APPENDIX E

BIOLOGICAL ASSESSMENT, CONSERVATION GUIDELINES FOR THE VALLEY ELDERBERRY LONGHORN BEETLE

BIOLOGICAL ASSESSMENT

YOCHA DEHE HOUSING PROJECT

MAY 2011

LEAD AGENCY:

U.S. Department of the Interior
Bureau of Indian Affairs
Pacific Region Office
2800 Cottage Way, Room W-2820
Sacramento, CA 95825-1846

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1.0 INTRODUCTION

Analytical Environmental Services (AES) has prepared this Biological Assessment (BA) for the Yocha Dehe Housing Project (Proposed Project) in Yolo County, California. This BA has been prepared in support of an application to the U.S. Bureau of Indian Affairs (BIA). The BIA's proposed action is to place 853± acres of land into federal trust for the Yocha Dehe Wintun Nation (Tribe). The BIA has submitted this BA to the U.S. Fish and Wildlife Service (USFWS) to initiate informal consultation under Section 7 of the federal Endangered Species Act (FESA) (16 USC 1536 (c)) to determine if the proposed action could result in the incidental take of federally listed species. The USFWS will use the information within this BA to determine if incidental take of federally listed species addressed in this BA would jeopardize the continued existence of the species.

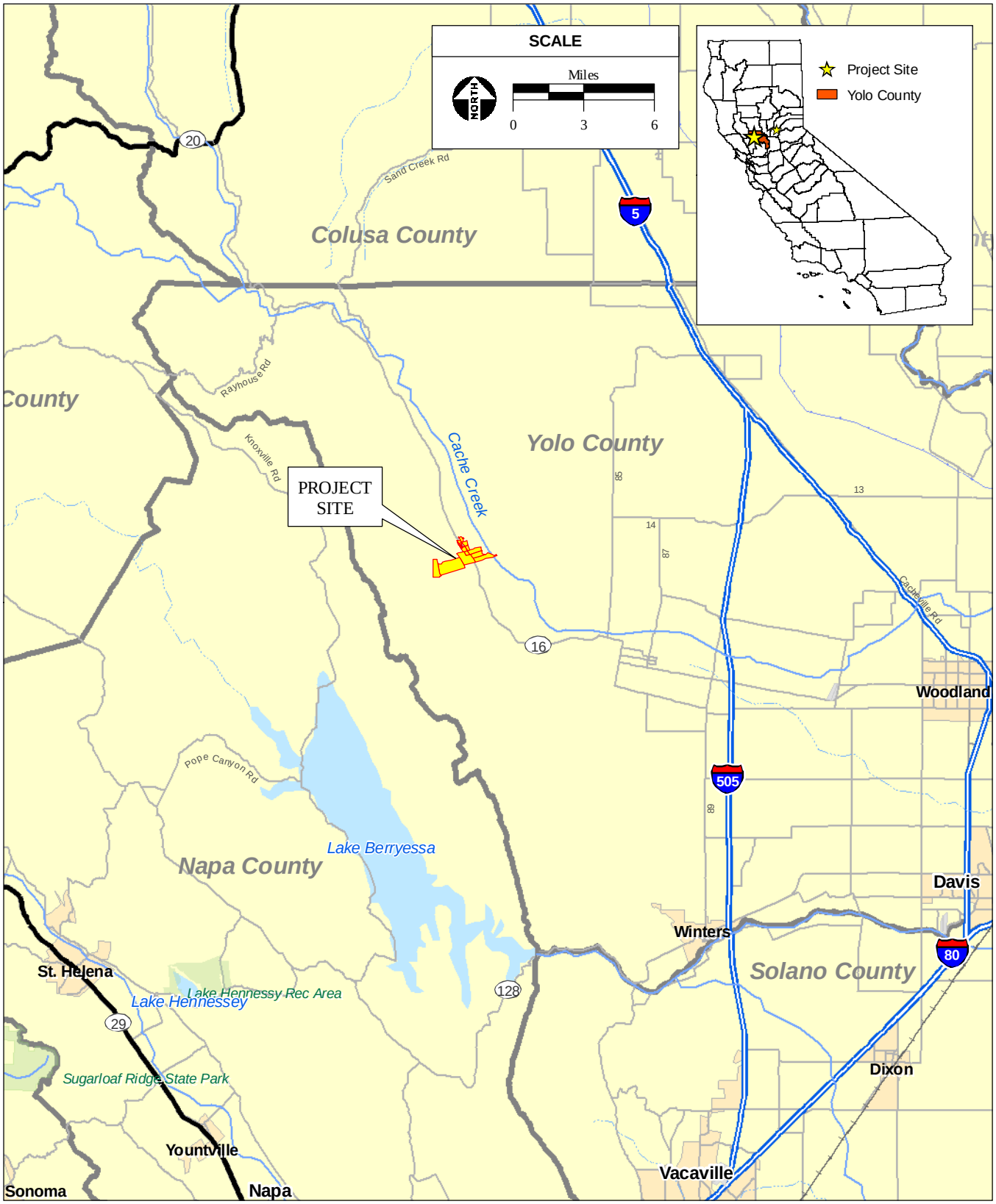
The purpose of this BA is to review the proposed action in sufficient detail to determine the extent to which it may affect any of the federally threatened, endangered, or proposed species and designated or proposed critical habitats identified herein. In addition, the following information is provided to comply with statutory requirements to use the "best scientific and commercial data" available when assessing the risks posed to listed and/or proposed species and designated and/or proposed critical habitat by proposed federal actions. This BA was prepared in accordance with legal requirements set forth under Section 7 of the FESA (16 U.S.C. 1536 (c)) concerning the effects of the proposed action.

In order to fulfill its purpose, this BA:

- Characterizes the habitat types present within the action area;
- Evaluates the potential for the occurrence of federally endangered, threatened, or proposed species within the action area;
- Assesses the potential for the proposed action to adversely affect federally endangered, threatened, or proposed species; and
- Recommends mitigation measures designed to avoid or minimize project-related effects.

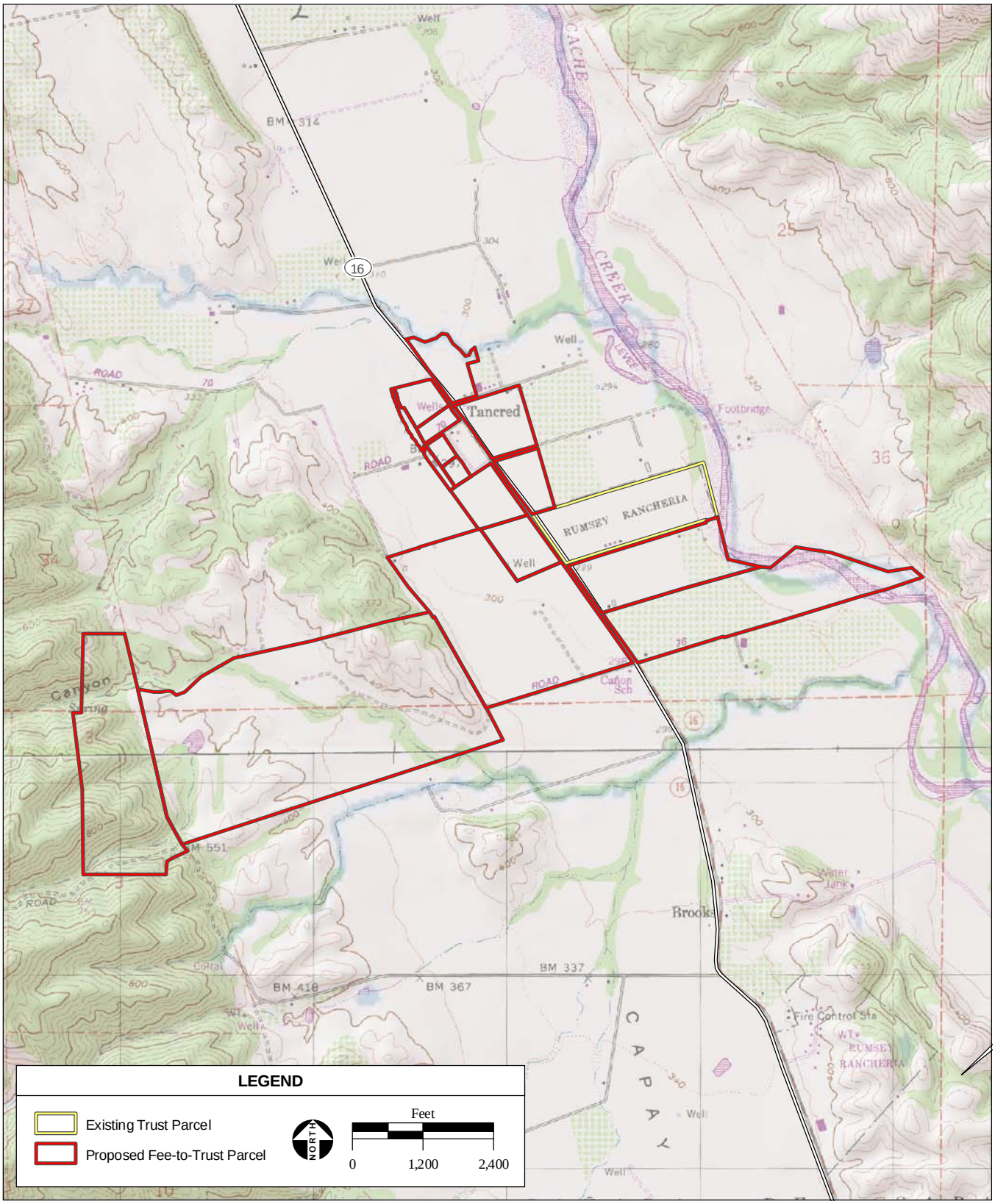
2.0 PROJECT LOCATION

The project site is located adjacent to the Tribe's existing reservation, along State Route 16 (SR-16) near the town of Brooks in the Capay Valley in an unincorporated area of Yolo County, California (**Figure 1**). The project site is situated in Township 10 North and Township 11 North, Range 3 West, on the Guinda, California and Brooks, California U.S. Geological Survey (USGS) 7.5-minute topographic quadrangles (quads) (**Figure 2**). It is located within the Lower Cache Watershed, Hydrologic Unit Code #18020110 (USGS, 1978). An aerial photograph of the project site that depicts the project boundary is presented as **Figure 3**. The project site is composed of 15 parcels designated by Yolo County Assessor parcel



SOURCE: ESRI Data, 2007; AES 2009

Figure 1
Regional Location



SOURCE: "Brooks, CA" USGS 7.5 Minute Topographic Quadrangle, T2W & 3W, R10N, Unsectioned Area of Cañada De Capay, Mt. Diablo Baseline & Meridian; AES, 2009

Figure 2
Site and Vicinity

SOURCE: Aerial Express aerial photograph, 6/2007; Yolo County GIS, 2009; AES, 2009

Figure 3
Aerial Photograph

numbers (APNs), including: 060-030-016, 060-030-017, 060-030-001, 060-030-008, 060-030-009, 060-020-018, 060-020-019, 060-020-020, 048-230-001, 047-020-001, 060-010-001, 060-013-001, 060-014-001, 060-020-011, and 060-020-014.

PREVIOUS STUDIES

The following is a list of previous studies that have been conducted for the project site:

- *Constraints Analysis, Rumsey Band of Wintun Indians* (AES, 2007a);
- *Phase I Environmental Site Assessment, Davis and Yates Properties, Rumsey Band of Wintun Indians* (AES, 2007b);
- *Phase I Environmental Site Assessment, Burnett Property* (AES, 2007c);
- *Phase I Environmental Site Assessment, Farnham Property* (AES, 2008);
- *Phase I Environmental Site Assessment, Vieu Property: Guinda, CA* (Wallace-Kuhl & Associates, Inc., 2009);
- *Cultural Resouces Study: Yocha Dehe Housing Project* (AES, 2010); and
- *Environmental Assessment Yocha Dehe Housing Project* (AES, 2011).

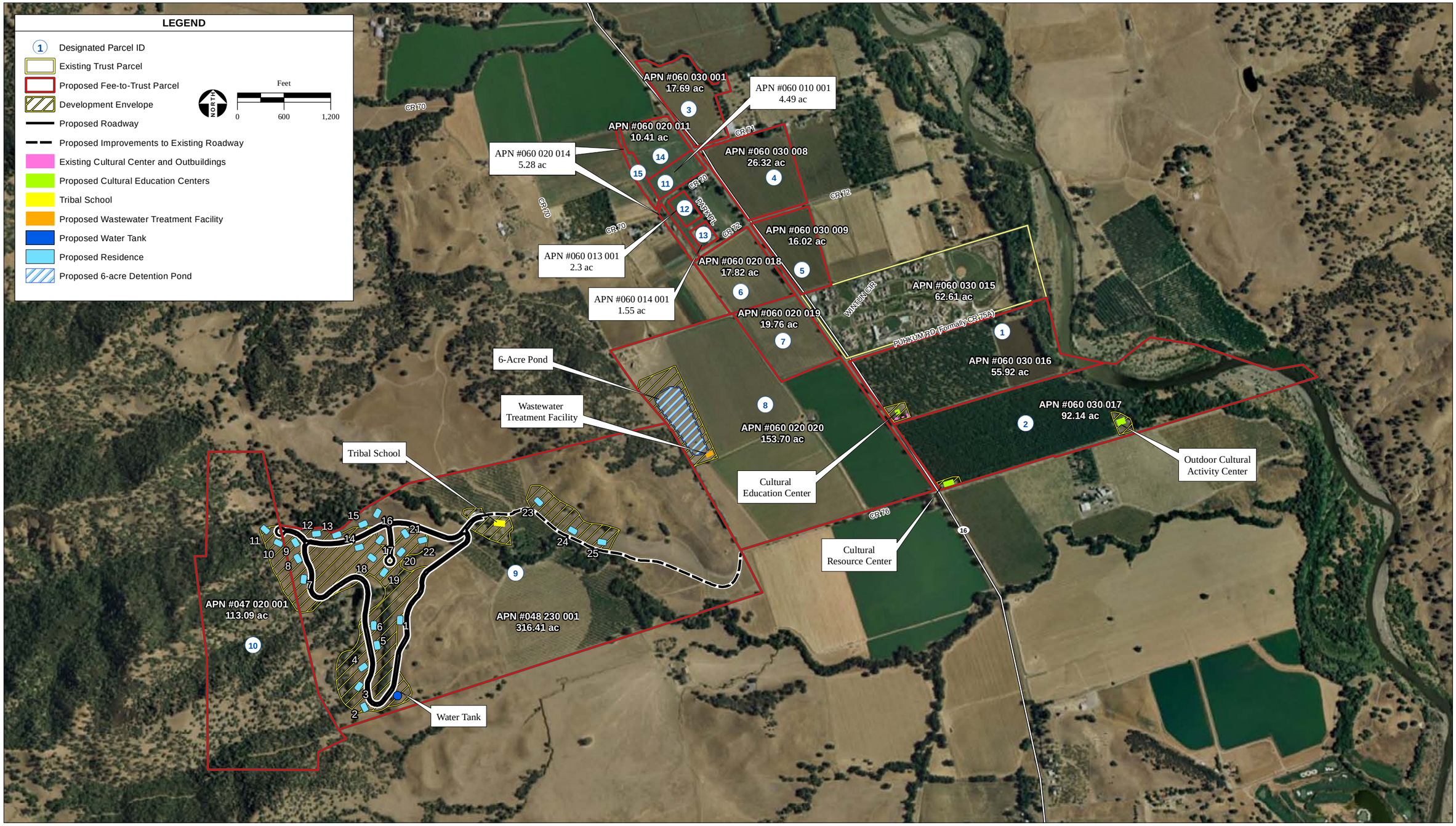
SUMMARY OF CONSULTATION TO DATE

The lead agency for the Proposed Project is the BIA. As such, this report will be submitted to the BIA as an attachment to the EA. USFWS database lists of regionally occurring federally listed special-status species were queried to initiate informal consultation (e.g., baseline research) for the Proposed Project.

3.0 PROJECT DESCRIPTION

The preferred alternative for the Proposed Project (i.e., action) is Alternative A, which consists of two main components: (1) the placement of 15 parcels that total approximately 853± acres into trust; and (2) the construction of 25 residences, three cultural/education facilities, one Tribal school, one domestic water storage tank, one wastewater treatment plant (WWTP) and supporting infrastructure. The project design is illustrated on **Figure 4**. The Proposed Project and project alternatives are summarized below.

- Alternative A – An approximate 853± acre trust land acquisition and development of 25 residences for Tribal members, plus a new Tribal school, three cultural/education facilities, a domestic water storage tank, WWTP, and supporting uses (Proposed Project);
- Alternative B – An approximate 751± acre trust land acquisition and the same development as presented under Alternative A; and
- Alternative C – No federal action or proposed development.



SOURCE: Langenour & Meikle, 2011; Aerial Express aerial photograph, 6/2007; Yolo County GIS, 2009; AES, 2011

Figure 4
Proposed Project Site Plan

The Proposed Project would include the fee simple conveyance of the approximately 853± acre site into federal trust status for the benefit of the Tribe. This trust action would shift civil regulatory jurisdiction over the approximately 853± acres from the State of California and Yolo County (County) to the Tribe and the federal government. The State and County would continue to exercise criminal jurisdiction under Public Law 280. Federal laws such as the Clean Water Act (CWA) and the Endangered Species Act (ESA) would continue to apply as they do on other Tribal trust lands. The Proposed Project components are summarized in **Table 1** and described in detail below.

TABLE 1
SUMMARY OF PROPOSED PROJECT (ALTERNATIVE A)

Proposed Project Components	
Land Taken into Trust	853± acres
Residential Development	25 units
Education and Cultural Development Uses	1 Tribal School; Up to 3 Cultural/Education Facilities
Water Source	Onsite wells
Domestic Water Storage Tank	Onsite storage tank
Wastewater Treatment	Onsite Wastewater Treatment Plant

SOURCE: AES, 2011

The Tribe would construct approximately 25 new residential units on Parcels 9 and 10 of the project site, supplementing the existing Tribal housing on adjacent trust land. The housing would consist of single-family residences of varying sizes to accommodate Tribal members and their families. Additionally, a domestic water storage tank, improved access roads, driveways, and utilities would also be constructed to support the residences and proposed Tribal school on Parcels 9 and 10.

The Tribal school (Yocha Dehe Wintun Academy), currently part of the Tribal Government Center on existing trust land, would be relocated to Parcel 9 near the proposed residential community and housed in a new facility. The proposed development would facilitate the conversion of existing Yocha Dehe Wintun Academy buildings on existing trust land for Tribal community and governmental uses, effectively replacing the existing temporary trailers that currently house Tribal administration staff. This proposed conversion would allow for greater accessibility to and connectivity of the Tribe's existing community and government facilities nearby. Thus, all existing and proposed Tribal community and government facilities would be consolidated on existing trust land directly north of Parcel 1. The newly converted Tribal community/government buildings and the proposed Tribal school and cultural/education facilities under the Proposed Project would provide for the additional hiring of up to 20 new employees.

The development of three cultural/education facilities is proposed under the Proposed Project. During the initial phase of development under the Proposed Project, a former residence and associated outbuildings

on Parcel 1 would be modified and expanded to house the Cultural Education Center. Parking areas would be developed near the newly converted Cultural Education Center. On Parcel 2, the placement of nonpermanent structures representative of a historic Tribal village would be developed to serve as the Outdoor Cultural Activity Center. Development of the third cultural/education facility may be phased at a later date on Parcel 2.

Under Public Law 280, the State of California and local law enforcement agencies have criminal law enforcement responsibility on Tribal trust lands. The Tribe also maintains its own security force. The Tribe's Rumsey Rancheria Fire Department (RRFD), which is stationed at the Tribe's Resort property approximately 1.5 miles from the project site, would provide fire protection and emergency medical services to the Proposed Project as it does to the existing housing on adjacent Trust land. Electric, telephone, and cable services would be extended from existing locations on each parcel to actual home sites.

Water would be supplied to the cultural/education facilities on Parcels 1 and 2 by either the development of one onsite well and storage tank or via connection to the existing well and water storage system on existing trust land, directly north of Parcel 1. To serve the proposed Tribal housing and Tribal school proposed for Parcels 9 and 10, one new well would be developed within the project site. This well would be located in reasonable proximity to the new developments. The Tribe would install an onsite domestic water storage tank as well as the appropriate water distribution pipelines to the proposed Tribal residences and Tribal school on Parcels 9 and 10.

A new wastewater treatment plant (WWTP) would be constructed on Parcel 8. The WWTP would be sized to accommodate the Proposed Project in addition to the existing homes and facilities located on trust land adjacent to the project site. The proposed WWTP would effectively link all existing and proposed Tribal housing and community/government buildings within one reliant, connected network of wastewater treatment infrastructure. The tertiary treated wastewater would be recycled for use as agricultural irrigation. Alternatively, for Parcels 1, 2, 9, and 10, communal septic systems such as the Septic Tank Effluent Pumping (STEP) Collection - Community System could be utilized for wastewater treatment and storage (AES, 2011).

Existing farm roads would be improved and/or new roads constructed to provide access to the proposed residences and school on Parcels 9 and 10. CR-76, west of SR-16, would be improved and paved. The existing gravel road at the western terminal point of CR-76 would be upgraded, paved, and extended from its current terminus to provide access to the proposed developments on Parcels 9 and 10. As shown on **Figure 4**, the road would include a continuous loop, providing access to every residence and the Tribal school. To the extent feasible, this route would utilize existing farm roads, which currently include two low water crossings and a crossing over the top of an existing stock pond impoundment. Crossing of potential Waters of the U.S. would be limited to these three existing crossings; however, the crossing over

the top of the impoundment would be paved and the low water crossings would be replaced with span bridges, allowing the natural streams to be restored.

Parcels 12 and 13 currently contain unimproved roads from an antiquated subdivision that was never developed (AES, 2011). Once these parcels are taken into trust, the County subdivision entitlements would no longer be in effect as the land would be under the control of the Tribal government. As stated above, Parcels 12 and 13 would not be developed under the Proposed Project and would remain in agricultural production, consistent with surrounding rural land uses.

The project components would be constructed after the 853± acre project site has been placed into federal trust for the Tribe. It is assumed that construction of the project would begin in 2011 and end in 2014; however, the residential development could be phased over several years as new homes are needed. Construction would involve earthwork, placement of concrete foundations, steel and wood structural framing, masonry, electrical and mechanical work, building finishing, and paving, among other construction trades. A worksite safety plan would be prepared for construction. No construction activities would occur on Parcels 3 through 6 and 11 through 15; these parcels would remain as agricultural lands. All areas on Parcels 1, 2, and 7 through 10 not proposed for development would remain in agricultural use (**Figure 4**).

PURPOSE AND NEED

The Tribe's purpose for taking the 853± acres of land into trust is to provide housing and expanded governmental, educational, and cultural facilities/services under the direct control of the Tribal government to accommodate the Tribe's current members and anticipated growth. The proposed expansion of the Tribe's reservation would ensure that the Tribe can continue to provide housing for its existing and future members and the space necessary to conduct the governmental, educational, and cultural functions of Tribal government. The proposed trust land is planned for vital Tribal functions including language and cultural programs, educational services, community events, as well as Tribal government and administration. An essential benefit of the proposed expansion of trust land would be sufficient space to allow for the development of a wastewater treatment facility to serve existing and proposed housing, educational, cultural, and related facilities. The proposed wastewater treatment plant would replace the current septic system that serves existing housing and governmental facilities on existing trust land. The Proposed Action would allow the Tribe to maintain its agricultural operations under full Tribal governance for the majority of the land proposed to be taken into trust; this would thereby allow the Tribe to continue to build economic self sufficiency.

The Tribe, which consists of approximately 63 members governed by a council of five members led by a Tribal Chairperson, currently provides housing for each of its adult members on the existing reservation. Approximately 25 Tribal members will reach adulthood in the coming years and will require housing for their expanding families. The existing 63± acre reservation at Puhkum Road (formerly County Road

75A) is largely developed with the exception of a stormwater detention area, is located within a floodplain, and is insufficient to meet the Tribe's housing needs in the near future. The Tribe's school, community center, and governmental space are also currently significantly confined on the existing 63± acre reservation and are insufficient to meet the Tribe's current needs and projected growth. Temporary trailers are currently being used to provide much needed office space for the Tribal government.

The Proposed Action and developments would allow the Tribe to provide necessary housing for its members, to relocate and expand its school to the new trust land and allow Tribal governmental operations to thereby expand into the space used today by the Tribe's school, Yocha Dehe Wintun Academy, on existing trust land to the north of Parcel 1. The proposed wastewater treatment plant would allow the Tribe to discontinue the use of septic tanks and would produce recycled wastewater suitable for irrigation of crops on expanded trust land. The areas that are not proposed for the development of Tribal housing, Tribal school, and cultural/education facilities would remain in agricultural production.

The proposed trust land acquisition would protect the Tribe's heritage and would provide the opportunity to enhance public awareness of the Tribe's history and contribution to the Capay Valley, which is the Tribe's traditional homeland. Under the Proposed Action, the Tribal government would be able to fully exercise its sovereignty over its own future growth while helping to largely preserve the rural/agricultural character of the Capay Valley consistent with surrounding land uses.

4.0 REGULATORY

This section summarizes the applicable federal regulations regarding biological resources within the project site. The regulatory context of the Proposed Project is derived from federal laws that govern the protection of biological resources. The fundamental laws included within the scope of this BA are the FESA, CWA and the National Environmental Policy Act (NEPA). Other state and local laws such as the California Endangered Species Act (CESA), the California Fish and Game Code (including the Natural Communities Conservation Planning Act), the California Environmental Quality Act (CEQA), and relevant goals and policies within the Yolo County General Plan (Yolo County, 2008) are not addressed within this BA.

FEDERAL ENDANGERED SPECIES ACT

The USFWS and the National Marine Fisheries Service (NMFS) enforce the provisions of FESA o (16 USC Section 1531 *et seq.*). Threatened and Endangered Species on the Federal list (50 CFR Section 17.11, 17.12) are protected from take, defined as to *pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb* (cause direct or indirect harm) unless a Biological Opinion with provisions for anticipated incidental take is rendered via a Section 7 consultation for federal lead agencies or a Section 10 process where there is no federal lead agency. Pursuant to the requirements of FESA, a federal agency that will render a decision reviews a proposed project within its jurisdiction and must

determine whether any federally listed species may be present in the study area and whether the proposed project will affect such species. The federal lead agency may request an informal or formal opinion for the USFWS to concur in this determination. Under FESA, habitat loss may be considered to be an impact to the species. If the federal lead agency determines that a project may affect a listed species, formal consultation occurs in which the USFWS and/or NMFS will determine whether the project is likely to jeopardize the continued existence of a species that is listed or formally proposed for listing under FESA or may result in the destruction or adverse modification of critical habitat designated for such species (16 USC 1536[3], [4]). Project-related impacts to these species or their habitats may require conservation measures and reasonably prudent measures, which could include mitigation or other measures to limit identified impacts to these species. Critical habitat is defined in Section 3 of the FESA as (i) the specific areas within the geographical area occupied by a species, at the time it is listed in accordance with the FESA, on which are found those physical and biological features (I) essential to the conservation of the species and (II) that may require special management considerations or protection; and (ii) specific areas outside the geographical area occupied by the species at the time it is listed, upon a determination that such areas are essential for the conservation of the species (16 USC Section 1531 *et seq*.).

WETLANDS AND OTHER WATERS OF THE U.S.

Any project that involves the discharge of dredged or fill material in navigable and other waters of the U.S., including wetlands, must first obtain authorization from the USACE, under Section 404 of the CWA. The USACE also regulates activities in navigable waters of the U.S. under the Rivers and Harbors Act (Sections 9 and 10). Activities such as construction of any structures in or over navigable waters of the U.S., or other work that may affect the course, location, condition, or physical capacity of navigable waters may require a USACE permit. The USEPA, USFWS, NMFS, and several other agencies provide comments on USACE permit applications. The USACE has established a series of nationwide permits (NWP) that authorize certain activities in waters of the U.S.

In addition, a Section 401 Water Quality Certification Permit was established to comply with CWA Sections 301, 302, 303, 306 and 307 and is regulated by the Regional Water Quality Control Board (RWQCB) except on federal property where the EPA retains jurisdiction. When the subject site is, as proposed, taken into trust, the USEPA will be the 401 lead agency. Anyone that proposes to conduct a project that may result in a discharge to U.S. surface waters and/or other "waters of the U.S." including jurisdictional wetlands year round and seasonal streams, lakes and all other surface waters could require a federal permit or water quality certification. At a minimum, any beneficial uses lost must be replaced by a mitigation project of at least equal function, value and area.

MIGRATORY BIRD TREATY ACT

Most bird species are protected under both federal and state regulations, especially those that are breeding, migratory, or of limited distribution. Under the Migratory Bird Treaty Act (MBTA) of 1918

(16 USC Sections 703-712) federally listed (50 CFR Section 10), migratory bird species, their nests, and their eggs are protected from injury or death, and any project-related disturbances during the nesting cycle. As such, any potential project-related disturbances must be reduced or eliminated during the nesting cycle.

BALD AND GOLDEN EAGLE PROTECTION ACT

The Bald Eagle Protection Act was originally enacted in 1940 to protect bald eagles and was later amended in 1962 to include golden eagles (16 USC Subsection 668-668). This act prohibits the taking or possession of and commerce in bald and golden eagles, parts, feathers, nests, or eggs with limited exceptions where expressly allowed by the Secretary of the Interior. Bald eagles may not be taken for any purpose unless a permit is issued prior to the taking. Activities which can be authorized by permit are: scientific collecting/research, exhibition, tribal religion, depredation, falconry, and the taking of inactive golden eagle nests, which interfere with resource development or recovery operations. The statute imposes criminal and civil sanctions as well as an enhanced penalty provision for subsequent offenses. Sycuan will be informed and guided by applicable provisions of the Bald and Golden Eagle Protection Act.

5.0 METHODOLOGY

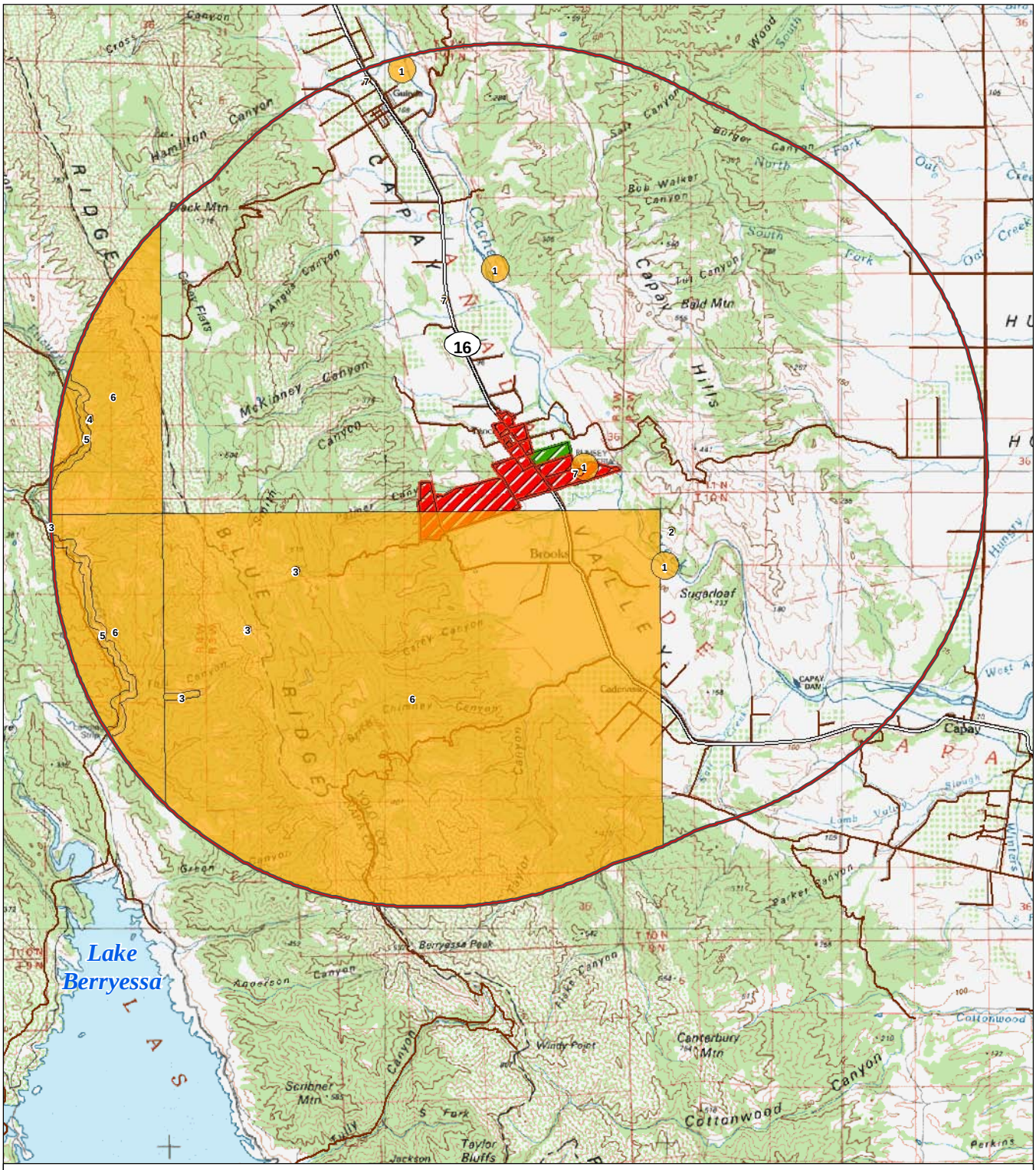
For the purposes of this BA, the project site is defined as the entire 853± acres. The action area is the terrestrial and aquatic habitats within the project site and adjacent roadways that would occur within the Proposed Project footprint.

PRELIMINARY RESEARCH

AES biologists reviewed the following resources prior to conducting the field surveys:

- Aerial photographs of the project site,
- USGS Guinda and Brooks quads (USGS, 1993),
- Online Soil Survey of Yolo County, California (NRCS, 2008),
- USFWS list of federally listed special-status species with the potential to occur within or be affected by projects on the Guinda and Brooks quads and surrounding ten quads (Lake Berryessa, Chiles Valley, Walter Springs, Knoxville, Glascock Mountain, Rumsey, Wildwood School, Bird Valley, Esparto, and Monticello Dam) and within Yolo County (USFWS, 2009) (**Appendix A**),
- California Natural Diversity Database (CNDDB) list of state and federally listed special-status species known to occur within the Guinda and Brooks quads and surrounding ten quads (CDFG, 2003) (**Appendix A**),

- CNDDB map of state and federally listed special-status species that have been documented within a five-mile radius of the project site (CDFG, 2003) (**Figure 5**), and
- A California Native Plant Society (CNPS) list of special-status plant species known to occur within the Guinda and Brooks quads and surrounding ten quads (CNPS, 2009) (**Appendix A**).



SPECIAL STATUS SPECIES DATA

- Existing Trust Parcel
- Proposed Fee-to-Trust Parcel
- 5-Mile Radius
- Special Status Species Occurrence
- 1 - bank swallow
- 2 - California tiger salamander
- 3 - foothill yellow-legged frog
- 4 - Keck's checkerbloom
- 5 - northwestern pond turtle
- 6 - prairie falcon
- 7 - valley elderberry longhorn beetle

SOURCE: "Healdsburg, CA" USGS 100k Topographic Quadrangle, Mt. Diablo Baseline & Meridian; California Natural Diversity Database, 8/2009; AES, 2009

Figure 5
CNDDB 5-Mile Radius

FIELD SURVEYS AND ANALYSIS

Reconnaissance-level field assessments and variable-intensity pedestrian surveys of the project site were performed by the following AES biologists: LaTisha Burnaugh, M.S. and Dan Schrimsher on March 29 and April 19, 2007; Kenna Lehmann and Kelly Buja, M.S. on August 18 and 19, 2009; and Ms. Lehmann and Kristie Haydu on September 1, 2009. Also, at the request of BIA, an additional, focused survey for valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*) was conducted by Jessica Griggs and Ona Alminas on April 8, 2011 at the site of the two creek crossings proposed for improvement on Parcel 9 to determine if VELB was present at these locations and whether this species or its host plant could be impacted as a result of the proposed project. No VELB exit holes were identified on elderberry shrubs within 100 feet of the two creek crossings. Likewise, no VELB were seen in these areas. A map of the elderberry shrubs surveyed at these locations during the April 8, 2011 survey is included as **Appendix F**. The field data sheet compiled during the focused VELB survey is included as **Appendix G**.

During the reconnaissance-level field surveys of the project site, fauna and flora were noted and identified to the lowest possible taxon. Habitat types occurring within the project site were characterized and evaluated for their potential to support regionally occurring special-status species. Habitat types, potentially jurisdictional water features, and other biologically sensitive features were recorded using global positioning system (GPS) technology or evaluated using aerial photography. Terrestrial habitats were classified using the CDFG *Terrestrial Natural Communities of California* system, or "Holland type" (Holland, 1986) and detailed by Vegetation Series (described by dominant species and environmental setting) using the CNPS Vegetation Classification system (Sawyer and Keeler-Wolf, 1995). Plant species identification, nomenclature, and taxonomy followed *The Jepson Manual: Higher Plants of California* (Hickman, 1993). A comprehensive list of all plant species observed within the project site is included as **Appendix C**.

Wildlife habitats were classified according to the CDFG *California Wildlife Habitat Relationships System*, or "CWHR type" (Mayer and Laudenslayer, 1988). Wildlife identification, nomenclature, and taxonomy followed standard reference texts including: *Sibley Field Guide to Birds of Western North America* (Sibley, 2003), *Field Guide to Western Reptiles and Amphibians* (Stebbins, 2003), and *Mammals of California* (Jameson and Peeters, 2004). A list of all wildlife species identified during the field visits is included as **Appendix D**.

Habitat boundaries, potentially jurisdictional waters of the U.S., and other sensitive biological resources in the project site were overlaid on a color aerial photograph creating the habitat map. The boundaries were identified using a GPS or aerial photography. Geographic analyses were performed using GIS software (ArcView 3.3 GIS, ESRI, Inc.).

REGIONALLY OCCURRING FEDERALLY LISTED SPECIES

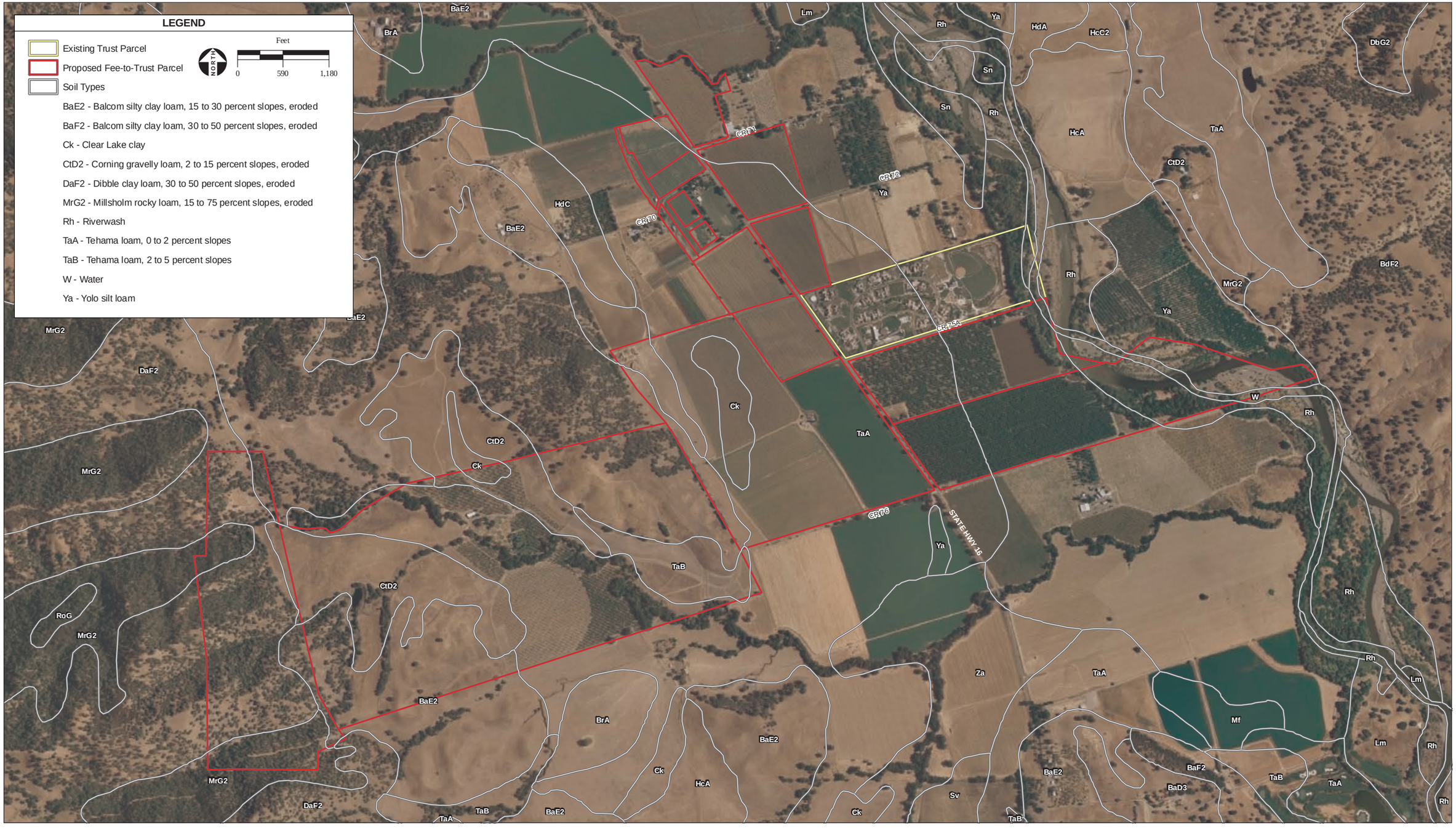
A complete list of the regionally occurring federally listed special-status species reported in the scientific database queries was compiled in the vicinity of the project site (**Appendix B**). An analysis to determine which of these special-status species have the potential to occur within the project site was conducted. The habitat requirements for each regionally occurring special-status species were assessed and compared to the type and quality of habitats observed on-site during the field surveys. Regionally occurring special-status species were eliminated because the project site was outside the known elevation range and/or geographic distribution, because the project site lacked habitat or soil/substrate, or because federally listed plants were not observed within suitable habitat within the species blooming season. The rationales as to why federally listed species were determined not to have the potential to occur within the project site are summarized in **Appendix B** and are no longer discussed in this BA.

6.0 ENVIRONMENTAL SETTING

The project site is located in the Capay Valley in Yolo County, near the town of Brooks. The Capay Valley falls within climate Zone 14 "Ocean-influenced Northern and Central California." Climate Zone 14 includes inland areas with oceanic or other cold air influence. This climate zone is a linear region that runs from Humboldt County to Santa Barbara County (Hickman, 1993). The local and regional geology is within the Inner North Coast Range (NCoRI) geographic subdivision of California. The NCoRI is characterized by chaparral, pine, and oak woodland, with low rainfall and hot, dry summers. The NCoRI subdivision is part of the larger Northwestern (NW) geographic division, which is a component of the larger California Floristic Province (Ca-FP); thus is equivalent to "cismontane" as often cited in other scientific texts (Hickman, 1993). The majority of the project site is currently used for agriculture with five residences and multiple barns scattered throughout.

SOILS

The U.S. Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS) online Soil Survey for Sonoma County (NRCS, 2008), identifies ten soil types that have been mapped within the project site. These soil types include: (BaE2) Balcom silty clay loam, 15 to 30 percent slopes, eroded; (BaF2) Balcom silty clay loam, 30 to 50 percent slopes, eroded; (Ck) Clear Lake clay; (CtD2) Corning gravelly loam, 5 to 15 percent slopes, eroded; (DaF2) Dibble clay loam, 30 to 50 percent slopes, eroded; (MrG2) Millsholm rocky loam, 15 to 75 percent slopes, eroded; (Rh) Riverwash; (TaA) Tehama loam, 0 to 2 percent slopes; (TaB) Tehama loam, 2 to 5 percent slopes; and (Ya) Yolo silt loam. Clear lake clay, riverwash, and yolo silt loam are hydric soils that occur on basin floors and terraces, channels and streams and alluvial fans, respectively (NRCS, 2009). These soil types are shown on **Figure 6**.



SOURCE: NRCS Soil Survey Data; Aerial Express aerial photograph, 6/2007; Yolo County GIS, 2009; AES, 2009

Figure 6
Soils Map

7.0 HABITAT TYPES

Upland habitats observed within the project site consist of riparian woodland, tamarisk scrub, mixed oak woodland, oak savannah, annual grassland, agricultural fields, gravel bar, and ruderal/developed. These habitats are discussed below. Aquatic habitats located within the project site are discussed in **Section 6.4**. Habitat types are illustrated in **Figure 7**. A summary of the approximate acreages of the terrestrial and aquatic habitat types identified within the project site is provided in **Table 2**. Photographs of representative habitat types are illustrated in **Figures 8**, **9**, and **10**.

TABLE 2
SUMMARY OF HABITAT TYPES WITHIN THE PROJECT SITE

	Habitat Type	Acres	Percent Area
Terrestrial Habitats	Annual Grassland	186.49	21.96
	Gravel Bar	11.46	1.34
	Mixed Oak Woodland	50.44	5.91
	Oak Savanna	61.99	7.27
	Tamarisk Scrub	5.18	0.61
	Riparian Woodland	73.20	8.58
	Agriculture	408.52	47.89
	Ruderal/Developed	52.74	6.18
Aquatic Habitats	Reservoir	2.55	0.29
	Potential Seasonal Wetland	0.33	3.8 E -4
	TOTAL	**852.90**	**100.03**

NOTE: Data rounded to two decimal places.
SOURCE: AES, 2009a.

RIPARIAN WOODLAND

Riparian woodland occurs along Cache Creek on the southeastern boundary, along intermittent and ephemeral drainages throughout Parcels 9 and 10, and along an ephemeral drainage on the far northeastern boundary of the subject properties (Figure 6 and Figure 8, Photo 1). The riparian woodland on the southeastern portion corresponds to "Great Valley cottonwood riparian forest – 61410" in the Holland classification system (Holland, 1986), and detailed by the "Fremont cottonwood series" in the CNPS Vegetation Classification system (Sawyer and Keeler-Wolf, 1995). Fremont cottonwood (*Populus fremontii*) is the dominant tree in the canopy layer, interspersed with northern California black walnut (*Juglans californica* var. *hindsii*), and in some areas Goodding's black willow (*Salix gooddingii*). The shrub layer is composed of species including elderberry (*Sambucus mexicana*), California rose (*Rosa californica*), and California blackberry (*Rubus ursinus*). California wild grape (*Vitis californica*) was the

LEGEND

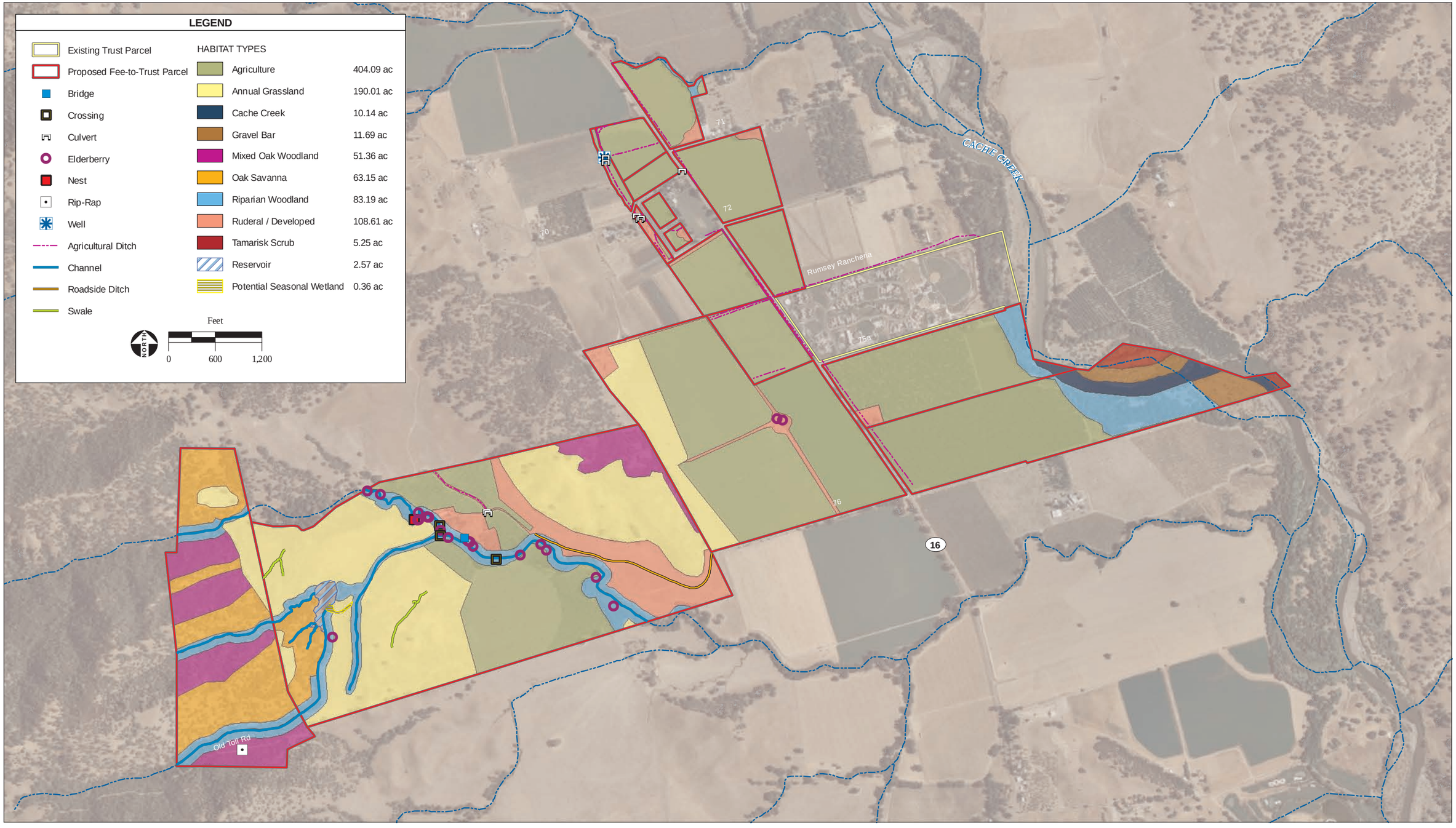
- Existing Trust Parcel
- Proposed Fee-to-Trust Parcel
- Bridge
- Crossing
- Culvert
- Elderberry
- Nest
- Rip-Rap
- Well
- Agricultural Ditch
- Channel
- Roadside Ditch
- Swale

HABITAT TYPES	
Agriculture	404.09 ac
Annual Grassland	190.01 ac
Cache Creek	10.14 ac
Gravel Bar	11.69 ac
Mixed Oak Woodland	51.36 ac
Oak Savanna	63.15 ac
Riparian Woodland	83.19 ac
Ruderal / Developed	108.61 ac
Tamarisk Scrub	5.25 ac
Reservoir	2.57 ac
Potential Seasonal Wetland	0.36 ac

Feet

NORTH

0 600 1,200



SOURCE: Aerial Express aerial photograph, 6/2007; Yolo County GIS, 2009; AES, 2009

Figure 7
Habitat Map

PHOTO 1: Riparian forest habitat adjacent to Cache Creek. Photo taken from west to east near the northern edge of parcel one.

PHOTO 2: Tamarisk scrub location along Cache Creek. Photo taken from east to west, just east of parcel one.

PHOTO 3: Annual grassland on parcel nine in the foreground and mixed oak woodland and oak savannah on parcel ten in the background. Photo taken from east to west near the northern boundary of parcel nine.

PHOTO 4: Annual grassland on parcel nine. Taking from west to east.

PHOTO 5: Irrigated agriculture field. Photo taken from east to west in parcel 14.

PHOTO 6: Orchard on parcel nine. Photo taken from north to south.

SOURCE: AES, 2009

Figure 8
Site Photographs

PHOTO 7: Ruderal/developed area. Photo taken from west to east on parcel eight.

PHOTO 8: Ruderal/developed area. Photo taken from north to south on parcel 16.

PHOTO 9: Ruderal/developed area. Photo taken from south to north on parcel 13.

PHOTO 10: Cache Creek on September 1, 2009. Photo taken from south to north on parcel two.

PHOTO 11: Intermittent Drainage on parcel nine. Photo taken from south to north near northern property boundary.

PHOTO 12: Intermittent drainage that flows into stock pond on parcel nine. Photo taken from east to west, looking upstream of drainage.

SOURCE: AES, 2009

Figure 9
Site Photographs

PHOTO 13: Stock pond on parcel nine. View from northeast to southwest.

PHOTO 14: Stock pond overflow spillway, potential wetland. View from east to west.

PHOTO 15: Stock pond overflow spillway, potential wetland. View from west to east.

PHOTO 16: Remnant riparian vegetation in old drainage corridor. View from west to east.

PHOTO 17: Irrigation ditch through orchard on parcel nine. View from south to north.

PHOTO 18: Irrigation ditch adjacent to irrigated hay fields on parcel 16. View from north to south.

SOURCE: AES, 2009

Figure 10
Site Photographs

dominant vine species observed. Ground cover vegetation includes mugwort (*Artemisia douglasii*), sedge (*Cyperus* sp.), milk thistle (*Silybum marianum*), winter vetch (*Vicia villosa*), ripgut brome (*Bromus diandrus*), wild oat (*Avena fatua*), Italian ryegrass (*Lolium multiflorum*), zorro fescue (*Vulpia myuros*), and rough cockle-bur (*Xanthium strumarium*).

Vegetation growing adjacent to Cache Creek along gravel bars consists primarily of giant reed (*Arundo donax*) and tamarisk (*Tamarix ramosissima*), both of which are invasive, nonnative species. Recently, the Tribe has worked to remove these species, in conjunction with the Cache Creek Conservancy and the USFWS, using methods that include integrated pest management techniques.

The riparian woodland along the northeastern boundary of the project site and throughout Parcel 9 corresponds to "Great Valley oak riparian forest – 61430" in the Holland classification system (Holland, 1986). The overstory is dominated by Valley oak (*Quercus lobata*). Species in the understory include northern California black walnut, elderberry (*Sambucus* sp.), and buckeye (*Aesculus californica*). The shrub layer is dominated by poison oak (*Toxicodendron diversilobum*) and California rose. The dominant understory vine species is California wild grape. Giant reed was also observed in the channel along the northeastern boundary of the project site.

TAMARISK SCRUB

The tamarisk was observed in nearly pure stands with little other vegetation. Tamarisk scrub is located along the southeastern boundary of the project site along both sides of Cache Creek (**Figure 8**, **Photo 2**). The tamarisk was observed in nearly pure stands with little other vegetation other than giant reed. The tamarisk scrub corresponds to "Riparian scrub – 63000" in the Holland classification system (Holland, 1986), and is detailed by the "Tamarisk series" in the CNPS Vegetation Classification system (Sawyer and Keeler-Wolf, 1995).

Tamarisk scrub is a highly invasive nonnative shrub that is responsible for supplanting native vegetation and reducing available water in waterways. A single large tamarisk shrub can transpire 300 gallons of water per day. Active tamarisk removal is occurring along the riparian area of Cache Creek on and adjacent to the project site.

MIXED OAK WOODLAND

Mixed oak woodland occurs along the central and western boundaries of the project site (**Figure 8**, **Photo 3**). The oak woodland corresponds to "Cismontane woodlands – 71000" in the Holland classification system (Holland, 1986), and is detailed by the "Mixed oak series" in the CNPS Vegetation Classification system (Sawyer and Keeler-Wolfe, 1995). The moderately dense canopy is occupied primarily by blue oak (*Quercus douglasii*), interior live oak (*Quercus wislizenii*), and foothill pine (*Pinus sabineana*) with

interspersed valley oak. There is no understory or shrub layer. The ground cover is sparse and consists of upland grasses and forbs including ripgut brome, Italian ryegrass, and geranium (*Geranium* sp.).

OAK SAVANNAH

Oak savannah occurs on south-facing slopes throughout the western parcels (9 and 10) of the project site (**Figure 8**, **Photo 3**). It most closely corresponds to "Cismontane woodlands – 71000" in the Holland classification system (Holland, 1986), and is detailed by the "Mixed oak series" in the CNPS Vegetation Classification system (Sawyer and Keeler-Wolfe, 1995). It is differentiated from the mixed oak woodland by having a more open overstory of blue oak, interior live oak, and valley oak; no understory; and ground cover consisting of only grasses and forbs.

ANNUAL GRASSLAND

Annual grassland occurs throughout the eastern portion of the project site primarily on parcel 9 (**Figure 8**, **Photos 3** and **4**). This habitat type corresponds to "nonnative annual grassland – 42200" in the Holland classification system (Holland, 1986) and the "California annual grassland series" in the CNPS Vegetation Classification system (Sawyer and Keeler-Wolfe, 1995). This habitat is dominated by grasses and forbs including soft brome (*Bromus hordeaceus*), wild oat, Italian ryegrass, ripgut brome, medusa head (*Taeniatherum caput-medusae*), and yellow star-thistle (*Centaurea solstitialis*), with the occasionally isolated oak. Most of the annual grassland is found on parcels 9 and 10. The majority of the annual grassland onsite is used for cattle grazing.

AGRICULTURAL

A large part of the project site (approximately 48 percent) is devoted to agriculture. Crops include irrigated hayfield, vineyards, and orchard. In addition, a portion of the irrigated hayfield onsite is used for cattle grazing.

Walnut orchards occur on the southern parcels and almond orchards on the northern parcels (**Figure 8**, **Photo 6**). Additional orchards and vineyards are located on Parcel 9. These orchards correspond to "Deciduous orchard – 11212" in the Holland classification system (Holland, 1986). The walnut orchards consist of English walnut (*Juglans regia*), grafted onto heartier rootstock. Some of the orchards on Parcel 1 are diseased and will be removed to avoid the spread of the disease to healthy trees. The almond orchards on the northern portion of the project site contain young almond species (*Prunus* sp.). There is an open understory in the orchards and vineyard with sparse ground cover vegetation consisting of ruderal species that are associated with regular disturbance. These species include buttercup (*Ranunculus* sp.), long-beaked filaree (*Erodium botrys*), ripgut brome, Italian ryegrass, and geranium.

Irrigated alfalfa fields occur on the west side of SR-16 **(Figure 8**, **Photo 5**). Irrigation ditches that supply water to the alfalfa (*Medicago* sp.) during the growing season surround and intersect the fields. The fields

correspond to "Irrigated hayfields – 11202" in the Holland classification system (Holland, 1986). The crops are cut and stored for domestic livestock feed. Charlock mustard (*Sinapis arvensis*), Italian ryegrass, and milk vetch dominate the areas surrounding the ditches and fields.

GRAVEL BAR

Gravel bars occur along Cache Creek, adjacent to the channel (**Figure 9**, **Photo 10**). The gravel bars were created by periodic flooding events. The habitat corresponds to the CWHR "Riverine" type habitat and is classified as periodically flooded gravel/cobble bars consisting predominantly of cobble size rocks (65-256 cm). Previous gravel mining operations outside of the project site along Cache Creek may have caused the gravel bars to be more abundant than would occur naturally. Vegetation is lacking in the gravel bar habitat.

RUDERAL/DEVELOPED

Developed land occurs throughout the project site (**Figure 9**, **Photos 7**, **8**, and **9**). This land consists of houses with associated yards, barns, roads, and land graded and cleared for future planting. Vegetation within the yards consists of various weedy upland grasses and forbs including ripgut brome, Italian ryegrass, Bermuda grass (*Cynodon dactylon*), geranium, and clover (*Trifolium* sp.).

8.0 POTENTIALLY JURISDICTIONAL WATERS OF THE U.S.

During the field assessment, the project site was informally assessed for potential waters of the U.S. in a manner that is consistent with the Supreme Court's decision regarding *Rapanos v. United States*and *Carabell v. United States* (USACE, 2007). The decision provides standards that distinguish between traditional navigable waters (TNWs), relatively permanent waters (RPWs), and non-relatively permanent waters (non-RPWs). Wetlands adjacent to non-TNWs are subject to CWA jurisdiction if:

- The waterbody is relatively permanent;
- The waterbody abuts an RPW; or
- The waterbody, in combination with all wetlands adjacent to that water body, has a significant nexus with TNWs.

The significant nexus standard is based on evidence applicable to ecology, hydrology, and the influence of the water on the "chemical, physical, and biological integrity of downstream traditional navigable waters" (USACE, 2007). Isolated wetlands are not subject to CWA jurisdiction, based on the Supreme Court's decision regarding Solid Waste Agency of Northern Cook County (SWAANC, 2001). The informal assessment of wetland and other waters of the U.S. identified ten natural water drainages, several irrigation and drainage ditches, and one stock pond, and one seasonal wetland that are potentially jurisdictional waters on the project site. The aquatic features are illustrated on **Figure 7**.

A formal delineation has not been conducted within the project site. The stock pond, Cache Creek drainage, and multiple unnamed intermittent drainages throughout the site are considered to be potentially jurisdictional waters of the U.S. Cache Creek is a perennial channel located along the southeastern boundary of the project site (**Figure 9**, **Photo 10**). Cache Creek contained water during the field survey spanning a width of approximately 75 feet. One unnamed intermittent drainage is located along the northeastern boundary of the project site. Multiple intermittent drainages flow through Parcels 9 and 10 and either drain into or receive water from the stock pond (**Figure 9**, **Photos 11** and **12**). These intermittent drainages are tributary to Cache Creek and are surrounded by riparian vegetation.

The stock pond is situated in the confluence of four intermittent drainages (**Figure 10**, **Photo 13**). The stock pond lacks riparian vegetation along the edge. A large berm created the current stock pond by blocking the natural flow of these drainages (**Figure 10, Photo 16**). Overflow from the stock pond has been diverted around this berm and into the drainage via a drainage ditch (**Figure 10**, **Photos 14** and **15**). The drainage ditch has been heavily grazed but has the potential to be a jurisdictional wetland.

There are irrigation/drainage ditches surrounding and transecting many of the agricultural fields on the project site (**Figure 10**, **Photos 17** and **18**). These have been excavated from and drain upland areas. Many of these drainages are linked together with the roadside ditches on the west side of SR-16. Roadside ditches are culverted eastward under SR-16 to a manmade drainage ditch that exists on the northern boundary of the Tribe's existing trust parcel. This manmade drainage ditch is also linked to the roadside ditches on the east side of SR-16. The manmade drainage ditch flows eastward toward Cache Creek where it loses its channelization approximately 750 feet away from the creek. These drainages do not appear to be part of a historic drainage, and a localized depression in the topography prevents water flow from reaching Cache Creek.

The irrigation and roadside ditches on the western portion of the project site (Parcels 9 and 10) lose their bed and bank and terminate in sheet flow in upland areas and are not likely to be jurisdictional. A preliminary wetland delineation and a Section 404 CWA permit application must be obtained from the USACE before any potentially jurisdictional waters are impacted by the Proposed Project.

POTENTIAL IMPACTS

The Proposed Project has been designed to avoid all aquatic features except for the proposed road improvements at existing low flow crossings on Parcel 9 within the intermittent drainages and for the outfall structure improvements and modifications to the stock pond to also function as a detention pond (AES, 2011). Impacts to these wetland features would be adversely affected through the discharge or fill within the intermittent drainages from the three proposed road improvements and within the stock pond through the outfall structure improvements. Indirect impacts could occur to the wetland features if water quality is affected by the Proposed Project. Mitigation measures to reduce adverse effects to potentially

jurisdictional waters of the U.S. are presented in **Section 5.4.2** of the EA (AES, 2011) and are no longer discussed in this BA.

9.0 FEDERALLY LISTED SPECIES AND CRITICAL HABITAT

There is no designated Critical Habitat within the project site. Upon review of the habitat requirements of the regionally occurring federally listed species identified on the USFWS, CNDDB, and CNPS lists, no federally listed plants and three federally listed wildlife species have the potential to occur within the project site. These species include:

- Federally threatened valley elderberry longhorn beetle (VELB; *Desmocerus californicus dimorphus*),
- Federally threatened California tiger salamander (CTS; *Ambystoma californiense*), and
- Federal candidate western yellow-billed cuckoo (*Coccyzus americanus occidentalis*).

The name, federal status, distribution, habitat requirements, and period of identification for the potentially occurring federally listed species are identified in **Table 3** and discussed in detail below.

TABLE 3
FEDERALLY LISTED WILDLIFE SPECIES WITH THE POTENTIAL TO OCCUR WITHIN THE PROJECT SITE

SCIENTIFIC NAME COMMON NAME	FEDERAL STATUS	DISTRIBUTION	HABITAT REQUIREMENTS	PERIOD OF IDENTIFICATION
Invertebrates				
Desmocerus californicus dimorphus valley elderberry longhorn beetle (VELB)	FT	Occurs in Amador, Butte, Calaveras, Colusa, El Dorado, Fresno, Glenn, Kern, Madera, Mariposa, Merced, Napa, Placer, Sacramento, San Joaquin, Shasta, Solano, Stanislaus, Sutter, Tehama, Tulare, Yolo, and Yuba counties.	Riparian forest communities. Exclusive host plant is elderberry (*Sambucus* species), which must have stems ≥ 1-inch diameter for VELB. Elevations; 0-762 meters.	Year round
Amphibians				
Ambystoma californiense California tiger salamander (CTS) Central population	FT	Occurs in Alameda, Butte, Contra Costa, Fresno, Glenn, Kern, Madera, Merced, Monterey, Sacramento, San Benito, San Joaquin, San Luis Obispo, San Mateo, Santa Barbara, Santa Clara, Solano, Sonoma, Stanislaus, Tulare, and Yolo counties.	Occurs in vernal pools, ephemeral wetlands and seasonal ponds, including constructed stock ponds, in grassland and oak savannah plant communities. Elevations; 3-1054 meters.	November-February (adults) March 15-May15 (larvae)
Birds				
Coccyzus americanus occidentalis western yellow-billed cuckoo	FC	Occurs at isolated sites in Sacramento Valley in northern California, and along Kern and Colorado River systems in southern California.	Frequents valley foothill and desert riparian habitats. Inhabits open woodlands with clearings, and riparian habitats with dense understory foliage along slow-moving drainages, backwaters, or seeps. Prefers dense willows for roosting, but also uses adjacent orchards in	June-August

SCIENTIFIC NAME COMMON NAME	FEDERAL STATUS	DISTRIBUTION	HABITAT REQUIREMENTS	PERIOD OF IDENTIFICATION
			the Sacramento Valley.	

Federal Status Codes: United States Fish and Wildlife Service

FE Federally Endangered
FT Federally Threatened
FC Federal Candidate for Listing

Sources: USFWS, 2009; CDFG, 2003 and 2009; CNPS, 2009; Moyle, 2002; CaliforniaHerps.com, 2009.

VALLEY ELDERBERRY LONGHORN BEETLE (*DESMOCERUS CALIFORNICUS DIMORPHUS*; VELB)

Federal Status: Threatened

Critical Habitat Designation/Recovery Plan: A recovery plan was completed for this species in 1984 (USFWS). Critical habitat has been designated for this species. The nearest critical habitat is approximately 40 miles southeast of the project site. The project site does not occur within critical habitat for this species.

Habitat and Biology: VELB is completely dependent on its host plant, elderberry (*Sambucus* spp.), during its entire life cycle and occurs in and around California's Central Valley (USFWS, 2007). VELB larvae live within the soft pith of the elderberry where they feed for one to two years. Adults emerge from pupation inside the wood of elderberry shrubs during the spring as the plant begins to flower. The adults feed on the elderberry foliage up until they mate. Females lay their eggs in the crevices of elderberry bark. Upon hatching, the larvae tunnel into shrub stems and feed there. VELB typically utilize stems that are greater than one inch in diameter at ground level (USFWS, 2007).

Regional Distribution: VELB is found throughout the Central Valley. There are multiple CNDDB records for VELB within the Capay Valley. The nearest documented occurrence of VELB is located on Parcel 2 of the project site near the edge of Cache Creek (CNDDB Occurrence Number 217). The record states that numerous elderberry shrubs with exit holes occur in this area. Two adults were photographed here in 2007. These adults were identified by AES during surveys conducted during the preparation of the constraints study within Parcels 1 and 2 along Cache Creek in 2007.

Potential to Occur On-site: Elderberry shrubs were identified within the project site at the following locations and arrangements: in large stands on the eastern edge of Parcels 1 and 2 adjacent to Cache Creek (riparian); in large stands along the northern boundary of Parcel 3 adjacent to a drainage (riparian); individually near the two creek crossings proposed for improvement on Parcel 9 (riparian); and individually along CR-76, for which the majority of the plants occur on the parcel to the south and off-site from the project site (non-riparian).

As stated above in **Section 5.0**, an additional, focused survey for VELB was conducted on April 8, 2011 at the site of the two creek crossings proposed for improvement on Parcel 9 to determine if VELB was

present at these locations and whether this species or its host plant could be impacted as a result of the proposed project. At these two locations, project improvements would likely be within 100 feet of the elderberry shrubs. However, the results of both the initial and follow-up survey concluded that no VELB exit holes were identified on elderberry shrubs within 100 feet of the two creek crossings. Likewise, no VELB were seen in these areas. Therefore, there is a low potential for VELB to occur in these areas.

Potential Impacts: Potential impacts to elderberry shrubs, hosts for VELB, may occur in the immediate vicinity of two of the three drainage crossings slated for improvements on Parcel 9. Consultation with the USFWS will be required for these two crossings as work would occur within 100 feet of the elderberry shrubs. As noted above, the results of the focused VELB survey on April 8, 2011, conducted at the request of BIA, concluded that no exit holes or VELB were identified within 100 feet of these creek crossings. Therefore, the Proposed Project would not likely adversely affect VELB if encroachment of the 100-foot buffer (on Parcel 9) is authorized by the USFWS. No elderberries would be removed under the Proposed Project. No direct impacts would occur to any of the elderberry shrubs on Parcels 1, 2, 3, and along CR-76. The elderberry shrubs on Parcel 2, located in a known VELB-occupied riparian area, would be fully avoided by the proposed project. Therefore, the proposed action **may affect** VELB habitat**, but it is not likely to adversely affect** VELB with implementation of the proposed mitigation measures identified below.

Mitigation Measures: The Proposed Project has been designed to avoid direct impacts to VELB. No elderberry shrubs would be removed. The Proposed Project would not result in direct impacts to elderberry shrubs on Parcels 1, 2, 3, and along CR-76. The *Complete Avoidance Measures* provided below are recommended for the elderberry shrubs identified at these locations.

For the elderberries present along the creek on Parcel 9, the Proposed Project could result in indirect impacts to VELB habitat when constructing the two creek crossings. The proposed *Protective Measures* and *Restoration and Maintenance Measures* identified on the following pages are recommended for the elderberry shrubs identified at these locations.

- The Tribe shall comply with all avoidance measures including protective measures identified in the *Conservation Guidelines for the Valley Elderberry Longhorn Beetle* (USFWS, 1999b), to the maximum extent feasible. For a full copy of the conservation guidelines (USFWS, 1999b) see **Appendix E**. *Complete Avoidance Measures* include:

    - No construction activities will occur within 100 feet of elderberry shrubs containing stems measuring one inch or greater in diameter.
    - Firebreaks may not be included in the buffer zone.
    - The USFWS will be consulted before any disturbances within the buffer areas are considered.

- In buffer areas, construction-related disturbance authorized by the USFWS will be minimized and any damaged area will be promptly restored following construction.
- Work crews will be instructed about the status of the VELB and the need to protect its elderberry host plant.
- Staging areas will be located at least 100 feet from elderberry shrubs with stems at least one inch in diameter at ground level. Temporary stockpiling of excavated or imported material will occur only in approved construction staging areas. Excess excavated soil will be used onsite or disposed of at a regional landfill or other appropriate facility.
- Equipment operators will access the project site via existing roads. The operators will minimize access on existing roads in the vicinity of the elderberry shrubs to the maximum extent feasible.
- Standard precautions will be employed by the construction contractor to prevent the accidental release of fuel, oil, lubricant, or other hazardous materials.
- A litter control program will be instituted within the project site. The contractor will provide closed garbage containers for the disposal of all food-related trash items (e.g., wrappers, cans, bottles, food scraps). All garbage will be removed daily from the project site.

- *Protective Measures* include:
    - All areas to be avoided will be fenced and flagged during construction activities. In areas where encroachment on the 100-foot buffer has been approved by the USFWS, a minimum setback of at least 20 feet from the dripline of each elderberry will be implemented.
    - Signs will be erected every 50 feet along the edge of avoidance areas with the following information: "This area is habitat of the valley elderberry longhorn beetle, a threatened species, and must not be disturbed. This species is protected by the FESA, as amended. Violators are subject to prosecution, fines, and imprisonment." The signs will be clearly readable from a distance of 20 feet, and must be maintained for the duration of construction.
    - Work crews will be instructed about the status of the VELB and the need to protect its elderberry host plant.
    - Contractors will be briefed on the need to avoid damaging the elderberry plants and the possible penalties for not complying with these requirements.

- R*estoration and Maintenance Measures* include:
    - Any damage done to the buffer area (area within 100 feet of elderberry plants) during construction must be restored. Provide erosion control and re-vegetate with appropriate native plants.
    - Buffer areas must continue to be protected after construction from adverse effects of the project. Measures including fencing, signs, weeding, and trash removal are usually appropriate.
    - No insecticides, herbicides, fertilizers, or other chemicals that might harm the beetle or its host plant should be used in the buffer areas, or within 100 feet of any elderberry plant with one or more stems measuring 1.0 inch or greater in diameter at ground level.
    - The Tribe must provide a written description of how the buffer areas are to be restored, protected, and maintained after construction is completed.
    - Mowing of grasses/ground cover may occur from July through April to reduce fire hazard. No mowing should occur within five (5) feet of elderberry plant stems. Mowing must be done in a manner that avoids damaging plants (e.g., stripping away bark through careless use of mowing/trimming equipment).

CALIFORNIA TIGER SALAMANDER (*AMBYSTOMA CALIFORNIENSE*; CTS) – CENTRAL VALLEY POPULATION

Federal Status: Threatened

Critical Habitat Designation/Recovery Plan: Critical habitat has been designated for the Central Valley Population. The nearest critical habitat designation is approximately ten miles northeast of the project site. The recovery plan for this species is under development. The project site does not occur within critical habitat for CTS.

Habitat and Biology: CTS require suitable aquatic habitat for breeding and upland habitat for aestivation. Aquatic breeding habitat includes vernal pools and seasonal and perennial ponds in grassland and oak savannah plant communities from sea level to approximately 3,600 feet. Aquatic breeding ponds are almost always found in grassland habitats. CTS spend most of their lives in upland habitats. In general, breeding occurs between December and March. Upland habitat consists of grassland and oak savannah with burrows of small mammals such as California ground squirrels (*Spermophilus beecheyi*) and Botta's pocket gopher (*Thomomys bottae*). CTS cannot dig or maintain their own burrows, and consequently require the presence of burrowing mammals for burrow construction and maintenance.

Regional Distribution: Central Valley Population of CTS is restricted to central California from sea level to 2,000 feet. The nearest documented CNDDB occurrence is an isolated verified find by AES personnel during the construction of a natural gas pipeline across Cache Creek near a cattle stock pond in the hills approximately three miles from the project site (CNDDB occurrence number 851). The record

states that CTS were observed in a cattle stock pond with bull frogs present in 2005 (CDFG, 2003). No other records have been documented within five miles of the project site.

Potential to Occur On-site: The stock pond within the project site provides potential breeding habitat for this species. Ground squirrel burrows were observed within the annual grassland. The annual grassland provides potential upland habitat for this species. The USFWS lists for species with the potential to occur on or be affected by projects on the Guinda or Brooks quads, does not identify CTS as a potentially occurring species. No CTS were observed during the biological surveys of the project site. Although the project site provides habitat, the USFWS lists do not predict CTS to occur on the Guina and Brooks quads (**Appendix A)**, no CNDDB records are documented on the west side of Cache Creek within five miles of the project site, and no CTS species were observed during the biological surveys conducted within the project site. CTS has a low potential to occur within the project site.

Potential Impacts: Limited breeding habitat for the CTS occurs on the site in the vicinity of the stock pond on Parcel 9. Potential upland habitat occurs within the annual grassland, potential impacts would be minimized and limited to the improvements of the road crossings and modification of the outfall. The Proposed Project has the potential to adversely affect CTS breeding habitat through modification of the outfall structure within the stock pond. The Proposed Project has the potential to directly affect potential upland habitat through the removal of annual grassland as a result of the construction of the residential houses on Parcel 9. Therefore, the proposed action **may affect, but is not likely to adversely affect** CTS with implementation of the proposed mitigation measures identified below.

Mitigation Measures: The following mitigation measures will be implemented to avoid and/or minimize potential adverse effects to CTS:

- A pre-construction survey will be conducted by a qualified biologist within two weeks of any work near the stock pond to ensure that no CTS are present.
- Worker awareness training for CTS will be conducted by a qualified biologist for all construction crew members. The training will include the following: a description and an identification of the CTS and its habitat needs; an explanation of the status of the species and its protection under the FESA; and a list of measures being taken to reduce impacts to the species during project construction. A fact sheet conveying this information will be prepared for distribution to the crew members and anyone else who may enter the project site.
- A qualified biologist will be present during all construction activities conducted in the vicinity of the stock pond.
- While it is not anticipated that they will be present, if at any time a CTS is observed within the project site, then all work will stop until formal consultation with USFWS is initiated and an incidental take permit is obtained.

WESTERN YELLOW-BILLED CUCKOO (*COCCYZUS AMERICANUS OCCIDENTALIS*)

Federal Status: Candidate for Listing

Critical Habitat Designation/Recovery Plan: Critical habitat has not yet been designated and a recovery plan has not been finalized for this species.

Habitat and Biology: Western yellow-billed cuckoo occurs in valley/foothill and desert riparian communities. Western yellow-billed cuckoo requires dense riparian thickets (especially willow and salt-cedar) and slow-moving watercourses.

Regional Distribution: West of the continental divide, the range of this species includes California, Arizona, and New Mexico. Western yellow-billed cuckoo occurs in northern and western Mexico and in the southern tip of Baja California. Western yellow-billed cuckoo has been sighted in all counties of Arizona and within Tehema, Glenn, Butte, Colusa, Sutter, Riverside, Inyo, Imperial, San Bernardino, Lake, San Benito, Ventura, Los Angeles, San Diego, Ventura, Los Angeles, Kern, San Luis Obispo, Fresno, Yuba, Yolo, Sonoma, Siskiyou, and San Joaquin counties in California. Western yellow-billed cuckoo is present in this part of its range during the spring and summer months and typically nests from June through September (Hughes, 1999). The nearest documented occurrence of this species is located approximately 27 miles northwest of the project site (CNDDB occurrence number 60), in the southern extent of Clear Lake. The population was observed in 1973 (CDFG, 2003).

Potential to Occur On-site: The mixed oak woodland, riparian habitat, and orchards provide potential habitat for this species. This species was not observed within the project site and there are no known CNDDB records for this species within five miles of the project site. This species has the potential to occur onsite.

Potential Impacts: The Proposed Project has the potential to adversely affect nesting habitat for the western yellow-billed cuckoo if construction activities occur during the nesting season (March through September). Activities associated with the Proposed Project, such as ground disturbance and vegetation removal, could impact nesting birds if their nests are located within the development areas. Likewise, increased human activity and traffic, elevated noise levels, and operation of machinery could also impact nesting birds if their nests are located within the vicinity of development areas. Disturbance of this nature could cause nest abandonment or premature fledging of the young. Therefore, the proposed action **may affect, but is not likely to adversely affect** the western yellow-billed cuckoo with the proposed mitigation below.

Mitigation Measures: The following mitigation measures will be implemented to avoid and minimize adverse effects to the western yellow-billed cuckoo:

- If any construction activities (e.g., building, grading, ground disturbance, removal of vegetation)

are scheduled to occur during the nesting season, pre-construction bird surveys will be conducted for western yellow-billed cuckoo. The pre-construction surveys will be conducted by a qualified wildlife biologist throughout all areas of suitable habitat that are within 500 feet of any proposed construction activity. The surveys will occur no more than 14 days prior to the scheduled onset of construction activities. If construction is delayed or halted for more than 14 days, another pre-construction survey will be conducted. If no western yellow-billed cuckoo or its nest is detected during the pre-construction surveys no additional surveys or mitigation measures are required.

- If a western yellow-billed cuckoo is observed nesting within 500 feet of construction areas during the surveys, a 100-foot avoidance setback will be established. Avoidance setbacks will be established around all active nest locations via stakes and high visibility fencing. The nesting bird setbacks will be completely avoided and the fencing must remain intact throughout the duration of the construction activities. The qualified wildlife biologist will also determine an appropriate monitoring plan and will decide whether construction monitoring is necessary throughout the duration of the construction activities. Again, monitoring requirements are dependent upon the species observed, the location of the nests, and the number of nests observed. The setback fencing may be removed when the qualified wildlife biologist confirms that the nest(s) is no longer occupied and all birds have fledged.

10.0 INTERRELATED AND INTERDEPENDENT ACTIVITIES

Interrelated and interdependent effects are effects that occur as a result of interrelated or interdependent activities and can be direct or indirect effects. The construction of residential dwellings is an interrelated and interdependent activity to the proposed federal action described in **Section 1.2**. Residential development would not be developed but for the transfer of fee land into Trust. No additional interrelated and interdependent effects would occur as a result of the proposed action.

11.0 CUMULATIVE EFFECTS

For the purposes of this BA, cumulative effects are defined as the effects of future state, local, or private activities that are reasonably certain to occur in the action area. This BA only addresses future state, local, or private activities occurring outside the action area if they would result in effects within the action area. Future federal actions that are unrelated to the Proposed Project are not considered in this BA because they will be subject to separate and independent consultation pursuant to Section 7 of FESA. At this time, no other state, local, or private projects are anticipated to occur in the action area or result in cumulative effects within the action area in the foreseeable future. Generally speaking, future development projects could result in cumulative impacts to habitats, waters of the U.S., and special-status species or their habitats via disturbance and increased human population and activity. Cumulative impacts of this nature might include new development projects, habitat fragmentation, net loss of open space, edge effects, and disruption of wildlife corridors. However, no specific projects are proposed for

the action area at this time or in the reasonably foreseeable future. Any proposed future development in the action area would be required to mitigate for impacts to biological resources based on NEPA, CWA, and FESA requirements. Likewise, the Proposed Project is not anticipated to significantly contribute to any cumulative impacts within the action area due to the associated mitigation measures. Therefore, no cumulative impacts are anticipated to occur.

12.0 CONCLUSIONS AND DETERMINATION OF EFFECTS

The Proposed Project **may affect, but is not likely to adversely affect** the federally listed VELB, CTS, and western yellow-billed cuckoo with the implementation of the mitigation measures outlines above.

The project site does not occur within USFWS-designated critical habitat for the federally listed VELB, CTS, or western yellow-billed cuckoo, therefore, no critical habitat would be destroyed or adversely modified.

13.0 REFERENCES

Analytical Environmental Services (AES), 2007a. Constraints Analysis, Rumsey Band of Wintun Indians. Report prepared for the Rumsey Band of Wintun Indians. Sacramento, California.

Analytical Environmental Services (AES), 2007b. Phase I Environmental Site Assessment, Davis and Yates Properties, Rumsey Band of Wintun Indians. Report prepared for the Rumsey Band of Wintun Indians. Sacramento, California.

Analytical Environmental Services (AES), 2007c. Phase I Environmental Site Assessment, Burnett Property. Report prepared for the Rumsey Band of Wintun Indians. Sacramento, California.

Analytical Environmental Services (AES), 2008. Phase I Environmental Site Assessment, Farnham Property. Report prepared for the Rumsey Band of Wintun Indians. Sacramento, California.

Analytical Environmental Services (AES), 2010. Cultural Resouces Study: Yocha Dehe Housing Project. Report prepared for Bureau of Indian Affairs. Sacramento, California.

Analytical Environmental Services (AES), 2011. Environmental Assessment, Yocha Dehe Housing Project. Report prepared for Bureau of Indian Affairs. Sacramento, California.

Best, C., et al., 1996. A Flora of Sonoma County. California Native Plant Society. Sacramento, California.

California Department of Fish and Game (CDFG), 2003. California Natural Diversity Database: RareFind 3, Version 3.0.5. Available online at: http://www.dfg.ca.gov/biogeodata/cnddb/rarefind.asp.

California Department of Fish and Game (CDFG), 2008. Anadromous Fish and Habitat Data Program. Cal Fish Passage Assessment Database Query System. Available online at: www.calfish.org. Accessed on October 2009.

California Native Plant Society (CNPS), 2009. Inventory of Rare and Endangered Plants-.Sacramento, California. Available online at: http://cnps.web.aplus.net/cgi-bin/inv/inventory.cgi/ Html?item=checkbox_9.htm#q9. Last copyrighted 2008. Accessed July, 2009.

Hickman, James C., (ed.), 1993. The Jepson Manual: Higher Plants of California. University of California Press. Berkeley, California.

Holland, Robert, 1986. Preliminary Descriptions of the Terrestrial Natural Communities of California. State of California. The Resource Agency Department of Fish and Game. Accessed October 1986.

Hughes, Janice M., 1999. Yellow-Billed Cuckoo (Coccyzus americanus). Birds of North America Online (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology; Retrieved from the Birds of North America Online: http://bna.birds.cornell.edu/bna/species/418doi:10.2173/bna.418. Accessed on September 1, 2008.

Jameson, E.W., Jr. and Peeters, H.J. 2004. Mammals of California, rev. ed. University of California Press, Berkeley, California.

Mayer, Kenneth and Laudenslayer, W., 1988. A Guide to Wildlife Habitats of California. California Department of Forestry and Fire Protection. Sacramento, California.

Natural Resources Conservation Service (NRCS), 2008. Soil Survey of Sonoma County, California. Available online at: http://soildatamart.nrcs.usda.gov/Survey.aspx?County=CA013. Accessed on September 1, 2009.

Sawyer, John and Keeler-Wolf, T., 1995. A Manual of California Vegetation. California Native Plant Society. Sacramento, California.

Sibley, D. A., 2003. The Sibley Field Guide to Birds of Western North America. Alfred A. Knopf, Inc., New York, New York.

Stebbins, R.C., 2003. *Western Reptiles and Amphibians*, 3rd ed. Houghton Mifflin, Boston, Massachusetts.

U.S. Department of the Interior, Geological Survey, 1978. Hydrologic Unit Map, State of California. Geological Survey. Reston, Virginia.

U.S. Department of the Interior, Geologic Survey. Photo-revised 1993. "Guinda, California" 7.5-minute Quadrangle. Geological Survey. Denver, Colorado.

U.S. Department of the Interior, Geologic Survey. Photo-revised 1993. "Brooks, California" 7.5-minute Quadrangle. Geological Survey. Denver, Colorado.

U.S. Fish and Wildlife Service (USFWS), 1999a. Conservation Guidelines for the Valley Elderberry Longhorn Beetle. U.S. Fish and Wildlife Service, Sacramento Fish and Wildlife Office, Sacramento, California.

U.S. Fish and Wildlife Service (USFWS), 1999b. Draft Recovery Plan for the Giant Garter Snake (*Thamnopsis gigas*). Available at: http://www.fws.gov/pacific/news/1999/garter.pdf. Accessed on October 7, 2009.

U.S. Fish and Wildlife Service (USFWS), 2009. Species Information, Threatened and Endangered Plants and Animals. Available at: http://sacramento.fws.gov/es/spp_lists/auto_list_form.cfm

U.S. Fish and Wildlife Service (USFWS), 2002. Recovery Plan for the California Red-legged Frog (*Rana aurora draytonii*). U.S. Fish and Wildlife Service, Region 1, Portland, Oregon.

U.S. Fish and Wildlife Service (USFWS), 2003. Interim Guidance on Site Assessment and Field Surveys for Determining Presence or a Negative Finding of the California Tiger Salamander. Available at: http://www.fws.gov/sacramento/es/documents/cts_survey_protocol.pdf. Accessed on October 7, 2009.

U.S. Fish and Wildlife Service (USFWS), 2004. (50 CFR Part 17). Endangered and Threatened Wildlife and Plants; Determination of Threatened Status for the California Tiger Salamander; and Special Rule Exemption for Existing Routine Ranching Activities. (50 CFR Part 17) Volume 69 Number 149 Federal Register 47212-47248. Available online at: http://ecos.fws.gov/docs/federal_register/fr4278.pdf

U.S. Fish and Wildlife Service (USFWS), 2005. Revised Guidance on Site Assessments and Field Surveys for the California Red-Legged Frog. Available online at: http://www.fws.gov/sacramento/es/documents/crf_survey_guidance_aug2005.pdf

U.S. Fish and Wildlife Service (USFWS), 2009. Sacramento Fish and Wildlife Office:, Endangered Species Program. Available online at: http://www.fws.gov/sacramento/es/spp_lists/auto_list.cfm. Accessed on July, 2009.

U.S. Fish and Wildlife Service (USFWS), 2009. Species Account: California Red-Legged Frog (Rana aurora draytonii). Available online at: http://www.fws.gov/sacramento/es/animal_spp_acct/ca_red-legged_frog.pdf. Last updated on: May 13, 2009. Accessed on January 6, 2010.

Wallace-Kuhl & Associates, Inc., 2009. Phase I Environmental Site Assessment, Vieu Property: Guinda, CA. Prepared for the Yocha Dehe Band of Wintun Indians. West Sacramento, CA.

Yolo County, California, 1983. Yolo County General Plan. Woodland, CA.

APPENDICES

APPENDIX A

USFWS, CNDDB, AND CNPS SCIENTIFIC DATABASE QUERIES

U.S. Fish & Wildlife Service

Sacramento Fish & Wildlife Office

Federal Endangered and Threatened Species that Occur in or may be Affected by Projects in the Counties and/or U.S.G.S. 7 1/2 Minute Quads you requested

Document Number: 110207100849

Database Last Updated: April 29, 2010

Quad Lists

Listed Species

Invertebrates

Branchinecta lynchi
vernal pool fairy shrimp (T)

Desmocerus californicus dimorphus
valley elderberry longhorn beetle (T)

Lepidurus packardi
vernal pool tadpole shrimp (E)

Syncaris pacifica
California freshwater shrimp (E)

Fish

Hypomesus transpacificus
delta smelt (T)

Oncorhynchus mykiss
Central California Coastal steelhead (T) (NMFS)
Central Valley steelhead (T) (NMFS)

Oncorhynchus tshawytscha
Central Valley spring-run chinook salmon (T) (NMFS)
winter-run chinook salmon, Sacramento River (E) (NMFS)

Amphibians

Ambystoma californiense
California tiger salamander, central population (T)
Critical habitat, CA tiger salamander, central population (X)

Rana draytonii
California red-legged frog (T)

Reptiles

Thamnophis gigas
giant garter snake (T)

Birds

Strix occidentalis caurina
northern spotted owl (T)

Plants

Astragalus clarianus
Clara Hunt's milk-vetch (E)

Sidalcea keckii
Keck's checker-mallow (=checkerbloom) (E)

Quads Containing Listed, Proposed or Candidate Species:

ESPARTO (515A)
BROOKS (515B)
LAKE BERRYESSA (515C)
MONTICELLO DAM (515D)
WALTER SPRINGS (516A)
CHILES VALLEY (516D)
GUINDA (531C)
BIRD VALLEY (531D)
KNOXVILLE (532D)

County Lists

No county species lists requested.

Key:

(E) *Endangered* - Listed as being in danger of extinction.
(T) *Threatened* - Listed as likely to become endangered within the foreseeable future.
(P) *Proposed* - Officially proposed in the Federal Register for listing as endangered or threatened.
(NMFS) Species under the Jurisdiction of the National Oceanic & Atmospheric Administration Fisheries Service. Consult with them directly about these species.
Critical Habitat - Area essential to the conservation of a species.
(PX) *Proposed Critical Habitat* - The species is already listed. Critical habitat is being proposed for it.
(C) *Candidate* - Candidate to become a proposed species.
(V) Vacated by a court order. Not currently in effect. Being reviewed by the Service.
(X) *Critical Habitat* designated for this species

Important Information About Your Species List

How We Make Species Lists

We store information about endangered and threatened species lists by U.S. Geological Survey 7½ minute quads. The United States is divided into these quads, which are about the size of San Francisco.

The animals on your species list are ones that occur within, **or may be affected by** projects within, the quads covered by the list.

- Fish and other aquatic species appear on your list if they are in the same watershed as your quad or if water use in your quad might affect them.
- Amphibians will be on the list for a quad or county if pesticides applied in that area may be carried to their habitat by air currents.
- Birds are shown regardless of whether they are resident or migratory. Relevant birds on the county list should be considered regardless of whether they appear on a quad list.

Plants

Any plants on your list are ones that have actually been observed in the area covered by the list. Plants may exist in an area without ever having been detected there. You can find out what's in the surrounding quads through the California Native Plant Society's online Inventory of Rare and Endangered Plants.

Surveying

Some of the species on your list may not be affected by your project. A trained biologist and/or botanist, familiar with the habitat requirements of the species on your list, should determine whether they or habitats suitable for them may be affected by your project. We recommend that your surveys include any proposed and candidate species on your list. See our Protocol and Recovery Permits pages.

For plant surveys, we recommend using the Guidelines for Conducting and Reporting Botanical Inventories. The results of your surveys should be published in any environmental documents prepared for your project.

Your Responsibilities Under the Endangered Species Act

All animals identified as listed above are fully protected under the Endangered Species Act of 1973, as amended. Section 9 of the Act and its implementing regulations prohibit the take of a federally listed wildlife species. Take is defined by the Act as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect" any such animal.

> Take may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or shelter (50 CFR §17.3).

Take incidental to an otherwise lawful activity may be authorized by one of two procedures:

- If a Federal agency is involved with the permitting, funding, or carrying out of a project that may result in take, then that agency must engage in a formal consultation with the Service.

  During formal consultation, the Federal agency, the applicant and the Service work together to avoid or minimize the impact on listed species and their habitat. Such consultation would result in a biological opinion by the Service addressing the anticipated effect of the project on listed and proposed species. The opinion may authorize a limited level of incidental take.
- If no Federal agency is involved with the project, and federally listed species may be taken as part of the project, then you, the applicant, should apply for an incidental take permit. The Service may issue such a permit if you submit a satisfactory conservation plan for the species that would be affected by your project.

Should your survey determine that federally listed or proposed species occur in the area and are likely to be affected by the project, we recommend that you work with this office and the California Department of Fish and Game to develop a plan that minimizes the project's direct and indirect impacts to listed species and compensates for project-related loss of habitat. You should include the plan in any environmental documents you file.

Critical Habitat

When a species is listed as endangered or threatened, areas of habitat considered essential to its conservation may be designated as critical habitat. These areas may require special management considerations or protection. They provide needed space for growth and normal behavior; food, water, air, light, other nutritional or physiological requirements; cover or shelter; and sites for breeding, reproduction, rearing of offspring, germination or seed dispersal.

Although critical habitat may be designated on private or State lands, activities on these lands are not restricted unless there is Federal involvement in the activities or direct harm to listed wildlife.

If any species has proposed or designated critical habitat within a quad, there will be a separate line for this on the species list. Boundary descriptions of the critical habitat may be found in the Federal Register. The information is also reprinted in the Code of Federal Regulations (50 CFR 17.95). See our Map Room page.

Candidate Species

We recommend that you address impacts to candidate species. We put plants and animals on our candidate list when we have enough scientific information to eventually propose them for listing as threatened or endangered. By considering these species early in your planning process you may be able to avoid the problems that could develop if one of these candidates was listed before the end of your project.

Species of Concern

The Sacramento Fish & Wildlife Office no longer maintains a list of species of concern. However, various other agencies and organizations maintain lists of at-risk species. These lists provide essential information for land management planning and conservation efforts. More info

Wetlands

If your project will impact wetlands, riparian habitat, or other jurisdictional waters as defined by section 404 of the Clean Water Act and/or section 10 of the Rivers and Harbors Act, you will need to obtain a permit from the U.S. Army Corps of Engineers. Impacts to wetland habitats require site specific mitigation and monitoring. For questions regarding wetlands, please contact Mark Littlefield of this office at (916) 414-6580.

Updates

Our database is constantly updated as species are proposed, listed and delisted. If you address proposed and candidate species in your planning, this should not be a problem. However, we recommend that you get an updated list every 90 days. That would be May 08, 2011.

California Department of Fish and Game
Natural Diversity Database
Selected Elements by Scientific Name - Landscape
Yocha Dehe Housing Project BA

	Scientific Name	Common Name	Element Code	Federal Status	State Status	Global Rank	State Rank	CNPS	CDFG
1	Agelaius tricolor	tricolored blackbird	ABPBXB0020			G2G3	S2		SC
2	Ambystoma californiense	California tiger salamander	AAAAA01180	Threatened	Threatened	G2G3	S2S3		SC
3	Andrena blennospermatis	Blennosperma vernal pool andrenid bee	IIHYM35030			G2	S2		
4	Antrozous pallidus	pallid bat	AMACC10010			G5	S3		SC
5	Aquila chrysaetos	golden eagle	ABNKC22010			G5	S3		
6	Astragalus rattanii var. jepsonianus	Jepson's milk-vetch	PDFAB0F7E1			G4T2	S2.2	1B.2	
7	Athene cunicularia	burrowing owl	ABNSB10010			G4	S2		SC
8	Balsamorhiza macrolepis var. macrolepis	big-scale balsamroot	PDAST11061			G3G4T2	S2	1B.2	
9	Buteo swainsoni	Swainson's hawk	ABNKC19070		Threatened	G5	S2		
10	Castilleja rubicundula ssp. rubicundula	pink creamsacs	PDSCR0D482			G5T2	S2.2	1B.2	
11	Charadrius montanus	mountain plover	ABNNB03100	Proposed Threatened		G2	S2?		SC
12	Corynorhinus townsendii	Townsend's big-eared bat	AMACC08010			G4	S2S3		SC
13	Desmocerus californicus dimorphus	valley elderberry longhorn beetle	IICOL48011	Threatened		G3T2	S2		
14	Emys marmorata	western pond turtle	ARAAD02030			G3G4	S3		SC
15	Erigeron greenei	Greene's narrow-leaved daisy	PDAST3M5G0			G2	S2	1B.2	
16	Eriogonum nervulosum	Snow Mountain buckwheat	PDPGN08440			G2	S2.2	1B.2	
17	Falco mexicanus	prairie falcon	ABNKD06090			G5	S3		
18	Falco peregrinus anatum	American peregrine falcon	ABNKD06071	Delisted	unknown code...	G4T3	S2		
19	Fritillaria pluriflora	adobe-lily	PMLIL0V0F0			G3	S3	1B.2	
20	Haliaeetus leucocephalus	bald eagle	ABNKC10010	Delisted	Endangered	G5	S2		
21	Harmonia hallii	Hall's harmonia	PDAST650A0			G2	S2.2	1B.2	
22	Hesperolinon bicarpellatum	two-carpellate western flax	PDLIN01020			G2	S2.2	1B.2	
23	Hesperolinon breweri	Brewer's western flax	PDLIN01030			G2	S2.2	1B.2	
24	Hesperolinon drymarioides	drymaria-like western flax	PDLIN01090			G2	S2.2	1B.2	
25	Hesperolinon sp. nov. "serpentinum"	Napa western flax	PDLIN010D0			G2	S2.1	1B.1	
26	Lasiurus blossevillii	western red bat	AMACC05060			G5	S3?		SC
27	Lasiurus cinereus	hoary bat	AMACC05030			G5	S4?		
28	Layia septentrionalis	Colusa layia	PDAST5N0F0			G2	S2.2	1B.2	
29	Leptosiphon jepsonii	Jepson's leptosiphon	PDPLM09140			G2	S2.2	1B.2	
30	Myotis evotis	long-eared myotis	AMACC01070			G5	S4?		
31	Myotis yumanensis	Yuma myotis	AMACC01020			G5	S4?		

	Scientific Name	Common Name	Element Code	Federal Status	State Status	Global Rank	State Rank	CNPS	CDFG
32	Navarretia rosulata	Marin County navarretia	PDPLM0C0Z0			G2?	S2?	1B.2	
33	Northern Interior Cypress Forest	Northern Interior Cypress Forest	CTT83220CA			G2	S2.2		
34	Northern Vernal Pool	Northern Vernal Pool	CTT44100CA			G2	S2.1		
35	Rana boylii	foothill yellow-legged frog	AAABH01050			G3	S2S3		SC
36	Riparia riparia	bank swallow	ABPAU08010		Threatened	G5	S2S3		
37	Sidalcea keckii	Keck's checkerbloom	PDMAL110D0	Endangered		G1	S1.1	1B.1	
38	Streptanthus breweri var. hesperidis	green jewel-flower	PDBRA2G092			G5T2	S2.2	1B.2	
39	Streptanthus morrisonii	Morrison's jewel-flower	PDBRA2G0S0			G2	S2		

Inventory of Rare and Endangered Plants

v7-10dec 12-02-10

Status: search results - Mon, Jan. 3, 2011, 16:51 b

{QUADS_123} =~m/515B|531C|531D|516A|516D|532D|515A|515C|5 Search

Tip: Having trouble with a multi-word search? Try a single word, e.g. `g ing er` or `cobra`.[all tips and help.][search history]

Your Quad Selection: Brooks (515B) 3812262, Guinda (531C) 3812272, Bird Valley (531D) 3812271, Walter Springs (516A) 3812263, Chiles Valley (516D) 3812253, Knoxville (532D) 3812273, Esparto (515A) 3812261, Lake Berryessa (515C) 3812252, Monticello Dam (515D) 3812251

Hits 1 to 18 of 18

Requests that specify topo quads will return only Lists 1-3.

To save selected records for later study, click the ADD button.

ADD checked items to Plant Press | check all | check none

Selections will appear in a new window.

open	save	hits	scientific	common	family	CNPS
		1	**Astragalus claranus**	Clara Hunt's milk-vetch	Fabaceae	List 1B.1
		1	**Astragalus rattanii var. jepsonianus**	Jepson's milk-vetch	Fabaceae	List 1B.2
		1	**Castilleja rubicundula ssp. rubicundula**	pink creamsacs	Scrophulariaceae	List 1B.2
		1	**Erigeron greenei**	Greene's narrow-leaved daisy	Asteraceae	List 1B.2
		1	**Eriogonum nervulosum**	Snow Mountain buckwheat	Polygonaceae	List 1B.2
		1	**Fritillaria pluriflora**	adobe-lily	Liliaceae	List 1B.2
		1	**Harmonia hallii**	Hall's harmonia	Asteraceae	List 1B.2
		1	**Hesperolinon bicarpellatum**	two-carpellate western flax	Linaceae	List 1B.2
		1	**Hesperolinon breweri**	Brewer's western flax	Linaceae	List 1B.2
		1	**Hesperolinon drymarioides**	drymaria-like western flax	Linaceae	List 1B.2
		1	**Hesperolinon serpentinum**	Napa western flax	Linaceae	List 1B.1
		1	**Layia septentrionalis**	Colusa layia	Asteraceae	List 1B.2
		1	**Leptosiphon jepsonii**	Jepson's leptosiphon	Polemoniaceae	List 1B.2
		1	**Navarretia rosulata**	Marin County navarretia	Polemoniaceae	List 1B.2
		1	**Sidalcea keckii**	Keck's checkerbloom	Malvaceae	List 1B.1
		1	**Streptanthus breweri var. hesperidis**	green jewel-flower	Brassicaceae	List 1B.2
		1	**Streptanthus morrisonii ssp. elatus**	Three Peaks jewel-flower	Brassicaceae	List 1B.2
		1	**Streptanthus morrisonii ssp. kruckebergii**	Kruckeberg's jewel-flower	Brassicaceae	List 1B.2

To save selected records for later study, click the ADD button.

ADD checked items to Plant Press | check all | check none

Selections will appear in a new window.

No more hits.

APPENDIX B

REGIONALLY OCCURRING SPECIAL-STATUS SPECIES TABLE

APPENDIX B
REGIONALLY OCCURRING FEDERALLY LISTED SPECIAL-STATUS SPECIES

SCIENTIFIC NAME COMMON NAME	FEDERAL STATUS	DISTRIBUTION	HABITAT REQUIREMENTS	PERIOD OF IDENTIFICATION	POTENTIAL TO OCCUR ON-SITE
Plants					
Astragalus clarianus Clara Hunt's milk-vetch	FE	Known to occur in Napa and Sonoma counties.	Found always on serpentinite or volcanic, rocky, and clay soils in chaparral, usually in openings, cismontane woodland, and valley and foothill grassland. Elevations; 75-275 meters.	March-May	**No.** The project site is outside the geographical range for this species. This species does not occur within the project site.
Cordylanthus palmatus palmate-bracted bird's beak	FE	Known to occur in Alameda, Colusa, Fresno, Glenn, Madera, San Joaquin* and Yolo counties.	Found in chenopod scrub and valley and foothill grasslands\alkaline. Elevations; 5-155 meters.	May-October	**No.** The project site lies outside of the elevation range of this species.
Neostapfia colusana Colusa grass	FT	Known to occur in Colusa*, Glenn, Merced, Solano, Stanislaus, and Yolo counties.	Found in vernal pools (adobe, large). Elevations; 5-200 meters.	May-August	**No.** There are no appropriate habitats onsite.
Sidalcea keckii Keck's checkerbloom	FE	Known to occur in Colusa, Fresno, Merced, Napa, Solano, Tulare, and Yolo counties.	Found always on serpentinite, clay in cismontane woodland and valley and foothill grassland. Elevations; 120-425 meters.	April-May	**No**. There is one known CNDDB record approximately 4.5 miles west of the project site. The project site provides habitat within the annual grassland, oak savanna, and oak woodland. However, the species was not observed during the April biological survey conducted within the evident and identifiable blooming period for this species. This species does not occur within the project site.
Tuctoria mucronata Solano grass	FE	Known to occur in Solano and Yolo counties.	Occurs in valley and foothill grassland, which is usually mesic, and vernal pools. Elevations; 5-10 meters.	April-August	**No.** The project site lies outside of the elevation range of this species.
Animals					
Invertebrates					
Branchinecta conservatio conservancy fairy shrimp	FE	Known from a few isolated populations distributed over a large portion of California's Central Valley and in southern California including Butte, Colusa, Glenn, Merced, Solano, Stanislaus, Tehama, Ventura, Yolo, and Yuba counties.	Ephemeral wetland habitats and vernal pools on clay, volcanic, and alluvial soils within annual grassland and pine forests. Elevations; 5-1,700 meters.	Wet season: typically November-April (adults) Dry season: typically May-October (cysts)	**No.** There are no appropriate habitats onsite.
Branchinecta lynchi vernal pool fairy shrimp	FT	Known across the Central Valley and Coast Ranges of California. Counties include Alameda, Butte, Contra Costa, Colusa, El Dorado, Fresno, Glenn, Kings, Lake, Los Angeles, Madera, Merced,	Ephemeral wetland habitats and vernal pools within sandstone, alkaline soils, and alluvial fan terraces, within annual grassland and pine forests. Elevations; 10-1700 meters.	Wet season: typically December–May (adults) Dry season: typically June-	**No.** There are no appropriate habitats onsite.

SCIENTIFIC NAME COMMON NAME	FEDERAL STATUS	DISTRIBUTION	HABITAT REQUIREMENTS	PERIOD OF IDENTIFICATION	POTENTIAL TO OCCUR ON-SITE
		Monterey, Napa, Placer, Sacramento, San Benito, San Joaquin, San Luis Obispo, Santa Barbara, Shasta, Solano, Stanislaus, Tehama, Tulare, Riverside, and Yuba. Also occurs in southern Oregon.		November (cysts)	
Desmocerus californicus dimorphus valley elderberry longhorn beetle	FT	Known throughout the riparian forests of the Central Valley from Redding to Bakersfield. Counties include Amador, Butte, Calaveras, Colusa, El Dorado, Fresno, Glenn, Kern, Madera, Mariposa, Merced, Napa, Placer, Sacramento, San Joaquin, Shasta, Solano, Stanislaus, Sutter, Tehama, Tulare, Yolo, and Yuba.	Known from riparian forest communities. Exclusive host plant is elderberry (*Sambucus* species), which must have stems ≥ 1-inch diameter for the beetle. Elevations; 0-762 meters.	Year round	**Yes.** See text.
Lepidurus packardi vernal pool tadpole shrimp	FE	Known across the Central Valley and in the San Francisco Bay area. Counties include Alameda, Butte, Colusa, Contra Costa, Fresno, Glenn, Kings, Merced, Placer, Sacramento, San Joaquin, Shasta, Solano, Stanislaus, Sutter, Tehama, Tulare, Yolo, and Yuba.	Known from a variety of ephemeral wetland habitats. Typically vernal pools on High Terrace landforms within annual grassland.	Wet season: typically November-April (adults) Dry season: typically May-October (cysts)	**No.** There are no appropriate habitats onsite.
Syncaris pacifica California freshwater shrimp	FE	Known from Marin, Napa, and Sonoma counties.	Known from small, low-gradient, perennial coastal streams. Prefers relatively shallow streams with depths of 12-36 inches, exposed live roots of trees such as alder and willow, undercut banks greater than 6 inches, overhanging woody debris or stream vegetation and vines. Elevations; 0-116 meters.	Consult Agency	**No.** There are no appropriate habitats onsite.
Fishes					
Acipenser medirostris green sturgeon	FT	Adults occur in coastal waters from Mexico to Alaska and have been observed along the west coast of North America. Spawning occurs within the Rogue and Illinois Rivers in Oregon, the Klamath River Basin, the Sacramento River, the Feather River, the Pit River, and the McCloud River. Spawning is suspected within the Trinity River,	Utilizes both freshwater and saltwater habitats. Spawns in deep pools or holes in large, turbulent, freshwater river mainstems. Eggs are cast over large cobble, clean sand, or bedrock substrates. Cold, clean water is required for development. Adults live in oceanic waters, bays, and estuaries.	Consult Agency	**No.** There are no appropriate habitats onsite.

SCIENTIFIC NAME COMMON NAME	FEDERAL STATUS	DISTRIBUTION	HABITAT REQUIREMENTS	PERIOD OF IDENTIFICATION	POTENTIAL TO OCCUR ON-SITE
		South Fork Trinity, and the Eel River. Counties include Butte, Colusa, Glenn, Humboldt, Mendocino, Nevada, Placer, Sacramento, Shasta, Sierra, Siskiyou, Solano, Sutter, Tehama, Trinity, Yolo, and Yuba.			
Hypomesus transpacificus Delta smelt	FT	Occurs almost exclusively in the Sacramento-San Joaquin estuary, from the Suisun Bay upstream through the Delta in Contra Costa, Sacramento, San Joaquin, Solano, and Yolo counties. May also occur in the San Francisco Bay.	Found in estuarine waters. Majority of life span is spent within the freshwater outskirts of the mixing zone (saltwater-freshwater interface) within the Delta.	Consult Agency	**No.** There are no appropriate habitats onsite.
Oncorhynchus mykiss irideus steelhead Central California Coast ESU	FT	The Central California Coastal ESU, spawns in drainages from the Russian River basin, Sonoma and Mendocino counties, to Soquel Creek, Santa Cruz County (including the San Francisco Bay basin, but not the Sacramento and San Joaquin rivers or their tributaries).	Found in cool, clear, fast-flowing permanent streams and rivers with riffles and ample cover from riparian vegetation or overhanging banks. Spawning: streams with pool and riffle complexes. For successful breeding, require cold water and gravelly streambed.	Consult Agency	**No.** There are no appropriate habitats onsite.
Oncorhynchus mykiss steelhead Central Valley Steelhead	FT	Spawn in the Sacramento and San Joaquin rivers and tributaries before migrating to the Delta and Bay Area.	Found in cool, clear, fast-flowing permanent streams and rivers with riffles and ample cover from riparian vegetation or overhanging banks. Spawns in streams with pool and riffle complexes. Requires cold water and gravelly streambed for successful breeding.	Consult Agency	**No.** There are no appropriate habitats onsite.
Oncorhynchus tshawytscha Chinook salmon Central Valley spring-run	FT	Spawns in the Sacramento River and some of its tributaries. Juveniles migrate from spawning grounds to the Pacific Ocean.	Spawns in large deep pools in tributaries with moderate velocities and a large bubble curtain at the head.	Consult Agency	**No.** There are no appropriate habitats onsite.
Oncorhynchus tshawytscha Chinook salmon winter-run, Sacramento River	FE	Spawns in the upper Sacramento River. Juveniles migrate from spawning grounds to the Pacific Ocean.	Returns to the Upper Sacramento River in the winter. Spawns in the spring and summer. Juveniles spend 5-9 months in the river and estuary before entering the Pacific Ocean.	Consult Agency	**No.** There are no appropriate habitats onsite.
Amphibians					
Ambystoma californiense California tiger salamander Central population	FT	Occurs in Alameda, Butte, Contra Costa, Fresno, Glenn, Kern, Madera, Merced, Monterey, Sacramento, San Benito, San	Occurs in vernal pools, ephemeral wetlands, and seasonal ponds, including constructed stock ponds, in grassland and oak savannah plant communities.	November-February (adults) March 15-May15 (larvae)	**Yes.** See text.

SCIENTIFIC NAME COMMON NAME	FEDERAL STATUS	DISTRIBUTION	HABITAT REQUIREMENTS	PERIOD OF IDENTIFICATION	POTENTIAL TO OCCUR ON-SITE
		Joaquin, San Luis Obispo, San Mateo, Santa Barbara, Santa Clara, Solano, Sonoma, Stanislaus, Tulare, and Yolo counties (CNDDB, 2003).	Elevations; 3-1054 meters.		
Rana aurora draytonii California red-legged frog	FT	Known from Alameda, San Francisco, Placer, Riverside, Santa Barbara, San Luis Obispo, San Mateo, Santa Cruz, Santa Clara, Marin, Sonoma, and Contra Costa counties.	Found in lowlands and foothills in or near permanent sources of deep water with dense shrubby or emergent riparian vegetation.	November-March (breeding) June-August (non-breeding)	**Yes.** See text.
Reptiles					
Thamnophis gigas giant garter snake	FT	Endemic to the San Joaquin and Sacramento Valley floors. Counties include Butte, Colusa, Contra Costa, Fresno, Glenn, Kern, Madera, Merced, Sacramento, San Joaquin, Solano, Sutter, Yolo, and Yuba.	Found primarily in marshes, sloughs, drainage canals, and irrigation ditches, especially around rice fields, and occasionally in slow-moving creeks. Requires adequate water during its active season (early spring through mid-fall) to provide food and cover, emergent, herbaceous wetland vegetation for foraging and cover, grassy banks and openings in waterside vegetation for basking, and higher elevation uplands for cover and refuge from flood waters during its dormant season (winter). Inhabits small mammal burrows and other soil crevices with sunny exposure along south and west facing slopes, above prevailing flood elevations when dormant.	March-October	**No**. The project site does not provide habitat for this species. The channel is an ephemeral drainage does not hold water long enough throughout the year. Although the isolated stock pond may potentially provide habitat, it occurs at 122 meters, the extreme range in elevation that this species is known to occur. In addition, no occurrences have been documented within five miles of the project site.
Birds					
Coccyzus americanus occidentalis western yellow-billed cuckoo	FC	Occurs at isolated sites in Sacramento Valley in northern California, and along Kern and Colorado River systems in southern California.	Frequents valley foothill and desert riparian habitats. Inhabits open woodlands with clearings, and riparian habitats with dense understory foliage along slow-moving drainages, backwaters, or seeps. Prefers dense willows for roosting, but also uses adjacent orchards in the Sacramento Valley.	June-August	**Yes.** This species has the potential to occur onsite.
Strix occidentalis caurina northern spotted owl	FT	Known from British Colombia to northwestern California south to San Francisco. Breeds in the Cascade Range, North Coast Ranges, and	Resides in mixed conifer, redwood, and Douglas-fir habitats, from sea level up to approximately 2,300 meters. Prefer old-growth forests but also uses managed	All Year	**No.** There are no appropriate habitats onsite.

SCIENTIFIC NAME COMMON NAME	FEDERAL STATUS	DISTRIBUTION	HABITAT REQUIREMENTS	PERIOD OF IDENTIFICATION	POTENTIAL TO OCCUR ON-SITE
		the Sierra Nevada. Some breeding populations also occur in the Transverse Ranges and Peninsular Ranges.	(previously logged) lands. Nests in trees, snag cavities, or broken tops of large trees. Requires a nearby, permanent source of water. Forages within any forest habitat with sufficient prey (e.g. flying squirrels, mice, and voles).		

STATUS CODES

FEDERAL: United States Fish and Wildlife Service
FE Federally Endangered
FT Federally Threatened
FC Federal Candidate for Listing

CNPS: California Native Plant Society
Counties designated with an asterisk (*) means that the population is extirpated.

Sources: USFWS, 2009, 2011; CDFG, 2003; CNPS, 2011; Moyle, 2002; CaliforniaHerps.com, 2009.

APPENDIX C

PLANT SPECIES OBSERVED WITHIN THE PROJECT SITE

PLANT SP. OBSERVED ON-SITE

Yocha DeHe Housing Project

September 1, 2009

(*) Asterisk indicates a non-native sp.

SCIENTIFIC NAME	COMMON NAME
ANACARDIACEAE	**SUMAC FAMILY**
Toxicodendron diversilobum	Poison oak
ALISMATACEAE	**WATER-PLANTAIN FAMILY**
Echinodorus berteroi	Burhead
AMARANTHACEAE	**AMARANTH FAMILY**
*Amaranthus albus**	Tumbleweed
Amaranthus californicus	California pigweed
*Amaranthus retroflexus**	Pigweed
APIACEAE	**CARROT FAMILY**
*Filago gallica**	Herba impia
New name: *Logfia gallica**	Herba impia
*Torilis arvensis**	Torilis
APOCYNACEAE	**DOGBANE FAMILY**
*Nerium oleander**	Oleander
ARISTOLOCHIACEAE	**BIRTHWORT FAMILY**
Aristolochia californica	California pipevine
ASTERACEAE	**SUNFLOWER FAMILY**
Artemisia douglasiana	Mugwort
Baccharis salicifolia	Mule fat
*Centaurea solstitialis**	Yellow star-thistle
*Cirsium vulgare**	Bull thistle
Conyza canadensis	Horseweed
*Gnaphalium luteo-album**	Weedy cudweed
Hemizonia fitchii	Fitch's spikeweed
*Lactuca serriola**	Prickly lettuce
*Silybum marianum**	Milk thistle
Wyethia angustifolia	Mules ears
Xanthium spinosum	Spiny cocklebur
Xanthium strumarium	Cocklebur
BORAGINACEAE	**BORAGE FAMILY**
Amsinckia menziesii	Fiddleneck
Heliotropium curassavicum	Seaside heliotrope
BRASSICACEAE	**MUSTARD FAMILY**
*Hirschfeldia incana**	Hirschfeldia
*Lepidium latifolium**	Broad-leaved peppergrass
*Raphanus raphanistrum**	Yellow wild radish
CAPRIFOLIACEAE	**HONEYSUCKLE FAMILY**
Sambucus mexicana	Blue elderberry
New name: *Sambucus nigra* ssp. *caerulea*	Blue elderberry
CHENOPODIACEAE	**GOOSEFOOT FAMILY**
*Chenopodium album**	Lamb's quarters
CONVOLVULACEAE	**MORNING-GLORY FAMILY**
*Convolvulus arvensis**	Morning glory

PLANT SP. OBSERVED ON-SITE

Yocha DeHe Housing Project

September 1, 2009

(*) Asterisk indicates a non-native sp.

CYPERACEAE	**SEDGE FAMILY**
Cyperus eragrostis	Tall flatsedge
ERICACEAE	**HEATH FAMILY**
Arctostaphylos sp.	Manzanita
EUPHORBIACEAE	**SPURGE FAMILY**
Eremocarpus setigerus	Dove weed
New name: *Croton setigerus*	Dove weed
*Chamaesyce maculata**	Spotted spurge
FABACEAE	**LEGUME FAMILY**
Cercis occidentalis	Redbud
*Medicago polymorpha**	Bur clover
*Robinia pseudoacacia**	Black locust
*Trifolium hirtum**	Rose clover
Vicia sp.	Vetch
FAGACEAE	**OAK FAMILY**
Quercus douglasii	Blue oak
Quercus lobata	Valley oak
Quercus wislizeni	Interior live oak
GERANIACEAE	**GERANIUM FAMILY**
*Erodium moschatum**	Filaree
HIPPOCASTANACEAE	**BUCKEYE FAMILY**
Aesculus californica	California buckeye
JUGLANDACEAE	**WALNUT FAMILY**
Juglans californica var. *hindsii*	California black walnut
JUNCACEAE	**RUSH FAMILY**
Juncus sp.	Rush
Juncus effusus	Soft rush
LAMIACEAE	**MINT FAMILY**
*Marrubium vulgare**	Horehound
Trichostema lanceolatum	Vinegarweed
LILIACEAE	**LILY FAMILY**
Triteleia laxa	Ithurial's spear
LYTHRACEAE	**LOOSESTRIFE FAMILY**
*Lythrum hyssopifolium**	Hyssop loosestrife
MALVACEAE	**MALLOW FAMILY**
*Abutilon theophrasti**	Velvet leaf
*Malva nicaeensis**	Bull mallow
MORACEAE	**MULBERRY FAMILY**
*Ficus carica**	Common fig
ONAGRACEAE	**EVENING PRIMROSE FAMILY**
Epilobium brachycarpum	Panicled willow-herb
PINACEAE	**PINE FAMILY**
Pinus sabiniana	Foothill pine
POACEAE	**GRASS FAMILY**
*Aira caryophyllea**	Hairgrass
*Arundo donax**	Giant reed

PLANT SP. OBSERVED ON-SITE

Yocha DeHe Housing Project

September 1, 2009

(*) Asterisk indicates a non-native sp.

*Avena fatua**	Wild oat
*Briza minor**	Little quaking grass
*Bromus diandrus**	Ripgut brome
*Bromus hordeaceus**	Soft brome
Bromus madritensis ssp. *rubens**	Red brome
*Cortaderia jubata**	Pampas grass
*Crypsis schoenoides**	Swamp pricklegrass
*Cynodon dactylon**	Bermuda grass
*Cynosurus echinatus**	Hedgehog dogtail grass
*Echinochloa crus-galli**	Barnyard grass
*Gastridium ventricosum**	Nit grass
*Hordeum murinum**	Barley
*Lolium multiflorum**	Ryegrass
Paspalum distichum	Paspalum
*Sorghum halepense**	Johnsongrass
*Taeniatherum caput-medusae**	Medusa-head grass
*Vulpia bromoides**	Vulpia
POLEMONIACEAE	**PHLOX FAMILY**
Navarretia intertexta	Needle-leaf navarretia
POLYGONACEAE	**BUCKWHEAT FAMILY**
*Polygonum arenastrum**	Common knotweed
*Rumex crispus**	Curly dock
PORTULACEAE	**PURSLANE FAMILY**
*Portulaca oleracea**	Common purslane
POTAMOGETONACEAE	**PONDWEED FAMILY**
Potamogeton sp.	Pondweed
ROSACEAE	**ROSE FAMILY**
Heteromeles arbutifolia	Toyon
*Rubus discolor**	Himalayan blackberry
New name: *Rubus armeniacus**	Himalayan blackberry
SALICACEAE	**WILLOW FAMILY**
Populus fremontii ssp. *fremontii*	Fremont cottonwood
Salix sp.	Willow
SCROPHULARIACEAE	**FIGWORT FAMILY**
Mimulus aurantiacus	Sticky monkeyflower
*Veronica persica**	Bird's-eye speedwell
TAMARICACEAE	**TAMARISK FAMILY**
Tamarix sp.	Tamarisk
SOLANACEAE	**NIGHTSHADE FAMILY**
Datura wrightii	Jimson weed
Nicotiana sp.	Tobacco
VERBENACEAE	**VERBENA FAMILY**
Phyla nodiflora	Phyla
VITACEAE	**GRAPE FAMILY**
Vitis californica	California wild grape

PLANT SP. OBSERVED ON-SITE

Yocha DeHe Housing Project

September 1, 2009

(*) Asterisk indicates a non-native sp.

ZYGOPHYLLACEAE	**CALTROP FAMILY**
*Tribulus terrestris**	Puncture vine

APPENDIX D

WILDLIFE SPECIES OBSERVED WITHIN THE PROJECT SITE

WILDLIFE OBSERVED WITHIN THE PROJECT SITE

Yocha Dehe Housing Project

April 5 and 30, May 30, 2007, and March 27, April 18, May 27, October 16 and 17, 2008

Scientific Name	Common Name
INVERTEBRATES	
CERAMBIDAE	
Desmocerus californicus dimorphus	Valley elderberry longhorn beetle
AMPHIBIANS	
RANIDAE	
Rana catesbiana	bullfrog
HYLIDAE	
Pseudacris regilla	Pacific chorus frog
REPTILES	
PHRYNOPSOMATIDAE	
Sceloporus occidentalis	western fence lizard
BIRDS	
ACCIPITRIDAE	
Buteo jamaicensis	red-tailed hawk
Buteo swainsoni	Swainson's hawk
AEGITHALIDAE	
Psaltriparus minimus	bushtit
ANATIDAE	
Anas platyrhynchos	Mallard
Aix sponsa	Wood duck
Branta Canadensis	Canada Goose
Mergus merganser	Common merganser
CATHARTIDAE	
Cathartes aura	turkey vulture
CICONIIFORMES	
Ardea Herodias	Great blue heron
COLUMBIDAE	
Zenaida macroura	Mourning dove
CORVIDAE	
Aphelocoma californica	western scrub-jay
Corvus brachrhynchos	American crow
FRINGILLIDAE	
Carduelis psaltria	lesser goldfinch
ICTERIDAE	
Sturnella neglecta	Western meadowlark
Agelaius phonoiceus	Red-winged blackbird
MIMIDAE	
Mimus polyglottos	Northern mockingbird
ODONTOPHORIDAE	
Callipepla californica	California quail
PASSERIFORMES	

WILDLIFE OBSERVED WITHIN THE PROJECT SITE

Yocha Dehe Housing Project

April 5 and 30, May 30, 2007, and March 27, April 18, May 27, October 16 and 17, 2008

Euphagus cyanocephalus	Brewer's blackbird
Tachycineta bicolor	Tree swallow
PICIDAE	
Colaptes auratus	Northern flicker
Melanerpes formicivorus	Acron woodpecker
SCOLOPACIDAE	
Actitis macularia	Spotted sandpiper
SITTIDAE	
Sitta carolinensis	White-breasted nuthatch
TROGLODYTIDAE	
Thryomanes bewickii	Bewick's wren
TURDIDAE	
Turdus migratorious	American robin
Catharus guttatus	Hermit thrush
MAMMALS	
BOVIDAE	
Bos primigenius	Domestic cow
CANIDAE	
Canis latrans	Coyote
CERVIDAE	
Odocoileus hemionus	black-tailed deer
LEPORIDAE	
Lepus californicus	Black-tailed jackrabbit
Sylvilagus transitionalis	Cottontail rabbit
PROCYONIDAE	
Procyon lotor	Raccoon
SCIURIDAE	
Sciurus griseus	Western gray squirrel

APPENDIX E

USFWS CONSERVATION GUIDELINES FOR THE VALLEY ELDERBERRY LONGHORN BEETLE

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W-2605
Sacramento, California 95825

Conservation Guidelines for the
Valley Elderberry Longhorn Beetle
9 July 1999

The following guidelines have been issued by the U.S. Fish and Wildlife Service (Service) to assist Federal agencies and non-federal project applicants needing incidental take authorization through a section 7 consultation or a section 10(a)(1)(B) permit in developing measures to avoid and minimize adverse effects on the valley elderberry longhorn beetle. The Service will revise these guidelines as needed in the future. The most recently issued version of these guidelines should be used in developing all projects and habitat restoration plans. The survey and monitoring procedures described below are designed to avoid any adverse effects to the valley elderberry longhorn beetle. Thus a recovery permit is not needed to survey for the beetle or its habitat or to monitor conservation areas. If you are interested in a recovery permit for research purposes please call the Service's Regional Office at (503) 231-2063.

Background Information

The valley elderberry longhorn beetle (Desmocerus californicus dimorphus), was listed as a threatened species on August 8, 1980 (Federal Register 45: 52803-52807). This animal is fully protected under the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et seq.). The valley elderberry longhorn beetle (beetle) is completely dependent on its host plant, elderberry (Sambucus species), which is a common component of the remaining riparian forests and adjacent upland habitats of California's Central Valley. Use of the elderberry by the beetle, a wood borer, is rarely apparent. Frequently, the only exterior evidence of the elderberry's use by the beetle is an exit hole created by the larva just prior to the pupal stage. The life cycle takes one or two years to complete. The animal spends most of its life in the larval stage, living within the stems of an elderberry plant. Adult emergence is from late March through June, about the same time the elderberry produces flowers. The adult stage is short-lived. Further information on the life history, ecology, behavior, and distribution of the beetle can be found in a report by Barr (1991) and the recovery plan for the beetle (USFWS 1984).

Surveys

Proposed project sites within the range of the valley elderberry longhorn beetle should be surveyed for the presence of the beetle and its elderberry host plant by a qualified biologist. The beetle's range extends throughout California's Central Valley and associated foothills from about the 3,000-foot elevation contour on the east and the watershed of the Central Valley on the west (Figure 1). All or portions of 31 counties are included: Alameda, Amador, Butte, Calaveras, Colusa, Contra Costa, El Dorado, Fresno, Glenn, Kern, Kings, Lake, Madera, Mariposa, Merced, Napa, Nevada, Placer, Sacramento, San Benito, San Joaquin, San Luis Obispo, Shasta, Solano, Stanislaus, Sutter, Tehama, Tulare, Tuolumne, Yolo, Yuba.

If elderberry plants with one or more stems measuring 1.0 inch or greater in diameter at ground level occur on or adjacent to the proposed project site, or are otherwise located where they may be directly or indirectly affected by the proposed action, minimization measures which include planting replacement habitat (conservation planting) are required (Table 1).

All elderberry shrubs with one or more stems measuring 1.0 inch or greater in diameter at ground level that occur on or adjacent to a proposed project site must be thoroughly searched for beetle exit holes (external evidence of beetle presence). In addition, all elderberry stems one inch or greater in diameter at ground level must be tallied by diameter size class (Table 1). As outlined in Table 1, the numbers of elderberry seedlings/cuttings and associated riparian native trees/shrubs to be planted as replacement habitat are determined by stem size class of affected elderberry shrubs, presence or absence of exit holes, and whether a proposed project lies in a riparian or non-riparian area.

Elderberry plants with no stems measuring 1.0 inch or greater in diameter at ground level are unlikely to be habitat for the beetle because of their small size and/or immaturity. Therefore, no minimization measures are required for removal of elderberry plants with no stems measuring 1.0 inch or greater in diameter at ground level with no exit holes. Surveys are valid for a period of two years.

Avoid and Protect Habitat Whenever Possible

Project sites that do not contain beetle habitat are preferred. If suitable habitat for the beetle occurs on the project site, or within close proximity where beetles will be affected by the project, these areas must be designated as avoidance areas and must be protected from disturbance during the construction and operation of the project. When possible, projects should be designed such that avoidance areas are connected with adjacent habitat to prevent fragmentation and isolation of beetle populations. Any beetle habitat that cannot be avoided as described below should be considered impacted and appropriate minimization measures should be proposed as described below.

Avoidance: Establishment and Maintenance of a Buffer Zone

Complete avoidance (i.e., no adverse effects) may be assumed when a 100-foot (or wider) buffer is established and maintained around elderberry plants containing stems measuring 1.0 inch or greater in diameter at ground level. Firebreaks may not be included in the buffer zone. In buffer areas construction-related disturbance should be minimized, and any damaged area should be promptly restored following construction. The Service must be consulted before any disturbances within the buffer area are considered. In addition, the Service must be provided with a map identifying the avoidance area and written details describing avoidance measures.

Protective Measures

1. Fence and flag all areas to be avoided during construction activities. In areas where encroachment on the 100-foot buffer has been approved by the Service, provide a minimum setback of at least 20 feet from the dripline of each elderberry plant.

2. Brief contractors on the need to avoid damaging the elderberry plants and the possible penalties for not complying with these requirements.

3. Erect signs every 50 feet along the edge of the avoidance area with the following information: "This area is habitat of the valley elderberry longhorn beetle, a threatened species, and must not be disturbed. This species is protected by the Endangered Species Act of 1973, as amended. Violators are subject to prosecution, fines, and imprisonment." The signs should be clearly readable from a distance of 20 feet, and must be maintained for the duration of construction.

4. Instruct work crews about the status of the beetle and the need to protect its elderberry host plant.

Restoration and Maintenance

1. Restore any damage done to the buffer area (area within 100 feet of elderberry plants) during construction. Provide erosion control and re-vegetate with appropriate native plants.

2. Buffer areas must continue to be protected after construction from adverse effects of the project. Measures such as fencing, signs, weeding, and trash removal are usually appropriate.

3. No insecticides, herbicides, fertilizers, or other chemicals that might harm the beetle or its host plant should be used in the buffer areas, or within 100 feet of any elderberry plant with one or more stems measuring 1.0 inch or greater in diameter at ground level.

4. The applicant must provide a written description of how the buffer areas are to be restored, protected, and maintained after construction is completed.

5. Mowing of grasses/ground cover may occur from July through April to reduce fire hazard. No mowing should occur within five (5) feet of elderberry plant stems. Mowing must be done in a manner that avoids damaging plants (e.g., stripping away bark through careless use of mowing/trimming equipment).

Transplant Elderberry Plants That Cannot Be Avoided

Elderberry plants must be transplanted if they can not be avoided by the proposed project. All elderberry plants with one or more stems measuring 1.0 inch or greater in diameter at ground level must be transplanted to a conservation area (see below). At the Service's discretion, a plant that is unlikely to survive transplantation because of poor condition or location, or a plant that would be extremely difficult to move because of access problems, may be exempted from transplantation. In cases where transplantation is not possible the minimization ratios in Table 1 may be increased to offset the additional habitat loss.

Trimming of elderberry plants (e.g., pruning along roadways, bike paths, or trails) with one or more stems 1.0 inch or greater in diameter at ground level, may result in take of beetles. Therefore, trimming is subject to appropriate minimization measures as outlined in Table 1.

1. Monitor. A qualified biologist (monitor) must be on-site for the duration of the transplanting of the elderberry plants to insure that no unauthorized take of the valley elderberry longhorn beetle occurs. If unauthorized take occurs, the monitor must have the authority to stop work until corrective measures have been completed. The monitor must immediately report any unauthorized take of the beetle or its habitat to the Service and to the California Department of Fish and Game.

2. Timing. Transplant elderberry plants when the plants are dormant, approximately November through the first two weeks in February, after they have lost their leaves. Transplanting during the non-growing season will reduce shock to the plant and increase transplantation success.

3. Transplanting Procedure.

    a. Cut the plant back 3 to 6 feet from the ground or to 50 percent of its height (whichever is taller) by removing branches and stems above this height. The trunk and all stems measuring 1.0 inch or greater in diameter at ground level should be replanted. Any leaves remaining on the plant should be removed.

b. Excavate a hole of adequate size to receive the transplant.

c. Excavate the plant using a Vemeer spade, backhoe, front end loader, or other suitable equipment, taking as much of the root ball as possible, and replant immediately at the conservation area. Move the plant only by the root ball. If the plant is to be moved and transplanted off site, secure the root ball with wire and wrap it with burlap. Dampen the burlap with water, as necessary, to keep the root ball wet. Do not let the roots dry out. Care should be taken to ensure that the soil is not dislodged from around the roots of the transplant. If the site receiving the transplant does not have adequate soil moisture, pre-wet the soil a day or two before transplantation.

d. The planting area must be at least 1,800 square feet for each elderberry transplant. The root ball should be planted so that its top is level with the existing ground. Compact the soil sufficiently so that settlement does not occur. As many as five (5) additional elderberry plantings (cuttings or seedlings) and up to five (5) associated native species plantings (see below) may also be planted within the 1,800 square foot area with the transplant. The transplant and each new planting should have its own watering basin measuring at least three (3) feet in diameter. Watering basins should have a continuous berm measuring approximately eight (8) inches wide at the base and six (6) inches high.

e. Saturate the soil with water. Do not use fertilizers or other supplements or paint the tips of stems with pruning substances, as the effects of these compounds on the beetle are unknown.

f. Monitor to ascertain if additional watering is necessary. If the soil is sandy and well-drained, plants may need to be watered weekly or twice monthly. If the soil is clayey and poorly-drained, it may not be necessary to water after the initial saturation. However, most transplants require watering through the first summer. A drip watering system and timer is ideal. However, in situations where this is not possible, a water truck or other apparatus may be used.

Plant Additional Seedlings or Cuttings

Each elderberry stem measuring 1.0 inch or greater in diameter at ground level that is adversely affected (i.e., transplanted or destroyed) must be replaced, in the conservation area, with elderberry seedlings or cuttings at a ratio ranging from 1:1 to 8:1 (new plantings to affected stems). Minimization ratios are listed and explained in Table 1. Stock of either seedlings or cuttings should be obtained from local sources. Cuttings may be obtained from the plants to be transplanted if the project site is in the vicinity of the conservation area. If the Service determines that the elderberry plants on the proposed project site are unsuitable candidates for

transplanting, the Service may allow the applicant to plant seedlings or cuttings at higher than the stated ratios in Table 1 for each elderberry plant that cannot be transplanted.

Plant Associated Native Species

Studies have found that the beetle is more abundant in dense native plant communities with a mature overstory and a mixed understory. Therefore, a mix of native plants associated with the elderberry plants at the project site or similar sites will be planted at ratios ranging from 1:1 to 2:1 [native tree/plant species to each elderberry seedling or cutting (see Table 1)]. These native plantings must be monitored with the same survival criteria used for the elderberry seedlings (see below). Stock of saplings, cuttings, and seedlings should be obtained from local sources. If the parent stock is obtained from a distance greater than one mile from the conservation area, approval by the Service of the native plant donor sites must be obtained prior to initiation of the revegetation work. Planting or seeding the conservation area with native herbaceous species is encouraged. Establishing native grasses and forbs may discourage unwanted non-native species from becoming established or persisting at the conservation area. Only stock from local sources should be used.

Examples

Example 1

The project will adversely affect beetle habitat on a vacant lot on the land side of a river levee. This levee now separates beetle habitat on the vacant lot from extant Great Valley Mixed Riparian Forest (Holland 1986) adjacent to the river. However, it is clear that the beetle habitat located on the vacant lot was part of a more extensive mixed riparian forest ecosystem extending farther from the river's edge prior to agricultural development and levee construction. Therefore, the beetle habitat on site is considered riparian. A total of two elderberry plants with at least one stem measuring 1.0 inch or greater in diameter at ground level will be affected by the proposed action. The two plants have a total of 15 stems measuring over 1.0 inch. No exit holes were found on either plant. Ten of the stems are between 1.0 and 3.0 inches in diameter and five of the stems are greater than 5.0 inches in diameter. The conservation area is suited for riparian forest habitat. Associated natives adjacent to the conservation area are box elder (Acer negundo californica), walnut (Juglans californica var. hindsii), sycamore (Platanus racemosa), cottonwood (Populus fremontii), willow (Salix gooddingii and S. laevigata), white alder (Alnus rhombifolia), ash (Fraxinus latifolia), button willow (Cephalanthus occidentalis), and wild grape (Vitis californica).

Minimization (based on ratios in Table 1):

• Transplant the two elderberry plants that will be affected to the conservation area.

• Plant 40 elderberry rooted cuttings (10 affected stems compensated at 2:1 ratio and 5 affected stems compensated at 4:1 ratio, cuttings planted:stems affected)

• Plant 40 associated native species (ratio of associated natives to elderberry plantings is 1:1 in areas with no exit holes):

5 saplings each of box elder, sycamore, and cottonwood
5 willow seedlings
5 white alder seedlings
5 saplings each of walnut and ash
3 California button willow
2 wild grape vines
Total: 40 associated native species

• Total area required is a minimum of 1,800 sq. ft. for one to five elderberry seedlings and up to 5 associated natives. Since, a total of 80 plants must be planted (40 elderberries and 40 associated natives), a total of 0.33 acre (14,400 square feet) will be required for conservation plantings. The conservation area will be seeded and planted with native grasses and forbs, and closely monitored and maintained throughout the monitoring period.

Example 2
The project will adversely affect beetle habitat in Blue Oak Woodland (Holland 1986). One elderberry plant with at least one stem measuring 1.0 inch or greater in diameter at ground level will be affected by the proposed action. The plant has a total of 10 stems measuring over 1.0 inch. Exit holes were found on the plant. Five of the stems are between 1.0 and 3.0 inches in diameter and five of the stems are between 3.0 and 5.0 inches in diameter. The conservation area is suited for elderberry savanna (non-riparian habitat). Associated natives adjacent to the conservation area are willow (Salix species), blue oak (Quercus douglasii), interior live oak (Q. wislizenii), sycamore, poison oak (Toxicodendron diversilobum), and wild grape.

Minimization (based on ratios in Table 1):

• Transplant the one elderberry plant that will be affected to the conservation area.

• Plant 30 elderberry seedlings (5 affected stems compensated at 2:1 ratio and 5 affected stems compensated at 4:1 ratio, cuttings planted:stems affected)

• Plant 60 associated native species (ratio of associated natives to elderberry plantings is 2:1 in areas with exit holes):

20 saplings of blue oak, 20 saplings of sycamore, and 20 saplings of willow, and seed and plant with a mixture of native grasses and forbs

• Total area required is a minimum of 1,800 sq. ft. for one to five elderberry seedlings and up to 5 associated natives. Since, a total of 90 plants must be planted (30 elderberries and 60 associated natives), a total of 0.37 acre (16,200 square feet) will be required for conservation plantings. The conservation area will be seeded and planted with native grasses and forbs, and closely monitored and maintained throughout the monitoring period.

Conservation Area—Provide Habitat for the Beetle in Perpetuity

The conservation area is distinct from the avoidance area (though the two may adjoin), and serves to receive and protect the transplanted elderberry plants and the elderberry and other native plantings. The Service may accept proposals for off-site conservation areas where appropriate.

1. Size. The conservation area must provide at least 1,800 square feet for each transplanted elderberry plant. As many as 10 conservation plantings (i.e., elderberry cuttings or seedlings and/or associated native plants) may be planted within the 1800 square foot area with each transplanted elderberry. An additional 1,800 square feet shall be provided for every additional 10 conservation plants. Each planting should have its own watering basin measuring approximately three feet in diameter. Watering basins should be constructed with a continuous berm measuring approximately eight inches wide at the base and six inches high.

   The planting density specified above is primarily for riparian forest habitats or other habitats with naturally dense cover. If the conservation area is an open habitat (i.e., elderberry savanna, oak woodland) more area may be needed for the required plantings. Contact the Service for assistance if the above planting recommendations are not appropriate for the proposed conservation area.

   No area to be maintained as a firebreak may be counted as conservation area. Like the avoidance area, the conservation area should connect with adjacent habitat wherever possible, to prevent isolation of beetle populations.

   Depending on adjacent land use, a buffer area may also be needed between the conservation area and the adjacent lands. For example, herbicides and pesticides are

often used on orchards or vineyards. These chemicals may drift or runoff onto the conservation area if an adequate buffer area is not provided.

2. Long-Term Protection. The conservation area must be protected in perpetuity as habitat for the valley elderberry longhorn beetle. A conservation easement or deed restrictions to protect the conservation area must be arranged. Conservation areas may be transferred to a resource agency or appropriate private organization for long-term management. The Service must be provided with a map and written details identifying the conservation area; and the applicant must receive approval from the Service that the conservation area is acceptable prior to initiating the conservation program. A true, recorded copy of the deed transfer, conservation easement, or deed restrictions protecting the conservation area in perpetuity must be provided to the Service before project implementation.

   Adequate funds must be provided to ensure that the conservation area is managed in perpetuity. The applicant must dedicate an endowment fund for this purpose, and designate the party or entity that will be responsible for long-term management of the conservation area. The Service must be provided with written documentation that funding and management of the conservation area (items 3-8 above) will be provided in perpetuity.

3. Weed Control. Weeds and other plants that are not native to the conservation area must be removed at least once a year, or at the discretion of the Service and the California Department of Fish and Game. Mechanical means should be used; herbicides are prohibited unless approved by the Service.

4. Pesticide and Toxicant Control. Measures must be taken to insure that no pesticides, herbicides, fertilizers, or other chemical agents enter the conservation area. No spraying of these agents must be done within one 100 feet of the area, or if they have the potential to drift, flow, or be washed into the area in the opinion of biologists or law enforcement personnel from the Service or the California Department of Fish and Game.

5. Litter Control. No dumping of trash or other material may occur within the conservation area. Any trash or other foreign material found deposited within the conservation area must be removed within 10 working days of discovery.

6. Fencing. Permanent fencing must be placed completely around the conservation area to prevent unauthorized entry by off-road vehicles, equestrians, and other parties that might damage or destroy the habitat of the beetle, unless approved by the Service. The applicant must receive written approval from the Service that the fencing is acceptable prior to initiation of the conservation program. The fence must be maintained in perpetuity, and must be repaired/replaced within 10 working days if it is found to be damaged. Some conservation areas may be made available to the public for appropriate recreational and educational opportunities with written approval from the Service. In

these cases appropriate fencing and signs informing the public of the beetle's threatened status and its natural history and ecology should be used and maintained in perpetuity.

7. Signs. A minimum of two prominent signs must be placed and maintained in perpetuity at the conservation area, unless otherwise approved by the Service. The signs should note that the site is habitat of the federally threatened valley elderberry longhorn beetle and, if appropriate, include information on the beetle's natural history and ecology. The signs must be approved by the Service. The signs must be repaired or replaced within 10 working days if they are found to be damaged or destroyed.

Monitoring

The population of valley elderberry longhorn beetles, the general condition of the conservation area, and the condition of the elderberry and associated native plantings in the conservation area must be monitored over a period of either ten (10) consecutive years or for seven (7) years over a 15-year period. The applicant may elect either 10 years of monitoring, with surveys and reports every year; or 15 years of monitoring, with surveys and reports on years 1, 2, 3, 5, 7, 10, and 15. The conservation plan provided by the applicant must state which monitoring schedule will be followed. No change in monitoring schedule will be accepted after the project is initiated. If conservation planting is done in stages (i.e., not all planting is implemented in the same time period), each stage of conservation planting will have a different start date for the required monitoring time.

Surveys. In any survey year, a minimum of two site visits between February 14 and June 30 of each year must be made by a qualified biologist. Surveys must include:

1. A population census of the adult beetles, including the number of beetles observed, their condition, behavior, and their precise locations. Visual counts must be used; mark-recapture or other methods involving handling or harassment must not be used.

2. A census of beetle exit holes in elderberry stems, noting their precise locations and estimated ages.

3. An evaluation of the elderberry plants and associated native plants on the site, and on the conservation area, if disjunct, including the number of plants, their size and condition.

4. An evaluation of the adequacy of the fencing, signs, and weed control efforts in the avoidance and conservation areas.

5. A general assessment of the habitat, including any real or potential threats to the beetle and its host plants, such as erosion, fire, excessive grazing, off-road vehicle use, vandalism, excessive weed growth, etc.

The materials and methods to be used in the monitoring studies must be reviewed and approved by the Service. All appropriate Federal permits must be obtained prior to initiating the field studies.

Reports. A written report, presenting and analyzing the data from the project monitoring, must be prepared by a qualified biologist in each of the years in which a monitoring survey is required. Copies of the report must be submitted by December 31 of the same year to the Service (Chief of Endangered Species, Sacramento Fish and Wildlife Office), and the Department of Fish and Game (Supervisor, Environmental Services, Department of Fish and Game, 1416 Ninth Street, Sacramento, California 95814; and Staff Zoologist, California Natural Diversity Data Base, Department of Fish and Game, 1220 S Street, Sacramento, California 95814). The report must explicitly address the status and progress of the transplanted and planted elderberry and associated native plants and trees, as well as any failings of the conservation plan and the steps taken to correct them. Any observations of beetles or fresh exit holes must be noted. Copies of original field notes, raw data, and photographs of the conservation area must be included with the report. A vicinity map of the site and maps showing where the individual adult beetles and exit holes were observed must be included. For the elderberry and associated native plants, the survival rate, condition, and size of the plants must be analyzed. Real and likely future threats must be addressed along with suggested remedies and preventative measures (e.g. limiting public access, more frequent removal of invasive non-native vegetation, etc.).

A copy of each monitoring report, along with the original field notes, photographs, correspondence, and all other pertinent material, should be deposited at the California Academy of Sciences (Librarian, California Academy of Sciences, Golden Gate Park, San Francisco, CA 94118) by December 31 of the year that monitoring is done and the report is prepared. The Service's Sacramento Fish and Wildlife Office should be provided with a copy of the receipt from the Academy library acknowledging receipt of the material, or the library catalog number assigned to it.

Access. Biologists and law enforcement personnel from the California Department of Fish and Game and the Service must be given complete access to the project site to monitor transplanting activities. Personnel from both these agencies must be given complete access to the project and the conservation area to monitor the beetle and its habitat in perpetuity.

Success Criteria

A minimum survival rate of at least 60 percent of the elderberry plants and 60 percent of the associated native plants must be maintained throughout the monitoring period. Within one year of discovery that survival has dropped below 60 percent, the applicant must replace failed plantings to bring survival above this level. The Service will make any determination as to the

applicant's replacement responsibilities arising from circumstances beyond its control, such as plants damaged or killed as a result of severe flooding or vandalism.

Service Contact

These guidelines were prepared by the Endangered Species Division of the Service's Sacramento Fish and Wildlife Office. If you have questions regarding these guidelines or to request a copy of the most recent guidelines, telephone (916) 414-6600, or write to:

U.S. Fish and Wildlife Service
Ecological Services
2800 Cottage Way, W-2605
Sacramento, CA 95825

Figure 1: Range of the Valley Elderberry Longhorn Beetle

Literature Cited

Barr, C. B. 1991. The distribution, habitat, and status of the valley elderberry longhorn beetle Desmocerus californicus dimorphus. U.S. Fish and Wildlife Service; Sacramento, California.

Holland, R.F. 1986. Preliminary descriptions of the terrestrial natural communities of California. Unpublished Report. State of California, The Resources Agency, Department of Fish and Game, Natural Heritage Division, Sacramento, California.

USFWS. 1980. Listing the valley elderberry longhorn beetle as a threatened species with critical habitat. Federal Register 45:52803-52807.

USFWS. 1984. Recovery plan for the valley elderberry longhorn beetle. U.S. Fish and Wildlife Service, Endangered Species Program; Portland, Oregon.

Table 1: Minimization ratios based on location (riparian vs. non-riparian), stem diameter of affected elderberry plants at ground level, and presence or absence of exit holes.

Location	Stems (maximum diameter at ground level)	Exit Holes on Shrub Y/N (quantify)[1]	Elderberry Seedling Ratio[2]	Associated Native Plant Ratio[3]
non-riparian	stems > = 1" & = < 3"	No:	1:1	1:1
		Yes:	2:1	2:1
non-riparian	stems > 3" & < 5"	No:	2:1	1:1
		Yes:	4:1	2:1
non-riparian	stems >= 5"	No:	3:1	1:1
		Yes:	6:1	2:1
riparian	stems > = 1" & = < 3"	No:	2:1	1:1
		Yes:	4:1	2:1
riparian	stems > 3" & < 5"	No:	3:1	1:1
		Yes:	6:1	2:1
riparian	stems > = 5"	No:	4:1	1:1
		Yes:	8:1	2:1

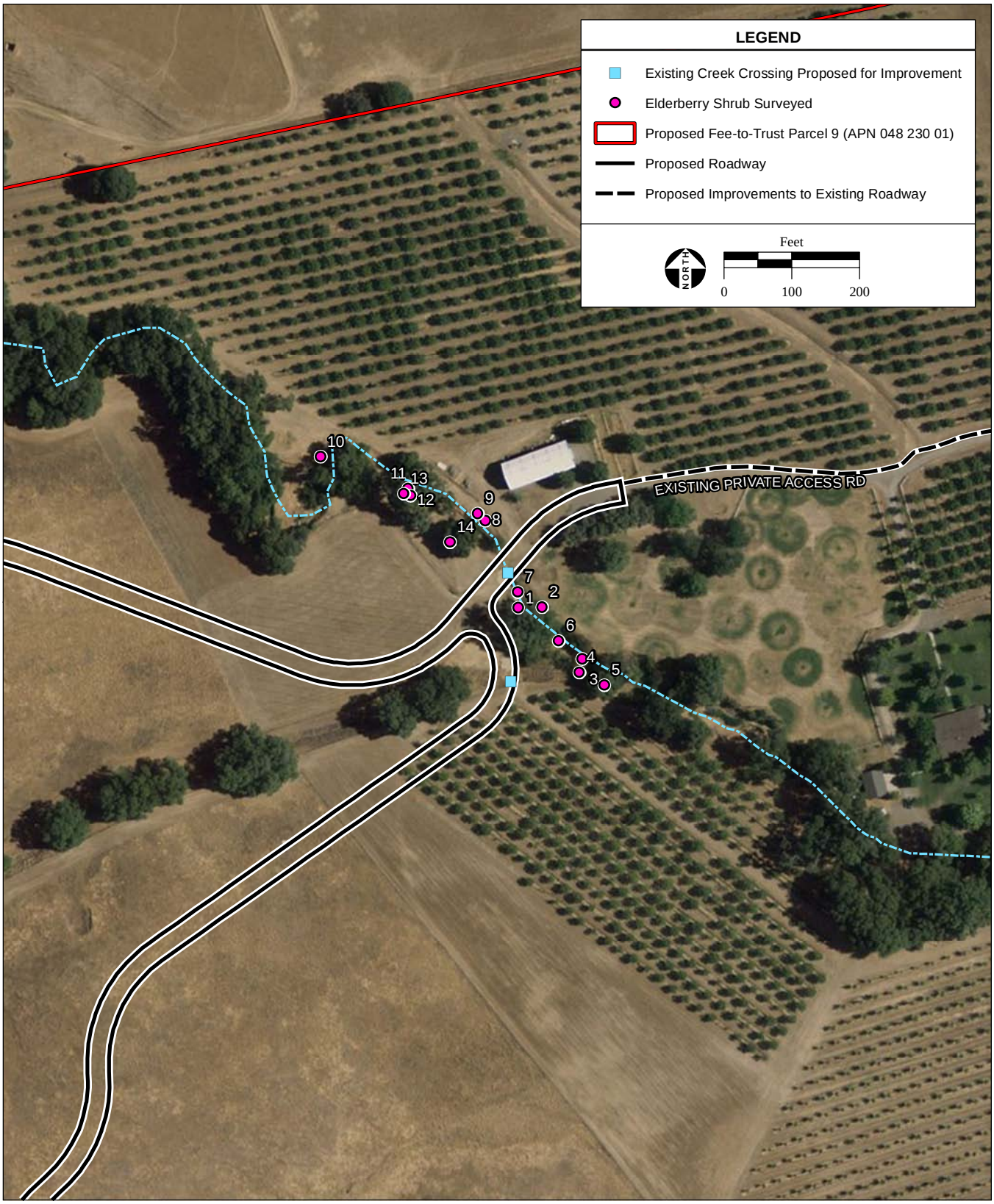
[1] All stems measuring one inch or greater in diameter at ground level on a single shrub are considered occupied when exit holes are present anywhere on the shrub.

[2] Ratios in the *Elderberry Seedling Ratio* column correspond to the number of cuttings or seedlings to be planted per elderberry stem (one inch or greater in diameter at ground level) affected by a project.

[3] Ratios in the *Associated Native Plant Ratio* column correspond to the number of associated native species to be planted per elderberry (seedling or cutting) planted.

APPENDIX F

FOCUSED VELB SURVEY MAP, APRIL 2011



SOURCE: USDA NAIP Aerial Photograph, 2009; AES, 2011

Appendix F

Valley Elderberry Longhorn Beetle (VELB) Survey
(April 8, 2011)

APPENDIX G

FIELD DATA SHEET FOR FOCUSED VELB SURVEY, APRIL 2011

AES VELB Survey Form

Date: April 8, 2011
Time: 9:00 AM
Weather: 55ºF, cloud cover, Wind 2-3 knots
Project: Yocha Dehe Housing Project FTT
Surveyor(s): Jessica Griggs, Ona Alminas

Location ID#	Number of Plants	Number of Stems by Diameter Class			Exit Holes?	Riparian Habitat?	Notes / Associated Species
		1–3 in.	3–5 in.	>5 in.			
1	1	6	0	0	No	Yes	South of creek crossing, growing on bank.
2	1	1	0	0	No	Yes	South of creek crossing, growing on bank
3	1	2	0	0	No	Yes	South of creek crossing, growing on bank
4	3	0	0	0	No	Yes	South of creek crossing, growing on bank
5	1	1	0	0	No	Yes	South of creek crossing, growing on bank, near top of bank, <5" stem next to fence
6	1	3	0	0	No	Yes	South of creek crossing, growing on bank
7	1	1 (<1")	0	0	No	Yes	South of creek crossing, growing on bank
8	1	1	0	0	No	Yes	North of creek crossing, growing on bank
9	1	1	0	0	No	Yes	North of creek crossing, growing on bank
10	1	2	0	0	No	Yes	North of creek crossing, growing on bank
11	1	4	0	0	No	Yes	North of creek crossing, growing on bank, next to fallen oak, this elderberry is dead
12	UNK	2	0	0	No	Yes	North of creek crossing, growing on bank, directly smashed by fallen oak, still alive
13	1	1	0	0	No	Yes	North of creek crossing, smashed by branch of fallen oak, still alive
14	1	2 (>1")	0	0	No	Yes	North of creek crossing, < 3 ft. tall