Technical Memorandum

22 February 2022

To	Eileen Alduenda, Darla Elswick	**Tel**	707-267-2217
Copy to	Kevin Janni, GHD Senior Scientist	**Email**	Elizabeth.Meisman@ghd.com
From	Elizabeth Meisman, GHD Wildlife Biologist	**Ref. No.**	12561178
Subject	Proposition 1 Stormwater Technical Assistance Ferndale Drainage Project – Wildlife Habitat Assessment Memorandum		

The City of Ferndale ("City") proposes to make drainage improvements (hereafter "Project") primarily along Arlington Avenue and 5th Street within Ferndale, California (**Appendix A, Figure 1**). To assist with preparation of the Project's California Environmental Quality Act (CEQA) document, GHD evaluated the potential for sensitive wildlife resources (federally- or state-listed or state special status wildlife) to occur within the Project's Area of Potential Effect (APE) (**Appendix A, Figure 2**). In addition, potential Project impacts to these resources (if any), were evaluated. Special status species and resources are the primary focus of this evaluation. Common species or resources without special protections are not considered. Potential impacts to special status plants, sensitive natural communities, and wetlands are evaluated in separate reports. The purpose of this wildlife habitat assessment technical memorandum is to document the results of the January 27, 2022 site visit and provide information to support the Project's CEQA document.

Based on occurrence records, habitat availability, and the reconnaissance-level site visit, no federally- or state-listed special status wildlife species are expected to occur within the APE. However, five state special status birds, as well as native migratory birds, may forage or nest within the APE or within 500 feet surrounding the APE. With implementation of proposed avoidance and minimization measures (specifically Mitigation Measure BIO-1), impacts will be avoided or reduced to less-than-significant levels.

Regards,

Elizabeth Meisman
Wildlife Biologist

1. Introduction/Purpose

The City of Ferndale ("City") proposes to make drainage improvements (hereafter "Project") primarily along Arlington Avenue and 5th Street within Ferndale, California (**Appendix A, Figure 1**). The Project involves replacing the existing storm drain inlets with new inlets that include water quality treatment and tree planting on Arlington Avenue (Figure 2). A new storm drain pipe would be installed along Arlington Avenue, conveying runoff to a new storm drain pipe on 5th Street. A manhole would be installed at the junction of the Arlington Avenue and 5th Street lines. The 5th Street pipe alignment would transition to a vegetated swale along the frontage of the fairgrounds with culvert/pipe crossings at existing pedestrian and vehicle access points to the fairgrounds parking lot. Existing pavement in areas not identified as pedestrian or vehicle access points, would be removed. The new swale would tie into the existing drainage ditch alignment and the existing ditch will be graded to conform to the new swale geometry near the intersections of 5th Street and Van Ness Avenue. The entirety of the new swale would be graded with a series of check dams and pools to detain and infiltrate runoff along the alignment. Runoff would then flow to the existing culvert under Van Ness Avenue, which would remain in place. After exiting the culvert, runoff flows through 500 feet of vegetated swale with check dams on the County-owned parcel. Runoff that does not infiltrate within the swale spills into existing overland flow paths, north towards the Salt River.

To assist with preparation of the Project's California Environmental Quality Act (CEQA) document, GHD evaluated the potential for sensitive wildlife resources (federally- or state-listed or state special status wildlife) to occur within the Project's Area of Potential Effect (APE) (**Appendix A, Figure 2**). In addition, potential Project impacts to these resources (if any), were evaluated. Special status species and resources are the primary focus of this evaluation. Common species or resources without special protections are not considered. Potential impacts to special status plants, sensitive natural communities, and wetlands are evaluated in separate reports. The purpose of this wildlife habitat assessment technical memorandum is to document the results of the January 27, 2022 site visit and provide information to support the Project's CEQA document.

2. Survey Methods

2.1 Database Searches (CNDDB, NOAA Fisheries, IPaC, and EFH)

Database searches for special status wildlife records in the Project vicinity (six-quad search area) were conducted by GHD on January 18, 2022. The six-quad search area was centered on the Project U.S. Geological Survey 7.5-minute quadrangle (Ferndale) and including the surrounding five quadrangles (Capetown, Taylor Peak, Fortuna, Fields Landing, Cannibal Island). Database searches (**Appendix B**) included:

– The California Natural Diversity Database (CNDDB; plant species and sensitive habitat records were excluded; CDFW 2022a);
  - **Figure 3 in Appendix A** provides all special status species records tracked by the CNDDB that are known to occur within a three-mile radius of the APE.
– The National Oceanic and Atmospheric Administration (NOAA) Fisheries West Coast Region California Species Tool (NOAA Fisheries 2022a).
– A resources list was obtained from the U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC; USFWS 2022a) for the APE on January 18, 2022.
– An Essential Fish Habitat (EFH) Mapper Report was obtained from the NOAA Fisheries (2022b) for the APE on February 16, 2022.

2.2 Site Visit

A reconnaissance-level site visit was conducted by Elizabeth Meisman, GHD Wildlife Biologist (hereafter surveyor), on January 27, 2022 from 10:00 to 13:00. Weather during the survey included clear skies, about 51 degrees Fahrenheit, with light air to a light breeze (Beaufort scale 1-2).

The surveyor walked the entire APE along Arlington Avenue and 5th Street (**Appendix A, Figure 2**). Additionally, the surveyor walked 500 feet east and west of the APE on Van Ness Avenue, south on 5th Street, and east on Arlington Avenue. Inaccessible areas within the surrounding 500 feet of the APE were assessed visually with binoculars.

Where property access and the habitat allowed the surveyor to walk without risk of damaging nests or dens and surrounding vegetation, the survey included a physical search of the area. This included inspecting the ground, shrubs, culverts, holes, and trees for the presence of any wildlife species. Additionally, the bark of vegetation and the ground layer under vegetation were inspected for evidence of wildlife species, such as feathers, pellets, whitewash, scat, tracks, etc. Where the habitat was dense or otherwise impenetrable or inaccessible, observations were made from fixed locations. This reconnaissance-level survey was conducted to identify general wildlife resources and habitat as well as wildlife activity in the APE. No protocol-level surveys for special status wildlife were conducted at this time.

3. Results

3.1 Summary of General Biological Resources

The Project is located at the northwestern outer limits of the City of Ferndale within a residential neighborhood, undeveloped County property and along roadways. Residential homes are primarily located along Arlington Avenue. Adjacent land use includes residential, agricultural (specifically cattle grazing), a Humboldt County road maintenance yard, the Humboldt County Fairgrounds, and the Humboldt County Fairgrounds RV Park & Campground.

The Project is limited to the drainage ditches along Arlington Avenue and 5th Street. The majority of this footprint is composed of ruderal vegetation. There were several rows of planted trees along 5th Street without a shrub layer, and some landscaped vegetation on residential properties on Arlington Avenue. This includes a row of mature (approximately 20 to 30 inches diameter at breast height) Monterey pines (*Pinus radiata*). There are additional rows of mixed hardwood tree species (tree species identification was not able to be confirmed due to the lack of identifying features [e.g., leaves] during the winter when the site visit was conducted) along the eastern side of 5th Street bordering the Humboldt County Fairgrounds RV Park & Campground as well as along 5th Street northwest of the intersection with Arlington Avenue. There are no streams or rivers within the APE, nor does the APE have any hydrological connectivity within 0.5 miles.

3.2 Habitat Conservation Plans and Natural Community Conservation Plans

Habitat Conservation Plans (HCPs) and Natural Community Conservation Plans (NCCPs) are site-specific plans to address effects on sensitive species of plants and animals. The APE does not overlap any existing active or proposed HCPs or NCCPs according to a current list from the USFW (USFWS 2022b), and the CDFW list of Natural Community Conservation Plans (CDFW 2022b). No impact would result.

3.3 Critical Habitat

The APE does not overlap any federally designated critical habitat. No impact would result.

3.4 Habitat Connectivity

Wildlife corridors refer to established migration routes commonly used by resident and migratory species for passage from one geographic location to another. Maintaining the continuity of established wildlife corridors is important to: (a) sustain species with specific foraging requirements, (b) preserve a species' distribution potential, and (c) retain diversity among many wildlife populations. Therefore, resource agencies consider wildlife corridors to be a sensitive resource.

No wildlife movement corridors or regional wildlife linkages have been identified within the APE. The APE is not located within or near a "natural landscape block" identified in the California Essential Habitat Connectivity Project. The nearest natural landscape block is located approximately 17 miles east of the

APE (CDFW 2022c). The APE does not contain riparian or aquatic habitat or intersect riparian corridors. There is no direct hydrologic connectivity between the APE and off-site waterbodies, waterways or drainages. No impact on movement of native resident or migratory fish or EFH would result. No new barriers to terrestrial wildlife movement would result from the Project, and the Project would not substantially interfere with migratory birds, bats, or other species. No impact would result.

3.5 Special Status Wildlife

3.5.1 Federally-listed Wildlife Species

Thirteen federally-listed, candidate, or under review wildlife species that are regulated by the USFWS and/or the NOAA Fisheries under the federal Endangered Species Act (ESA) were identified during scoping in the Project vicinity (i.e., the six-quad search area). Based on habitat evaluations during the reconnaissance survey, and a database and literature review, it was determined that the APE does not provide suitable habitat for any of these species, and justification for exclusion from further consideration is detailed in **Table C1 (Appendix C)**.

3.5.2 State-Listed Wildlife Species

Eight state-listed wildlife species (five of which are also federally-listed) that are regulated by the CDFW under the California Endangered Species Act (CESA) were identified during scoping in the Project vicinity (i.e., the six-quad search area). Based on habitat evaluations during the reconnaissance survey, and a database and literature review, it was determined that the APE does not provide suitable habitat for any of these species, and justification for exclusion from further consideration is detailed in **Table C1 (Appendix C)**.

3.5.3 State Special Status Wildlife Species

Thirty state special status wildlife species that are regulated by the CDFW were identified during scoping in the Project vicinity (i.e., the six-quad search area). Based on habitat evaluations during the reconnaissance survey, and a database and literature review, it was determined that the APE does not provide suitable habitat for 25 of these species, and justification for exclusion from further consideration is detailed in **Table C1 (Appendix C)**. Five state special status wildlife species (specifically birds) have a moderate to high potential to occur within the APE during construction and potential impacts are discussed in **Section 4**. Wildlife Habitat Assessment within the APE

Overall, there is very limited habitat structure to support native wildlife species within the APE. The majority of wildlife species observed on-site are invasive non-natives. Based on occurrence records, habitat availability, and the reconnaissance site visit, few special status wildlife species are expected to occur within the APE. Nonetheless, trees on-site (especially the row of planted mature Monterey pines along 5th Street) and within 500 feet (including a mature grove of blue gum eucalyptus [Eucalyptus globulus] nearby within the Humboldt County Fairgrounds RV Park & Campground) may provide suitable nesting habitat for common avian species protected by the federal Migratory Bird Treaty Act (MBTA) and California Fish and Game Code (FGC). Representative photos of the APE taken on January 27, 2022 are included in **Appendix D**.

Wildlife Species Observed On-site

Little wildlife activity was observed within the APE during the January 27, 2022 reconnaissance-level site visit. Tables of all wildlife species detected during the site visit are presented in **Tables E2** and **E4 (Appendix E**). **Table 3** is a list of avian breeding codes, associated bird behaviour, and breeding status. **Tables E2** and **E4** are not intended to be comprehensive lists of all species that could occur within the APE (the site visit was conducted in the winter when many neotropical migratory birds known to breed in the local region would be not be present). In addition, no protocol level surveys have been conducted.

4. Potential Impacts to Special Status Wildlife and Proposed Avoidance and Mitigation Measures

4.1.1 Special Status Mammals

Given the lack of suitable habitat, no special status mammals have a moderate or high potential to occur within the APE. Therefore, no measures are proposed at this time to offset potential impacts because these special status species are unlikely to be impacted by the Project.

4.1.2 Special Status and Nesting Birds

Five state special status birds were found to have a moderate or high potential to occur within the APE, either for foraging or nesting, or both. If state special status and/or native migratory birds are nesting in the APE, or within 500 feet during construction activities, these species may be impacted by removal of nesting habitat, elevated levels of noise, and anthropogenic disturbance. To protect nesting special status birds, as well as native migratory bird species that are nesting, the following measure is recommended for inclusion into environmental documentation to reduce potential impacts to said species.

Measure BIO-1: Protect Special Status, Migratory and Nesting Birds

Ground disturbance and vegetation clearing shall be conducted, if possible, during the fall and/or winter months and outside of the avian nesting season (which is generally assumed to occur between March 15 – August 15) to avoid any direct effects to special-status and protected birds. If ground disturbance or vegetation clearing cannot be confined to the fall and/or winter outside of the nesting season, a qualified ornithologist shall conduct pre-construction surveys within the vicinity of the APE, to check for nesting activity of native birds and to evaluate the site for presence of raptors and special status bird species. The ornithologist shall conduct at minimum a one-day pre-construction survey within the seven-day period prior to vegetation removal and ground-disturbing activities. If ground disturbance and vegetation removal work lapses for seven days or longer during the nesting season, a qualified ornithologist shall conduct a supplemental avian pre-construction survey before Project work is reinitiated.

If active nests are detected within the construction footprint, or within 500 feet of construction activities, the ornithologist shall flag a buffer around each nest. Construction activities shall avoid nest sites until the ornithologist determines that the young have fledged or nesting activity has ceased. If nests are documented outside of the construction (disturbance) footprint, but within 500 feet of the construction area, buffers would be implemented as needed. In general, the buffer size for common species would be determined on a case-by-case basis in consultation with the CDFW and, if applicable, with USFWS. Buffer sizes would take into account factors such as (1) noise and human disturbance levels at the construction site at the time of the survey and the noise and disturbance expected during the construction activity; (2) distance and amount of vegetation or other screening between the construction site and the nest; and (3) sensitivity of individual nesting species and behaviors of the nesting birds.

If active nests are detected during the survey, the qualified ornithologist shall monitor all nests at least once per week to determine whether birds are being disturbed. Activities that might, in the opinion of the qualified ornithologist, disturb nesting activities (e.g., excessive noise), shall be prohibited within the buffer zone until such a determination is made. If signs of disturbance or distress are observed, the qualified ornithologist shall immediately implement adaptive measures to reduce disturbance. These measures may include, but are not limited to, increasing buffer size, halting disruptive construction activities in the vicinity of the nest until fledging is confirmed or nesting activity has ceased, placement of visual screens or sound dampening structures between the nest and construction activity, reducing speed limits, replacing and updating noisy equipment, queuing trucks to distribute idling noise, locating vehicle access points and loading and shipping facilities away from noise-sensitive receptors, reducing the number of noisy construction activities occurring simultaneously, and/or reorienting and/or relocating construction equipment to minimize noise at noise-sensitive receptors.

With inclusion of Measure BIO-1, potential impacts to special status nesting birds and/or native migratory nesting birds will either be avoided or reduced to a less-than-significant level.

4.1.3 Special Status Amphibians

No special status amphibians have a moderate or high potential to occur within the APE given the lack of suitable habitat. Therefore, no measures are proposed at this time to offset potential impacts because these special status species are unlikely to be impacted by the Project.

4.1.4 Special Status Reptiles

No special status reptiles have a moderate or high potential to occur within the APE given the lack of suitable habitat. Therefore, no measures are proposed at this time to offset potential impacts because these special status species are unlikely to be impacted by the Project.

4.1.5 Special Status Fish

No special status fish have a moderate or high potential to occur within the APE given the lack of suitable perennial aquatic habitat. Therefore, no measures are proposed at this time to offset potential impacts because these special status species are unlikely to be impacted by the Project.

4.1.6 Special Status Insects

No special status insects have a moderate or high potential to occur within the APE due to the rarity of the species on the landscape. No considerable areas of nesting or foraging habitat (large areas of nectar plants) are planned for clearing/grubbing or excavation on this Project. Therefore, no measures are proposed at this time to offset potential impacts because these special status species are unlikely to be impacted by the Project.

5. Conclusion

Based on occurrence records, habitat availability, and the reconnaissance-level site visit, no federally- or state-listed special status wildlife species are expected to occur within the APE. Nonetheless, five state special status birds, as well as native migratory birds, may forage or nest within the APE or the surrounding 500 feet. With implementation of proposed avoidance and minimization measures (specifically, Mitigation Measure BIO-1), impacts will be avoided or reduced to less-than-significant levels.

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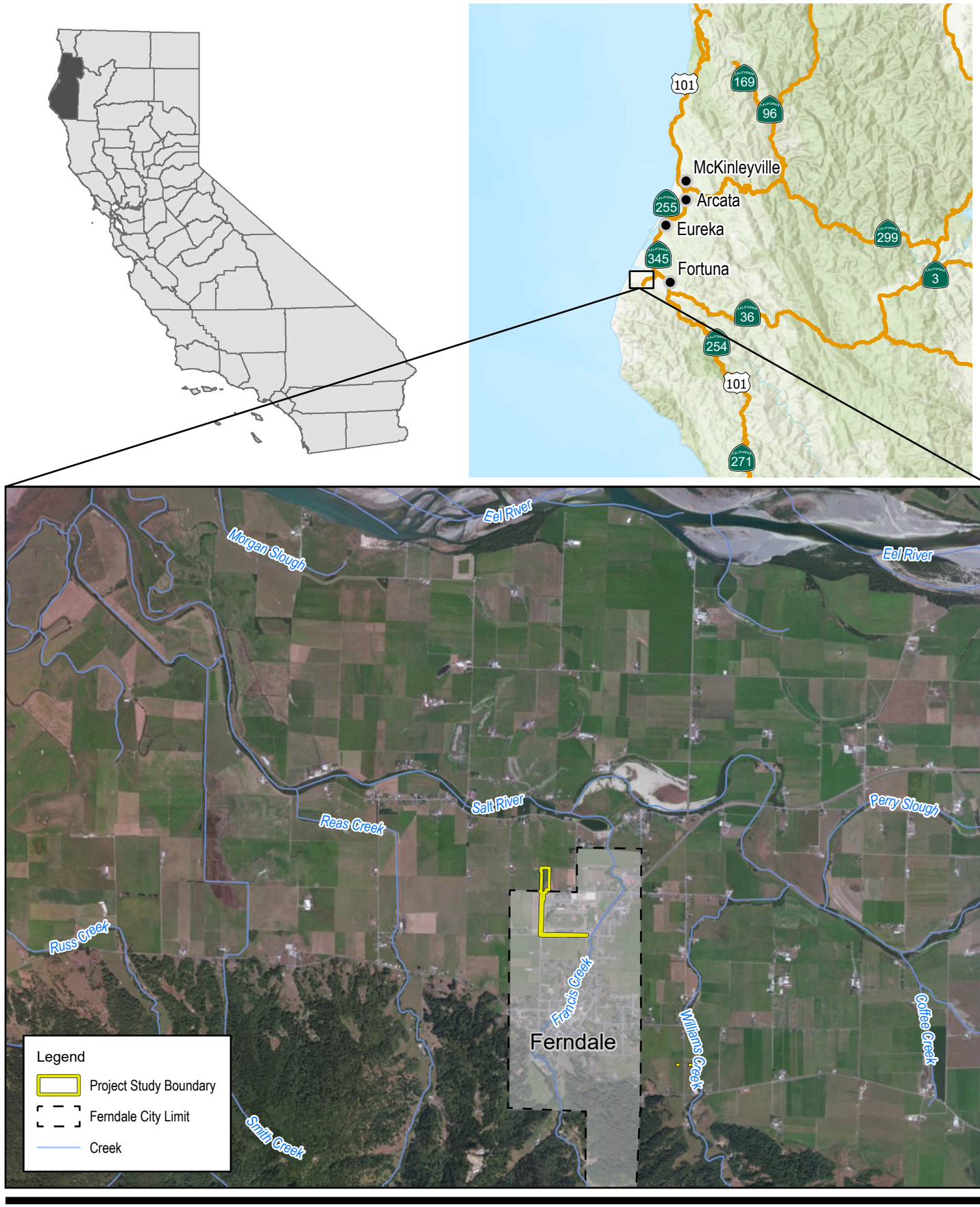
Appendices

Appendix A

Figures



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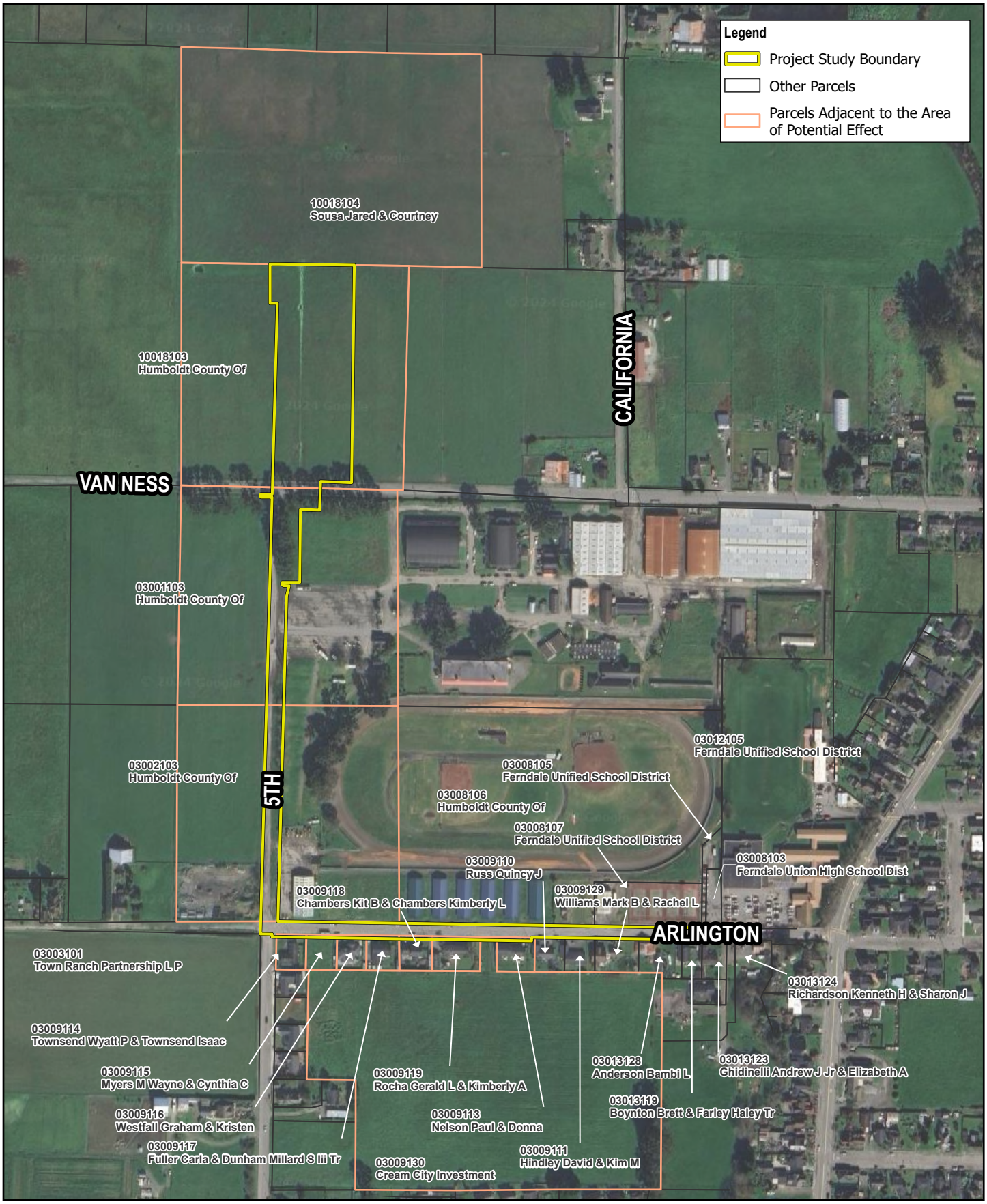
GHD

City of Ferndale
Ferndale Drainage Project

Project No. **12638533**
Revision No. **-**
Date **Oct 2024**

Project Vicinity

FIGURE 1



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City of Ferndale
Biological Memo

Project No. 12638533
Revision No. -
Date Oct 2024

Area of Potential Effect

FIGURE 2

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City of Ferndale
Biological Memo

Project No. **12638533**
Revision No. **-**
Date **Oct 2024**

California Native Diversity Database

FIGURE 3

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Data source: California Natural Diversity Database, Google Maps Sat; © OpenStreetMap (and) contributors, CC-BY-SA. Created by: mhargrave

Appendix B

Database Searches (CNDD, NOAA Fisheries, IPaC, EFH Mapper Report)

Ferndale Drainage Project - 6-quad Database Search of the CDFW California Natural Diversity Database (CNDDB) centered on the project quadrangle (Ferndale) and surrounding five quadrangles (Capetown, Taylor Peak, Fortuna, Fields Landing, Cannibal Island) on 01.18.2022.										
SciName	**ComName**	**Taxon Group**	**FedList**	**CalList**	**GRank**	**SRank**	**Other Status**	**Habitats**	**GenHab**	**MicroHab**
Ascaphus truei	Pacific tailed frog	Amphibians	None	None	G4	S3S4	CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern	Aquatic | Klamath/North coast flowing waters | Lower montane coniferous forest | North coast coniferous forest | Redwood | Riparian forest	Occurs in montane hardwood-conifer, redwood, Douglas-fir and ponderosa pine habitats.	Restricted to perennial montane streams. Tadpoles require water below 15 degrees C.
Rana aurora	northern red-legged frog	Amphibians	None	None	G4	S3	CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern | USFS_S-Sensitive	Klamath/North coast flowing waters | Riparian forest | Riparian woodland	Humid forests, woodlands, grasslands, and streamsides in northwestern California, usually near dense riparian cover.	Generally near permanent water, but can be found far from water, in damp woods and meadows, during non-breeding season.

Rana boylii	foothill yellow-legged frog	Amphibians	None	Endangered	G3	S3	BLM_S-Sensitive | CDFW_SSC-Species of Special Concern | IUCN_NT-Near Threatened | USFS_S-Sensitive	Aquatic | Chaparral | Cismontane woodland | Coastal scrub | Klamath/North coast flowing waters | Lower montane coniferous forest | Meadow & seep | Riparian forest | Riparian woodland | Sacramento/San Joaquin flowing waters	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.
Rhyacotriton variegatus	southern torrent salamander	Amphibians	None	None	G3G4	S2S3	CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern | USFS_S-Sensitive	Lower montane coniferous forest | Oldgrowth | Redwood | Riparian forest	Coastal redwood, Douglas-fir, mixed conifer, montane riparian, and montane hardwood-conifer habitats. Old growth forest.	Cold, well-shaded, permanent streams and seepages, or within splash zone or on moss-covered rocks within trickling water.

Accipiter cooperii	Cooper's hawk	Birds	None	None	G5	S4	CDFW_WL-Watch List | IUCN_LC-Least Concern	Cismontane woodland | Riparian forest | Riparian woodland | Upper montane coniferous forest	Woodland, chiefly of open, interrupted or marginal type.	Nest sites mainly in riparian growths of deciduous trees, as in canyon bottoms on river flood-plains; also, live oaks.
Accipiter striatus	sharp-shinned hawk	Birds	None	None	G5	S4	CDFW_WL-Watch List | IUCN_LC-Least Concern	Cismontane woodland | Lower montane coniferous forest | Riparian forest | Riparian woodland	Ponderosa pine, black oak, riparian deciduous, mixed conifer, and Jeffrey pine habitats. Prefers riparian areas.	North-facing slopes with plucking perches are critical requirements. Nests usually within 275 ft of water.

Agelaius tricolor	tricolored blackbird	Birds	None	Threatened	G1G2	S1S2	BLM_S-Sensitive | CDFW_SSC-Species of Special Concern | IUCN_EN-Endangered | NABCI_RWL-Red Watch List | USFWS_BCC-Birds of Conservation Concern	Freshwater marsh | Marsh & swamp | Swamp | Wetland	Highly colonial species, most numerous in Central Valley and vicinity. Largely endemic to California.	Requires open water, protected nesting substrate, and foraging area with insect prey within a few km of the colony.
Ammodramus savannarum	grasshopper sparrow	Birds	None	None	G5	S3	CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern	Valley & foothill grassland	Dense grasslands on rolling hills, lowland plains, in valleys and on hillsides on lower mountain slopes.	Favors native grasslands with a mix of grasses, forbs and scattered shrubs. Loosely colonial when nesting.

Aquila chrysaetos	golden eagle	Birds	None	None	G5	S3	BLM_S-Sensitive | CDF_S-Sensitive | CDFW_FP-Fully Protected | CDFW_WL-Watch List | IUCN_LC-Least Concern | USFWS_BCC-Birds of Conservation Concern	Broadleaved upland forest | Cismontane woodland | Coastal prairie | Great Basin grassland | Great Basin scrub | Lower montane coniferous forest | Pinon & juniper woodlands | Upper montane coniferous forest | Valley & foothill grassland	Rolling foothills, mountain areas, sage-juniper flats, and desert.	Cliff-walled canyons provide nesting habitat in most parts of range; also, large trees in open areas.
Ardea alba	great egret	Birds	None	None	G5	S4	CDF_S-Sensitive | IUCN_LC-Least Concern	Brackish marsh | Estuary | Freshwater marsh | Marsh & swamp | Riparian forest | Wetland	Colonial nester in large trees.	Rookery sites located near marshes, tide-flats, irrigated pastures, and margins of rivers and lakes.
Ardea herodias	great blue heron	Birds	None	None	G5	S4	CDF_S-Sensitive | IUCN_LC-Least Concern	Brackish marsh | Estuary | Freshwater marsh | Marsh & swamp | Riparian forest | Wetland	Colonial nester in tall trees, cliffsides, and sequestered spots on marshes.	Rookery sites in close proximity to foraging areas: marshes, lake margins, tide-flats, rivers and streams, wet meadows.

Charadrius montanus	mountain plover	Birds	None	None	G3	S2S3	BLM_S-Sensitive | CDFW_SSC-Species of Special Concern | IUCN_NT-Near Threatened | NABCI_RWL-Red Watch List | USFWS_BCC-Birds of Conservation Concern	Chenopod scrub | Valley & foothill grassland	Short grasslands, freshly plowed fields, newly sprouting grain fields, and sometimes sod farms.	Short vegetation, bare ground, and flat topography. Prefers grazed areas and areas with burrowing rodents.
Charadrius nivosus nivosus	western snowy plover	Birds	Threatened	None	G3T3	S2	CDFW_SSC-Species of Special Concern | NABCI_RWL-Red Watch List | USFWS_BCC-Birds of Conservation Concern	Great Basin standing waters | Sand shore | Wetland	Sandy beaches, salt pond levees and shores of large alkali lakes.	Needs sandy, gravelly or friable soils for nesting.

Coccyzus americanus occidentalis	western yellow-billed cuckoo	Birds	Threatened	Endangered	G5T2T3	S1	BLM_S-Sensitive | NABCI_RWL-Red Watch List | USFS_S-Sensitive | USFWS_BCC-Birds of Conservation Concern	Riparian forest	Riparian forest nester, along the broad, lower flood-bottoms of larger river systems.	Nests in riparian jungles of willow, often mixed with cottonwoods, with lower story of blackberry, nettles, or wild grape.
Coturnicops noveboracensis	yellow rail	Birds	None	None	G4	S1S2	CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern | NABCI_RWL-Red Watch List | USFS_S-Sensitive | USFWS_BCC-Birds of Conservation Concern	Freshwater marsh | Meadow & seep	Summer resident in eastern Sierra Nevada in Mono County.	Freshwater marshlands.

Egretta thula	snowy egret	Birds	None	None	G5	S4	IUCN_LC-Least Concern	Marsh & swamp | Meadow & seep | Riparian forest | Riparian woodland | Wetland	Colonial nester, with nest sites situated in protected beds of dense tules.	Rookery sites situated close to foraging areas: marshes, tidal-flats, streams, wet meadows, and borders of lakes.
Haliaeetus leucocephalus	bald eagle	Birds	Delisted	Endangered	G5	S3	BLM_S-Sensitive | CDF_S-Sensitive | CDFW_FP-Fully Protected | IUCN_LC-Least Concern | USFS_S-Sensitive | USFWS_BCC-Birds of Conservation Concern	Lower montane coniferous forest | Oldgrowth	Ocean shore, lake margins, and rivers for both nesting and wintering. Most nests within 1 mile of water.	Nests in large, old-growth, or dominant live tree with open branches, especially ponderosa pine. Roosts communally in winter.
Nycticorax nycticorax	black-crowned night heron	Birds	None	None	G5	S4	IUCN_LC-Least Concern	Marsh & swamp | Riparian forest | Riparian woodland | Wetland	Colonial nester, usually in trees, occasionally in tule patches.	Rookery sites located adjacent to foraging areas: lake margins, mud-bordered bays, marshy spots.

Pandion haliaetus	osprey	Birds	None	None	G5	S4	CDF_S-Sensitive | CDFW_WL-Watch List | IUCN_LC-Least Concern	Riparian forest	Ocean shore, bays, freshwater lakes, and larger streams.	Large nests built in tree-tops within 15 miles of a good fish-producing body of water.
Riparia riparia	bank swallow	Birds	None	Threatened	G5	S2	BLM_S-Sensitive | IUCN_LC-Least Concern	Riparian scrub | Riparian woodland	Colonial nester; nests primarily in riparian and other lowland habitats west of the desert.	Requires vertical banks/cliffs with fine-textured/sandy soils near streams, rivers, lakes, ocean to dig nesting hole.
Acipenser medirostris	green sturgeon	Fish	None	None	G3	S1	AFS_VU-Vulnerable | CDFW_SSC-Species of Special Concern | IUCN_NT-Near Threatened | NMFS_SC-Species of Concern	Aquatic | Klamath/North coast flowing waters | Sacramento/San Joaquin flowing waters	These are the most marine species of sturgeon. Abundance increases northward of Point Conception. Spawns in the Sacramento, Klamath, and Trinity Rivers.	Spawns at temps between 8-14 C. Preferred spawning substrate is large cobble, but can range from clean sand to bedrock.

Entosphenus tridentatus	Pacific lamprey	Fish	None	None	G4	S3	AFS_VU-Vulnerable | BLM_S-Sensitive | CDFW_SSC-Species of Special Concern | USFS_S-Sensitive	Aquatic | Klamath/North coast flowing waters | Sacramento/San Joaquin flowing waters | South coast flowing waters	Found in Pacific Coast streams north of San Luis Obispo County, however regular runs in Santa Clara River. Size of runs is declining.	Swift-current gravel-bottomed areas for spawning with water temps between 12-18 C. Ammocoetes need soft sand or mud.
Eucyclogobius newberryi	tidewater goby	Fish	Endangered	None	G3	S3	AFS_EN-Endangered | IUCN_VU-Vulnerable	Aquatic | Klamath/North coast flowing waters | Sacramento/San Joaquin flowing waters | South coast flowing waters	Brackish water habitats along the California coast from Agua Hedionda Lagoon, San Diego County to the mouth of the Smith River.	Found in shallow lagoons and lower stream reaches, they need fairly still but not stagnant water and high oxygen levels.
Lampetra richardsoni	western brook lamprey	Fish	None	None	G4G5	S3S4	CDFW_SSC-Species of Special Concern | USFS_S-Sensitive			

Oncorhynchus clarkii clarkii	coast cutthroat trout	Fish	None	None	G5T4	S3	AFS_VU-Vulnerable | CDFW_SSC-Species of Special Concern | USFS_S-Sensitive	Aquatic | Klamath/North coast flowing waters	Small coastal streams from the Eel River to the Oregon border.	Small, low gradient coastal streams and estuaries. Needs shaded streams with water temperatures <18C, and small gravel for spawning.
Oncorhynchus kisutch pop. 2	coho salmon - southern Oregon / northern California ESU	Fish	Threatened	Threatened	G5T2Q	S2	AFS_TH-Threatened	Aquatic | Klamath/North coast flowing waters | Sacramento/San Joaquin flowing waters	Federal listing refers to populations between Cape Blanco, Oregon and Punta Gorda, Humboldt County, California.	State listing refers to populations between the Oregon border and Punta Gorda, California.
Oncorhynchus mykiss irideus pop. 16	steelhead - northern California DPS	Fish	Threatened	None	G5T2T3Q	S2S3	AFS_TH-Threatened	Aquatic | Sacramento/San Joaquin flowing waters	Coastal basins from Redwood Creek south to the Gualala River, inclusive. Does not include summer-run steelhead.	

Spirinchus thaleichthys	longfin smelt	Fish	Candidate	Threatened	G5	S1		Aquatic | Estuary	Euryhaline, nektonic and anadromous. Found in open waters of estuaries, mostly in middle or bottom of water column.	Prefer salinities of 15-30 ppt, but can be found in completely freshwater to almost pure seawater.
Thaleichthys pacificus	eulachon	Fish	Threatened	None	G5	S2		Aquatic | Klamath/North coast flowing waters	Found in Klamath River, Mad River, Redwood Creek, and in small numbers in Smith River and Humboldt Bay tributaries.	Spawn in lower reaches of coastal rivers with moderate water velocities and bottom of pea-sized gravel, sand, and woody debris.
Bombus caliginosus	obscure bumble bee	Insects	None	None	G4?	S1S2	IUCN_VU-Vulnerable		Coastal areas from Santa Barbara County to north to Washington state.	Food plant genera include Baccharis, Cirsium, Lupinus, Lotus, Grindelia and Phacelia.

Bombus occidentalis	western bumble bee	Insects	None	None	G2G3	S1	USFS_S-Sensitive		Once common and widespread, species has declined precipitously from central CA to southern B.C., perhaps from disease.	
Antrozous pallidus	pallid bat	Mammals	None	None	G4	S3	BLM_S-Sensitive | CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern | USFS_S-Sensitive | WBWG_H-High Priority	Chaparral | Coastal scrub | Desert wash | Great Basin grassland | Great Basin scrub | Mojavean desert scrub | Riparian woodland | Sonoran desert scrub | Upper montane coniferous forest | Valley & foothill grassland	Deserts, grasslands, shrublands, woodlands and forests. Most common in open, dry habitats with rocky areas for roosting.	Roosts must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.

Aplodontia rufa humboldtiana	Humboldt mountain beaver	Mammals	None	None	G5TNR	SNR		Coastal scrub | Redwood | Riparian forest	Coast Range in southwestern Del Norte County and northwestern Humboldt County.	Variety of coastal habitats, including coastal scrub, riparian forests, typically with open canopy and thickly vegetated understory.
Arborimus pomo	Sonoma tree vole	Mammals	None	None	G3	S3	CDFW_SSC-Species of Special Concern | IUCN_NT-Near Threatened	North coast coniferous forest | Oldgrowth | Redwood	North coast fog belt from Oregon border to Somona County. In Douglas-fir, redwood and montane hardwood-conifer forests.	Feeds almost exclusively on Douglas-fir needles. Will occasionaly take needles of grand fir, hemlock or spruce.

Corynorhinus townsendii	Townsend's big-eared bat	Mammals	None	None	G4	S2	BLM_S-Sensitive | CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern | USFS_S-Sensitive | WBWG_H-High Priority	Broadleaved upland forest | Chaparral | Chenopod scrub | Great Basin grassland | Great Basin scrub | Joshua tree woodland | Lower montane coniferous forest | Meadow & seep | Mojavean desert scrub | Riparian forest | Riparian woodland | Sonoran desert scrub | Sonoran thorn woodland | Upper montane coniferous forest | Valley & foothill grassland	Throughout California in a wide variety of habitats. Most common in mesic sites.	Roosts in the open, hanging from walls and ceilings. Roosting sites limiting. Extremely sensitive to human disturbance.

Erethizon dorsatum	North American porcupine	Mammals	None	None	G5	S3	IUCN_LC-Least Concern	Broadleaved upland forest | Cismontane woodland | Closed-cone coniferous forest | Lower montane coniferous forest | North coast coniferous forest | Upper montane coniferous forest	Forested habitats in the Sierra Nevada, Cascade, and Coast ranges, with scattered observations from forested areas in the Transverse Ranges.	Wide variety of coniferous and mixed woodland habitat.
Lasiurus cinereus	hoary bat	Mammals	None	None	G3G4	S4	IUCN_LC-Least Concern | WBWG_M-Medium Priority	Broadleaved upland forest | Cismontane woodland | Lower montane coniferous forest | North coast coniferous forest	Prefers open habitats or habitat mosaics, with access to trees for cover and open areas or habitat edges for feeding.	Roosts in dense foliage of medium to large trees. Feeds primarily on moths. Requires water.
Pekania pennanti	Fisher	Mammals	None	None	G5	S2S3	BLM_S-Sensitive | CDFW_SSC-Species of Special Concern | USFS_S-Sensitive	North coast coniferous forest | Oldgrowth | Riparian forest	Intermediate to large-tree stages of coniferous forests and deciduous-riparian areas with high percent canopy closure.	Uses cavities, snags, logs and rocky areas for cover and denning. Needs large areas of mature, dense forest.

Anodonta californiensis	California floater	Mollusks	None	None	G3Q	S2?	USFS_S-Sensitive	Aquatic	Freshwater lakes and slow-moving streams and rivers. Taxonomy under review by specialists.	Generally in shallow water.
Margaritifera falcata	western pearlshell	Mollusks	None	None	G4G5	S1S2		Aquatic	Aquatic.	Prefers lower velocity waters.
Emys marmorata	western pond turtle	Reptiles	None	None	G3G4	S3	BLM_S-Sensitive | CDFW_SSC-Species of Special Concern | IUCN_VU-Vulnerable | USFS_S-Sensitive	Aquatic | Artificial flowing waters | Klamath/North coast flowing waters | Klamath/North coast standing waters | Marsh & swamp | Sacramento/San Joaquin flowing waters | Sacramento/San Joaquin standing waters | South coast flowing waters | South coast standing waters | Wetland	A thoroughly aquatic turtle of ponds, marshes, rivers, streams and irrigation ditches, usually with aquatic vegetation, below 6000 ft elevation.	Needs basking sites and suitable (sandy banks or grassy open fields) upland habitat up to 0.5 km from water for egg-laying.

Ferndale Drainage Project - 6-quad Database Search of the NOAA Fisheries West Coast Region California Species List Tool centered on the project quadrangle (Ferndale) and covering the surrounding five quadrangles (Capetown, Taylor Peak, Fortuna, Fields Landing, Cannibal Island) on 01.18.2022.

Quad Name **Ferndale**

Quad Number **40124-E3**

1. ESA Anadromous Fish

SONCC Coho ESU (T) - **X**
CCC Coho ESU (E) -
CC Chinook Salmon ESU (T) - **X**
CVSR Chinook Salmon ESU (T) -
SRWR Chinook Salmon ESU (E) -
NC Steelhead DPS (T) - **X**
CCC Steelhead DPS (T) -
SCCC Steelhead DPS (T) -
SC Steelhead DPS (E) -
CCV Steelhead DPS (T) -
Eulachon (T) -
sDPS Green Sturgeon (T) - **X**

2. ESA Anadromous Fish Critical Habitat

SONCC Coho Critical Habitat - **X**
CCC Coho Critical Habitat -
CC Chinook Salmon Critical Habitat - **X**
CVSR Chinook Salmon Critical Habitat -
SRWR Chinook Salmon Critical Habitat -
NC Steelhead Critical Habitat - **X**
CCC Steelhead Critical Habitat -
SCCC Steelhead Critical Habitat -
SC Steelhead Critical Habitat -
CCV Steelhead Critical Habitat -
Eulachon Critical Habitat -
sDPS Green Sturgeon Critical Habitat - **X**

3. ESA Marine Invertebrates

Range Black Abalone (E) -
Range White Abalone (E) -

4. **ESA Marine Invertebrates Critical Habitat**

Black Abalone Critical Habitat -

5. **ESA Sea Turtles**

East Pacific Green Sea Turtle (T) - X
Olive Ridley Sea Turtle (T/E) - X
Leatherback Sea Turtle (E) - X
North Pacific Loggerhead Sea Turtle (E) -

6. **ESA Whales**

Blue Whale (E) - X
Fin Whale (E) - X
Humpback Whale (E) - X
Southern Resident Killer Whale (E) - X
North Pacific Right Whale (E) - X
Sei Whale (E) - X
Sperm Whale (E) - X

7. **ESA Pinnipeds**

Guadalupe Fur Seal (T) -
Steller Sea Lion Critical Habitat -

8. **Essential Fish Habitat**

Coho EFH - X
Chinook Salmon EFH - X
Groundfish EFH - X
Coastal Pelagics EFH - X
Highly Migratory Species EFH -

9. **MMPA Species (See list at left)**
10. **ESA and MMPA Cetaceans/Pinnipeds**

See list at left and consult the NMFS Long Beach office 562-980-4000

MMPA Cetaceans - X

MMPA Pinnipeds - **X**
Quad Name **Cannibal Island**
Quad Number **40124-F3**

11. ESA Anadromous Fish

SONCC Coho ESU (T) - **X**
CCC Coho ESU (E) -
CC Chinook Salmon ESU (T) - **X**
CVSR Chinook Salmon ESU (T) -
SRWR Chinook Salmon ESU (E) -
NC Steelhead DPS (T) - **X**
CCC Steelhead DPS (T) -
SCCC Steelhead DPS (T) -
SC Steelhead DPS (E) -
CCV Steelhead DPS (T) -
Eulachon (T) -
sDPS Green Sturgeon (T) - **X**

12. ESA Anadromous Fish Critical Habitat

SONCC Coho Critical Habitat - **X**
CCC Coho Critical Habitat -
CC Chinook Salmon Critical Habitat - **X**
CVSR Chinook Salmon Critical Habitat -
SRWR Chinook Salmon Critical Habitat -
NC Steelhead Critical Habitat - **X**
CCC Steelhead Critical Habitat -
SCCC Steelhead Critical Habitat -
SC Steelhead Critical Habitat -
CCV Steelhead Critical Habitat -
Eulachon Critical Habitat -
sDPS Green Sturgeon Critical Habitat - **X**

13. ESA Marine Invertebrates

Range Black Abalone (E) -
Range White Abalone (E) -

14. ESA Marine Invertebrates Critical Habitat

Black Abalone Critical Habitat -

15. **ESA Sea Turtles**

East Pacific Green Sea Turtle (T) - X
Olive Ridley Sea Turtle (T/E) - X
Leatherback Sea Turtle (E) - X
North Pacific Loggerhead Sea Turtle (E) -

16. **ESA Whales**

Blue Whale (E) - X
Fin Whale (E) - X
Humpback Whale (E) - X
Southern Resident Killer Whale (E) - X
North Pacific Right Whale (E) - X
Sei Whale (E) - X
Sperm Whale (E) - X

17. **ESA Pinnipeds**

Guadalupe Fur Seal (T) -
Steller Sea Lion Critical Habitat -

18. **Essential Fish Habitat**

Coho EFH - X
Chinook Salmon EFH - X
Groundfish EFH - X
Coastal Pelagics EFH - X
Highly Migratory Species EFH -

19. **MMPA Species (See list at left)**
20. **ESA and MMPA Cetaceans/Pinnipeds**

See list at left and consult the NMFS Long Beach office 562-980-4000

MMPA Cetaceans - X
MMPA Pinnipeds - X
Quad Name **Fields Landing**

Quad Number **40124-F2**

21. ESA Anadromous Fish

SONCC Coho ESU (T) - **X**
CCC Coho ESU (E) -
CC Chinook Salmon ESU (T) - **X**
CVSR Chinook Salmon ESU (T) -
SRWR Chinook Salmon ESU (E) -
NC Steelhead DPS (T) - **X**
CCC Steelhead DPS (T) -
SCCC Steelhead DPS (T) -
SC Steelhead DPS (E) -
CCV Steelhead DPS (T) -
Eulachon (T) -
sDPS Green Sturgeon (T) - **X**

22. ESA Anadromous Fish Critical Habitat

SONCC Coho Critical Habitat - **X**
CCC Coho Critical Habitat -
CC Chinook Salmon Critical Habitat - **X**
CVSR Chinook Salmon Critical Habitat -
SRWR Chinook Salmon Critical Habitat -
NC Steelhead Critical Habitat - **X**
CCC Steelhead Critical Habitat -
SCCC Steelhead Critical Habitat -
SC Steelhead Critical Habitat -
CCV Steelhead Critical Habitat -
Eulachon Critical Habitat -
sDPS Green Sturgeon Critical Habitat - **X**

23. ESA Marine Invertebrates

Range Black Abalone (E) -
Range White Abalone (E) -

24. ESA Marine Invertebrates Critical Habitat

Black Abalone Critical Habitat -

25. **ESA Sea Turtles**

East Pacific Green Sea Turtle (T) - X
Olive Ridley Sea Turtle (T/E) - X
Leatherback Sea Turtle (E) - X
North Pacific Loggerhead Sea Turtle (E) -

26. **ESA Whales**

Blue Whale (E) - X
Fin Whale (E) - X
Humpback Whale (E) - X
Southern Resident Killer Whale (E) - X
North Pacific Right Whale (E) - X
Sei Whale (E) - X
Sperm Whale (E) - X

27. **ESA Pinnipeds**

Guadalupe Fur Seal (T) -
Steller Sea Lion Critical Habitat -

28. **Essential Fish Habitat**

Coho EFH - X
Chinook Salmon EFH - X
Groundfish EFH - X
Coastal Pelagics EFH - X
Highly Migratory Species EFH -

29. **MMPA Species (See list at left)**
30. **ESA and MMPA Cetaceans/Pinnipeds**

See list at left and consult the NMFS Long Beach office 562-980-4000

MMPA Cetaceans - X
MMPA Pinnipeds - X
Quad Name **Fortuna**
Quad Number **40124-E2**

31. ESA Anadromous Fish

SONCC Coho ESU (T) - X
CCC Coho ESU (E) -
CC Chinook Salmon ESU (T) - X
CVSR Chinook Salmon ESU (T) -
SRWR Chinook Salmon ESU (E) -
NC Steelhead DPS (T) - X
CCC Steelhead DPS (T) -
SCCC Steelhead DPS (T) -
SC Steelhead DPS (E) -
CCV Steelhead DPS (T) -
Eulachon (T) -
sDPS Green Sturgeon (T) -

32. ESA Anadromous Fish Critical Habitat

SONCC Coho Critical Habitat - X
CCC Coho Critical Habitat -
CC Chinook Salmon Critical Habitat - X
CVSR Chinook Salmon Critical Habitat -
SRWR Chinook Salmon Critical Habitat -
NC Steelhead Critical Habitat - X
CCC Steelhead Critical Habitat -
SCCC Steelhead Critical Habitat -
SC Steelhead Critical Habitat -
CCV Steelhead Critical Habitat -
Eulachon Critical Habitat -
sDPS Green Sturgeon Critical Habitat -

33. ESA Marine Invertebrates

Range Black Abalone (E) -
Range White Abalone (E) -

34. ESA Marine Invertebrates Critical Habitat

Black Abalone Critical Habitat -

35. ESA Sea Turtles

East Pacific Green Sea Turtle (T) -
Olive Ridley Sea Turtle (T/E) -
Leatherback Sea Turtle (E) -
North Pacific Loggerhead Sea Turtle (E) -

36. ESA Whales

Blue Whale (E) -
Fin Whale (E) -
Humpback Whale (E) -
Southern Resident Killer Whale (E) -
North Pacific Right Whale (E) -
Sei Whale (E) -
Sperm Whale (E) -

37. ESA Pinnipeds

Guadalupe Fur Seal (T) -
Steller Sea Lion Critical Habitat -

38. Essential Fish Habitat

Coho EFH - **X**
Chinook Salmon EFH - **X**
Groundfish EFH - **X**
Coastal Pelagics EFH - **X**
Highly Migratory Species EFH -

39. MMPA Species (See list at left)

40. ESA and MMPA Cetaceans/Pinnipeds

See list at left and consult the NMFS Long Beach office 562-980-4000

MMPA Cetaceans -
MMPA Pinnipeds -

Quad Name **Taylor Peak**
Quad Number **40124-D2**

41. ESA Anadromous Fish

SONCC Coho ESU (T) - X
CCC Coho ESU (E) -
CC Chinook Salmon ESU (T) - X
CVSR Chinook Salmon ESU (T) -
SRWR Chinook Salmon ESU (E) -
NC Steelhead DPS (T) - X
CCC Steelhead DPS (T) -
SCCC Steelhead DPS (T) -
SC Steelhead DPS (E) -
CCV Steelhead DPS (T) -
Eulachon (T) -
sDPS Green Sturgeon (T) -

42. ESA Anadromous Fish Critical Habitat

SONCC Coho Critical Habitat - X
CCC Coho Critical Habitat -
CC Chinook Salmon Critical Habitat - X
CVSR Chinook Salmon Critical Habitat -
SRWR Chinook Salmon Critical Habitat -
NC Steelhead Critical Habitat - X
CCC Steelhead Critical Habitat -
SCCC Steelhead Critical Habitat -
SC Steelhead Critical Habitat -
CCV Steelhead Critical Habitat -
Eulachon Critical Habitat -
sDPS Green Sturgeon Critical Habitat -

43. ESA Marine Invertebrates

Range Black Abalone (E) -
Range White Abalone (E) -

44. ESA Marine Invertebrates Critical Habitat

Black Abalone Critical Habitat -

45. ESA Sea Turtles

East Pacific Green Sea Turtle (T) -
Olive Ridley Sea Turtle (T/E) -

Leatherback Sea Turtle (E) -
North Pacific Loggerhead Sea Turtle (E) -

46. ESA Whales

Blue Whale (E) -
Fin Whale (E) -
Humpback Whale (E) -
Southern Resident Killer Whale (E) -
North Pacific Right Whale (E) -
Sei Whale (E) -
Sperm Whale (E) -

47. ESA Pinnipeds

Guadalupe Fur Seal (T) -
Steller Sea Lion Critical Habitat -

48. Essential Fish Habitat

Coho EFH - **X**
Chinook Salmon EFH - **X**
Groundfish EFH -
Coastal Pelagics EFH -
Highly Migratory Species EFH -

49. MMPA Species (See list at left)

50. ESA and MMPA Cetaceans/Pinnipeds

See list at left and consult the NMFS Long Beach office 562-980-4000

MMPA Cetaceans -
MMPA Pinnipeds -

Quad Name **Capetown**
Quad Number **40124-D3**

51. ESA Anadromous Fish

SONCC Coho ESU (T) - **X**

CCC Coho ESU (E) -
CC Chinook Salmon ESU (T) - X
CVSR Chinook Salmon ESU (T) -
SRWR Chinook Salmon ESU (E) -
NC Steelhead DPS (T) - X
CCC Steelhead DPS (T) -
SCCC Steelhead DPS (T) -
SC Steelhead DPS (E) -
CCV Steelhead DPS (T) -
Eulachon (T) -
sDPS Green Sturgeon (T) - X

52. ESA Anadromous Fish Critical Habitat

SONCC Coho Critical Habitat - X
CCC Coho Critical Habitat -
CC Chinook Salmon Critical Habitat - X
CVSR Chinook Salmon Critical Habitat -
SRWR Chinook Salmon Critical Habitat -
NC Steelhead Critical Habitat - X
CCC Steelhead Critical Habitat -
SCCC Steelhead Critical Habitat -
SC Steelhead Critical Habitat -
CCV Steelhead Critical Habitat -
Eulachon Critical Habitat -
sDPS Green Sturgeon Critical Habitat - X

53. ESA Marine Invertebrates

Range Black Abalone (E) -
Range White Abalone (E) -

54. ESA Marine Invertebrates Critical Habitat

Black Abalone Critical Habitat -

55. ESA Sea Turtles

East Pacific Green Sea Turtle (T) - X
Olive Ridley Sea Turtle (T/E) - X

Leatherback Sea Turtle (E) - X
North Pacific Loggerhead Sea Turtle (E) -

56. ESA Whales

Blue Whale (E) - X
Fin Whale (E) - X
Humpback Whale (E) - X
Southern Resident Killer Whale (E) - X
North Pacific Right Whale (E) - X
Sei Whale (E) - X
Sperm Whale (E) - X

57. ESA Pinnipeds

Guadalupe Fur Seal (T) -
Steller Sea Lion Critical Habitat -

58. Essential Fish Habitat

Coho EFH - X
Chinook Salmon EFH - X
Groundfish EFH - X
Coastal Pelagics EFH - X
Highly Migratory Species EFH -

59. MMPA Species (See list at left)

60. ESA and MMPA Cetaceans/Pinnipeds

See list at left and consult the NMFS Long Beach office 562-980-4000

MMPA Cetaceans - X
MMPA Pinnipeds - X

Quad Name **Cape Mendocino**
Quad Number **40124-D4**

61. ESA Anadromous Fish

SONCC Coho ESU (T) - X
CCC Coho ESU (E) -
CC Chinook Salmon ESU (T) - X
CVSR Chinook Salmon ESU (T) -
SRWR Chinook Salmon ESU (E) -
NC Steelhead DPS (T) - X
CCC Steelhead DPS (T) -
SCCC Steelhead DPS (T) -
SC Steelhead DPS (E) -
CCV Steelhead DPS (T) -
Eulachon (T) -
sDPS Green Sturgeon (T) - X

62. ESA Anadromous Fish Critical Habitat

SONCC Coho Critical Habitat - X
CCC Coho Critical Habitat -
CC Chinook Salmon Critical Habitat - X
CVSR Chinook Salmon Critical Habitat -
SRWR Chinook Salmon Critical Habitat -
NC Steelhead Critical Habitat - X
CCC Steelhead Critical Habitat -
SCCC Steelhead Critical Habitat -
SC Steelhead Critical Habitat -
CCV Steelhead Critical Habitat -
Eulachon Critical Habitat -
sDPS Green Sturgeon Critical Habitat - X

63. ESA Marine Invertebrates

Range Black Abalone (E) -
Range White Abalone (E) -

64. ESA Marine Invertebrates Critical Habitat

Black Abalone Critical Habitat -

65. ESA Sea Turtles

East Pacific Green Sea Turtle (T) - X

Olive Ridley Sea Turtle (T/E) - X
Leatherback Sea Turtle (E) - X
North Pacific Loggerhead Sea Turtle (E) -

66. **ESA Whales**

Blue Whale (E) - X
Fin Whale (E) - X
Humpback Whale (E) - X
Southern Resident Killer Whale (E) - X
North Pacific Right Whale (E) - X
Sei Whale (E) - X
Sperm Whale (E) - X

67. **ESA Pinnipeds**

Guadalupe Fur Seal (T) -
Steller Sea Lion Critical Habitat - X

68. **Essential Fish Habitat**

Coho EFH - X
Chinook Salmon EFH - X
Groundfish EFH - X
Coastal Pelagics EFH - X
Highly Migratory Species EFH - X

69. **MMPA Species (See list at left)**
70. **ESA and MMPA Cetaceans/Pinnipeds**

See list at left and consult the NMFS Long Beach office 562-980-4000

MMPA Cetaceans - X
MMPA Pinnipeds - X

IPaC **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.

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. IPaC only shows species that are regulated by USFWS (see FAQ).
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:

Mammals

NAME	STATUS

Pacific Marten, Coastal Distinct Population Segment Martes caurina — Threatened

Wherever found

There is **proposed** critical habitat for this species. The location of the critical habitat is not available.

https://ecos.fws.gov/ecp/species/9081

Birds

NAME	STATUS

Marbled Murrelet Brachyramphus marmoratus — Threatened

There is **final** critical habitat for this species. The location of the critical habitat is not available.

https://ecos.fws.gov/ecp/species/4467

Northern Spotted Owl Strix occidentalis caurina — Threatened

Wherever found

There is **final** critical habitat for this species. The location of the critical habitat is not available.

https://ecos.fws.gov/ecp/species/1123

Western Snowy Plover Charadrius nivosus nivosus — Threatened

There is **final** critical habitat for this species. The location of the critical habitat is not available.

https://ecos.fws.gov/ecp/species/8035

Yellow-billed Cuckoo Coccyzus americanus — Threatened

There is **final** critical habitat for this species. The location of the critical habitat is not available.

https://ecos.fws.gov/ecp/species/3911

Fishes

NAME	STATUS

Tidewater Goby Eucyclogobius newberryi — Endangered

Wherever found

There is **final** critical habitat for this species. The location of the critical habitat is not available.

https://ecos.fws.gov/ecp/species/57

Insects

NAME	STATUS

Monarch Butterfly Danaus plexippus — Candidate

Wherever found

No critical habitat has been designated for this species.

https://ecos.fws.gov/ecp/species/9743

Flowering Plants

NAME	STATUS
Western Lily Lilium occidentale Wherever found 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
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Jan 1 to Sep 30
Black Swift *Cypseloides niger* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8878	Breeds Jun 15 to Sep 10
Black Turnstone *Arenaria melanocephala* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere
Clark's Grebe *Aechmophorus clarkii* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Jun 1 to Aug 31
Evening Grosbeak *Coccothraustes vespertinus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 15 to Aug 10

Golden Eagle Aquila chrysaetos This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1680	Breeds Jan 1 to Aug 31
Lesser Yellowlegs Tringa flavipes This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9679	Breeds elsewhere
Marbled Godwit Limosa fedoa This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9481	Breeds elsewhere
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
Rufous Hummingbird selasphorus rufus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8002	Breeds Apr 15 to Jul 15
Short-billed Dowitcher Limnodromus griseus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9480	Breeds Jun 1 to Aug 10
Willet Tringa semipalmata This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere
Wrentit Chamaea fasciata This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Mar 15 to Aug 10

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.

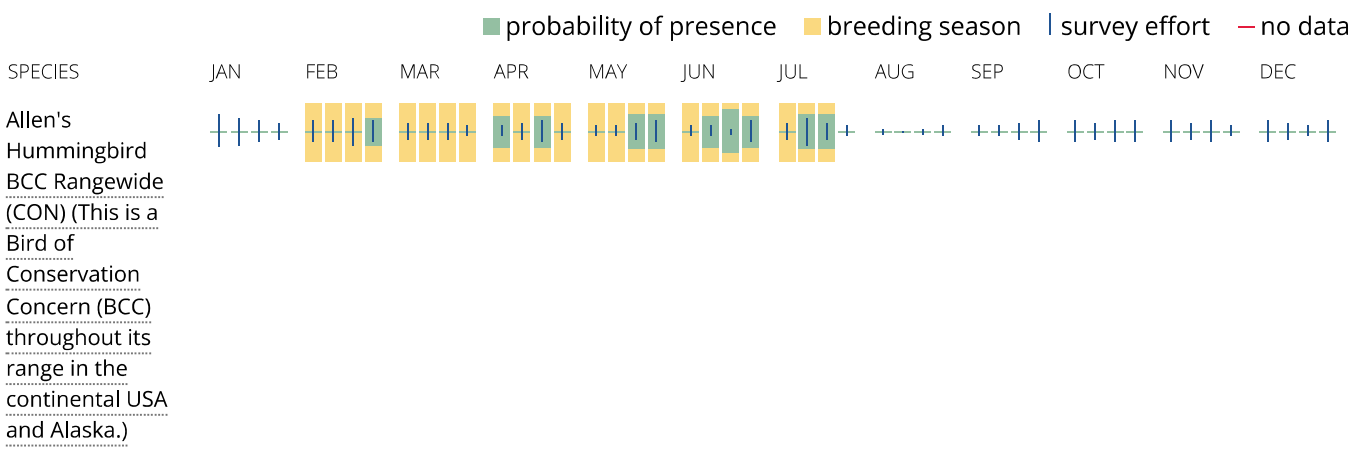
Breeding Season ( )
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

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.

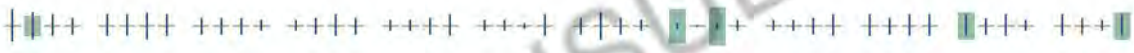
Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



Bald Eagle
Non-BCC Vulnerable (This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.)

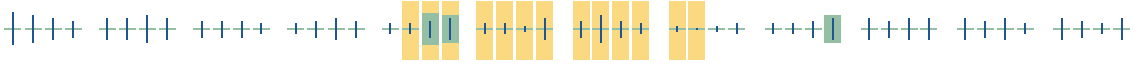
Black Swift
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

Black Turnstone
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

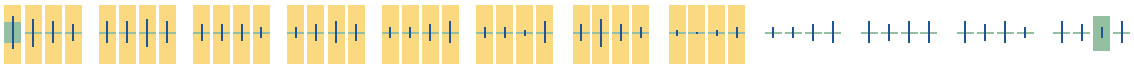


Clark's Grebe
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

Evening Grosbeak
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

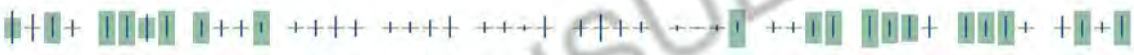


Golden Eagle Non-BCC Vulnerable (This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.)

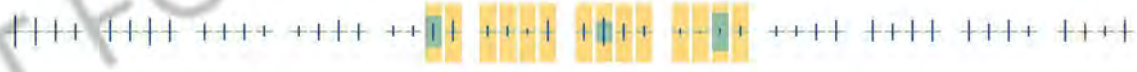


Lesser Yellowlegs BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

Marbled Godwit BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



Olive-sided Flycatcher BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



Rufous Hummingbird BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

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 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 AKN Phenology 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

Wildlife refuges and fish hatcheries

REFUGE AND FISH HATCHERY INFORMATION IS NOT AVAILABLE AT THIS TIME

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.

WETLAND INFORMATION IS NOT AVAILABLE AT THIS TIME

This can happen when the National Wetlands Inventory (NWI) map service is unavailable, or for very large projects that intersect many wetland areas. Try again, or visit the NWI map to view wetlands at this location.

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*.

EFH Mapper Report

EFH Data Notice

Essential Fish Habitat (EFH) is defined by textual descriptions contained in the fishery management plans developed by the regional fishery management councils. In most cases mapping data can not fully represent the complexity of the habitats that make up EFH. This report should be used for general interest queries only and should not be interpreted as a definitive evaluation of EFH at this location. A location-specific evaluation of EFH for any official purposes must be performed by a regional expert. Please refer to the following links for the appropriate regional resources.

West Coast Regional Office
Alaska Regional Office

Query Results

Degrees, Minutes, Seconds: Latitude = 40º 35' 9" N, Longitude = 125º 44' 2" W
Decimal Degrees: Latitude = 40.586, Longitude = -124.266

The query location intersects with spatial data representing EFH and/or HAPCs for the following species/management units.

EFH

No Essential Fish Habitats (EFH) were identified at the report location.

Salmon EFH

Link	HUC Name	Species/Management Unit	Lifestage(s) Found at Location	Management Council	FMP
	Lower Eel	Chinook Salmon, Coho Salmon	All	Pacific	Pacific Coast Salmon Plan

HAPCs

No Habitat Areas of Particular Concern (HAPC) were identified at the report location.

EFH Areas Protected from Fishing

No EFH Areas Protected from Fishing (EFHA) were identified at the report location.

Spatial data does not currently exist for all the managed species in this area. The following is a list of species or management units for which there is no spatial data.
****For links to all EFH text descriptions see the complete data inventory: open data inventory -->**

Pacific Coastal Pelagic Species,
Jack Mackerel,
Pacific (Chub) Mackerel,
Pacific Sardine,
Northern Anchovy - Central Subpopulation,
Northern Anchovy - Northern Subpopulation,
Pacific Highly Migratory Species,
Bigeye Thresher Shark - North Pacific,
Bluefin Tuna - Pacific,
Dolphinfish (Dorado or Mahimahi) - Pacific,
Pelagic Thresher Shark - North Pacific,
Swordfish - North Pacific

Appendix C

Special Status Wildlife Species Potential to Occur within the APE

Table C1 Special Status Wildlife Species Potential to Occur within the Area of Potential Effect (APE)

Scientific Name	Common Name	FESA	CESA	GRank[1]	SRank[1]	Other Status[1]	Habitat[2]	Potential to Occur
Mammals								
Antrozous pallidus	pallid bat	None	None	G4	S3	BLM_S-Sensitive | CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern | USFS_S-Sensitive | WBWG_H-High Priority	Deserts, grasslands, shrublands, woodlands and forests. Most common in open, dry habitats with rocky areas for roosting. Roosts must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.	**Low Potential.** Closest known record is from 1924, overlapping the City of Ferndale (CDFW 2022a). No recent bat survey efforts are known within 20+ miles of the Project (BAMVT 2022). This species will roost in caves, crevices, mines, hollow trees, porches, and buildings (Harris et al. 2008). No buildings are proposed for work within the APE. No hollow trees were observed within the APE during the January 2022 site visit. Requisite foraging habitat is present within the APE.
Aplodontia rufa humboldtiana	Humboldt mountain beaver	None	None	G5TNR	SNR		Coast Range in southwestern Del Norte County and northwestern Humboldt County. Variety of coastal habitats, including coastal scrub, riparian forests,	**Low Potential.** Closest known record is from 1952, ~4.5 miles north of the APE (CDFW 2022a). No suitable habitat for this species (e.g., riparian) is present within the APE.

Scientific Name	Common Name	FESA	CESA	GRank[1]	SRank[1]	Other Status[1]	Habitat[2]	Potential to Occur
							typically with open canopy and thickly vegetated understory.	
Arborimus pomo	Sonoma tree vole	None	None	G3	S3	CDFW_SSC-Species of Special Concern | IUCN_NT-Near Threatened	North coast fog belt from Oregon border to Sonoma County. In Douglas-fir, redwood and montane hardwood-conifer forests. Feeds almost exclusively on Douglas-fir needles. Will occasionaly take needles of grand fir, hemlock or spruce.	**No Potential.** Closest known record is from 1999, ~6 miles southwest of the Project (CDFW 2022a). No suitable habitat for this species (e.g., no fir trees) is present within the APE.
Corynorhinus townsendii	Townsend's big-eared bat	None	None	G4	S2	BLM_S-Sensitive | CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern | USFS_S-Sensitive | WBWG_H-High Priority	Throughout California in a wide variety of habitats. Most common in mesic sites. Roosts in the open, hanging from walls and ceilings. Roosting sites limiting. Extremely sensitive to human disturbance.	**Low Potential.** Closest known record is from 1949, ~10 miles northwest of the Project (CDFW 2022a). This species will roost in man-made structures as well as tree cavities (Erickson et al. 2002). The row of mature Monterey pines is unlikely to serve as roosting habitat for this species given it is composed of a narrow single line of trees and does not offer substantial shelter from wind and light. Requisite foraging habitat is present within the APE.
Erethizon dorsatum	North American porcupine	None	None	G5	S3	IUCN_LC-Least Concern	Forested habitats in the Sierra Nevada, Cascade, and Coast ranges, with scattered	**Low Potential.** Closest known record is from 2012, ~1 mile south of the APE (CDFW 2022a). No suitable habitat for this

Scientific Name	Common Name	FESA	CESA	GRank[1]	SRank[1]	Other Status[1]	Habitat[2]	Potential to Occur
							observations from forested areas in the Transverse Ranges. Wide variety of coniferous and mixed woodland habitat.	species (e.g., riparian or forest) is present within the APE.
Lasiurus cinereus	hoary bat	None	None	G3G4	S4	IUCN_LC-Least Concern | WBWG_M-Medium Priority	Prefers open habitats or habitat mosaics, with access to trees for cover and open areas or habitat edges for feeding. Roosts in dense foliage of medium to large trees. Feeds primarily on moths. Requires water.	**Low Potential.** Closest known record is from 1934, overlapping the City of Ferndale (CDFW 2022a). No recent bat survey efforts are known within 20+ miles of the APE (BAMVT 2022). This species roosts solitarily in dense tree foliage typically near water (species requires water for drinking) (SBDWG 2004, Harris et al. 2008). Only a narrow row of planted Monterey pines and a few blue gum trees are present in the APE or within 500 feet and are unlikely to provide suitable roosting habitat for this species. No perennial water within or near (~0.5 mile) the APE. Requisite foraging habitat is present within the APE.
Martes caurina	Pacific marten – Coastal Distinct Population Segment	FT	None	G4G5	S3	IUCN_LC-Least Concern | USFS_S-Sensitive	Uses cavities, snags, logs and rocky areas for cover and denning. Needs large areas of mature, dense forest. Needs variety of different-aged stands, particularly old-growth conifers and	**No Potential.** There are no recent records of this species south of the Klamath River. Current populations are only known from coastal redwood forests in Del Norte and northern Humboldt County (CDFW 2018). Only historic

Scientific Name	Common Name	FESA	CESA	GRank[1]	SRank[1]	Other Status[1]	Habitat[2]	Potential to Occur
							snags which provide cavities for dens/nests.	records from the Project vicinity (1913 – ~11 miles east, and 1927 – ~16 miles northeast; CDFW 2022a). No suitable habitat for this species (e.g., mature coniferous forest) is present within the APE.
Pekania pennanti	fisher	None	None	G5	S2S3	BLM_S-Sensitive | CDFW_SSC-Species of Special Concern | USFS_S-Sensitive	Intermediate to large-tree stages of coniferous forests and deciduous-riparian areas with high percent canopy closure. Uses cavities, snags, logs and rocky areas for cover and denning. Needs large areas of mature, dense forest.	**Low Potential.** Closest known record is from 2009, ~10.5 miles east of the APE (CDFW 2022a). No suitable habitat for this species (e.g., mature coniferous forest) is present within the APE.
Birds								
Accipiter cooperii	Cooper's hawk	None	None	G5	S4	CDFW_WL-Watch List | IUCN_LC-Least Concern	Woodland, chiefly of open, interrupted or marginal type. Nest sites mainly in riparian growths of deciduous trees, as in canyon bottoms on river flood-plains; also, live oaks.	**Moderate Potential.** Numerous recent records within one mile of the APE (eBird 2022). Common species known to nest and forage in urban areas. Requisite nesting and foraging habitat present within the APE.
Accipiter striatus	sharp-shinned hawk	None	None	G5	S4	CDFW_WL-Watch List | IUCN_LC-Least Concern	Ponderosa pine, black oak, riparian deciduous, mixed conifer, and Jeffrey pine habitats. Prefers riparian areas. North-facing slopes with plucking perches are critical requirements.	**Moderate Potential.** Numerous recent records within one mile of the APE (eBird 2022). Common species known to nest and forage in urban areas. Requisite nesting and foraging habitat present within the APE.

Scientific Name	Common Name	FESA	CESA	GRank[1]	SRank[1]	Other Status[1]	Habitat[2]	Potential to Occur
							Nests usually within 275 ft of water.	
Agelaius tricolor	tricolored blackbird	None	ST	G1G2	S1S2	BLM_S-Sensitive | CDFW_SSC-Species of Special Concern | IUCN_EN-Endangered | NABCI_RWL-Red Watch List | USFWS_BCC-Birds of Conservation Concern	Highly colonial species, most numerous in Central Valley and vicinity. Largely endemic to California. Requires open water, protected nesting substrate, and foraging area with insect prey within a few km of the colony.	**No Potential.** There is a historical colony location in Fortuna (~6.5 miles southeast of the APE), but it has not been occupied since 1997 and is considered extirpated by CDFW (2022). There are recent (rare) sightings of tricolored blackbirds from the Project vicinity as close as the Ferndale Bottoms in 2021 (eBird 2022). No suitable habitat (e.g., open water with emergent vegetation) within the APE or within 500 feet.
Ammodramus savannarum	grasshopper sparrow	None	None	G5	S3	CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern	Dense grasslands on rolling hills, lowland plains, in valleys and on hillsides on lower mountain slopes. Favors native grasslands with a mix of grasses, forbs and scattered shrubs. Loosely colonial when nesting.	**Low Potential.** Closest known record is from 2017, ~0.5 miles north of the APE, but this species is locally rare (eBird 2022). Some marginal habitat (e.g., cow pasture) for this species is present in the cattle pastures adjacent to the APE.
Aquila chrysaetos	golden eagle	None	None	G5	S3	BLM_S-Sensitive | CDF_S-Sensitive | CDFW_FP-Fully Protected | CDFW_WL-Watch List | IUCN_LC-Least Concern |	Rolling foothills, mountain areas, sage-juniper flats, and desert. Cliff-walled canyons provide nesting habitat in most parts of range; also, large trees in open areas.	**Low Potential.** Closest known record is from 2007, ~0.5 miles north of the APE (eBird 2022). No suitable nesting or foraging habitat for this species is present within the APE.

Scientific Name	Common Name	FESA	CESA	GRank[1]	SRank[1]	Other Status[1]	Habitat[2]	Potential to Occur
						USFWS_BCC-Birds of Conservation Concern		
Ardea alba	great egret	None	None	G5	S4	CDF_S-Sensitive | IUCN_LC-Least Concern	Colonial nester in large trees. Rookery sites located near marshes, tide-flats, irrigated pastures, and margins of rivers and lakes.	**High Potential.** There are numerous records within one mile of the APE (eBird 2022). This species is highly unlikely to nest within the APE given the lack of known rookeries in the immediate Project vicinity and high human disturbance at the Humboldt County Fairgrounds. Requisite foraging habitat is present within the APE.
Ardea herodias	great blue heron	None	None	G5	S4	CDF_S-Sensitive | IUCN_LC-Least Concern	Colonial nester in tall trees, cliffsides, and sequestered spots on marshes. Rookery sites in close proximity to foraging areas: marshes, lake margins, tide-flats, rivers and streams, wet meadows.	**High Potential.** There are numerous records within one mile of the APE (eBird 2022). This species is highly unlikely to nest within the APE given the lack of known rookeries in the immediate Project vicinity and high human disturbance at the Humboldt County Fairgrounds. Requisite foraging habitat is present within the APE and adjacent cow pastures.
Brachyramphus marmoratus	marbled murrelet	FT	SE	G3G4	S1	CDF_S-Sensitive | IUCN_EN-Endangered | NABCI_RWL-Red Watch List	Feeds near-shore; nests inland along coast from Eureka to Oregon border and from Half Moon Bay to Santa Cruz. Nests in old-growth redwood-dominated	**No Potential.** The Project is located within a developed area (City of Ferndale). There is no suitable old growth coniferous forest habitat (for nesting) present on or

Scientific Name	Common Name	FESA	CESA	GRank[1]	SRank[1]	Other Status[1]	Habitat[2]	Potential to Occur
							forests, up to six miles inland, often in Douglas-fir.	within 0.25 mile of the APE (CDFW 2022).
Charadrius montanus	mountain plover	None	None	G3	S2S3	BLM_S-Sensitive | CDFW_SSC-Species of Special Concern | IUCN_NT-Near Threatened | NABCI_RWL-Red Watch List | USFWS_BCC-Birds of Conservation Concern	Short grasslands, freshly plowed fields, newly sprouting grain fields, and sometimes sod farms. Short vegetation, bare ground, and flat topography. Prefers grazed areas and areas with burrowing rodents.	**Low Potential.** Closest known records (rare) are from 2021 at Centerville Beach, ~3.85 miles west of the APE (eBird 2022). Some marginal habitat (e.g., cow pasture) for this species is present in the cattle pastures adjacent to the APE.
Charadrius nivosus nivosus	western snowy plover	FT	None	G3T3	S2	CDFW_SSC-Species of Special Concern | NABCI_RWL-Red Watch List | USFWS_BCC-Birds of Conservation Concern	Sandy beaches, salt pond levees and shores of large alkali lakes. Needs sandy, gravelly or friable soils for nesting.	**No Potential.** Closest known record breeding population is at Centerville Beach, ~3.85 miles west of the APE (eBird 2022). No suitable nesting or foraging habitat (e.g., sandy beaches) within the APE.
Coccyzus americanus occidentalis	western yellow-billed cuckoo	FT	SE	G5T2T3	S1	BLM_S-Sensitive | NABCI_RWL-Red Watch List | USFS_S-Sensitive | USFWS_BCC-Birds of Conservation Concern	Riparian forest nester, along the broad, lower flood-bottoms of larger river systems. Nests in riparian jungles of willow, often mixed with cottonwoods, with lower story of blackberry, nettles, or wild grape.	**No Potential.** Closest known record is from 2013, ~0.5 mile north of the APE, but this species is locally rare (eBird 2022). No suitable nesting or foraging habitat (e.g., riparian forest) within the APE.
Coturnicops noveboracensis	yellow rail	None	None	G4	S1S2	CDFW_SSC-Species of Special Concern | IUCN_LC-	Summer resident in eastern Sierra Nevada in Mono	**No Potential.** Closest known record (rare incidental of a cat-caught individual) is from 2013,

Scientific Name	Common Name	FESA	CESA	GRank[1]	SRank[1]	Other Status[1]	Habitat[2]	Potential to Occur
						Least Concern | NABCI_RWL-Red Watch List | USFS_S-Sensitive | USFWS_BCC-Birds of Conservation Concern	County. Freshwater marshlands.	~16.75 miles north of the API (eBird 2022). No suitable nesting or foraging habitat (e.g., marsh) within the APE.
Egretta thula	snowy egret	None	None	G5	S4	IUCN_LC-Least Concern	Colonial nester, with nest sites situated in protected beds of dense tules. Rookery sites situated close to foraging areas: marshes, tidal-flats, streams, wet meadows, and borders of lakes.	**Moderate Potential.** Closest known record is from 2017, ~0.5 miles north of the APE (eBird 2022). This species is highly unlikely to nest within the APE given the lack of known rookeries in the immediate Project vicinity and high human disturbance at the Humboldt County Fairgrounds. Requisite foraging habitat is present within the APE and adjacent cow pastures.
Haliaeetus leucocephalus	bald eagle	FD	SE	G5	S3	BLM_S-Sensitive | CDF_S-Sensitive | CDFW_FP-Fully Protected | IUCN_LC-Least Concern | USFS_S-Sensitive | USFWS_BCC-Birds of Conservation Concern	Ocean shore, lake margins, and rivers for both nesting and wintering. Most nests within 1 mile of water. Nests in large, old-growth, or dominant live tree with open branches, especially ponderosa pine. Roosts communally in winter.	**Low Potential.** Closest known record is from 2007, ~0.5 miles north of the APE (eBird 2022). Requisite large trees are present on-site, however, none contained any large stick nests as of January 2022 and are unlikely to be utilized as nest trees. No foraging habitat within the APE.

Scientific Name	Common Name	FESA	CESA	GRank[1]	SRank[1]	Other Status[1]	Habitat[2]	Potential to Occur
Nycticorax nycticorax	black-crowned night heron	None	None	G5	S4	IUCN_LC-Least Concern	Colonial nester, usually in trees, occasionally in tule patches. Rookery sites located adjacent to foraging areas: lake margins, mud-bordered bays, marshy spots.	**Low Potential.** Closest known record is from 2021 in the City of Ferndale overlapping the APE (eBird 2022). This species is highly unlikely to nest within the APE given the lack of known rookeries in the immediate Project vicinity and high human disturbance at the Humboldt County Fairgrounds. No foraging habitat (e.g., marsh, water edge) is present within the APE.
Pandion haliaetus	osprey	None	None	G5	S4	CDF_S-Sensitive | CDFW_WL-Watch List | IUCN_LC-Least Concern	Ocean shore, bays, freshwater lakes, and larger streams. Large nests built in tree-tops within 15 miles of a good fish-producing body of water.	**Low Potential.** Closest known record is from 2019, ~0.5 miles north of the APE (eBird 2022). Requisite large trees are present (mature Monterey on-site, however, none contained any large stick nests as of the January 2022 site visit and are unlikely to be utilized as nest trees. No foraging habitat is present in the APE.
Riparia riparia	bank swallow	None	ST	G5	S2	BLM_S-Sensitive | IUCN_LC-Least Concern	Colonial nester; nests primarily in riparian and other lowland habitats west of the desert. Requires vertical banks/cliffs with fine-textured/sandy soils near streams, rivers, lakes, ocean to dig nesting hole.	**Low Potential.** Closest known record is from 2017, ~0.5 miles north of the APE (eBird 2022). No suitable nesting habitat (e.g., sandy river banks) in the APE. Foraging habitat is unlikely to be present within the APE given the lack of perennial water.

Scientific Name	Common Name	FESA	CESA	GRank[1]	SRank[1]	Other Status[1]	Habitat[2]	Potential to Occur
Strix occidentalis caurina	northern spotted owl	FT	ST	G3T3	S2S3	CDF_S-Sensitive | IUCN_NT-Near Threatened | NABCI_YWL-Yellow Watch List	Old-growth forests or mixed stands of old-growth and mature trees. Occasionally in younger forests with patches of big trees. High, multistory canopy dominated by big trees, many trees with cavities or broken tops, woody debris, and space under canopy.	**No Potential.** The APE is located within a highly human-developed area (City of Ferndale). There is no suitable old growth coniferous forest habitat (for nesting/roosting) present within the APE or within 0.25 mile.
Reptiles								
Emys marmorata	western pond turtle	None	None	G3G4	S3	BLM_S-Sensitive | CDFW_SSC-Species of Special Concern | IUCN_VU-Vulnerable | USFS_S-Sensitive	A thoroughly aquatic turtle of ponds, marshes, rivers, streams and irrigation ditches, usually with aquatic vegetation, below 6000 ft elevation. Needs basking sites and suitable (sandy banks or grassy open fields) upland habitat up to 0.5 km from water for egg-laying.	**No Potential.** No perennial aquatic habitat is present within the APE or within 0.5 miles.
Amphibians								
Ascaphus truei	Pacific tailed frog	None	None	G4	S3S4	CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern	Occurs in montane hardwood-conifer, redwood, Douglas-fir and ponderosa pine habitats. Restricted to perennial montane streams. Tadpoles require water below 15 degrees C.	**No Potential.** No perennial aquatic habitat is present within the APE or within 0.5 miles.

Scientific Name	Common Name	FESA	CESA	GRank[1]	SRank[1]	Other Status[1]	Habitat[2]	Potential to Occur
Rana aurora	northern red-legged frog	None	None	G4	S3	CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern | USFS_S-Sensitive	Humid forests, woodlands, grasslands, and streamsides in northwestern California, usually near dense riparian cover. Generally near permanent water, but can be found far from water, in damp woods and meadows, during non-breeding season.	**No Potential.** No perennial aquatic habitat is present within the APE or within 0.5 miles.
Rana boylii	foothill yellow-legged frog	None	North Coast Clade not state-listed	G3	S3	BLM_S-Sensitive | CDFW_SSC-Species of Special Concern | IUCN_NT-Near Threatened | USFS_S-Sensitive	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.	**No Potential.** No perennial aquatic habitat is present within the APE or within 0.5 miles.
Rhyacotriton variegatus	southern torrent salamander	None	None	G3G4	S2S3	CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern | USFS_S-Sensitive	Coastal redwood, Douglas-fir, mixed conifer, montane riparian, and montane hardwood-conifer habitats. Old growth forest. Cold, well-shaded, permanent streams and seepages, or within splash zone or on moss-covered rocks within trickling water.	**No Potential.** No perennial aquatic habitat is present within the APE or within 0.5 miles.

Scientific Name	Common Name	FESA	CESA	GRank[1]	SRank[1]	Other Status[1]	Habitat[2]	Potential to Occur
Fish								
Acipenser medirostris	green sturgeon – southern Distinct Population Segment	FT	None	G3	S1	AFS_VU-Vulnerable | CDFW_SSC-Species of Special Concern | IUCN_NT-Near Threatened | NMFS_SC-Species of Concern	These are the most marine species of sturgeon. Abundance increases northward of Point Conception. Spawns in the Sacramento, Klamath, and Trinity Rivers. Spawns at temps between 8-14 C. Preferred spawning substrate is large cobble, but can range from clean sand to bedrock.	**No Potential.** No perennial aquatic habitat is present within the APE or within 0.5 miles.
Entosphenus tridentatus	Pacific lamprey	None	None	G4	S3	AFS_VU-Vulnerable | BLM_S-Sensitive | CDFW_SSC-Species of Special Concern | USFS_S-Sensitive	Found in Pacific Coast streams north of San Luis Obispo County, however regular runs in Santa Clara River. Size of runs is declining. Swift-current gravel-bottomed areas for spawning with water temps between 12-18 C. Ammocoetes need soft sand or mud.	**No Potential.** No perennial aquatic habitat is present within the APE or within 0.5 miles.
Eucyclogobius newberryi	tidewater goby	FE	None	G3	S3	AFS_EN-Endangered | IUCN_VU-Vulnerable	Brackish water habitats along the California coast from Agua Hedionda Lagoon, San Diego County to the mouth of the Smith River. Found in shallow lagoons and lower stream reaches, they	**No Potential.** No perennial aquatic habitat is present within the APE or within 0.5 miles.

Scientific Name	Common Name	FESA	CESA	GRank[1]	SRank[1]	Other Status[1]	Habitat[2]	Potential to Occur
							need fairly still but not stagnant water and high oxygen levels.	
Lampetra richardsoni	western brook lamprey	None	None	G4G5	S3S4	CDFW_SSC-Species of Special Concern | USFS_S-Sensitive		**No Potential.** No perennial aquatic habitat is present within the APE or within 0.5 miles.
Oncorhynchus clarkii clarkii	coast cutthroat trout	None	None	G5T4	S3	AFS_VU-Vulnerable | CDFW_SSC-Species of Special Concern | USFS_S-Sensitive	Small coastal streams from the Eel River to the Oregon border. Small, low gradient coastal streams and estuaries. Needs shaded streams with water temperatures <18C, and small gravel for spawning.	**No Potential.** No perennial aquatic habitat is present within the APE or within 0.5 miles.
Oncorhynchus kisutch pop. 2	coho salmon - southern Oregon / northern California ESU	FT	ST	G5T2Q	S2	AFS_TH-Threatened	Federal listing refers to populations between Cape Blanco, Oregon and Punta Gorda, Humboldt County, California. State listing refers to populations between the Oregon border and Punta Gorda, California.	**No Potential.** No perennial aquatic habitat is present within the APE or within 0.5 miles.
Oncorhynchus mykiss irideus pop. 16	steelhead - northern California Distinct Population Segment	FT	None	G5T2T3Q	S2S3	AFS_TH-Threatened	Coastal basins from Redwood Creek south to the Gualala River, inclusive. Does not include summer-run steelhead.	**No Potential.** No perennial aquatic habitat is present within the APE or within 0.5 miles.

Scientific Name	Common Name	FESA	CESA	GRank[1]	SRank[1]	Other Status[1]	Habitat[2]	Potential to Occur
Spirinchus thaleichthys	longfin smelt	FC	ST	G5	S1		Euryhaline, nektonic and anadromous. Found in open waters of estuaries, mostly in middle or bottom of water column. Prefer salinities of 15-30 ppt, but can be found in completely freshwater to almost pure seawater.	**No Potential.** No perennial aquatic habitat is present within the APE or within 0.5 miles.
Thaleichthys pacificus	eulachon	FT	None	G5	S2		Found in Klamath River, Mad River, Redwood Creek, and in small numbers in Smith River and Humboldt Bay tributaries. Spawn in lower reaches of coastal rivers with moderate water velocities and bottom of pea-sized gravel, sand, and woody debris.	**No Potential.** No perennial aquatic habitat is present within the APE or within 0.5 miles.
Oncorhynchus tshawytscha pop. 17	chinook salmon - California coastal ESU	FT	None	G5T2Q	S2	AFS_TH-Threatened	Federal listing refers to wild spawned, coastal, spring and fall runs between Redwood Cr, Humboldt Co and Russian River, Sonoma Co.	**No Potential.** No perennial aquatic habitat is present within the APE or within 0.5 miles.
Insects								
Bombus caliginosus	obscure bumble bee	None	None	G4?	S1S2	IUCN_VU-Vulnerable	Coastal areas from Santa Barbara County to north to Washington state. Food plant genera	**Low Potential.** Closest known record is from 1968 overlapping the City of Ferndale (CDFW 2022). Only recent records from

Scientific Name	Common Name	FESA	CESA	GRank[1]	SRank[1]	Other Status[1]	Habitat[2]	Potential to Occur
							include Baccharis, Cirsium, Lupinus, Lotus, Grindelia and Phacelia.	Humboldt County are ~15 miles east of the APE (BumbleBeeWatch 2022). Although the APE falls within the species current range (Hatfield et al. 2014), none of the species' food plants are likely to be present on-site based on the January 2022 site visit.
Bombus occidentalis	western bumble bee	None	None	G2G3	S1	USFS_S-Sensitive	Once common and widespread, species has declined precipitously from central CA to southern B.C., perhaps from disease.	**Low Potential.** Closest known record is from 1968 overlapping the City of Ferndale (CDFW 2022). Only one recent record from Humboldt County, ~33 miles northwest of the APE (BumbleBeeWatch 2022). Although the Project falls within the species' pre-2002 range (according to ICUN Redlist), the range has contracted significantly in the last decade and now only includes the intermountain west and cascade regions of the U.S. (Hatfield et al. 2015).
Danaus plexippus pop. 1	monarch - California overwintering population	FC	None	G4T2T3	S2S3	USFS_S-Sensitive	Winter roost sites extend along the coast from northern Mendocino to Baja California, Mexico. Roosts located in wind-protected tree groves (eucalyptus, Monterey pine, cypress), with nectar	**Low Potential.** Closest known record is from 2016, ~6 miles east of the APE (iNaturalist 2022). Monarchs are relatively rare in Humboldt County (iNaturalist 2022). No Monarch roosts have been recorded in Humboldt County (Xerces Society 2022). The row of

Scientific Name	Common Name	FESA	CESA	GRank[1]	SRank[1]	Other Status[1]	Habitat[2]	Potential to Occur
							and water sources nearby.	Monterey pines on-site are highly unlikely to provide suitable habitat for this species given that they are limited to a single row in an otherwise very open habitat. No nectar resources were observed on-site during the January 2022 site visit, however, it was conducted in the winter outside the typical blooming period for most plants.
Mollusks								
Anodonta californiensis	California floater	None	None	G3Q	S2?	USFS_S-Sensitive	Freshwater lakes and slow-moving streams and rivers. Taxonomy under review by specialists. Generally in shallow water.	**No Potential.** Closest known record is from an unknown year in the Elk River, ~11 miles north of the APE (CDFW 2022b). No streams or rivers are present within the APE or within 0.5 miles. The small drainage ditches on-site do not contain suitable habitat for this species.
Margaritifera falcata	western pearlshell	None	None	G4G5	S1S2		Aquatic. Prefers lower velocity waters.	**No Potential.** Closest known record is from 2000 in Elk River, ~11 miles north of the APE (CDFW 2022b). No streams or rivers are present within the APE or within 0.5 miles. The small drainage ditches on-site do not contain suitable habitat for this species.

Footnotes:

[1] Rankings from CNDDB (January 2022).

Scientific Name	Common Name	FESA	CESA	GRank[1]	SRank[1]	Other Status[1]	Habitat[2]	Potential to Occur

[2] General habitat, and microhabitat column information, reprinted from CNDDB (January 2022).

Column Header Categories and Abbreviations:

FESA: Listing status under the federal Endangered Species Act (ESA)

FE = Federal Endangered; FT = Federal Threatened; FC = Federal Candidate; FD = Federally Delisted

CESA: Listing status under the California state Endangered Species Act (CESA)

SE = State Endangered; SD = State Delisted; ST = State Threatened.

Global Rank: Global Rank from NatureServe's Heritage Methodology (NatureServe 2022) (ranking according to degree of global imperilment - G1 = Critically Imperiled—At very high risk of extinction due to extreme rarity (often 5 or fewer populations), very steep declines, or other factors; G2 = Imperiled—At high risk of extinction due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors; G3 = Vulnerable—At moderate risk of extinction due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors; G4 = Apparently Secure—Uncommon but not rare; some cause for long-term concern due to declines or other factors; G5 = Secure—Common; widespread and abundant. Subspecies/variety level: "Subspecies/varieties receive a T-rank attached to the G-rank. With the subspecies/varieties, the G-rank reflects the condition of the entire species, whereas the T-rank reflects the global situation of just the subspecies or variety" (CDFW 2022d); ? = " Denotes inexact numeric rank" (NatureServe 2022); Q = " Questionable taxonomy that may reduce conservation priority" (NatureServe 2022)

State Rank: State Rank from NatureServe's Heritage Methodology (NatureServe 2022) (ranking according to degree of imperilment in the state (California) - S1 = Critically Imperiled—Critically imperiled in the state because of extreme rarity (often 5 or fewer populations) or because of factor(s) such as very steep declines making it especially vulnerable to extirpation from the state; S2 = Imperiled—Imperiled in the state because of rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the state; S3 = Vulnerable—Vulnerable in the state due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation from the state; S4 = Apparently Secure—Uncommon but not rare in the state; some cause for long-term concern due to declines or other factors; S5 = Secure—Common, widespread, and abundant in the state; SNR = State Not Ranked.

Other Statuses (other federal or state listings may include):

AFS_TH (American Fisheries Society Threatened):"a taxon that is in imminent danger of becoming endangered throughout all or a significant portion of its range" (Jelks et al. 2008).

AFS_VU (American Fisheries Society Vulnerable): "a taxon that is in imminent danger of becoming threatened throughout all or a significant portion of its range" (Jelks et al. 2008).

BLM_S (Bureau of Land Management Sensitive): "(1) species listed or proposed for listing under the Endangered Species Act (ESA), and (2) species requiring special management consideration to promote their conservation and reduce the likelihood and need for future listing under the ESA, which are designated as Bureau sensitive by the State Director(s). All Federal candidate species, proposed species, and delisted species in the 5 years following delisting would be conserved as Bureau sensitive species." (CDFW 2022d);

CDF_S (California Department of Forestry and Fire Protection Sensitive): "those species that warrant special protection during timber operations" (CDFW 2022d);

CDFW_FP (CDFW Fully Protected Animal): "This classification was the State of California's initial effort to identify and provide additional protection to those animals that were rare or faced possible extinction. Lists were created for fish, amphibians and reptiles, birds and mammals. Most of the species on these lists have subsequently been listed under the state and/or federal endangered species acts." (CDFW 2022d);

CDFW_SSC (CDFW Species of Special Concern): "It is the goal and responsibility of the Department of Fish and Wildlife to maintain viable populations of all native species. To this end, the Department has designated certain vertebrate species as 'Species of Special Concern' because declining population levels, limited ranges, and/or continuing threats have made them vulnerable to extinction. The goal of designating species as 'Species of Special Concern' is to halt or reverse their decline by calling attention to their plight and addressing the issues of concern early enough to secure their long-term viability" (CDFW 2022d);

Scientific Name	Common Name	FESA	CESA	GRank[1]	SRank[1]	Other Status[1]	Habitat[2]	Potential to Occur

CDFW_WL (California Department of Fish and Wildlife Watch List): “The CDFW maintains a list consisting of taxa that were previously designated as "Species of Special Concern" but no longer merit that status, or which do not yet meet SSC criteria, but for which there is concern and a need for additional information to clarify status” (CDFW 2022d);

IUCN_LC (International Union for Conservation of Nature Least Concern): “when it has been evaluated against the criteria and does not qualify for Critically Endangered, Endangered, Vulnerable or Near Threatened” (IUCN 2012);

IUCN_NT (International Union for Conservation of Nature Near Threatened): “when it has been evaluated against the criteria but does not qualify for Critically Endangered, Endangered or Vulnerable now, but is close to qualifying for or is likely to qualify for a threatened category in the near future (IUCN 2012);

IUCN_VU (International Union for Conservation of Nature Vulnerable): “when the best available evidence indicates that it meets any of the criteria A to E for Vulnerable…, and it is therefore considered to be facing a high risk of extinction in the wild” (IUCN 2012);

IUCN_EN (International Union for Conservation of Nature Endangered): “when the best available evidence indicates that it meets any of the criteria A to E for Endangered…,and it is therefore considered to be facing a very high risk of extinction in the wild” (IUCN 2012);

MMC_SSC (Marine Mammal Commission Species of Special Concern): no definition available.

NABCI_RWL (North American Bird Conservation Initiative Red Watch List): “species with extremely high vulnerability” (CDFW 2022d);

NMFS_SC (National Marine Fisheries Service Species of Concern): “species about which NOAA's NMFS has some concerns regarding status and threats, but for which insufficient information is available to indicate a need to list the species under the Endangered Species Act” (CDFW 2022d);

USFS_S (U.S. Forest Service Sensitive): “plant and animal species identified by a Regional Forester for which population viability is a concern, as evidenced by significant current or predicted downward trends in population numbers or density and/or significant current or predicted downward trends in habitat capability that would reduce a species' existing distribution” (CDFW 2022d);

USFWS_BCC (U.S. Fish and Wildlife Service Birds of Conservation Concern): “The goal of the Birds of Conservation Concern 2008 report is to accurately identify the migratory and non-migratory bird species (beyond those already designated as Federally Threatened or Endangered) that represent our highest conservation priorities and draw attention to species in need of conservation action” (CDFW 2022d);

WBWG_H- (Western Bat Working Group High Priority): “those species considered the highest priority for funding, planning, and conservation actions. Information about status and threats to most species could result in effective conservation actions being implemented should a commitment to management exist. These species are imperiled or are at high risk of imperilment” (BCI 1998);

WBWG_LM- (Western Bat Working Group Low Priority): “most of the existing data support stable populations of the species, and that the potential for major changes in status in the near future is considered unlikely. While there may be localized concerns, the overall status of the species is believed to be secure” (BCI 1998);

WBWG_M- (Western Bat Working Group Medium Priority): “a level of concern that should warrant closer evaluation, more research, and conservation actions of both the species and possible threats” (BCI 1998);

XERCES_IM (Xerces Society Imperiled): species “at high risk of extinction because of highly restricted range, rare populations (often 20 or fewer), steep declines, or other factors” (NatureServe 2022).

Potential to Occur:

No Potential: Habitat in and adjacent to the Project Area is clearly unsuitable for the species requirements (cover, substrate, elevation, hydrology, plant community, site history, disturbance regime).

Low Potential: Few of the habitat components meeting the species requirements are present, and/or the majority of habitat on and adjacent to the site is unsuitable or of very poor quality. The species is not likely to be found in the Project Area.

Moderate Potential: Some of the habitat components meeting the species requirements are present, and/or only some of the habitat on or adjacent to the site is unsuitable. The species has a moderate probability of being found in the Project Area.

Scientific Name	Common Name	FESA	CESA	GRank[1]	SRank[1]	Other Status[1]	Habitat[2]	Potential to Occur
High Potential: All of the habitat components meeting the species requirements are present and/or most of the habitat on or adjacent to the site is highly suitable. The species has a high probability of being found on in the Project Area Present: Detected or documented on-site.								

Appendix D

Site Visit Photographs

Photo D-1. View of a row of mature planted Monterey pines along the eastern side of 5th Street on the corner of the Humboldt County Fairgrounds at 5th Street and Van Ness Avenue, facing northeast.

Photo D-2. View of ditch in front of a row of mature planted Monterey pines along the eastern side of 5th Street on the corner of the Humboldt County Fairgrounds at 5th Street and Van Ness Avenue, facing north.

Photo D-3. View of cow pasture to the west of 5th Street, facing northwest.

Photo D-4. View of cow pasture (on the north side; left) and mature planted Monterey pines (on the south side; right) along Van Ness Avenue, facing east.

Photo D-5. View of cow pasture with drainage ditch on the north side of Van Ness Avenue, facing north.

Photo D-6. View of cow pasture on the north side of Van Ness Avenue, facing northeast.

Photo D-7. View of cow pasture (on the north side; right) and mature planted Monterey pines (on the south side; left) along Van Ness Avenue, facing east.

Photo D-8. View of intersection of Van Ness Avenue and 5th Street, facing southeast.

Photo D-9. View of 5th Street with Humboldt County Fairgrounds RV Park & Campground (on the east side; right) and cow pasture (on the west side; right), facing north.

Photo D-10. View of 5th Street with Humboldt County Fairgrounds RV Park & Campground (on the east side; right), facing north.

Photo D-11. View Humboldt County Fairgrounds parking lot and mature planted Monterey pines in the background, facing north.

Photo D-12. View Humboldt County Fairgrounds parking lot and buildings, facing east.

Photo D-13. View of intersection of 5th Street with Arlington Avenue, facing southwest.

Photo D-14. View of intersection of 5th Street with Arlington Avenue with view of County of Humboldt road maintenance yard, facing northwest.

Photo D-15. View of intersection of 5th Street with Arlington Avenue with view of County of Humboldt road maintenance office (on the northeast side; right), facing north.

Photo D-16. View of intersection of Arlington Avenue with view of County of Humboldt road maintenance office (north side; left) and residencies (south side; right), facing east.

Photo D-17. View of residential neighbourhood and Humboldt County Fairgrounds (red barns on the north side; right) along Arlington Avenue, facing west.

Appendix E

On-site Species Lists

Table E2 Terrestrial Wildlife Observed On-site

Scientific Name	Common Name	Observation Type	Special Status
Felis cattus	Feral Cat	Seen	None; invasive

Table E3 List of avian breeding codes, associated bird behaviour, and breeding status (the highest ranking code was recorded for each species during the survey)

Breeding Rank	Breeding Code	Description	Breeding Status
1	N	Active nest	Breeding
2	M	Carrying nesting material	Breeding
3	F	Carrying food or fecal sac	Breeding
4	D	Distraction display/feigning	Breeding
5	L	Local young fed by parents	Breeding
6	Y	Local young incapable of sustained flight	Breeding
7	C	Copulation or courtship observed	Breeding
8	T	Territorial behavior	Unconfirmed
9	S	Territorial song or drumming heard	Unconfirmed
10	E	Encountered in study area	Unconfirmed
11	O	Encountered flying over the study area	Unconfirmed

Table E4 Avian Species Detected On-site (in taxonomic order)

Alpha Code	Common Name	Latin Name	Highest Breeding Status	Breeding Code	Special Status
MALL	Mallard	*Anas platyrhynchos*	Encountered in study area	E	FGC, MBTA
EUCD	Eurasian Collared-Dove	*Streptopelia decaocto*	Territorial song or drumming heard	S	None; invasive
TUVU	Turkey Vulture	*Cathartes aura*	Encountered flying over the study area	O	FGC, MBTA
RTHA	Red-tailed Hawk	*Buteo jamaicensis*	Encountered flying over the study area	O	FGC, MBTA
NOFL	Northern Flicker	*Colaptes auratus*	Territorial song or drumming heard	S	FGC, MBTA
CORA	Common Raven	*Corvus corax*	Encountered flying over the study area	O	FGC, MBTA
EUST	European Starling	*Sturnus vulgaris*	Encountered in study area	E	None; invasive
AMRO	American Robin	*Turdus migratorius*	Encountered in study area	E	FGC, MBTA
WCSP	White-crowned Sparrow	*Zonotrichia leucophrys*	Encountered in study area	E	FGC, MBTA
AUWA	Audubon's Warbler	*Setophaga coronata auduboni*	Encountered in study area	E	FGC, MBTA
Definitions:					

Alpha Code	Common Name	Latin Name	Highest Breeding Status	Breeding Code	Special Status
FGC = protected by California Fish and Game Code MBTA = protected by the federal Migratory Bird Treaty Act					