocessed	Animals - Amphibians - Ranidae - Rana boylei
Animals - Amphibians	Rana draytonii	California red-legged frog	AAABH01022	Threatened	None	SSC	-	3812238	Valley Ford	Mapped and Unprocessed	Animals - Amphibians - Ranidae - Rana draytonii
Animals - Birds	Pandion haliaetus	osprey	ABNKC01010	None	None	WL	-	3812238	Valley Ford	Unprocessed	Animals - Birds - Accipitridae - Pandion haliaetus
Animals - Birds	Cypseloides niger	black swift	ABNUA01010	None	None	SSC	-	3812238	Valley Ford	Mapped	Animals - Birds - Apodidae - Cypseloides niger
Animals - Birds	Coccyzus americanus occidentalis	western yellow-billed cuckoo	ABNRB02022	Threatened	Endangered	-	-	3812238	Valley Ford	Mapped	Animals - Birds - Cuculidae - Coccyzus americanus occidentalis
Animals - Birds	Agelaius tricolor	tricolored blackbird	ABPBX0020	None	None	SSC	-	3812238	Valley Ford	Mapped	Animals - Birds - Icteridae - Agelaius tricolor
Animals - Birds	Pelecanus occidentalis californicus	California brown pelican	ABNFC01021	Delisted	Delisted	FP	-	3812238	Valley Ford	Unprocessed	Animals - Birds - Pelecanidae - Pelecanus occidentalis californicus
Animals - Birds	Athene cunicularia	burrowing owl	ABNSB10010	None	None	SSC	-	3812238	Valley Ford	Unprocessed	Animals - Birds - Strigidae - Athene cunicularia
Animals - Crustaceans	Syncaris pacifica	California freshwater shrimp	ICMAL27010	Endangered	Endangered	-	-	3812238	Valley Ford	Mapped and Unprocessed	Animals - Crustaceans - Atyidae - Syncaris pacifica
Animals - Fish	Eucyclogobius newberryi	tidewater goby	AFCQN04010	Endangered	None	SSC	-	3812238	Valley Ford	Mapped and Unprocessed	Animals - Fish - Gobiidae - Eucyclogobius newberryi
Animals - Fish	Oncorhynchus kisutch	coho salmon - central California coast ESU	AFCHA02034	Endangered	Endangered	-	-	3812238	Valley Ford	Unprocessed	Animals - Fish - Salmonidae - Oncorhynchus kisutch
Animals - Fish	Oncorhynchus mykiss irideus	steelhead - central California coast DPS	AFCHA0209G	Threatened	None	-	-	3812238	Valley Ford	Unprocessed	Animals - Fish - Salmonidae - Oncorhynchus mykiss irideus
Animals - Insects	Lichnanthe ursina	bumblebee scarab beetle	IICOL67020	None	None	-	-	3812238	Valley Ford	Mapped	Animals - Insects - Glaphyridae - Lichnanthe ursina
Animals - Insects	Callophrys mossii bayensis	San Bruno elfin butterfly	IILEPE2202	Endangered	None	-	-	3812238	Valley Ford	Mapped	Animals - Insects - Lycaenidae - Callophrys mossii bayensis
Animals - Insects	Danaus plexippus	monarch butterfly	IILEPP2010	None	None	-	-	3812238	Valley Ford	Mapped	Animals - Insects - Nymphalidae - Danaus plexippus
Animals - Insects	Speyeria zerene myrtleae	Myrtle's silverspot butterfly	IILEPJ608C	Endangered	None	-	-	3812238	Valley Ford	Mapped	Animals - Insects - Nymphalidae - Speyeria zerene myrtleae

Animals - Insects	Coelus globosus	globose dune beetle	IICOL4A010	None	None	-	-	3812238	Valley Ford	Mapped	Animals - Insects - Tenebrionidae - Coelus globosus
Animals - Mammals	Arborimus pomo	Sonoma tree vole	AMAFF23030	None	None	SSC	-	3812238	Valley Ford	Mapped	Animals - Mammals - Muridae - Arborimus pomo
Animals - Mammals	Taxidea taxus	American badger	AMAJF04010	None	None	SSC	-	3812238	Valley Ford	Mapped	Animals - Mammals - Mustelidae - Taxidea taxus
Animals - Mollusks	Vespericola marinensis	Marin hesperian	IMGASA4140	None	None	-	-	3812238	Valley Ford	Mapped	Animals - Mollusks - Polygyridae - Vespericola marinensis
Animals - Reptiles	Emys marmorata	western pond turtle	ARAAD02030	None	None	SSC	-	3812238	Valley Ford	Mapped and Unprocessed	Animals - Reptiles - Emydidae - Emys marmorata
Community - Terrestrial	Coastal Brackish Marsh	Coastal Brackish Marsh	CTT52200CA	None	None	-	-	3812238	Valley Ford	Mapped	Community - Terrestrial - Coastal Brackish Marsh
Plants - Bryophytes	Triquetrella californica	coastal triquetrella	NBMUS7S010	None	None	-	1B.2	3812238	Valley Ford	Mapped	Plants - Bryophytes - Pottiaceae - Triquetrella californica
Plants - Lichens	Thamnolia vermicularis	whiteworm lichen	NLTES43860	None	None	-	2B.1	3812238	Valley Ford	Mapped	Plants - Lichens - Icmadophilaceae - Thamnolia vermicularis
Plants - Vascular	Cirsium andrewsii	Franciscan thistle	PDAST2E050	None	None	-	1B.2	3812238	Valley Ford	Mapped	Plants - Vascular - Asteraceae - Cirsium andrewsii
Plants - Vascular	Hemizonia congesta ssp. congesta	white seaside tarplant	PDAST4R065	None	None	-	1B.2	3812238	Valley Ford	Mapped	Plants - Vascular - Asteraceae - Hemizonia congesta ssp. congesta
Plants - Vascular	Hesperevax sparsiflora var. brevifolia	short-leaved evax	PDASTE5011	None	None	-	1B.2	3812238	Valley Ford	Mapped	Plants - Vascular - Asteraceae - Hesperevax sparsiflora var. brevifolia
Plants - Vascular	Lasthenia californica ssp. bakeri	Baker's goldfields	PDAST5L0C4	None	None	-	1B.2	3812238	Valley Ford	Mapped	Plants - Vascular - Asteraceae - Lasthenia californica ssp. bakeri
Plants - Vascular	Lasthenia californica ssp. macrantha	perennial goldfields	PDAST5L0C5	None	None	-	1B.2	3812238	Valley Ford	Mapped	Plants - Vascular - Asteraceae - Lasthenia californica ssp. macrantha
Plants - Vascular	Lasthenia conjugens	Contra Costa goldfields	PDAST5L040	Endangered	None	-	1B.1	3812238	Valley Ford	Mapped	Plants - Vascular - Asteraceae - Lasthenia conjugens
Plants - Vascular	Microseris paludosa	marsh microseris	PDAST6E0D0	None	None	-	1B.2	3812238	Valley Ford	Mapped	Plants - Vascular - Asteraceae - Microseris paludosa
Plants - Vascular	Arabis blepharophylla	coast rockcross	PDBRA06040	None	None	-	4.3	3812238	Valley Ford	Unprocessed	Plants - Vascular - Brassicaceae - Arabis blepharophylla

Plants - Vascular	<i>Calystegia purpurata</i> ssp. <i>saxicola</i>	coastal bluff morning-glory	PDCON040D2	None	None	-	1B.2	3812238	Valley Ford	Mapped	Plants - Vascular - Convulvaceae - <i>Calystegia purpurata</i> ssp. <i>saxicola</i>
Plants - Vascular	<i>Trifolium amoenum</i>	showy rancheria clover	PDFAB40040	Endangered	None	-	1B.1	3812238	Valley Ford	Mapped	Plants - Vascular - Fabaceae - <i>Trifolium amoenum</i>
Plants - Vascular	<i>Fritillaria liliacea</i>	fragrant fritillary	PMLILOV0C0	None	None	-	1B.2	3812238	Valley Ford	Mapped	Plants - Vascular - Liliaceae - <i>Fritillaria liliacea</i>
Plants - Vascular	<i>Sidalcea calycosa</i> ssp. <i>rhizomata</i>	Point Reyes checkerbloom	PDMAL11012	None	None	-	1B.2	3812238	Valley Ford	Mapped	Plants - Vascular - Malvaceae - <i>Sidalcea calycosa</i> ssp. <i>rhizomata</i>
Plants - Vascular	<i>Sidalcea malviflora</i> ssp. <i>purpurea</i>	purple-stemmed checkerbloom	PDMAL110FL	None	None	-	1B.2	3812238	Valley Ford	Mapped	Plants - Vascular - Malvaceae - <i>Sidalcea malviflora</i> ssp. <i>purpurea</i>
Plants - Vascular	<i>Triphysaria floribunda</i>	San Francisco owl's-clover	PDSCR2T010	None	None	-	1B.2	3812238	Valley Ford	Mapped	Plants - Vascular - Orobanchaceae - <i>Triphysaria floribunda</i>
Plants - Vascular	<i>Agrostis blasdalei</i>	Blasdale's bent grass	PMPOA04060	None	None	-	1B.2	3812238	Valley Ford	Mapped	Plants - Vascular - Poaceae - <i>Agrostis blasdalei</i>
Plants - Vascular	<i>Elymus californicus</i>	California bottle-brush grass	PMPOA2H0W0	None	None	-	4.3	3812238	Valley Ford	Unprocessed	Plants - Vascular - Poaceae - <i>Elymus californicus</i>
Plants - Vascular	<i>Gilia capitata</i> ssp. <i>chamissonis</i>	blue coast gilia	PDPLM040B3	None	None	-	1B.1	3812238	Valley Ford	Mapped	Plants - Vascular - Polemoniaceae - <i>Gilia capitata</i> ssp. <i>chamissonis</i>
Plants - Vascular	<i>Leptosiphon rosaceus</i>	rose leptosiphon	PDPLM09180	None	None	-	1B.1	3812238	Valley Ford	Mapped	Plants - Vascular - Polemoniaceae - <i>Leptosiphon rosaceus</i>
Plants - Vascular	<i>Chorizanthe cuspidata</i> var. <i>villosa</i>	woolly-headed spinyflower	PDPGN04082	None	None	-	1B.2	3812238	Valley Ford	Mapped	Plants - Vascular - Polygonaceae - <i>Chorizanthe cuspidata</i> var. <i>villosa</i>
Plants - Vascular	<i>Delphinium bakeri</i>	Baker's larkspur	PDRAN0B050	Endangered	Endangered	-	1B.1	3812238	Valley Ford	Mapped	Plants - Vascular - Ranunculaceae - <i>Delphinium bakeri</i>
Plants - Vascular	<i>Delphinium luteum</i>	golden larkspur	PDRAN0B0Z0	Endangered	Rare	-	1B.1	3812238	Valley Ford	Mapped	Plants - Vascular - Ranunculaceae - <i>Delphinium luteum</i>
Plants - Vascular	<i>Ranunculus lobbii</i>	Lobb's aquatic buttercup	PDRAN0L1J0	None	None	-	4.2	3812238	Valley Ford	Unprocessed	Plants - Vascular - Ranunculaceae - <i>Ranunculus lobbii</i>
Plants - Vascular	<i>Horkelia marinensis</i>	Point Reyes horkelia	PDROS0W0B0	None	None	-	1B.2	3812238	Valley Ford	Mapped	Plants - Vascular - Rosaceae - <i>Horkelia marinensis</i>
Plants - Vascular	<i>Dirca occidentalis</i>	western leatherwood	PDTHY03010	None	None	-	1B.2	3812238	Valley Ford	Mapped	Plants - Vascular - Thymelaeaceae - <i>Dirca occidentalis</i>

**CNDDDB Animal Occurences within a 5-mile Radius of the Project Site
(BIOS 5 Online Search Date July 11, 2014)**

Scientific Name	Common Name	Occ			State Status	Other Status
		No.	EONDX	Federal Status		
Rana draytonii	California red-legged frog	743	55178	Threatened	None	CDFW_SSC; IUCN_VU
Rana draytonii	California red-legged frog	742	55177	Threatened	None	CDFW_SSC; IUCN_VU
Rana draytonii	California red-legged frog	62	6465	Threatened	None	CDFW_SSC; IUCN_VU
Rana draytonii	California red-legged frog	41	16266	Threatened	None	CDFW_SSC; IUCN_VU
Rana draytonii	California red-legged frog	75	6360	Threatened	None	CDFW_SSC; IUCN_VU
Rana draytonii	California red-legged frog	74	20061	Threatened	None	CDFW_SSC; IUCN_VU
Rana draytonii	California red-legged frog	423	45155	Threatened	None	CDFW_SSC; IUCN_VU
Rana draytonii	California red-legged frog	1335	77729	Threatened	None	CDFW_SSC; IUCN_VU
Rana draytonii	California red-legged frog	845	62536	Threatened	None	CDFW_SSC; IUCN_VU
Rana draytonii	California red-legged frog	429	45290	Threatened	None	CDFW_SSC; IUCN_VU
Charadrius alexandrinus nivosus	western snowy plover	75	25741	Threatened	None	ABC_WLBCC; CDFW_SSC; USFWS_BCC
Coccyzus americanus occidentalis	western yellow-billed cuckoo	172	72486	Threatened	Endangered	BLM_S; USFS_S; USFWS_BCC
Cypseloides niger	black swift	19	28976	None	None	ABC_WLBCC; CDFW_SSC; IUCN_LC; USFWS_BCC
Agelaius tricolor	tricolored blackbird	278	6659	None	None	CDFW_SSC; IUCN_EN; USFWS_BCC
Agelaius tricolor	tricolored blackbird steelhead - central	324	30793	None	None	CDFW_SSC; IUCN_EN; USFWS_BCC
Oncorhynchus mykiss irideus	California coast DPS	30	79213	Threatened	None	AFS_TH
Thaleichthys pacificus	eulachon	5	91929	Threatened	None	CDFW_SSC
Eucyclogobius newberryi	tidewater goby	15	28567	Endangered	None	IUCN_VU
Eucyclogobius newberryi	tidewater goby	14	28568	Endangered	None	IUCN_VU
Eucyclogobius newberryi	tidewater goby	13	28569	Endangered	None	IUCN_VU
Myotis evotis	long-eared myotis	86	69764	None	None	WBWG_M
Myotis thysanodes	fringed myotis	72	69765	None	None	BLM_S; IUCN_LC; WBWG_H
Lasiurus cinereus	hoary bat	123	68886	None	None	IUCN_LC; WBWG_M
Corynorhinus townsendii	Townsend's big-eared bat	461	93841	None	Candidate Threatened	WBWG_H IUCN_LC; USFS_S;
Corynorhinus townsendii	Townsend's big-eared bat	224	69763	None	Candidate Threatened	WBWG_H IUCN_LC; USFS_S;
Antrozous pallidus	pallid bat	45	43206	None	None	WBWG_H
Arborimus pomo	Sonoma tree vole	189	41317	None	None	CDFW_SSC; IUCN_NT
Taxidea taxus	American badger	232	57130	None	None	CDFW_SSC; IUCN_LC
Taxidea taxus	American badger	408	71225	None	None	CDFW_SSC; IUCN_LC
Taxidea taxus	American badger	451	83056	None	None	CDFW_SSC; IUCN_LC
Emys marmorata	western pond turtle	463	9358	None	None	IUCN_VU; USFS_S
Emys marmorata	western pond turtle	425	21696	None	None	IUCN_VU; USFS_S
Emys marmorata	western pond turtle	404	8182	None	None	IUCN_VU; USFS_S
Emys marmorata	western pond turtle	401	16265	None	None	IUCN_VU; USFS_S
Emys marmorata	western pond turtle	539	46564	None	None	IUCN_VU; USFS_S

<i>Emys marmorata</i>	western pond turtle	641	63917	None	None	IUCN_VU; USFS_S
<i>Syncaris pacifica</i>	California freshwater shrimp	3	14451	Endangered	Endangered	IUCN_EN
<i>Syncaris pacifica</i>	California freshwater shrimp	13	12967	Endangered	Endangered	IUCN_EN
<i>Syncaris pacifica</i>	California freshwater shrimp	20	67733	Endangered	Endangered	IUCN_EN
<i>Coelus globosus</i>	globose dune beetle	26	61128	None	None	IUCN_VU
<i>Lichnanthe ursina</i>	bumblebee scarab beetle	2	22629	None	None	
<i>Lichnanthe ursina</i>	bumblebee scarab beetle	9	12874	None	None	
<i>Lichnanthe ursina</i>	bumblebee scarab beetle	10	55978	None	None	
<i>Callophrys mossii bayensis</i>	San Bruno elfin butterfly	20	61775	Endangered	None	XERCES_CI
<i>Speyeria zerene myrtleae</i>	Myrtle's silverspot butterfly	14	43753	Endangered	None	XERCES_CI
<i>Speyeria zerene myrtleae</i>	Myrtle's silverspot butterfly	15	43767	Endangered	None	XERCES_CI
<i>Speyeria zerene myrtleae</i>	Myrtle's silverspot butterfly	7	43742	Endangered	None	XERCES_CI
<i>Speyeria zerene myrtleae</i>	Myrtle's silverspot butterfly	5	43735	Endangered	None	XERCES_CI
<i>Speyeria zerene myrtleae</i>	Myrtle's silverspot butterfly	4	43734	Endangered	None	XERCES_CI
<i>Speyeria zerene myrtleae</i>	Myrtle's silverspot butterfly	8	43743	Endangered	None	XERCES_CI
<i>Speyeria zerene myrtleae</i>	Myrtle's silverspot butterfly	6	43736	Endangered	None	XERCES_CI
<i>Danaus plexippus</i>	monarch butterfly	22	22964	None	None	
<i>Danaus plexippus</i>	monarch butterfly	231	20591	None	None	
<i>Vespericola marinensis</i>	Marin hesperian	2	58683	None	None	



COUNTY OF SONOMA

PERMIT AND RESOURCE MANAGEMENT DEPARTMENT

2550 Ventura Avenue, Santa Rosa, CA 95403
(707) 565-1900 FAX (707) 565-1103

DATE: October 30, 2014

TO: Rich Stabler, Sr. Environmental Specialist

FROM: Crystal Acker, Environmental Specialist

SUBJECT: Rare Plant/Wetland Habitat Assessment-
Estero Trail site

The purpose of the following habitat assessment memo is to satisfy environmental review requirements of the California Environmental Quality Act (CEQA) for biological resources, specifically, potential habitat for rare plant species and/or potentially jurisdictional wetlands, which may be present in areas where ground disturbance may occur on the Estero Trail project site. The project site is also located within the jurisdiction of the Local Coastal Plan (LCP), which, in some cases, calls for more stringent protection requirements than would otherwise be warranted under CEQA. Potential impacts under the LCP were also evaluated.

The determinations included in this memo are based on a review of previous studies conducted on/near the project site, a review of current endangered species databases, and site visits conducted on April 15 and June 23, 2014.

PROJECT DESCRIPTION SUMMARY

The proposed project will select a general location (within 50-foot buffered area) for two public access trails over a portion of the 495-acre Bordessa property. The trail easement will be 50-foot wide and not more than 5-miles in length. The proposed five-mile trail system is the principal means for providing comprehensive public access to the property. The trails will be constructed for pedestrian use and hand-carried non-motorized boats, kayaks and canoes. The trail will be 5-foot wide compacted native material or other permeable surface including rocked wet crossings within the easement. Trail marker posts and benches would be placed along the trail. The existing main access road and gate or improved replacements, are expected to remain in similar locations. Two staging areas would be added to accommodate parking for trail users not to exceed 1.5 acres in size. Each staging area will be suitable for use by pedestrians, bicyclists and motor vehicles. Staging areas may include one or more of the following: restroom facilities, accessible parking, bicycle parking, picnic tables, benches, trash & recycle containers, and operations signage.

Likely improvements would consist of entry road improvements and road extension to provide operations, maintenance, emergency vehicle access, and public access to the larger southern staging area.

SITE ASSESSMENT METHODOLOGY

Two site visits were conducted by County staff, on April 15 and June 23. The April visit focused on the “East Trail” preliminary alignment, while the June visit focused on the “West Trail” preliminary alignment. Specific areas were visited on both dates (e.g., flatlands along the access road, barn and the Estero Americano frontage). The proposed preliminary trail alignments and surrounding area (about 100 feet on either side) were traversed on foot. Observations of existing site conditions (e.g., vegetation, soil type, topography, disturbance) were documented.

Prior to conducting the site visit, previous studies were reviewed¹ and a review of occurrence records maintained by the California Department of Fish and Wildlife (CDFW) and California Native Plant Society (CNPS), as published in the CDFW’s California Natural Diversity Database (CNDDDB) and CNPS Electronic Inventory of Rare and Endangered Plants was conducted within a five mile radius of the site. All CNPS Inventory species listed as occurring in the Bodega Head and Valley Ford USGS 7.5 minute Quads were also included.

SITE DESCRIPTION

The Estero Trail site is located west of Valley Ford on the Bordessa Ranch, bordered by Highway 1 on the north and the Estero Americano on its south in unincorporated Sonoma County. Site elevations range from sea level at the Estero to about 400 feet at the highest knoll on the northwestern corner.

On-site and adjacent land uses are rural agricultural, primarily livestock grazing. Existing structural development includes a barn and shed/outbuilding, but the site is primarily undeveloped. General habitat types/features present on the property include rolling to steeply sloped hillsides vegetated by annual grassland, rocky outcrops, upland seeps, a few developed springs and ponds, Estero marshland, an unnamed perennial creek running north-south through the approximate center of the property, and several smaller drainages that support riparian vegetation.

The property can be split into five survey areas:

- The Western Hill
 - West of the access road, north of Forever Wild area
 - Includes most of the West Trail preliminary alignment

¹ Bordessa Ranch Conservation Easement Baseline Documentation. May 2012. Rob Evans, Evans & Associates.
Estero Americano Preserve Herbarium Book. January 2011. Sonoma Land Trust.
DRAFT Estero Americano Preserve Grassland Monitoring Plan. January 2009. Caroline E. Christian.
Estero Americano Preserve Resource Management Plan. December 2007. Sonoma Land Trust.

- The Access Road and Flat Lands
 - Along the existing access road and around the barn between the western hill/Forever Wild area and the creek corridor
 - Includes the access road, parking/staging areas, and Estero access portion of the West Trail preliminary alignment
- The Eastern Hills
 - East of the creek corridor
 - Includes the East Trail preliminary alignment
- The Perennial Creek Channel/Central Riparian Corridor
 - Includes one existing and one proposed trail crossing
- The Estero Americano Frontage/Marshland
 - Includes portage area for canoes and kayaks

Each of these survey areas is described below. A list of all identifiable plant species observed is provided in Table 1. Note that it is not intended to be a complete flora. Additional species not observed are likely to be present.

Western Hill

Soils in this area are mapped by USDA as Steinbeck loam:

- SnD – Steinbeck loam, 9 – 15% slopes
- SnD2 – Steinbeck loam, 9 – 15% slopes, eroded
- SnF2 – Steinbeck loam, 30 – 50% slopes, eroded

The Steinbeck soil series consists of moderately well-drained loams that have a clay loam subsoil, underlain by weakly to moderately consolidated sandstone and shale at a depth of 20 inches to more than 60 inches. They are found on dissected marine terraces. When undisturbed, these soils support mainly annual and perennial grassland with scattered shrubs and oaks. They are used primarily for pastureland and production of grain and hay crops. These soils lack special components (e.g., serpentine, volcanic) that might be particularly suited to support rare plants. These soils are sometimes hydric, when located on upland slopes with seeping groundwater (SnC, SnD, SnD2).

The dominant plant community on the western hill was annual grassland. The most commonly observed species were: velvetgrass (*Holcus lanatus*), rattlesnake grass (*Briza maxima*), little quaking grass (*Briza minor*), hedgehog dogtail grass (*Cynosurus echinatus*), slender wild oats (*Avena barbata*), bull thistle (*Cirsium vulgare*), Italian thistle (*Carduus pycnocephalus*), birdsfoot trefoil (*Lotus corniculatus*), cat's ears (*Hypochaeris glabra*; *H. radicata*), yellow glandweed (*Parentucellia viscosa*), pale flax (*Linum bienne*), sheep sorrel (*Rumex acetosella*), catchfly (*Silene gallica*), yarrow (*Achillea millefolium*), dwarf brodiaea (*Brodiaea terrestris*), California poppy (*Eschscholzia californica*), pale yellow hayfield tarweed (*Hemizonia congesta* ssp. *congesta*), geraniums (*Geranium dissectum*; *G. molle*), annual lupine (*Lupinus bicolor*), prickly sow thistle (*Sonchus asper*), rough pea (*Lathyrus hirsutus*), narrow leaved plantain (*Plantago lanceolata*), blue-eyed grass (*Sisyrinchium bellum*), western bracken fern (*Pteridium aquilinum*),

soap plant (*Chlorogalum pomeridianum*), toad rush (*Juncus bufonius*), and patches other juncus species (*Juncus occidentalis*, *J. effuses*, *J. patens*). Scattered shrubs were present mostly on the upper slopes, including gorse (*Ulex europaeus*), sweet-briar rose (*Rosa rubiginosa*) and coyote bush (*Baccharis pilularis*). A small patch of native purple needlegrass (*Stipa pulchra*) was also observed on the eastern side slope.

Most of the dominant plant species, and nearly all of the grasses, were non-native, many of them listed as invasive by the California Invasive Plant Council (Table 1). However, some native species were also observed, notably purple needlegrass and pale yellow hayfield tarweed, which is a special status subspecies (California Rare Plant Rank 1B).

Two intermittent drainage channels were present running west-east down the eastern slope of the Western Hill survey area. The West Trail preliminary alignment crosses each of these near the bottom, where vegetation is minimal. Both channels were nearly dry during the June site visit, with a few patches of moist, but not saturated, soils.

The northerly drainage contained patches of wetland vegetation, including pennyroyal (*Mentha pulegium*), coyote thistles (*Eryngium aristulatum*; *E. armatum*), sedges/juncus, docks (mostly *Rumex pulcher*; few *R. crispus*) cow clover (*Trifolium wormskioldii*), hyssop loosestrife (*Lythrum hyssopifolia*), velvetgrass (*Holcus lanatus*), and a few willows (*Salix* sp.) near the bottom, progressing to mostly gorse and coyote bush moving upslope. An off-channel pond with a fringe of cattails (*Typha* sp.) and sedges was present above this drainage. The pond will not be impacted by the proposed trail.

The southerly drainage was mostly canopied by Tasmanian bluegum (*Eucalyptus globulus*), with a few other trees/shrubs including Douglas fir (*Pseudotsuga menziesii*), California blackberry (*Rubus ursinus*), California wax myrtle (*Morella californica*), hawthorn (*Crataegus douglasii*), and poison oak (*Toxicodendron diversilobum*). This channel contained fewer patches of wetland vegetation, and had more bare, eroded surfaces, especially near the bottom, where the proposed trail will cross.

The Western Hill survey area contained numerous pockets of seeping groundwater in upland areas without depressions. None of these contained surface water in June, but all were moister than the surrounding grassland (either a bit muddy, or evidence of having been muddy, i.e., hoofprints). These upland seeps supported a mix of both hydrophytic and upland plants, including slough sedge (*Carex obnupta*) poison hemlock (*Conium maculatum*), bull thistle, field bindweed (*Convolvulus arvensis*), pale flax, cat's ears, velvetgrass, and various upland grasses which were also present in surrounding hills.

Access Road Flat Lands

Soils in this area are mapped by USDA as:

- Steinbeck loam (SnC), 2 – 9% slopes (from N property boundary to just S of the barn)
- Blucher fine sandy loam (BcA), overwash, 0 – 2% slopes (S of barn to Estero)

The Steinbeck soil series consists of moderately well-drained loams that have a clay loam subsoil, underlain by weakly to moderately consolidated sandstone and shale at a depth of 20 inches to more than 60 inches. They are found on dissected marine terraces. When undisturbed, these soils support mainly annual and perennial grassland with scattered shrubs

and oaks. They are used primarily for pastureland and production of grain and hay crops. These soils lack special components (e.g., serpentine, volcanic) that might be particularly suited to support rare plants. These soils are sometimes hydric, when located on upland slopes with seeping groundwater (SnC, SnD, SnD2).

The Blucher soil series consists of somewhat poorly drained loam, underlain by mixed sedimentary alluvium of stratified silt and clay (BcA also has a surface overwash of fine sandy loam). These soils are found in basins along stream bottoms and on alluvial fans. Where undisturbed, these soils support mostly annual and perennial grassland, with patches of sedges and wild berry vines. Many areas have been cleared and cultivated for dry or irrigated pasture and some row crops. These soils lack special components (e.g., serpentine, volcanic) that might be particularly suited to support rare plants. These soils are sometimes hydric, when located in drainageways (BcA).

Vegetation in the Flat Lands was annual grassland, similar to that of the Western Hills, but contained a higher percentage of non-native and invasive weeds, and had larger concentrations of wetland seep/wet meadow. The most commonly observed species were: Harding grass (*Phalaris aquatica*), slender wild oats, little quaking grass, velvetgrass, bull thistle, Italian thistle, redstem filaree (*Erodium cicutarium*), longbeak stork's bill (*Erodium botrys*), pineapple weed (*Matricaria discoidea*), dovefoot geranium (*Geranium molle*), shining peppergrass (*Lepidium nitidum*), scarlet pimpernel (*Anagallis arvensis*), narrow leaved plantain (*Plantago lanceolata*), field bindweed, sheep sorrel, prickly sow thistle, fiddle dock (*Rumex pulcher*), black medic (*Medicago lupulina*), spotted medic (*Medicago arabica*), California burclover (*Medicago polymorpha*), henbit (*Lamium purpureum*), shamrock clover (*Trifolium dubium*), California buttercup (*Ranunculus californicus*), and black mustard (*Brassica nigra*).

Wet meadow/seep areas usually contained a combination of hydrophytic and upland plants, including velvetgrass, poison hemlock, spreading rush (*Juncus patens*), soft rush (*Juncus effusus*), fiddle dock, henbit, spinyfruit buttercup (*Ranunculus muricatus*), and sometimes pennyroyal. Hydrology during the April site visit varied from very shallow surface water (<1 inch) to just saturated, to evidence that saturation had been present (hoof prints in dried/drying mud). By June, only moist soils with evidence of saturation were observed.

There were several patches of a large unidentified sedge (2-3 ft tall) near the top of the creek bank to the east of the access road. None appear to be within the proposed trail alignment.

Eastern Hills

Soils in this area are mapped by USDA as:

- Steinbeck loam (SnE2) – Steinbeck loam, 9 – 15% slopes, eroded
- Kneeland sandy loam, sandy variant (KsD), 2 – 15% slopes
- Los Osos clay loam, thin solum (LsF2), 30 – 50% slopes, eroded

The Steinbeck soil series consists of moderately well-drained loams that have a clay loam subsoil, underlain by weakly to moderately consolidated sandstone and shale at a depth of 20 inches to more than 60 inches. They are found on dissected marine terraces. When undisturbed, these soils support mainly annual and perennial grassland with scattered shrubs and oaks. They are used primarily for pastureland and production of grain and hay crops. These soils lack special components (e.g., serpentine, volcanic) that might be particularly suited to

support rare plants. These soils are sometimes hydric, when located on upland slopes with seeping groundwater (SnC, SnD, SnD2).

The Kneeland soil series consists of well-drained loams that have a clay loam subsoil, underlain by medium-grained, hard sandstone at a depth of 25 to 45 inches. These are upland soils, typically found near the Pacific Ocean (KsD is located on the tops of marine terraces). When undisturbed, these soils support annual and perennial grassland and scattered shrubs, and are typically used for pastureland. These soils lack special components (e.g., serpentine, volcanic) that might be particularly suited to support rare plants. None of the Kneeland soils are listed as hydric.

The Los Osos soil series consists of well-drained clay loams that have a clay subsoil, underlain by weathered, fractured sandstone and shale at a depth of 15 to 50 inches (LsF2 is 15 – 22 inches). These are soils found on rolling hills and mountainous uplands. In most places, these soils support annual and perennial grasslands with scattered oaks; particularly steep slopes may include other small shrubs or hardwoods. They are used primarily for pastureland and production of hay. These soils lack special components (e.g., serpentine, volcanic) that might be particularly suited to support rare plants. None of the Los Osos soils are listed as hydric.

The Eastern Hills are also vegetated by annual grassland, but appeared to be a bit less disturbed, and less weedy than the Western Hill and Flat Lands survey areas. The most commonly observed species were: velvetgrass, rattlesnake grass, little quaking grass, slender wild oats, sweet-briar rose, coyote bush, bull thistle, Douglas iris (*Iris douglasiana*), annual lupine, blue-eyed grass, birdsfoot trefoil, sun cups (*Taraxia ovata*), California buttercup, cat's ear, soap plant, narrow leaved plantain, milk maids (*Cardamine californica*), footsteps of spring (*Sanicula arctopoides*), purple sanicle (*Sanicula bipinnatifida*), johnny jump up (*Viola pedunculata*), and narrowleaf mule's ears (*Wyethia angustifolia*).

There was a small patch of native early blue violet (*Viola adunca*) near some rocky outcrop/eroded soil areas on the upper southwestern slope of the northeasterly knoll. The violet has no special status, itself, but it is a host plant for the endangered Myrtle's silverspot butterfly (*Speyeria zerene myrtleae*), and as such, should be protected from impact.

Several small patches of native California goldfields (*Lasthenia californica* ssp. *californica*) were present in shallow soils near rocky outcrops along the top of the eastern creek bank just upstream and downstream of the existing bridge. California goldfields have no special status, but this is a unique habitat type that should be protected from impact.

Wetland swales and upland seeps running down the western hillside of the northeasterly knoll were frequent. Wet features were less frequent, but still present, on the southeasterly knoll. The ground was saturated or near saturated in most wetland areas in April. Shallow surface water (up to an inch) was observed in only a few places. Although some upland plants common to the surrounding grassland were present in many of these seeps, they were more dominantly vegetated by hydrophytic plants than any of the wet features west of the creek channel. Seep/swale plants observed in the Eastern Hills survey area included: brown-headed rush (*Juncus phaeocephalus*), soft rush (*Juncus effusus*), western rush (*Juncus occidentalis*), sedge (*Carex* sp.), spinyfruit buttercup, pennyroyal, California mugwort (*Artemisia douglasiana*), and velvetgrass.

There is a sort of bowl-shaped depression near the east bank of the creek channel in the estimated location of the proposed East Trail upper creek crossing. The bowl may have been used as a borrow site in the past, or may have naturally thin soils. It was mostly unvegetated in April, but contained dense algal matting (mostly dried up), indicating that surface water had been present earlier in the spring. An unidentified grass, hyssop loosestrife, and little mouse tail (*Myosurus minimus*) also had patchy cover in the bowl.

Creek Channel/Central Riparian Corridor

The Estero Trail project easement will not impact the creek corridor, except at proposed crossings. Only these crossings were assessed for rare plants and wetlands.

The existing bridge, just east of the barn, is located in an area without much tree canopy. Only minor impacts to the riparian corridor are expected to occur there, depending on what improvements are ultimately conducted on the bridge. There is an assumed dead tree present on the northeast corner that may need to be removed or trimmed back. The banks were weedy and steep, and no adjacent wetland terraces were present. In-channel emergent vegetation was sparse, but included longleaf pondweed (*Potamogeton nodosus*) and juncus (*Juncus* sp.).

The location of the upstream preliminary trail crossing could not be definitively located in the field, but it appears that the general area has steep high banks, with dense vegetation. The least impactful crossing in such an area would be a bridge. Construction of an armored crossing would require a significant amount of bank cut and vegetation removal.

There is an existing low water crossing near Highway 1 at the northern upstream end of the creek channel. The banks in this area are already low and relatively clear of vegetation. It appears that only minimal willow pruning and bank cutting would be required to install a rocked crossing at this location. However, this area is not located within the currently proposed trail easement.

Estero Americano Frontage

A rock outcrop just above the marsh plain contained a small patch of coyote mint (*Monardella villosa*) and California sandaster (*Corethrogyne filaginifolia*), both native species.

The marsh below was vegetated primarily by pickleweed (*Salicornia pacifica*), but also contained alkali heath (*Frankenia salina*), saltgrass (*Distichlis spicata*), brass buttons (*Cotula coronopifolia*), fat hen (*Atriplex prostrata*), and annual rabbitfoot grass (*Polypogon monspeliensis*).

There was also a lot of exposed mudflat/bare sand. It appears that during the drier portion of the year, the marsh is not inundated by daily tides. The surface was dry and consolidated, easy to walk across in both April and June. It does apparently go under water in the winter months (as seen in aerial photos).

FINDINGS/DISCUSSION

Potential for Rare Plants to Occur Within the Easement Area

Plants With Low Or No Potential For Presence

A total of 40 plant species were identified within the region as a result of the database search (Table 2). Some of these plants are not expected to occur within the trail easement area, because their primary habitat requirements are lacking (i.e., no fully inundated tidal marsh, freshwater marsh, dunes, chaparral, etc.), and/or the project is far from their known or expected range within the region.

Thirteen (13) species were determined to be Not Present, due to a complete lack of suitable habitat within the proposed easement area and/or non-observation during surveys (woody shrubs only).

Six (6) species were determined to be Unlikely to be present due to highly unsuitable habitat, (i.e., tidal marsh species- Estero marshland is not fully tidal; dune/sand species that can also be found in coastal grassland, but rarely are).

There are eighteen (18) species which are sometimes or always associated with grassland habitats. None of these were observed during April or June surveys; however, each has a Low Potential for presence within the Estero Trail easement. None of these were determined to have Moderate Potential or higher due to the poor quality of the on-site habitat and lack of sightings in the vicinity. The grassland habitat is not suitable to support most rare plants for several reasons: 1) the grassland has a high percentage of cover by disturbance- and/or drought-tolerant invasive plants, which easily outcompete rare plants in most environmental conditions; 2) the grassland is dominated by non-native annual grasses, which die off each season and leave a large amount of dead biomass (thatch) behind. Thatch can form a barrier to sunlight and seed/soil contact, inhibiting growth of native plants, and can alter the nutrient cycles that native plants depend on; 3) current/historic land management practices. Managed livestock grazing can be beneficial for rare plant populations if conducted in a way that decreases thatch and protects against trampling, erosion, and maintains water quality. Thatch appeared to be more built-up in the Western Hill survey area and Flat Lands than the Eastern Hills. However, erosion and evidence of trampling were observed in all survey areas; 4) large stands of invasive shrubs – such as sweet-briar rose and gorse- can also outcompete native plants by shading them out.

There is an historic occurrence (from 1940) of showy rancheria clover (*Trifolium amoenum*, FE, CRPR 1B) mapped along the Highway 1 property frontage, which is assumed to be extirpated. It was not observed on-site during April or June surveys. Presence is Unlikely.

Plants Likely To Be Present Or Observed

The harlequin lotus (*Hosackia gracilis*, CRPR 4) has been seen in similar grazed non-native grassland habitat on the Sonoma Land Trust Estero Americano Preserve. It was not observed on the Bordessa site during April or June surveys. However, it has Moderate Potential for presence.

The pale yellow hayfield tarplant (CRPR 1B) was observed on-site during the June survey (Western Hill, Eastern Hills, Flat lands), and therefore, is Present.

In addition, a patch of early blue violet was observed in the Eastern Hills survey area. The violet, itself, has no special status, but it is a host plant for the endangered Myrtle's silverspot butterfly, and therefore, is a significant resource.

Potential for Wetlands and Other Waters to Occur Within the Easement Area

Regulatory Framework

The Army Corps Of Engineers (ACOE) regulates “Waters of the United States”, including adjacent wetlands, under Section 404 of the federal Clean Water Act. Waters of the United States include navigable waters, interstate waters, territorial seas and other waters that may be used in interstate or foreign commerce. Potential wetland areas are identified by the presence of (1) hydrophytic vegetation, (2) hydric soils, and (3) wetland hydrology. All three parameters must be present, under normal circumstances, for an area to be designated as a jurisdictional wetland under the Clean Water Act. Areas that are inundated for sufficient duration and depth to exclude growth of hydrophytic vegetation are subject to Section 404 jurisdiction as “other waters” and are often characterized by an ordinary high water mark (OHWM). The discharge of dredged or fill material into a Waters of the U.S. (including wetlands) generally requires a permit from the ACOE under Section 404 of the Clean Water Act.

“Waters of the State” are regulated by the Regional Water Quality Control Board (RWQCB) under Section 401 of the federal Clean Water Act and the state Porter-Cologne Water Quality Control Act. Waters of the State are defined by the Porter-Cologne Act as any surface water or groundwater, including saline waters, within the boundaries of the state. RWQCB jurisdiction includes “isolated” wetlands and waters that may not be regulated by the ACOE under Section 404 (such as roadside ditches). Section 401 of the Clean Water Act specifies that any activity subject to a permit issued by a federal agency must also obtain State Water Quality Certification (401 Certification) that the proposed activity will comply with state water quality standards. If a proposed project does not require a federal permit, but does involve dredge or fill activities that may result in a discharge to Waters of the State, the RWQCB has the option to regulate the dredge and fill activities under its state authority through its Waste Discharge Requirements (WDR) program.

The Sonoma County Local Coastal Plan defines wetlands as: “Areas where the water table is at, near, or above the land surface long enough to bring about the formation of hydric soils or to support the growth of plants which normally are found to grow in water or wet ground. Wetlands are here defined to include marshes, ponds, seeps, and reservoirs.”

The California Coastal Commission (CCC) Administrative Regulations [Section 13577 (b)] provide a more explicit definition: “Wetlands are lands where the water table is at, near, or above the land surface long enough to promote the formation of hydric soils or to support the growth of hydrophytes, and shall also include those types of wetlands where vegetation is lacking and soil is poorly developed or absent as a result of frequent or drastic fluctuations of surface water levels, wave action, water flow, turbidity or high concentrations of salt or other substance in the substrate. Such wetlands can be recognized by the presence of surface water or saturated substrate at some time during each year and their location within, or adjacent to, vegetated wetlands or deepwater habitats.” Therefore, in effect, the CCC requires the observation of only one diagnostic feature of a wetland - wetland hydrology, dominance of wetland vegetation (hydrophytes), or presence of hydric soils - as a basis for asserting jurisdiction under the Coastal Act.

The CCC has a “no net loss” policy for wetlands. However, wetland impacts can be approved (after all feasible avoidance, minimization, and mitigation measures are implemented) when associated with an improvement to public access under California Coastal Act Section 30001.5: “The legislature further finds and declares that the basic goals of the state for the coastal zone are to: . . . (c) Maximize public access to and along the coast and maximize public recreational opportunities in the coastal zone consistent with sound resources conservation principles and constitutionally protected rights of private property owners.”

The proposed Estero Trail would meet the CCC basic goal of maximizing public access to coastal areas.

Potentially Jurisdictional Wetlands Observed Within the Easement Area

Seasonal wet meadows and upland seeps are present within the trail easement, within both the West Trail and East Trail preliminary alignments. Many such features were observed in the Western Hill, Eastern Hills and Flat Lands survey areas, and at least some of these will have to be traversed by the trail alignment (i.e., they can’t all be avoided).

In addition to the more obvious wetlands where evidence of hydrology was observed (e.g., surface water, saturated soils, hoofprints, algal matting, drainage patterns), there are seemingly random patches of hydrophytic vegetation in areas without any apparent hydrology indicators. Soil pits were not examined during the field surveys; however, most of the soil types mapped on-site can contain hydric inclusions, meaning, they are likely to meet hydric soil criteria.

A formal wetland delineation, using both the ACOE 3-parameter procedure and the CCC 1-parameter procedure will need to be conducted within the preliminary alignment to determine the full extent of existing wetlands under both jurisdictions. A delineation of the entire property is not recommended to serve as a “constraints map” because wetlands have already been determined to be present in areas which cannot be avoided by trail sighting (i.e., a wetland flowing downslope must be crossed eventually by a perpendicular trail). It would be exhaustive to map the entire site, and would provide little data to aid in locating the final trail alignment to warrant the effort.

It is possible that a large percentage of the grassland habitat within the trail easement will meet the CCC’s 1-parameter wetland definition, due to the presence of Facultative² grasses and herbs throughout most of the grassland, such as little quaking grass, six-week fescue, velvet grass, Kentucky bluegrass, shining peppergrass, birdsfoot trefoil, black medic, yellow glandweed, narrow leaved plantain, curly dock and fiddle dock. A site visit with CCC staff may be helpful to determine final jurisdictional boundaries of seasonal wetlands (upland seeps and wet meadows).

Some or all of these 1-parameter areas may be exempted from regulation by the ACOE.

If the trail is extended out into the Estero marshland, impacts to coastal salt marsh wetland could also occur. Coastal salt marsh would be regulated by both the CCC and ACOE.

² Lichvar, R.W., M. Butterwick, N.C. Melvin, and W.N. Kirchner. 2014. State of California 2014 Wetland Plant List. Excerpted from *The National Wetland Plant List: 2014 update of wetland ratings*. Phytoneuron 2014-41: 1-42. http://wetland_plants.usace.army.mil/

FAC=Facultative - Occurs in wetlands and non-wetlands

Potentially Jurisdictional Other Waters Observed Within the Easement Area

Two defined intermittent drainage channels are present within the Western Hill survey area. Currently, the project proposes to construct armored crossings across both of these, which would likely be considered fill in a jurisdictional area under both ACOE and CCC criteria. Locating the crossings towards the bottom of the slope where vegetation is sparse would limit impacts to riparian/hydrophytic vegetation.

In addition, the central creek channel/riparian corridor has one existing bridge that will be improved by the trail project, and one newly proposed crossing to be constructed. Both of these project actions would likely have some level of impact to jurisdictional areas. The exact location of the new crossing was not identified during field surveys, but it appears that the general vicinity would require a substantial amount of slope cut and vegetation removal to construct a low water armored crossing. If feasible, a clear-span bridge would be a superior alternative to limit impacts to stream channel and riparian resources. Other than these crossings, the preliminary trail alignment would not impact the creek corridor.

RECOMMENDATIONS

Rare Plants

Findings Summary

- One rare plant, pale yellow hayfield tarplant (CRPR 1B), is present within the proposed trail easement and likely will be present within the trail alignment, itself. The tarplant is an annual species, which can seed into new areas each growing season. It was observed scattered throughout the Western Hill, Eastern Hills, and Flat Lands survey areas.
- Eighteen other species have a low (18) or moderate (1) potential to be present.
- Although not technically special status, several discrete patches of native plants were observed: purple needlegrass in Western Hill, early blue violet (Myrtle's silverspot host plant) and California goldfields in Eastern Hills.
- As long as construction impacts can be avoided/minimized, trail use is not expected to have an impact on rare plants and/or native plant communities.

Recommendation 1: Blooming period surveys within the final alignment should be conducted a year prior to construction to more precisely determine where rare plants are located. Field visits would likely need to be conducted monthly from March through August to capture all the potential blooming periods.

Recommendation 2: Because many rare plant species are annuals, including the tarplant, they can change location from year to year. To preserve the seedbank of these species, all topsoil within the trail alignment footprint should be collected and re-distributed in adjacent areas prior to trail construction.

Recommendation 3: Discrete patches of native vegetation should be avoided by the project, if feasible: purple needlegrass in Western Hill, early blue violet and California goldfields in Eastern Hills. It appears that the currently proposed preliminary trail alignment avoids all of these.

Recommendation 4: Appropriate buffers should be allowed between the trail alignment and special status plants/unique native plant assemblages to discourage off-trail exploration/flower picking.

Recommendation 5: Implement an on-site grazing management plan to improve habitat conditions for rare and/or native plants.

Wetlands

Findings Summary

- Upland seep/wet meadow seasonal wetlands are present within the proposed preliminary trail easement and likely will be present within the trail alignment, itself. It does not appear possible to avoid impacting all of them. Potential seasonal wetlands were observed in the Western Hill, Eastern Hills, and Flat Lands survey areas.
- Coastal salt marsh is present along the Estero frontage.
- Trail construction could result in a physical loss of wetland acreage within the trail footprint. Compensatory mitigation will likely be required for losses of wetland acreage at a minimum of 1:1 and up to a 4:1 replacement ratio.
- Trail construction and use are not expected to result in a decrease in overall functional capacity. Trails will be constructed of permeable materials and in a manner that allows continuation of existing drainage patterns, and low intensity pedestrian use should have only negligible effects.

Recommendation 1: To minimize the impact as much as feasible, and to provide data for required permit submissions, a formal wetland delineation, using both the ACOE 3-parameter procedure and the CCC 1-parameter procedure should be conducted within the preliminary alignment to determine the full extent of existing wetland areas.

Recommendation 2: Walking through the Estero marshland during the dry season and boating over it during high tide are assumed to be existing conditions. However, trail construction through the marsh should be minimized as much as feasible. Possible options include marking the pathway with stakes/poles to confine pedestrian use to a small area, but avoid installing permanent improvements, i.e. gravel/compaction; or construction mats could be laid out only during the dry season and removed prior to winter high tides. These and other available options should be evaluated before any permanent trail improvements are conducted.

Recommendation 3: Appropriate buffers should be allowed between the trail alignment and adjacent wetlands to discourage off-trail exploration and to preserve existing hydrology sources.

Recommendation 4: Implement an on-site grazing management plan to keep livestock out of sensitive wetland habitats seasonally.

Other Waters

Findings Summary

- Two stream crossings are proposed (one improvement to an existing bridge and one new crossing), which could impact the main creek channel/riparian corridor.

- Two additional crossings are proposed through intermittent drainage channels in the Western Hill survey area.

Recommendation 1: If feasible, minimize permanent improvements below top of bank at the existing crossing.

Recommendation 2: Sight the intermittent drainage crossings near the bottom, in locations where vegetation is sparser to decrease impacts to wetland vegetation.

Recommendation 3: If feasible, install a clear span bridge rather than an armored crossing at the new location to minimize cut and fill in the creek channel and vegetation removal. Or, if feasible, utilize the existing low water crossing at the northerly upstream end of the creek channel instead of the proposed new location.

Recommendation 4: Implement an on-site grazing management plan to keep livestock out of sensitive riparian habitats seasonally.

Additional LCP/Coastal Development Permit Requirements

Buffer Analysis

The Local Coastal Plan (LCP) requires that Environmentally Sensitive Habitat Areas (ESHAs), including rare plant communities, individual rare plants, wetlands, and stream channel/riparian areas, be protected from indirect impacts of adjacent development by non-developed buffer areas. The appropriate width of a buffer can vary, and is determined on a case by case basis; however, a minimum width of 100 feet is typically recommended within the Coastal Zone. Some passive uses, such as trails, are allowed within buffer areas. Larger-scale ground disturbance, such as the staging areas and access road extensions, should be located outside of protective buffers, if feasible. However, it appears that will not be possible in all cases, given the concentration of wet meadow/upland seep wetlands present in the Flat Lands survey area, where the access road and staging areas will be located.

LCP buffers should have all of the following characteristics, where applicable:

- 1) Buffer width should be a minimum of 100 feet. In some cases, such as when a species requires habitat adjacent to a wetland for part of its life or when nearby development poses increased hazards to a wetland or wetland species, larger buffer areas should be considered.
- 2) Buffers should work to minimize the disturbance to a wetland from adjacent development. If the adjacent development includes residential areas, the buffer must include a fence and/or a natural (e.g., vegetation or water) barrier to control the entry of domestic animals and humans into the wetland. The buffer should also provide for visual screening in those cases where resident or migratory wetland species are particularly sensitive to human impacts. The use of walls, berms and other barriers should be considered where excessive artificial light or noise is a problem.
- 3) Buffers should be designed, where necessary, to help minimize the effects of erosion, sedimentation, and pollution arising from urban, industrial, and agricultural activities. However, to the extent possible, erosion, sedimentation, and pollution control problems should be dealt with at the source not in the wetland or buffer area. Sources of pollution

include point and non-point source discharges into the watershed and air, domestic and industrial garbage and debris, and biological pollution arising from the introduction of exotic organisms.

Regular maintenance must be provided for any devices (e.g., silt or grease traps) built in the buffer zone.

- 4) Buffers should provide habitat for species residing in the transitional zone between wetlands and uplands. All project designs should consider the movement of food and energy between habitats as well as the life cycles of organisms that feed or reproduce in the wetland but generally reside outside the wetland. Any revegetation work in the buffer area should use native species from local sources.
- 5) Buffers should allow for passive recreational uses within the area, only if it can be shown that these uses will not adversely impact the wetland ecosystem or the buffer's function as described in the above criteria. These uses should be limited to bird watching, walking, jogging, and bike riding, and may include the construction of paths and interpretive signs and displays. All paths should be constructed to minimize impact to plants and animals.

A buffer analysis/justification will be required as part of the Coastal Development Permit process.

Functional Capacity Analysis

A functional capacity analysis of any impacted ESHAs must also be included as part of the application for a coastal development permit. The analysis should describe the existing functional capacity and demonstrate how the project would maintain the same level and number of species, level of biological productivity, and relative size and number of habitats. Any losses of ecological function attributable to the project will require compensatory mitigation.

In order to establish that the functional capacity is maintained, the applicant must demonstrate all of the following:

- 1) That the project does not alter presently occurring plant and animal populations in the ecosystem in a manner that would impair the long-term stability of the ecosystems, that is, that the natural species diversity, abundance, and composition are essentially unchanged as a result of the project.
- 2) That the project does not harm or destroy a species or habitat that is rare or endangered.
- 3) That the project does not harm a species or habitat, which is essential to the natural biological function of the wetland or estuary.
- 4) That the project does not significantly reduce consumptive (e.g., fishing, and hunting) or nonconsumptive (e.g., water quality, and bird watching) values of the wetland or estuary.

Alternatives Analysis

The Coastal Development Permit also requires that an alternatives analysis be prepared to demonstrate that the proposed alignment is the least environmentally damaging feasible alternative, in terms of wetland/rare plant habitat acreage and overall functional capacity.

Mitigation Plan

If project impacts cannot be avoided or adequately minimized, compensatory mitigation may be required. The resulting migration plan must demonstrate that the project would result in no net loss of habitat acreage or ecological function, and must contain an implementation plan and a monitoring program.

Resource and regulatory agencies have usually required additional acreage beyond that lost (i.e., greater than 1:1), because of interim losses in wetland/habitat acreage and functional capacity, and because the success and resulting value of compensatory mitigation projects are uncertain. Appropriate mitigation replacement ratios vary depending on the acreage, functions, and values of the habitat lost and the type of mitigation proposed, but typically range from 1:1 to 4:1.

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Table 1. Plant species observed at the Estero Trail project site, April 15, 2014 & June 23, 2014

Scientific Name ¹	Common Name	Wetland Status ²	Native Status ³	April 15	June 23
<i>Acaena pinnatifida</i> var. <i>californica</i>	California sheepburr		N	X	
<i>Achillea millefolium</i>	yarrow	FACU	N	X	X
<i>Acmispon americanus</i> var. <i>americanus</i>	Spanish lotus	UPL	N	X	
<i>Aira caryophylla</i>	silver hairgrass	FACU	I		X
<i>Anagallis arvensis</i>	scarlet pimpernel		I	X	X
<i>Anaphalis margaritacea</i>	pearly everlasting	FACU	N		X
<i>Arbutus menziesii</i>	Pacific madrone		N		X
<i>Artemisia douglasiana</i>	California mugwort	FAC	N	X	X
<i>Atriplex prostrata</i>	fat hen	FACW	I	X	X
<i>Avena barbata</i>	slender wild oats		I – M	X	X
<i>Baccharis pilularis</i>	coyote bush		N	X	X
<i>Beta vulgaris</i>	beet		I	X	
<i>Brassica nigra</i>	black mustard		I – M	X	X
<i>Briza maxima</i>	rattlesnake grass		I – L	X	X
<i>Briza minor</i>	little quaking grass	FAC	I		X
<i>Brodiaea terrestris</i>	dwarf brodiaea		N		X
<i>Bromus hordeaceus</i>	soft chess	FACU	I – L		X
<i>Bromus madritensis</i>	foxtail chess	UPL	I – H		X
<i>Calystegia subacaulis</i>	shortstem morning glory		N	X	X
<i>Capsella bursa-pastoris</i>	shepherd's purse	FACU	I	X	X
<i>Cardamine californica</i>	milk maids		N	X	
<i>Carduus pycnocephalus</i>	Italian thistle		I – M	X	X
<i>Carex obnupta</i>	slough sedge	OBL	N		X
<i>Carex</i> sp.	sedge	OBL-FAC		X	X
<i>Chlorogalum pomeridianum</i>	soap plant		N	X	X
<i>Cirsium vulgare</i>	bull thistle	FACU	I – M	X	X
<i>Conium maculatum</i>	poison hemlock	FACW	I – M	X	X
<i>Convolvulus arvensis</i>	field bindweed		I	X	X
<i>Corethrogyne filaginifolia</i>	California sandaster		N		X
<i>Cotula coronopifolia</i>	brass buttons	OBL	I – L		X
<i>Crataegus douglasii</i>	hawthorn	FAC	N		X
<i>Cynosurus echinatus</i>	hedgehog dogtail grass		I – M		X
<i>Cyperus eragrostis</i>	tall flatsedge	FACW	N		X
<i>Dichelostemma capitatum</i>	blue dicks	FACU	N	X	
<i>Distichlis spicata</i>	saltgrass	FAC	N	X	X
<i>Eriogonum nudum</i>	naked buckwheat		N		X
<i>Erodium botrys</i>	longbeak stork's bill	FACU	I	X	X
<i>Erodium cicutarium</i>	redstem filaree		I – L	X	
<i>Erodium moschatum</i>	whitestem filaree		I	X	
<i>Eryngium aristulatum</i>	California eryngio	OBL	N		X
<i>Eryngium armatum</i>	coastal coyote thistle	FACW	N		X
<i>Eschscholzia californica</i>	California poppy		N	X	X
<i>Eucalyptus globulus</i>	Tasmanian bluegum		I	X	X
<i>Festuca bromoides</i>	six-week fescue	FAC	I	X	X

Scientific Name ¹	Common Name	Wetland Status ²	Native Status ³	April 15	June 23
<i>Festuca perennis</i>	Italian ryegrass		I – M		X
<i>Foeniculum vulgare</i>	fennel		I – H	X	
<i>Frangula californica</i>	California coffeeberry		N		X
<i>Frankenia salina</i>	alkali heath	FACW	N	X	X
<i>Gamochaeta ustulata</i>	purple cudweed		N		X
<i>Geranium dissectum</i>	cutleaf geranium		I – L	X	
<i>Geranium molle</i>	dovefoot geranium		I	X	
<i>Grindelia stricta</i>	coastal gumweed	FACW	N		X
<i>Hemizonia congesta ssp. congesta</i>	pale yellow hayfield tarweed		N		X
<i>Hesperocyparis macrocarpa</i>	Monterey cypress		I		X
<i>Hirschfeldia incana</i>	wild mustard		I – M	X	X
<i>Holcus lanatus</i>	velvet grass	FAC	I – M	X	X
<i>Hordeum murinum</i>	foxtail barley	FACU	I – M		X
<i>Hypochaeris glabra</i>	smooth cat's ear		I – L	X	
<i>Hypochaeris radicata</i>	hairy cat's ear	FACU	I – M		X
<i>Iris douglasiana</i>	Douglas iris		N	X	
<i>Juncus bufonius</i>	toad rush	FACW	N		X
<i>Juncus effusus</i>	soft rush	FACW	N	X	
<i>Juncus occidentalis</i>	western rush	FACW	N		X
<i>Juncus patens</i>	spreading rush	FACW	N	X	X
<i>Juncus phaeocephalus</i>	brown headed rush	FACW	N		X
<i>Lamium purpureum</i>	henbit		I	X	
<i>Lasthenia californica ssp. californica</i>	California goldfields	FACU	N	X	
<i>Lathyrus hirsutus</i>	rough pea	FAC	I		X
<i>Lepidium nitidum</i>	shining peppergrass	FAC	N	X	
<i>Linum bienne</i>	pale flax		I		X
<i>Lonicera involucrata</i>	twinberry	FAC	N		X
<i>Lotus corniculatus</i>	birdsfoot trefoil	FAC	I	X	X
<i>Lupinus bicolor</i>	annual lupine		N	X	X
<i>Lythrum hyssopifolia</i>	hyssop loosestrife	OBL	I – L		X
<i>Marah oregana</i>	coast manroot		N	X	
<i>Matricaria discoidea</i>	pineapple weed	FACU	I	X	
<i>Medicago arabica</i>	spotted medick		I	X	
<i>Medicago lupulina</i>	black medick	FAC	I	X	
<i>Medicago polymorpha</i>	California burclover	FACU	I – L	X	
<i>Mentha pulegium</i>	pennyroyal	OBL	I – M	X	
<i>Microseris bigelovii</i>	coastal silverpuffs		N	X	
<i>Monardella villosa</i>	coyote mint		N		X
<i>Morella californica</i>	California wax myrtle		N		X
<i>Muilla maritima</i>	sea muilla		N	X	
<i>Myosurus minimus</i>	little mouse tail	OBL	N		X
<i>Parentucellia viscosa</i>	yellow glandweed	FAC	I – L		X
<i>Phalaris aquatica</i>	Harding grass	FACU	I – M	X	
<i>Pinus radiata</i>	Monterey pine		I		X
<i>Plantago lanceolata</i>	narrow leaved plantain	FAC	I – L	X	X
<i>Poa pratensis</i>	Kentucky bluegrass	FAC	I – L		X

Scientific Name ¹	Common Name	Wetland Status ²	Native Status ³	April 15	June 23
<i>Polypogon monspeliensis</i>	annual rabbitfoot grass	FACW	I – L		X
<i>Polystichum munitum</i>	Western sword fern	FACU	N		X
<i>Populus nigra</i>	Lombardy poplar		I	X	X
<i>Potamogeton nodosus</i>	longleaf pondweed	OBL	N	X	
<i>Prunella vulgaris</i>	selfheal	FACU	N		X
<i>Pseudotsuga menziesii</i>	Douglas fir		N		X
<i>Pteridium aquilinum</i>	western bracken fern	FACU	N	X	X
<i>Ranunculus californicus</i>	California buttercup	FACU	N	X	
<i>Ranunculus muricatus</i>	spinyfruit buttercup	FACW	I	X	
<i>Raphanus sativus</i>	wild radish		I – L		X
<i>Rosa rubiginosa</i>	sweet-brier rose	UPL	I	X	X
<i>Rubus ursinus</i>	California blackberry	FAC	N	X	X
<i>Rumex acetosella</i>	sheep sorrel	FACU	I – M	X	X
<i>Rumex crispus</i>	curly dock	FAC	I – L		X
<i>Rumex pulcher</i>	fiddle dock	FAC	I	X	X
<i>Salicornia pacifica</i>	pickleweed	OBL	N	X	X
<i>Salix sp.</i>	willow	OBL- FACW	N	X	X
<i>Sanicula arctopoides</i>	footsteps of spring		N	X	
<i>Sanicula bipinnatifida</i>	purple sanicle		N	X	
<i>Silene gallica</i>	catchfly		I		X
<i>Silybum marianum</i>	milk thistle		I – L	X	
<i>Sisyrinchium bellum</i>	blue-eyed grass	FACW	N	X	X
<i>Sonchus asper ssp. asper</i>	prickly sow thistle	FAC	I	X	
<i>Stachys rigida</i>	rough hedgenettle	FACW	N		X
<i>Stipa pulchra</i>	purple needlegrass		N		X
<i>Symphoricarpos albus</i>	snowberry	FACU	N		X
<i>Taraxia ovata</i>	sun cup		N	X	
<i>Toxicodendron diversilobum</i>	poison oak		N		X
<i>Trifolium dubium</i>	shamrock clover	UPL	I	X	
<i>Trifolium wormskioldii</i>	cow clover	FACW	N		X
<i>Typha sp.</i>	cattails	OBL		X	X
<i>Ulex europaeus</i>	gorse	UPL	I – H	X	X
<i>Vicia benghalensis</i>	purple vetch		I		X
<i>Vicia sativa</i>	spring vetch	FACU	I	X	X
<i>Viola adunca</i>	Early blue violet	FAC	N	X	
<i>Viola pedunculata</i>	johnny jump up		N	X	
<i>Wyethia angustifolia</i>	narrowleaf mules ears	FACU	N	X	
<i>Zeltnera sp.</i>	centaury		N	X	

¹ Species taxonomy according to *The Jepson Online Interchange Project*, University of California, Berkeley, accessed July 1, 2014. <http://ucjeps.berkeley.edu/interchange/>

² Where applicable, wetland statuses are provided for the Arid West Region. U.S. Army Corps of Engineers. 2014. *State of CALIFORNIA 2014 Wetland Plant List*. Excerpted from *The National Wetland Plant List: 2014 Update of Wetland Ratings*. Lichvar, R.W., M. Butterwick, N.C. Melvin, and W.N. Kirchner. *Phytoneuron* 2014-41: 1-42.

OBL = Obligate, almost always occurs in wetlands

FACW = Facultative Wetland, usually occurs in wetlands, but may occur in non-wetlands

FAC = Facultative, occurs in wetlands and non-wetlands

FACU = Facultative Upland, usually occurs in non-wetlands, but may occur in wetlands

UPL = Upland, almost never occurs in wetlands

³ **N** = Native; **I** – Introduced

Where applicable, invasive category is provided, as determined by the California Invasive Plant Council. *California Invasive Plant Online Inventory*, accessed July 1, 2014. <http://www.cal-ipc.org/paf/>

L = Limited: minor ecological impacts on a statewide level or lacking information to justify a higher score, distribution generally limited

M = Moderate: substantial and apparent- but generally not severe- ecological impacts, distribution may be limited to widespread

H = High: severe ecological impacts, species often widely distributed

Table 2: Sensitive plant species potentially occurring in the region of the proposed Estero Trail project

Common Name	Scientific Name	Status ¹	General Habitat Description	Probability for Occurrence within the Project Site
pink sand-verbena	<i>Abronia umbellata</i> var. <i>breviflora</i>	1B	Coastal Dunes. 0-10m. Blooms June-Oct	No dune habitat present on-site. NOT PRESENT.
Blasdale's bent grass	<i>Agrostis blasdalei</i>	1B	Coastal bluff scrub, coastal dunes, coastal prairie. 5-15-m. Blooms May-July	Non-native grassland on-site could supply marginal habitat. Not observed, but Low Potential for presence.
Franciscan onion	<i>Allium peninsulare</i> var. <i>franciscanum</i>	1B	Cismontaine woodland, valley & foothill grassland on clay, volcanic or serpentine soils. 52-300m. Blooms May-June	No occurrences within 5 miles. Non-native grassland on-site could supply marginal habitat. Not observed, but Low Potential for presence.
Napa false indigo	<i>Amorpha californica</i> var. <i>napensis</i>	1B	Broadleafed upland forest, chaparral, cismontane woodland. Openings in forest or woodland or in chaparral. 120-2000m. Blooms April-July	No forest, woodland, or chaparral habitat present on-site. No indigo shrubs observed. NOT PRESENT.
coastal bluff morning-glory	<i>Calystegia purpurata</i> ssp. <i>saxicola</i>	1B	Coastal dunes, coastal scrub, north coast coniferous forest. 10-105m. Blooms (Mar) Apr-Sept	Multiple occurrences within 2-5 miles. Non-native grassland on-site could supply marginal habitat. Not observed, but Low Potential for presence.
swamp harebell	<i>Campanula californica</i>	1B	Bogs and fens, closed cone coniferous forest, coastal prairie, meadows and seeps, marshes and swamps, North Coast coniferous forest, mesic sites. 1-405m. Blooms June-Oct	1 occurrence in 5 miles on lower Salmon Cr. Hillside seeps/ wetlands in non-native grassland on-site could supply marginal habitat. Not observed, but Low Potential for presence.
bristly sedge	<i>Carex comosa</i>	2B	Coastal prairie, marshes and swamps, valley & foothill grassland. 0-625m. Blooms May-Sept	1 occurrence in 5 miles at mouth of Salmon Cr. Hillside seeps/ wetlands in non-native grassland on-site could supply marginal habitat. Not observed, but Low Potential for presence.
Point Reyes bird's-beak	<i>Chloropyron maritimum</i> ssp. <i>palustre</i>	1B	Marshes and swamps, coastal salt marsh. 0-10m. Blooms June-Oct	2 occurrences ~5 miles to W at Bodega Head/Doran Beach. On-site salt marsh habitat along the Estero does not appear to be suitable due to lack of daily tidal inundation. Not observed; Presence Unlikely.
San Francisco Bay spineflower	<i>Chorizanthe cuspidata</i> var. <i>cuspidata</i>	1B	Coastal bluff scrub, dunes, prairie, scrub. 3-215m. Blooms Apr-July (Aug)	Although other habitats listed, almost always found in dunes. Not observed; Presence Unlikely.
woolly-headed spineflower	<i>Chorizanthe cuspidata</i> var. <i>villosa</i>	1B	Coastal dunes, prairie, scrub. 3-60m. Blooms May-July (Aug)	Although other habitats listed, almost always found in dunes. Not observed; Presence Unlikely.

Common Name	Scientific Name	Status ¹	General Habitat Description	Probability for Occurrence within the Project Site
Franciscan thistle	<i>Cirsium andrewsii</i>	1B	Broadleaf upland forest coastal bluff scrub, scrub, prairie. 0-150m. Blooms Mar-July	1 extant occurrence within 5 miles at Dillon Beach last seen in 1947. Non-native grassland on-site could supply marginal habitat. Not observed, but Low Potential for presence.
Mendocino dodder	<i>Cuscuta pacifica</i> var. <i>papillata</i>	1B	Coastal dunes and interdune depressions. 0-50m. Blooms July-Oct	No dune habitat present on-site. NOT PRESENT.
Baker's larkspur	<i>Delphinium bakeri</i>	FE SE 1B	Coastal scrub, grasslands. Only extant site occurs on NW-facing slope, on decomposed shale. Hist. known from grassy areas along fencelines too. 80-305m. Blooms Mar-May	1 extant occurrence within 5 miles last seen in 1923 in vicinity of Tomales. Non-native grassland on-site could supply marginal habitat. Not observed, but Low Potential for presence.
golden larkspur	<i>Delphinium luteum</i>	FE SR 1B	Chaparral, coastal prairie, coastal scrub. North-facing rocky slopes. 0-100m. Blooms Mar-May	Nearest occurrences <2 miles to S and W. Rock outcrop areas within non-native grassland on-site could supply marginal habitat. Not observed, but Low Potential for presence.
western leatherwood	<i>Dirca occidentalis</i>	1B	Broadleaf upland forest, chaparral, closed-cone coniferous forest, cismontane woodland, N coast coniferous forest, riparian forest, riparian woodland. On brushy slopes, mesic sites; mostly in mixed evergreen & foothill woodland communities. 25-550m. Blooms Jan-Mar(Apr)	No forest, woodland, or chaparral habitat present on-site. Riparian corridor not surveyed, but not within trail easement. No leatherwood shrubs observed. NOT PRESENT.
bluff wallflower	<i>Erysimum concinnum</i>	1B	Coastal bluff scrub, dunes, prairie. 0-185m. Blooms Feb-July	1 occurrence within 5 miles from 1900 in vicinity of Bodega Head. Almost always found on dunes and sandy bluffs. Not observed; Presence Unlikely.
fragrant fritillary	<i>Fritillaria liliacea</i>	1B	Coastal scrub, valley and foothill grassland, coastal prairie. Often on serpentine; various soils reported though usually clay, in grassland. 3-410m. Blooms Feb-Apr	The only occurrence within 5 miles is from 1924 <1 mile to NW near town of Bodega. Non-native grassland on-site could supply marginal habitat. Not observed, but Low Potential for presence.
blue coast gilia	<i>Gilia capitata</i> ssp. <i>chamissonis</i>	1B	Coastal dunes & scrub. 2-200m. Blooms Apr-July	No dunes or sandy scrub habitat on-site. NOT PRESENT
woolly-headed gilia	<i>Gilia capitata</i> ssp. <i>tomentosa</i>	1B	Coastal bluff scrub. Rocky outcrops or serpentine on the coast. 10-220m. Blooms May-July	Two occurrences 2 to 5 miles to W. Rock outcrop areas within non-native grassland on-site could supply marginal habitat. Not observed, but Low Potential for presence.
dark-eyed gilia	<i>Gilia millefoliata</i>	1B	Coastal dunes. 2-30m. Blooms Apr-July	No dune habitat on-site. NOT PRESENT

Common Name	Scientific Name	Status ¹	General Habitat Description	Probability for Occurrence within the Project Site
pale yellow hayfield tarplant (white seaside tarplant)	<i>Hemizonia congesta</i> ssp. <i>congesta</i>	1B	Coastal scrub, valley and foothill grassland, often in fallow fields. 25-560m. Blooms April-Nov	The plant was observed in non-native grassland on-site during the June survey and has been documented in other nearby places. PRESENT.
short-leaved evax	<i>Hesperevax sparsiflora</i> var. <i>brevifolia</i>	1B	Coastal bluff scrub, dunes, prairie. 0-215m. Blooms Mar-June	1 occurrence within 5 miles on bluffs N of Dillon Beach. Non-native grassland on-site could supply marginal habitat. Not observed, but Low Potential for presence.
Point Reyes horkelia	<i>Horkelia marinensis</i>	1B	Coastal dunes, prairie, scrub, sandy soils. 5-350m. Blooms May-Sept	Almost always found on dunes and sandy bluffs. Not observed; Presence Unlikely.
harlequin lotus	<i>Hosackia gracilis</i>	4	Wetlands & roadsides in Broadleaved upland forest, Coastal bluff scrub, Closed-cone coniferous forest, Cismontane woodland, Coastal prairie, Coastal scrub, Meadows and seeps, Marshes and swamps, North Coast coniferous forest, Valley and foothill grassland. 0-700m. Blooms Mar-July	This plant has not been observed on the Bordessa property, but has been observed on the Estero Americano Preserve in similar non-native grassland/wet meadow habitat. Moderate Potential for presence.
Baker's goldfields	<i>Lasthenia californica</i> ssp. <i>bakeri</i>	1B	Openings in closed-cone coniferous forest, coastal scrub. 60-520m. Blooms Apr-Oct	Several occurrences within 2-5 miles. Non-native grassland on-site could supply marginal habitat. Not observed, but Low Potential for presence.
perennial goldfields	<i>Lasthenia californica</i> ssp. <i>macrantha</i>	1B	Coastal bluff scrub, coastal dunes, coastal scrub. 5-520m. Blooms Jan-Nov	Several occurrences within 2-5 miles. Non-native grassland on-site could supply marginal habitat. Not observed, but Low Potential for presence.
Contra Costa goldfields	<i>Lasthenia congugens</i>	FE 1B	Valley and foothill grassland, vernal pools, alkaline playas, cismontane woodland. Vernal pools, swales, low depressions, in open grassy areas. 1-470 M. Blooms Mar-June	Upland seeps are not likely to support the plant; no depressional wetlands present. Not observed; Presence Unlikely.
rose leptosiphon	<i>Leptosiphon rosaceus</i>	1B	Coastal bluff scrub. 0-100m. Blooms Apr-July	No coastal bluff habitat present. NOT PRESENT
San Mateo tree lupine	<i>Lupinus arboreus</i> var. <i>eximius</i>	3	Chaparral, coastal scrub. 90-550m. Blooms Apr-July	No occurrences within 5 miles. No chaparral or scrub habitat present. NOT PRESENT.
Tidestrom's lupine	<i>Lupinus tidestromii</i>	FE SE 1B	Coastal dunes. 0-100m. Blooms Apr-July	No dune habitat present. NOT PRESENT.

Common Name	Scientific Name	Status ¹	General Habitat Description	Probability for Occurrence within the Project Site
marsh microseris	<i>Microseris paludosa</i>	1B	Closed cone coniferous forest, cismontane woodland, coastal scrub, valley and foothill grassland. 5-300m. Blooms Apr-June (July)	1 occurrence within 5 miles near Dillon Beach thought to be extirpated by subdivision. Non-native grassland on-site could supply marginal habitat. Not observed, but Low Potential for presence.
Oregon polemonium	<i>Polemonium carneum</i>	2B	Coastal prairie, scrub, lower montane coniferous forest. 0-1830m. Blooms Apr-Sept	1 occurrence within 5 miles on rock ledge over Bodega Bay. Not observed; Presence Unlikely.
Marin knotweed	<i>Polygonum marinense</i>	3	Coastal salt marsh or brackish marsh. 0-10m. Blooms (Apr) May-Aug (Oct)	On-site salt marsh habitat along the Estero does not appear to be suitable due to lack of daily tidal inundation. Not observed; Presence Unlikely.
Point Reyes checkerbloom	<i>Sidalcea calycosa</i> ssp. <i>rhizomata</i>	1B	Marshes and swamps. Freshwater marshes near the coast. 5-75(245)m. Blooms Apr-Sept	No suitable wetland habitat within easement area. Upland seeps do not supply suitable habitat. Not observed in lower Estero marshland. Nearest occurrence from 1886 2 miles to E near Valley Ford. NOT PRESENT within easement area
Marin checkerbloom	<i>Sidalcea hickmanii</i> ssp. <i>viridis</i>	1B	Chaparral on serpentine soils. 50-430m. Blooms May-June	No occurrences within 5 miles. No chaparral. NOT PRESENT
purple-stemmed checkerbloom	<i>Sidalcea malviflora</i> ssp. <i>purpurea</i>	1B	Broadleaved upland forest, coastal prairie. 15-85m. Blooms May-June	2 occurrences within 2-5 miles. . Non-native grassland on-site could supply marginal habitat. Not observed, but Low Potential for presence.
whiteworm lichen	<i>Thamnolia vermicularis</i>	2B	Chaparral, valley and foothill grassland on sandstone. 90m.	Various unidentified lichens were observed on rock outcrops. The trail will not impact any rock outcrops. NOT PRESENT in easement area.
showy Rancheria clover (two-fork clover)	<i>Trifolium amoenum</i>	FE 1B	Valley and foothill grassland, coastal bluff scrub. Sometimes on serpentine soil, open sunny sites, swales. Most recently sighted on roadside and eroding cliff face. 5-560m. Blooms April-June	Historic occurrence along Hwy 1 property frontage, not seen since 1940, assumed to be extirpated from site. Not observed; Presence Unlikely.
San Francisco owl's-clover	<i>Triphysaria floribunda</i>	1B	Coastal prairie, scrub, valley and foothill grassland, usually serpentine. 10-160m. Blooms Apr-June	1 occurrence ~2 miles S. Non-native grassland on-site could supply marginal habitat. Not observed, but Low Potential for presence.
coastal triquetrella	<i>Triquetrella californica</i>	1B	Coastal bluff scrub. 10-100m.	No occurrences within 5 miles. No bluff habitat present. Not observed. NOT PRESENT.

Common Name	Scientific Name	Status ¹	General Habitat Description	Probability for Occurrence within the Project Site
¹ Key to Status Codes:				
FE	Federal-listed as Endangered	SE	State-listed as Endangered	
FT	Federal-listed as Threatened	ST	State-listed as Threatened	
FC	Federal Candidate	SR	State Rare (plants only)	
1A	California Rare Plant Rank (CRPR): Plants Presumed Extirpated in California and Either Rare or Extinct Elsewhere			
1B	CRPR: Plants Rare, Threatened, or Endangered in California and Elsewhere			
2A	CRPR: Plants Presumed Extirpated in California, but More Common Elsewhere			
2B	CRPR: Plants Rare, Threatened, or Endangered in California, but More Common Elsewhere			
3	CRPR: Plants About Which We Need More Information - A Review List			
4	CRPR: Plants of Limited Distribution - A Watch List			

Notice of Completion & Environmental Document Transmittal

Mail to: State Clearinghouse, P.O. Box 3044, Sacramento, CA 95812-3044 (916) 445-0613
For Hand Delivery/Street Address: 1400 Tenth Street, Sacramento, CA 95814

SCH #

Project Title: Estero Trail

Lead Agency: Sonoma County Agricultural and Open Space District Contact Person: Sheri Emerson
Mailing Address: 747 Mendocino Ave. Ste 100 Phone: (707) 565-7358
City: Santa Rosa Zip: 95404 County: Sonoma

Project Location: County: Sonoma City/Nearest Community: Valley Ford/ Bodega Bay

Cross Streets: Highway 1 Zip Code: _____

Longitude/Latitude (degrees, minutes and seconds): 38 ° 19 ' 16.99" N / 122 ° 57 ' 39.99" W Total Acres: 460.81

Assessor's Parcel No.: 026-030-011 Section: _____ Twp.: _____ Range: _____ Base: _____

Within 2 Miles: State Hwy #: 1 Waterways: The Estero Americano

Airports: _____ Railways: _____ Schools: _____

Document Type:

- | | | | |
|---|--|------------------------------------|--|
| CEQA: <input type="checkbox"/> NOP | <input type="checkbox"/> Draft EIR | NEPA: <input type="checkbox"/> NOI | Other: <input type="checkbox"/> Joint Document |
| <input type="checkbox"/> Early Cons | <input type="checkbox"/> Supplement/Subsequent EIR | <input type="checkbox"/> EA | <input type="checkbox"/> Final Document |
| <input type="checkbox"/> Neg Dec | (Prior SCH No.) _____ | <input type="checkbox"/> Draft EIS | <input type="checkbox"/> Other: _____ |
| <input checked="" type="checkbox"/> Mit Neg Dec | Other: _____ | <input type="checkbox"/> FONSI | |

Local Action Type:

- | | | | |
|---|---|--|---|
| <input type="checkbox"/> General Plan Update | <input type="checkbox"/> Specific Plan | <input type="checkbox"/> Rezone | <input type="checkbox"/> Annexation |
| <input type="checkbox"/> General Plan Amendment | <input type="checkbox"/> Master Plan | <input type="checkbox"/> Prezone | <input type="checkbox"/> Redevelopment |
| <input type="checkbox"/> General Plan Element | <input type="checkbox"/> Planned Unit Development | <input type="checkbox"/> Use Permit | <input type="checkbox"/> Coastal Permit |
| <input type="checkbox"/> Community Plan | <input type="checkbox"/> Site Plan | <input type="checkbox"/> Land Division (Subdivision, etc.) | <input type="checkbox"/> Other: _____ |

Development Type:

- | | |
|---|--|
| <input type="checkbox"/> Residential: Units _____ Acres _____ | <input type="checkbox"/> Transportation: Type _____ |
| <input type="checkbox"/> Office: Sq.ft. _____ Acres _____ Employees _____ | <input type="checkbox"/> Mining: Mineral _____ |
| <input type="checkbox"/> Commercial: Sq.ft. _____ Acres _____ Employees _____ | <input type="checkbox"/> Power: Type _____ MW _____ |
| <input type="checkbox"/> Industrial: Sq.ft. _____ Acres _____ Employees _____ | <input type="checkbox"/> Waste Treatment: Type _____ MGD _____ |
| <input type="checkbox"/> Educational: _____ | <input type="checkbox"/> Hazardous Waste: Type _____ |
| <input type="checkbox"/> Recreational: _____ | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> Water Facilities: Type _____ MGD _____ | |

Project Issues Discussed in Document:

- | | | | |
|--|---|--|--|
| <input type="checkbox"/> Aesthetic/Visual | <input type="checkbox"/> Fiscal | <input type="checkbox"/> Recreation/Parks | <input checked="" type="checkbox"/> Vegetation |
| <input checked="" type="checkbox"/> Agricultural Land | <input type="checkbox"/> Flood Plain/Flooding | <input type="checkbox"/> Schools/Universities | <input type="checkbox"/> Water Quality |
| <input checked="" type="checkbox"/> Air Quality | <input type="checkbox"/> Forest Land/Fire Hazard | <input type="checkbox"/> Septic Systems | <input type="checkbox"/> Water Supply/Groundwater |
| <input checked="" type="checkbox"/> Archeological/Historical | <input type="checkbox"/> Geologic/Seismic | <input type="checkbox"/> Sewer Capacity | <input checked="" type="checkbox"/> Wetland/Riparian |
| <input checked="" type="checkbox"/> Biological Resources | <input type="checkbox"/> Minerals | <input type="checkbox"/> Soil Erosion/Compaction/Grading | <input type="checkbox"/> Growth Inducement |
| <input checked="" type="checkbox"/> Coastal Zone | <input type="checkbox"/> Noise | <input type="checkbox"/> Solid Waste | <input type="checkbox"/> Land Use |
| <input type="checkbox"/> Drainage/Absorption | <input type="checkbox"/> Population/Housing Balance | <input type="checkbox"/> Toxic/Hazardous | <input type="checkbox"/> Cumulative Effects |
| <input type="checkbox"/> Economic/Jobs | <input type="checkbox"/> Public Services/Facilities | <input type="checkbox"/> Traffic/Circulation | <input type="checkbox"/> Other: _____ |

Present Land Use/Zoning/General Plan Designation:

LEA CC B6 160/640 (Ac/DU)/Ac MIN, BH RC100/50 SR

Project Description: *(please use a separate page if necessary)*

The proposed project would establish two pedestrian-only trail corridors with associated staging areas (trailheads/parking lots) that would allow for low-intensity public access to pursue outdoor, recreational, and educational uses.

Note: The State Clearinghouse will assign identification numbers for all new projects. If a SCH number already exists for a project (e.g. Notice of Preparation or previous draft document) please fill in.

Reviewing Agencies Checklist

Lead Agencies may recommend State Clearinghouse distribution by marking agencies below with and "X".
If you have already sent your document to the agency please denote that with an "S".

- | | |
|---|--|
| <input type="checkbox"/> Air Resources Board | <input type="checkbox"/> Office of Historic Preservation |
| <input checked="" type="checkbox"/> Boating & Waterways, Department of | <input type="checkbox"/> Office of Public School Construction |
| <input type="checkbox"/> California Emergency Management Agency | <input type="checkbox"/> Parks & Recreation, Department of |
| <input type="checkbox"/> California Highway Patrol | <input type="checkbox"/> Pesticide Regulation, Department of |
| <input type="checkbox"/> Caltrans District # _____ | <input type="checkbox"/> Public Utilities Commission |
| <input type="checkbox"/> Caltrans Division of Aeronautics | <input checked="" type="checkbox"/> Regional WQCB # <u>1</u> |
| <input type="checkbox"/> Caltrans Planning | <input type="checkbox"/> Resources Agency |
| <input type="checkbox"/> Central Valley Flood Protection Board | <input type="checkbox"/> Resources Recycling and Recovery, Department of |
| <input type="checkbox"/> Coachella Valley Mtns. Conservancy | <input type="checkbox"/> S.F. Bay Conservation & Development Comm. |
| <input checked="" type="checkbox"/> Coastal Commission | <input type="checkbox"/> San Gabriel & Lower L.A. Rivers & Mtns. Conservancy |
| <input type="checkbox"/> Colorado River Board | <input type="checkbox"/> San Joaquin River Conservancy |
| <input type="checkbox"/> Conservation, Department of | <input type="checkbox"/> Santa Monica Mtns. Conservancy |
| <input type="checkbox"/> Corrections, Department of | <input type="checkbox"/> State Lands Commission |
| <input type="checkbox"/> Delta Protection Commission | <input type="checkbox"/> SWRCB: Clean Water Grants |
| <input type="checkbox"/> Education, Department of | <input type="checkbox"/> SWRCB: Water Quality |
| <input type="checkbox"/> Energy Commission | <input type="checkbox"/> SWRCB: Water Rights |
| <input checked="" type="checkbox"/> Fish & Game Region # <u>3</u> | <input type="checkbox"/> Tahoe Regional Planning Agency |
| <input type="checkbox"/> Food & Agriculture, Department of | <input type="checkbox"/> Toxic Substances Control, Department of |
| <input type="checkbox"/> Forestry and Fire Protection, Department of | <input type="checkbox"/> Water Resources, Department of |
| <input type="checkbox"/> General Services, Department of | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> Health Services, Department of | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> Housing & Community Development | |
| <input checked="" type="checkbox"/> Native American Heritage Commission | |

Local Public Review Period (to be filled in by lead agency)

Starting Date October 20, 2016 Ending Date November 19, 2016

Lead Agency (Complete if applicable):

Consulting Firm: <u>Sonoma Co. PRMD</u>	Applicant: <u>Sonoma County Agricultural and Open Space Dist</u>
Address: <u>2550 Ventura Ave</u>	Address: <u>747 Mendocino Ave. Ste 100</u>
City/State/Zip: <u>Santa Rosa CA, 95404</u>	City/State/Zip: <u>Santa Rosa. CA 95404</u>
Contact: <u>Richard Stabler</u>	Phone: <u>(707) 565-7358</u>
Phone: <u>(707) 565-8352</u>	

Signature of Lead Agency Representative:  Date: 10/17/2016

Authority cited: Section 21083, Public Resources Code. Reference: Section 21161, Public Resources Code.