Biological Assessment
For SMA Reduction
On APN 524-153-001-000

12/01/2021

Prepared for:
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PLN-12203-SP

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1.0 Summary of Findings and Conclusions

The purpose of this report is to provide assessment and rational to support the proposal that a reduction in the Streamside Management Area [SMA] will not result in significant adverse impacts to the wetland or its related ecological functions. This determination is based on the minimal risk presented by baseline conditions, the low intensity of cultivation operations, the absence for potential cumulative impacts, and the ability of wetlands themselves to filter nutrients and sediment from surface waters.

2.0 Introduction

2.1 Purpose and Need

This report has been prepared for the Applicant, Gueren White, and APN 524-153-001-000. The purpose of this report is to propose a reduction of the County Streamside Management Area [SMA] in association with a proposed cannabis cultivation operation. This report is to fulfill requirements set forth in Section 314-61.1.17 of the Humboldt County Code to show the reduction will not significantly affect the biological resources of the SMA on the property.

2.2 Project Description

The project proposes to permit pre-existing commercial cannabis cultivation on APN 524-153-001-000 and 524-153-002-000 through applying for a special use permit, PLN-12203-SP. Both of these parcels are zoned Timber Production Zone [TPZ]. Existing developments on the property include an access road, a storage structure, residence, few out buildings, and the cultivation sites.

PLN-12203-SP proposes utilizing the existing cultivation areas. One of these areas overlaps with the SMA of a perennial wetland located along the southern property boundary. At the time of the initial application submittal, the pre-existing cultivation was at its nearest point 50' from the edge of the perennial wetland. This distance was, at the time, compliant with the 50' setback from wetlands as outlined in the Regional Waste Discharge Order (Order R1-2015-0023) but not the 100' setback from perennial aquatic features as outlined in the Humboldt County General Plan (1988). At some point during the application process, Humboldt County chose to implement the more recent and stringent setback outlined in the Humboldt County General Plan (2017) for reasons unknown. The updated SMA language in Section BR-S10 increases the setback for perennial wetlands from 100' to 150'. This increased SMA distance captures approximately 60% of the project's cultivation space.

Pre-existing cultivation present within the wetland SMA consists of two greenhouses accompanied by 43 full-term outdoor plants that total 3,429 square feet. Greenhouse cultivation occurs within above ground beds and outdoor is done in either pots or in-ground holes. Cultivation soils are imported and used at the site. Additional structures present within the SMA include the existing house (25' by 40'), wood shed, chicken coop, and tool shed (10' by 20'). The house and sheds occur outside of the historic 100' wetland setback but within the newer 150' setback.

The Applicant proposes relocating approximately 730 square feet from the Project Area to pre-existing cultivation sites outside of the SMA and a reduction to the SMA around the wetland for the remaining cultivation. As the project cannot clear or develop any new space given the CCLUO, relocating a portion of cultivation and proposing a reduction in the SMA for the remaining cultivation is the only path to maintaining the full size of the pre-existing cultivation space. The proposed relocation is only a portion of the canopy present within the Project Area as that is all that can be accommodated by the additional sites. The applicant proposes relocating square footage closest to the wetland feature. The loss of this square

footage may have significant financial impacts on the commercial operation if the reduction of the SMA is not approved.

3.0 Regulatory Background

3.1 Commercial Cannabis Cultivation

Commercial cannabis was recognized as an agricultural crop under the Medical Cannabis Regulation and Safety Act and further legalized for recreational uses under Proposition 64. The California Department of Food and Agriculture [CDFA] implements the CalCannabis division which regulates commercial cannabis licensing from a state level. Humboldt County also regulates commercial cultivation licensing from a local level through the Commercial Cannabis Land Use Ordinance [CCLUO]. A cultivator must have both a state and county license to operate commercial cannabis cultivation in the state.

3.2 Waters of the United States

Under Section 404 of the Clean Water Act the U.S. Army Corps of Engineers regulate "Waters of the United States" as defined in the Code of Federal Regulations as waters susceptible to use in commerce, including interstate waters and wetlands, all other waters (intrastate waterbodies, including wetlands), and their tributaries (33 CFR 328.3). Areas that are inundated at a sufficient depth and for a sufficient duration to exclude growth of hydrophytic vegetation are subject to Section 404 jurisdiction as "other waters" and are often characterized by an ordinary high water mark, and herein referred to as non-wetland waters. Non-wetland waters, for example, generally include lakes, rivers, and streams.

Section 404 of the CWA protects wetlands federally. In 1989 George H.W. Bush implemented the national "No-net Loss of Wetlands" policy which either avoids the filling of wetlands or mitigates the destruction and/or degradation of wetlands. U.S. Army Corps of Engineers defines wetlands as "areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas."

3.3 Waters of the States

Although very similar, the term "Waters of the State" is defined by the Porter-Cologne Water Quality Control Act (401) as "any surface water or groundwater, including saline waters, within the boundaries of the state." The State Water Resources Control Board [SWRCB] protects all waters in its regulatory scope and has special responsibility for wetlands, riparian areas, and headwaters. These waterbodies have high resource value, are vulnerable to filling, and are not systematically protected by other programs. SWRCB jurisdiction includes wetlands and waters that may not be regulated by the Corps under Section 404.

Waters of the state are protected from potential impacts associated with commercial cannabis through implementation of programmatic waste discharge ordinances. The first began in 2015 when the North Coast Regional Water Quality Control Board [NCRWQCB] began implementation of Order No. 2015-0023 *Waiver of Waste Discharge Requirements and General Water Quality Certification for Discharges of Waste Resulting from Cannabis Cultivation and Associated Activities or Operations with Similar Environmental Effects in the North Coast Region*. This ordinance was crafted prior to Proposition 64 and was based on the specific geomorphic, climatic, and ecological conditions of the North Coast region. After Prop 64 passed the SWRCB followed suit and issued the state wide discharge ordinance in the form of Order WQ 2017-0023-DWQ *General Waste Discharge Requirements and Waiver of Waste Discharge*

Requirements for Discharges of Waste Associated with Cannabis Cultivation Activities. Recent revisions can be found in the most current version of this ordinance, Order WQ 2019-0001-DWQ.

Until recently, Waters of the State did not include specific language regarding wetlands and any potential deviation from federal regulations. Resolution No. 2019-0015 solidified SWRCB state protections for wetlands along with a state definition. The SWRCB defines wetlands as "An area is wetland if, under normal circumstances, (1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both; (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and (3) the area's vegetation is dominated by hydrophytes or the area lacks vegetation." Per Section II.3.c. of Procedures for Discharge of Dredged or Fill Material to Waters of the State; the jurisdiction of artificial wetlands does not include incidental wetlands that have resulted from human activity subject to ongoing maintenance (e.g. inboard ditches, landing surfaces, road surfaces). Assuming these features are not an alteration of pre-existing waters of the state, they do not receive protection under Resolution No. 2019-0015.

3.4 Streamside Management Area

The Humboldt County General Plan and Humboldt County Code both contain a regulatory framework for the protection of areas near streams and wetlands. These areas, known as the Streamside Management Area [SMA], are defined and protected in Section 314-61 of the Humboldt County Code and Sections BR-S5 through BR-S11 of the Humboldt County General Plan (2017). The SMA is meant to protect the value and function of an aquatic resource outside of the direct footprint of the feature. The Humboldt County General Plan was recently updated in 2017. This update included a new definition for SMA's specifically located around wetlands. The update increased the setback for perennial wetland features from 100' to 150'.

4.0 Methods

4.1 Field Observations

All field data was collected by wildlife biologist, Jack A. Henry, using direct observations, measurements, and ocular estimations during multiple site visits. Mr. Henry has visited the Project Parcel multiple times to gather data in order to prepare technical reports for this APN. These reports include the Water Resource Protection Plan (March 2016), Biological Assessment (August 2019), and Aquatic Resource Delineation Report (August 2019). A 200' Lufkin FE200 HI-VIZ measuring tape and Forestry Pro (Nikon Laser Range Finder) was used for recording distances to the nearest tenth of a foot. Slope percent was measured using a Suunto PM-5/360 PC Clinometer to the nearest degree. The reach of the direct field observations covered terrestrial and aquatic habitat present within the project parcel. Habitats outside of property boundaries but within the WAA were assessed from road easements and accessed if possible.

4.2 Statement of Qualifications

This report has been prepared by Wildlife Biologist Jack A. Henry. Mr. Henry possesses a Bachelor of Science from Humboldt State University in Wildlife Conservation and Management. Mr. Henry has nine years of experience performing assessments for threatened and endangered species as well as their associated habitat, largely focused on avian species. Mr. Henry has been conducting watershed assessments as well as drafting and implementing associated permits for mitigation/remediation for six years. Mr. Henry has also completed basic and advanced training courses from Wetland Training Institute with four years of experience in wetland delineations.

4.3 Review of Scientific Literature

Scientific literature and data have been sourced from multiple locations. The majority of reference material has been sourced from online journal archives and databases. If hardcopies or PDFs could not be acquired the web URL and date of reference is present within the bibliography. Some species data is sourced from agency factsheets such as the U.S. Department of Agriculture [USDA], U.S. Geological Survey [USGS], and U.S. Fish and Wildlife Service [USFWS].

Additional information is sourced whenever possible from agency and non-governmental organization databases. These include the NRCS Web Soil Survey, CALTREES, California Natural Diversity Database, National Wetland Inventory GIS, NOAA Regional Climate Center, CalFlora, California Native Plant Society, Calscape, iNaturalist, eBird, and Streamstats.

4.4 Potential Impacts Assessment

This section contains discussion on potential impacts that may occur when natural conditions, pre-existing project conditions, and proposed activities culminate. Potential impacts listed are based off documented impacts in similar conditions or activities as well as the author's professional experience in rural land management and best management practices. Whenever possible these potential impact assessments and their recommended mitigations are based on the best available science in similar settings.

5.0 Results and Discussion

5.1 Project Location

The Project Parcel is located approximately 4.8 miles due east of Burnt Ranch, CA on the Hennessey Peak 7.5" USGS Quad. The Project Parcel is located within the Mingo Creek – South Fork Trinity River HUC12 watershed (HUC12#: 180102111206). The HUC12 watershed is approximately 28,780 acres in size and overlaps with approximately 17 miles of the South Fork Trinity River. The Project Area occurs within the sub-watershed of an unnamed intermittent tributary of the South Fork Trinity River. This report focuses on the Project Area. The Project Area consists of a pre-existing cultivation site approximately 50' from the edge of a delineated perennial wetland. The Project Area is located along the southern property boundary near the southeast corner. A site map has been attached in Appendix 2.

5.2 On-site Conditions

5.2.1 Wetland

The perennial wetland is a unique aquatic feature that is a rare natural occurrence within the region. The wetland is approximately 3.6 acres in size at full capacity. Water reaches the wetland through direct rainfall, overland run-off, and concentrated flow from the unnamed intermittent watercourse. The wetland occurs between two historic landslide features and emergent groundwater is suspected of contributing to the hydrology as well. The average depth of the wetland is 3-4 feet but there is one section of deep water in the SW corner, approximately 15'. Due to the variation in depth it is difficult to accurately estimate amount of total water capacity of the wetland. The feature can hold at least 10.8 acre feet or 3.5 million gallons of water. Review of California Geological Society [CGS] aerial imagery shows the feature existing as far back as 1947, prior to historic landslides. However in multiple historic images 1947, 1954, and 1962 the feature appears to be dry, possibly indicating the feature historically displayed intermittent hydrology prior to mass wasting events. The outflow of the wetland consists of an approximately 2-3' wide channel that experiences an abrupt grade change as it reaches the historical landslide downslope of the feature. This outflow configuration does not limit flow from the wetland and thus the water level is consistent throughout varied annual rainfall accumulations. This is also supported by the lack of high

water indicators outside of the delineated boundary, such as drift deposits, stained leaves, or surface cracks.

Generally, the wetland is dominated by native riparian vegetation with some acute areas displaying dominance of nonnatives. A majority of the wetland is bordered by a band of native willows (*Salix spp.*) that provides indirect shade to the wetland. There is no direct canopy over the wetland feature. Emergent aquatic vegetation covers approximately 30% of the surface area and consists of cattails (*Typha latifolia*), water parsnip (*Sium suave*), and sedges (*Carex spp.*). The wetland also hosts thickets of nonnative Himalayan blackberry (*Rubus armeniacus*). This wetland provides potential habitat for northern red-legged frog (*Rana aurora*), northwestern salamander (*Ambystoma gracile*), rough-skinned newt (*Taricha granulosa*), pacific chorus frog (*Pseudacris spp.*), and boreal toad (*Anaxyrus boreas boreas*). The pond is home to a population of at least 16 western pond turtles (*Emys marmorata*), a special status species.

Image 1 – Photograph of the wetland feature looking from north towards the Project Area from above the southern bank. Note how the Project Area is obscured by the dense vegetation of the surrounding SMA. Photo date: 05/16/16

5.2.2 Cultivation Site and Streamside Management Area

Development within the SMA may be characterized as low-intensity. Except for the structures and road surfaces, no area has been paved, rocked, or compacted. The cultivation site is dominated by a dense community of grasses both annual and perennial, chiefly Yorkshire fog (*Holcus lanatus*). See attached photographs. There are no signs of any active sediment discharge occurring at the cultivation site. This

area displays a gradual slope, approximately 3-5%. The Water Resource Protection Plan has not identified any mitigation necessary to protect water quality.

Image 2 – Photograph showing the amount of vegetation that persists within the Project Area during operations. This robust vegetation community provides filtration even within the impacted Project Area. Photo date: 05/16/2016

Outside of the cultivation site the SMA consists of native and nonnative vegetation. The SMA may be characterized by an inner band of riparian vegetation surrounded by upland communities. The inner riparian community consists of willows with some emergent aquatic vegetation, such as cattails, encroaching outside of the high water mark. Surrounding upland vegetation consists of a mixed hardwood-conifer forest with openings dominated by nonnative grasses and Armenian blackberry (*Rubus armeniacus*). The wetland is bordered by moderate slopes to the north and south with relative flat grades to the east and west.

5.3 Watershed Conditions

The Watershed Assessment Area (WAA) overlaps with the Project Parcel and surrounding land that contributes run-off to the unnamed intermittent watercourse. The WAA is approximately 134 acres in size and is transected by approximately 5,400 linear feet of intermittent stream channel. There are likely unmapped ephemeral tributaries present within the WAA. Intermittent stream channels within the WAA are dominated by these characteristics: step-pool morphology, high canopy cover, cobble/boulder substrate, and moderate stream incision. This watercourse provides potential habitat for amphibian species including coastal giant salamander (*Dicamptodon tenebrosus*), foothill yellow-legged frog (*Rana boylii*), and northern red-legged frog (*Rana aurora*). The gradient of the lower reach of this watercourse is too steep and acts as a natural barrier to fish passage (Flosi et al 2004). This watercourse contains only one stream crossing within its entire length. This intermittent watercourse flows through the wetland described in Section 5.2.1.

Terrestrial habitat present within the WAA consists of Douglas-fir forest (DFR) of varying successional stages. Timbered habitats display mid to late-seral characteristics. Species composition varies but upland habitats are dominated by Douglas-fir (*Pseudotsuga menziesii*) and tanoak (*Notholithocarpus densiflorus*). Additional tree species observed within the WAA in smaller proportions or as individuals include alder (*Alnus sp.*), big leaf maple (*Acer macrophyllum*), California black oak (*Quercus kelloggii*), canyon live oak (*Quercus chrysolepis*), incense cedar (*Calocedrus decurrens*), Jeffrey pine (*Pinus jeffreyi*), golden chinquapin (*Chrysolepis chrysophylla*), and pacific madrone (*Arbutus menziesii*). The understory of upland timbered habitat is dominated by California hazelnut (*Corylus cornuta*), pink honeysuckle (*Lonicera hispidula var. vacillans*), and poison oak (*Toxicodendron diversilobum*). There are two historic landslides that display early successional characteristics due to unstable slopes. These areas consist of grassed and bare mineral soil slopes dominated by coyote brush (*Baccharis pillularis*) and poison oak with thin ribbons of Doulas-fir and madrone trees where slope stability permits.

5.4 Potential Impacts

5.4.1 Direct

The development and operation of the existing cultivation site has not resulted in any direct impacts to the wetland. The project has not and will not fill or remove any portion of the wetland. Water is sourced from another pond within the property and two surface diversions present upslope of the Project Parcel in the sub-watershed. The Applicant has had the wetland delineated by a qualified professional so that the boundary and protective buffers may be accurately observed, preventing future direct impacts. There is potential that the project resulted in the destruction of special status plants, although this potential is reduced by the lack of any special habitat characteristics such as wet soils, ultramafic parent material, or uncommon soil pH. Although there is potential that direct impacts have occurred to special status plants, these impacts are unlikely to be significant given the amount of SMA unaltered by the project (0.25 ac ÷ 9.5 ac = 2.6% altered). The cultivation project as is existing is unlikely to have directly impacted the wetland feature or the value of the SMA.

5.4.2 Indirect

The greatest potential for impacts to occur to the wetland consists of potential indirect impacts to wildlife habitat, plant communities, water quality, and potential ecological services. This high potential exists due to the placement of the cultivation within the SMA. The purpose of these buffers is to prevent or reduce the potential for the project to indirectly impact the wetlands value. High value features generally have greater setbacks, 50' for seasonal wetlands compared to 150' for perennial wetlands. The potential for these impacts is assessed because at no time have there been any observations indicating these impacts are occurring.

5.4.2.1 Indirect Impacts to Potential Habitat

The perennial wetland provides critical potential habitat for wildlife and plants, including multiple special status species. The encroachment into the SMA does not significantly affect the wetland's ability to provide potential critical habitat. As stated, the pond currently provides habitat for western pond turtle, red-legged frog, pacific chorus frog, rough-skinned newt, and arboreal toad. Although in close proximity, the Project Area is not visible from the wetland due to dense riparian vegetation. The project is operated solely by the landowner and does not generate significant levels of noise that may disturb nearby special status wildlife. Given these conditions, the project is unlikely to have disturbed wildlife within proximity of the project.

The lack of disturbance is evident given the presence of a local population of western pond turtle, which are sensitive to anthropogenic disturbance (Thomas et al 2016). Although no aquatic habitat has been directly removed, the location of the Project Area does remove potential terrestrial habitat from the western pond turtle. Potential pond turtle denning habitat may be generally defined as terrestrial habitat within 100m of suitable aquatic habitat with slopes less than 15%, although exceptions to this have been documented (Thomas et al 2016, Davidson and Alvarez 2020). Given these characteristics, the 0.25 acre Project Area only removes approximately 1% of potential terrestrial habitat from the northwestern pond turtle. Western pond turtles that inhabit water bodies with limited depth and velocity fluctuation are known to over winter within their aquatic habitats, not requiring wintering terrestrial habitat. Western pond turtles have been observed basking in the pond feature over winter, January, possibly reducing potential impacts from loss of terrestrial habitat within the SMA. Due to the small percentage of impacted potential habitat and the high quality of remaining potential habitat, the project is unlikely to impact western pond turtle.

5.4.2.2 Indirect Impacts to Water Quality

Wetlands provide a critical ecological function in their ability to filter nutrient and sediment loads from a water body. This process is critical for the natural balance of nutrient cycles but can also be used to filter pollutants from non-point source runoff and even industrial effluent (Osborne and Kovacic 1993, Allison et al 2000, Fisher and Acreman 2004, Yousef et al 2021). Separate from wetlands abilities to filter pollutant loads, Streamside Management Areas (SMA) provide additional areas of filtration for treating overland flows that intersect them. Generally, this filtration is critical to protect water quality within rivers and lakes but may be redundant in specific wetland settings. The location of the Project Area within the SMA does reduce the length of terrestrial overland filtration. However, given baseline conditions, project conditions, and the aquatic feature being a wetland this reduction is not expected to indirectly impact water quality within the wetland or downstream.

The Project Area occurs on a gradual slope with dense herbaceous vegetation. These conditions represent a minimal risk of erosion and subsequent sediment discharge. There has been no documented observation of surface erosion occurring at the Project Area. The site conditions reduce the risk of erosion and resulting sediment discharge. This is supported by the WRPP drafted in 2016, where no erosion control mitigations were prescribed for the Project Area. Additionally, the wetland feature is a natural sediment sink, removing suspended sediment from surface water within the system (Phillips 1989).

Nutrient runoff from agricultural projects in proximity to aquatic resources presents the risk of nutrient loading and subsequent eutrophication. Carpenter et al (1997) reported that in agricultural settings, nutrient loading in runoff can be directly mitigated through proper management and application of nutrients. The Applicant utilizes organic nutrients and strictly follows agronomic rates recommended on the labeling. There is no evidence within the Project Area that the Applicant irrigates plants at such a rate to cause overland flow during the dry months. Additionally, "flushing plants" is a common practice in cannabis cultivation where the Applicant ceases the use of nutrients in the last 2-3 weeks in order to promote nutrient uptake from the soils. This is done to benefit the end product of the crop, but it also aids in the reduction of nutrients within cultivation spoils after use. These cultivation strategies limit the amount of nutrient load within soils prior to saturation and potential discharge.

Wetlands and SMAs filter nutrients from surface waters through chemical processes including denitrification, adsorption to sediment particles, and uptake by vegetation (Hill 1996, Fisher and Acreman 2004). Multiple studies have found correlations between riparian buffers and nutrient removal from

overland runoff (Lowrance et al 1984, Osborne and Kovacic 1993, Hill 1996, Dosskey et al 2002, Everest and Reeves 2007, Hazlet et al 2008, Zauzo and Pleguezuelo 2009). Osborne and Kovacic (1993) found that vegetated buffers (SMAs) reduced phosphorous loading in overland flows from 50-85%. The risk of significant overland nutrient transportation comes from overwintering of the site, when soils become saturated and nutrients are mobilized within storm run-off. The existing SMA is densely vegetated with native and nonnative herbs and shrubs (Image 2).

Even during times of operations, vegetation groundcover exceeds 85% within the Project Area and reaches 100% throughout the remainder of the SMA. In addition to the SMA maintaining dense ground cover annually, one species in particular provides additional mitigations. Armenian blackberry is a vigorous stoloniferous vine that has the ability to resprout from buried plant material and bud from creeping stems. The growth of stolons and resprouting of buried material are processes that rapidly create macropores within the upper horizon of the soil profile. These macropores aerate the soil and increase the rate of infiltration. The presence of this thicket does not only increase the potential for nutrient uptake from the rhizosphere but it also increases the capacity for surface water infiltration as well.

Given the low intensity of activities at the site, the conscious use of plant nutrients, and the low risk of baseline conditions, nutrient runoff is not expected to impact the water quality within or downstream of the wetland during saturated conditions.

5.4.3 Cumulative

Cumulative impacts occur when multiple stressors, often insignificant on their own, compound incrementally to result in a significant impact (EPA 1999). The Project Area is incapable of contributing to potential cumulative impacts within the sub-watershed as it is the only area of private property present. There is no avenue for other anthropogenic impacts to occur within the sub-watershed. The remaining land within the sub-watershed is owned and managed by the U.S. Forest Service (USFS). Although the USFS has the potential to harvest timber from the watershed, national protections of aquatic resources will prevent the accumulation of less than significant impacts associated with aquatic resources. There is no potential for the significance of potential impacts to increase over-time given potential future land-use within the sub-watershed.

5.5 Discussion

At the time of initial enrollment into the first available permit for commercial cannabis cultivation this Project Area was compliant with NCRWQCB wetland setbacks of 50' from the edge of the delineated wetland. Between 2016 and 2021, both state and local regulations regarding wetland setbacks have increased. State water resource agencies have increased the setback from 50' to 100' but allow the grandfathered setback of 50' to remain on sites that were enrolled in Order No. 2015-0023. Although these agencies retain the discretion to increase setbacks, the allowance of the shorter setback indicates adequacies in this distance's ability to protect water quality. Humboldt County regulations regarding the wetland SMA increased from 100' to 150' in 2017. However, state water agencies are the leading authority regarding protections for aquatic resources within the state. As such, this project is permitted a 50' setback from the wetland per NCRWQCB and SWRCB regulations.

Not only is the reduced setback supported by water quality regulations, but site conditions in chorus with cultivation strategies reduce the risk of nutrient discharge. The gradual slope, robust vegetation community, and low intensity of activities pose an unlikely risk of delivering enough nutrient runoff to

impact the wetland feature. If runoff containing elevated nutrient loads do reach the wetland, these loads are likely so low they will be treated by the wetland before effecting water quality within or downstream (Lowrance et al 1984, Osborne and Kovacic 1993, Hill 1996, Choudhary et al 2011).

The purpose of the SMA is to protect important ecological features and processes provided by aquatic resources. The proposal to reduce the wetland SMA is predicated on the determination that the reduced size will not significantly affect the biological resources of the SMA on property, including the value of the wetland itself.

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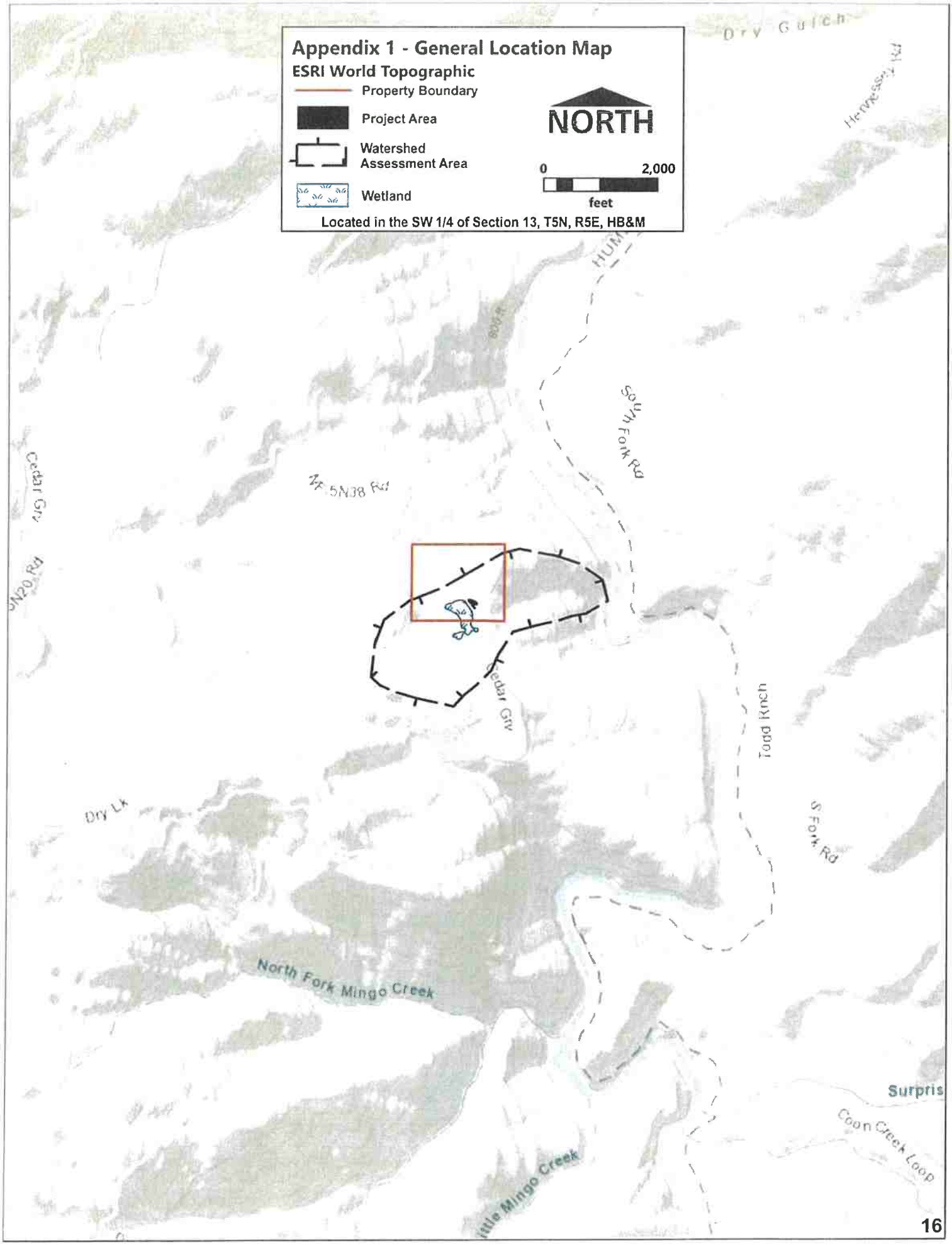
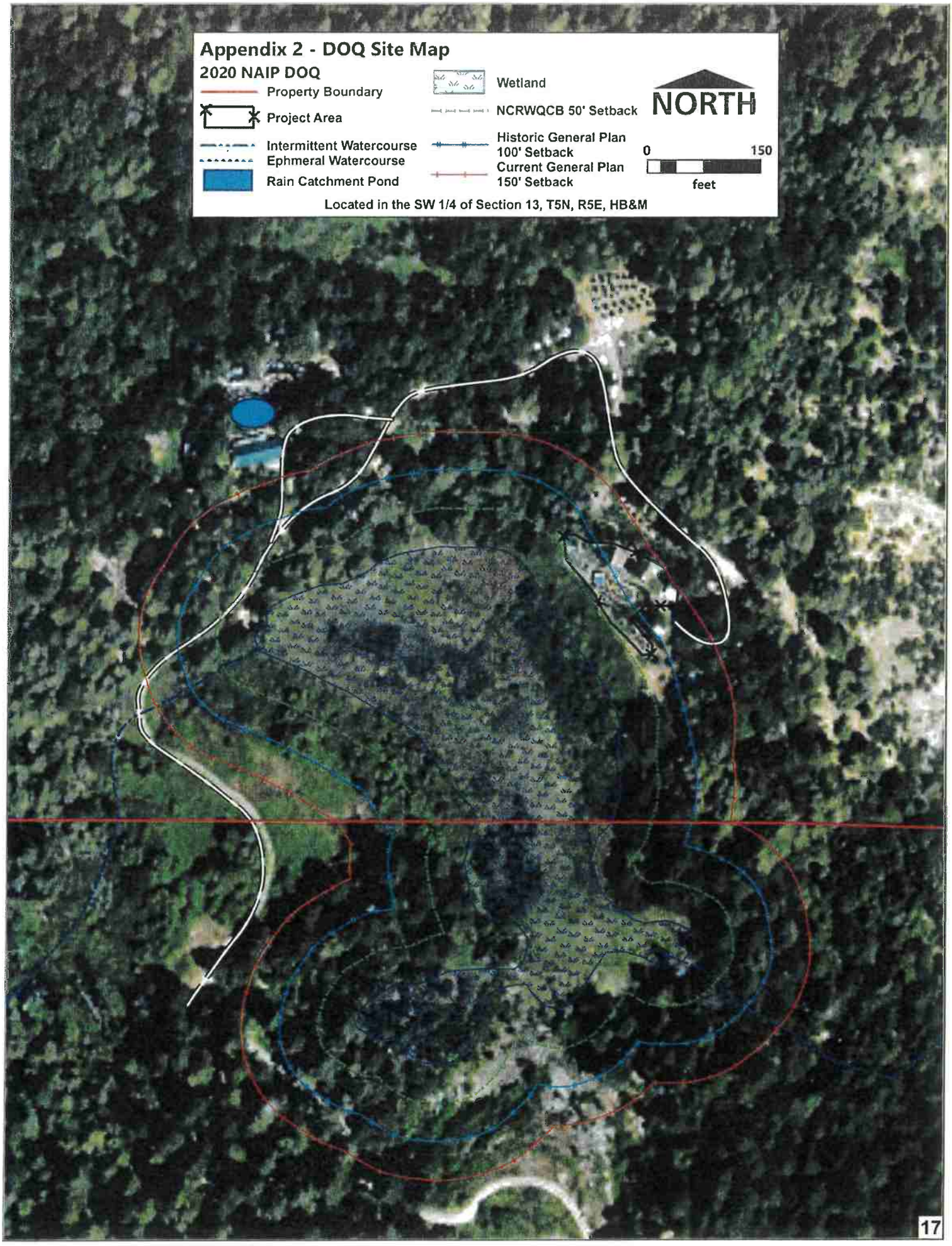

Appendix 1 - General Location Map
ESRI World Topographic
Property Boundary
Project Area
Watershed Assessment Area
Wetland
NORTH
0
2,000
feet
Located in the SW 1/4 of Section 13, T5N, R5E, HB&M
Dry Gulch
South Fork Rd
5N38 Rd
Cedar Grv
Todd Knch
S Fork Rd
Dry Lk
North Fork Mingo Creek
Coon Creek Loop


Appendix 2 - DOQ Site Map
2020 NAIP DOQ
Property Boundary
Project Area
Intermittent Watercourse
Ephmeral Watercourse
Rain Catchment Pond
Wetland
NCRWQCB 50' Setback
Historic General Plan 100' Setback
Current General Plan 150' Setback
NORTH
0
150
feet
Located in the SW 1/4 of Section 13, T5N, R5E, HB&M

Appendix 3 – Special Status Species with Potential to Occur

This list consists of a modified version of the species list from the Biological Assessment prepared by Timberland Resource Consultants. The list has been modified to focus on potential to occur within the wetland feature and the surrounding SMA. Species with no potential to occur within these specific habitats have been omitted from the original list.

Bird Species of Special Concern

- **Bald Eagle** (*Haliaeetus leucoephalus leucocephalus)*

  Status: Federally protected under Bald and Golden Eagle Act, De-listed from ESA in 2007, CESA Endangered, G5, S3, BLM Sensitive Species, CDF Sensitive Species, USFS Sensitive Species, CDFW Fully Protected, USFWS Birds of Conservation Concern

  Key Habitat: Bald eagles are rare to uncommon residents and locally rare breeders in Humboldt County (Harris 2005). Bald Eagles require large bodies of water, or free flowing rivers with abundant fish, and adjacent snags or other perches. Nesting/roosting habitat consists of tall trees with either broken tops or stout branches denude of vegetation. Bald Eagles nest most frequently in stands with less than 40% canopy cover (Polite and Pratt 1990a).

  Status in Project Parcel: Although potential habitat occurs within the greater WAA, trees within the SMA are not suited for this species nesting requirements. There is no potential for bald eagles to be found nesting in the SMA.

- **Little Willow Flycatcher** (*Empidonax traillii brewsteri*)

  Status: CESA Endangered, G5, S1S2, USFWS Birds of Conservation Concern, USFS Sensitive Species

  Key Habitat: Willow flycatcher can be fairly common spring and fall migrants on the northwestern coast. Willow flycatcher prefers dense willow or similar riparian shrub along persistent water (Gaines 1990). Recent bird surveys have found increased evidence that flycatchers have been utilizing young (5-15 years) clearcuts with dense regeneration and a strong hardwood component (Hunter et al 2005). Potentially prefer sights with less brown-headed cowbird (*Molothrus ater*) presence.

  Status in Project Parcel: The SMA provides high quality potential habitat for willow flycatcher. The reduction of the SMA has not removed any willows or potential habitat from this species. Although high quality habitat is present this species has rarely been observed breeding in Humboldt County. There is a moderate potential for encountering this species within the SMA.

- **Northern Goshawk** (*Accipiter gentilis*)

  Status: G5, S3, CDFW Species of Special Concern (CSSC) Priority 3, BOF, CDF, BLM, and USFS Sensitive Species

  Key Habitat: Usually nests on north slopes, near water, in densest parts of stands, but close to openings (Polite and Pratt 1990b). Northern Goshawk are strongly associated with mature or old-growth forest stands because they often display the preferred characteristics. These include canopy closure, frequently large diameter conifer trees, and relatively open understories (Keane 2008).

Status in Project Parcel: There is one known historic northern goshawk occurrence (HU004) that overlaps with the WAA. This nest observation occurred in 1983 in Section 14. The SMA does not provide potential nesting habitat for northern goshawk, although it does provide potential habitat for prey species. There is no potential of encountering nesting goshawk within the SMA, however there is a moderate potential for encountering foraging goshawks.

- **Northern Spotted Owl** (*Strix occidentalis caurina*)

  Status: ESA and CESA Threatened, G3G4, S1, CDF Sensitive Species, IUCN Endangered, North American Birds of Conservation Initiative Red Watch List

  Key Habitat: Humboldt County supports a substantial number of breeding pairs of Northern Spotted Owl (Hunter et al. 2005). Northern spotted owls reside in dense, old-growth, multi-layered mixed conifer, redwood, and Douglas-fir habitats, from sea level up to approximately 2300m (0 – 7,600'). They usually nests in tree or snag cavities, or in broken tops of large trees (Polite C. 1990). In northwestern California, northern spotted owls also occur in second growth redwood-tanoak stands that retain suitable trees for nests and support high densities of their preferred prey, dusky-footed woodrats (Hunter et al. 2005).

  Status in Project Parcel: The SMA does not provide adequate canopy closure to meet the definition of potential nesting/roosting habitat. The SMA may provide low quality foraging habitat to adjacent nesting/roosting habitat within the greater WAA. There is no potential for encountering a nesting/roosting NSO within the SMA.

Mammal Species of Special Concern

- **American Badger** (*Taxidea taxus*)

  Status: G5, S3, CDFW Species of Special Concern, IUCN: Least Concern

  Key Habitat: Badgers are generalist species often found in drier open stages of most shrub, forest, and herbaceous habitats with sandy soils (Ahlborn 1990). They have historically been found throughout the state except for the northern north coast (Grinnell et al 1937 in Ahlborn 1990). Apps et al (2002) found positive habitat correlations with specific soil parent materials, sandy-loam soil textures, canopy openness, agricultural habitats, and linear disturbances (roads). Badger habitat selection negatively correlated with canopy cover, wet vegetation, and terrain ruggedness (Apps et al. 2002).

  Status in Project Parcel: The SMA is not suited for potential badger habitat. The SMA and surrounding habitats consist of the negative habitat correlates from the Apps et al (2002) study. There is an unlikely potential for American badger to be encountered within the SMA.

- **Fringed Myotis** (*Myotis thysanodes*)

  Status: G4, S3, BLM: Sensitive Species, IUCN: Least Concern, USFS: Sensitive, Western bat Working Group (WBWG): High Priority

  Key Habitat: Fringed myotis are a gleaning bat that usually roost in caves, rock crevices, or anthropogenic structures. Unlike other parts of their range, these bats are known to be an active tree-roosting species in Humboldt County. Weller and Zabel (2001) found that in Pilot Creek (Humboldt County) fringed myotis used snag structures at least 11" DBH as day roosts (not maternal) and displayed low site fidelity which is common in tree-roosting species. They found the

greatest predictor of fringed myotis day-use roost was snag density given the low site fidelity and roost size variability (Weller and Zabel 2001). Lacki and Baker (2007) found maternal roosts were always located in rock crevices in the state of Washington with Hayes (2011) concluding similar results in Colorado. There is no literature available on maternal colonies in coastal conifer forests in California.

Status in Project Parcel: The WAA lacks any large rock outcroppings that may provide potential maternal roosting structure for this species. The wetland feature does contain snag structures along the southern banks that may provide potential roosting habitat for individuals or small groups. There is a high potential for this species to be found within the SMA of the wetland.

- **Humboldt Marten** (*Martes caurina humboldtensis*)

  Status: State Candidate for Threatened, G5T1, S1, CSSC, USFS: Sensitive Species

  Key Habitat: Humboldt marten were once thought to be extinct but are now known from three remnant populations in the Pacific Northwest. One population is known from California in the northeastern portion of Humboldt County. Additional survey efforts occurred in 2009 in Mendocino but failed to detect any martens, further strengthening evidence that the Klamath population is the last (Slauson et al. 2009). Slauson et al. (2002) found that Humboldt Martens selected forest stands located in the most mesic aspects with dense shrub cover in close proximity to large diameter mature conifer species.

  Status in Project Parcel: The WAA does contain mature conifer forests with variable shrub layers that may provide potential habitat for Humboldt marten. It is less known how marten utilize riparian habitats, especially ones with open canopies and a dominance of hardwoods. If the SMA is utilized by marten it is likely as foraging as no denning structure occurs. There is an unlikely potential for encountering marten within the SMA.

- **Long-eared Myotis** (*Myotis evotis*)

  Status: G5, S3, BLM Sensitive Species, IUCN Least Concern

  Key Habitat: Long-eared myotis are relatively widespread across California. They are known to roost individually or in small groups of less than 10 individuals (Harris 1990, Kunz and Lumsden 2003). Kunz and Lumsden (2003) described them as tree-roosting bats as well as previous written descriptions in literature (Rancourt et al 2005). Rancourt et al (2005) found in their study that rock crevices were chosen as maternity roosts more often than stump or snag structures. This species also has a low roost fidelity meaning they often move roost locations with an acute area, <400m (Kunz and Lumsden 2003). It is hypothesized this species would select rock crevices over snag/stump structures because of their potential benefits to reproductive fitness (Rancourt et al 2005). Kalcounis-Rüppel et al (2005) found that tree dwelling bats relative to random trees select trees that are larger diameter, taller, closer to open surface water, and are located in more open canopies.

  Status in Project Parcel: The WAA lacks any large rock outcroppings that may provide potential maternal roosting structure for this species. The wetland feature does contain snag structures along the southern banks that may provide potential roosting habitat for individuals or small groups. There is a high potential for this species to be found within the SMA of the wetland.

- **Long-legged Myotis** (*Myotis volans*)

  Status: G5, S3, Western Bat Working Group: High Priority, IUCN Least Concern

  Key Habitat: Long-legged myotis are known to use a multitude of roost structures depending on the specific roosting behavior whether it be a day roost, maternal roost, night roost, or hibernacula (hibernation roost) (Christy and West 1993). This species has been observed utilizing buildings, bridge structures, bark crevices, and rock crevices for solitary roosts (night or day roost). For maternal roosting they select buildings, bark crevices, rock crevices, or snag structures (Christy and West 1993). Orsmbee and McComb (1998) found this species primarily selected snag structures that were exposed to sunlight either through canopy openings or elevation above the average canopy height in a Douglas-fir/western hemlock forest in Oregon.

  Status in Project Parcel: The WAA lacks any large rock outcroppings that may provide potential maternal roosting structure for this species. The wetland feature does contain snag structures along the southern banks that may provide potential roosting habitat for individuals or small groups. There is a high potential for this species to be found within the SMA of the wetland.

- **North American Porcupine** (*Erethizon dorsatum*)

  Status: G5, S3, IUCN Least Concern

  Key Habitat: Most common in montane conifer, Douglas-fir, alpine dwarf-shrub, and wet meadow habitats. Porcupines are less common in hardwood, hardwood-conifer, montane and valley-foothill riparian, aspen, pinyon-juniper, low sage, sagebrush, and bitterbrush. Dens in caves, crevices in rocks, cliffs, hollow logs, snags, burrows of other animals; will use dense foliage in trees if other sites are unavailable. In spring and summer, feeds on aquatic and terrestrial herbs, shrubs, fruits, leaves, and buds. Winter diet consists of twigs, bark, and cambium of trees, particularly conifers, and evergreen leaves (Johnson and Harris 1990).

  Status in Project Parcel: Timberlands within the greater WAA do provide potential habitat for this species. Although the wetland and western edge provide potential wet meadow habitat with aquatic herbaceous plants present, the prominence of hardwood species may reduce their potential for occurrence. There is a moderate potential for encountering porcupine in the SMA.

- **Pacific Fisher – West Coast DPS/Northern California ESU** (*Pekania pennanti*)

  Status: G5T2T3Q, S2S3, CDFW Species of Special Concern Priority 2, BLM Sensitive Species, USFS Sensitive Species

  Key Habitat: Fisher occurrence is regularly associated with low- to mid-elevation coniferous and mixed conifer/hardwood forests with mature or late-successional characteristics. Regardless of age class, abundant physical structure is the driving characteristic for habitat selection by Fishers (USFWS 2016). Other studies have found Fishers prefer a strong hardwood component possibly related to prey densities (Lofroth et al 2011). Fishers have also been observed using second growth and regenerative conifer stands in areas where significant residual structure was left from historic timber management (Mathew et al 2008). Fishers are highly territorial defending 10 square mile territories from one another; as a result, they are inherently rare (Ingles 1965).

  Status in Project Parcel: Timberlands within the greater WAA do provide potential habitat for this species. It is unknown how fisher within the WAA may potentially utilize the SMA and

wetland feature. Fisher generally do not utilize areas with little to no canopy. Although Fisher have a high potential of occurring in surrounding timberlands, they are unlikely to be encountered within the SMA.

Reptiles and Amphibians of Special Concern

- **Foothill Yellow-legged Frog** (*Rana boylii*)

  Status: Candidate for CESA Threatened, G3, S3, CDFW Species of Special Concern Priority 1, USFS Sensitive Species, BLM Sensitive Species, IUCN Near Threatened

  Key Habitat: Foothill yellow-legged frog's habitat selection as many frogs, depends on their life stage. This species is primarily found in and around streams with shallow, flowing water with some cobble-sized substrate (Hayes and Jennings 1988). Egg masses require low flowing stream locations with some form of anchor and protection such as behind or under a rock (Thomson et al. 2016). Not much is known about foothill yellow-legged frog terrestrial habitat selection. Bourque (2008) found adult foothill yellow-legged frog an average distance from water of 3 m but also found select individuals up to 40 m from any surface water. This studied evaluated an inland population in Tehama County and coastal populations in more mesic timberlands may disperse farther distances more regularly. The best indicator for adult foothill yellow-legged frog presence is canopy openness (Welsh and Hodgson 2011).

  Status in Project Parcel: Intermittent watercourses within the Project Parcel provide potential habitat for this species. These watercourses provide potential winter refugia from high velocity flows downstream in the South Fork Trinity River. The slow velocity of water within the wetland like deters potential egg laying by this species. There is a high potential of encountering this species within the SMA and associated aquatic habitat.

- **Northern Red-Legged Frog** (*Rana aurora aurora*)

  Status: CDFW Species of Special Concern Priority 2, USFS Sensitive Species, IUCN Least Concern

  Key Habitat: Northern red-legged frog (northern red-legged frog) is relatively terrestrial for a ranid frog (Thomson et al. 2016). Adult individuals are common in terrestrial habitats especially over winter or wet periods but they commonly prefer shorelines or stream banks with vegetative cover. Individuals have been observed up to 80 m away from surface water in rainy conditions (Haggard 2000). Reproductive sites require persistent water at least 6" deep with emergent vegetation required to anchor egg masses (Morey and Basey 1990). Jennings et al. (1993) found that intermittent streams chosen by northern red-legged frog for breeding retained surface water year-round.

  Status in Project Parcel: The wetland and associated SMA provides high quality potential habitat for this species. The presence of bullfrogs may potentially impact this species within the wetland. Northern red-legged frogs have a high potential of occurring in the wetland and associated SMA.

- **Northwestern Pond Turtle** (*Emys marmorata*)

  Status: G3G4, S3, CDFW Species of Special Concern Priority 1, BLM Sensitive Species, USFS Sensitive Species, IUCN Vulnerable

Key Habitat: Northwestern pond turtles are aquatic habitat generalist and can be found in a variety of waterbodies including rivers, streams, lakes, ponds, and marshes. Northwestern pond turtle have even been observed using ephemeral water features such as vernal pools or settling ponds. These turtles require upland habitat with adequate soil conditions for excavating nests that also lack disturbance. Studies have shown females prefer nesting sites within 100 m of a waterbody. Northwestern pond turtle prefer quiet and undisturbed water features with adequate basking substrate such as emergent woody debris or relatively unshaded shorelines (Thomson et al. 2016). They can persist in unfavorable conditions for some period of time (Spinks et al. 2003).

Status in Project Parcel: Northwestern pond turtles were observed basking within the wetland during the site assessment. Northwestern pond turtles are present within the wetland.

Plant Species of Special Concern

Astragalus umbraticus		**Bald mountain milk-vetch**	
Fed List: None	**State List:** None	**CNPS List:** 2B.3	**State Rank:** S2
USGS 7.5' Quad (CNDDB): Bald Hills, Fish Lake, French Camp Ridge, Holter Ridge, Hupa Mountain, Johnsons, Lord-Ellis Summit, Maple Creek, Showers Mtn, Tish Tang Point, Weitchpec, Willow Creek			
Documented in SMA: No		**Potential Habitat in SMA:** Yes	
Habitat: Cismontane woodland, lower montane coniferous forest (CNNDB). Dry open woodland (Jepson eflora). Foothill woodland (Calfora).			
Bensoniella oregona		**Bensoniella**	
Fed List: None	**State List:** Rare	**CNPS Rank:** 1B.1	**State Rank:** S2
USGS 7.5' Quad (CNNDB): Deny, Salyer, Maple Creek, Mad River Buttes, and Board Camp Mountain			
Documented in SMA: No		**Potential Habitat in SMA:** Yes	
Habitat: Chaparral, Lower montane coniferous forest, North coast coniferous forest, Riparian scrub (CNNDB). Wet meadows and bogs (Jepson eflora). Yellow pine forest, freshwater wetlands, wetland-riparian (Caflora).			
Botrypus virginianus		**Rattlesnake fern**	
Fed List: None	**State List:** None	**CNPS Rank:** 2B.2	**State Rank:** S2
USGS 7.5' Quad (CNDDB): Hennessey Peak			
Documented in SMA: No		**Potential Habitat in SMA:** Yes	
Habitat: Bog & fen, lower montane coniferous forest, meadow & seep, riparian forest, upper montane coniferous forest, wetland (CNDDB). Moist shaded valleys along small streams (Jepson eflora).			
Carex arcta		**Northern clustered sedge**	
Fed List: None	**State List:** None	**CNPS Rank:** 2B.2	**State Rank:** S1
USGS 7.5' Quad (CNDDB): Board Camp Mountain, Hayfork Bally			
Documented in SMA: No		**Potential Habitat in SMA:** Yes	
Habitat: Bog & fen, North coast coniferous forest, Wetland (CNDDB). Wet places, especially sphagnum bogs (Jepson eflora). North Coastal Coniferous Forest, Douglas-Fir Forest, wetland-riparian (Calflora).			
Carex praticola		**Northern meadow sedge**	
Fed List: None	**State List:** None	**CNPS Rank:** 2B.2	**State Rank:** S2
USGS 7.5' Quad (CNNDB): Arcata South, Bark Shanty Gulch, Eureka, French Camp Ridge, Grouse Mtn., Holter Ridge, Orick			

Documented in SMA: No **Potential Habitat in SMA:** Yes

Habitat: Meadow & seep, wetland (CNDDB) Moist to wet meadows, riparian edges, open forest (Jepson eflora) Coastal prairie, north coastal coniferous forest, meadows (Calflora)

Eriastrum tracyi **Tracy's eriastrum**

Fed List: None **State List:** Rare **CNPS List:** 3.2 **State Rank:** S3

USGS 7.5' Quad (CNDDB): Dubakella Mtn, Hayfork, Hyampom, Hyampom Mountain

Documented in SMA: No **Potential Habitat in SMA:** Yes

Habitat: Chaparral, cismontane woodland, valley and foothill grassland (CNNDB). Open areas on shale or alluvium, open woodland, chaparral (Jepson eflora).

Erigeron maniopotamicus **Mad river fleabane daisy**

Fed List: None **State List:** None **CNPS List:** 1B.2 **State Rank:** S2?

USGS 7.5' Quad (CNDDB): Board Camp Mountain, Dinsmore

Documented in SMA: No **Potential Habitat in SMA:** Yes

Habitat: Lower montane coniferous forest, Meadow & seep (CNNDB). Bogs and small streams (Jepson eflora). Yellow pine forest, Red fir forest, lodgepole forest, subalpine forest, freshwater wetlands, wetland-riparian (Calflora).

Erythronium oregonum **Giant Fawn Lily**

Fed List: None **State List:** None **CNPS List:** 2B.2 **State Rank:** S2

USGS 7.5' Quad (CNDDB): Blue Creek Mtn, Ettersburg, Fish Lake, Grouse Mtn, Hennessey Peak, Hoopa, Hupa Mountain, Panther Creek, Iaqua Buttes, Johnsons, Lord-Ellis Summit, Myers Flat, Scotia, Somes Bar, Taylor Peak, Tish Tang Point

Documented in SMA: No **Potential Habitat in SMA:** Yes

Habitat: Cismontane woodland, Meadow & seep, Ultramafic (CNNDB). Openings in woodlands (Jepson eflora). Mixed Evergreen Forest (Calflora).

Erythronium revolutum **Coast fawn lily**

Fed List: None **State List:** None **CNPS Rank:** 2B.2 **State Rank:** S3

USGS 7.5' Quad (CNDDB): Bald Hills, Blue Lake, Board Camp Mtn., Bridgeville, Buckeye Mtn., Dinsmore, Ettersburg, Eureka, French Camp Ridge, Garberville, Grouse Mtn., Holter Ridge, Hupa Mountain, Iaqua Buttes, Johnsons, Korbel, Lord-ellis Summit, Mad River Buttes, Maple Creek, Miranda, Myers Flat, Owl Creek, Piercy, Scotia, Taylor Peak, Weitchpec, Yager Junction

Documented in SMA: No **Potential Habitat in SMA:** Yes

Habitat: Bogs and fens, broadleafed upland forest, north coast coniferous forest. Mesic sites, streambanks (CNDDB). Streambanks, wet places in woodlands (Jepson eflora). Redwood forest, mixed evergreen forest, wetland-riparian (Calflora).

Gilia capitate ssp pacifica **Pacific gilia**

Fed List: None **State List:** None **CNPS List:** 1B.2 **State Rank:** S2

USGS 7.5' Quads (CNDDB): Bridgeville, Larabee Valley, Board Camp Mountain, and Mad River Buttes

Documented in SMA: No **Potential Habitat in SMA:** Yes

Habitat: Chaparral, Coastal bluff scrub, Coastal prairie, Valley and foothill grasslands (CNDDB). Steep slopes, ravines, open flats, or coastal bluffs, grassland, dunes (Jepson eflora).

Iliamna latibracteata **California globe mallow**

Fed List: None **State List:** None **CNPS List:** 1B.2 **State Rank:** S2

USGS 7.5' Quad (CNDDB): Board Camp Mountain, Denny, Fern Canyon, French Camp Ridge, Grouse Mountain, Hopkins Butte, Korbel, Lord-ellis Summit, Maple Creek, Orick, Salyer, Sims Mountain, Tish Tang Point, Willow Creek

Documented in SMA: No **Potential Habitat in SMA:** Yes

Habitat: Chaparral, Lower montane coniferous forest, North coast coniferous forest, Riparian scrub (CNDDB). Conifer forest, streamsides (Jepson eflora).

Lupinus elmeri **South Fork Mountain lupine**

Fed List: None **State List:** None **CNPS List:** 1B.2 **State Rank:** S2

USGS 7.5' Quad (CNDDB): Blake Mountain, Sims Mountain

Documented in SMA: No **Potential Habitat in SMA:** Yes

Habitat: Lower montane coniferous forest (CNDDB). Open areas in conifer forest (Jepson eflora).

Lycopodium clavatum **Running-pine**

Fed List: None **State List:** None **CNPS List:** 4.1 **State Rank:** S3

USGS 7.5' Quad (CNDDB): Arcata North, Arcata South, Bald Hills, Blue Lake, Crannell, Hydesville, Iaqua Buttes, Korbel, Maple Creek, McWhinney Creek, Orick, Owl Creek, Panther Creek, Redcrest, Rodger's Peak, Scotia, Sims Mountain, Trinidad, Weott

Documented in SMA: No **Potential Habitat in SMA:** Yes

Habitat: Lower montane coniferous forest, north coast coniferous forest, marshes and swamps; Forest understory, edges, openings, roadsides; mesic sites with partial shade and light (CNDDB). Moist ground, swamps, on trees (Jepson eflora). Freshwater-marsh (Calflora).

Montia howellii **Howell's montia**

Fed List: None **State List:** None **CNPS List:** 2B.2 **State Rank:** S2

USGS 7.5' Quad (CNDDB): Arcata North, Bald Hills, Blocksburg, Briceland, Bridgeville, Buckeye Mountain, Bull Creek, Capetown, Eureka, Ferndale, Fields Landing, Fort Seward, Fortuna, Hupa Mountain, Hydesville, Iaqua Buttes, Korbel, Larabee Valley, Lord-ellis Summit, Mad River Buttes, Maple Creek, McWhinney Creek, Miranda, Myers Flat, Orick, Owl Creek, Panther Creek, Redcrest, Salyer, Scotia, Taylor Peak, Weitchpec, Willow Creek, Yager Junction

Documented in SMA: No **Potential Habitat in SMA:** Yes

Habitat: Meadow & seep, North coast coniferous forest, vernal pool, wetland (CNDDB). Vernally wet sites, often compacted soils (Jepson eflora). Redwood forest, Freshwater wetlands, Wetland-riparian (Calflora)

Piperia candida **White-flowered rein orchid**

Fed List: None **State List:** None **CNPS Rank:** 1B.2 **State Rank:** S3

USGS 7.5' Quad (CNDDB): Bald Hills, Blake Mountain, Board Camp Mtn., Briceland, Bridgeville, Buckeye Mtn., Bull Creek, Crannell, Fish Lake, French Camp Ridge, Holter Ridge, Honeydew, Hoopa, Hupa Mountain, Iaqua Buttes, Johnsons, Larabee Valley, Lord-ellis Summit, Mad River Buttes, Maple Creek, Miranda, Myers Flat, Scotia, Showers Mtn., Sims Mountain, Weitchpec, Weott, Willow Creek

Documented in SMA: No **Potential Habitat in SMA:** Yes

Habitat: North coast coniferous forest, lower montane coniferous forest, broadleafed upland forest. Sometimes on serpentine, forest duff, mossy banks, rocky outcrops, and muskeg. (CNDDB). Open to shady spots, conifer and mixed-evergreen forest (Jepson eflora). Yellow Pine Forest, north coast coniferous forest (Calflora).

Ramalina thrausta **Angel's hair lichen**

Fed List: None **State List:** None **CNPS List:** 2B.1 **State Rank:** S2?

USGS 7.5' Quad (CNDDB): Grouse Mtn.

Documented in SMA: No **Potential Habitat in SMA:** Yes

Habitat: North coast coniferous forest (CNDDB).

Sidalcea malviflora ssp. patula **Siskiyou checkerbloom**

Fed List: None **State List:** None **CNPS List:** 1B.2 **State Rank:** S1

USGS 7.5' Quad (CNDDB): Arcata North, Bald Hills, Board Camp Mountain, Bridgeville, Capetown, Denny, Eureka, Ferndale, Fields Landing, Fortuna, Grouse Mountain, Hydesville, Iaqua Buttes, Korbel, Maple Creek, Myers Flat, Orick, Owl Creek, Petrolia, Salyer, Scotia, Taylor Peak, Weitchipec, Yager Junction

Documented in SMA: No **Potential Habitat in SMA:** Yes

Habitat: Coastal bluff scrub, coastal prairie, north coast coniferous forest (CNDDB). Open coastal forests, bluffs (Jepson eflora). Occurs usually in wetlands (Calflora).

Sidalcea oregana ssp. eximia **Coast checkerbloom**

Fed List: None **State List:** None **CNPS List:** 1B.2 **State Rank:** S1

USGS 7.5' Quad (CNDDB): Arcata North, Board Camp Mountain, Cannibal Island, Eureka, Fields Landing, Grouse Mountain, Iaqua Buttes, Maple Creek, Tish Tang Point, Trinity Mountain, Weitchipec

Documented in SMA: No **Potential Habitat in SMA:** Yes

Habitat: Lower montane coniferous forest, Meadow & seep, North coast coniferous forest, Wetland (CNDDB). Meadows (Jepson eflora). Yellow Pine Forest, North Coast Coniferous Forest, Wetland-riparian (Calflora).