December 4, 2024

Attn: Kate Freeman, Land Acquisition Program Manager
Sonoma Land Trust
822 Fifth Street
Santa Rosa, CA 95404

Subject: Williamson Act contract redesignation – Camp 4 property (APN 128-491-005), Sonoma County, California

Kate:

This letter addresses the proposed redesignation of the Camp 4 property (Study Area; APN 128-491-005, -006, -007 formerly known as the Leveroni Property) in Sonoma County, California under its existing California Land Preservation Act of 1965 (Williamson Act) agricultural contract to a Williamson Act "Open Space Wildlife Habitat" in the context of biological resources. The Study Area is approximately 1,149.44 acres in size and located adjacent to and northwest of Skaggs Island, north of San Pablo Bay (Figure A-1, Attachment A). Historically, what now comprises the Study Area and most of its immediate surroundings consisted of tidal marsh, including marsh associated with the lower reaches and mouth of Sonoma Creek (Goals Project 1999). The Study Area was diked in the mid-nineteenth century as part of a land reclamation effort and subsequently dedicated to agriculture, specifically oat hay cultivation, which continued until 2023 (SLT 2023); Goals Project (1999) mapped the Study Area as "Agricultural Bayland." Currently the Study Area is under a U.S. Department of Agricultural Natural Resources Conservation Service (NRCS) Wetland Reserve Easement, and the bulk of the site in a post-disturbance (post-agricultural) state where natural/semi-natural vegetation is recolonizing the site, and seasonal wetlands within topographic basins are allowed to further express.

The Study Area is currently part of a coordinated planning effort by the U.S. Fish and Wildlife Service (USFWS), Sonoma Valley County Sanitation District, and Sonoma Land Trust in partnership with Ducks Unlimited to restore over 9,000 acres of contiguous habitat to tidal and subtidal habitats (e.g., tidal marsh, tidal channels, sub-tidal mudflats, and other sub-tidal habitats). This effort would also continue open space uses and improve habitat for fish and wildlife. While the details of the larger project have not yet been fully developed, restoration actions within the Study Area would likely consist of recontouring of the interior of the parcel, levee improvements, and breaching of exterior levees to enhance existing uplands and other bayland habitats.

Figures are included as Attachment A. A list of plant and wildlife species observed by WRA are included in Attachment B. Representative photos of the Study Area (and one immediate adjacent area) are included in Attachment C.

BACKGROUND

The Williamson Act, also known as the California Land Conservation Act of 1965, is a legislative act intended to facilitate preservation of agriculture and agricultural lands in the state, by offering tax benefits to property owners who maintain such uses on their land (California Government Code Sections 51200-51207). In addition to lands dedicated to active agriculture, the Williamson Act also allows for designation of "agricultural preserves" which include various stipulated uses. One of these uses is "open-space use" which is defined as "use or maintenance of land in a manner that preserves its natural characteristics, beauty, or openness for the benefit and enjoyment of the public, to provide habitat for wildlife..." (Code Section 51201[o]). Additionally, a "wildlife habitat area" is "a land or water area designated by a board or council, after consulting with and considering the recommendation of the Department of Fish and Game, as an area of importance for the protection or enhancement of the wildlife resources of the state" (Code Section 51201[j]).[1] A Williamson Act contract is generated in consultation between the property owner(s) and the municipality or County in which the subject land is located.

ASSESSMENT METHODS

WRA performed a site visit to the Study Area on July 16, 2024, to review existing conditions and record both plant and wildlife species observed. Prior to WRA's site visit, local special-status species occurrence data in the California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDB; CDFW 2024a) was reviewed, based on a query of the focal Sears Point U.S. Geological Survey 7.5-minute quadrangle as well as the eight surrounding quadrangles. The presence of designated critical habitat for federal listed species within or adjacent to the Study Area was queried via online mapping tools provided by the USFWS (2024) and National Marine Fisheries Service (NMFS; 2024a) respectively.

During the site visit, WRA evaluated the species composition and area occupied by distinct vegetation communities and other terrestrial land cover types. Mapping of these classifications utilized a combination of aerial imagery and ground observations. In most instances, communities are characterized and mapped based on distinct shifts in plant assemblage (vegetation) and follow the California Natural Community List (CDFW 2023) and *A Manual of California Vegetation, Online Edition* (CNPS 2024). These resources cannot anticipate every potential vegetation assemblage in California, and so in some cases, it is necessary to identify other appropriate vegetative classifications based on the best professional judgment of WRA biologists. Vegetation alliances (natural communities) with a CDFW Rank of 1 through 3 (globally critically imperiled [S1/G1], imperiled [S2/G2], or vulnerable [S3/G3]) (CDFW 2023), were evaluated as sensitive as part of this evaluation.[2]

Mapping and classification for aquatic resources (e.g., seasonal wetlands) present within the Study Area was provided to WRA by Ducks Unlimited in July and November 2024.

Additionally, terrestrial habitat connectivity (including wildlife movement) mapping resources in CDFW's Biogeographic Information and Observation System (BIOS; CDFW 2024b), along with contemporary aerial photography in Google Earth (2024) were reviewed. Similar to critical

[1] *The California Department of Fish and Game is now formally known as the Department of Fish and Wildlife (CDFW).*
[2] *Ranking of CDFW List of Vegetation Alliances is based on NatureServe Rankings (NatureServe 2024).*

habitat (see above), the presence of designated Essential Fish Habitat (EFH) was queried via mapping resources from NMFS (2024b).

SETTING

The Study Area is located within a greater matrix of baylands along and north of the northern shoreline of San Pablo Bay, bounded very roughly by Highway 121 to the west, Ramal Road and a rail line to the north, the lower reach of the Napa River to the east, and Highway 37 and adjacent tidal marsh to the south (Figure A-1, Attachment A). Tidal wetland and/or diked wetland parcels virtually surround the Study Area; see descriptions below. Also nearby are the Napa-Sonoma Marshes Wildlife Area complex (managed by CDFW) which is roughly 14,000 acres in total size, features predominantly diked estuarine cells (former salt ponds) and existing and restoring tidal marshes, and is located between approximately 1.6 to 1.8 miles to the east and southeast of the Study Area.

The Study Area is more immediately bounded by the Camp 3 parcel ("Kiser Property") to the south and southwest; diked estuarine cells to the west; wetland complexes within Sonoma Valley County Sanitation District lands to the north; Ramal Road and agricultural lands (predominantly vineyards) to the north and northeast; undeveloped properties featuring wetland complexes to the north and northeast; additional agricultural lands and Haire Ranch to the east; and, Haire Ranch and Skaggs Island to the southeast. Much of the immediate periphery of the Study Area consists of tidal sloughs and associated marsh including Hudeman Slough to the north and east, Second Napa Slough to the southeast, Third Napa Slough to the south, and Steamboat Slough to the south, west, and north. The lower (tidal) reach of Sonoma Creek is located approximately 0.4 mile to the southeast at the nearest point. As with the Study Area, some of these adjacent parcels were dedicated to agriculture (oat hay cultivation) until recently and are currently in fallow/ruderal states; many of these adjacent parcels are being considered as part of the planning effort to restore over 9,000 acres of contiguous habitat to tidal and subtidal habitats, as noted above. Active cultivation continues at the adjacent Camp 3 parcel.

LAND COVERS

Land covers within the Study Area are shown in Figure A-2 (Attachment A) and summarized in Table 1 below. Representative photos of the Study Area are included in Attachment C. The bulk of the Study Area features a mosaic of seasonal wetlands and xeric grassland; a network of mostly linear artificial drainage ditches remains present within the Study Area and some sections host stands of emergent wetland vegetation. A small number of scattered, non-native acacia (*Acacia* sp.) and eucalyptus (*Eucalyptus* sp.) trees are present. Except for remnant agricultural structures and a gravel entrance road that bisects much of the greater property, the Study Area is undeveloped.

Table 1. Land Covers Within the Study Area

COMMUNITY / LAND COVER	VEGETATION ALLIANCE	RARITY RANKING	ACRES WITHIN STUDY AREA
TERRESTRIAL / COMMUNITY LAND COVER			
Developed	N/A	no rank (non-sensitive)	0.37
Coastal Scrub	Coyote Brush Scrub (*Baccharis pilularis* Shrubland Alliance)	G5 S5 (non-sensitive)	0.9
Valley and Foothill Grassland - Xeric (non-native)	Italian Rye Grass Grassland (*Festuca perennis* Semi-Natural Herbaceous Stands, no rank)	no rank (non-sensitive)	680.5
	Wild Oat & Annual Brome Grassland (*Festuca perennis* Semi-Natural Herbaceous Stands, no rank)	no rank (non-sensitive)	
AQUATIC RESOURCES			
Valley and Foothill Grassland - Seasonal Wetland Depression	Italian Rye Grass Grassland (*Festuca perennis* Herbaceous Alliance, no rank)	no rank (sensitive)	419.9
Ditch	N/A	no rank (sensitive)	13.5

Terrestrial Land Cover Types

Developed. Developed areas within the Study Area are limited to an existing gravel/compacted access road which extends from the site's entrance (near Ramal Road) to two remnant agricultural structures sited roughly 0.8 mile to the southwest, as well as the footprint of another structure, for a total of approximately 0.37 acres. Vegetation is limited within this land cover although some weedy, non-native vegetation (see other descriptions below) encroaches on the structure footprints and portions of the road.

Coyote Brush Scrub (*Baccharis pilularis* Shrubland Alliance). CDFW Rank: G5 S5. Coyote brush scrub is known from the outer Coast Ranges and Sierra Nevada Foothills from Del Norte County south to San Diego County. This vegetation community is typically located on river mouths, riparian areas, terraces, stabilized dunes, coastal bluffs, open hillsides, and ridgelines on all aspects underlain by variable substrate of sand to clay (CNPS 2024). Within the Study Area, coyote brush scrub occupies approximately 0.9 acre and is found on relative high points outside depressional features and along levee slopes, where it intergrades with non-native annual grassland.

The shrub layer is dominated by a single species, coyote brush, which composes greater than 50 percent relative cover in this stratum and greater than 15 percent cover over the herbaceous layer. The herbaceous layer is dominated by non-native herbs including ripgut brome (*Bromus*

diandrus), Pacific bentgrass (*Agrostis avenacea*), yellow star thistle (*Centaurea solstitialis*), brome fescue (*Festuca bromoides*), and fennel (*Foeniculum vulgare*).

Xeric Grassland (two alliances). CDFW Rank: GNA SNA. Xeric grassland is a mixed herbaceous community dominated by non-native grasses that best fit several described alliance types, including Italian Rye Grass Grassland and Wild Oat and Annual Brome Grassland in the case of the Study Area. Stands of these types are typically underlain by fine textured clay soils and located throughout California, and typically dominated by one or two grass species (CNPS 2024).

Within the Study Area, these grasslands cover approximately 681 acres and occur in upland areas throughout the interior of the Study Area and along the perimeter levees. Because of the patchiness of the respective vegetation alliances forming this broader biological community, and also due to frequent inter-annual variation in species composition, they were not mapped to alliance-level. The dominant species within this community type are non-native grasses including Italian rye grass (*Festuca perennis*), wild oats (*Avena* spp.), and Pacific bent grass.

> **Italian Rye Grass Grassland (xeric).** Italian rye grass fields have been documented throughout cismontane California in the central valley and coastal ranges, and Sierra Nevada foothills (CNPS 2024). Italian rye grass is the dominant species with several other non-native grasses and forbs, including Pacific bent grass, wild oat (*Avena barbata*), yellow star thistle, and Bermuda grass (*Cynodon dactylon*). Although this community also occurs in wetlands, the Italian rye grass community found in xeric areas within the Study Area contains a higher percentage of accompanying facultative-upland and upland species, and/or saturated or inundated conditions are not present or are ephemeral.
>
> **Wild Oat Grassland.** Wild Oat grasslands have been documented throughout cismontane California and dominate much of the former native prairie and bunchgrass grassland of the Central Valley (CNPS 2024b). Within the Study Area, both wild oat and cultivated oat (*Avena sativa*) are prevalent within this community, which occurs in disturbed upland areas. Other non-native grasses share a characteristic position within these grasslands as do non-native forbs, including Italian rye grass, hairy cat's ear (*Hypochaeris radicata*), and yellow star thistle (*Centaurea solstitialis*).

Aquatic Resources

Seasonal Wetland (*Festuca perennis* Herbaceous Semi-Natural Alliance). CDFW Rank: GNA SNA. Seasonal wetlands occur in depressional features scattered throughout the grasslands, covering approximately 420 acres within the Study Area. Seasonal wetlands are known throughout California in valley and foothill positions, typically on fine-texture soils with slow permeability. Vegetation alliances in seasonal wetland depressions are typically dominated by herbaceous species, which are either tolerant of or require seasonal inundation. Vegetation of the seasonal wetlands in the Study Area are best described by the Italian Rye Grass Grassland Semi-Natural Alliance (CNPS 2024). The wetlands are characterized by Italian rye grass with associated facultative wetland herbs, including prostrate knotweed (*Polygonum aviculare*), birdsfoot trefoil (*Lotus corniculatus*), toad rush (*Juncus bufonius*), and Pacific bent grass. Though these wetlands were dry during WRA's site visit, evidence of hydrology (seasonal ponding) was typically present in these depressions as indicated by abundant algae matting.

Ditch. Freshwater ditches (including canals) are manmade, usually linear channels excavated to drain freshwater and/or agricultural runoff. A network of such ditches is present within the Study Area within reclaimed marsh, comprising approximately 13.5 acres. Hydrophytic, emergent vegetation is present on the banks and within the channels of these ditches, with the density and extent of such varying across individual segments. Vegetation in the ditches is dominated by saltmarsh bulrush (*Bolboschoenus maritimus*), cattail (*Typha angustifolia*), and Bermuda grass on the edges. Inundation patterns also appear to vary within the Study Area; some (usually shallower) segments were dry during WRA's site visit, while others (usually deeper and more extensive) were inundated.

SPECIAL-STATUS SPECIES

Based on a review of CNDDB (CDFW 2024a), and WRA's familiarity with the region, a variety of special-status wildlife species have the potential to be present within the Study Area under existing conditions; some were observed during WRA's site visit. These species are summarized in Table 2 below (with WRA observations indicated in **bold**). Additional special-status species may occur in the future following restoration actions. ***Note:*** Wholly aquatic species (fishes) with the potential to occur in adjacent tidal sloughs are not included in Table 2.

Table 2. Potential Special-status Wildlife Species

SCIENTIFIC NAME	COMMON NAME	CONSERVATION STATUS*	POTENTIAL HABITAT IN THE STUDY AREA
FORMALLY LISTED WILDLIFE (FESA, CESA)			
Reithrodontomys raviventris	salt marsh harvest mouse	FE, SE, SFP	Adjacent tidal marshes primarily, also adjacent transitional vegetation on levees.
Agelaius tricolor	tricolored blackbird	ST, SSC	Grasslands for foraging and wintering.
Buteo swainsoni	Swainson's hawk	ST	Grasslands and scrub for foraging; trees for nesting; observed on adjacent Camp 3 parcel by WRA.
Haliaeetus leucocephalus	bald eagle	SE, BGEPA, SFP	Adjacent marsh areas and on-site seasonal wetlands throughout for foraging; active nest observed on nearby Skaggs Island by WRA.
Laterallus jamaicensis coturniculus	California black rail	ST, SFP	Adjacent tidal marsh.
Rallus obsoletus obsoletus	California Ridgway's rail	FE, SE, SFP	Adjacent tidal marsh. Documented in Third Napa Slough (south of the Study Area; CDFW 2024).

SCIENTIFIC NAME	COMMON NAME	CONSERVATION STATUS*	POTENTIAL HABITAT IN THE STUDY AREA
OTHER SPECIAL-STATUS WILDLIFE (CEQA, OTHER)			
Sorex ornatus sinuosus	Suisun shrew	SSC	Adjacent tidal marshes and transitional vegetation on levees.
Ammodramus savannarum	grasshopper sparrow	SSC	Grassland.
Aquila chrysaetos	golden eagle	BGEPA, SFP	Nearly throughout for foraging (nesting unlikely).
Asio flammeus	short-eared owl	SSC	Open grassland and wetlands/marsh for wintering/foraging (nesting unlikely).
Athene cunicularia	burrowing owl	SSC	Primarily levees (wintering).
Circus hudsonius	northern harrier	SSC	Nearly throughout for foraging; densely vegetated grassland wetlands for nesting. **Foraging on-site observed by WRA.**
Elanus leucurus	white-tailed kite	SFP	Nearly throughout for foraging; trees for nesting. Observed on nearby Skaggs Island by WRA.
Falco peregrinus anatum	peregrine falcon	SFP	Nearly throughout for foraging (no potential for on-site nesting).
Geothlypis trichas sinuosa	San Francisco common yellowthroat	SSC	Adjacent tidal marshes; transitional vegetation and potentially densely vegetated inboard wetlands on-site. **Observed directly adjacent in Second and Third Napa Sloughs by WRA.**
Lanius ludovicianus	loggerhead shrike	SSC	Grassland and other open areas with herbaceous vegetation; shrubs and trees for nesting. **Observed on-site (northern portion of the Study Area) by WRA.**
Melospiza melodia samuelis	San Pablo song sparrow	SSC	Adjacent tidal marsh and transitional vegetation on-site. **Song sparrows (presumably this subspecies) observed directly adjacent in Second and Third Napa Sloughs by WRA.**
Passerculus sandwichensis alaudinus	Bryant's savannah sparrow	SSC	Tidal marsh and transitional vegetation, grasslands. **A territorial individual was observed on-site by WRA.**

***** *Key to statuses: FE = federal endangered; SE = state endangered; ST = state threatened; BGEPA = Bald & Golden Eagle Protection Act species; SFP = state fully protected species; SSC = CDFW Special of Special Concern.*

HABITAT AND CONNECTIVITY

The Study Area is situated within the greater San Francisco Bay estuary, specifically within the Sonoma Creek Baylands. This area is a critically important component of the Pacific flyway, i.e., the north-south route used by migratory birds in the western portion of the Americas (Alaska to Chile). This area is especially important for migrating and wintering shorebirds, waterfowl, and other waterbirds. For example, surveys of waterbirds in the nearby Napa-Sonoma Marshes Wildlife Area complex from 2003 to 2005 recorded over 900,000 individual birds of 80 species; 64 percent of individual birds observed were shorebirds (sandpipers, plovers, etc.) (Takekawa et al. 2005). Similarly, waterbird surveys performed at the nearby Sears Point Restoration Area from 2016 to 2021 recorded 77 species with approximately 8,000 to 12,200 individual birds observed per year (Freeman and Edelstein 2022).[3] Additionally, the area provides breeding habitat for a smaller but still notable variety of waterbird species. While the Napa-Sonoma Marshes predominantly feature diked estuarine cells and marshes, the terrestrial habitats present are also important, especially when providing transitional vegetation adjacent to tidal marshes and open water, seasonal wetlands, and/or nearby grasslands (Goals Project 1999); all these components are currently present within the Study Area, and at least some will presumably be enhanced by future restoration.

The Essential Connectivity Project (Caltrans 2010, CDFW 2024b) maps the southern and southeastern portion of the Study Area as within an "Essential Connectivity Area;" such areas are defined as essential to long-term ecological conservation as they connect at least two "Natural Landscape Blocks" (relatively large habitat blocks that support native biodiversity). Adjacent Skaggs Island and Haire Ranch (including peripheral tidal sloughs) comprise a Natural Landscape Block; the subject Essential Connectivity Area connects this block with additional mapped blocks centered on the Petaluma River to the west, as well in the foothills east of Napa Valley and north of Suisun Bay and the Carquinez Strait, respectively, to the east. Similarly, CDFW's Areas of Conservation Emphasis (ACE) database maps most of the Study Area as a "Conservation Planning Linkage" that provides connectivity between "Irreplaceable and Essential Corridors" located to the south and southeast (including most of Skaggs Island), the west (Petaluma River and adjacent hills), and north (the Myacomas Mountains) (CDFW 2024b). It is important to note that most of the southern Sonoma Valley and southwestern Napa Valley (north of the Study Area) features intensive vineyard development, which effectively precludes landscape-scale corridor functions and thus increases the importance of the Study Area and adjacent lands for this purpose.

Additionally peripheral tidal sloughs provide aquatic movement, foraging, and breeding (spawning and rearing) habitat for a variety of wildlife, including special-status fishes such as federally listed steelhead (*Oncorhynchus mykiss irideus* - central California coast Distinct Population Segment [DPS]) which uses the tidal reaches of local streams for migration to/from the marine environment. The surrounding sloughs are also designated critical habitat for federal threatened green sturgeon (*Acipenser medirostris*; Southern DPS) (NMFS 2024a) and as EFH for Pacific groundfish, Pacific coastal pelagic species, and two listed salmonids (NMFS 2024b).

[3] *The Sears Point Restoration Area is a tidal marsh restoration project that is roughly 900 acres in size and located along San Pablo Bay approximately 5.5 miles southwest of the Study Area; tidal restoration was initiated in 2015. Like the Study Area, it was a diked bayland dedicated to agriculture prior to the restoration and opening of the site to tidal waters.*

Tidal waters in the northern portions of San Pablo Bay also support a variety of non-status aquatic species. For example, during two surveys for aquatic species at the Sears Point Restoration Area in 2017, using multiple beach seines and otter trawls, 1,568 fish of 18 species (mostly natives) and three crustacean species were recorded within the restoration area (Keegan and Lee 2018).

ASSESSMENT

The Study Area consists of historic tidal marsh that is currently a diked. Given its significant size and location at the interface of significant areas in the context of habitat and open space conservation, including San Pablo Bay, tidal and brackish marsh complexes, adjacent uplands, and the tidal reaches (sloughs) of local streams, the Study Area holds importance for the protection of wildlife and wildlife habitat at the regional and state level, and thus is an excellent candidate for continued (permanent) preservation and ecological restoration.

The Study Area fulfils the Williamson Act definition of "...an area of importance for the protection or enhancement of the wildlife resources of the state." A summary of the rationale for supporting re-classification of the Study Area to "Open Space Wildlife Habitat" under the Act as is follows:

- The Study Area is a large (greater than 1,000 acres) contiguous area of former (historic) tidal marsh that is virtually undeveloped, relatively remote and undisturbed, and nearly surrounded by other undeveloped lands (the Camp 3 property [to the south] is broadly like the Study Area though still dedicated to agriculture). Save for the entrance to the site (off Ramal Road), the Study Area is unfenced and accessible to wildlife from nearly all sides, with the only barriers being (natural) perimeter tidal sloughs; there are no internal barriers to movement.

- Habitats currently present support special-status species, including those affiliated with tidal marsh and sloughs (adjacent to the Study Area) as well as grasslands, seasonal wetlands, and transitional areas between combinations of the former habitats. The Study Area also presumably supports a variety of non-special status species, most notably waterbirds during the rainy season and spring when seasonal wetlands are inundated and populations of such species winter and migrate in the region.

- Continued preservation and restoration of the Study Area would help fulfill recommendations provided by Goals Project (1999) for the "Sonoma Creek Area (Segment E)" portion of the estuary. These include restoring tidal marsh as well as potentially preserving and enhancing seasonal wetlands and marsh/upland transition areas that are important to a variety of wildlife and plants.

- Preservation and restoration would also contribute to fulfilling downlisting and delisting criteria for federal listed species covered in the *Recovery Plan for Tidal Marsh Ecosystems of Northern and Central California* by the USFWS (2013). This includes achievement of at least 2,500 acres of functioning tidal marsh in the "Sonoma Creek to southern tip of Mare Island" portion of the San Pablo Bay Recovery Unit. This is a specific delisting requirement for California Ridgway's rail and would also fulfill goals for salt marsh harvest mouse and relevant federal listed plant species; the Study Area itself is mapped as a site of potential restoration in the Recovery Plan. Transitional habitat between tidal

marsh and uplands is also cited as of critical importance to both Ridgeway's rail and salt marsh harvest mouse.

- Tidal restoration within the Study Area will increase habitat for and benefit a variety of aquatic estuarine species including providing foraging and rearing habitat for special-status fishes. Because adjacent tidal sloughs are designated as critical habitat and EFH, opening of the Study Area to regular tidal action and associated marsh restoration would effectively create new critical habitat and EFH acreages.

Preliminary recommendations for near-term management of the Study Area include the following:

- The site should be left undisturbed to the extent feasible. The expression of hydrophytic vegetation should be encouraged within seasonal wetland depressions and existing ditches.
- Vehicular use should be restricted to existing routes where vegetation is absent to very sparse. No additional roads or other graded areas should be established.
- If required (e.g., for fire risk management purposes), vegetation management should occur from September 1 to February 28, outside of the period when bird nesting is most likely to occur.
- Excluding exterior fencing needed for security and access needs, the Study Area should remain unfenced (both the perimeter and interior) to facilitate wildlife movement throughout.
- Noxious weed and pest control should be implemented on site, where appropriate and as feasible.

Please contact me with any questions.

Sincerely,

Jason Yakich
Senior Biologist

Enclosures:
Attachment A – Figures
Attachment B – Observed Plant and Wildlife Species
Attachment C – Site Photographs

Cc: Nicholas Torrez, Ducks Unlimited

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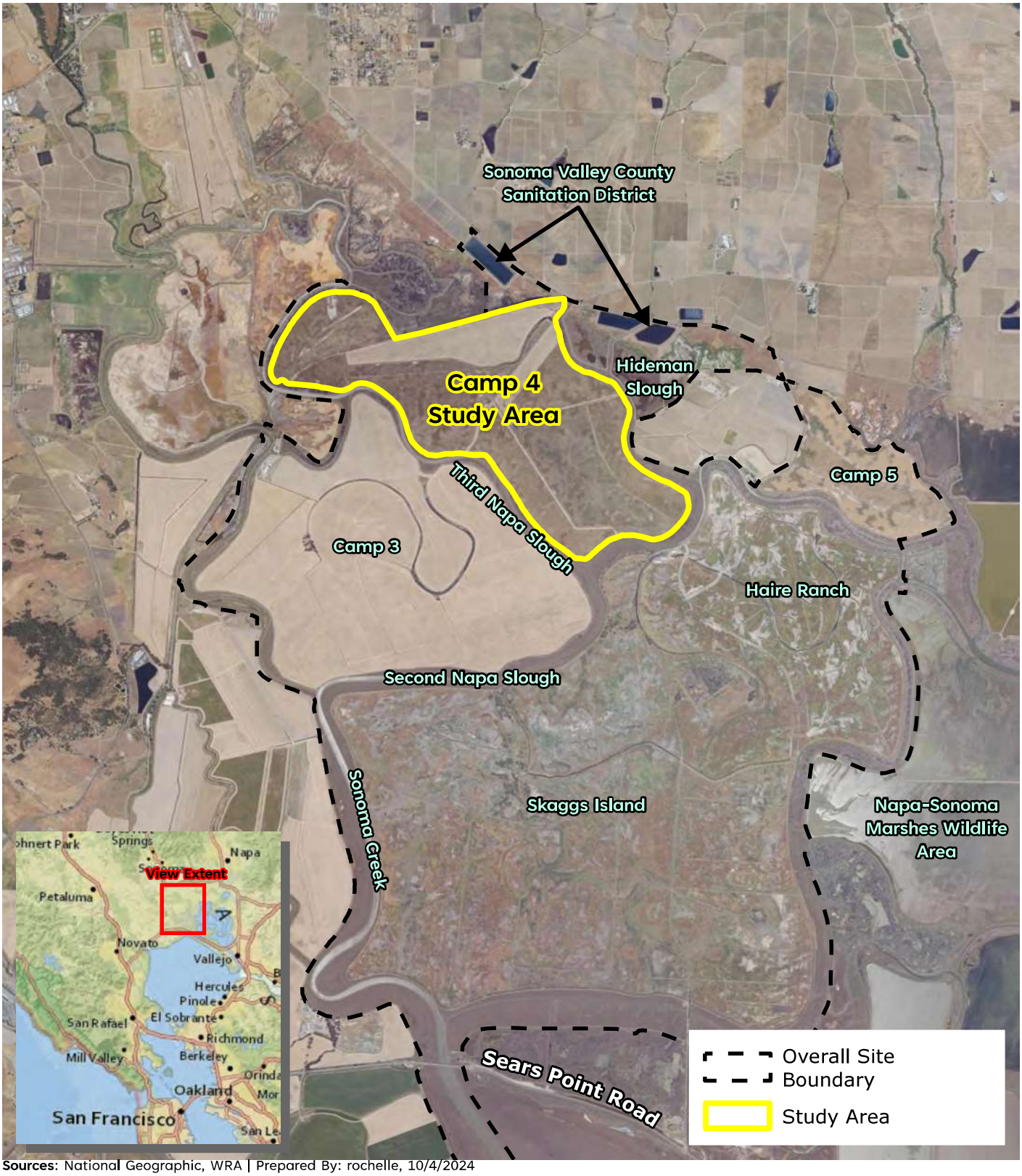

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Sources: National Geographic, WRA | Prepared By: rochelle, 10/4/2024

Figure A-1. Study Area Regional Location Map

Camp 4
Sonoma County, California

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Figure A-2. Land Cover Types

Camp 4
Sonoma County, California

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Sources: Sonoma County 2021 Aerial, WRA | Prepared By: rochelle, 12/4/2024

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Table B-1. Plant Species Observed within the Study Area on July 16, 2024

SCIENTIFIC NAME	COMMON NAME	ORIGIN	FORM	RARITY STATUS[1]	CAL-IPC STATUS[2]	WETLAND STATUS[3]
Acacia sp.	acacia	non-native	tree	-	-	-
Agrostis avenacea	Pacific bentgrass	non-native (invasive)	perennial grass	-	Limited	FACW
Amaranthus albus	tumbleweed	non-native	annual herb	-	-	FACU
Ambrosia psilostachya	ragweed	native	perennial herb	-	-	FACU
Atriplex prostrata	fat-hen	non-native	annual herb	-	-	FACW
Avena barbata	slim oat	non-native (invasive)	annual, perennial grass	-	Moderate	-
Avena sativa	wild oat	non-native	annual, perennial grass	-	-	UPL
Baccharis pilularis	coyote brush	native	shrub	-	-	-
Bolboschoenus maritimus ssp. paludosus	saltmarsh bulrush	native	perennial grasslike herb	-	-	OBL
Bromus diandrus	ripgut brome	non-native (invasive)	annual grass	-	Moderate	-
Centaurea solstitialis	yellow starthistle	non-native (invasive)	annual herb	-	High	-
Convolvulus arvensis	field bindweed	non-native	perennial herb, vine	-	-	-
Cotula coronopifolia	brass buttons	non-native (invasive)	perennial herb	-	Limited	OBL
Croton setiger	turkey-mullein	native	perennial herb	-	-	-
Cynodon dactylon	Bermuda grass	non-native (invasive)	perennial grass	-	Moderate	FACU
Dittrichia graveolens	stinkwort	non-native (invasive)	annual herb	-	Moderate	-
Echinochloa crus-galli	barnyard grass	non-native	annual grass	-	-	FACW
Eucalyptus sp.	eucalyptus	non-native	tree	-	-	-
Festuca bromoides	brome fescue	non-native	annual grass	-	-	FACU
Festuca perennis	Italian rye grass	non-native (invasive)	annual, perennial grass	-	Moderate	FAC
Foeniculum vulgare	fennel	non-native (invasive)	perennial herb	-	High	-
Holcus lanatus	common velvetgrass	non-native (invasive)	perennial grass	-	Moderate	FAC

Table B-1. Plant Species Observed within the Study Area on July 16, 2024

SCIENTIFIC NAME	COMMON NAME	ORIGIN	FORM	RARITY STATUS[1]	CAL-IPC STATUS[2]	WETLAND STATUS[3]
Hordeum murinum	foxtail barley	non-native (invasive)	annual grass	-	Moderate	FACU
Hypochaeris radicata	hairy cats ear	non-native (invasive)	perennial herb	-	Moderate	FACU
Juncus bufonius	common toad rush	native	annual grasslike herb	-	-	FACW
Lactuca serriola	prickly lettuce	non-native	annual herb	-	-	FACU
Lepidium latifolium	perennial pepperweed	non-native (invasive)	perennial herb	-	High	FAC
Lotus corniculatus	bird's foot trefoil	non-native	perennial herb	-	-	FAC
Lythrum hyssopifolia	Hyssop loosestrife	non-native (invasive)	annual, perennial herb	-	Limited	OBL
Persicaria maculosa	spotted ladysthumb	non-native	annual herb	-	-	FACW
Phalaris aquatica	Harding grass	non-native (invasive)	perennial grass	-	Moderate	FACU
Plantago lanceolata	ribwort	non-native (invasive)	perennial herb	-	Limited	FAC
Polygonum aviculare	prostrate knotweed	non-native	annual, perennial herb	-	-	FAC
Polypogon monspeliensis	annual beard grass	non-native (invasive)	annual grass	-	Limited	FACW
Raphanus sativus	wild radish	non-native (invasive)	annual, biennial herb	-	Limited	-
Rumex acetosella	sheep sorrel	non-native (invasive)	perennial herb	-	Moderate	FACU
Rumex crispus	curly dock	non-native (invasive)	perennial herb	-	Limited	FAC
Sesuvium verrucosum	western sea purslane	native	perennial herb	-	-	FACW
Sonchus asper ssp. *asper*	prickly sow thistle	non-native	annual herb	-	-	FAC
Spergularia rubra	purple sand spurry	non-native	annual, perennial herb	-	-	FAC
Typha angustifolia	narrow leaf cattail	non-native	perennial herb (aquatic)	-	-	OBL
Vicia sativa	spring vetch	non-native	annual herb, vine	-	-	FACU

Table B-1. Plant Species Observed within the Study Area on July 16, 2024

Note: All species identified using the *Jepson eFlora* [Jepson Flora Project (eds.) 2024]; nomenclature follows *Jepson eFlora* [Jepson Flora Project (eds.) 2024] or Rare Plant Inventory (CNPS 2024). Sp.: "species," intended to indicate that the observer was confident in the identity of the genus but uncertain which species.

[1] **California Native Plant Society. 2024. Rare Plant Inventory (online edition). Sacramento, California. Online at: http://rareplants.cnps.org/**

FE:	Federal Endangered
FT:	Federal Threatened
SE:	State Endangered
ST:	State Threatened
SR:	State Rare
Rank 1A:	Plants presumed extinct in California
Rank 1B:	Plants rare, threatened, or endangered in California and elsewhere
Rank 2:	Plants rare, threatened, or endangered in California, but more common elsewhere
Rank 3:	Plants about which we need more information – a review list
Rank 4:	Plants of limited distribution – a watch list

[2] **California Invasive Plant Council. 2024. California Invasive Plant Inventory Database. California Invasive Plant Council, Berkeley, CA. Online at: http://www.cal-ipc.org/paf**

High:	Severe ecological impacts; high rates of dispersal and establishment; most are widely distributed ecologically.
Moderate:	Substantial and apparent ecological impacts; moderate-high rates of dispersal, establishment dependent on disturbance; limited-moderate distribution ecologically
Limited:	Minor or not well documented ecological impacts; low-moderate rate of invasiveness; limited distribution ecologically
Assessed:	Assessed by Cal-IPC and determined to not be an existing current threat

[3] **U.S. Army Corps of Engineers. 2022. National Wetland Plant List, version 3.6. Online at: http://wetland-plants.sec.usace.army.mil/**

OBL:	Almost always found in wetlands
FACW:	Usually found in wetlands
FAC:	Equally found in wetlands and uplands
FACU:	Usually not found in wetlands
UPL:	Almost never found in wetlands
NL:	Not listed, assumed almost never found in wetlands
NI:	No information; not factored during wetland delineation

Table B-2. Wildlife Species Observed within and adjacent to the Study Area on July 16, 2024

SCIENTIFIC NAME	COMMON NAME
Birds	
Buteo jamaicensis	red-tailed hawk
Cathartes aura	turkey vulture
Corvus corax	common raven
Circus hudsonius	northern harrier
Geothlypis trichas	common yellowthroat
Haemorhous mexicanus	house finch
Lanius ludovicianus	loggerhead shrike
Melospiza melodia	song sparrow
Mimus polyglottos	northern mockingbird
Passerculus sandwichensis	savannah sparrow
Petrochelidon pyrrhonota	cliff swallow
Sturnella neglecta	western meadowlark
Zenaida macroura	mourning dove
Reptiles	
Sceloporus occidentalis	western fence lizard

Xeric grassland, the predominant terrestrial land cover within the Study Area.

Remnant structure and acacia tree within the central portion of the Study Area.

Xeric grassland and seasonal wetland (background) within the Study Area.

Seasonal wetland (dry) within the Study Area.

Coyote brush scrub along perimeter levee within the Study Area, along with adjacent xeric grassland (foreground).

On-site ditch, dry at the time of the site visit.

On-site ditch, inundated at the time of the site visit.

Tidal marsh along Steamboat Slough, immediately adjacent to the Study Area.