Cannabis Cultivtion Development

Carlotta Gardens
6287 Highway 36
Carlotta, California
APN#'s - 206-331-028

Prepared for:
Carlotta Gardens, LLC

Biological Resources Asessment

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1.0 INTRODUCTION AND PROJECT DESCRIPTION

This Wetland and Biological Resources Assessment (WBRA) presents analysis of potential impacts associated with the development of an outdoor and mixed-light cannabis cultivation project located on a 17-acre property in south western Humboldt County, California (Figure 1). The property is surrounded by open grassland and sparsely developed home sites situated within undeveloped land. The parcel on which the assessment was conducted (APN 206-331-028) is in Section 22 Township 2 North, Range 1 East of the Hydesville California 7.5-minute USGS quadrangle (Figure 1).

This WBRA describes the environmental conditions on the property relative to the land use and Cannabis cultivation operations. The Assessment Area consists of the entire 17 acre property which includes 3 pre-1950's buildings totaling 3200Ft^2, 10 greenhouses totaling 10,000Ft^2 of mixed-light cultivation, a 40,000Ft^2 outdoor cultivation plot, a 20,000 Ft^2 graveled parking and staging area and a 0.25 mile-10foot wide graveled access road. All of these existing elements are situated on the north end of the property and the remaining acreage is a ruderal pasture consisting of a mixture of perennial grasses and pink clover. There is also an intermittent stream, Wilson creek, that flows 650 feet along the north edge of the property that is also within the Assessment area. (Figure 5).

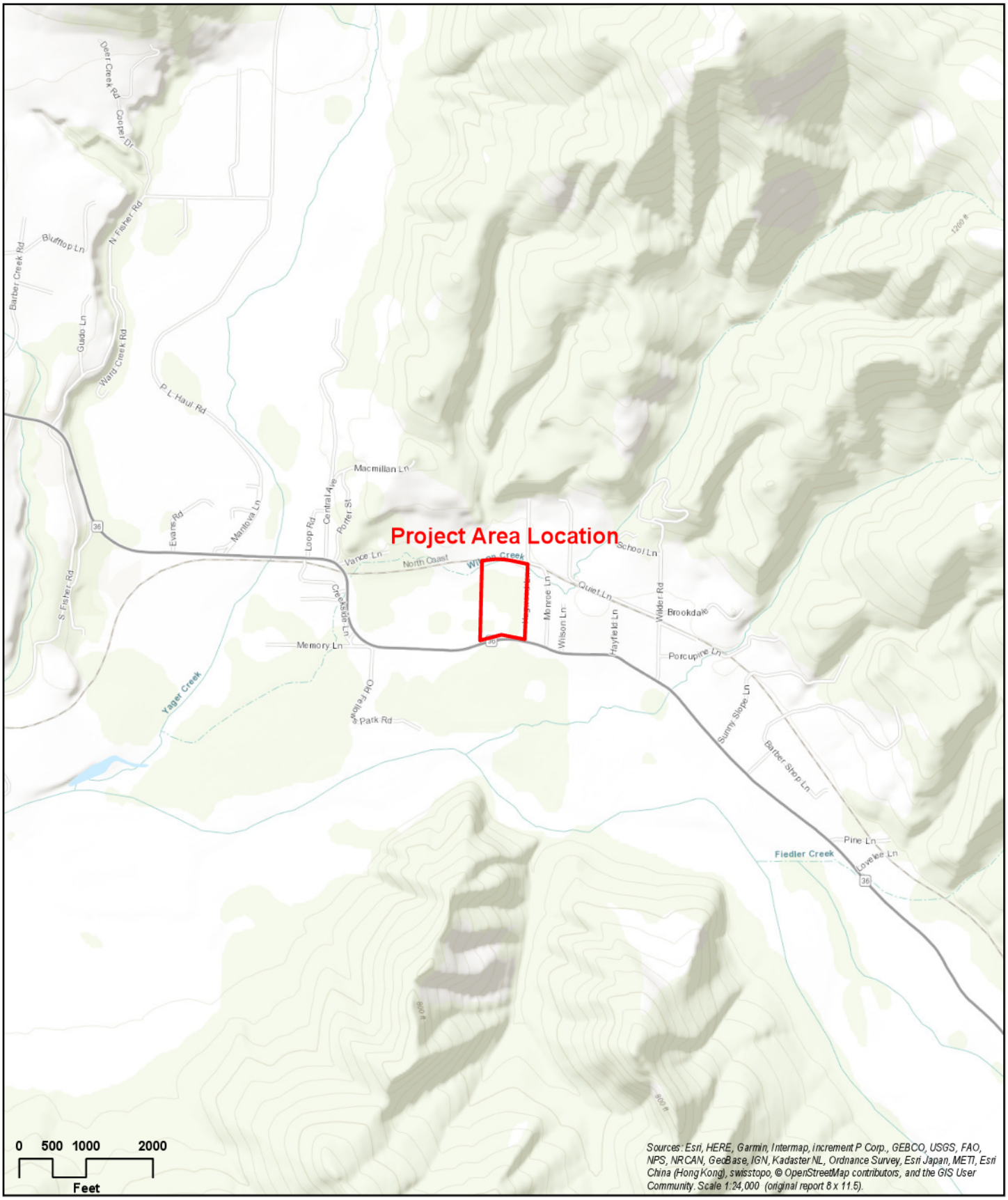
Cannabis cultivation legislation in California enacted Water Code Section 13149, which directs the State Water Board (Water Board), in consultation with the California Department of Fish and Wildlife (CDFW), to adopt interim and long-term principles and guidelines for the diversion and use of water for cannabis cultivation. The legislation requires the Water Board to establish these principles and guidelines as part of a state policy to protect water quality and instream flows.

The Water Board's Cannabis Cultivation Policy and General Order WQ 2017-0023-DWQ has been established to ensure that diversion of water and discharge of waste associated with cannabis cultivation does not have a negative impact on water quality, aquatic habitat, wetlands, and springs. These regulations apply to both commercial, medical and recreational cannabis cultivation activities.

The Water Board has primary enforcement responsibility for the principles and guidelines and shall notify California Department of Food and Agriculture (CDFA) of any enforcement action taken against cultivators. The law requires that cannabis cultivators provide evidence of compliance with the Water Board's requirements (or certification by the appropriate Water Board that a permit is not necessary) as part of their application for a CDFA cannabis cultivation license.

Requirements related to these principles and guidelines cover the following 12 best practicable treatment or control categories:

- Riparian and wetland protection and management
- Water diversion, storage, and use;
- Irrigation runoff;
- Land development and maintenance, erosion control, and drainage features;
- Soil disposal;
- Stream crossing installation and maintenance;



Source: USGS 7.5-Minute Topographic Quadrangle Hydesville for CA

FIGURE 1 - PROJECT AREA LOCATION

Date: March 21, 2019

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- Fertilizer and soil use and storage;
- Pesticide and herbicide application and storage;
- Petroleum products and other chemical use and storage;
- Cultivation-related waste disposal;
- Refuse and human waste disposal; and
- Winterization

1.2 PREMISE OF EVALUATION

In order to evaluate existing biological and water resources within the Property, this report provides the following.

- Identifies and describes the biological communities present;
- Records all plant and animal species observed during the field survey;
- Evaluates and identifies sensitive habitats and special status plant and animal species that may occur in the Property and could be affected by project activities;
- Records the results of a reconnaissance wetland delineation, based on ordinary high-water mark (OHWM);
- Draws conclusions and recommendations for mitigating potential adverse impacts to identified resources.

This biological site assessment is intended to establish an environmental baseline for the Property and assist in determining what level of permitting will be needed from both the Water Board and CDFW. Additionally, this WBRA serves as compliance with the California Environmental Quality Act (CEQA).

2.0 REGULATORY SETTING

2.1 FEDERAL LAWS & REGULATIONS

FEDERAL ENDANGERED SPECIES ACT (FESA)

The FESA, enacted in 1973, prohibits the taking, possession, sale, or transport of endangered species. Under the FESA, the Secretary of the Interior and the Secretary of Commerce jointly have the authority to list a species as threatened or endangered. Both the National Marine Fisheries Service (NMFS) and the U.S. Fish & Wildlife Service (USFWS) administer FESA. NMFS is accountable for animals that are threatened or endangered (16 United States Code [USC] 1533[c]) and spend most of their lives in marine waters, including marine fish, most marine mammals, and anadromous fish such as Pacific salmon. The USFWS is accountable for all other federally listed plants and animals.

Pursuant to the requirements of FESA, a federal agency reviewing a project within its jurisdiction must determine whether any federally listed threatened or endangered species could be present in the Property and whether the project will have a potentially significant impact on such species. In addition, federal agencies are required to determine whether the project is likely to jeopardize the continued existence of any species proposed to be listed under FESA or result in the destruction or adverse modification of critical habitat proposed to be designated for such species (16 USC 1536[3], [4]).

Projects that would result in a "take" of any federally-listed threatened or endangered species are required to obtain authorization from NMFS and/or USFWS through either Section 7 (interagency consultation) or section 10(a) (incidental take permit) of FESA, depending on whether the federal government is involved in permitting or funding the project. The Section 7 authorization process is used to determine if a project with a federal nexus would jeopardize the continued existence of a listed species and what mitigation measures would be required to avoid jeopardizing the species. The Section 10(a) process allows take of endangered species or their habitat in non-federal activities.

MIGRATORY BIRD TREATY ACT

The Migratory Bird Treaty Act (MBTA) regulates or prohibits taking, killing, possession of, or harm to migratory bird species listed in Title 50 Code of Federal Regulations (CFR) Section 10.13. The MBTA is an international treaty for the conservation and management of bird species that migrate through more than one country and is enforced in the United States by the USFWS. Hunting of specific migratory game birds is permitted under the regulations listed in Title 50 CFR 20. The MBTA was amended in 1972 to include protection for migratory birds of prey (raptors).

BALD AND GOLDEN EAGLE PROTECTION ACT

The federal Bald and Golden Eagle Protection Act regulates or prohibits taking, possession, sale, purchase, barter, offer to sell, purchase or barter, transport, export or import, of any bald or golden eagle, alive or dead, including any part, nest, or egg, unless allowed by permit (16 U.S.C. 668(a); 50 CFR 22). "Take" includes pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb (16 U.S.C. 668c; 50 CFR 22.3).

FEDERAL CLEAN WATER ACT (CWA)

Section 404

Section 404 of the CWA identifies the U.S. Army Corps of Engineers (USACE) as the principal authority to regulate activity that could discharge fill or dredge material or otherwise adversely modify wetlands or Waters of the U.S. (WOUS). The USACE implements the federal policy embodied in Executive Order 11990, which, when implemented, is intended to result in no net loss of wetland values or function. The U.S. Congress has authorized the Environmental Protection Agency (EPA) to have a specific oversight role over USACE's authority.

Section 401

The State Water Resources Control Board (SWRCB) has authority over wetlands and "other waters of the U.S." through Section 401 (Water Quality Certification of the CWA.

The CWA requires that an applicant for a Section 404 permit (to discharge dredged or fill material into waters of the United States) first obtain a certificate from the appropriate state agency stating that the fill is consistent with the State's water quality standards and criteria. In California, the authority to either grant certification or waive the requirement for permits is delegated by the SWRCB to the nine regional boards. The Central Valley Regional Water Quality Control Board (CVRWQCB) is the appointed authority for Section 401 compliance in the project site. A request for certification or waiver is submitted to the regional board at the same time an application is filed with the USACE. The regional board has 60 days to review the application and act on it. Because no USACE permit is valid under the CWA unless "certified" by the state, these boards may effectively veto or add conditions to any USACE permit.

CLEAN WATER ACT IMPLEMENTATION FOR CANNABIS PROJECTS

Although the State of California has formally legalized cannabis for both medical and recreational use and has established a robust licensing regulatory structure pursuant to Senate Bill 94 in 2017, cannabis remains a Schedule 1 drug as defined by the U.S. Controlled Substances Act of 1970 and is therefore illegal under federal law. Consequently, obtaining a Section 404 wetland permit from the USACE for cannabis projects continues to be problematic. As a work-around, the SWRCB has incorporated substantial compliance with Section 401 of the CWA into its General Order (WQ 2017-0023). Commercial cannabis cultivators are required to comply the General Order and additionally obtain a CFG Section 1602 Lake and Streambed Alteration (LSA) Agreement from the CDFW.

2.2 STATE LAWS & REGULATIONS

CALIFORNIA ENDANGERED SPECIES ACT (CESA)

The CESA was enacted in 1984. Under the CESA, the California Fish and Wildlife Commission (CFWC) has the responsibility for maintaining a list of threatened and endangered species, while the California Department of Fish & Wildlife (CDFW) is responsible for enforcement. CDFW also maintains lists of species of special concern. A Species of Special Concern (CSC) is a species, subspecies, or distinct population of an animal native to California that currently satisfies one or more of the following (not necessarily mutually exclusive) criteria:

- is extirpated from the State or, in the case of birds, in its primary seasonal or breeding role;
- is listed as Federally-, but not State-, threatened or endangered;
- meets the State definition of threatened or endangered but has not formally been listed;
- is experiencing, or formerly experienced, serious (noncyclical) population declines or range retractions (not reversed) that, if continued or resumed, could qualify it for State threatened or endangered status;
- has naturally small populations exhibiting high susceptibility to risk from any factor(s), that if realized, could lead to declines that would qualify it for State threatened or endangered status.

The CESA prohibits the take of California listed animals and plants in most cases, but CDFW may issue incidental take permits under special conditions. Pursuant to the requirements of CESA, a state agency reviewing a project within its jurisdiction must determine whether any state-listed endangered or threatened species could be present in the project site and determine whether the project would have a potentially significant impact on such species. In addition, CDFW encourages consultation on any project that could affect a listed or candidate species

Fish and Game Code – Sections 1600-1616

Under Sections 1600-1616 of the California Fish and Game Code, the CDFW regulates activities that would alter the flow, bed, channel, or bank of streams and lakes. The limits of CDFW's jurisdiction are defined in the code as the "... ***bed, channel or bank of any river, stream, or lake designated by the department in which there is at any time an existing fish or wildlife resource or from which these resources derive benefit ...***" (Section 1601). In practice, the CDFW usually marks its jurisdictional limit at the top of the stream or bank, or at the outer edge of the riparian vegetation, whichever is wider.

The CDFW also derives its authority to oversee activities that affect wetlands from state legislation. This authority includes Sections 1600-1616 of the Fish and Game Code (lake and streambed alteration agreements),

Section 30411 of the California Coastal Act (CDFW becomes the lead agency for the study and identification of degraded wetlands within the Coastal Zone), CESA (protection of state listed species and their habitats - which could include wetlands), and the Keene-Nejedly California Wetlands Preservation Act of 1976 (states a need for an affirmative and sustained public policy program directed at wetlands preservation, restoration, and enhancement). In general, the CDFW asserts authority over wetlands within the state either through review and comment on USACE Section 404 permits, review and comment on CEQA documents, preservation of state listed species, or through stream and lakebed alteration agreements.

Fish and Game Code – Sections 1900-1913

These Sections embody the Native Plant Protection Act, which is intended to preserve, protect, and enhance endangered or rare native plants in the state. The act directs CDFW to establish criteria for determining what native plants are rare or endangered. Under Section 1901, a species is endangered when its prospects for survival and reproduction are in immediate jeopardy from one or more causes. A species is rare when, although not threatened with immediate extinction, it is in such small numbers throughout its range that it may become endangered if its present environment worsens. Under the act, CDFW may adopt regulations governing the taking, possessing, propagation or sale of any endangered or rare native plant.

Section 1913 of that Act allows landowners in conducting certain activities to take actions that will destroy rare or endangered plants, provided that, where the Department of Fish and Wildlife (CDFW) has previously notified the owner "that a rare or endangered plants is growing" on his or her land, the owner notifies CDFW "at least 10 days in advance of hanging the land" to allow the state agency to come and "salvage" the plants. Subject to this requirement, section 1913 states that "the presence of rare or endangered plants" on a property shall not restrict (1) timber operations conducted pursuant to an approved timber harvest plan, (2) "required mining assessment work pursuant to federal or state mining laws," (3) "the removal of endangered or rare native plants from a canal, lateral ditch, building site, or road, other right-of-way by the owner of the land or his agent," or (4) "the performance by a public agency or publicly or privately owned public utility of its obligation to provide service to the public."

Fish and Game Code – Sections 3503, 3503.5, 3513

Fish and Game Code Section 3503 states that it is unlawful to take, possess, or needlessly destroy the nests or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto. Fish and Game Code Section 3503.5 protects all birds-of-prey (raptors) and their eggs and nests. Section 3513 states that it is unlawful to take or possess any migratory non-game bird as designated in the Migratory Bird Treaty Act.

Fish and Game Code – Sections 3511, 4700, 5050, and 5515

Sections 3511 (birds), 4700 (mammals), 5050 (reptiles and amphibians), and 5515 (fish) of the California Fish and Game Code designate certain species as "fully protected." Fully protected species, or parts thereof, may not be taken or possessed at any time, and no provision of the CFWC or any other law may be construed to authorize the issuance of permits of licenses to take any fully protected species. No such permits or licenses heretofore issued may have any force or effect for any such purpose, except that the CFGC may authorize the collecting of such species for necessary scientific research. Legally imported and fully protected species or parts thereof ay be possessed under a permit issued by CDFW.

Fish and Game Code – Section 5650

(a) Except as provided in subdivision (b), it is unlawful to deposit in, permit to pass into, or place where it can pass into the waters of this state any of the following:

(1) Any petroleum, acid, coal or oil tar, lampblack, aniline, asphalt, bitumen, or residuary product of petroleum, or carbonaceous material or substance.

(2) Any refuse, liquid or solid, from any refinery, gas house, tannery, distillery, chemical works, mill, or factory of any kind.

(3) Any sawdust, shavings, slabs, or edgings.

(4) Any factory refuse, lime, or slag.

(5) Any cocculus indicus.

(6) Any substance or material deleterious to fish, plant life, mammals, or bird life.

Fish and Game Code – Section 5652

(a) It is unlawful to deposit, permit to pass into, or place where it can pass into the waters of the state, or to abandon, dispose of, or throw away, within 150 feet of the high water mark of the waters of the state, any cans, bottles, garbage, motor vehicle or parts thereof, rubbish, litter, refuse, waste, debris, or the viscera or carcass of any dead mammal, or the carcass of any dead bird.

PORTER-COLOGNE WATER QUALITY CONTROL ACT

The Porter-Cologne Water Quality Control Act established the SWRCB and each Regional Water Quality Control Board (RWQCB) as the principal state agencies for coordinating and controlling water quality in California. Responsibility for the protection of water quality in California rests with the SWRCB and nine RWQCBs. The SWRCB establishes statewide policies and regulations for the implementation of water quality control programs mandated by federal and state water quality statutes and regulations. Pursuant to the Act, each of California's nine regional boards must prepare and periodically update basin plans that set forth water quality standards for surface and groundwater, as well as actions to control point and non-point sources of pollution to achieve and maintain these standards. Basin plans offer an opportunity to achieve wetlands protection through enforcement of water quality standards.

The Porter-Cologne Water Quality Control Act provides that "All discharges of waste into the waters of the State are privileges, not rights." Waters of the State are defined in Section 13050(e) of the Porter-Cologne Water Quality Control Act as "…any surface water or groundwater, including saline waters, within the boundaries of the state." All dischargers are subject to regulation under the Porter-Cologne Water Quality Control Act, including both point and nonpoint source dischargers. The RWQCB has the authority to implement water quality protection standards through the issuance of permits for discharges to waters at locations within its jurisdiction, which would include the project site. As noted above, the RWQCB is the appointed authority for Section 401 compliance in the project site. If the USACE determines that they have no regulatory authority on the project site and they also determine that a CWA Section 404 permit is not required, the project proponent could still be responsible for obtaining the appropriate CWA Section 401 permit or waiver from RWQCB for impacts to Waters of the State.

Water Code Section 13260 and General Order WQ 2017-0023-DWQ

Water Code Section 13260 requires that any person discharging waste or proposing to discharge waste that could affect the quality of the waters of the state must file a report of waste discharge to obtain coverage under waste discharge requirements (WDRs) or a waiver of WDRs. Water Code Section 13263(a) requires that WDRs implement applicable water quality control plans, taking into account the beneficial uses to be protected, applicable water quality objectives, and the need to prevent a condition of pollution or nuisance. In practice, General Order WQ 2017-0023-DWQ requires that all commercial cannabis cultivators apply for and obtain a Notice of Applicability, or Conditional Waiver, from the respective Regional Water Board for any commercial operation in the state of California before being able to obtain an operator's license from the Department of Food and Agriculture.

CALIFORNIA ENVIRONMENTAL QUALITY ACT

Although specific federal and state statutes protect threatened and endangered species, California Environmental Quality Act (CEQA) Guidelines Section 15380(b) provides that a species not listed on the federal or state list of protected species may be considered rare or endangered if the species can be shown to meet certain criteria. These criteria have been modeled after the definition in FESA and the section of the California Fish and Game Code dealing with rare or endangered plants and animals, and allows a public agency to undertake a review to determine if a significant effect on a species that has not yet been listed by either the USFWS or CDFW (i.e., species of concern) would occur. Whether a species is rare, threatened, or endangered can be legally significant because, under CEQA Guidelines Section 15065, an agency must find an impact to be significant if a project would "substantially reduce the number or restrict the range of an endangered, rare, or threatened species." Thus, CEQA provides an agency with the ability to protect a species from a project's potential impacts until the respective government agencies have an opportunity to designate the species as protected, if warranted.

3.0 METHODOLOGY

The first step in creating a biological resource assessment is to conduct a remote search by querying the *U.S. Fish & Wildlife Service's National Wetlands Inventory* (NWI; Figure 2), EcoAtlas' California Aquatic Resources Inventory (CARI; Figure 3), NRCS Web Soil Survey (Figure 4; Appendix A), and *Hydric Soils List for Humboldt County, California* to determine whether any wetlands or "other waters of the U.S.", "waters of the State", or soils compatible with wetland resources have been historically recorded on or around, or are likely to occur on-site.

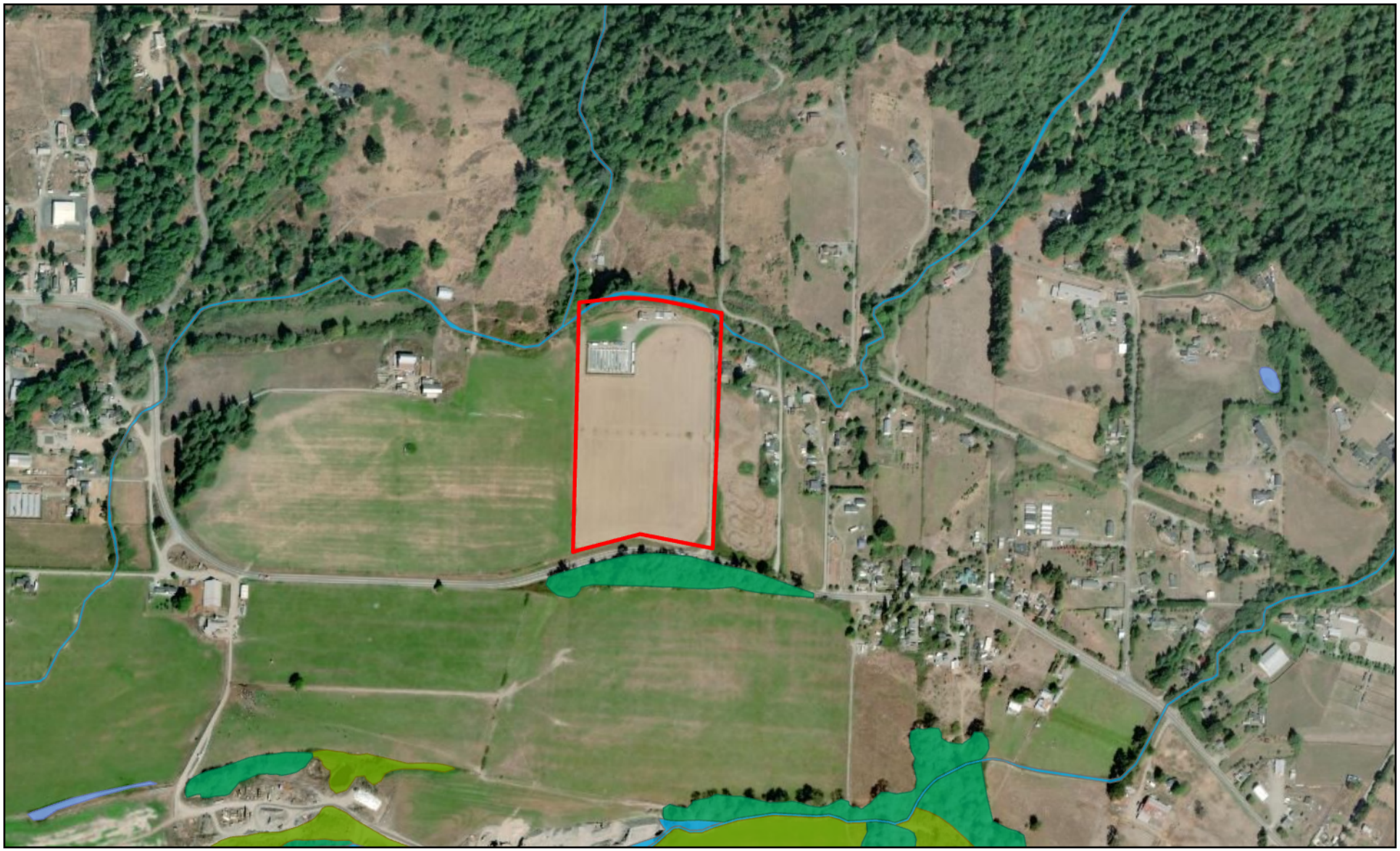
We also queried the following online resources for information on the Property's potential plant and wildlife resources:

1. California Department of Fish & Wildlife's Natural Diversity Database (RareFind 5) for observations of special status plant and animal species within five miles of the Property (Appendix B),

2. U.S. Fish and Wildlife Service's IPaC Database of federally-listed special status species in Humboldt County (Appendix C),

3. The California Native Plant Society's *Inventory of Rare & Endangered Plants in California.*

We then conducted a field survey of the Assessment Area May 10, 2019 including non-tidal, non-wetland waters (i.e., tributaries and relatively permanent waters were delineated at the ordinary high-water mark (OHWM).



U. S. Fish and Wildlife Service. Publication date May 2018. National Wetlands Inventory website. U.S. Department of the Interior, Fish and Wildlife Service, Washington, D.C. http://www.fws.gov/wetlands/. Accessed June 9, 2018. Base Map USDA FSA, GeoEye, CNES/Airbus DS, Esri, USDA Farm Service Agency. 1:8,000 original report (8.5 x 11).

FIGURE 2 - NATIONAL WETLANDS INVENTORY (NWI) WETLANDS

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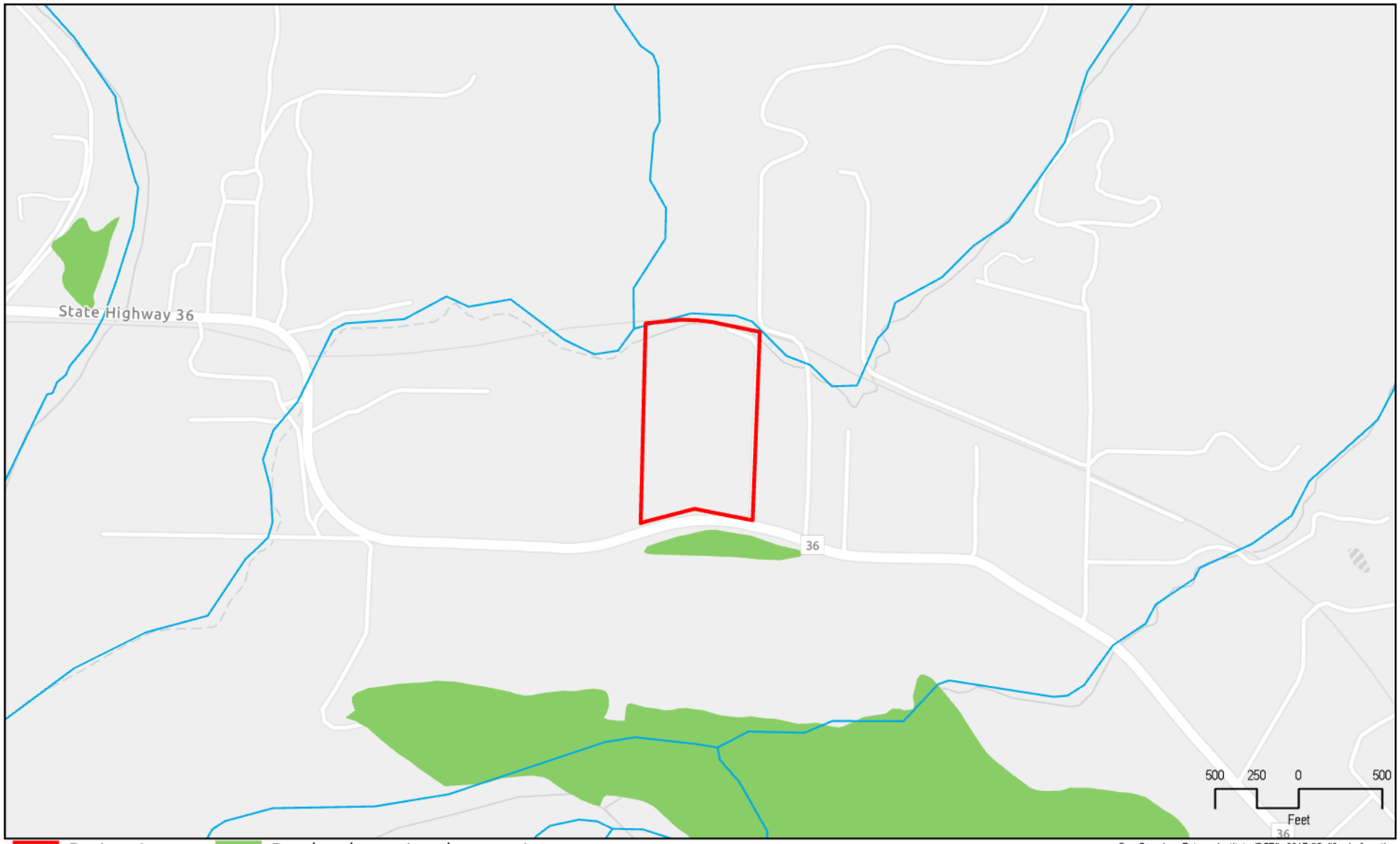

FIGURE 3 - CALIFORNIA AQUATIC RESOURCES INVENTORY (CARI) WETLANDS

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The OHWM represents the limit of potential U.S. Army Corps of Engineers (USACE) jurisdiction over non-tidal waters (e.g., streams and ponds) in the absence of adjacent wetlands (33 CFR 328.4). Delineations of the OHWM for any ephemeral/intermittent streams were done with reference to the guidelines in Lichvar & McColley (2008).

We also conducted an onsite search for special status plant and animal species and their habitats, and recorded observations of: (1) vegetation, (2) plant and animal species or their sign (nests, burrows, tracks, scat), and (3) the suitability of on-site habitats and those immediately adjoining the Property to support special status plant or animal species. We used the vegetation classification scheme of Sawyer et al. (2009) to classify onsite habitat types. The site assessment consisted of walking the entire Property to note current habitat conditions, surrounding land uses, general habitat types, and plant/wildlife species.

Lastly, our analysis focused on comparing our remote search results with the onsite observations to determine if there are wetlands or "other waters of the U.S.", as well as, the potential of occurrence for any state or federally listed special status species on the property.

4.0 EXISTING CONDITIONS

SITE CONFIGURATION AND PROJECT AREA

As presented in (Figure 1) the project area is defined the same as the property boundary. This a 17-acre parcel located on flat ground <5% slope. There are 3 existing structures that were erected pre-1950's situated within 20-30 feet of the Wilson creek stream course (Figure 5). Carlotta gardens has parked two trailers next to these buildings to use as secure temporary storage of tools and equipment until a larger more robust facility can be built to serve the full potential of the cultivation operations. While the existing buildings are closer than 50 feet from the riparian edge of the stream, all other ongoing operations on the property are located outside the Streamside Management setback.

4.1 SOILS

According to Natural Resources Conservation Services (NRCS), the Property is comprised of two primary soil types: Weott and Parkland-Garberville complex

The Weott series consists of very deep, poorly drained soils on located on back-swamps, depressions, and low flood-plain steps on alluvial plains at slopes ranging from 0 to 2 percent. These soils are dark grayish brown silt loam or light brownish gray with moderate fine and medium subangular blocky structure. The mean annual precipitation is about 40 inches with an annual temperature is about 52 degrees Fahrenheit. Weott soils have a mesic soil moisture regime. The permeability of this soils is moderately slow with a low runoff rate. These soils are typically used for pasture and hay.

The Parkland-Garberville series consists of very deep, moderately well drained soils formed in alluvium derived from mixed sedimentary sources including sandstone and mudstone. Parkland soils are located on stream terraces and alluvial fans in mountain river valleys. Slope ranges from 0 to 9 percent. The mean annual precipitation is about 85 inches and the mean annual air temperature is about 57 degrees Fahrenheit. Color and texture varies from a brown loam to a very dark grayish brown silt loam with strong medium granular structure. This soil series had low or medium runoff rate with moderately high to moderately low saturated hydraulic conductivity. This soil is used for pasture and irrigated vegetable crops.

4.2 HYDROLOGY

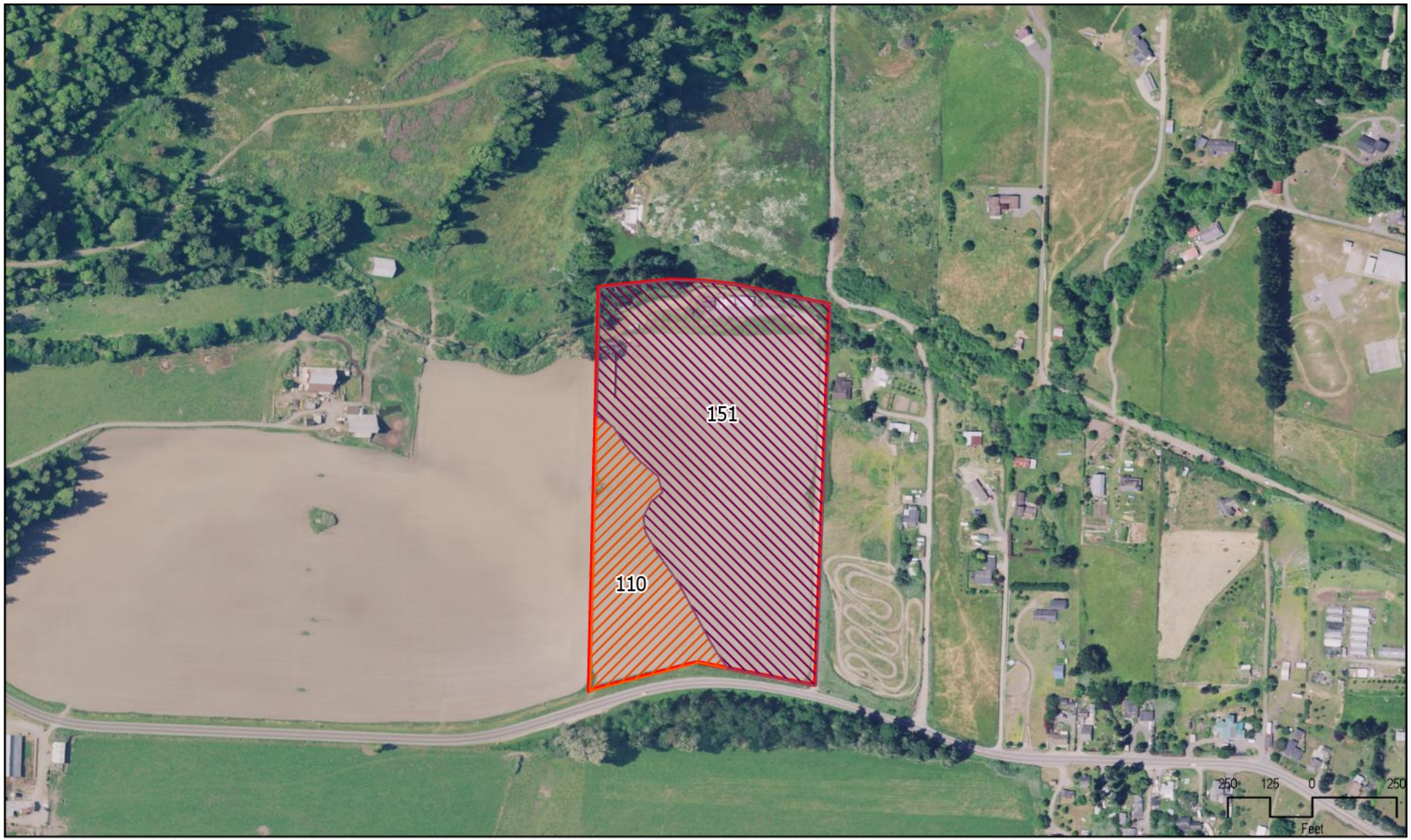
The project occurs within the Van Duzen River watershed which is included in the Lower Eel River Watershed Unit (18010105). The site receives water in the form of direct precipitation, snowmelt, and runoff from surrounding mountains and uplands. Approximately 90 percent of the seasonal precipitation occurs between October and April with an annual average precipitation averages about 40-50 inches in the area of Hydesville and Carlotta.

The only water body located on Carlotta Gardens property is Wilson Creek, an intermittent Class III stream that flows 700 feet along the northern edge of the property (Figure 2), (Photo#2).

This stream channel is about 4-6 feet wide during winter flows and riparian vegetation is generally absent. It is bordered by a 6 foot densely vegetated berm along its banks and is 115 feet from any cultivation plots. This berm in combination with dense vegetation in the form of perennial bunch grasses which prevents any run-off from the property to enter the stream course. Water flow in Wilson Creek is primarily generated by direct rainfall and subsequent run-off from the adjacent uplands. However, this flow is not sustainable through the summer months and the creek typically dries up July 1- July 15, in normal rainfall years.

In addition, the property is compliant with land use practices for stream zone protection and erosion control. It is currently listed as a Tier 1, low risk by the State WQCB and is certified under the New General Order WQ 2017-0023-DWQ-R1. However, Carlotta Gardens will be expanding their cultivation operations on the property in 2019 and therefore will be re-applying for coverage under the New General Order as a Tier II-low risk discharger.

Photo# 2. Wilson Creek during winter flows – Carlotta Gardens LLC



Project Area

Soils

110 Weott, 0 to 2 percent slopes, 3.8 Acres, 21.2% of project area

151 Parkland-Garberville complex, 2 to 9 percent slope, 14 acres, 78.8% of project area

USDA FSA, GeoEye, CNES/Airbus DS, Esri, USDA Farm Service Agency. USDA NRCS Soil Survey accessed 3/21/19, https://datagateway.nrcs.usda.gov/GDGOrder.aspx. Original report scale 1:5,000, 8.5x11.

FIGURE 4 - SOILS MAP

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4.3 WETLANDS AND "OTHER WATERS OF THE U.S"

There are no wetlands identified on this property other than Wilson creek, an intermittent Class III stream that flows approximately 700 feet along the northern edge of the property. This creek is bordered by a 6 foot densely vegetated berm along its banks and is 115 feet from any cultivation plots. This berm blocks any run-off from the property to enter the stream course. In addition, the property is compliant with land use practices for stream zone protection and erosion control.

4.4 VEGETATION COMMUNITIES

The Carlotta Gardens property is situated along the upper plain of the Van Duzen river, in an area classified as Improved Rural Residential and Zoned Agricultural Exclusive (AE) by Humboldt County Building and Planning Department. Topography on the property is generally flat with no portion >5% slope. The property is a flat, pasture and agricultural landscape. Vegetation on the property has been simplified over decades of agricultural plowing, tilling and growing a variety of crops including corn and grasses for cutting hay. The Carlotta Gardens property is composed of pasture vegetation and is a mix of perennial grasses, wild mustard and legumes that provide 100% coverage of un-cultivated acreage.

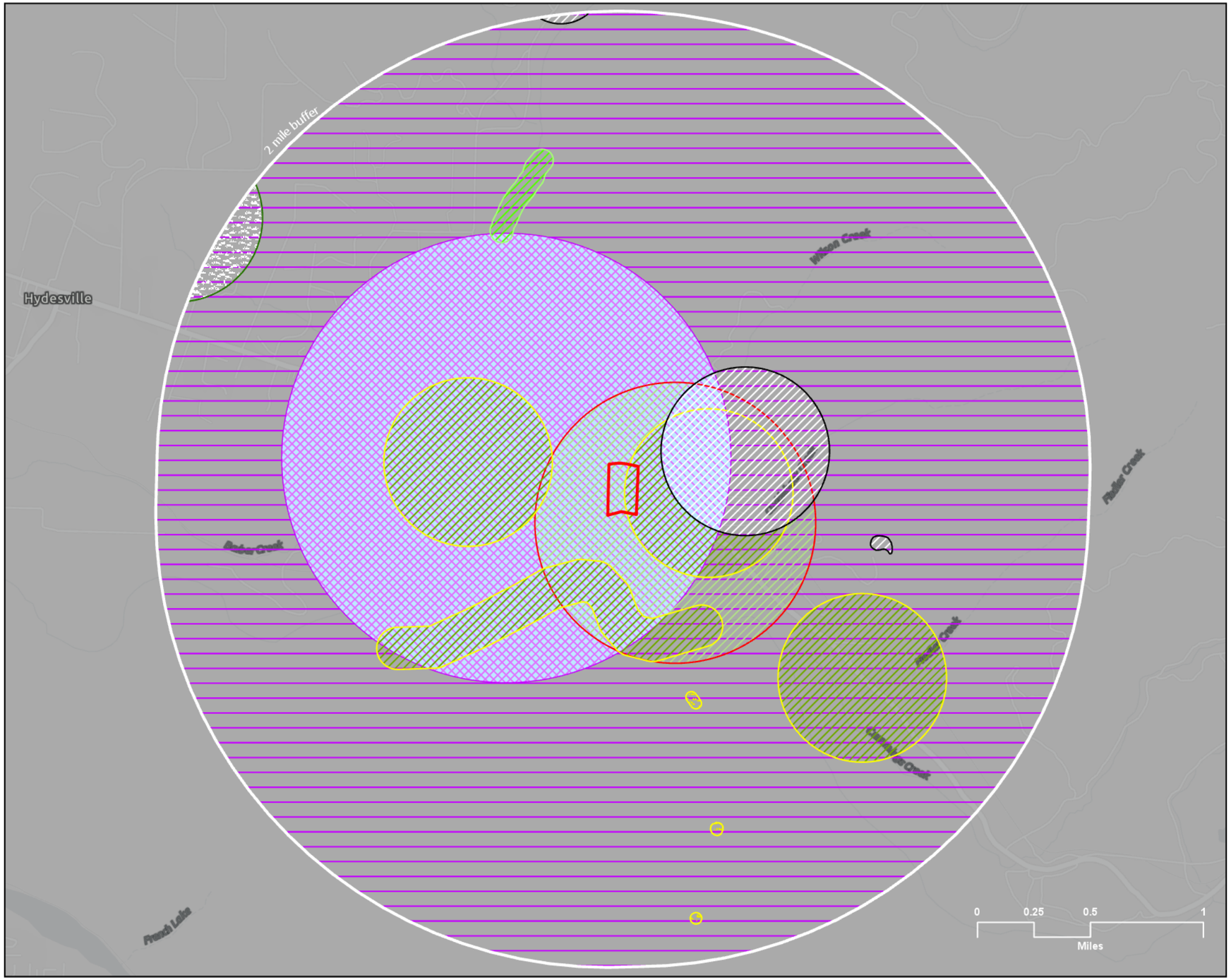
4.5 WILDLIFE

The only habitat located on Carlotta Gardens property is pasture habitat. The closest habitat type that supports a similar type of habitat for wildlife is perennial grassland. This habitat type provides habitat for many species, including the common garter snake (*Thamnophis sirtalis)*, northern harrier (*Circus hudsonius*), western barn owl (*Tyto alba*), western kingbird (*Tyrannus verticalis*), western blue bird (*Sialia mexicana*), black phoebe (*Sayornis nigricans)*, barn swallow (*Hirundo rustica*), western meadowlark, (*Sturnella neglecta*), savannah sparrow (*Passerculus sandwichensis*) and grasshopper sparrow (*Ammodramus savannarum*), (Harris and Harris 1979). Pasture habitat also supports mammals including townsend mole (*Scapanus townsendii)*, coast mole (*Scapanus orarius*), pocket gopher (*Thomomys bottae*), western harvest mouse (*Reithrodontomys megalotis*), California vole (*Microtus californicus*), long-tailed vole (*Microtus longicaudus*), striped skunk (*Mephitis mephitis*), coyote (*Canis latrans*), black-tailed jackrabbit (*Lepus californicus*) and brush rabbit (*Sylvilagus bachmani*), (Mossman 1979). In addition, perennial grassland often serves as feeding habitat for the red-tailed hawk (*Buteo jamaicensis*) and american kestrel (*Falco sparverius*) and (Harris and Harris 1979).

5.0 SPECIAL STATUS SPECIES

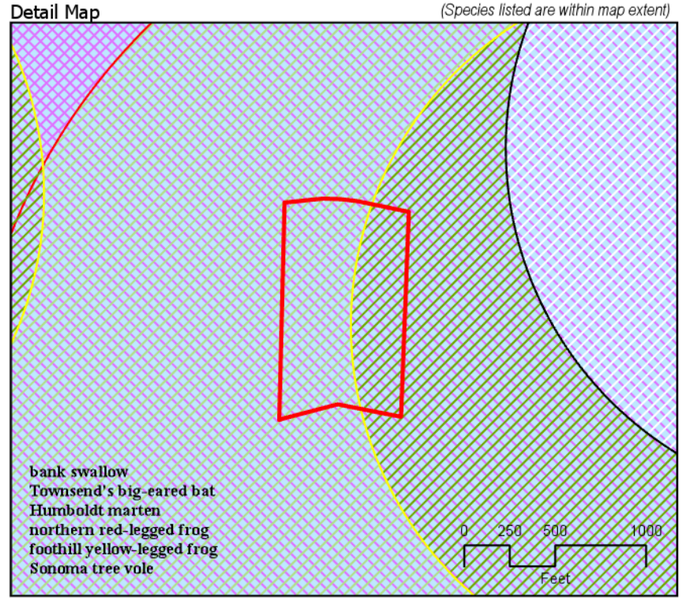
Special status species are those that fall into one or more of the following categories:

- Listed as endangered or threatened under the Federal Endangered Species Act (FESA) (50 CFR 17.11/17.12) (or formally proposed for listing) (64 FR 205, October 25, 1999; 57533-57547),
- Designated as a Species of Concern by the Sacramento District of the U.S. Fish and Wildlife Service,
- Listed as endangered, threatened or rare under the California Endangered Species Act (CESA) or proposed for such listing (14 California Code of Regulations [CCR] 670.5),
- Designated as rare, protected, or fully protected pursuant to California Fish and Game Code (FGC, Section 3511 [birds], 4700 [mammals], and 5050 [reptiles and amphibians]).
- Designated a Species of Special Concern by the California Department of Fish and Wildlife,



Detail Map

(Species listed are within map extent)



- Project Area
- Cascade downingia
- Humboldt marten
- Sonoma tree vole
- Townsend's big-eared bat
- bank swallow
- foothill yellow-legged frog
- northern red-legged frog
- seacoast ragwort
- western pond turtle

California Natural Diversity Database (CNDDB). 2018. California Department of Fish and Wildlife. https://www.wildlife.ca.gov/Data/CNDDB, accessed March 10, 2019. USDA FSA, GeoEye, CNES/Airbus DS
Scale 1:30,000 original report 11x17.

FIGURE 6 - CALIFORNIA NATIONAL DIVERSITY DATABASE (CNDDB) RECORDED SPECIES OBSERVATIONS WITHIN TWO MILES OF THE PROJECT AREA

CARLOTTA GARDENS, LLC PROJECT • HUMBOLDT COUNTY, CALIFORNIA

Date: March 21, 2019

begreenlegal

- Defined as rare or endangered under the California Environmental Quality Act (CEQA), or
- Placed on List 1 or 2 maintained by the California Native Plant Society.

A query of the California Natural Diversity Database (RareFind 5), USFWS IPac, and the California Native Plant Society (CNPS) was conducted to gain a preliminary vision of what species might be located within the property. We refined the list of those species with any real potential of occurring in the property by filtering for relevant onsite habitats, locations, and elevations. Those species that could occupy regional habitats are listed in (Appendix B & C) and those special-status species with potential to occur in the property are listed in (Table 1). This query covered a 2-mile radius centered on the property and resulted in (9) special-status species that have historic records within range of the property (Figure 6).

5.1 CRITICAL HABITAT FOR SPECIAL STATUS SPECIES

The Federal Endangered Species Act (FESA) requires the federal government to designate critical habitat for any listed species. Critical habitat is defined as: (1) specific areas within the geographical area occupied by the species at the time of listing, if they contain physical or biological features essential to conservation, and those features may require special management considerations or protection; and (2) specific areas outside the geographical area occupied by the species if the agency determines that the area itself is essential for conservation. The Carlotta Gardens property is not part of any critical habitat designation Appendix C.

TABLE 1. SPECIAL STATUS SPECIES WITH POTENTIAL TO OCCUR IN THE PROPERTY

Species	Federal	State	CNPS	Habitats	Potential for Occurrence in Property	Rationale for Assessing Potential of Occurrence
Plants						
Cascade downingia *Downingia willamettensis*	No	No	2B Rare	Found along margins of lakes and wetlands in cismontane woodlands and valley foothill grasslands	None	Although the property is composed of pasture grasses, there are no wetlands, lakes, or ponds on the property that provide wetted margins through the dry season to support this species. There are three CNDDB occurrences within 2 miles of the property with the nearest occurrence 1.8 miles northwest. However, this species was not observed during the March or May 2019 field survey.
Seacoast ragwort *Packera bolanderi var. bolanderi*	No	No	2B Rare	Coastal Sscrub and Nnorth coast coniferous forests	None	There is no Ccoastal scrub or Cconiferous forests existing on the property to support this species. According to CNDDB, there are 18 documented occurrences with 2 miles of the property with the nearest occurrence 0.8 miles south. However, this species was not observed during the March or May 2019 field survey.

Species	Federal	State	CNPS	Habitats	Potential for Occurrence in Property	Rationale for Assessing Potential of Occurrence
Plants						
Western lily *Lilium occidentale*	FE	SE	1B Rare	Coastal scrub, freshwater marsh, bogs and fens, coastal bluff scrub, coastal prairie, north coast coniferous forest, marshes and swamps.	None	There are no wetlands freshwater, bogs, or coastal bluff scrub within the property to support this species. Additionally, there are no documented CNDDB occurrences within 2 miles of the property. Also, this species was not observed during the March or May 2019 field survey.
Amphibians						
Westernond turtle *Emys marmorata*	No	No	NA	Found in permanent and intermittent waters of rivers, creeks, small lakes and ponds, marshes, irrigation ditches and reservoirs. Nests are typically located on sandy banks near water, forest habitats or in fields within 100 feet of water.	None	There are is an intermittent stream, Wilson Creek running along the northern edge of the property. However, this habitat is very limited for this species. Wilson Creek dries up by July 1- July 15th does not contain adequate water during the summer months. There are no documented CNDDB occurrences of western pond turtle within two miles of the property. Additionally, this species wasn't observed during the May 2019 field survey.
California red legged frog *Rana draytonii*	FT	No	NA	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation. This includes wetlands, marshes, natural ponds, artificial flowing waters such as diversion canals and artificial standing waters such as dams and impoundments.	None	There are is an intermittent stream, Wilson Creek, running along the northern edge of the property. However, this habitat is not permanent and dries up by June 1- June 15th and does not provide adequate flowing waters throughout the season or riparian cover to support RLF's. Additionally, there are no documented CNDDB occurrences of this species within two miles of the property. Also, this species was not observed during the May 2019 field survey.

Species	Federal	State	CNPS	Habitats	Potential for Occurrence in Property	Rationale for Assessing Potential of Occurrence
Amphibians						
Foothill yellow legged frog *Rana draytonii*	No	CCT	NA	Partly-shaded, shallow streams and riffles with a rocky substrate in a variety of habitats. Needs at least some cobble-sized substrate for egg-laying. Needs at least 15 weeks to attain metamorphosis.	None	There are is an intermittent stream, Wilson Creek, running along the northern edge of the property. However, this habitat is not permanent and does not contain cobble substrate. Typically dries up by June 1- June 15th and does not provide adequate flowing waters throughout the season or shaded riparian cover to support FYLF's. There are four CNDDB occurrences within a two-mile radius with nearest occurrence on the property. However, these occurrences were documented from 1911 to 1963 within 2/5-mile accuracy of the project. Additionally, this species was not observed during the May 2019 field survey.
Birds						
Bank swallow *Riparia riparia*	No	ST	NA	Bank Swallows live in low areas along rivers, streams, ocean coasts, and reservoirs. Their territories usually include vertical cliffs or banks where they nest in colonies of 10 to 2,000 nests.	None	There are no open bodies of water on the property. Likewise, there are no exposed stream banks or soft muddy roadcuts that could support a nesting colony of bank swallows. There is one CNDDB occurrence within a two-mile radius with the nearest occurrence on the property. However, this occurrence was documented in 1946 with a five-mile level of accuracy. Our biologist did not observe any bank swallows during the May 2019 field survey.
Northern spotted owl *Stryx Occidentalis caurina*	FT	ST	NA	Northern spotted owls live in forests characterized by dense canopy closure of mature and old-growth trees, abundant logs, standing snags, and live trees with broken tops. Spotted owls prefer older forest stands with variety: multi-layered canopies	FNone	There are no late successional or old growth forests within the property. There are no CNDDB documented occurrences of this species within two miles of the property. Additionally, northern spotted owls were not observed during the May 2019 field survey.

Species	Federal	State	CNPS	Habitats	Potential for Occurrence in Property	Rationale for Assessing Potential of Occurrence
Birds						
Marbled murrelet *Brachyramphus marmoratus*	FT	SE	NA	The marbled murrelet spends the majority of its time on the ocean, roosting and feeding, but comes inland up (50 miles) to nest in dense shady old growth forests including large trees with large branches or deformities for nesting platforms. Murrelets prefer larger, unfragmented high quality stands of old growth which for nesting.	None	There are no late successional or old growth forests within the property. There are no CNDDB occurrences within two miles of the property Additionally, no marbled murrelets were observed during the May 2019 filed survey.
Western snowy plover *Charadrias nivosus nivosus*	FT	No	NA	Coastal dunes, sandy beaches, salt pond levees & shores of large alkali lakes. Needs sandy, gravelly or friable soils for nesting.	None	There is no suitable coastal dunes or sandy beach habitat within the property that could provide nesting habitat for the snowy plover. Additionally, there are no documented CNDDB occurrences within two miles of the property. No western snowy plovers were observed during the May 2019 field survey.
Mammals						
Humboldt marten *Martes caurina*	No	CE	NA	Late successional and Old growth forests and serpentine habitat	None	There are no forests or serpentine habitat on the property that could support any Humboldt martens. According to CNDDB, there is a single documented occurrence of this species and it was located on the property. However, the occurrence was documented in 1913 with a one-mile accuracy. This species was not observed during the May 2019 field survey.

Species	Federal	State	CNPS	Habitats	Potential for Occurrence in Property	Rationale for Assessing Potential of Occurrence
Mammals						
Townsend's big-eared bat *Corynorhinus townsendii*	No	No	NA	Forages amidst mid-seral forest types along riparian edges and mesic/wetland pockets within developed forest stands. Nests and roosts in caves, abandoned mines and cavernous structures. Feeds on moths, beetles and other soft insects.	None	Specific requirements for nesting and roosting do not occur on the property. There are no wetlands or riparian edges on the property for foraging. Furthermore, there are no caverns, mine shafts or abandoned building to support roosting bats. According to CNDDB there is a single occurrence of this species documented on the property. However, this occurrence was documented in 1929 with a one-mile accuracy. This species was not observed during the May 2019 field survey.
Sonoma tree vole *Arborimus pomo*	No	No	NA	Occurs in mature and old-growth forests, mainly Douglas-fir, redwood, and montane hardwood-conifer habitats. Feeds on needles of Douglas-fir and grand fir. Nests of Douglas-fir needles are constructed in trees, preferably tall trees situated on whorl of limbs against trunk,	None	There is no forested habitat or clumps of large trees on the property that could support habitat or a nest for this species. There is a single documented CNDDB occurrence 0.11 miles east of the property however, no Sonoma tree voles were observed during the May 2019 field survey.

Special Status Species Codes:

Federal: *FE = Federal Endangered.* *FT = Federal Threatened*

State: *CSC = California Species of Concern* *CE = California Endangered*

CFP = California Fully Protected *CT = California Threatened*

CCT = Candidate California Threatened

CCE = Candidate California Endangered

CNPS: *1B = Rare or Threatened in CA and elsewhere* *2B = Rare, Threatened, or Endangered in CA, but more common elsewhere*

Low – Within extent of species range but habitat in the project area is very limited or absent

Moderate - Within extent of species range; habitat present in project area, no records of locations within project area

High - Within extent of species range; potential habitat in Project area, at least one record of occurrence within species range of the project area

5.2 SPECIAL STATUS PLANTS WITH THE POTENTIAL TO OCCUR IN THE PROPERTY

There is no suitable habitat to support the cascade downingia, seacoast ragwort, and western lily and neither of these species were found on the property during the May 2019 field survey.

5.3 SPECIAL STATUS WILDLIFE

While there may be a number of animal species occurring within a 2-mile radius of the property, the habitat on the property is anthropogenic pasture and does not support the life histories of those species. As already mentioned, the Carlotta Gardens property is a flat open pasture that has been cultured for corn and hay for decades. There is no suitable forested habitat, coastal scrub, permanent flowing streams, contiguous stands of riparian forest, caves, substantial aquatic resources or wetlands that would provide specialized habitats for any species listed in (Table 1). Furthermore, none of those species were located or discovered on the property during the May 2019 field survey. Therefore, these species overall are not likely to occur on the property or within close range the property.

6.0 IMPACT ANALYSES AND MITIGATION MEASURES

This section defines criteria used to analyze project impacts related to restoration and abatement activities as described in the project remediation plan and suggests mitigation measures to reduce potential impacts to a less-than-significant level.

6.1 CRITERIA FOR IDENTIFYING SIGNIFICANT IMPACTS

Significant impacts to wetlands and biological resources (wildlife and plants) depends on the proximity and quality of vegetation communities, wildlife habitats and water features; the presence or absence of special-status species; and how effective mitigation measures are in protecting these resources. CEQA defines significant impacts to biological resources by evaluating whether the project would:

1. Have a substantial adverse effect, either directly or through habitat modifications, on any identified special status species in local or regional plans, policies, or regulations, or by USFWS or CDFW;

2. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by USFWS or CDFW;

3. 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, perennial/seasonal creek, class I/II/III perennial streams, intermittent/ephemeral drainages, seeps, and seasonal wetlands) through dredging, discharging, filling, causing a hydrological disconnect, or other means;

4. Interfere substantially with the movement of any native resident or migratory fish, bird, mammal or amphibian with established resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;

5. Conflict with any county or municipal policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance;

6. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved governmental habitat conservation plan;

6.2 IMPACT ANALYSIS

6.2.1 POTENTIAL DIRECT/INDIRECT ADVERSE EFFECTS ON FEDERAL OR STATE JURISDICTIONAL WATERS

There will be no effect, either direct or indirect on any waters of the U.S. This project will not affect Wilson Creek in any way and there are no plans or efforts to utilize this creek as a water source. No land use activities such as tilling, digging or cultivating will occur with 150 feet of the stream course.

6.2.2 POTENTIAL DIRECT/INDIRECT ADVERSE EFFECTS ON FEDERALLY LISTED AND/OR STATE LISTED SPECIES;

There are no special status species with any reasonable potential to exist on the Carlotta Gardens property including plants, amphibians or mammals. Although there is an intermittent Class III intermittent water course flowing along then north edge of the property, this stream course does not provide adequate riparian cover, cobble substrate or long-term water flow through the summer months to support aquatic species including amphibians. In addition, no land use activities such as tilling, digging or cultivating will occur within 150 feet of this stream course and no sediment discharge will be generated from the property into the stream course during any time of year. Carlotta Gardens has no need or future plans to utilize Wilson Creek as a water source. There will be no significant impacts to the stream channel, vegetation, or water quality in Wilson creek and therefore no direct or indirect effect on any amphibian species.

7.0 MITIGATION MEASURES REQUIRED TO REDUCE IMPACTS TO LESS THAN SIGNIFICANT

There are no special mitigations required to reduce potential impacts to less than significant for any species listed in (Table 1). There is no suitable habitat on the Carlotta Gardens property for any of these species that could be affected by development of this cultivation project.

7.1 BIOLOGICAL RESOURCES

7.2 MITIGATIONS FOR PROTECTION OF SPECIAL STATUS PLANTS

1. If any special status plant species are identified at a work site, BGL shall implement one or more of the following protective measures before work can proceed:

2. Redesign of proposed work to avoid disturbance of rare plants.

3. Fencing to prevent accidental disturbance of rare plants during construction,

4. On-site monitoring by a qualified biologist during construction to assure that rare plants are not disturbed

5. BGL shall ensure that the operator is aware of these site-specific conditions, and shall inspect the work site before, during, and after completion of the action item.

7.3 HEAVY EQUIPMENT STAGING AND ACCESS

1. Staging/storage areas for equipment, materials, fuels, lubricants, and solvents, will be located on the graveled parking area and will be 150ft from Wilson Creek where it cannot enter the stream channel. Stationary equipment such as motors, pumps, generators, compressors, and welders will be positioned over drip-pans.

2. Vehicles will be parked a minimum150ft away from Wilson Creek to shall ensure that contamination of habitat does not occur during operations.

3. Carlotta Gardens shall ensure that they have a plan to allow a 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.

4. Only the existing access road shall be used to access work sites as much as practicable and the total area of the work site activity shall be limited to the minimum necessary to develop the cultivation plots.

5. Any construction debris shall be prevented from falling into the stream channel. Any material that does fall into a stream during construction shall be immediately removed in a manner that has minimal impact to the streambed and water quality.

7.4 MITIGATIONS FOR EROSION CONTROL

1. Mulching and seeding shall be done on all exposed soil which may deliver sediment to a stream. Soils exposed by project operations shall be mulched to prevent sediment runoff and transport. Mulches shall be applied so that not less than 90% of the disturbed areas are covered. All mulching shall be applied in a layer not less than two (2) inches deep.

2. If erosion control mats are used in re-vegetation, they shall be made of material that

3. decomposes. Erosion control mats made of nylon plastic, or other non-decomposing material shall not be used.

8.0 CONCLUSIONS

BGL concludes that the Carlotta Gardens cannabis cultivation development project, will not have any significant impacts on wetlands, water resources or biological resources for the following reasons.

The property does not contain any jurisdictional wetlands or substantial water courses that provide habitat for aquatic species that could be affected by the project.

The property does contain a class III intermittent stream course which falls under the jurisdictional waters of the U.S. However, no activities will occur within 50ft of the stream channel and the stream course will be protected by avoidance

The project will have no effect, either directly or indirectly through habitat modifications, on any identified special status species identified by USFWS or CDFW. The proposed cultivation plan for the property does not include altering or disturbing suitable habitat for many special status species analyzed in this document.

This project will not interfere with the movement of any native resident or migratory fish, bird, mammal or amphibian or migratory wildlife corridors, or impede the use of native wildlife nursery sites;

This project is not in conflict with any county or municipal policies or ordinances protecting biological resources.

This project is not in conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved governmental habitat conservation plan;

9.0 REFERENCES

Army Corps of Engineers. 2008 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region(Version 2.0) September 2008, U. S. Army Corps of Engineers, ERDC/EL TR-08-28.

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Appendix A- Natural Resource Conservation Services Soil Report

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Humboldt County, Central Part, California

Carlotta Gardens, LLC

March 21, 2019

Preface

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

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

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

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

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

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

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

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Contents

Soil Map

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

Custom Soil Resource Report
Soil Map

Map Scale: 1:2,180 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 30 60 120 180

Feet: 0 100 200 400 600

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 10N WGS84

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

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

Special Point Features

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

Water Features

- Streams and Canals

Transportation

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

Background

- Aerial Photography

MAP INFORMATION

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

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

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

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

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

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

Soil Survey Area: Humboldt County, Central Part, California
Survey Area Data: Version 4, Sep 13, 2018

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

Date(s) aerial images were photographed: Dec 31, 2009—Oct 11, 2017

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

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
110	Weott, 0 to 2 percent slopes	3.8	21.2%
151	Parkland-Garberville complex, 2 to 9 percent slopes	14.0	78.8%
Totals for Area of Interest		**17.8**	**100.0%**

Map Unit Descriptions

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

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

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

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

onsite investigation is needed to define and locate the soils and miscellaneous areas.

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

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

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

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

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

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

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

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

Humboldt County, Central Part, California

110—Weott, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: hs3l
Elevation: 0 to 150 feet
Mean annual precipitation: 35 to 80 inches
Mean annual air temperature: 50 to 55 degrees F
Frost-free period: 275 to 330 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

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

Description of Weott

Setting

Landform: Backswamps, depressions, flood-plain steps
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Tread
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Alluvium derived from mixed sources

Typical profile

Ap - 0 to 12 inches: silt loam
Bg1 - 12 to 26 inches: silt loam
Bg2 - 26 to 60 inches: silt loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Very poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 2.00 in/hr)
Depth to water table: About 0 to 4 inches
Frequency of flooding: Occasional
Frequency of ponding: Frequent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: High (about 10.2 inches)

Interpretive groups

Land capability classification (irrigated): 5w
Land capability classification (nonirrigated): 5w
Hydrologic Soil Group: B/D
Hydric soil rating: Yes

Minor Components

Worswick

Percent of map unit: 5 percent
Landform: Natural levees, flood-plain steps

Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: Yes

Swainslough

Percent of map unit: 4 percent
Landform: Flood-plain steps, salt marshes, backswamps, depressions
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Tread, talf
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: Yes

Ferndale

Percent of map unit: 3 percent
Landform: Flood-plain steps
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Arlynda

Percent of map unit: 3 percent
Landform: Meander scars, backswamps, depressions, flood-plain steps
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Tread
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: Yes

151—Parkland-Garberville complex, 2 to 9 percent slopes

Map Unit Setting

National map unit symbol: v79t
Elevation: 60 to 460 feet
Mean annual precipitation: 49 to 90 inches
Mean annual air temperature: 55 to 59 degrees F
Frost-free period: 240 to 280 days
Farmland classification: Not prime farmland

Map Unit Composition

Parkland and similar soils: 45 percent
Garberville and similar soils: 40 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Parkland

Setting

Landform: Alluvial fans, stream terraces
Landform position (two-dimensional): Backslope, footslope
Landform position (three-dimensional): Tread
Down-slope shape: Concave, linear
Across-slope shape: Linear, concave
Parent material: Alluvium derived from mixed sedimentary sources

Typical profile

Ap - 0 to 5 inches: loam
ABt - 5 to 7 inches: loam
Bt1 - 7 to 18 inches: silt loam
Bt2 - 18 to 29 inches: clay loam
Bt3 - 29 to 43 inches: clay loam
Bt4 - 43 to 61 inches: clay loam
Bt5 - 61 to 79 inches: clay loam

Properties and qualities

Slope: 2 to 9 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.60 in/hr)
Depth to water table: About 20 to 39 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: High (about 10.8 inches)

Interpretive groups

Land capability classification (irrigated): 2e
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: C
Hydric soil rating: No

Description of Garberville

Setting

Landform: Alluvial fans, stream terraces
Landform position (two-dimensional): Backslope, footslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from mixed sedimentary sources

Typical profile

Ap - 0 to 12 inches: gravelly loam
A - 12 to 19 inches: gravelly loam
Bt1 - 19 to 28 inches: gravelly clay loam
Bt2 - 28 to 39 inches: gravelly clay loam
Bt3 - 39 to 50 inches: gravelly sandy clay loam
BC - 50 to 59 inches: very gravelly sandy loam
C - 59 to 79 inches: very gravelly sandy loam

Properties and qualities

Slope: 2 to 9 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: High (about 9.1 inches)

Interpretive groups

Land capability classification (irrigated): 2e
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: C
Hydric soil rating: No

Minor Components

Conklin

Percent of map unit: 5 percent
Landform: Stream terraces
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Tread
Down-slope shape: Convex, linear
Across-slope shape: Linear, convex
Hydric soil rating: No

Grannycreek

Percent of map unit: 5 percent
Landform: Stream terraces, alluvial fans
Landform position (two-dimensional): Backslope, footslope, toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear, concave
Across-slope shape: Linear, concave
Hydric soil rating: Yes

Frenchman

Percent of map unit: 3 percent
Landform: Stream terraces
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Gschwend

Percent of map unit: 2 percent
Landform: Stream terraces
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

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Appendix B - California Natural Diversity Database (CNDDB) Report

Selected Elements by Common Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Species IS (Downingia willamettensis OR Martes caurina humboldtensis OR Arborimus pomo OR Corynorhinus townsendii OR Riparia riparia OR Rana boylii OR Rana aurora OR Packera bolanderi var. bolanderi OR Emys marmorata)

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
bank swallow *Riparia riparia*	ABPAU08010	None	Threatened	G5	S2	
Cascade downingia *Downingia willamettensis*	PDCAM060E0	None	None	G4	S2	2B.2
foothill yellow-legged frog *Rana boylii*	AAABH01050	None	Candidate Threatened	G3	S3	SSC
Humboldt marten *Martes caurina humboldtensis*	AMAJF01012	None	Endangered	G5T1	S1	SSC
northern red-legged frog *Rana aurora*	AAABH01021	None	None	G4	S3	SSC
seacoast ragwort *Packera bolanderi var. bolanderi*	PDAST8H0H1	None	None	G4T4	S2S3	2B.2
Sonoma tree vole *Arborimus pomo*	AMAFF23030	None	None	G3	S3	SSC
Townsend's big-eared bat *Corynorhinus townsendii*	AMACC08010	None	None	G3G4	S2	SSC
western pond turtle *Emys marmorata*	ARAAD02030	None	None	G3G4	S3	SSC

Record Count: 9

Appendix C - U.S. Fish & Wildlife Service's iPAC Report

IPaC Information for Planning and Consultation **U.S. Fish & Wildlife Service**

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Humboldt County, California

Local office

Arcata Fish And Wildlife Office

(707) 822-7201
(707) 822-8411

1655 Heindon Road

Arcata, CA 95521-4573

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population, even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

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1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information.
2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Birds

NAME	STATUS
Marbled Murrelet Brachyramphus marmoratus There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/4467	Threatened
Northern Spotted Owl Strix occidentalis caurina There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/1123	Threatened
Western Snowy Plover Charadrius nivosus nivosus There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/8035	Threatened
Yellow-billed Cuckoo Coccyzus americanus There is **proposed** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/3911	Threatened

Flowering Plants

NAME	STATUS
Western Lily Lilium occidentale No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/998	Endangered

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php
- Measures for avoiding and minimizing impacts to birds http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php
- Nationwide conservation measures for birds http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS ENTIRE RANGE. "BREEDS

ELSEWHERE" INDICATES THAT
THE BIRD DOES NOT LIKELY
BREED IN YOUR PROJECT AREA.)

Allen's Hummingbird Selasphorus sasin This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9637	Breeds Feb 1 to Jul 15
Olive-sided Flycatcher Contopus cooperi This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3914	Breeds May 20 to Aug 31

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

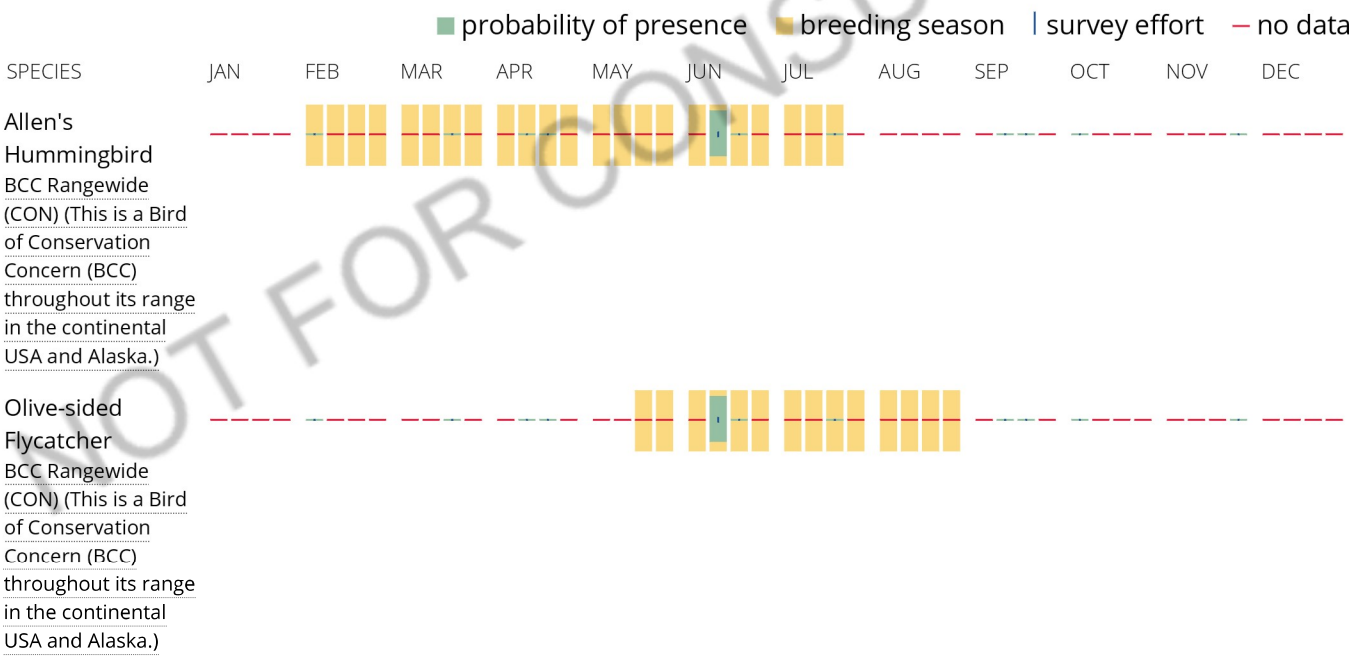
Breeding Season (▪)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures and/or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the E-bird Explore Data Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets .

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: The Cornell Lab of Ornithology All About Birds Bird Guide, or (if you are unsuccessful in locating the bird of interest there), the Cornell Lab of Ornithology Neotropical Birds guide. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

This location overlaps the following wetlands:

RIVERINE

R3UBF

A full description for each wetland code can be found at the National Wetlands Inventory website

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

Appendix D - Plant Species Observed

Family	Species name	Common name
Apiaceae	*Conium maculatum*	Hemlock
Asteraceae	*Baccharis pilularis*	Coyote brush
Asteraceae	*Sonchus asper*	Spiny sowthistle
Asteraceae	*Wyethia angustifolia*	Mule's ear aster
Asteraceae	*Senecio vulgaris*	Common groundsel
Asteraceae	*Bellis perennis*	Common daisy
Asteraceae	*Cirsium vulgare*	Bull thistle
Asteraceae	*Silybum marianum*	Milk thistle
Asteraceae	*Pseudognaphalium sp.*	Cudweed
Asteraceae	*Taraxacum officinale*	Common Dandelion
Asteraceae	*Matricaria discoidea*	Pineapple weed
Betulaceae	*Alnus rubra*	Red Alder
Brassicaceae	*Capsella bursa-pastoris*	Shepherd's Purse
Boraginaceae	*Plagiobothrys tenellus*	Pacific popcorn flower
Brassicaceae	*Raphanus sativus*	Wild radish
Brassicaceae	*Brassica rapa*	Field mustard
Brassicaceae	*Cardamine oligosperma*	little western bittercress
Caryophyllaceae	*Spergula arvensis*	Corn Spurry
Chenopodiaceae	*Chenopodium sp.*	Goosefoots
Dryopteridaceae	*Polystichum munitum*	Western sword fern
Fabaceae	*Trifolium repens*	White Clover
Fabaceae	*Vicia sp.*	Vetch species
Geraniaceae	*Geranium carolinianum*	Carolina geranium
Geraniaceae	*Geranium dissectum*	Cutleaf geranium
Geraniaceae	*Erodium circutarium*	Common stork's-bill

Malvaceae	*Malva sylvestris*	Common malo
Plantaginaceae	*Plantago lanceolata*	English plantain
Poaceae	*Holcus lanatus*	Velvet Grass
Poaceae	*Bromus mollis*	Smooth brome
Poaceae	*Poa annua*	Blue grass
Poaceae	*Avena fatua*	Wild oats
Rosaceae	*Rubus armeniacus*	Himalayan blackberry
Rosaceae	*Rosa sp.*	Wild rose
Rosaceae	*Oemleria cerasiformis*	Oso Berry
Salicaceae	*Salix sp.*	Willow sp
Urticaceae	*Urtica*	Urtica
Woodsiaceae	*Athyrium felix-femina*	Lady fern

Nomenclature follows the Jepson e-Flora (http://ucjeps.berkeley.edu/eflora/)

Appendix E - Site Photographs

Appendix E. Carlotta Gardens Property Site Photos

Photo #1 Pre-project conditions showing ruderal pasture landscape

Photo# 2 Access road to property

Photo #3 Wilson during Winter flows, Upstream view

Photo #4 Wilson creek, downstream view