APPENDIX H

Biotic Assessment: North Fork Site

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August 22, 2005

Analytical Environmental Services
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Sacramento, California 95814
916-447-3479

SUBJECT: Alternative North Fork Project Site Biotic Assessment, Project 2410-02

Dear Mr. Broussard:

The development potential of the alternative North Fork project site in Madera County is under review by Analytical Environmental Services (AES). The purpose of H. T. Harvey & Associates' analysis is to provide an overview of existing biological and regulated resources that may pose potential constraints to site development in support of AES's review in compliance with the National Environmental Policy Act (NEPA). H. T. Harvey & Associates conducted a reconnaissance-level survey of the alternative project site located east of North Fork, California on May 11 and 12, 2005 (Figure 1). The property was surveyed for potentially regulated habitats and its potential to support special-status species. A map of biotic and regulated habitats was prepared using a digital, orthophoto, aerial image (Figure 2). The following report describes the habitats on the site, identifies potential effects to biotic resources resulting from project development, describes recommended focused surveys, and discusses whether agency consultation is likely to be required.

SITE OVERVIEW

The North Fork project site is located approximately two miles east of North Fork, Madera County, California, on the edge of the Sierra National Forest (Figure 1). The 79-acre (31.9-ha) site consists of variably sloping, southwest facing, foothill woodland and interior live oak woodland habitats between approximately 2,850 feet and 3,450 feet (900 m and 1050 m) above mean sea level (Figures 2). A large area of open foothill woodland habitat exists between these two habitats, and is transitional in nature (Figure 3). The eastern portion of the property (Figure 4) is steeply sloping, heavily wooded, and has several tributaries flowing to Whiskey Creek, approximately 1,300 feet (0.4 km) to the south (Figures 2, 5). One of these tributaries is shown as an ephemeral stream on the United States Geological Service Cascadel Point (397B) 7-1/2 Minute Quad. The central portion of the property is gradually sloping, open, and contains areas of thinned foothill woodland. Two residences and a large meadow that was partially cultivated in the past also occur within the central portion of the property. The western portion of the property is steeply sloping, heavily wooded, and has several tributaries flowing to Willow Creek, which is located approximately one mile (1.6 km) southwest of the project site (Figure 2). One

of these tributaries to Willow Creek is depicted as an ephemeral stream on the Cascadel Point 7-1/2 Minute Quad. A man-made pond lies near the residence located near the center of the property (Figures 2, 6), and numerous springs were observed (Figure 7), although their presence is not indicated on the Cascadel Point 7-1/2 Minute Quad.

BIOTIC HABITATS

Foothill Pine Woodland

Vegetation. Approximately 22 acres (8.9 ha) of heavily wooded foothill pine woodland exists on the steeply sloped, eastern portion of the site (Figure 2). These slopes are dominated by foothill pine (*Pinus sabiniana*), interior live oak (*Quercus wislizenii*), and buckeye (*Aesculus californica*), which form a contiguous, multi-layered canopy. Various shrubs occur in the understory, including birch leaf mountain mahogany (*Cercocarpus betuloides* ssp. *betuloides*), yerba santa (*Eriodictyon californica*), California buckbrush (*Ceanothus cuneatus* ssp. *cuneatus*), and whiteleaf manzanita (*Arctostaphylos viscida*). A few native and non-native grasses also occur in the shrub-dominated openings, including California brome (*Bromus californicus*), melic grass (*Melica imperfecta*), soft chess brome (*Bromus hordeaceus*), and ripgut brome (*Bromus diandrus*). The understory is otherwise mostly shaded, and dominated extensively by poison oak (*Toxicodendron diversilobum*) and numerous forbs, including tincture plant (*Collinsia tinctoria*) and torilis (*Torilis arvensis*). Native wildflowers occurring in the understory include wallflower (*Erysimum capitatum* ssp. *capitatum*) and harlequin lupine (*Lupinus stiversii*).

The three tributaries of the Whiskey Creek watershed exhibited very little flowing water at the time of the survey; however, various pools were observed along each watershed reach. These tributaries are likely fed by springs located upslope (generally north) of the project site. Foothill pine woodland is contiguous across this watershed, but distinct riparian habitat is not present along any particular reach. Therefore, the tributaries are almost entirely shaded by foothill woodland trees and shrubs, as described above. Whereas wetland vegetation exists along each tributary, including common monkeyflower (*Mimulus guttatus*), miner's lettuce (*Claytonia* spp.), knotweed (*Polygonum* spp.), and greensheath sedge (*Carex feta*), these species only occur sporadically along each tributary and do not form contiguous wetland habitat.

Wildlife. Wildlife species typically associated with the foothill pine woodland habitat include the following year-round residents: Sierra Nevada ensatina (*Ensatina eschscholtzii platensis*), western fence lizard (*Sceloporus occidentalis*), southern alligator lizard (*Elgaria multicarinata*), common kingsnake (*Lampropeltis getula*), gopher snake (*Pituophis catenifer*), western rattlesnake (*Crotalus viridis*), Northern Pygmy Owl (*Glaucidium gnoma*), Western Screech-Owl (*Megascops kennicottii*), Anna's Hummingbird (*Calypte anna*), Acorn Woodpecker (*Melanerpes formicivorus*), Nuttall's Woodpecker (*Picoides nuttallii*), Hairy Woodpecker (*P .villosus*), Northern Flicker (*Colaptes auratus*), Hutton's Vireo (*Vireo huttoni*), Warbling Vireo (*V. gilvus*), Cassin's Vireo (*V. cassinii*), Western Scrub-Jay (*Aphelocoma californica*), Oak Titmouse (Oak Titmouse (*Baeolophus inornatus*), White-breasted Nuthatch (*Sitta carolinensis*), American Robin (*Turdus migratorius*), Purple Finch (*Carpodacus purpureus*), western gray squirrel (*Sciurus griseus*), Streator dusky-footed woodrat (*Neotoma fuscipes streatori*), North American deermouse (*Peromyscus maniculatus*), raccoon (*Procyon lotor*), striped skunk (*Mephitis*

mephitis), bobcat (*Lynx rufus*), and mule deer (*Odocoileus hemionus*). Neotropical migratory birds breed in this habitat and spend the winter in the neotropics, including: Western Wood-Pewee (*Contopus sordidulus*), Ash-throated Flycatcher (*Myiarchus cinerascens*), Orange-crowned Warbler (*Vermivora celata*), Black-headed Grosbeak (*Pheucticus melanocephalus*), and Lesser Goldfinch (*Carduelis psaltria*). Several bird species are winter visitors that breed in more northerly latitudes, or at higher elevations in the Sierra Nevada. Such species include: Red-breasted Nuthatch (*Sitta canadensis*), Yellow-rumped Warbler (*Dendroica coronata*), White-crowned Sparrow (*Zonotrichia leucophrys*), Golden-crowned Sparrow (*Z. atricapilla*), Cassin's Finch (*Carpodacus cassinii*), Pine Siskin (*Carduelis pinus*), and Evening Grosbeak (*Coccothraustes vespertinus*). Other birds migrate through the habitat, but breed at higher latitudes or higher elevations, including: Hammond's, Gray, and Dusky flycatchers, Black-throated Gray Warbler (*Dendroica nigrescens*), Hermit Warbler (*Dendroica occidentalis*), and Western Tanager (*Piranga ludoviciana*).

The larger trees, particularly those with cavities or exfoliating bark, provide potential roosting and breeding habitat for several species of bats, including the California myotis (*Myotis californicus*), western small-footed myotis (*Myotis ciliolabrum*), long-eared myotis (*Myotis evotis*), Yuma myotis (*Myotis yumanensis*), silver-haired bat (*Lasionycteris noctivagans*), big-brown bat (*Eptesicus fuscus*), and pallid bat (*Antrozous pallidus*). Other species that are expected to migrate through the site, and possibly roost but not breed, include the hoary bat (*Lasiurus cinereus*), western red bat (*Lasiurus blossevillii*), and Mexican free-tailed bat (*Tadarida brasiliensis*). Because tall cliffs occur in areas adjacent to the project site, western mastiff bat (*Eumops perotis*) and spotted bat (*Euderma maculatum*) may forage over the site, although no roosting habitat occurs on the site for these cliff-roosting species.

Open Foothill Pine Woodland

Vegetation. Approximately 27 acres (10.7 ha) of the central portion of the site consist of large openings of grassland between foothill pine woodland and thickets of associated understory shrub species (Figure 3). This area is ecotonal between the dense foothill woodland upslope and the dense interior live oak habitat downslope, and therefore has many species in common with the adjacent woodlands. Abundant grasses and forbs in openings in the central portion of the site including soft chess brome, Italian rye (*Lolium multiflorum*), rattail fescue (*Vulpia myuros*), wild oats (*Avena fatua*), fewflower clover (*Trifolium oliganthum*), and Indian clover (*Trifolium albopurpureum*). Numerous wildflowers also occur, such as: Indian paintbrush (*Castilleja exserta*), purple globe-lily (*Calochortus amoenus*), chinese houses (*Collinsa heterophylla*), California dandelion (*Agoseris grandiflora*), fringepod (*Thysanocarpus curvipes*), sky lupine (*Lupinus bicolor*), bird's eye gilia (*Gilia tricolor*), and fiestaflower (*Pholistoma auritum*). In addition to the foothill woodland and grassland species, other common woody species occurring in this area include Mexican elderberry trees (*Sambucus mexicanus*), flannelbush (*Fremontodendron californicum* ssp. *californicum*), blue oak (*Quercus douglasii*), valley oak (*Quercus lobata*), and ponderosa pine (*Pinus ponderosa*).

Two wetland areas occur within this habitat, the largest of which is spring-fed and located next to the central residence on the site (Figure 2). This wetland area is approximately 0.25 acre (0.1 ha) in size. The spring is located on a slope just north of the eastern residence and drains into a

man-made pond (Figure 6). A well is also located on this slope and may contribute to the hydrology of the wetland. The spring wetland is dominated primarily by meadow species, but the slope of the wetland is too steep to be considered meadow habitat that is ordinarily subject to flooding. The dominant wetland species include small wing sedge (*Carex microptera*), fragile sheath sedge (*Carex fracta*), slender rush (*Juncus tenuis*), meadow barley (*Hordeum brachyantherum*), knotweed, and common monkeyflower. Various upland grasses and forbs dominate the spring wetland, which suggests that the hydrology has ephemeral characteristics. A few other springs exist within the foothill woodland habitat, but have no associated wetland habitat.

The artificial pond (approximately 3,200 square feet (0.03 ha) located below this wetland was approximately two-feet (0.6-m) deep at the time of the survey (Figure 6). The pond exists by virtue of a small earthen dam built to collect runoff from the adjacent, upslope wetland, some of which enters through a buried culvert (Figure 6). The dam follows generally a north to south orientation (Figure 2). Water exits the dam and flows through a culvert (Figure 2), which is mostly buried by sediment, into one of the drainages flowing to Willow Creek. An overflow trench is located near the southern edge of the pond (Figure 6), but most of the water appears to percolate through the underlying sandy soil, as evidenced by saturation at the base of the dam. According to the residents on the site, water does not persist in the pond throughout the year. Vegetation within the pond was sparse except for a small patch of Baltic rush (*Juncus balticus*), sand-spurrey (*Spergularia* sp.), hyssop loosestrife (*Lythrum hyssopifolium*), and other upland species along the pond perimeter (Figure 6). Approximately 560 feet (170 m) downslope from the pond in a southwesterly direction within the same drainage is another, somewhat smaller meadow wetland (approximately 3,200 square feet (0.03 ha) (Figure 2). This wetland area is dominated by meadow wetland species similar to those in the wetland upstream.

Wildlife. The same species found in the foothill pine woodland are also typical of this habitat. However, additional species associated with larger and more open forest gaps and meadow interfaces include: Western Bluebird (*Sialia mexicana*), California Towhee (*Pipilo crissalis*), Lazuli Bunting (*Passerina amoena*), Lark Sparrow (*Chondestes grammacus*), and Bullock's Oriole (*Icterus bullockii*). Furthermore, larger species of bats, such as the big brown bat (*Eptesicus fuscus*) and hoary bat (*Lasiurus cinereus*) will forage primarily in these open habitats containing large meadows.

Interior Live Oak Woodland

Vegetation. Approximately 30 acres (12.2 ha) of the western portion of the site consist of dense interior live oak woodland forming contiguous canopy across three watershed drainages. This habitat is dominated primarily by interior live oak and buckeye; foothill pine, however, is conspicuously absent in this area. The understory is mostly impenetrable due to a high density of stiff-branched California buckbrush (*Ceanothus cuneatus*), whiteleaf manzanita (*Arctostaphylos viscida*), and poison oak (*Toxicodendron diversilobum*). Other common understory species associated with interior live oak woodland habitat include mountain misery (*Chamaebatia foliolosa*), bedstraw (*Galium* spp.), and tincture plant (*Collinsia tinctoria*). A few openings caused by large rock outcrops exist along the ridges between these drainages. These areas are dominated by many of the herbaceous species occurring in the open foothill woodland

upslope, and other species commonly associated with rock outcrops. Such species include twining snakelily (*Dichelostemma volubile*), narrowleaf mule ears (*Wyethia angustifolia*), phacelia (*Phacelia* sp.), delphinium (*Delphinium* sp.), purple sanicle (*Sanicula bipinnatifida*), and slender cottonweed (*Micropus californicus*).

Water was flowing freely in each of the three drainages at the time of the survey, but will likely diminish in the summer. Many reaches of the drainages exist between large rock outcrops or are underlain by bedrock, and therefore support little to no vegetation. However, some reaches where sediment has collected support wetland vegetation similar to those drainages in the foothill woodland upslope, including common monkeyflower and miner's lettuce. None of these areas were large enough to be considered distinct wetland habitat.

Wildlife. The same species found in foothill pine woodland are also typical of this habitat. However, additional species associated with interior live oak woodlands include: Phainopepla (*Phainpepla nitens*), Blue-gray Gnatcatcher (*Polioptila caerulea*), and Rufous-crowned Sparrow (*Aimophila ruficeps*).

SPECIAL-STATUS PLANT AND WILDLIFE SPECIES

Special-status Species Regulation Overview

Federal and state endangered species legislation gives special status to several plant and animal species known to occur in the vicinity of the project site. In addition, state resource agencies and professional organizations, whose lists are recognized by agencies when reviewing environmental documents, have identified as sensitive some species occurring in the vicinity of the project site. Such species are referred to collectively as "species of special status" and include plants and animals listed, proposed for listing, or candidates for listing as threatened or endangered under the Federal Endangered Species Act (ESA) or the California Endangered Species Act (CESA); animals listed as "fully protected" under the California Fish and Game Code; animals designated as "Species of Special Concern" by the CDFG; and plants listed as rare or endangered by the CNPS in the *Inventory of Rare and Endangered Plants of California* (2001).

ESA provisions protect federally listed threatened and endangered species and their habitats from unlawful take. Under the ESA, "take" is defined as to "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any of the specifically enumerated conduct." The U.S. Fish & Wildlife Service's (USFWS) regulations define harm to mean "an act which actually kills or injures wildlife." Such an act "may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering" (50 CFR § 17.3). Activities that may result in "take" of individuals are regulated by the USFWS. The USFWS produced an updated list of candidate species May 11, 2005 (USFWS 2005; 50 CFR Part 17). Candidate species are not afforded any legal protection under FESA; however, candidate species typically receive special attention from federal and state agencies during the environmental review process.

Provisions of CESA protect state-listed threatened and endangered species. CDFG regulates activities that may result in "take" of individuals (*i.e.*, "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill"). Habitat degradation or modification is not expressly included in the definition of "take" under the California Fish and Game Code. Additionally, the California Fish and Game Code contains lists of vertebrate species designated as "fully protected" (California Fish & Game Code §§ 3511 [birds], 4700 [mammals], 5050 [reptiles and amphibians], 5515 [fish]). Such species may not be taken or possessed.

In addition to federally and state-listed species, the CDFG also has produced a list of Species of Special Concern to serve as a "watch list." Species on this list either are of limited distribution or the extent of their habitats has been reduced substantially, such that threat to their populations may be imminent. Species of Special Concern may receive special attention during environmental review, but they do not have statutory protection. USFWS also uses the label Species of Concern, an informal term that refers to those species that might be in need of concentrated conservation actions. Species of Concern receive no legal protection as a result of their designation as Species of Special Concern, and the use of the term does not necessarily mean that the species will eventually be proposed for listing as a threatened or endangered species. However, most, if not all, of these species are currently protected by state and federal laws.

Raptors (*e.g.*, eagles, hawks, and owls) and their nests are protected under both federal and state regulations. The federal Migratory Bird Treaty Act[1] (MBTA) prohibits killing, possessing, or trading in migratory birds except in accordance with regulations prescribed by the Secretary of the Interior. This act encompasses whole birds, parts of birds, and bird nests and eggs. Birds of prey are protected in California under the State Fish and Game Code.[2] Section 3503.5 of the code states that it is "unlawful to take, possess, or destroy any birds in the order Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto." Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings, or otherwise lead to nest abandonment. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered "take" by the CDFG.

Vascular plants listed as rare or endangered by the CNPS that may not have designated status under state endangered species legislation are defined as follows:

- List 1A. Plants considered by the CNPS to be extinct in California.
- List 1B. Plants rare, threatened, or endangered in California and elsewhere.
- List 2. Plants rare, threatened, or endangered in California, but more numerous elsewhere.
- List 3. Plants about which we need more information – A review list.

[1] 16 U.S.C., Sec. 703, Supp. I, 1989.
[2] Section 3503.5, 1992.

Special-status Plant Species Assessment

Reconnaissance-level surveys were conducted on May 11 and 12, 2005 for special-status plant species. Special-status species include state and/or federally threatened or endangered species, federal candidate species, and California Native Plant Society List 1B species blooming at the time of the survey, and for habitats capable of supporting them. A query of the California Natural Diversity Database (CNDDB 2005) was performed to identify special-status plant species potentially occurring in the project vicinity in the USGS Cascadel Point quadrangle and surrounding quadrangles. The habitats specified in the query included valley and foothill grasslands, cismontane woodlands, and freshwater marsh. These habitats were chosen for the similarity of their constituent species to those on the site. In addition, the California Native Plant Society Inventory (CNPS 2001) was used to identify and assess additional species occurring in similar habitats in Madera County.

Thirty-five special-status plant species were identified in these queries, twenty of which were dismissed due to the absence of suitable habitat (e.g., lack of clay and/or alkaline soils). These include federally endangered species located within the Cascadel Point 7-1/2 minute Quad. The special-status plant species considered but rejected in this assessment are listed in Appendix A. The remaining fifteen species potentially occurring on the project site include Mariposa pussypaws (*Calyptridium pulchellum*), Sierra suncup (*Camissonia sierrae* ssp. *sierrae*), tree anemone (*Carpenteria californica*), Fresno mat (*Ceanothus fresnensis*), Small's southern clarkia (*Clarkia australis*), flaming trumpet (*Collomia rawsoniana*), gypsum-loving larkspur (*Delphinium gypsophilum* ssp. *gypsophilum*), Madera linanthus (*Linanthus serrulatus*), orange lupine (*Lupinus citrinus* var. *citrinus*), King's River monkeyflower (*Mimulus acutidens*), slender-stalked monkeyflower (*Mimulus gracilipes*), oak-leaved nemophila (*Nemophila parviflora* var. *quercifolia*), Farnsworth's jewel-flower (*Streptanthus farnsworthianus*), oval-leaved viburnum (*Viburnum ellipticum*), and Hall's mule-ears (*Wyethia elata*). Of these, the Mariposa pussypaws and tree anemone are federally threatened and state threatened respectively, whereas the other species are listed only by CNPS. Four of these special-status plant species have been documented as occurring within a 10-mile radius of the project site (CNDDB 2005), including tree anemone, orange lupine, flaming trumpet, and slender-stalked monkeyflower.

The presence of these special-status plants could constrain development. Some of these species may occur on the project site due to the relatively undisturbed and ecotonal nature of habitats comprising the site. To more fully assess whether any of these special-status species occur on the project site and would constrain development, protocol-level surveys are recommended.

The only potentially occurring sensitive habitat identified in the CNDDB query was northern basalt-flow vernal pool, which was not observed on the site. Because most of the site has slopes between 15 and 45 percent, and is entirely underlain by highly permeable, sandy loam soils of the Ahwahnee, Auberry, and Holland series, vernal-pool habitat and associated species are not expected to occur on the site.

Special-status Wildlife Species Assessment

Reconnaissance-level surveys were conducted on May 11 and 12, 2005 for special-status wildlife species. Wildlife species observed during the reconnaissance-level surveys are listed in Appendix C. No special-status wildlife species were detected during the reconnaissance-level survey and no proposed or designated critical habitat occurs within the project area. Nine species listed as endangered or threatened under ESA or CESA were reviewed for their potential for occurrence within the project area (Appendix B). Five of these species were determined to have no potential for occurrence within the project area due to the lack of suitable habitat. The remaining four endangered or threatened species potentially occurring on the project site include Bald Eagle (*Haliaeetus leucocephalus*), American Peregrine Falcon (*Falco peregrinus anatum*), Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*), and California red-legged frog (*Rana aurora draytonii*). Bald Eagles and American Peregrine Falcons may occasionally fly over the project area, but no suitable foraging or breeding habitat occurs within the project area or the vicinity. Therefore, these species would not constrain development and no further surveys are warranted.

California red-legged frogs have been extirpated from the region. Therefore, this species would not constrain development.

Elderberry shrubs (*Sambucus* species), which are a host plant of valley elderberry longhorn beetles (*Desmocerus californicus dimorphus)*, are present throughout the project area. No exit holes made by the beetles were observed during the reconnaissance-level surveys, but searching for exit holes on each elderberry shrub on the project site was beyond the scope of this study. The presence of the valley elderberry longhorn beetle's host plant and potential occurrence of the species on, and adjacent to, the project site have the potential to constrain development. Adverse effects to the beetle may be avoided if the proposed project is designed to avoid elderberry shrubs on, or adjacent to, the project site by at least 100 feet (refer to Appendix D: USFWS Conservation Guidelines for the Valley Elderberry Longhorn Beetle). Buffer zones must be protected during and after construction from any adverse project-related effects and effects from any encroachment into a buffer zone must be corrected. If complete avoidance is not possible, a set of additional mandatory protective measures is triggered and agency consultation is required. In this case, the USFWS must be consulted before any disturbance occurs within the buffer zone. Prior to consultation, surveys following the USFWS's conservation guidelines (Appendix D) will be required to identify site-specific constraints and potential mitigation requirements.

The Pacific fisher (*Martes pennanti pacifica*) was accorded federal candidate status on April 8, 2004 (USFWS 2004). A candidate is a species for which there is sufficient information to support a proposal to list the species under ESA as threatened or endangered, but the preparation of a proposal to list is precluded by higher priority listing actions. Candidate species do not receive the same federal protection as listed species, but state and federal agencies proposing activities within the historic range of the fisher are encouraged to give consideration to the fisher during the environmental planning process. Fishers are known to occupy forests with high canopy closure, large trees, and a high percentage of conifers. The project area and its vicinity lack a high percentage of conifers, which is indicative of the elevation of the project site. Radio-collared fishers on the Sierra National Forest have been detected within riparian areas below

3,000 feet that where contiguous with suitable, occupied habitat (Brian Boroski, personal observation). A focused assessment by a qualified mammalogist familiar with the ecology and habitat requirements of fishers is recommend to support the determination that the project is unlikely to adversely affect the species.

Forty-five species identified as California Species of Special Concern, USFWS Birds of Conservation Concern, and/or having designated priority by the Western Bat Working Group were reviewed for their potential for occurrence on the project site (Appendix B). Of these 45 species, 16 were determined to have no potential for occurrence on the project site due to the lack of suitable habitat. The remaining 29 consist of one amphibian, 2 reptiles, 12 birds, and 14 bats.

The foothill yellow-legged frog (*Rana boylii*) has a moderate potential to occur on the project site. Suitable habitat exists on the project site, but foothill yellow-legged frogs are rare in the region. Surveys for foothill yellow-legged frogs are recommended to confirm their presence or absence on the project site.

Western pond turtles (*Clemmys marmorata*) and California horned lizards (*Phrynosoma coronatum frontale*) have a low probability of occurrence on the project site. Only marginal aquatic habitat exists for the western pond turtle and the vegetative cover is much denser than that preferred by California horned lizards. Therefore, these species would not constrain development and no further surveys are recommended.

Of the 12 avian species identified as California Species of Special Concern or USFWS Birds of Conservation Concern, seven have a low probability of occurring on the project site because the project area is outside of their primary elevational range and/or the habitat is marginal for them. Those seven species are Golden Eagle (*Aquila chrysaetos*), Northern Goshawk (*Accipiter genilis*), California Spotted Owl (*Strix occidentalis occidentalis*), Vaux's Swift (*Chaetura vauxi*), Lewis's Woodpecker (*Melanerpes lewis*), Olive-sided Flycatcher (*Contopus cooperi*), and Purple Martin (*Progne subis*). The limited potential to adversely affect these species is not expected to constrain development.

Five of the 12 avian species identified as California Species of Special Concern or USFWS Birds of Conservation Concern have a moderate potential to occur on the project site; those being Cooper's Hawk (*Accipiter cooperii*), Merlin (*Falco columbarius*), Long-eared Owl (*Asio otus*), Rufous Hummingbird (*Selasphorus rufus*), and Lawrence's Goldfinch (*Carduelis lawrencei*). Merlins and Rufous Hummingbirds do not breed in California. Reductions in foraging habitat for these species would not constrain development. Cooper's Hawk, Long-eared Owl, and Lawrence's Goldfinch have the potential to nest and forage on the project site. Nesting and foraging habitat of similar quality is regionally abundant and the loss of habitat for these species would not constrain development.

Fourteen bat species, classified as California Species of Special Concern or having designated priority by the Western Bat Working Group, have the potential to occur on the project site. Hoary (*Lasiurus cinereus*), western red (*Lasiurus blossevillii*), Mexican free-tailed (*Tardarida brasiliensis*), fringed myotis (*Myotis thysanodes*), western mastiff (*Eumops perotis*), long-legged

myotis (*Myotis volans*), and spotted bats (*Euderma maculatum*) are not expected to breed on the project site and loss of foraging habitat for these species would not constrain development.

Western small-footed myotis (*Myotis ciliolabrum*), California myotis (*Myotis californicus*), long-eared myotis (*Myotis evotis*), silver-haired (*Lasionycteris noctivagans*), Pallid (*Antrozous pallidus*), big brown (*Eptesicus fiscus*), and Yuma myotis bats (*Myotis yumanensis*) have the potential to breed on the project site. Surveys for bats were not conducted on the project site during reconnaissance-level surveys. Removing buildings and trees could potentially result in the direct loss of a maternity colony. The direct loss of individuals in a hibernaculum (winter roost) could eliminate an entire colony due to the loss of the pregnant females. A survey for roosting bats should be conducted prior to any removal of buildings, or removal of trees ≥12 inches in diameter at 4.5 feet above grade. The survey should be conducted by a qualified bat biologist (i.e., a biologist holding a CDFG collection permit and a Memorandum of Understanding with CDFG allowing the biologist to handle and collect bats). If no active roosts were found, then no further action would be warranted. If a maternity roost were present, a qualified bat biologist would determine the extent of construction-free zones around active nurseries, because this species can abandon young when disturbed. CDFG should also be notified of any active nurseries within the construction zone.

If active maternity roosts or hibernacula are found on the project site, the project could be redesigned to avoid the loss of the building or tree occupied by the roost. If an active nursery roost is located and the project cannot be redesigned to avoid removal of the occupied tree or structure, demolition of that tree should commence before maternity colonies form (i.e., prior to March 1) or after young are volant (flying) (i.e., after July 31). The disturbance-free buffer zones described above should be observed during the maternity roost season (March 1 - July 31).

If a non-breeding bat hibernaculum or winter roost is found in a tree scheduled for removal, the individuals should be safely evicted under the direction of a qualified bat biologist (as determined by a Memorandum of Understanding with CDFG). Trees with roosts that need to be removed should first be disturbed at dusk, just prior to removal that same evening, to allow bats to escape during the darker hours.

REGULATED HABITATS

Army Corps of Engineers Jurisdiction

The project area was surveyed for elements that may meet the regulatory definition of "Waters of the United States" (*i.e.*, jurisdictional waters) subject to the jurisdiction of the U.S. Army Corps of Engineers (USACE). These may include all waters used, or potentially used, for interstate commerce, including all waters subject to the ebb and flow of the tide, all interstate waters, all other waters (intrastate lakes, rivers, streams, mudflats, sandflats, playa lakes, natural ponds, etc.), all impoundments of waters otherwise defined as "Waters of the U.S.," tributaries of waters otherwise defined as "Waters of the U. S.," the territorial seas, and wetlands adjacent to "Waters of the U.S." (33 CFR, Part 328, Section 328.3).

Areas typically not considered to be jurisdictional waters include non-tidal drainage and irrigation ditches excavated on dry land, artificially-irrigated areas, artificial lakes or ponds used for irrigation or stock watering, small artificial water bodies such as swimming pools, and water-filled depressions (33 CFR, Part 328).

Of the six watershed drainages observed on the project site, only two are depicted as USGS blue-line stream courses on the USGS Cascadel Point quadrangle. These include the unnamed drainage just east of the central residence on the project site that flows to Whiskey Creek, and a similar drainage just north of the southern residence on the project site that flows to Willow Creek (Figure 2). Both of these drainages are steeply sloping, have prominent topographic incisions, and have ephemeral spring and runoff hydrology. Because these drainages are also contiguous with downstream Waters of the U.S., they are considered potentially jurisdictional 'other waters' as defined by USACE. The other four ephemeral drainages are contiguous with these blue-line stream courses, are similar in character, and are therefore also considered potential 'other waters'. The pond located below the central residence (Figures 2,6) lies within the blue-line watershed flowing to Willow Creek, and is also considered potential other waters.

Wetland areas typically support an assemblage of plant species different from surrounding, drier habitats (Mason 1957). Species growing in wetlands are often referred to as hydrophytic (water-loving) species. Although surface water is often visible in wetlands, standing water may not be present during some periods of the year. Because many wetland plant species only grow in such habitats, they are reliably indicative of habitats typically designated as wetlands.

Hydrophytic plants were scattered throughout the drainages on the project site. However, they only form distinct wetland habitat in two locations within the blue-line drainage flowing to Willow Creek (Figures 1, 2). These include the spring-fed wetland on the slope next to the central residence, and a meadow wetland in a level area farther downstream (Figure 2). The dominant wetland species in these wetlands and the drainages include small wing sedge, fragile sheath sedge, slender rush, meadow barley, knotweed, common monkeyflower, miners lettuce, knotweed, and greensheath sedge, many of which are obligate perennials.

Soils associated with wetlands areas typically have one or more characteristics that reflect their wetlands nature [NRSC 2005]. None of the soils underlying the wetlands on the project site are indicated as being hydric according to the state list of hydric soils [USDA 2005]. However, the extended saturation resulting from the spring hydrology appears to satisfy one of the criteria of hydric soils [NRCS 2005]. Therefore, both of these wetland areas are expected to be potential USACE jurisdictional wetlands.

California Department of Fish and Game Jurisdiction

The project area was also examined for areas containing a definable bed, bank, or channel that could be under the regulatory jurisdiction of CDFG (1994). CDFG potentially extends the definition of stream to include "intermittent and ephemeral streams, rivers, creeks, dry washes, sloughs, blue-line streams mapped on USGS quadrangles, and watercourses with subsurface flows." "Canals, aqueducts, irrigation ditches, and other means of water conveyance can also be

considered streams if they support aquatic life, riparian vegetation, or stream-dependent terrestrial wildlife" (CDFG 1994).

All of the drainages on the project site flow into USGS blue-line stream courses, and were flowing at the time of the survey. Water is expected to flow in at least the downstream reaches of these drainages year-round. As such, CDFG may have jurisdiction over all of the drainages. The lateral limits of CDFG jurisdiction is expected to be confined within the top-of-bank of each drainage, because the drainages are dominated by contiguous foothill woodland and interior live oak woodland habitat that contain few riparian tree species.

Regulated Habitat Summary

Based on the clear hydrologic connection between the drainages on the project site and Whiskey Creek and Willow Creek, all drainages meet the regulatory definition of waters of the U.S. Any activities conducted within this drainage feature may be under the regulatory jurisdiction of the USACE under Section 404 of the Clean Water Act. The drainages may also be within the jurisdiction of the Regional Water Quality Control Board (RWQCB) under Section 401 of the Clean Water Act and within the jurisdiction of the CDFG under Section 1600 of the California Fish and Game code. Activities occurring within the bed and banks of the drainages would require either a Nationwide Permit or an Individual Permit from the USACE, depending on the nature of proposed impacts. Such activities may also require a Section 401 Water Quality Certification permit and a Streambed Alteration Agreement with CDFG. Furthermore, activities within the creek may require compliance with USACE Nationwide Permit Conditions regarding endangered species.

Avoiding the regulated habitat, while constraining, would prevent the project proponent from having to obtain state and federal permits associated with regulated habitats. Preparing the permit applications and obtaining approval from federal and/or state agencies is a time consuming process and could delay construction by several months or longer.

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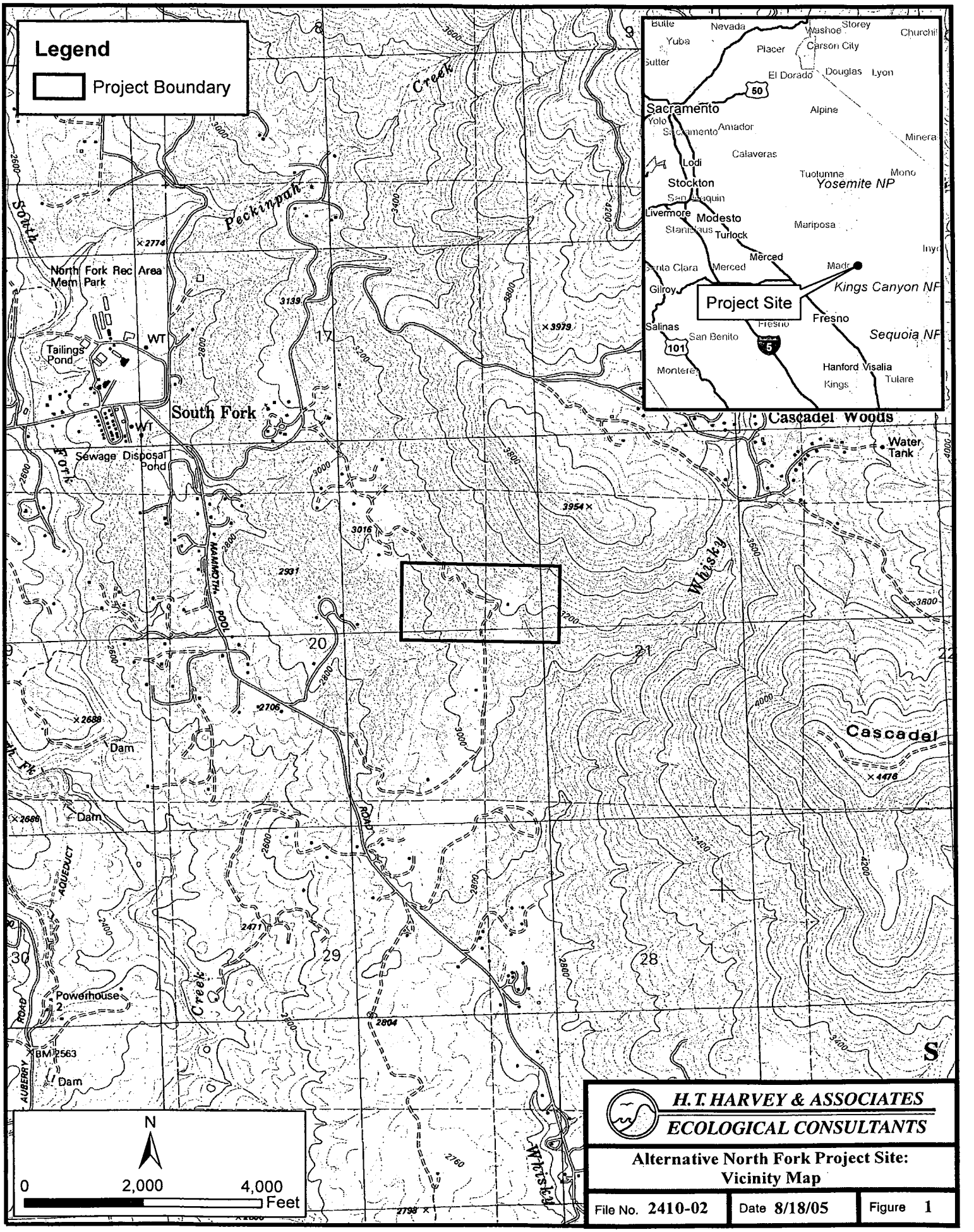
Feel welcome to contact me if you have questions regarding this assessment.

Sincerely,

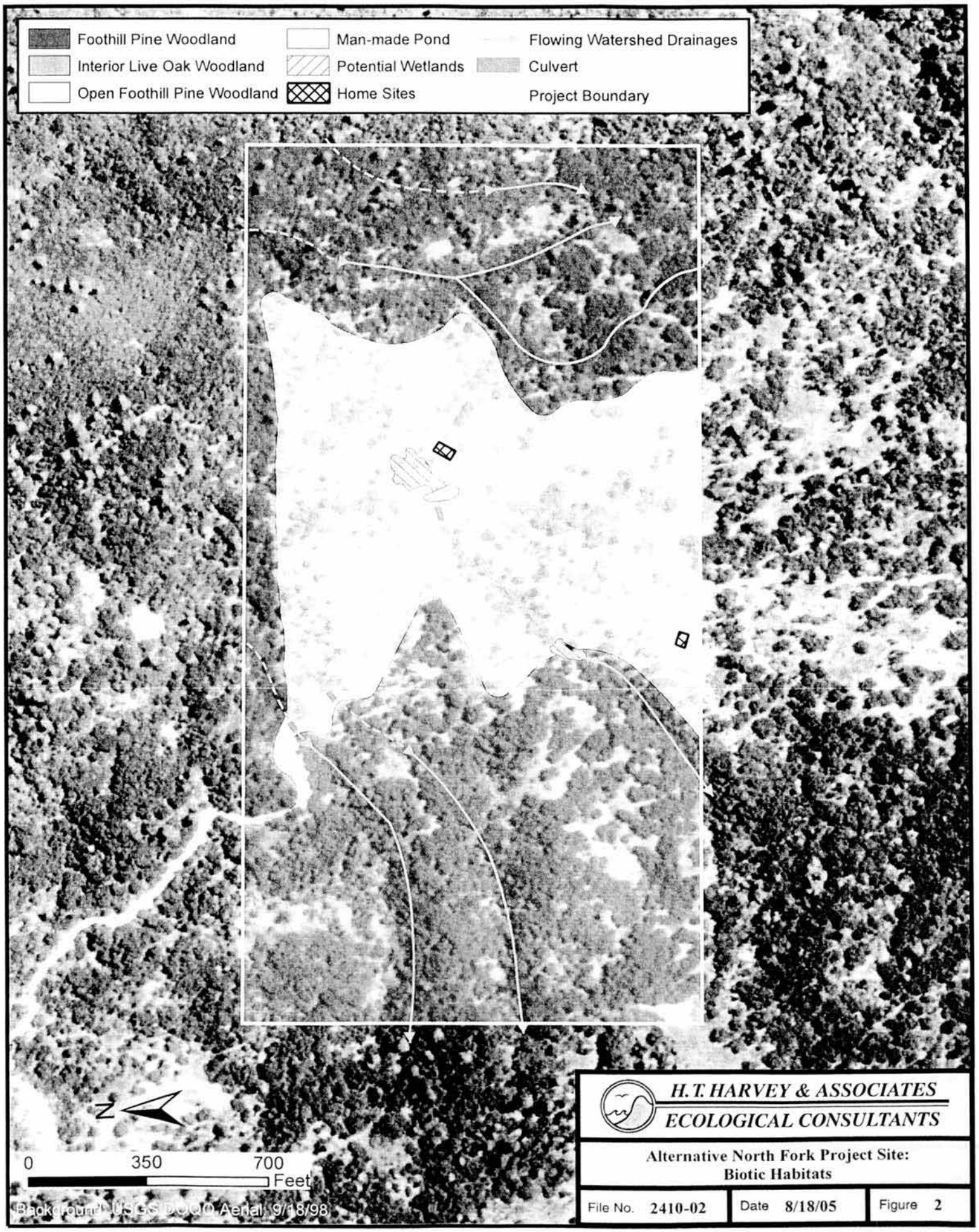
Brian B. Boroski, Ph.D.
Project Manager



H.T. HARVEY & ASSOCIATES
ECOLOGICAL CONSULTANTS

Alternative North Fork Project Site: Vicinity Map

File No. 2410-02	Date 8/18/05	Figure 1



H.T. HARVEY & ASSOCIATES
ECOLOGICAL CONSULTANTS

Alternative North Fork Project Site: Biotic Habitats

File No. 2410-02	Date 8/18/05	Figure 2

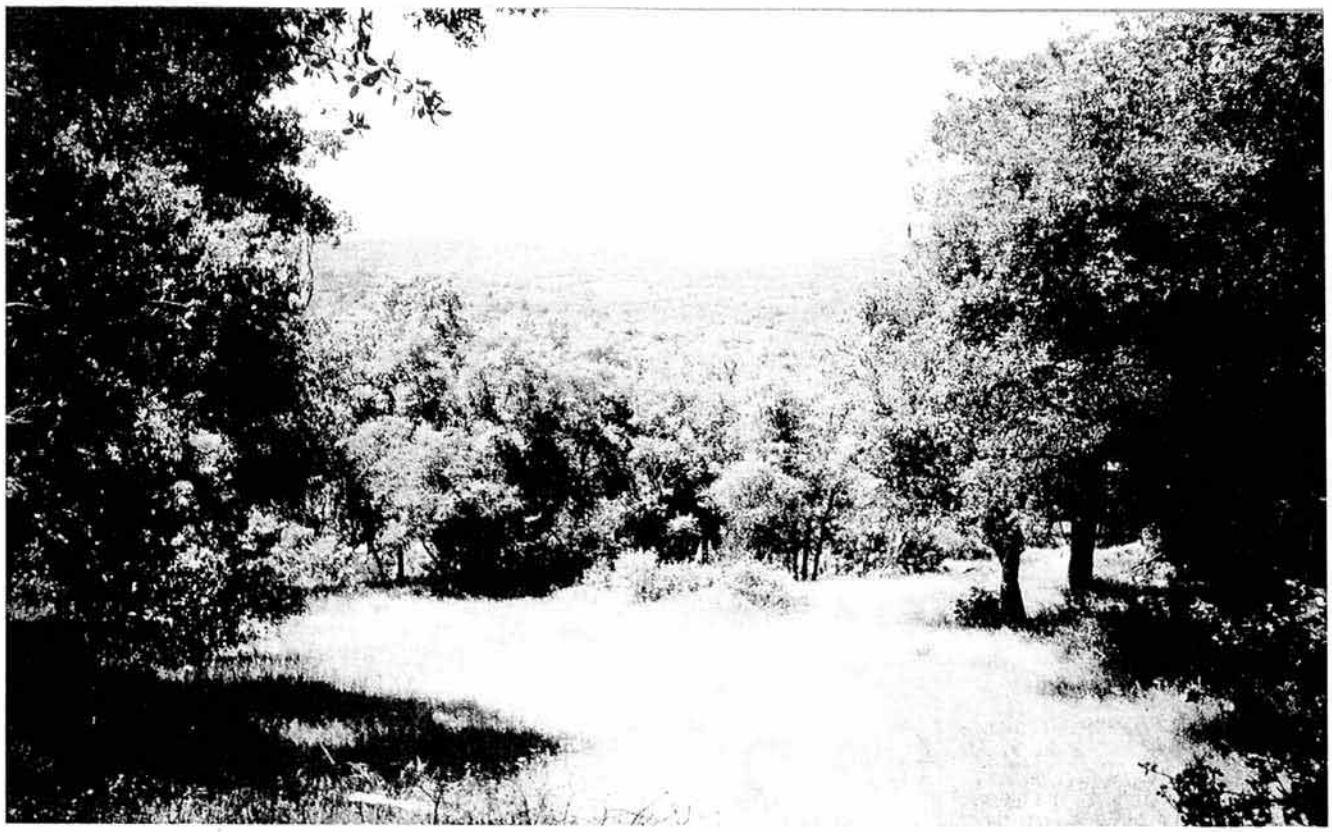


Figure 3. Oak woodlands and meadows on southwest-facing slopes.

Figure 4. Heavily wooded, steep, south-facing slopes on the eastern side of the site.

Figure 5. A small, ephemeral, tributary observed on the site.

Figure 6. Artificial pond located west of one of the central (more northerly) home site.

Figure 7. One of many small springs situated on site.

Appendix A. Special-status Plant Species Considered but Rejected for Occurrence at the North Fork Project Site.

SCIENTIFIC NAME	COMMON NAME	Potential Habitat on Site too Degraded	General Habitat, Micro-habitat, and/or Genus not Observed on Site	Lack of Strongly Alkaline Soils	Other Edaphic Requirements	Outside the Elevation/Known Geographic Range	Associate Species Absent	Believed to Be Extirpated
Atriplex cordulata	heartscale		X	X		X		
Atriplex depressa	brittlescale		X	X		X		
Atriplex minuscula	lesser heartscale		X	X		X		
Atriplex subtilis	subtle orache		X			X		
Calycadenia hooveri	Hoover's calycadenia					X		
Carpenteria California	carpenteria							
Castilleja campestris ssp. *succulenta*	succulent owl's-clover		X			X		
Collomia rawsoniana	Rawson's flaming-trumpet							
Cordylanthus palmatus	palmate-bracted bird's-beak		X	X		X		
Cryptantha hooveri	Hoover's cryptantha		X			X		
Cypridedium montanum	mountain lady's slipper		X					
Delphinium hansenii ssp. *ewanianum*	Ewan's larkspur					X		
Eryngium spinosepalum	spiny-sepaled button-celery		X		X	X		
Goodmania luteola	golden goodmania		X	X				
Gratiola hetersosepala	Boggs Lake hedge-hyssop		X		X			
Lilium humboldtii ssp. *humboldtii*	Humbolt lily		X					
Linanthus grandiflorus	large-flowered linanthus		X					
Lupinus citrinus var. *citrinus*	orange lupine							
Monardella candicans	Sierra monardella					X		

Appendix A. Special-status Plant Species Considered but Rejected for Occurrence at the North Fork Project Site.								
SCIENTIFIC NAME	**COMMON NAME**	**Potential Habitat on Site too Degraded**	**General Habitat, Micro-habitat, and/or Genus not Observed on Site**	**Lack of Strongly Alkaline Soils**	**Other Edaphic Requirements**	**Outside the Elevation/Known Geographic Range**	**Associate Species Absent**	**Believed to Be Extirpated**
Orcuttia inaequalis	San Joaquin Valley Orcutt grass		X		X	X		
Potamogeton robbinsii	Robbins's pondweed		X			X		
Pseudobahia bahiifolia	Hartweg's golden sunburst				X	X		

Appendix B. Status and Potential Occurrence of Special-Status Animal Species on the North Fork Project Site.

NAME	*STATUS	HABITAT	POTENTIAL FOR OCCURRENCE ON SITE
Federal or State Endangered Species			
Bald Eagle *Haliaeetus leucocephalus* (nesting and wintering)	SE, FT, FPD	Requires large bodies of water, or free-flowing rivers with abundant fish and adjacent snags and large trees for perching and nesting.	Low: breeding records from the region; no suitable breeding or foraging habitat within ½ mile of the project area
Willow Flycatcher *Empidonax traillii*	SE	Wet meadow and montane riparian habitats; dense willow thickets required for nesting and roosting.	None: below species' elevational range in the Sierra Nevada; no suitable breeding habitat
American Peregrine Falcon *Falco peregrinus anatum* (nesting)	SE	Forages in many habitats; requires cliffs for nesting.	Low: breeding records from the region; no suitable breeding or foraging habitat within ½ mile of the project area
Federal or State Threatened Species			
Valley elderberry longhorn beetle *Desmocerus californicus dimorphus*	FT	Elderberry trees in the Central Valley.	Moderate: at upper elevational limit of species' range; suitable habitat occurs in project area
Delta smelt *Hyupmesus transpacificus*	FT	Shallow, tidal backwater sloughs, free-flowing rivers	None: no suitable habitat
Central Valley steelhead *Oncorhyunchus mykiss*	FT	Cool streams with suitable spawning habitat and conditions allowing migration.	None: no suitable habitat
California red-legged frog *Rana aurora draytonii*	FT	Streams, freshwater pools and ponds with overhanging vegetation.	Very Low: thought to be extirpated from region
Swainson's Hawk *Buteo swainsoni*	ST	Breeds in stands with few trees in juniper-sage flats, riparian areas, and oak savannah; forages in adjacent livestock pasture, grassland, or grain fields.	None: out of species' elevational range and no suitable habitat
Sierra Nevada red fox *Vulpes vulpes necator*	ST	Red fir and lodgepole pine forests in the sub-alpine zone and alpine fell-fields of the Sierra Nevada.	None: no suitable habitat; outside of species' elevational range
Federal Candidate Species			
Pacific fisher *Martes pennanti pacifica*	FC	Range widely in montane forested regions, preferring mixed conifer forests.	Low: marginally suitable habitat; at low end of species' elevational range in the Sierra Nevada
Species of Special Concern			
Kernbrook lamprey *Lampetra hubbsi*	CSC	Free-flowing rivers	None: no suitable habitat
Sacramento splittail *Pogonichthys macrolepidotus*	CSC	Shallow, dead-end sloughs with submerged vegetation.	None: out of species' elevational range and no suitable habitat

Appendix B. Status and Potential Occurrence of Special-Status Animal Species on the North Fork Project Site.

NAME	*STATUS	HABITAT	POTENTIAL FOR OCCURRENCE ON SITE
Longfin smelt *Spirinichus thaleichthys*	CSC	Sloughs of Suisun Bay and Delta	None: out of species' elevational range and no suitable habitat
Foothill yellow-legged frog *Rana boylii*	CSC	Rocky streams in a variety of habitats.	Moderate: aquatic habitat occurs on the project area
Western pond turtle *Clemmys marmorata*	CSC	Permanent or nearly permanent water in a variety of habitats.	Low: marginal aquatic habitat occurs in or near project area; and upland habitats on the site are generally too far from suitable aquatic habitat
California horned lizard *Phrynosoma coronatum frontale*	CSC	Frequents a wide variety of habitats; most common in lowlands along sandy washes with scattered low bushes.	Low: suitable habitat occurs on project site; within species' range; no records from project area.
Golden Eagle *Aquila chrysaetos* (nesting and wintering)	CSC	Breeds on cliffs or in large trees or electrical towers, forages in open areas.	Low: may forage in area; no suitable nest sites on or within ½ mile of project area
Osprey *Pandion haliaetus* (nesting)	CSC	Large snags and open trees near large bodies of water.	None: breeding records from the region; no suitable breeding or foraging habitat within ½ mile of the project area
Cooper's Hawk *Accipiter cooperii*	CSC	Nests in woodlands, forages in many habitats in winter and migration.	Moderate: suitable breeding and foraging habitat; did not observe species during field survey
Northern Goshawk *Accipiter genilis* (nesting)	BCC	Breeds in dense, mature conifer and deciduous forests, interspersed with meadows, other openings and riparian areas; nesting habitat includes north-facing slopes near water.	Low: may forage in area during winter or migration periods; outside of elevational range of species' breeding range
Merlin *Falco columbarius* (wintering)	CSC	Uses many habitats in winter and migration.	Moderate: does not breed in California; project area has suitable foraging habitat
Long-billed Curlew *Numenius americanus* (nesting)	CSC	Upland shortgrass prairies and wet meadows are used for nesting; coastal estuaries, open grasslands, and croplands are used in winter.	None: no suitable habitat; outside of species' elevational range
California Spotted Owl *Strix occidentalis occidentalis*	CSC, BCC	Dense, multi-layered mixed conifer, redwood, and Douglas-fir habitats with large overstory trees.	Low: marginally suitable habitat; at low end of species' elevational range in the Sierra Nevada
Flammulated Owl *Otus flammeolus*	BCC	Open yellow pine forests, Douglas fir and true fir forests	None: below species' elevational range in the Sierra Nevada; no suitable breeding

Appendix B. Status and Potential Occurrence of Special-Status Animal Species on the North Fork Project Site.

NAME	*STATUS	HABITAT	POTENTIAL FOR OCCURRENCE ON SITE
Long-eared Owl *Asio otus* (nesting)	CSC	Dense riparian and live oak thickets near meadow edges, and nearby woodland and forest habitats; also found in dense conifer stands at higher elevations.	Moderate: no nesting records for area; there is suitable nesting and foraging habitat in the project area; did not observe species during field survey
Western Burrowing Owl *Athene cunicularia hypugea* (burrow sites)	CSC, BCC	Grasslands and ruderal habitats.	None: no suitable breeding habitat; outside of species' elevational range
Black Swift *Cypseloides niger* (nesting)	CSC	Nests in moist crevice or cave or sea cliffs above the surf, or on cliffs behind, or adjacent to, waterfalls in deep canyons; forages widely over many habitats.	None: no suitable breeding habitat
Vaux's Swift *Chaetura vauxi* (nesting)	CSC	Nests in snags in coastal and montane coniferous forests or, occasionally, in chimneys; forages aerially.	Low: below species' primary elevational range in the Sierra Nevada
Rufous Hummingbird *Selasphorus rufus*	BCC	Migrates through all terrestrial habitats	Moderate: does not breed in California; may occur during fall migration
Lewis's Woodpecker *Melanerpes lewis*	BCC	Winters in blue and valley oak savanna; breeds in dry open yellow pine forests	Low: above species' primary elevational range in the Sierra Nevada; marginal habitat on site
White-headed Woodpecker *Picoides albolarvatus*	BCC	Resident in montane pine and fir forests	None: below species' elevational range in the Sierra Nevada; no suitable habitat
Williamson's Sapsucker *Sphyrapicus thyroideus*	BCC	Resident in montane pine and fir forests	None: below species' elevational range in the Sierra Nevada; no suitable habitat
Olive-sided Flycatcher *Contopus cooperi*	BCC	Breeds in coniferous forests	Low: below species' elevational range in the Sierra Nevada; no suitable breeding habitat; may occur during migration
Loggerhead Shrike *Lanius ludovicianus*	CSC	Agricultural landscapes; grasslands; open savannah	None: no suitable habitat; outside of species' elevational range
Purple Martin *Progne subis* (nesting)	CSC	Breeding habitat includes old-growth, multi-layered, open forest and woodland with snags; forages over riparian areas, forest, and woodlands.	Low: no documented breeding records from area; marginal breeding habitat
Yellow Warbler *Dendroica petechia brewsteri* (nesting)	CSC	Breeds in riparian woodlands, particularly those dominated by willows and cottonwoods.	None: no suitable breeding habitat

Appendix B. Status and Potential Occurrence of Special-Status Animal Species on the North Fork Project Site.

NAME	*STATUS	HABITAT	POTENTIAL FOR OCCURRENCE ON SITE
Yellow-breasted Chat *Icteria virens* (nesting)	CSC	Breeds in riparian habitats having dense understory vegetation, such as willow and blackberry.	None: no suitable breeding habitat
Black-chinned Sparrow *Spizella atrogularis*	BCC	Breeds in dry open chaparral, often with large rocks and patches of grass	None: no suitable breeding habitat
Tricolored Blackbird *Agelaius tricolor* (nesting colony)	CSC, BCC	Breeds near fresh water in dense emergent vegetation.	None: no suitable breeding habitat; outside of species' elevational range
Lawrence's Goldfinch *Carduelis lawrencei*	BCC	Breeds in riparian woodlands; open oak woodland	Moderate: no documented records from area
Spotted bat *Euderma maculatum*	CSC WBWG: HP	Ponderosa pine region of the western Sierra Nevada Mountains. Roosts in cracks/crevices of high cliffs and canyons.	Low: no suitable breeding habitat; may breed in nearby cliffs and may forage over project site
Western mastiff bat *Eumops perotis*	CSC WBWG: HP	Found in central and south coastal California. Roosts primarily in cliffs or high buildings.	Low: no suitable breeding habitat; may breed in nearby cliffs and may forage over project site
Western small-footed myotis bat *Myotis ciliolabrum*	CSC WBWG: MP	Variety of habitats including riparian, chaparral, and coniferous forests.	Moderate: potential breeding and roosting habitat present.
California myotis bat *Myotis californicus*	CSC WBWG: MP	Variety of habitats including riparian, oak woodland, rocky hillsides, and coniferous forests.	Moderate: potential breeding and roosting habitat present.
Long-eared myotis bat *Myotis evotis*	CSC WBWG: MP	Typically coniferous forests but also closed canopy oak woodland or other forests with trees with exfoliating bark or cavities. Also roosts in buildings.	Moderate: potential breeding and roosting habitat present.
Fringed myotis bat *Myotis thysanodes*	WBWG: HP	Coniferous forests with snags, or other undisturbed habitats associated with large trees.	Low: trees typically too small; no known caves or mines on the project site.
Long-legged myotis bat *Myotis volans*	WBWG: HP	Coniferous forests with snags, or other undisturbed habitats associated with large trees. Also uses mines, caves and rocky outcrops.	Low: trees typically too small; lacking rocky outcrops of adequate size.
Silver-haired bat *Lasionycteris noctivagans*	WBWG: HP	Coniferous forests with large trees or snags with exfoliating bark.	Moderate: potential breeding and roosting habitat present.
Pallid bat *Antrozous pallidus*	CSC WBWG: HP	Common in oak savannah, forages over many habitats; roosts in buildings, rocky outcrops, oaks other tree species, and rocky crevices in mines and caves.	High: potential breeding and roosting habitat present.

Appendix B. Status and Potential Occurrence of Special-Status Animal Species on the North Fork Project Site.			
NAME	***STATUS**	**HABITAT**	**POTENTIAL FOR OCCURRENCE ON SITE**
Big brown bat *Eptesicus fuscus*	WBWG: LP	Colonial species roosting in buildings, bridges, tree snags, caves, mines, and cliff faces.	High: potential breeding and roosting habitat present.
Yuma myotis bat *Myotis yumanensis*	FSC WBWG: MP	Riparian corridors; roosts in many habitats, including buildings and trees with exfoliating bark or cavities.	High: potential breeding and roosting habitat present.
Hoary bat *Lasiurus cinereus*	WBWG: MP	Widespread among forests in North America: typically migrates long distances between winter range and summer breeding range.	Moderate: does not breed in California; may roost during migration.
Western red bat *Lasiurus blossevillii*	WBWG: HP	Dependent upon intact riparian habitat, typically with large cottonwoods, willows, and sycamores.	Moderate: does not breed in California; may roost during migration.
Mexican free-tailed bat *Tardarida brasiliensis*	WBWG: LMP	Highly colonial; forages over most habitats. Maternity colonies in buildings, caves, and mines. Rarely roosts in trees.	Moderate: migrates locally and seasonally within California. Likely forages but not likely to breed on the site.

FT – Federal Threatened
FC – Federal Candidate
FPD – Federal Proposed for Delisting
FSC – Federal Special Concern
BCC – Fish and Wildlife Service Birds of Conservation Concern
SE – State Endangered
ST – State threatened
CSC – California Species of Special Concern

WBWG – Western Bat Working Group Designations (2005) for conservation measures
- HP – Highest Priority
- MP – Medium Priority
- LMP – Low Medium Priority
- LP – Low Priority

Appendix C. Results of Wildlife Reconnaissance Survey.

Common Name	Scientific Name	Status*	Number of individuals detected
Turkey Vulture	*Cathartes aura*	R	1
Red-tailed Hawk	*Buteo jamaicensis*	R	1
California Quail	*Callipepla californica*	R	2
Mourning Dove	*Zenaida macroura*	R	2
Anna's Hummingbird	*Calypte anna*	R	2
Acorn Woodpecker	*Melanerpes formicivorus*	R	2
Nuttall's Woodpecker	*Picoides nuttallii*	R	4
Hairy Woodpecker	*Picoides vilosus*	R	2
Northern Flicker	*Colaptes auratus*	R	2
Western Wood-Pewee	*Contopus sordidulus*	S	6
Dusky Flycatcher	*Empidonax oberholseri*	M	2
Ash-throated Flycatcher	*Myiarchus cinerascens*	S	4
Hutton's Vireo	*Vireo huttoni*	R	2
Warbling Vireo	*Vireo gilvus*	S	6
Cassin's Vireo	*Vireo cassinii*	S	1
Northern Raven	*Corvus corax*	R	1
Western Scrub-Jay	*Aphelocoma californica*	R	8
Oak Titmouse	*Baeolophus inornatus*	R	6
Bushtit	*Psaltriparus minimus*	R	4
Red-breasted Nuthatch	*Sitta canadensis*	W	1
White-breasted Nuthatch	*Sitta carolinensis*	R	1
Bewick's Wren	*Thryomanes bewickii*	R	2
House Wren	*Troglodytes aedon*	S	2
Blue-gray Gnatcatcher	*Polioptila caerula*	S	2
Western Bluebird	*Sialia mexicana*	R	2
American Robin	*Turdus migratorius*	R	2
Wrentit	*Chamaea fasciata*	R	2
Phainopepla	*Phainopepla nitens*	R	2
Orange-crowned Warbler	*Vermivora celata*	S	6
Nashville Warbler	*Vermivora ruficapilla*	S	4
Hermit Warbler	*Dendroica occidentalis*	M	1
Yellow-rumped Warbler	*Dendroica coronata*	W	1
Wilson's Warbler	*Wilsonia pusilla*	S	3
Western Tanager	*Piranga ludoviciana*	S	4
Spotted Towhee	*Pipilo maculatus*	R	4
California Towhee	*Pipilo crissalis*	R	1
Rufous-crowned Sparrow	*Aimophila ruficeps*	R	1
Chipping Sparrow	*Spizella passerina*	S	2
Lark Sparrow	*Chondestes grammacus*	R	4
Black-headed Grosbeak	*Pheucticus melanocephalus*	S	4

Lazuli Bunting	*Passerina amoena*	S	1
Brown-headed Cowbird	*Molothrus ater*	R	1
Bullock's Oriole	*Icterus bullockii*	S	4
Cassin's Finch	*Carpodacus cassinii*	W	1
Purple Finch	*Carpodacus purpureus*	R	1
Lesser Goldfinch	*Carduelis psaltria*	R	6
Evening Grosbeak	*Coccothraustes vespertinus*	W	1

***Status**
R = Resident breeding species
S = Summer only breeding species
M = Migrant only
W = Winter only

Survey Information:

Date: 5/11/2005	Date: 5/12/2005
John Sterling	John Sterling
2-5 PM	8-10 AM
60° F	64° F
overcast skies	clear skies
no wind	no wind

Appendix D:

July 1999
U.S. Fish and Wildlife Service
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

Revised July 9, 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

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.

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.

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 applicant 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).

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

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.

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