



Marcus H. Bole & Associates
An Environmental Consulting Firm

January 28, 2020

Sutter Ranch Subdivision
Attn: Helm Properties
1103 Butte House Rd, Ste.2
Yuba City, CA 95993

MHM Incorporated
Attn: Sean Minard
1204 E Street
Marysville, CA 95901

**UPDATE TO PLANNING LEVEL AND SITE SPECIFIC SURVEY REPORT FOR
SUTTER RANCH TENTATIVE SUBDIVISION MAP U-2019-031, APNS 13-240-088 &
13-260-026, SUTTER COUNTY, CALIFORNIA. MHBA FILE 1109-2019-3616.**

1.0 INTRODUCTION

During December 2019 and January 2020, a NEPA/CEQA-level Biological Resource Evaluation and Wetland Determination was conducted on a ± 78.39 -acre property (Action Area) of orchard and row crop agricultural property located along Butte House Road, east of the community of Sutter, Sutter County, California. The Action Area is located on the U.S. Geological survey (USGS) Sutter 7.5-minute topographic quadrangle, Section 10, Township 15 North, Range 2 East. The terrain elevation within the Action Area slopes from approximately 66 feet above mean sea level (msl) in the west to 56 feet msl in the east. Currently the Action Area is in almonds north of Butte House Road and in walnuts and wheat south of Butte House Road. The site is bounded on the north, east and south by agricultural lands and residential subdivisions to the west.

The proposed project is the approval of a tentative parcel map that will subdivide the agricultural parcels into four "Villages" consisting of a total of 84 lots. (See Appendix B for proposed parcel map). At this time, there are no finalized development plans for these parcels. The project also includes paved roadways, attendant infrastructure (homes served by septic leach lines) and detention ponds. As designed, the project will result in the removal of the walnut orchard, almond orchard, and row crops (wheat). These land covers are classified as "Cultivated Land (all types)".

**THREATENED, ENDANGERED, PROPOSED THREATENED OR PROPOSED
ENDANGERED SPECIES EVALUATED:**

Giant garter snake, <i>Thamnophis gigas</i> ,	Federal Threatened and State Threatened
Western yellow-billed cuckoo, <i>Coccyzus americanus</i>	Federal Threatened and State Endangered
Valley elderberry longhorn beetle, <i>Desmocerus californicus dimorphus</i> ,	Federal Threatened
Swainson's hawk, <i>Buteo swainsoni</i> ,	State Threatened
Bank swallow, <i>Riparia riparia</i> ,	State Threatened
Hartweg's golden sunburst, <i>Pseudobahia bahifolia</i> ,	Federal Endangered and State Endangered

CONSULTATION TO DATE

January 3, 2020. Request for Species Lists and Critical Habitat information from the United States Fish & Wildlife and the California Department of Fish & Wildlife.

PREVIOUS SURVEY INFORMATION REVIEWED

Wylie, G.D. Brian Halstead, Mike Casazza & Julia Ersan, 2013. Surveys for Giant Garter snakes (*Thamnophis gigas*) in Butte, Colusa, Glenn, Yolo, and Yuba Counties, 2008-2011, Data Summary for California Waterfowl Association, United States Geological Survey, Western Ecological Research Center, Dixon, CA. Surveys conducted in rice fields, ditches and laterals in the vicinity of the City of Knights Landing.

USGS. A Preliminary Investigation of the Variables Affecting the Distribution of Giant Gartersnakes (*Thamnophis gigas*) in the Sacramento Valley. Open-File Report 2015-1178.

USFWS. Revised Draft Recovery Plan for Giant Garter Snake (*Thamnophis gigas*). Region 8, U.S. Fish and Wildlife Service, Sacramento, California. 2015.

USACE. Sacramento River Flood Control Project, California. Levee and Channel Profiles. File Number 50-10-3334. 2006.

2.0 METHODOLOGY

Field surveys of biological resources included a reconnaissance-level inventory of plants and wildlife observed in the Action Area, habitat assessments for special status species, and a determination of wetland habitats within the Action Area and the adjacent properties. Biological and botanical surveys were conducted based on the California Department of Fish and Wildlife's (CDFW) Natural Diversity Database (CNDDB, December 2019), the United States Fish & Wildlife Service's (USFWS) IPaC Resource List, and the California Native Plant Society's (CNPS) list of rare and endangered plants. All species lists were derived from the United States Geological Survey (USGS) Sutter County 7.5 minute quadrangle, and Sutter County. Based on the results of the species lists, appropriate biological and botanical surveys were conducted. Species habitat surveys were conducted during December, 2019 and January, 2020, by Marcus H. Bole & Associates (MHBA) senior wildlife biologist Marcus H. Bole. The species habitat surveys were conducted by walking all areas of the Action Area (and surrounding 500 foot buffer) and evaluating potential habitat for special-status species based on vegetation composition and structure, surrounding area, presence of predatory species, microclimate and available resources (e.g. prey items, nesting burrows). A general botanical survey and habitat evaluation for rare plant botanical species was conducted during December, 2019 by MHBA's senior botanist Charlene J. Bole. The general botanical survey and habitat evaluation for rare plant botanical species was conducted by walking all areas of the Action Area while taking inventory of general botanical species and searching for special-status plant species and their habitats. A determination of Waters of the U.S. was also conducted on January 3, 2019 by Marcus H. Bole and was conducted under the guidelines of the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (2008).

2.1 Regulatory Requirements

The following describes federal, state, and local environmental laws and policies that are relevant to the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA) review process.

Federal

Federal Endangered Species Act

The United States Congress passed the Federal Endangered Species Act (ESA) in 1973 to protect species that are endangered or threatened with extinction. The ESA is intended to operate in conjunction with the National Environmental Policy Act (NEPA) to help protect the ecosystems upon which endangered and threatened species depend. The ESA makes it unlawful to “take” a listed animal without a permit. Take is defined as “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or attempt to engage in any such conduct”. Through regulations, the term “harm” is defined as “an act which actually kills or injures wildlife”. Such an act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) (16 USC §703) prohibits the killing of migratory birds or the destruction of their occupied nests and eggs except in accordance with regulations prescribed by the USFWS. The bird species covered by the MBTA includes nearly all of those that breed in North America, excluding introduced (i.e. exotic) species (50 Code of Federal Regulations §10.13). Activities that involve the removal of vegetation including trees, shrubs, grasses, and forbs or ground disturbance has the potential to affect bird species protected by the MBTA.

Waters of the United States, Clean Water Act, Section 404

The US Army Corps of Engineers (USACE) and the U.S. Environmental Protection Agency (EPA) regulate the discharge of dredged or fill material into jurisdictional waters of the United States, under the Clean Water Act (§404). The term “waters of the United States” is an encompassing term that includes “wetlands” and “other waters”. Wetlands have been defined for regulatory purposes as follows: “those areas that are inundated or saturated by surface or groundwater 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 (33 CFR 328.3, 40 CFR 230.3). Wetlands generally include swamps, marshes, bogs, and similar areas.” Other Waters of the United States (OWUS) are seasonal or perennial water bodies, including lakes, stream channels, drainages, ponds, and other surface water features, that exhibit an ordinary high-water mark but lack positive indicators for one or more of the three wetland parameters (i.e., hydrophytic vegetation, hydric soil, and wetland hydrology) (33 CFR 328.4). The USACE may issue either individual permits on a case-by-case basis or general permits on a program level. General permits are pre-authorized and are issued to cover similar

activities that are expected to cause only minimal adverse environmental effects. Nationwide permits are general permits issued to cover particular fill activities. All nationwide permits have general conditions that must be met for permits issued for a particular project, as well as specific regional conditions that apply to each nationwide permit.

Clean Water Act, Section 401

The Clean Water Act (§401) requires water quality certification and authorization for placement of dredged or fill material in wetlands and OWUS. In accordance with the Clean Water Act (§401), criteria for allowable discharges into surface waters have been developed by the State Water Resources Control Board, Division of Water Quality. The resulting requirements are used as criteria in granting National Pollutant Discharge Elimination System (NPDES) permits or waivers, which are obtained through the Regional Water Quality Control Board (RWQCB) per the Clean Water Act (§402). Any activity or facility that will discharge waste (such as soils from construction) into surface waters, or from which waste may be discharged, must obtain an NPDES permit or waiver from the RWQCB. The RWQCB evaluates an NPDES permit application to determine whether the proposed discharge is consistent with the adopted water quality objectives of the basin plan.

State of California

California Endangered Species Act

The California Endangered Species Act (CESA) is similar to the ESA, but pertains to state-listed endangered and threatened species. The CESA requires state agencies to consult with the CDFW when preparing documents to comply with the CEQA. The purpose is to ensure that the actions of the lead agency do not jeopardize the continued existence of a listed species or result in the destruction, or adverse modification of habitat essential to the continued existence of those species. In addition to formal listing under the federal and state endangered species acts, “species of special concern” receive consideration by CDFW. Species of special concern are those whose numbers, reproductive success, or habitat may be threatened.

California Fish and Wildlife Code

The California Fish and Game Code (CFWC) (§3503.5) states that it is “unlawful to take, possess, or destroy any birds in the order Falconiformes (hawks, eagles, and falcons) or Strigiformes (all owls except barn owls) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto”. Take includes the disturbance of an active nest resulting in the abandonment or loss of young. The CFWC (§3503) also states that “it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto”.

Rare and Endangered Plants

The CNPS maintains a list of plant species native to California with low population numbers, limited distribution, or otherwise threatened with extinction. This information is published in the

Inventory of Rare and Endangered Vascular Plants of California. Potential impacts to populations of CNPS-ranked plants receive consideration under CEQA review. The CNPS California Rare Plant Rank (CRPR) categorizes plants as the following:

- Rank 1A: Plants presumed extinct in California;
- Rank 1B: Plants rare, threatened, or endangered in California or elsewhere;
- Rank 2: Plants rare, threatened, or endangered in California, but more numerous elsewhere;
- Rank 3: Plants about which we need more information; and
- Rank 4: Plants of limited distribution.

The California Native Plant Protection Act (CFGC §1900-1913) prohibits the taking, possessing, or sale within the state of any plants with a state designation of rare, threatened, or endangered as defined by CDFW. An exception to this prohibition allows landowners, under specific circumstances, to take listed plant species, provided that the owners first notify CDFW and give the agency at least 10 days to retrieve (and presumably replant) the plants before they are destroyed. Fish and Wildlife Code §1913 exempts from the ‘take’ prohibition ‘the removal of endangered or rare native plants from a canal, lateral ditch, building site, or road, or other right of way’.

California Environmental Quality Act Guidelines §15380

Although threatened and endangered species are protected by specific federal and state statutes, CEQA Guidelines §15380(d) provides that a species not listed on the federal or state list of protected species may be considered rare or endangered if the species can be shown to meet certain specified criteria. These criteria have been modeled based on the definition in the ESA and the section of the CFGC dealing with rare, threatened, and endangered plants and animals. The CEQA Guidelines (§15380) allows a public agency to undertake a review to determine if a significant effect on species that have not yet been listed by either the USFWS or CDFW (e.g. candidate species, species of concern) would occur. Thus, CEQA provides an agency with the ability to protect a species from a project’s potential impacts until the respective government agencies have an opportunity to designate the species as protected, if warranted.

3.0 SETTING

Regionally, the Action Area is located with the northern portion of Sutter County, south of the Sutter Buttes. The Action Area is located within the Sacramento Valley, the northern half of the Great Central Valley of California, within flat valley bottomland where elevation averages approximately 60 feet above sea level. Mean annual precipitation is approximately 12 to 35 inches. Mean annual temperature ranges from 40 to 98 degrees Fahrenheit.

The vegetative community descriptions and nomenclature described in this section generally follow the classification of “agriculture, deciduous nuts” and “cultivated lands, grain crops”. The major hydrological features near the Action Area are the West Interception Canal to the north, a Sutter Extension Water District irrigation ditch to the east, and the Wadsworth Canal approximately 1/3 mile to the east. The Sutter Bypass is located approximately three miles to the south.

4.0 RESULTS

4.1 Description of the Existing Biological and Physical Conditions

The Action Area is located east of the City of Sutter, along Butte House Road, Sutter County, California. The following describes the biological and physical conditions within the property and within the surrounding area.

4.1.1 Action Area

The Action Area is a ± 78.39 -acre parcel of agricultural land currently in walnuts, almonds and wheat. The Action Area includes portions of APNs 13-240-088 and 13-260-026. Several farm warehouse buildings associated with the ongoing orchard operations are located along the western boundary of the property. Immediately adjacent to the north of the Action Area is the West Interception Canal, a concrete lined irrigation ditch. Adjacent to the east of the Action Area is the Sutter Extension Water District irrigation ditch, a seasonally dry feature. Once construction begins, the portion of the irrigation ditch that currently services the onsite agricultural operations will be dry and decommissioned.

4.1.2 Physical & Biological Conditions

Vegetation within the Action Area consists of a mix of commercial wheat fields, walnut and almond orchards and several medium to large diameter native valley oaks. Bordering the agricultural fields are sparse amounts of ruderal grasses and forbs. Onsite habitats are discussed as follows:

Agricultural (orchards and wheat)

Agricultural fields are those dominated by plant species introduced by humans and established or maintained by commercial agricultural activities. On such sites, the native vegetation has typically been removed by clearing in preparation for planting commercial crops. Within the Action Area, urban disturbances include driveways, several warehouse-type buildings (barns), an agricultural well with irrigation lines and an existing septic tank with leach lines. Power lines and towers run along the eastern boundary of the Action Area.

Native and introduced wildlife species are tolerant of human activities in agricultural habitats. Agricultural land use components such as commercial crops and buildings provide marginal habitat for some wildlife species. Common birds such as the house finch (*Carpodacus mexicanus*) build their nests on structures, and less abundant species like black phoebe (*Sayornis nigricans*), and barn swallow (*Hirundo rustica*) also use these buildings. Due to the nature of nut harvesting, orchard trees do not normally support raptor nests and no raptor nests were observed in any of the orchard trees. Several medium to large diameter oak trees could provide nesting habitat for raptors; however, none of the oak trees currently contain stick nests. All trees were evaluated during a time when leaves were off the trees and nests would be readily evident. Common wildlife such as American robin (*Turdus migratorius*), and American pipit (*Anthus rubescens*) are likely to use agricultural areas. Mammals such as raccoon (*Procyon lotor*), skunk (*Mephitis mephitis*), and house mouse (*Mus musculus*) are common in certain agricultural environments.

Urban-Ruderal Grasses and Forbs

Bordering the orchards and wheat fields are native and non-native trees, ruderal grasses and forbs. These ruderal grasses and forbs are generally found in disturbed areas adjacent to agricultural lands throughout the Sutter County area. Ruderal grasses and forbs typically occur on soils consisting of fine-textured loams or clays that are somewhat poorly drained. This vegetation type is dominated by ruderal grasses including wild oats (*Avena fatua*), yellow star-thistle (*Centaurea solstitialis*), perennial pepperweed (*Lepidium latifolium*), Himalayan blackberry (*Rubus armeniacus*), and weedy annuals and perennial forbs, primarily of Mediterranean origin, that have replaced native grasses as a result of agricultural practices. Within the Action Area a sparse weedy flora is present consisting of filaree (*Erodium cicutarium*), field bindweed (*Convolvulus arvensis*), fiddle dock (*Rumex pulcher*), and trefoil (*Lotus corniculatus*) among others.

4.2 Regional Species and Habitats of Concern

The following table is a list of species that have the potential to occur within the Action Area and is composed of special-status species within the Sutter 7.5 minute quadrangle, and Sutter County. Species lists reviewed, and which are incorporated in the following table, including the CDFW, USFWS, and CNDDDB species list for the Sutter area. Species that have the potential to occur within the Action Area are based on an evaluation of suitable habitat to support these species, CNDDDB occurrences within a five mile radius of the Action Area and observations made during biological surveys. Not all species listed within the following table have the potential to occur within the Action Area based on unsuitable habitat and/or lack of recorded observations within a five mile radius of the Action Area.

Table 1. Evaluation of Listed and Proposed Species Potentially Occurring or Known to Occur in the Sutter Ranch Subdivision Action Area

Common Name (Scientific Name)	Status Fed/State/ CNPS	General Habitat Description	Habitat Present/ Habitat Absent	Rationale
INVERTEBRATES				
Conservancy fairy shrimp (<i>Branchinecta conservatio</i>)	FE/_/_	Moderately turbid, deep, cool-water vernal pool.	A/HA	There are no vernal pools within the Action Area. No Effect.
Valley elderberry longhorn beetle (<i>Desmocerus californicus dimorphus</i>)	FT/_/_	Blue elderberry shrubs usually associated with riparian areas.	A/HA	There are no elderberry shrubs within the Action Area, or within 1,000 feet of the Action Area. No Effect.
Vernal pool fairy shrimp (<i>Branchinecta lynchi</i>)	FT/_/_	Moderately turbid, deep, cool-water vernal pool.	A/HA	There are no vernal pools within the Action Area. No Effect.

Common Name (<i>Scientific Name</i>)	Status Fed/State/ CNPS	General Habitat Description	Habitat Present/ Habitat Absent	Rationale
Vernal pool tadpole shrimp (<i>Lepidurus packardii</i>)	FE/_/_	Vernal pools, swales, and ephemeral freshwater habitat.	A/HA	There are no vernal pools within the Action Area. No Effect.
REPTILES AND AMPHIBIANS				
California red-legged frog (<i>Rana draytonii</i>)	FT/SSC/_	Quiet pools of streams, marshes and occasionally ponds. (sea level - 4,500 ft elevation)	A/HA	There is no suitable habitat within or near the property to support this species. No Effect.
Giant garter snake (<i>Thamnophis gigas</i>)	FT/ST/_	Agricultural wetlands and other wetlands such as irrigation and drainage canals, low gradient streams, marshes ponds, sloughs, small lakes, and there associated uplands.	A/MH	Suitable habitat exists within 3 miles of the Action Area. Marginal habitat within irrigation canals found onsite. May Affect, Not Likely to Adversely Affect.
FISH				
Central Valley spring-run Chinook salmon (<i>Oncorhynchus tshawytscha</i>)	FT/ST/_	Sacramento River and its tributaries.	A/HA	The Sutter Bypass is not part of this project. No Effect.
Central Valley steelhead (<i>Oncorhynchus mykiss</i>)	FT/_/_	Sacramento and San Joaquin Rivers and their tributaries.	A/HA	The Sutter Bypass is not part of this project. No Effect.
BIRDS				
Least Bell's Vireo (<i>Vireo belli pusillus</i>)	FE/SE/_	Nests placed along margins of bushes or on twigs projecting into pathways, usually willows, baccharis, and mesquite. Low riparian in dry river bottoms.	A/HA	There is no suitable habitat for this species in the Action Area. None were observed during the habitat survey. No Effect.
Song swallow (<i>Riparia riparia</i>)	_/_/SSC	Last found in Sacramento area in 1877. Nest made of decayed grasses, bit of tule and dead leaves	A/HA	There is no suitable habitat for this species in the Action Area. None were observed during the habitat survey. No Effect.
Western burrowing owl (<i>Athene cunicularia</i>)	MBTA/SSC/_	Open, dry annual or perennial grasslands, deserts and scrublands characterized by low-growing vegetation.	A/MH	Ruderal grasses and forbs provide marginal foraging habitat. No nesting habitat observed

Common Name (<i>Scientific Name</i>)	Status Fed/State/ CNPS	General Habitat Description	Habitat Present/ Habitat Absent	Rationale
				onsite. May Affect, Not Likely to Adversely Affect.
Purple Martin (<i>Progne subis</i>)	_/_/SSC	Woodlands, low elevation coniferous forest of Douglas-Fir, Ponderosa Pine, and Monterey Pine	A/HA	There is no suitable habitat for this species in the Action Area. None were observed during the habitat survey. No Effect.
Swainson's hawk (<i>Buteo swainsoni</i>)	MBTA/ST/_	Open grasslands and shrub lands.	A/MH	Onsite oaks provide suitable nesting habitat, ruderal grasses provide only marginal foraging habitat. None were observed during the habitat survey. May Affect, Not Likely to Adversely Affect.
Tri-colored black bird (<i>Agelaius tricolor</i>)	MBTA/SSC/_	Marshes and swamps, agricultural irrigation ditches, blackberry brambles and grasslands	A/MH	There is no suitable habitat for this species in the Action Area. None were observed during the habitat survey May Affect, Not Likely to Adversely Affect.
Western yellow-billed cuckoo (<i>Coccyzus americanus occidentalis</i>)	FC/SE/_	Open woodlands, riparian areas, orchards and moist, overgrown thickets	A/HA	There is no suitable habitat for this species in the Action Area. None were observed during the habitat survey. No Effect.
White-tailed kite (<i>Elanus leucurus</i>)	MBTA/_/_	Open grasslands, meadows, or marshes for foraging, dense-topped trees for nesting and perching	A/MH	Onsite oaks provide suitable nesting habitat, ruderal grasses provide only marginal foraging habitat. None were observed during the habitat survey. May Affect, Not Likely to Adversely Affect.

Common Name <i>(Scientific Name)</i>	Status Fed/State/ CNPS	General Habitat Description	Habitat Present/ Habitat Absent	Rationale
Bank swallow <i>(Riparia riparia)</i>	_/_ST/_/_	Requires vertical banks/cliffs with fine textured/sandy soils near streams, rivers, lakes, ocean to dig nesting holes.	A/HA	There is no suitable habitat for this species in the Action Area. None were observed during the habitat survey. No Effect.
MAMMALS				
Hoary bat <i>(Lariurus cinereus)</i>	_/_/_/_	Roost in large to medium sized trees with dense foliage.	A/HA	There are no extensive parcels of riparian habitat within or near the Action Area. None were observed during the habitat survey. No Effect.
PLANTS				
Woolly rose-mallow <i>(Hibiscus lasiocarpus var. occidentalis)</i>	_/_/_1B.2	Marshes and swamps (freshwater). Moist, fresh-water soaked river banks & low peat islands in sloughs.	A/HA	There is no suitable habitat for this species in the Action Area. None were observed during the habitat survey. No Effect.
Ferris' milk-vetch <i>(Astragalus tener var. ferrisiae)</i>	_/_/_1B.1	Meadows and seeps, valley and foothill grassland. Subalkaline flats, usually seen in dry, adobe soils.	A/HA	There is no suitable habitat for this species in the Action Area. None were observed during the habitat survey. No Effect.
Veiny monardella <i>(Monardella venosa)</i>	_/_/_1B.1	Valley and Foothill Grassland, Cismontane Woodland. In heavy clay soils; mostly with grassland associates.	A/HA	There is no suitable habitat for this species in the Action Area. None were observed during the habitat survey. No Effect.

Common Name (<i>Scientific Name</i>)	Status Fed/State/ CNPS	General Habitat Description	Habitat Present/ Habitat Absent	Rationale
Baker's navarretia (<i>Navarretia</i> <i>leucocephala</i> ssp. <i>bakeri</i>)	_/_/1B.1	Vernal pools and swales; adobe or alkaline soils.	A/HA	There is no suitable habitat for this species in the Action Area. None were observed during the habitat survey. No Effect
Recurved larkspur (<i>Delphinium</i> <i>recurvatum</i>)	_/_/1B.2	On alkaline soils; often in valley saltbush or valley chenopod scrub.	A/HA	There is no suitable habitat for this species in the Action Area. None were observed during the habitat survey. No Effect.
Hartweg's golden sunburst (<i>Pseudobahia</i> <i>bahifolia</i>)	T/T/1B.1	Valley and Foothill Grassland, Cismontane Woodland. Clay soils, often acidic. Predominately on northern slopes of knolls, but also along shady creeks or near vernal pools.	A/HA	There is no suitable habitat for this species in the Action Area. None were observed during the habitat survey. No Effect.

CODE DESIGNATIONS	
FE = Federally-listed Endangered FT = Federally-listed Threatened FC = Federal Candidate Species MBTA = Protected by the federal Migratory Bird Treaty Act SE = State-listed Endangered ST = State-listed Threatened SR = State-listed Rare SSC = State Species of Special Concern S1 = State Critically Imperiled S2 = State Imperiled S3 = State Vulnerable S4 = State Apparently Secure SSC = CDFW Species of Special Concern FP = CDFW Fully Protected Sp	A = Species Absent P = Species Present HA = Habitat Absent HP = Habitat Present CH = Critical Habitat MH = Marginal Habitat CNPS 1B = Rare or Endangered in California or elsewhere CNPS 2 = Rare or Endangered in California, more common elsewhere CNPS 3 = More information is needed CNPS 4 = Plants with limited distribution 0.1 = Seriously Threatened 0.2 = Fairly Threatened 0.3 = Not very Threatened

Listed and Migratory Birds

Listed and Migratory birds are protected under State and Federal laws, the MBTA (16 USC 703) and the CFWC (3503). These laws and regulations prohibit the killing of these birds or the destruction of their occupied nests and eggs except in accordance with regulations prescribed by the USFWS. The bird species covered by the MBTA includes nearly all of those that breed in

North America, excluding introduced (i.e. exotic) species (50 Code of Federal Regulations §10.13). Activities that involve the removal of vegetation including trees, shrubs, grasses, and forbs or ground disturbance has the potential to affect bird species protected by the MBTA. The CFWC (§3503.5) states that it is “unlawful to take, possess, or destroy any birds in the order Falconiformes (hawks, eagles, and falcons) or Strigiformes (all owls except barn owls) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto”. Take includes the disturbance of an active nest resulting in the abandonment or loss of young. The CFWC (§3503) also states that “it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto”.

Survey Results

During the listed and migratory bird and raptor surveys conducted during December, 2019 and January, 2020, there were no observed occupied tree nests (Swainson's hawk, white-tailed kite) or burrows (burrowing owls) within the Action Area. Larger tracts of riparian habitat southeast of the Action Area along the Sutter Bypass provides more suitable nesting habitat. Likewise, open agricultural lands within 5 miles of the Action Area provide suitable nesting and foraging habitat for the burrowing owl. Red-tailed hawks were observed foraging near the Action Area; however, no “stick nests” were noted. Due the presence of suitable nesting habitat within five miles of the Action Area, the following mitigation measures should be incorporated into the project. Due to the lack of suitable burrowing owl nesting habitat within one-half mile of the Action Area, there are no proposed AMMs for the burrowing owl.

The following Avoidance and Minimization Measures (AMM) will be accomplished

Minimize Take and Adverse Effects on Habitat of Swainson’s Hawk and White-Tailed Kite.

If a construction project cannot avoid potential nest trees (as determined by the qualified biologist) by 1,320 feet, the project proponent will retain a qualified biologist to conduct preconstruction surveys for active nests consistent, with guidelines provided by the Swainson’s Hawk Technical Advisory Committee (2000), between March 15 and August 30, within 15 days prior to the beginning of the construction activity. The results of the survey will be submitted to the Conservancy and CDFW. If active nests are found during preconstruction surveys, a 1,320-foot initial temporary nest disturbance buffer shall be established. If project related activities within the temporary nest disturbance buffer are determined to be necessary during the nesting season, then the qualified biologist will monitor the nest and will, along with the project proponent, consult with CDFW to determine the best course of action necessary to avoid nest abandonment or take of individuals. Work may be allowed only to proceed within the temporary nest disturbance buffer if Swainson’s hawk or white-tailed kite are not exhibiting agitated behavior, such as defensive flights at intruders, getting up from a brooding position, or flying off the nest, and only with the agreement of CDFW and USFWS. The designated on-site biologist/monitor shall be on-site daily while construction-related activities are taking place within the 1,320-foot buffer and shall have the authority to stop work if raptors are exhibiting agitated

behavior. Up to 20 Swainson's hawk nest trees (documented nesting within the last 5 years) may be removed during the permit term, but they must be removed when not occupied by Swainson's hawks. For covered activities that involve pruning or removal of a potential Swainson's hawk or white-tailed kite nest tree, the project proponent will conduct preconstruction surveys that are consistent with the guidelines provided by the *Swainson's Hawk Technical Advisory Committee (2000)*. If active nests are found during preconstruction surveys, no tree pruning or removal of the nest tree will occur during the period between March 1 and August 30 within 1,320 feet of an active nest, unless a qualified biologist determines that the young have fledged and the nest is no longer active.

Project Impacts

With the implementation of avoidance and minimization measures there will be no direct or indirect impacts to listed or special concern avian species protected under State and Federal regulations or the MBTA. Direct impacts to all avian species will be avoided or minimized by beginning construction prior to the avian breeding season and/or conducting a preconstruction survey prior to the start of construction activities if construction activities will begin during the avian breeding season (See AMM above). By beginning construction prior to the avian breeding season there will be no active nests within the Action Area and direct impacts to avian species will not occur. Furthermore, beginning construction prior to the avian breeding season will also deter avian species from nesting within or within close proximity of the Action Area, which will also avoid impacts to species. If active avian nests are found then construction buffers, as determined by a qualified biologist, will be established and no construction will occur within the buffer until the biologist has determined that the young have fledged. Establishing no-construction buffers around active nests will minimize direct impacts. The project **May Affect, Not Likely to Adversely Affect** the Swainson's hawk, other raptor species, or other listed avian species.

Cumulative Effects

There are no foreseeable new actions that have potential to threaten migratory birds within the Action Area or contribute to cumulative effects of migratory bird species.

Minimize Take and Adverse Effects on Habitat of giant garter snake.

This biological assessment analyzes the effects of the project on the giant garter snake (*Thamnophis gigas*). The giant garter snake (GGS) is an endemic species of wetlands in the Central Valley of California. The Central Valley extends 644 kilometers (400 miles) from the vicinity of Red Bluff in the north to Bakersfield in the south and encompasses an area of about 5,260,840 hectares (13,000,000 acres). The Central Valley is made up of the Sacramento Valley in the north and the San Joaquin Valley in the south. Historically, giant garter snakes were found in the Sacramento and San Joaquin Valleys from the vicinity of Butte County southward to Buena Vista Lake, near Bakersfield in Kern County. Today, populations of the giant garter snake are found in the Sacramento Valley and isolated portions of the San Joaquin Valley, making up approximately nine recognized populations. They historically inhabited natural wetlands and now occupy a variety of agricultural, managed, and natural wetlands including their waterways

and adjacent upland habitats. As a result of habitat loss and fragmentation, declining populations, and continuing threats to the remaining populations, the giant garter snake was listed as a federally threatened species on October 20, 1993. The State of California listed the giant garter snake as a threatened species in 1971 (Federal Register, Vol. 79, No. 231, 2014).

GGS preys primarily on aquatic species such as fish and amphibians. Generally active from April through September, the giant garter snake breeds from March into May, and again briefly in September. Young are brooded internally by females, who give birth to live young from late July into September. Young disperse into dense cover and reabsorb their yolk sacs, then begin feeding on their own. They reach sexual maturity in three to five years. The snake requires enough water during its active season to maintain high densities of prey, emergent wetland vegetation for cover and foraging, and adjacent uplands and openings in streamside vegetation for basking sites. Higher uplands are used for cover and refuge from floodwaters during its non-active season. The giant garter snake is typically absent from wetlands with sand, gravel, or rock substrates, and from riparian woodlands (Brode, J. and G. Hansen 1992, and USFWS, 2015).

ENVIRONMENTAL BASELINE

The environmental baseline is an analysis of the effects of past and ongoing human and natural factors leading to the current status of the species, its habitat, and ecosystem within the action area. For purposes of this Biological Assessment the action area includes the 78.39-acre project footprint comprising upland habitat (orchards and wheat field) adjacent Sutter Extension Water District irrigation ditch to the east of the Action Area, the West Interception Canal to the north of the Action Area, and to a lesser degree, Wadsworth Canal approximately 1/3 mile east of the Action Area. The seasonally dry Sutter Extension Water District irrigation ditch does not appear to provide sufficient essential habitat to support the giant garter snake. The concrete lined West Interception canal does not appear to provide sufficient essential habitat to support the giant garter snake. Wadsworth Canal; however, has documented sighting of the giant garter snake one sighting within Wadsworth Canal was approximately 1.3 miles southeast of the Action Area.

All upland habitat areas adjacent to the Sutter Extension Water District irrigation ditch and the West Interception Canal were evaluated for potential underground refugia (burrows) that could support the GGS. Only small diameter pocket gopher and mole burrows were observed during onsite investigations. The nature of these burrows being covered by soil makes them unsuitable refugia for the GGS. No larger diameter ground squirrel burrows were observed within the Action Area. The giant garter snakes historical range encompasses the majority of the Central Valley of California, with habitat characteristics, species status, degree of threats, and needed recovery actions varying across the large geographic area. Currently, the USFWS recognizes 9¹ separate populations of giant garter snake, with each population representing a cluster of discrete locality records. The 9 extant population clusters largely coincide with historical riverine flood basins and tributary streams throughout the Central Valley (*Hansen 1980, Brode and Hansen 1992*):(1) Butte Basin Recovery Unit, (2) Colusa Basin Recovery Unit, (3) Sutter Basin Recovery Unit, (4) American Basin Recovery Unit, (5)Yolo Basin Recovery Unit, (6) Cosumnes-Mokelumne Basin Recovery Unit, (7) Delta Basin Recovery Unit, (8) San Joaquin

¹ USFWS, 2015. Revised Draft Recovery Plan for the Giant Garter Snake (*Thamnophis gigas*). Previously, the USFWS recognized 13 (from listing rule) populations.

Basin Recovery Unit, and (9) Tulare Basin Recovery Unit. The 11 counties where the giant garter snake is still presumed to occur are: Butte, Colusa, Glenn, Fresno, Merced, Sacramento, San Joaquin, Solano, Stanislaus, Sutter and Yolo.

Historically, giant garter snakes inhabited the Sacramento and San Joaquin Valleys from the vicinity of Chico, in Butte County southward to Buena Vista Lake, near Bakersfield in Kern County, California. The eastern and western boundaries of the giant garter snake range from the foothills occurring along each side of the Central Valley - the Coast Range to the west and the Sierra Nevada to the east (*USFWS, 2015*). Observations of individual giant garter snakes range in elevation from 3 to 12 meters (10 to 40 feet) in the southern Sacramento Valley. Although the boundaries of the giant garter snake's original distribution are undetermined, occurrence records coincide with the historical distribution of the large flood-basins, freshwater wetlands, and tributary streams of the Central Valley's Sacramento and San Joaquin watersheds (*Hansen and Brode 1980*).

SPECIES ACCOUNTS AND STATUS OF SPECIES IN THE ACTION AREA

Essential Habitat Components

The giant garter snake inhabits agricultural wetlands and other waterways, such as irrigation and drainage canals, rice lands, marshes, sloughs, ponds, small lakes, low gradient streams, and adjacent uplands in the Central Valley. There are various habitat components that appear to be most important to the giant garter snake (*G. Hansen 1982, 1986, 1988, 1996a; Wylie et al. 1995, 1997; Halstead et al. 2010 and USFWS Draft Recovery Plan, 2015*):

Aquatic Component:

- (1) A fresh-water aquatic component with protective emergent vegetation cover that will allow foraging.
- 2) An upland component near the aquatic habitat that can be used for thermoregulation and for summer shelter in burrow.
- 3) An upland refugia component that will serve as winter hibernacula.
- 4) Absence of recurrent flooding, or where flooding is probable, the presence of upland refugia.
- 5) Absence of large predatory fish, or amphibians (bull frog)

Upland Component:

- 1) Availability of bank side vegetative cover, typically tule (*Scripus sp.*) or cattail (*Typha sp.*) for screening from predators.
- 2) Availability of more permanent shelter, such as bank side cracks or crevices, holes, or small mammal burrows.

Giant garter snakes are absent from larger rivers, and from wetlands with sand, gravel, or rock substrates (*Rossman and Stewart 1987, G. Hansen 1988*). Riparian woodlands do not typically provide suitable habitat because of excessive shade, lack of basking sites, and the absence of prey populations. The ideal concept of a managed marsh as giant garter snake habitat should be in a configuration with shallow and deep water and variations in topography, including some higher ground resembling the ditch banks or "islands" similar to a rice check.

Riceland Habitats

Rice fields contain warm shallow water with sheltering emergent vegetation (i.e. rice plants) which is present within the fields during the giant garter snake active season in the spring, summer, and early fall. During the late summer when rice fields contain large numbers of mosquito fish and Pacific tree frogs, rice fields may provide important nursery areas for newborn giant garter snakes (*Brode and Hansen 1992, Hansen and Brode 1993*). The habitat and its associated water conveyance system, if managed properly, provides the giant garter snake ease of movement, protection from predators, warmth to aid metabolism, gestation, and digestion; and a source of food. Giant garter snakes now appear to be most numerous in rice growing regions. The diverse habitat elements of rice lands, the rice fields, tail water marshes, the ditch and drain components of the water conveyance system, delivery canals, and associated levees, all contribute structure and complexity to this man-made ecosystem. Apparently, giant garter snakes can survive in this artificial ecosystem because the spring and summer flooding and fall dry-down of rice culture coincides fairly closely with the biological needs of the species. Giant garter snakes utilize rice lands extensively and depend on them for habitat. Giant garter snake seasonal activity associated with rice cultivation occurs as follows:

Spring: Rice is planted and the fields are flooded with several inches of water. Rice fields that contain prey species such as small fish or frogs attract giant garter snakes.

Summer: While the rice grows, garter snakes continue to use rice fields as long as their prey is present in sufficient densities.

Late Summer/Fall: The water is drained from the rice fields and garter snakes move off the fields to other adjacent habitats. Rice is harvested at this time and female garter snakes have just borne young and need food to regain their body weight. In August and September the snakes can get a good supply of food from the rice lands because prey is concentrated in the rice drains. The dry-down of the rice fields in fall is thought to be important because prey, which have been proliferating, are concentrated in the remaining pockets of standing water where snakes can gorge prior to the period of winter inactivity.

Winter: Giant garter snakes are dormant in the winter and rice fields are fallow. In California, rice seed is planted into standing water by aircraft in mid-April and May. Most rice fields are leveled by laser-directed machinery to a slope of 0.02 to 0.05 meter per 100 meters (0.8 to 1.97 inches per 3,937 feet). Seed bed preparation begins as soon as the winter rains let up in March. Virtually all plant nutrition and weed control practices occur just before or soon after planting. A top dressing of a nitrogen fertilizer is often required later in the summer. Generally, water is maintained on the rice fields from the date of planting until September, when fields are drained to speed the uniform ripening of the grain. At a minimum, growers must "hold" water on their fields for up to 28 days after the application of herbicides and insecticides, to protect the quality of released irrigation water. Drains are monitored throughout the pesticide application season to protect aquatic life. Harvest typically begins in September and lasts into mid-November. Hansen and Brode (1993), reported that giant garter snakes begin utilizing rice fields as habitat as early as June.

In agricultural areas where rice fields and agricultural waterways are available, radio-telemetered giant garter snakes were located in rice fields 19 to 20 percent of the time, in marsh habitat 20 to 23 percent, and in canal and agricultural waterway habitats 50 to 56 percent. Between 48 and 55 percent of snakes used rice fields at some time. Where marsh habitat and adjacent uplands were the only habitat available, giant garter snakes used the marsh edge most of the time (Wylie *et al.* 1997). Giant garter snakes bask in bulrush, cattails, shrubs overhanging the water, patches of waterweed (*Ludwigia peploides*) and other floating vegetation, and on grassy banks. Giant garter snakes use small mammal burrows and other soil crevices above prevailing flood elevations during the winter (i.e., November to mid-March). Giant garter snakes typically select burrows with sunny exposures along south and west facing slopes. Small mammal burrows, crayfish burrows, and soil crevices provide retreats from extreme heat for giant garter snakes during the active season (Hansen and Brode 1993). Wintering sites varied from canal banks and marsh locations to riprap along a railroad grade near the marsh (Wylie *et al.* 1997). Wintering locations of radio-telemetered snakes tended to be in the vicinity of spring capture sites. Giant garter snakes use burrows in the summer as much as 50 meters (164 feet) away from the marsh edge, whereas overwintering snakes use burrows as far as 250 meters (820 feet) from the edge of marsh habitat (Wylie *et al.* 1997).

Reasons for Decline and Current Threats

The current distribution and abundance of the giant garter snake is much reduced from former times. Agricultural and flood control activities have extirpated the giant garter snake from the southern one third of its range in former wetlands which were associated with the historic Buena Vista, Tulare, and Kern lakebeds (Brode and Hansen 1992, Hansen and Brode 1980, R. Hansen 1980). These lakebeds once supported vast expanses of ideal giant garter snake habitat, consisting of cattail and bulrush dominated marshes. South of Fresno, virtually no suitable freshwater habitat remains (Hansen and Brode 1980). Vast expanses of bulrush and cattail floodplain habitat also typified much of the Sacramento Valley historically. Prior to reclamation activities, beginning in the mid- to late 1800's, about 60 percent of the Sacramento Valley was subject to seasonal overflow flooding in broad, shallow flood basins that provided expansive areas of giant garter snake habitat. Valley floor wetlands are subject to the cumulative effects of upstream watershed modifications, water storage and diversion projects, as well as urban and agricultural development.

Most natural habitats have been lost, however, a small percentage of seminatural wetlands remain, only a small percentage of which currently provides suitable habitat for the giant garter snake. Although habitat has been lost or degraded throughout the Central Valley, there have been many recent sightings of giant garter snakes in the Sacramento Valley; while there have been very few recent sightings within the San Joaquin Valley. The 1993 report on the status of giant garter snakes in the San Joaquin Valley indicates that central San Joaquin Valley giant garter snake numbers appear to have declined even more dramatically than has suitable habitat. Other factors, in addition to habitat loss, may be contributing to the decline of the giant garter snake in the area. These are factors which affect giant garter snakes within suitable habitat and include interrupted water supply, poor water quality, and contaminants. Historic changes in the landscape that did not favor giant garter snakes were 1) wetland management techniques that did not provide summer water, 2) use of contaminated agricultural drainwater on wetland areas, and 3) lack of flood control. Selenium contamination and impaired water quality have been identified

as a threat to the species and a contributing factor in the decline of giant garter snake populations, particularly for the North and South Grasslands subpopulation (*Hansen and Brode 1993 and USFWS, 2006*).

Though there are little data specifically addressing the toxicity of selenium, mercury, or metals to reptiles, it is expected that reptiles would have toxicity thresholds similar to those of fish and birds. Several large giant garter snake populations inhabit rice lands. These agricultural wetlands, however, are also threatened with urban development in many locations. Cities within the current range of the giant garter snake that are rapidly expanding include (1) Chico, (2) Woodland, (3) Sacramento, (4) Galt, (5) Stockton, (6) Gustine, (7) Los Banos, and (8) Yuba City/Marysville. Giant garter snake populations found in agricultural wetlands are also threatened by incompatible agricultural management practices (e.g., conversion of rice lands to orchards or cotton) within these rice lands. Loss of habitat remains the greatest threat to the survival of the giant garter snake. However, degradation of habitat and additional mortality factors may cumulatively threaten the survival of some giant garter snake subpopulations. Activities which may degrade habitat include maintenance of flood control and agricultural waterways, weed abatement, rodent control, discharge of contaminants into wetlands and waterways, and overgrazing in wetland or streamside habitats. These activities can also result in direct mortality of giant garter snakes. Although many maintenance practices are necessary to maintain habitat for the giant garter snake, incompatible maintenance regimes may degrade habitat and increase the risk of giant garter snake mortality (*Brode and Hansen 1992, G. Hansen 1988, Hansen and Brode 1993*). Land management changes also may affect giant garter snake populations. In the Grasslands, wetland management changes on State Wildlife Areas and private duck clubs affect the availability of summer water which is necessary to provide giant garter snake foraging habitat. Changes in the mid-1970's from water grass production to moist-soil management for swamp timothy and smartweed resulted in earlier spring irrigation and decreases in summer water. Irrigation of private duck clubs for cattle provided summer water in canals, sloughs, and other water conveyance systems throughout the basin. However, in the mid-1970's, private duck clubs were encouraged to withhold grazing and to change their focus to moist-soil management. These land management changes resulting in reduced summer water coincided with the apparent declines of giant garter snake populations in the Grasslands.

Cattle grazing and irrigated pastures provide the summer water that giant garter snakes require. However, overgrazing may degrade giant garter snake habitat and eliminate cover. The giant garter snake requires dense vegetative cover in proximity to waterside foraging and basking habitats in which to seek refuge from predators and other forms of disturbance. Livestock overgrazing along the edges of water sources degrades habitat quality in a number of ways: (1) eating and trampling aquatic and riparian vegetation needed for cover from predators, (2) changes in plant species composition, (3) trampling snakes and burrows needed for shelter, (4) water pollution, and (5) reducing or eliminating fish and amphibian prey populations. The introduction of the bullfrog to virtually all areas that are inhabited by the giant garter snake may greatly increase the threat of predation facing the species. A large body of evidence implicates the spread of bullfrogs in the demise of numerous species of native amphibians and reptiles. These studies documented (1) bullfrog ingestion of garter snakes up to 80 centimeters (31.5 inches) in length, (2) depletion of garter snake age class structure less than 80 centimeters (31.5 inches) length (snout-vent), and (3) the disappearance and subsequent resurgence of garter snake populations coincident with the introduction and decline of bullfrog populations. Although

these studies were conducted on other species of garter snakes, it is likely that the giant garter snake is similarly affected.

Little information on the threats of disease and parasitism exist for garter snakes. However, George Hansen (*in litt.* 1992) documented parasite infestations in giant garter snakes from the American Basin. G. Hansen suggested that the parasites he observed may contribute to the observed low survival of neonate giant garter snakes in the American Basin (*G. Hansen in litt.* 1992). Unidentified nematode worms were observed in captive-held snakes. The nematode worms were 5 to 8 centimeters (2 to 3 inches) in length, approximately the thickness of a pencil lead and colored with narrow alternating rings of red and beige. Giant garter snakes developed lumps under the skin from which worms frequently exited by burrowing out through the snake's skin. Young snakes with these lumps grew more slowly than the apparently uninfected siblings and several affected young died after lingering malaise. Older snakes exhibited signs of respiratory distress 1 to 2 days prior to death, indicating that the airways may have been blocked by presence of the parasitic worm. G. Hansen did not observe the parasite, the lumps it causes, or any of the symptoms associated with the presence of the worms in any areas except the American Basin.

Road kills of giant garter snakes may also be a significant mortality factor in areas where roadways lie in close proximity to giant garter snake populations. Paved roads tend to have a higher rate of road mortalities than gravel roads because of increased traffic and traveling speeds. Hansen and Brode (1993) documented 31 road killed snakes during their 4-year study within the Natomas Basin.

EFFECTS OF THE ACTION

The planned removal of orchard and wheat fields will take place within 1/3 mile of potentially suitable habitat for the giant garter snake (Wadsworth Canal) and within 500 feet of currently active rice fields to the south and east. Wadsworth Canal has elements² of potential habitat that could support the presence of the giant garter snake such as:

- 1) Water present from March through November.
- 2) Following rapid flows to support irrigation, slow moving water with mud substrate.
- 3) Presence of emergent and bank side vegetation that provides cover from predators and may serve in thermoregulation.
- 4) The absence of a continuous canopy of riparian vegetation.
- 5) Available prey in the form of small amphibians and small fish.

However, the Wadsworth Canal also exhibits characteristics that are detrimental to the giant garter snake such as:

- 1) Periodic flooding within the Canal due to high demands for irrigation water and to carry flood waters resulting in flows that come within a few feet of the top of the levees.
- 2) Characteristics of larger river systems which generally do not support the snake (flows approaching 20,000 cubic feet per second)³.

² USFWS, 2015. Revised Draft Recovery Plan for the Giant Garter Snake (*Thamnophis gigas*).

³ USACE Levee and Channel Profiles

- 3) The presence of large predatory fish.
- 4) The absence of more permanent shelter, such as bank side cracks or crevices, holes or small mammal burrows.

The proposed project will be completed in phases which will allow adequate time for comprehensive surveys for the giant garter snake throughout the property and surrounding 500 foot buffer zones. Access to the construction area will be via established roads, access being from Butte House Road and internal gravel roads.

Direct Effects and Stressors to Listed Species

It is anticipated that the use of the currently disturbed areas around the existing barns for a staging area will isolate potential impacts to irrigation ditch habitats. Due to the work being scheduled during the active time of the snake (1 May - 1 October), movement of men and equipment within the immediate work area of the irrigation ditches and canals will alert the snake and provide it ample opportunities to escape to more suitable rice field habitat or the larger Wadsworth Canal. Additionally, pre-construction and continuous onsite biological monitoring by a service approved biologist will confirm that the action area is free of small mammal burrows and soil crevices that would serve as retreat sites. These surveys will be designed to prevent giant garter snakes from being crushed, buried or otherwise injured from construction activities.

Indirect Effects of the Action

The proposed 250 foot agricultural buffer from the Sutter Extension Water District ditch and existing rice fields to the south, along with biological monitoring should minimize indirect effects of tree removal and construction activities. Once the proposed detention ponds have been constructed they will provide an additional buffer zone and once inundated by seasonal precipitation may provide additional foraging habitat for the giant garter snake.

Cumulative Effect of the Action

There are no undetermined numbers of future land use conversions and/or routine agricultural practices not subject to Federal authorization or funding that could potentially alter the West Interception Canal or Sutter Extension Water District irrigation ditch aquatic habitat or increase the potential to adversely affect the giant garter snake.

Beneficial Effect of the Action

The installation of three detention ponds totaling over 6-acres along the eastern boundary of the Action Area will provide an adequate agricultural buffer along the Sutter Extension Water District irrigation ditch and will provide potential foraging habitat for the giant garter snake.

CONSERVATION MEASURES FOR GIANT GARTER SNAKE

Sutter Ranch Subdivision has committed to incorporate avoidance and minimization measures⁴ as part of their project construction and operation which are intended to avoid or minimize impacts to GGS.

1. Initial grading and earthwork will be limited to daylight hours between May 1 and October 1. Individual lot development may take place throughout the year.
2. Twenty-four-hours prior to the commencement of construction activities, the Action Area shall be surveyed for giant garter snakes by a Service-approved biologist. The biologist will provide the Service with a written report that adequately documents the monitoring efforts within 24-hours of commencement of construction activities. The Action Area shall be re-inspected by the monitoring biologist whenever a lapse in construction activity of two weeks or greater has occurred.
3. A Service-approved biological monitor will be onsite during all ground disturbing activities to monitor construction actions. If any giant garter snakes are observed within or near the construction area, the biological monitor will be notified immediately so that they can make a positive identification of the snake. If a giant garter snake is found within the construction area, the biological monitor will have the authority to stop construction activities until appropriate corrective measures have been completed, or it is determined that the individual will not be harmed. Giant garter snakes encountered during construction activities will be allowed to move away from construction activities on their own. If a giant garter snake is unable to move away on its own, is trapped, or is injured, the U.S. Fish and Wildlife Service will be contacted immediately by telephone at (916) 414-6600/6601.
4. All construction vehicles and project related equipment left onsite overnight will be thoroughly inspected each day for giant garter snakes before they are moved.
5. A Worker Environmental Awareness Training Program for construction personnel shall be conducted by a Service-approved biologist for all construction workers, including contractors, prior to the commencement of construction activities.
6. During construction operations, stockpiling of construction materials, portable equipment, vehicles, and supplies will be restricted to the designated construction staging areas (area of disturbed barns and out-buildings) and all operations will be confined to the minimal area necessary.
7. Project-related vehicles will observe a 10-mile-per-hour speed limit within construction areas, except on existing paved roads where they will adhere to the posted speed limits.
8. Prior to excavation of the detention pond, the portion of the Sutter Extension Water District irrigation ditch will be dry and decommissioned. Snake exclusion fencing will be installed along

⁴ Appendix C Standard Avoidance and Minimization Measures During Construction Activities in Giant Garter Snake (*Thamnophis gigas*) Habitat, Programmatic Consultation with the U.S. Army Corps of Engineers.

the West Interception Canal and the areas south of the Action Area that could adjoin rice fields. Exclusion fencing will be inspected by the onsite biological monitor on a daily basis and will be repaired or replaced as required.

CUMULATIVE EFFECTS

Cumulative effects are those effects of future state or private activities, not involving Federal activities that are reasonably certain to occur within the action area. Cumulative effects that reduce the ability of a listed species to meet its biological requirements may increase the likelihood that the proposed action will result in jeopardy to that listed species or in destruction or adverse modification of a designated critical habitat.

Other than normal maintenance conducted by the Sutter Extension Water District, there are no known future non-Federal activities designated within the action area that could cause impacts to listed species. It is assumed that future private and state actions will continue at similar intensities as in recent years.

CONCLUSION

Incidental Take Statement

Section 9(a) (1) of the ESA prohibits the taking of endangered species without a specific permit or exemption. Protective regulations adopted pursuant to section 4(d) extend the prohibition to threatened species. Among other things, an action that harasses, wounds, or kills an individual of a listed species or harms a species by altering habitat in a way that significantly impairs its essential behavioral patterns is a taking (*50 CFR 402.02*).

Amount or Extent of Potential Take

Actions necessary to complete the proposed installation of the detention ponds and construction activities within the upland habitats (orchards and wheat field) will have a low probability of entrainment of giant garter snake(s). It is extremely unlikely that snakes are present in or near the Action Area, as the surrounding agriculture fields support only orchard and row crops with seasonally dry irrigation ditches. Unlike the Wadsworth Canal supporting rice fields east of the Action Area, the irrigation ditches along the northern and eastern boundaries of the Action Area provide only marginal garter snake habitat. Surveys of all irrigation ditches and canals near the Action Area will be conducted by a Service-approved biologist prior to any anticipated disturbances. Based upon the project design, the phased, short term impacts associated with the construction of the detention ponds and subdivision lots, and the avoidance (conservation) and minimization measures; it is the professional opinion of Marcus H. Bole & Associates that the project as designed will have a low potential to adversely affect the giant garter snake. **The project May Affect, Not Likely to Adversely Affect** the giant garter snake.

Table 2. Recommended Avoidance/Minimization Measures

Target Species/ Communities	Impacts	Avoidance/ Minimization/ Mitigation Measures
Natural Communities	None	There are no natural communities within the 78.38-acre Action Area. The entire Action Area consists of disturbed ruderal grasses and forbs with several medium diameter oaks. Plant surveys were conducted in winter; therefor follow-up spring blooming cycle surveys will be accomplished.
Special Status Avian Species	Less Than Significant with Mitigation Incorporated	If site preparation occurs within the spring bird nesting season (March 15 - August 30), a preconstruction survey shall be conducted by a qualified professional within 15 days prior to construction. If active nests (with eggs or living young) are found within 1,320 feet of the Action Area, no activity shall be permitted that might disturb or remove the active nests until the young birds are able to leave the nest and forage on their own. Setback buffers for the nests will vary depending on the species affected and the location of the nest. Buffer zones shall be determined on a case by case basis in consultation with a California Department of Fish and Wildlife approved biologist.
Giant garter snake	Less Than Significant with Mitigation Incorporated	<ol style="list-style-type: none"> 1. Initial grading and earthwork will be limited to daylight hours between May 1 and October 1. Individual lot development will take place throughout the year. 2. Twenty-four-hours prior to the commencement of construction activities, the Action Area shall be surveyed for giant garter snakes by a Service-approved biologist. The biologist will provide the Service with a written report that adequately documents the monitoring efforts within 24-hours of commencement of construction activities. The Action Area shall be re-inspected by the monitoring biologist whenever a lapse in construction activity of two weeks or greater has occurred. 3. A Service-approved biological monitor will be onsite during all ground disturbing activities to monitor construction actions. If any giant garter snakes are observed within or near the construction area, the biological monitor will be notified immediately so that they can make a positive identification of the snake. If a giant garter snake is found within the construction area, the biological monitor will have the authority to stop construction activities until appropriate corrective measures have been completed, or it is determined that the individual will not be harmed. Giant garter snakes encountered during construction activities will be allowed to move away from construction activities on their own. If a giant garter snake is unable to move away on its own, is trapped, or is injured, the U.S. Fish and Wildlife Service will be contacted immediately by telephone at (916) 414-6600/6601. 4. All construction vehicles and project related equipment left onsite overnight will be thoroughly inspected each day for giant garter snakes before they are moved. 5. A Worker Environmental Awareness Training Program for construction personnel shall be conducted by a Service-approved biologist for all construction workers, including contractors, prior to the commencement of construction activities. 6. During construction operations, stockpiling of construction materials, portable equipment, vehicles, and supplies will be restricted to the designated construction staging areas (area of

Target Species/ Communities	Impacts	Avoidance/ Minimization/ Mitigation Measures
		<p>disturbed barns and out-buildings) and all operations will be confined to the minimal area necessary.</p> <p>7. Project-related vehicles will observe a 10-mile-per-hour speed limit within construction areas, except on existing paved roads where they will adhere to the posted speed limits.</p> <p>8. Prior to excavation of the detention pond, the portion of the Sutter Extension Water District irrigation ditch will be dry and decommissioned. Snake exclusion fencing will be installed along the West Interception Canal and the areas south of the Action Area that could adjoin rice fields. Exclusion fencing will be inspected by the onsite biological monitor on a daily basis and will be repaired or replaced as required.</p>

5.0 RESULTS: PERMITS AND TECHNICAL STUDIES FOR SPECIAL LAWS OR CONDITIONS

5.1 Federal Endangered Species Act Consultation Summary

The USFWS was contacted during December, 2019, for a list of endangered, threatened, sensitive and rare species, and their habitats within the Action Area. The list was derived from special-status species that occur or have the potential to occur within the USGS Sutter 7.5" Quadrangle and Sutter County. The list was referenced to determine appropriate biological and botanical surveys and potential species occurrence within the Action Area.

5.2 Federal Fisheries and Essential Fish Habitat Consultation Summary

Essential fish habitat (EFH) means those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity (*Magnuson-Stevens Fishery Conservation and Management Act (MSA)* §3). There is no habitat within the Action Area that provides "waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity," or special-status fish species managed under a fishery council (i.e chinook and coho). Therefore there is no EFH or the need for federal fisheries consultation.

5.3 California Endangered Species Act Consultation Summary

The CDFW was consulted during December, 2019, for a list of endangered, threatened, sensitive and rare species, and their habitats within the Action Area. The list was derived from special-status species that occur or have the potential to occur within the USGS Sutter 7.5" Quadrangle and Sutter County. The list was referenced to determine appropriate biological and botanical surveys and potential species occurrence within the Action Area.

5.4 Wetlands and Others Water Coordination Summary

MHBA conducted a determination of Waters of the U.S. within the Action Area. Surveys were conducted during May, 2018 by MHBA's Marcus H. Bole. The surveys involved an examination

of botanical resources, soils, hydrological features, and determination of wetland characteristics based on the *United States Army Corps of Engineers Wetlands Delineation Manual (1987)*; the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (2008)*; the *U.S. Army Corps of Engineers Jurisdictional Determination Form Instructional Guidebook (2007)*; the *U.S. Army Corps of Engineers Ordinary High Flows and the Stage-Discharge Relationship in the Arid West Region (2011)*; and the *U.S. Army Corps of Engineers Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States (2008)*.

5.5 Determination of Waters of the United States

The intent of this determination is to identify wetlands and “Other Waters of the United States” that are present within the Action Area that could fall under the regulatory jurisdiction of the U. S. Army Corps of Engineers (Corps) pursuant to Section 404 of the Clean Water Act. The *1987 Corps of Engineers Wetlands Delineation Manual* identifies several methodologies and combinations of methodologies that can be utilized in making jurisdictional determinations. Marcus H. Bole & Associates has employed the Routine On-Site Determination methodology for this study (as supplemented by the *Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region*, dated December 2006). The Routine On-Site Determination method uses a three-parameter approach (vegetation, soils and hydrology) to identify and delineate the boundaries of jurisdictional wetlands. To be considered a wetland, all three positive wetland parameters must be present. These parameters include (1) a dominance of wetland vegetation, (2) a presence of hydric soils, and (3) hydrologic conditions that result in periods of inundation or saturation on the surface from flooding or ponding. Further description of these parameters is provided below:

1) Vegetation. Wetland vegetation includes those plants that possess physiological traits that allow them to grow and persist in soils subject to inundation and anaerobic soil conditions. Plant species are classified according to their probability of being associated with wetlands. Obligate (OBL) wetland plant species almost always occur in wetlands (more than 99 percent of the time), facultative wetland (FACW) plant species occur in wetlands most of the time (67 to 99 percent), and facultative (FAC) plant species have about an equal chance (33 to 66 percent) of occurring in wetlands as in uplands. For this study, vegetation was considered to meet the vegetation criteria if more than 50% of the vegetative cover was FAC or wetter. Other than the West Interception Canal and the Sutter Extension Water District irrigation ditch, no wetland habitats were identified on or near the Action Area.

2) Hydric Soils. Hydric soils are saturated, flooded, or ponded in the upper stratum long enough during the growing season to develop anaerobic conditions and favor the growth of wetland plants. Hydric soils include gleyed soils (soils with gray colors), or usually display indicators such as low chroma values, redoximorphic features, iron, or manganese concretions, or a combination of these indicators. Low chroma values are generally defined as having a value of 2 or less using the Munsell Soil Notations (Munsell, 1994). For this study a soil was considered to meet the hydric soil criteria for color if it had a chroma value of one or a chroma of two with redoximorphic features, or if the soil exhibited iron or manganese concretions. Redoximorphic features (commonly referred to as mottles) are areas in the soils that have brighter (higher chroma) or grayer (lower chroma) colors than the soil matrix. Redoximorphic features are the

result of the oxidation and reduction process that occurs under anaerobic conditions. Iron and manganese concretions form during the oxidation-reduction process, when iron and manganese in suspension are sometimes segregated as oxides into concretions or soft masses. These accumulations are usually black or dark brown. Concretions 2 mm in diameter occurring within 7.5 cm of the surface are evidence that the soil is saturated for long periods near the surface. Onsite soils were identified as a mixture of graded cut-and-fill material, Olashes sandy loam, Subaco clay, and Capay silty clay soils. Although the clay soils have "hydric soil" characteristics when flood irrigated, the onsite soils do not currently support a predominance of hydric plant species.

3) Hydrology. Wetlands by definition are seasonally inundated or saturated at or near the surface. In order for an area to have wetland hydrology, it has to be inundated or saturated for 5% of the growing season (approximately 12 days) (USDA, 1967). Indicators include visual soil saturation, flooding, watermarks, drainage patterns, encrusted sediment and plant deposits, cryptogammic lichens, and algal mats. There are no natural hydrological features within the Action Area. Man-made (dug in uplands) irrigation canals and irrigation ditches boarder the Action Area on the north and east.

Wetland Determination Results

Using the methodologies described in the *1987 Wetland Delineation Manual*, Marcus H. Bole & Associates found no evidence of seasonal or perennial wetland habitats within the Action Area. There are no anticipated impacts to the West Interception Canal or the Sutter Extension Water District irrigation ditch.

CONCLUSIONS

According to the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA) guidelines, a project is normally considered to have a significant impact on wildlife if it will interfere substantially with the movement of any resident or migratory fish or wildlife species; or substantially diminishes habitat quantity or quality for dependent wildlife and plant species. Impacts to special status species and their associated habitats are also considered significant if the impact would reduce or adversely modify a habitat of recognized value to a sensitive wildlife species or to an individual of such species. This guideline applies even to those species not formally listed as threatened, rare or endangered by the California Department of Fish & Wildlife and the United States Fish and Wildlife Service. Project implementation will not result in impacts to resident or migratory wildlife, special status plant or wildlife species, or any associated protected habitat.

This concludes our Planning-Level and Site Specific NEPA/CEQA-level Biological Assessment Wetland Determination of the ±78.39-acre study area of orchard and row crop agricultural property located along Butte House Road, east of the community of Sutter, Sutter County, California. The Action Area is located on the U.S. Geological survey (USGS) Sutter 7.5-minute topographic quadrangle, Section 10, Township 15 North, Range 2 East. If you have any questions concerning our findings or recommendations please feel free to contact me directly at: Marcus H. Bole & Associates, Attn: Marcus Bole, 104 Brock Drive, Wheatland, CA 95692, phone 530-633-0117, fax 530-633-0119, email: mbole@aol.com.

Respectfully Submitted:



Charlene J. Bole, M.S, Botanist
Senior Wildlife Biologist
Marcus H. Bole & Associates



Marcus H. Bole, M.S, Wildlife Biologist
Senior Wildlife Biologist
Marcus H. Bole & Associates

LIST OF ATTACHMENTS:

APPENDIX A: MAPS

APPENDIX B: SITE PLAN

APPENDIX C: PHOTO PLATES

APPENDIX D: IPaC and CNDDB

6.0 REFERENCES

Barbour, Michael G., and Jack Major. 1995. *Terrestrial Vegetation of California*. California Native Plant Society, University of California, Davis.

Beam, J.A., and T.M. Menges. 1997. Evaluation of management practices on state-owned Wildlife Areas and private duck clubs in the Grasslands Basin of the San Joaquin Valley relative to the giant garter snake (*Thamnophis gigas*). California Department of Fish and Game unpublished report. 9 pp.

Brode, J., and G. Hansen. 1992. Status and future management of the giant Garter snake (*Thamnophis gigas*) within the southern American Basin, Sacramento and Sutter counties, California. California Department of Fish and Game, Inland Fisheries. Division.

California Department of Fish and Game. 1992. Draft five year status report. California Department of Fish and Game, Inland Fisheries Division.

California Natural Diversity Data Base. January 2020. Biogeography Data Branch, California Department of Fish and Game.

Cornell Lab of Ornithology. 2015. Yellow-billed Cuckoo. All About birds. http://www.allaboutbirds.org/guide/Yellow-billed_Cuckoo/id.

Cowardin, Lewis M.; Carter, Virginia; Golet, Francis C.; and La Roe, Edward T. 1979. *Classification of Wetlands and Deepwater Habitats of the United States*. U. S. Wildlife Service Office of Biological Services.

Department of the Interior. 2014. Fish and Wildlife Service. Federal Register, Vol. 79, No. 231, 50 CFR Part 17 Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for the Western Distinct Population Segment of the Yellow-Billed Cuckoo; Proposed Rule. <https://www.gpo.gov/fdsys/pkg/FR-2014-12-02/pdf/2014-28330.pdf#page=1&zoom=auto,-100,792>.

Hansen, G.E. 1982. Status of the giant garter snake (*Thamnophis couchi gigas*) along portions of Laguna and Elk Grove creeks, Sacramento County, California. Report to Sacramento County Planning Dept. 15 pp.

_____. 1988. Review of the status of the giant garter snake (*Thamnophis couchi gigas*) and its supporting habitat during 1986-1987. Final report for California Department of Fish and Game, Contract C-2060. Unpublished. 31 pp.

_____. 1996. Status of the giant garter snake (*Thamnophis gigas*) in the San Joaquin Valley in 1995. Final report for California Department of Fish and Game, Standard Agreement No. FG4052IF. Unpublished 31 pp.

Hansen G.E., and J.M. Brode. 1980. Status of the giant garter snake, *Thamnophis couchi gigas* (Fitch). California Department of Fish and Game. Inland Fisheries Endangered Species Program Special Publication Report No. 80-5. 14 pp.

_____. 1993. Results of relocating canal habitat of the giant garter snake (*Thamnophis gigas*) during widening of State Route 99/70 in Sacramento and Sutter counties, California. Final report for Caltrans Interagency Agreement 03E325 (FG7550) (FY 87/88-91-92). Unpublished. 36 pp.

Hansen, R. W. 1980. Western aquatic garter snakes in central California: an ecological and evolutionary perspective. Masters thesis, Department of Biology, California State University, Fresno. 78 pp.

Hinds, N.E.A. 1952. Evolution of the California landscape. California Division of Mines Bulletin No. 158. 240 pp.

Huges, Janice M. 2015. Yellow-billed Cuckoo (*Coccyzus americanus*), the Birds of North America Online: <http://bna.birds.cornell.edu/bna/species/418>

Laymon, S. A. 1998. Yellow-billed Cuckoo (*Coccyzus americanus*). In the Riparian Bird Conservation Plan: a strategy for reversing the decline of riparian-associated birds in California. Partners in Flight: http://www.prbo.org/calpif/htmldocs/riparian_v-2.h

Miller, K.J., K Hornaday., USFWS and The Giant Garter Snake Recovery Team. 1999. Draft Recovery Plan for the Giant Garter Snake. Prepared for U.S. Fish and Wildlife Service.

- Remsen, J. V., Jr. 1978. *Bird Species of Special Concern: An Annotated Checklist of Declining or Vulnerable Bird Species*. California Department of Fish and Game, Wildlife Management Administrative Report 78-1, Sacramento.
- U.S. Army Corps of Engineers (USACE). 2008. *Regional supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region*. J.S. Wakeley, R.W. Lichvar, and C.V. Noble, ed. ERDC/EL TR-06-16. Vicksburg, MS: U.S. Army Engineer Research and Development Center, Environmental Laboratory.
- USFWS/USACE. Programmatic Consultation with the U.S. Army Corps of Engineers 404 Permitted Projects with Relatively Small Effects on the Giant Garter Snake within Butte, Colusa, Glenn, Fresno, Merced, Sacramento, San Joaquin, Solano, Stanislaus, Sutter and Yolo Counties, California. Appendix C Standard Avoidance and Minimization Measures During Construction Activities in Giant Garter Snake (*Thamnophis gigas*) Habitat.
- U.S. Fish and Wildlife Service. 1993. Endangered and threatened wildlife and plants; determination of threatened status for the giant garter snake. Federal Register 58:54053-54066.
- U.S. Fish and Wildlife Service. 2006. Giant Garter Snake (*Thamnophis gigas*) 5-Year Review: Summary and Evaluation. Sacramento, California.
- USGS. 2015. A Preliminary Investigation of the Variables Affecting the Distribution of Giant Garter Snakes (*Thamnophis gigas*) in the Sacramento Valley. Open File Report 2015-1178.
- USGS. 2015. A Preliminary Investigation of the Variables Affecting the Distribution of Giant Garter Snakes (*Thamnophis gigas*) in the Sacramento Valley. Open File Report 2015-1178.
- U.S. Fish and Wildlife Service. 1999. Conservation Guidelines for the Valley Elderberry Longhorn Beetle. Sacramento Fish & Wildlife Office, Sacramento, California.
- U.S. Fish and Wildlife Service. 2015. Revised Draft Recover Plan for Giant Garter Snake (*Thamnophis gigas*). Region 8 U.S. Fish and Wildlife Service. Sacramento, California.
- Wylie, G. D., M. Cassaza, and J. K. Daugherty. 1997. 1996 Progress report for the giant garter snake study. Preliminary report, U.S. Geological Survey, Biological Resources Division.
- Wylie, G.D. 2013. Surveys for Giant Garter snakes (*Thamnophis gigas*) in Butte, Colusa, Glenn, Yolo, and Yuba Counties, 2008-2011, Data Summary for California Waterfowl Association, United States Geological Survey, Western Ecological Research Center, Dixon, CA.

APPENDIX A: SITE MAP

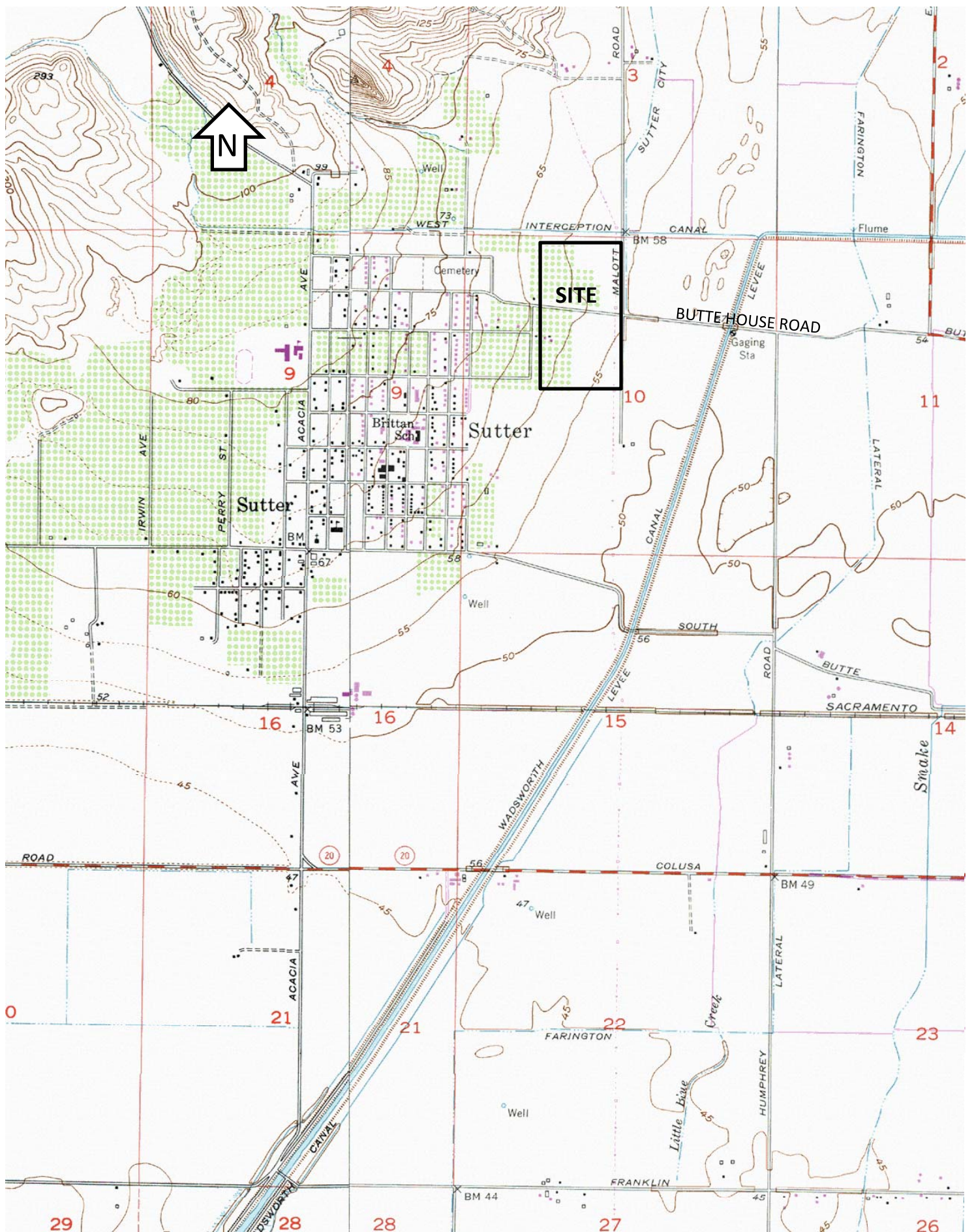


Figure 1: Sutter Ranch Estates Subdivision, Township 15 N, Range 2 E, Section 10, Sutter 7.5 USGS Quadrangle. Approximately 39.16897N, -121.73706W, ±78.39-Acres proposed for development. Sutter County Tentative Subdivision Map U-2019-031. Project is located along Butte House Road, east of Sutter, California.

APPENDIX B: SITE PLAN

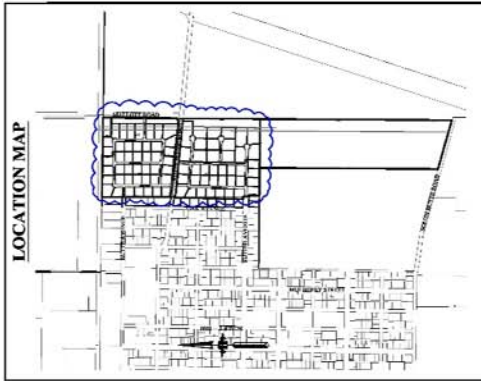
TENTATIVE SUBDIVISION MAP

U-2019-031

SUTTER RANCH SUBDIVISION MAP

SUTTER COUNTY, CALIFORNIA
OCTOBER 23, 2019 REVISED NOVEMBER 6, 2019

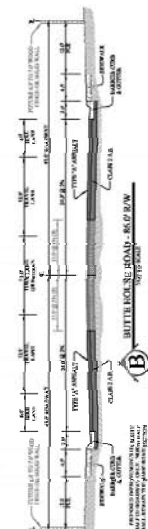
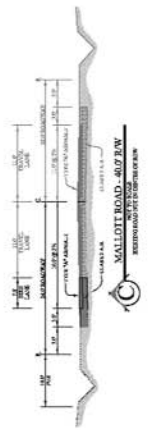
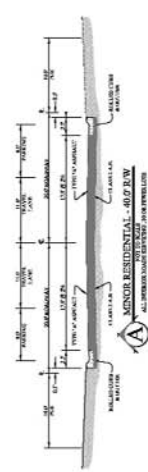
PAGE 1 OF 3



LAND USE SUMMARY

PARCEL SUMMARY*	24 LOTS	1.39 ACRES
VILLAGE NO. 1	13 LOTS	1.23 ACRES
VILLAGE NO. 2	16 LOTS	1.16 ACRES
VILLAGE NO. 3	15 LOTS	1.65 ACRES
VILLAGE NO. 4	16 LOTS	1.81 ACRES
SUBTOTAL	54 LOTS	5.91 ACRES
MANOR ROADWAY	0.85 ACRES	1.18 LOTS/AC
PARCEL A - DETENTION POND	1.15 ACRES	1.23 LOTS/AC
PARCEL B - DETENTION POND	1.23 ACRES	1.30 LOTS/AC
PARCEL C - DETENTION POND	3.50 ACRES	3.50 LOTS/AC
SUBTOTAL	7.18 ACRES	7.18 LOTS/AC
TOTAL	78.39 ACRES	1.07 LOTS/AC

*ALL ACRES AND LOTS INCLUDE ROW ON BUTTE INCHES ROAD AND VALLOTT ROAD. THIS ROW OWNED IN SUTTER COUNTY DOES NOT ON THE PROPERTY.



OWNER GORDON A RAUB III TRUST SUTTER COUNTY, CALIFORNIA CONTACT: PAULA RAUB SUTTER, CA 95982 PHONE: (530) 755-1468	EXISTING USE ORCHARD AND ROW CROP EXISTING GENERAL PLAN DESIGNATION LOW DENSITY RESIDENTIAL	FIRE PROTECTION COUNTY OF SUTTER LAW ENFORCEMENT COUNTY OF SUTTER
APPLICANT HELM PROPERTIES 1101 BUTTE HILLS RD, STE 2 SUTTER, CA 95982 CONTACT: JEFF HELM PHONE: (530) 329-4336	PROPOSED GENERAL PLAN DESIGNATION LOW DENSITY RESIDENTIAL	SANITARY SEWER INDIVIDUAL SEPTIC DOMESTIC WATER SUTTER COUNTY SERVICES DISTRICT
ENGINEER/ARCHITECT MINI INCORPORATED 1204 E STREET, P.O. BOX B MARYSVILLE, CA 95901 CONTACT: JEFF MINI PHONE: (530) 742-4485	PROPOSED ZONING ER LEVEE PROTECTION STATE OF CALIFORNIA ELEMENTARY SCHOOL DISTRICT BRETTAN ELEMENTARY SCHOOL DISTRICT	STORM DRAINAGE COUNTY OF SUTTER IRRIGATION DISTRICT SUTTER EXTENSION WD
ASSESSOR'S PARCEL NO. 15-04-003 (ORIG 15-245-008) 15-245-003 (ORIG 15-245-009) 15-245-004 (ORIG 15-245-010) 15-245-005 (ORIG 15-245-011)	AREA OF TENTATIVE MAP CEMETERY 78.39 GROSS ACRES	ELECTRICITY PACIFIC GAS AND ELECTRIC NATURAL GAS PACIFIC GAS AND ELECTRIC COMMUNICATION AIRTEL AND COMCAST CABLE COMCAST
GENERAL NOTES		

SEAL/STAMP COUNTY OF SUTTER THE COUNTY OF SUTTER PLANNING RESOLUTION 2004-001 APPROVING TENTATIVE PRELIMINARY TITLE REPORT BY FIRST PLANNING COMMISSION MEETING ON 12/23/99/141 DATED APRIL 5, 2019	COUNTY OF SUTTER	DATE
--	-------------------------	-------------

2 INDICATES PROPOSED SMALL LOT
PHASE AND LARGE LOT PARCEL

M.H.M.
ENGINEERS & SURVEYORS SINCE 1892
1015 STREET, P.O. BOX B
MARYSVILLE, CA 95901
PHONE: (530) 742-5809
FAX: (530) 742-5809

APPENDIX C: PHOTO PLATES



MARCUS H. BOLE & ASSOCIATES
104 Brock Drive, Wheatland, CA 95692
(530) 633-0117, email: mbole@aol.com

SITE: Sutter Ranch Subdivision
ITEM: Onsite Buildings and Well
DATE: 01/03/2020

PLATE: 1



MARCUS H. BOLE & ASSOCIATES
104 Brock Drive, Wheatland, CA 95692
(530) 633-0117, email: mbole@aol.com

SITE: Sutter Ranch Subdivision
ITEM: Orchards
DATE: 01/03/2020

PLATE: 2



MARCUS H. BOLE & ASSOCIATES
104 Brock Drive, Wheatland, CA 95692
(530) 633-0117, email: mbole@aol.com

SITE: Sutter Ranch Subdivision
ITEM: Wheat field
DATE: 01/03/2020

PLATE: 3



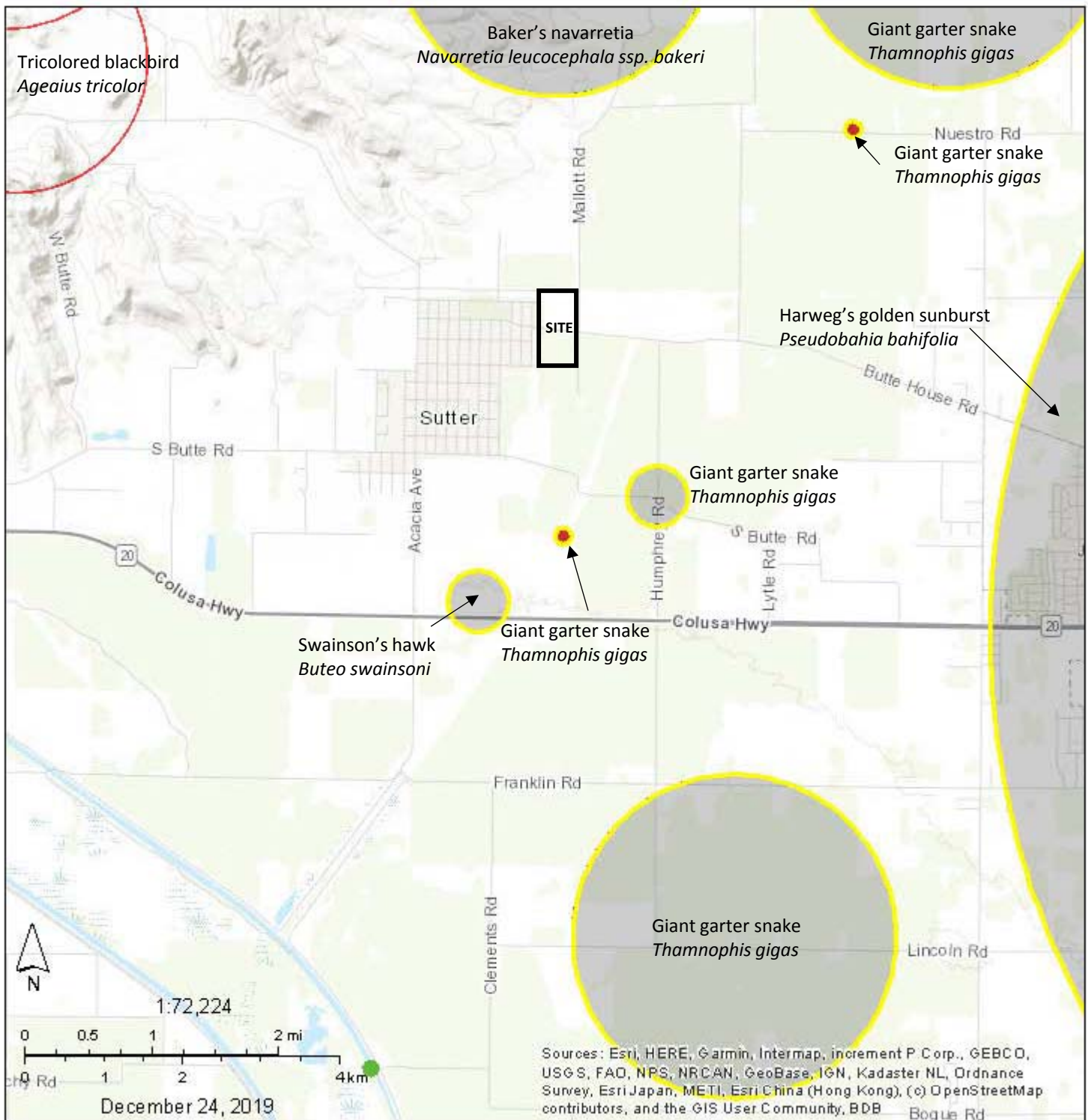
MARCUS H. BOLE & ASSOCIATES
104 Brock Drive, Wheatland, CA 95692
(530) 633-0117, email: mbole@aol.com

SITE: Sutter Ranch Subdivision
ITEM: Irrigation ditches
DATE: 01/03/2020

PLATE: 4

APPENDIX D: IPaC and CNDDB

CNDDDB MAP OF FINDINGS: SUTTER RANCH SUBDIVISION



California Natural Diversity Database (CNDDDB) Commercial [ds85]

- Plant (80m)
- Plant (specific)
- Plant (non-specific)
- Plant (circular)
- Animal (80m)
- Animal (specific)

- Animal (non-specific)
- Animal (circular)
- Terrestrial Comm. (80m)
- Terrestrial Comm. (specific)
- Terrestrial Comm. (non-specific)
- Terrestrial Comm. (circular)

- Aquatic Comm. (80m)
- Aquatic Comm. (specific)
- Aquatic Comm. (non-specific)
- Aquatic Comm. (circular)
- Multiple (80m)
- Multiple (specific)
- Multiple (non-specific)

- Multiple (circular)
- Sensitive EO's (Commercial only)



United States Department of the Interior



FISH AND WILDLIFE SERVICE
Sacramento Fish And Wildlife Office
Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
Phone: (916) 414-6600 Fax: (916) 414-6713

In Reply Refer To:

January 05, 2020

Consultation Code: 08ESMF00-2020-SLI-0695

Event Code: 08ESMF00-2020-E-02169

Project Name: Sutter Ranch Subdivision

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, under the jurisdiction of the U.S. Fish and Wildlife Service (Service) that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the Service under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

Please follow the link below to see if your proposed project has the potential to affect other species or their habitats under the jurisdiction of the National Marine Fisheries Service:

http://www.nwr.noaa.gov/protected_species/species_list/species_lists.html

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (<http://www.fws.gov/windenergy/>) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm>; <http://www.towerkill.com>; and <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Sacramento Fish And Wildlife Office

Federal Building

2800 Cottage Way, Room W-2605

Sacramento, CA 95825-1846

(916) 414-6600

Project Summary

Consultation Code: 08ESMF00-2020-SLI-0695

Event Code: 08ESMF00-2020-E-02169

Project Name: Sutter Ranch Subdivision

Project Type: DEVELOPMENT

Project Description: Helm Properties has applied for a Tentative Subdivision Map for a 78.39-acre Sutter Ranch subdivision located in Sutter County, California

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/39.16587089584051N121.73792469148141W>



Counties: Sutter, CA

Endangered Species Act Species

There is a total of 9 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

-
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Birds

NAME	STATUS
Yellow-billed Cuckoo <i>Coccyzus americanus</i> Population: Western U.S. DPS There is proposed critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/3911	Threatened

Reptiles

NAME	STATUS
Giant Garter Snake <i>Thamnophis gigas</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4482	Threatened

Amphibians

NAME	STATUS
<p>California Red-legged Frog <i>Rana draytonii</i></p> <p>There is final critical habitat for this species. Your location is outside the critical habitat.</p> <p>Species profile: https://ecos.fws.gov/ecp/species/2891</p> <p>Species survey guidelines: https://ecos.fws.gov/ipac/guideline/survey/population/205/office/11420.pdf</p>	Threatened
<p>California Tiger Salamander <i>Ambystoma californiense</i></p> <p>Population: U.S.A. (Central CA DPS)</p> <p>There is final critical habitat for this species. Your location is outside the critical habitat.</p> <p>Species profile: https://ecos.fws.gov/ecp/species/2076</p>	Threatened

Fishes

NAME	STATUS
<p>Delta Smelt <i>Hypomesus transpacificus</i></p> <p>There is final critical habitat for this species. Your location is outside the critical habitat.</p> <p>Species profile: https://ecos.fws.gov/ecp/species/321</p>	Threatened

Insects

NAME	STATUS
<p>Valley Elderberry Longhorn Beetle <i>Desmocerus californicus dimorphus</i></p> <p>There is final critical habitat for this species. Your location is outside the critical habitat.</p> <p>Species profile: https://ecos.fws.gov/ecp/species/7850</p> <p>Habitat assessment guidelines: https://ecos.fws.gov/ipac/guideline/assessment/population/436/office/11420.pdf</p>	Threatened

Crustaceans

NAME	STATUS
<p>Vernal Pool Fairy Shrimp <i>Branchinecta lynchi</i></p> <p>There is final critical habitat for this species. Your location is outside the critical habitat.</p> <p>Species profile: https://ecos.fws.gov/ecp/species/498</p>	Threatened
<p>Vernal Pool Tadpole Shrimp <i>Lepidurus packardii</i></p> <p>There is final critical habitat for this species. Your location is outside the critical habitat.</p> <p>Species profile: https://ecos.fws.gov/ecp/species/2246</p>	Endangered

Flowering Plants

NAME	STATUS
Hartweg's Golden Sunburst <i>Pseudobahia bahiifolia</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/1704	Endangered

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.



Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database



Query Criteria: Quad IS (Sutter (3912126))
 AND (Federal Listing Status IS (Endangered OR Threatened OR Proposed Endangered OR Proposed Threatened OR Candidate OR All CNDDDB element occurrences OR Delisted) OR State Listing Status IS (Endangered OR Threatened OR Rare OR All CNDDDB element occurrences OR Delisted OR Candidate Endangered OR Candidate Threatened))

Name (Scientific/Common)	CNDDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
<i>Astragalus tener</i> var. <i>ferrisiae</i> Ferris' milk-vetch	G2T1 S1	None None	Rare Plant Rank - 1B.1 BLM_S-Sensitive		18 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Buteo swainsoni</i> Swainson's hawk	G5 S3	None Threatened	BLM_S-Sensitive IUCN_LC-Least Concern USFWS_BCC-Birds of Conservation Concern	45 68	2518 S:3	0	1	0	0	0	2	0	3	3	0	0
<i>Delphinium recurvatum</i> recurved larkspur	G2? S2?	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive SB_SBBG-Santa Barbara Botanic Garden		120 S:2	0	0	0	0	1	1	2	0	1	0	1
<i>Desmocerus californicus dimorphus</i> valley elderberry longhorn beetle	G3T2 S2	Threatened None		65 65	271 S:2	0	0	0	2	0	0	0	2	2	0	0
<i>Great Valley Mixed Riparian Forest</i> Great Valley Mixed Riparian Forest	G2 S2.2	None None		50 50	68 S:1	0	1	0	0	0	0	1	0	1	0	0
<i>Monardella venosa</i> veiny monardella	G1 S1	None None	Rare Plant Rank - 1B.1 BLM_S-Sensitive SB_RSABG-Rancho Santa Ana Botanic Garden SB_UCBBG-UC Berkeley Botanical Garden	100 100	4 S:1	0	0	0	0	1	0	1	0	0	1	0
<i>Navarretia leucocephala</i> ssp. <i>bakeri</i> Baker's navarretia	G4T2 S2	None None	Rare Plant Rank - 1B.1 BLM_S-Sensitive	115 115	58 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Northern Hardpan Vernal Pool</i> Northern Hardpan Vernal Pool	G3 S3.1	None None		70 70	126 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Oncorhynchus mykiss irideus</i> pop. 11 steelhead - Central Valley DPS	G5T2Q S2	Threatened None	AFS_TH-Threatened		31 S:1	0	0	0	0	0	1	0	1	1	0	0



Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database



Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
<i>Oncorhynchus tshawytscha</i> pop. 6 chinook salmon - Central Valley spring-run ESU	G5 S1	Threatened Threatened	AFS_TH-Threatened	120 120	13 S:1	0	0	0	0	0	1	0	1	1	0	0
<i>Pseudobahia bahiifolia</i> Hartweg's golden sunburst	G1 S1	Endangered Endangered	Rare Plant Rank - 1B.1 SB_RSABG-Rancho Santa Ana Botanic Garden		27 S:1	0	0	0	0	1	0	1	0	0	0	1
<i>Riparia riparia</i> bank swallow	G5 S2	None Threatened	BLM_S-Sensitive IUCN_LC-Least Concern	55 60	298 S:2	0	1	0	0	0	1	1	1	2	0	0
<i>Thamnophis gigas</i> giant gartersnake	G2 S2	Threatened Threatened	IUCN_VU-Vulnerable	50 65	366 S:5	0	1	0	0	0	4	2	3	5	0	0