

3.5 BIOLOGICAL RESOURCES

The assessment of existing conditions and analysis of effects to biological resources was based upon biological field surveys conducted to document existing habitat types and determine the potential for occurrence of Federally listed species within the Madera and North Fork sites, and upon a review of the California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants, California Department of Fish and Game (CDFG) Natural Diversity Data Base (CNDDDB), and informal consultation with the U.S. Fish and Wildlife Service (USFWS) for reported occurrences of Federally listed species within the vicinity of the Madera site (**Appendix D**) and North Fork site (**Appendix G**). Biological surveys were conducted in 2004 at the Madera site (H. T. Harvey & Associates, 2004; **Appendix E**) and in 2005 at the North Fork site (H. T. Harvey & Associates, 2004; **Appendix H**). Biologists from Analytical Environmental Services (AES) obtained supplementary background information and surveyed the Madera site in 2004. H. T. Harvey & Associates conducted a wetland delineation of the Madera site in 2005 (**Appendix F**).

3.5.1 REGIONAL SETTING

MADERA SITE

The 305-acre Madera site is located approximately seven miles north of Madera, California, between Avenue 17 and Avenue 18, west of Highway 99 and the Union Pacific Railroad. The project vicinity is dominated by agriculture that includes dry land crops, vineyards, and orchards. The property is mostly flat and is situated at an elevation of 250 ft. San Joaquin sandy loam and areas of Atwater loamy sand, Hanford sandy loam, and Tujunga sandy loam underlie the site. The San Joaquin, Atwater, and Hanford soils are all underlain by hardpans, while the Tujunga soil is associated with former and current drainages and swales (H. T. Harvey & Associates, 2004; **Appendix E**).

A historic alignment of Schmidt Creek transects the property from the southeast corner of the site diagonally to the northwest along a narrow band of Tujunga and Hanford soils. The creek has been realigned as a ditch that extends to the western boundary of the parcel and beyond. The limited areas of existing development and Schmidt Creek Ditch are dominated by ruderal habitat. The remainder of the parcel is farmed.

NORTH FORK SITE

The 78.8-acre North Fork site is approximately two miles east of the foothill community of North Fork, east of Mammoth Pool Road, and 0.5 miles southwest of Hill 3954 (1.5 miles southwest of the village of Cascadel), in portions of sections 17, 20, and 21 in Township 8 South, Range 23 East, Mount Diablo Base Line and Meridian, Madera County, California. The property is on a southwest-facing slope with foothill woodland and interior live oak woodland habitats, situated at an elevation of 2,960 to 3,400 feet (H. T. Harvey & Associates, 2005; **Appendix H**).

3.5.2 VEGETATION COMMUNITIES

MADERA SITE

Vegetation communities occurring within the Madera site include dryland wheat (*Triticum aestivum*), ruderal/developed, Schmidt Creek Ditch and seasonal wetland depression. These plant communities are discussed below; acreage and percent area of vegetation types occurring within the Madera site are provided in **Table 3.5-1**. A vegetation map of the Madera site is presented as **Figure 3.5-1**.

TABLE 3.5-1
SUMMARY OF VEGETATION COMMUNITIES OF THE MADERA SITE

Habitat Type	Acres	Percent Area
Dryland Wheat Fields	292.5	96.0
Schmidt Creek Ditch and Seasonal Wetland Depressions	8.5	2.8
Ruderal/Developed	4.0	1.2
TOTAL	305	100

SOURCE: H. T. Harvey & Associates, 2004; AES, 2004.

Dryland Wheat Fields

Dry farmed wheat dominates the majority of the 305-acre site. Portions of the site were fallow at the time the surveys were conducted. Invasive forbs within the wheat fields included black mustard (*Brassica nigra*), charlock (*Sinapis arvensis*), wild radish (*Raphanus sativus*), and rancher's fireweed (*Amsinckia intermedia*) (H. T. Harvey & Associates, 2004; **Appendix E**).

Schmidt Creek Ditch and Seasonal Wetland Depressions

Schmidt Creek Ditch is a realigned channel of Schmidt Creek that was historically within a shallow swale of the site and flowed to the southeast according to the U.S. Geological Survey (USGS) Kismet quadrangle map. The realigned channel was excavated in upland as evidenced by its sandy bottom, and the sandy spoil side-cast (**Figure 3.5-2, Figure 3.5-3**). The floor of the ditch was dominated by rattail fescue (*Vulpia myuros*), ripgut brome (*Bromus diandrus*), soft chess (*Bromus hordeaceus*), Bermuda grass (*Cynodon dactylon*), heliotrope (*Heliotropium curassavicum*), Mediterranean barley (*Hordeum marinum* ssp. *gussoneanum*), curly dock (*Rumex crispus*), and rancher's fireweed. A small thicket of willows (*Salix* spp.) and dead or dying Fremont cottonwood (*Populus fremontii*) was found along the eastern half of Schmidt Creek Ditch. An irrigation canal parallels Road 23 along the western edge of the property but it is not hydrologically connected with Schmidt Creek Ditch (**Figure 3.5-3**) (H. T. Harvey & Associates, 2004; **Appendix E**).

Figure 3.5-1

Figure 3.5-2

Figure 3.5-3

Two isolated depressions underlain by the Atwater and Hanford soils were found in the southern half of the property (**Figure 3.5-1**). Seasonal, water-loving plants including toad rush (*Juncus bufonius*), slender popcorn flower (*Plagiobothrys stipitatus*), rabbit-foot grass (*Polypogon monspeliensis*), and Italian rye (*Lolium multiflorum*) were the dominant vegetation in the depressions together with wheat and other annual grasses and forbs. A hardpan layer associated with the underlying soils may be responsible for winter ponding in these areas but the vegetation in these depressions is not representative of vernal pools or seasonal wetlands. Much of the underlying hardpan has been broken by repeated tillage over many decades, further increasing the drainage afforded by the sandy soils on site. While most of the southern half of the Madera site has a hardpan underlying the sandy soils, no other depressions or vernal pool topography were observed on the site (H. T. Harvey & Associates, 2004; **Appendix E**).

Disturbed/Ruderal

Disturbed/ruderal habitat within the Madera site is subject to substantial human activity and contains existing farm buildings and infrastructure such as farm roads and power lines. Vegetation and wildlife was similar to that found in the agricultural areas just described. In addition, willows, walnuts (*Juglans regia*), and blue gum (*Eucalyptus globulus*) exist around the ranch house. A dumping ground west of the ranch house was vegetated with rancher's fireweed (H. T. Harvey & Associates, 2004; **Appendix E**).

NORTH FORK SITE

Vegetation communities occurring within the North Fork site include foothill pine woodland, interior live oak woodland, open foothill pine woodland, and ruderal/developed. These plant community types are discussed below; acreage and percent area of vegetation types occurring within the site are provided in **Table 3.5-2**. A vegetation map of the North Fork site is presented as **Figure 3.5-4** and site photos are shown as **Figure 3.5-5**.

TABLE 3.5-2
SUMMARY OF VEGETATION COMMUNITIES OF THE NORTH FORK SITE

Habitat Type	Acres	Percent Area
Foothill Pine Woodland	21.9	27.8%
Interior Live Oak Woodland	30.1	38.2%
Open Foothill Pine Woodland	26.4	33.5%
Ruderal/Developed	.4	0.5%
TOTAL	78.8	100

SOURCE: H. T. Harvey & Associates, 2004; AES, 2004.

Figure 3.5-4

Figure 3.5-5

Foothill Pine Woodland

Nearly a third of the site consists of steeply sloped, heavily wooded foothill pine woodland, located on the eastern side and the northern edge of the site (**Figure 3.5-4**). The dominant tree species are foothill pine (*Pinus sabiniana*), interior live oak (*Quercus wislizenii*), and California buckeye (*Aesculus californica*). The trees form a continuous canopy with multiple layers. The shaded portions of the understory are dominated by poison oak (*Toxicodendron diversilobum*) and forbs such as tincture plant (*Collinsia tinctoria*) and torilis (*Torilis arvensis*). Wildflowers growing within the understory include wallflower (*Erysimum capitatum* ssp. *capitatum*) and harlequin lupine (*Lupinus stiversii*). Punctuated with few openings and where sunlight is permitted, various shrubs fill the landscape, shrubs that include mountain mahogany (*Cercocarpus betuloides* ssp. *betuloides*), yerba santa (*Eriodictyon californica*), California buckbrush (*Ceanothus cuneatus* ssp. *cuneatus*), and whiteleaf manzanita (*Arctostaphylos viscida*). Native and non-native grasses coexist in the shrub-dominated openings, including California brome (*Bromus californicus*), melic grass (*Melica imperfecta*), soft chess, and ripgut brome.

Interior Live Oak Woodland

A dense canopy of interior live oak covers approximately 30.1 acres of the western portion of the site (**Figure 3.5-4**). The community is dominated by interior live oak and California buckeye. Foothill pine is conspicuously absent from the interior live oak woodland. California buckbrush, whiteleaf manzanita, and a predominance of poison oak create high-density coverage within the understory, making it nearly impenetrable. Mountain misery (*Cnamaebatia foliolosa*), bedstraw (*Galium* spp.), and tincture plant are also common in the understory composition of vegetation. Granite outcrops characterize scattered openings in the landscape. Herbaceous species found in the open foothill pine woodland (see following paragraph) and other species associated with rock outcrops occupy these areas. Granite outcrop 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*).

Open Foothill Pine Woodland

The central region of the site is an ecotonal region between the interior live oak woodland on the west and the foothill pine woodland on the east (**Figure 3.5-4**). For this reason, the open foothill pine woodland shares many of the same species as both adjacent community types. The approximately 26.4-acre region is characterized by large regions of non-native grassland, interspersed with foothill pine woodland and understory thickets of the associated shrub species. Additionally, other woody species occurring in the community include ponderosa pine (*Pinus ponderosa*), valley oak (*Quercus lobata*), blue oak (*Quercus douglasii*), flannelbush (*Fremontodendron californicum* ssp. *californicum*), and Mexican elderberry (*Sambucus mexicana*).

Non-native grassland is often associated with numerous species of showy-flowered, native annual forbs ("wildflowers"), especially in years of favorable rainfall. Germination occurs with the onset of the late fall rains; growth, flowering, and seed-set occur from winter through spring. With a few exceptions, the plants are dead through the summer-fall dry season, persisting as seeds. Grasses and forbs on site include soft chess, Italian rye, rattail fescue, wild oats (*Avena fatua*), fewflower clover (*Trifolium oliganthum*), and Indian clover (*Trifolium albopurpureum*). Wildflowers include Indian paintbrush (*Castilleja exserta*), Chinese houses (*Collina heterophylla*), purple globe-lily (*Calochortus amoenus*), fiestaflower (*Pholistoma auritum*), bird's eye gilia (*Gilia tricolor*), California dandelion (*Agoseris grandiflora*), and sky lupine (*Lupinus bicolor*).

Ruderal Disturbed

The disturbed portions of the North Fork site are associated with the main road that bisects the site, the central residence, and the southern residence. In cooperation with the Coarsegold Resource Conservation District, the Tribe maintains firebreaks along the main road. The breaks and road shoulder are vegetated with grasses and forbs identified in the previous paragraph.

3.5.3 WILDLIFE

MADERA SITE

Disturbed/ruderal portions of the site, such as the area around the ranch house, typically provide habitat for common species adapted to human disturbance. Common wildlife species, including backyard birds such as western scrub jay (*Aphelocoma californica*), American robin (*Turdus migratorius*), northern mockingbirds (*Mimus polyglottus*), house finches (*Carpodacus mexicanus*), and house sparrows (*Passer domesticus*) are likely visitors to the site from time to time.

Brush and debris piles provide habitat for western fence lizard (*Sceloporus occidentalis*) and desert cottontails (*Sylvilagus audobonii*). While the site may be too disturbed for most migrating birds, three species including Wilson's warbler (*Wilsonia pusilla*), western tanager (*Piranga ludoviciana*), and Bullock's orioles (*Icterus bullockii*) may be present during spring and fall migration (H. T. Harvey & Associates, 2004; **Appendix E**).

Cultivated fields also provide limited habitat for wildlife species. Frequent farming practices, plowing, and weed control disrupt fossorial mammals from colonizing farmed areas. Species that typically inhabit cultivated areas are generally common and accustomed to disturbances. These species include American kestrel (*Falco sparverius*), American crow (*Corvus brachyrhynchos*), killdeer (*Charadrius vociferous*), mourning dove (*Zenaida macroura*), western meadowlark (*Sturnella neglecta*), and Brewer's blackbird (*Euphagus cyanocephalus*).

NORTH FORK SITE

The North Fork site's rural setting in the Sierra Nevada Mountains provides a greater variety of wildlife species than the disturbed habitats of the Madera site. Year-round residents include western fence lizard, southern alligator lizard (*Elgaria multicaudata*), Sierra Nevada ensatina (*Ensatina eschscholtzii platensis*), king snake (*Lampropeltis getula*), gopher snake (*Pituophis catenifer*), western rattlesnake (*Crotalus viridis*), northern pygmy owl (*Glaucidium gnoma*), western screech-owl (*Otus kennicottii*), Anna's hummingbird (*Calypte anna*), acorn woodpecker (*Melanerpes formicivorus*), Nuttall's woodpecker (*Picoides nuttallii*), hairy woodpecker (*Picoides villosus*), northern flicker (*Colaptes auratus*), Hutton's vireo (*Vireo huttoni*), warbling vireo (*Vireo gilvus*), Cassin's vireo (*Vireo cassinii*), western scrub jay, oak titmouse (*Baeolophus inornatus*), white-breasted nuthatch (*Sitta carolinensis*), American robin, purple finch (*Carpodacus purpureus*), western gray squirrel (*Sciurus griseus*), dusky footed woodrat (*Neotoma fuscipes*), North American deer mouse (*Peromyscus maniculatus*), raccoon (*Procyon lotor*), striped skunk (*Mephitis mephitis*), bobcat (*Lynx rufus*), and mule deer (*Odocoileus hemionus*). Migratory birds breed in the habitats associated with the North Fork site. The Sierra Nevada Mountains provide breeding habitat for neotropical migrating birds including western wood-pewee (*Contopus sordidulus*), ash-throated flycatcher (*Myiarchus cinerascens*), orange-crowned warbler (*Vermivora peregrina*), black-headed grosbeak (*Pheucticus melanocephalus*), and lesser goldfinch (*Carduelis psaltria*). Winter visitors that breed in more northern latitudes or at higher elevations include red-breasted nuthatch (*Sitta canadensis*), yellow-rumped warbler (*Dendroica coronata*), white-crowned sparrow (*Zonotrichia leucophrys*), golden-crowned sparrow (*Zonotrichia atricapilla*), Cassin's finch (*Carpodacus cassinii*), pine siskin (*Carduelis pinus*), evening grosbeak (*Coccothraustes vespertinus*), Hammond's flycatcher (*Empidonax hammondi*), gray flycatcher (*Empidonax wrightii*), dusky flycatcher (*Empidonax oberholseri*), black-throated gray warbler (*Dendroica nigrescens*), and hermit warblers (*Dendroica occidentalis*). Bird species found in open areas include western bluebird (*Sialia mexicana*), California towhee (*Pipilo crissalis*), lazuli bunting (*Passerina amoena*), lark sparrow (*Chondestes grammacus*), and Bullock's oriole. Species found in drier conditions and associated with trees and shrubs include Phainopepla (*Phainopepla nitens*), blue-gray gnatcatcher (*Polioptila caerulea*), and rufous-crowned sparrow (*Aimophila ruficeps*) (H. T. Harvey & Associates, 2004; **Appendix H**).

3.5.4 SPECIAL-STATUS SPECIES**FEDERALLY LISTED SPECIES**

For the purposes of this EIS, Federally listed species include those plant and animal species that are listed as endangered or threatened under the Federal Endangered Species Act (FESA), or are formally proposed for listing.

STATE-LISTED SPECIES

Other special-status species such as those plants and wildlife that, because of their recognized rarity or vulnerability to various causes of habitat loss or population decline, are recognized by State or other agencies, or by the California Native Plant Society (CNPS), or other conservation organizations. Species present on tribal trust land and recognized at the State or local level, are not necessarily afforded the protections of the Endangered Species Act.

METHODOLOGY

Special-status species that may potentially be affected by the Proposed Action were compiled based upon a review of pertinent literature, aerial photographs, site topographic maps, informal consultation with the USFWS and other local experts, results of a query of the CNDDDB for reported occurrences of special-status species within the Madera and North Fork sites USGS 7.5" quadrangle and the eight surrounding quadrangles, and from the results of biological field surveys (**Appendix D** and **Appendix G**).

RESULTS

AES conducted reconnaissance level surveys on February 12, 2004 at the Madera site and H.T. Harvey and Associates conducted follow-up surveys on June 16, 2004. H.T. Harvey and Associates biologists conducted reconnaissance level surveys of the North Fork site on May 11 and 12, 2005. Surveys were conducted to assess the site for special-status species (State and Federally recognized and CNPS List 1B plants) and habitats able to support special-status species.

STATE AND CNPS SPECIAL-STATUS SPECIES

MADERA SITE

Based upon the methodology, as described above, to assess the Madera site for potential occurrences of special-status species, nine special-status plant species have the potential to occur on the Madera site: heartscale (*Atriplex minuscule*), subtle orache (*Atriplex subtilis*), Hoover's calycadenia (*Calycadenia hooveri*), Hoover's cryptantha (*Cryptantha hooveri*), gypsum-loving larkspur (*Delphinium gypsophilum* ssp. *gypsophilum*), Ewan's larkspur (*Delphinium hansenii* ssp. *exanianum*), spiny-sepaled button-celery (*Eryngium spinosepalum*), and large-flowered linanthus (*Linanthus grandiflorus*). While these species are listed under CNPS, they are not listed as endangered or threatened by the U.S. or by California. None of these species have been documented within five miles of the Madera site, and the highly-disturbed nature of the site and vicinity makes it unlikely the species would occur on the site.

Two sensitive habitats were identified in the CNDDDB query: northern hardpan vernal pool and valley sacaton grassland. Neither of these sensitive habitats was observed on the Madera site. Most of the site is underlain by acidic iron and silica cemented hardpan, according to the soil

series descriptions (USDA, 1962). While this is characteristic of northern hardpan vernal pools geology, vernal pool topography and its associated vegetation were absent from the site. Fragments of hardpan geology were found along the southwest boundary and adjacent vineyard. However, they were likely surfaced when the adjacent parcel was ripped to install a vineyard.

State-listed wildlife species with the potential to occur on the Madera site and/or vicinity include Swainson's hawk (*Buteo swainsonii*), northern harrier (*Circus cyaneus*), California horned lark (*Eremophila alpestris actia*), and hoary bat (*Lasiurus cinereus*).

Swainson's Hawk (*Buteo swainsonii*)

Listed as threatened by the State of California, the Swainson's hawk occurs in the greater project area. Nesting is generally associated with riparian habitats in relatively close proximity to foraging habitat, preferably grassland or pasture habitat. They may range up to 18 miles from the nest in search of prey (Estep 1989; Babcock 1993). The Swainson's hawk prey base consists of voles (*Microtus* spp.), gophers, birds, and insects. They have adapted to foraging in certain croplands such as alfalfa, hay, and pasture. Crops such as grains, tomatoes, beets, and other row crops can also be used on an interim basis when prey is made available through harvesting activities. Crops such as cotton, corn, orchards, and vineyards are not suitable foraging habitat because the prey base is either absent or unavailable due to crop structure. Generally, crops greater than two feet tall create an impenetrable barrier for foraging Swainson's hawk (Estep, 1989).

Bald Eagle (*Haliaeetus leucocephalus*) (wintering and nesting)

The bald eagle was federally listed as endangered in 1967. It was reclassified as federally threatened in 1995 and was federally delisted in 2007. The bald eagle was state listed as endangered in 1982 and currently maintains its state status. Bald eagles typically breed in forested areas, relatively close (usually less than 2 km) to water that offers foraging opportunities. The bird feeds opportunistically, feeding on a variety of mammals and birds. However, it prefers fish, and seeks out aquatic habitats for foraging (Buehler, 2000). Potential nesting or foraging habitat is not found on the site.

Northern Harrier (*Circus cyaneus*)

Biologists from H.T. Harvey observed a northern harrier (California Species of Concern) foraging over the site. This species is found in open grasslands, agricultural areas, and marshes. Nesting habitat, which does not occur on the site, consists of long grass habitat and where marsh plants can provide cover for the nest, which is constructed on the ground. Suitable breeding habitat was not found on site. Foraging habitat for the northern harrier is similar to that of the Swainson's hawk, mentioned above. Harriers hunt in a slow traversing manner, in search of prey that includes rodents, birds, frogs, reptiles, and insects. Potential foraging habitat for the northern harrier exists on the project site.

California Horned Lark (*Eremophila alpestris actia*)

Horned larks (California Species of Concern) occur over nearly all of the contiguous United States in bare ground habitats. This subspecies breeds along the coast and in the Central Valley of California. Suitable habitat for this species includes fallow agricultural fields, which may occur on the Madera site.

Hoary Bat (*Lasiurus cinereus*)

The hoary bat (California Species of Concern) occurs over most of the contiguous United States and Hawaii. The species can be found throughout California, though less commonly in the deserts of southeastern part of the state. It prefers to forage in open and patchy habitats. The hoary bat roosts and rears young in dense tree foliage. Suitable roosting and rearing habitat is available in the small number of trees present on the Madera site.

NORTH FORK SITE

State and other special-status species were evaluated with the same methodology as performed for the Madera site. Twelve species have potential to occur on the North Fork site: tree anemone (*Carpenteria californica*), flaming trumpet (*Collomia rawsoniana*), Norris's beard-moss (*Didymodon norrisii*), Madera leptosiphon (*Leptosiphon serrulatus*), Yosemite lewisia (*Lewisia disepala*), orange lupine (*Lupinus citrinus* var. *citrinus*), King's River monkey flower (*Mimulus acutidens*), slender stalked monkey flower (*Mimulus gracilipes*), oval-leaved viburnum (*Viburnum ellipticum*), northern goshawk (*Accipiter gentilis*), and pallid bat (*Antrozus pallidus*). Those species with overlapping Federal status are not in the preceding list, but are discussed following **Table 3.5-4** in the **Federal Species** subsection.

Tree anemone, flaming trumpet, Norris's beard-moss, Madera leptosiphon, Yosemite lewisia, orange lupine, King's River monkey flower, slender stalked monkey flower, and oval-leaved viburnum are CNPS-listed plants. The survey performed by H.T. Harvey and Associates (May 11 and 12, 2005) was timed to occur within overlapping bloom periods for the tree anemone, Madera leptosiphon, Yosemite lewisia, orange lupine, King's River monkey flower, slender stalked monkey flower, and oval-leaved viburnum. Norris's beard moss is identifiable year-round, but no survey was done during the bloom period of flaming trumpet. No CNPS-listed plants were observed on the reconnaissance level surveys.

As well as special-status species, sensitive habitats are identified at the State level. Sensitive habitats identified in the region include: northern basalt-flow vernal pool, Central Valley drainage hardhead/squawfish stream, Central Valley drainage rainbow trout/cyprinid stream, and Central Valley drainage resident rainbow trout stream. The northern basalt-flow vernal pool habitat was not observed. The site has slopes between 15 and 45 percent and is underlain by highly permeable sandy soils, neither of which is conducive to the development of vernal pools. The sensitive stream habitats are discussed in the CNDDDB 5-Mile Radius Map subsection.

State Special-Status Plant Species

Tree Anemone (Carpenteria californica)

State Status - Threatened

The tree anemone is found naturally only in the foothills of eastern Fresno County between the San Joaquin and Kings Rivers, at elevations from 1,500 to 4,000 feet. The most vigorous populations are found where moisture is relatively abundant, on north-facing slopes and in ravines. Native in decomposed granite but tolerates adobe and loam as well. The blooming period is from May to July.

Reconnaissance level surveys were conducted on May 11 and 12, 2005, within the blooming period for the species. Although this species is reported to occur within the 5-mile radius of the North Fork site (**Figure 3.5-6**), H.T. Harvey and Associates did not observe the species on site.

State Special-Status Bird Species

Potential breeding habitat exists on the North Fork site for the northern goshawk in the open foothill pine woodland and the pine woodland habitats. The goshawk is an uncommon permanent resident in the mountains of California, and nests in, or within the vicinity of, coniferous forests. Nests are usually built on north slopes near water, and suitable nesting trees include red fir, lodgepole pine, Jeffrey pine, and aspens. This species was not observed during site surveys.

Bald eagle and American peregrine falcon are two raptor species identified by the USFWS as having potential to occur in Madera County. However, neither of these species was observed on the site survey and potential nesting and foraging habitat is absent from the site. Both species may, occasionally, fly over the site but no large water body is present. Large water bodies are frequently used by both birds of prey.

State Special-Status Bat Species

The pallid bat (*Antrozus pallidus*) has the potential to breed on the site. The pallid bat is usually found in rocky, mountainous areas and near water. They are also found over more open, sparsely vegetated grasslands, and they seem to prefer to forage in the open. While no species-specific surveys were conducted for the pallid bat, this species was not observed during surveys of the North Fork site.

CNDDDB 5-MILE RADIUS MAP – MADERA SITE

The CNDDDB was queried and occurrences of special-status species plotted in relation to the study area boundary using GIS software (**Figure 3.5-6**). Within a 5-mile radius, seven special-status species have been reported by the CNDDDB: Madera leptosiphon (*Leptosiphon serrulatus*), California tiger salamander (*Ambystoma californiense*), Greene's tuctoria (*Tuctoria greenei*), San Joaquin Valley orcutt grass (*Orcuttia inaequalis*), hairy orcutt grass (*Orcuttia pilosa*), burrowing

Insert Figure 3.5-6 Special Status Species Found Within Five Miles of Madera Site

owl (*Athene cunicularia*), hoary bat (*Lasiurus cinereus*), moestan blister beetle (*Lytta moesta*), and vernal pool fairy shrimp (*Branchinecta lynchi*). None of these species were observed on the site. Greene's tuctoria (*Tuctoria greenei*), San Joaquin Valley orcutt grass (*Orcuttia inaequalis*), hairy orcutt grass (*Orcuttia pilosa*), and vernal pool fairy shrimp (*Branchinecta lynchi*) are vernal pool endemic species would not occur due to lack of vernal pool habitat on the Madera site.

CNDDDB 5-MILE RADIUS MAP – NORTH FORK SITE

The CNDDDB was queried and occurrences of special-status species plotted in relation to the study area boundary using GIS software (**Figure 3.5-7**). Within a 5-mile radius, five special-status species have been reported by the CNDDDB: Leech's skyline diving beetle (*Hydroporus leechi*), brook pocket-moss (*Fissidens aphelotaxifolius*), flaming trumpet (*Collomia rawsoniana*), foothill yellow-legged frog (*Rana boylei*), tree anemone (*Carpenteria californica*), valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*), and western pond turtle (*Emys marmorata*). Flaming trumpet and brook pocket-moss are CNPS-listed plants, and were not observed on the reconnaissance-level survey.

In addition, three sensitive habitats were identified in the CNDDDB query and within the 5-mile radius of the North Fork site: Central Valley drainage hardhead/squawfish stream, Central Valley drainage rainbow trout/cyprinid stream, and Central Valley drainage resident rainbow trout stream. Two of the six watershed drainages drain to Willow Creek, identified as Central Valley Drainage rainbow trout/cyprinid stream, and Whiskey Creek, identified as Central Valley drainage resident rainbow trout stream.

FEDERAL SPECIES

TARGET SPECIES LIST - MADERA SITE

Habitat requirements for each special-status species were assessed and compared to the habitats occurring within the property and adjacent areas. The target species list (**Table 3.5-3**) contains those Federal species that have suitable habitat on site.

Six species are listed at the Federal level and are discussed following **Table 3.5-3**. Of these six species, only the California tiger salamander (*Ambystoma californiense*) is known to occur within five miles of the site (CNDDDB, 2006). Based upon information from the 2004 site surveys and the disturbed nature of the site (which is intensively farmed), none of these seven species occur on the site.

The property and/or surrounding vicinity represents potential habitat for seven Federal special-status species from the target species list. Federally listed vernal pool species, fish species, and

Insert Figure 3.5-7 Special Status Species Found Within Five Miles of North Fork Site

the valley elderberry longhorn beetle are Federal status species dismissed from the target species list. Identification of these species and rationale for exclusion from the target species list follows.

Federally Listed Vernal Pool Endemic Species

Federally listed vernal pool endemic species were not included in **Table 3.5-3**, as this community type was not observed on the Madera site (H. T. Harvey & Associates, 2004; **Appendix E**).

Vernal pool species documented in the vicinity include vernal pool fairy shrimp (*Branchinecta lynchi*), vernal pool tadpole shrimp (*Lepidurus packardi*), conservancy fairy shrimp (*Branchinecta conservatio*), California linderiella (*Linderiella occidentalis*), midvalley fairy shrimp (*Branchinecta mesovallensis*), molestan blister beetle (*Lytta molesta*), hairy orcutt grass (*Orcuttia pilosa*), succulent owl's clover (*Castilleja campestris* ssp. *succulenta*), San Joaquin Valley orcutt grass (*Orcuttia inaequalis*), and Greene's tuctoria (*Tuctoria greenei*).

Consequently, species that require vernal pools for all or part of their life cycle will not occur on the Madera site.

Federally Listed Fish Species

Federally listed fish species were excluded from the target species list (**Table 3.5-3**) due to lack of habitat. The Schmidt Creek realignment ditch is seasonal and is used to receive stormwater. It does not support persistent fish populations.

Valley Elderberry Longhorn Beetle (*Desmocerus californicus dimorphus*)

The valley elderberry longhorn beetle (Federally threatened) has been documented on the San Joaquin River, north of Herndon. This species is parasitic to the host elderberry shrub (*Sambucus* spp). Elderberry shrubs were absent from the Madera site. This precludes the species from inhabiting the Madera site. Thus, it is not included on the target species list.

California Tiger Salamander (*Ambystoma californiense*)

Federal Status – Threatened

In the Central California foothills, California tiger salamanders (CTS) are typically found at low-elevations below 1,500 feet. CTS spend the majority of their lives in upland habitats such as annual grasslands, oak savanna, mixed grassland and woodland habitats, woodlands, scrub or chaparral habitats, plant communities associated with vernal pools, vernal pool complexes, and seasonal ponds. They utilize seasonal ponds, natural vernal pools, and vernal pool complexes for breeding during their aquatic phase.

TABLE 3.5-3
TARGET SPECIAL-STATUS SPECIES LIST: MADERA SITE

SCIENTIFIC NAME COMMON NAME	FEDERAL STATUS	DISTRIBUTION	HABITAT REQUIREMENTS	PERIOD OF IDENTIFICATION
ANIMALS				
Amphibians				
<i>Ambystoma californiense</i> California tiger salamander	FT	Western California from Sonoma County in the north to Santa Barbara County in the south.	Breeds in vernal pools and ponds of grassland and open woodland of low hills and valleys. Will utilize burrows for refuge.	November to February (adults) March 15 to May 15 (larvae)
<i>Rana aurora draytonii</i> California red-legged frog	FT	Currently found in coastal drainages from Marin County south to Baja California, Mexico. Range extends from the Bay Area and the central coast, also along the Sierra Nevada Range. Within the remaining distribution of the species, only isolated populations have been documented in the Sierra Nevada, northern Coast, and northern Transverse ranges. Believed to be extirpated from the southern Transverse and Peninsular ranges, but still present in Baja California, Mexico.	Lowlands and foothills in or near permanent or late-season sources of deep water with dense, shrubby, or emergent vegetation.	May to November
Reptiles				
<i>Gambelia</i> (= <i>Crotaphytus</i>) <i>sila</i> Blunt-nosed leopard lizard	FE	Southern San Joaquin Valley of California.	Semiarid grasslands, alkali flats, low foothills, canyon floors, large washes, arroyos. Usually on sandy, gravelly, or loamy substrate; sometimes on hardpan; most common where there are abundant rodent burrows; rare or absent in dense vegetation or tall grass.	March to September
<i>Thamnophis gigas</i> Giant garter snake	FT	Current distribution extends from near Chico, Butte County, to the vicinity of Burrel, Fresno County.	Generally inhabits marshes, sloughs, ponds, slow-moving streams, ditches, and rice fields which have water from early spring through mid-fall; emergent vegetation (such as cattails and bulrushes); open areas for sunning; and high ground for hibernation and escape cover.	March to October

SCIENTIFIC NAME COMMON NAME	FEDERAL STATUS	DISTRIBUTION	HABITAT REQUIREMENTS	PERIOD OF IDENTIFICATION
Mammals <i>Dipodomys nitratooides exilis</i> Fresno kangaroo rat	FE	Historically, the San Joaquin Valley floor from about the Merced River, Merced County, on the north, to the northern edge of the marshes surrounding Tulare Lake, Kings County, on the south; and the valley floor's edge west to the wetlands of the Fresno Slough and San Joaquin River. Current distribution is greatly reduced.	Sands and saline sandy soils in chenopod scrub and annual grassland communities on the San Joaquin Valley floor. Recent occurrences have all been in alkali sink communities from 60 to 90 m.	All year.
<i>Vulpes macrotis mutica</i> San Joaquin kit fox	FE	Contra Costa County south to Kern County, California.	Alkali sink, valley grassland, foothill woodland. Hunts in areas with low sparse vegetation that allows good visibility and mobility.	All year.

NOTES:

FEDERAL STATUS CODES: (U.S. Fish and Wildlife Service or National Marine Fisheries Service)

FC = Federal candidate for listing

FE = Listed as endangered by the Federal Government

FLC = Federal species of local concern

FT = Listed as threatened by the Federal Government

The target species table does not include those species that are:

- 1) Listed as endangered or threatened under the California Endangered Species Act (or proposed for listing);
- 2) Designated as endangered or rare or species of concern, pursuant to California Fish and Game Code (§1901);
- 3) Designated as fully protected, pursuant to California Fish and Game Code (§§ 3511, 4700, or 5050);
- 4) Plants or animals that meet the definitions of rare or endangered under CEQA;
- 5) Plants listed as rare under the California Native Plant Protection Act; or
- 6) Plants considered by the California Native Plant Society (CNPS) to be "rare, threatened, or endangered in California" (Lists 1B, 2, and 4) or by other conservation organizations such as the Audubon Society or Western Bat Working Group.

SOURCE: USFWS, Sacramento Office, 2004; CDFG, 2004a, b, c, d; CNDDDB, 2004 (Berenda and Kismet 7 ½-minute quadrangles); NatureServe 2004; H. T. Harvey & Associates, Inc., 2004 (**Appendix E**).

California tiger salamanders may use small artificial water bodies such as stock ponds. However these are often not optimum breeding habitat for the salamanders. The hydroperiod of stock ponds can be so short that larvae cannot metamorphose or so long that predatory fish and bullfrogs can colonize the pond. Periodic maintenance of stock ponds may also cause a temporary loss of functioning aquatic habitat. Successful breeding ponds for California tiger salamanders need to be inundated for a minimum of 12 weeks to allow for successful metamorphosis (USFWS, 2004b). Within the upland habitats, adult CTS spend part of their lives in the underground burrows of small mammals such as California ground squirrels and Botta's pocket gophers (*Thomomys bottae*) and are therefore rarely encountered even where abundant. This practice is termed aestivation.

The nearest reported occurrence is approximately 3.5 to 4 miles southeast in the town of Madera. Appropriate breeding and aestivation habitat are absent from the site and its immediate vicinity. The California tiger salamander, therefore, is absent from the site (H. T. Harvey & Associates, 2004; **Appendix E**).

California Red-legged Frog (*Rana aurora draytonii*)

Federal Status – Threatened

The California red-legged frog (CRLF) is brown to reddish brown in color with prominent dorsolateral folds and has diffuse moderate-sized dark brown to black spots that sometimes have light centers. Distribution of red or red-orange pigment is highly variable, but is usually restricted to the belly and the undersurfaces of the thighs, legs, and feet. The breeding period is from November to April.

Habitat of CRLF is characterized by dense, shrubby riparian vegetation associated with deep, still or slow-moving water. The shrubby riparian vegetation that structurally seems to be most suitable for CRLF is that provided by arroyo willow (*Salix lasiolepis*); cattails (*Typha* sp.) and bulrushes (*Scirpus* sp.). Although CRLF can occur in ephemeral or permanent streams or ponds, populations probably cannot be maintained in ephemeral streams in which surface water disappears.

The Madera site is located in Recovery Unit 1 – Sierra Nevada Foothills and Central Valley. Core areas – areas where recovery actions are focused – are not identified in Madera County. The Schmidt Creek realignment ditch provides marginal habitat for the red-legged frog. No frogs were observed on the surveys performed by AES and H.T. Harvey and Associates biologists in February and June of 2004, respectively.

Blunt-nosed Leopard Lizard (*Gambelia sila*)

Federal Status – Endangered

The blunt-nosed leopard lizard is a relatively large lizard with a long regenerative tail, long hind limbs, and a short, blunt snout. Adult males are slightly larger than females, ranging in size from 3.4 to 4.7 inches in length, excluding tail. Females are 3.4 to 4.4 inches long. There are no current overall population size estimates for the species. This species is found only in the San Joaquin Valley. It inhabits open, sparsely vegetated areas of low relief on the valley floor and the surrounding foothills. It also inhabits alkali playa and valley saltbush scrub. In general, it is absent from areas of steep slope or dense vegetation, or areas subject to seasonal flooding.

The density of vegetation on the Madera site, repeated disturbance associated with cultivation, and the paucity of small burrows preclude blunt-nosed leopard lizard from occurring on the site (H. T. Harvey & Associates, 2004; **Appendix E**).

Giant Garter Snake (*Thamnophis gigas*)

Federal Status – Threatened

Giant garter snakes can reach lengths of up to five feet. The dorsal side is brown with a yellow dorsal stripe and two paler lateral stripes. Ventral coloration is cream to olive color. Sexual maturity is reached at three years for males and five years for females. Mating occurs in March-April with a clutch size of 10 to 46.

The giant garter snake is an aquatic species showing a preference for marshes and sloughs as opposed to larger rivers and streams. The historic distribution is from the Sacramento and San Joaquin Valleys as far north as Butte County down to Kern County. Ideal identification period ranges from March to October. The giant garter snake relies on fish, amphibians, and amphibian larvae as a primary diet and hunts primarily during morning and evening hours. Nighttime hours are spent in mammal burrows for cover and refuge.

Though the Madera site is located within the San Joaquin Valley Recovery Unit, suitable habitat is not present on site. Schmidt Creek realignment ditch does not support flows or prey base for the survival of giant garter snake populations.

Fresno Kangaroo Rat (*Dipodomys nitratoides exilis*)

Federal Status – Endangered

The Fresno kangaroo rat historically occupied areas of grassland and chenopod scrub on the San Joaquin Valley floor from about the Merced River, Merced County, on the north, to the northern edge of the marshes surrounding Tulare Lake, Kings County, on the south; and the valley floor's edge west to the wetlands of the Fresno Slough and San Joaquin River. The subspecies' current distribution is greatly reduced. No known populations remain within the subspecies' historical range in Merced, Madera, and Fresno Counties. At least two populations are known to remain in Kings County. Outside of its historical distribution, but within Merced County, a population of

Dipodomys nitratooides exists, but it is uncertain whether it is of the *D. n. exilis* subspecies. The Fresno kangaroo rat occupies sands and sandy soils in chenopod scrub and annual grassland communities. Recent occurrences have all been in alkali sink communities between about 200 to 300 feet in elevation. The subspecies is nocturnally active year round (USFWS, 1998). Due to the historic farming practices associated with the site, suitable habitat is not present. The species was not observed on the surveys performed by AES and H.T. Harvey and Associates biologists, and suitable habitat was not found on the site.

San Joaquin Kit Fox (*Vulpes macrotis mutica*)

Federal Status – Endangered

The Federally endangered San Joaquin kit fox occurs in grasslands or grassy openings in shrubland. The site and vicinity possesses croplands dominated by orchards and vineyards. Croplands of the region are interspersed with smaller farm tracts of row crops and developed areas. The nearest reported occurrence is from grassland habitats approximately 11 miles southwest of the site.

Cultivation of the site has precluded formation of burrows for denning. The San Joaquin kit fox prey base, composed of small mammals such as California ground squirrels and kangaroo rats, are absent from the Madera site and vicinity. San Joaquin kit foxes do not occur on the Madera site (H. T. Harvey & Associates, 2004; **Appendix E**).

TARGET SPECIES LIST - NORTH FORK SITE

The North Fork site, located in the Sierra Nevada foothills, provides contrasting habitat for special-status species, compared to the Madera site. Habitat requirements for each special-status species found in the region were assessed and compared to the habitats occurring within the North Fork site and adjacent areas. The target species list (**Table 3.5-4**) contains those Federal species that have suitable habitat on site. **Table 3.5-4** identifies the scientific and common name, Federal status, habitat requirements, and ideal period of identification for each species.

The property and/or surrounding vicinity represents potential habitat for four Federal special-status species from the target species list.

Special Status Plant Species

The North Fork site has habitat for Mariposa pussypaws. As described in **Table 3.5-4**, habitats for this species are generally chaparral and cismontane woodland on granitic substrate. Due to the ecotonal habitats (as described in **Section 3.5.2**, Vegetation Communities) of the site and the relatively undisturbed nature, the site does provide habitat for this species. Reconnaissance level surveys performed by H.T. Harvey and Associates on May 11 and 12, 2005 did not detect any special-status plant species.

TABLE 3.5-4
TARGET SPECIAL-STATUS SPECIES LIST: NORTH FORK SITE

SCIENTIFIC NAME COMMON NAME	FEDERAL STATUS	DISTRIBUTION	HABITAT REQUIREMENTS	PERIOD OF IDENTIFICATION
PLANTS				
<i>Calyptridium pulchellum</i> Mariposa pussypaws	FT	Fresno, Madera, and Mariposa counties. Elevation 400 to 1,220 m.	Chaparral and cismontane woodland on granitic or metamorphic substrate.	April to August
ANIMALS				
Insects				
<i>Desmocerus californicus</i> <i>dimorphus</i> Valley elderberry longhorn beetle	FT	Riparian forests of the Central Valley from Shasta County to Kern County.	Breeds and forages exclusively on elderberry shrubs (<i>Sambucus</i> spp.), specifically on stems with diameter of one inch or greater, below 800 m in elevation.	All year.
Amphibians				
<i>Rana aurora draytonii</i> California red-legged frog	FT	Coastal drainages from Marin County south to Baja California, Mexico. Range includes the San Francisco Bay area, central coast, and Sierra Nevada Range.	Lowlands and foothills in or near permanent or late-season sources of deep water with dense, shrubby, or emergent vegetation.	November to February (adults) March 15 to May15 (larvae)
Mammals				
<i>Martes pennanti pacifica</i> Pacific fisher	FC	Northwestern California, Cascade Range, and Sierra Nevada above 1,000 m.	Favors stands of pine, Douglas fir, and true fir.	Consult agency.

NOTES:

FEDERAL STATUS CODES: (U.S. Fish and Wildlife Service or National Marine Fisheries Service)

FC = Federal candidate for listing

FE = Listed as endangered by the Federal Government

FT = Listed as threatened by the Federal Government

FD = Delisted-Species will be monitored for 5 years

The target species table does not include those species that are:

- 1) Listed as endangered or threatened under the California Endangered Species Act (or proposed for listing);
- 2) Designated as endangered or rare or species of concern, pursuant to California Fish and Game Code (§ 1901);
- 3) Designated as fully protected, pursuant to California Fish and Game Code (§§ 3511, 4700, or 5050);
- 4) Plants or animals that meet the definitions of rare or endangered under CEQA;
- 5) Plants listed as rare under the California Native Plant Protection Act; or
- 6) Plants considered by the California Native Plant Society (CNPS) to be "rare, threatened, or endangered in California" (Lists 1B, 2, and 4) or by other conservation organizations such as the Audubon Society or Western Bat Working Group.

SOURCE: USFWS, Sacramento Office, 2004; CDFG, 2004a, b, c, d; CNDDDB, 2004 (Berenda and Kismet 7 ½-minute quadrangles); NatureServe 2005; H. T. Harvey & Associates, Inc., 2004 (**Appendix D**); USFS, Pacific Southwest Region, 2005.

Valley Elderberry Longhorn Beetle (*Desmocerus californicus dimorphus*)

Federal Status - Threatened

The valley elderberry longhorn beetle (VELB) is completely dependent on its host plant, elderberry (*Sambucus mexicana*), in California's Central Valley during its entire life cycle (USFWS, 1999). Valley elderberry longhorn beetle larvae live within the soft pith of the elderberry where they feed for 1 to 2 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 then tunnel into shrub stems and feed there. The VELB typically utilize stems that are greater than one inch in diameter at ground level (USFWS, 1999). Due largely to the loss of riparian habitat within California's Central Valley, the VELB populations in the State had decreased to a point that in 1980 the USFWS listed the species as threatened pursuant to the Federal Endangered Species Act.

AES biologists Tim Armstrong and Sarah Shannon conducted an elderberry survey on October 17 and 18 of 2006. Elderberry shrubs (*Sambucus* spp.), the host plant for the VELB, were mapped along Mission Drive in the Open Foothill Pine Woodland habitat and in the eastern part of the Interior Live Oak Woodland habitat. The number of plants at each location, the size of the stems, and the presence or absence of VELB exit holes is provided in **Section 4.5**.

California Red-Legged Frog (*Rana aurora draytonii*)

Federal Status – Threatened

The California red-legged frog (CRLF) is brown to reddish brown in color with prominent dorsolateral folds and has diffuse moderate-sized dark brown to black spots that sometimes have light centers. Distribution of red or red-orange pigment is highly variable, but is usually restricted to the belly and the undersurfaces of the thighs, legs, and feet. The breeding period is from November to April.

Habitat of CRLF is characterized by dense, shrubby riparian vegetation associated with deep, still or slow-moving water. The shrubby riparian vegetation that structurally seems to be most suitable for CRLF is that provided by arroyo willow (*Salix lasiolepis*); cattails (*Typha* sp.) and bulrushes (*Scirpus* sp.). Although CRLF can occur in ephemeral or permanent streams or ponds, populations probably cannot be maintained in ephemeral streams in which surface water disappears, such as those within the North Fork site.

The North Fork site is located within Recovery Unit 1-Sierra Nevada Foothills and Central Valley. However, the site is not located within a core area, an area where recovery actions will be focused. CRLFs have been extirpated from the region.

Pacific Fisher (*Martes pennanti pacifica*)

Federal Status – Candidate

Habitat for this species varies from upland and lowland forests, including coniferous, mixed, and deciduous forests. The species commonly uses hardwood stands in summer, but prefers coniferous or mixed forests in the winter. Typically, open areas are avoided. Optimal conditions are forest tracts of 245 acres or more that are interconnected with other large areas of suitable habitat; a dense understory of young conifers, shrubs, and herbaceous cover is important in the summer. The fisher is adapted for climbing, but is primarily terrestrial. During inactive periods, the fisher resides in dens of tree hollows, under logs, in ground or rocky crevices, or in branches of conifers (warmer months).

The Pacific fisher 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.

Reconnaissance level surveys have determined that it is unlikely that fishers utilize the North Fork site because it lacks a dense understory of young conifers and does not have a sufficient density of mature conifers.

3.5.5 WATERS OF THE UNITED STATES

According to the Code of Federal Regulations (33 CFR Part 328), the term “Waters of the United States” is defined as:

- All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
- All interstate waters including interstate wetlands; or
- All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sand flats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use or degradation of which could affect interstate or foreign commerce including any such waters.

“Wetlands” are defined as:

Waters of the U. S. that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of

vegetation typically adapted for life in saturated soil conditions. Wetlands that meet these criteria during only a portion of the growing season are classified as seasonal wetlands.

MADERA SITE

H.T. Harvey and Associates conducted a delineation of waters of the U.S. occurring within the Madera site on April 13, 2005. The Identification of Waters of the U.S. Report was submitted to the U.S. Army Corps of Engineers on September 9, 2005 along with a letter requesting a jurisdictional determination. The jurisdictional determination letter, dated January 10, 2006 (file #200501033), in concurrence with the wetland delineation map, is shown in **Appendix F**.

Approximately 8.51 acres of potentially jurisdictional waters occupy the Madera site. Jurisdictional waters of the U.S. include 0.95 acres of wetlands throughout Schmidt Creek Ditch and 0.74 acres of seasonal wetland in the former Schmidt Creek watercourse. Additionally, jurisdictional “other waters” include 4.55 acres as tributary water throughout Schmidt Creek and ponding within the former Schmidt Creek watercourse and adjacent “wash” areas (2.27 acres). The hydrology supporting these areas is due to perching of incidental rainfall, storm water runoff, and ordinary high water flows in various areas of the current and former Schmidt Creek watercourses. Underlying hardpan forms the bed of the creek causing areas of deposited sands within the creek to remain saturated for extended periods during winter, sustaining emergent species well into the growing season. The depth to the underlying hardpan has also remained shallow under the former watercourse, resulting in an extended saturation period that allows seasonal hydrophytic vegetation to flourish. Hardpan depth throughout the rest of the site is deep enough to preclude a higher water table, which inhibits wetland vegetation.

All identified waters of the U.S. are subject to USACE jurisdiction. An acreage estimate of waters of the U.S. within the project area is presented in **Table 3.5-5** below. **Figure 3.5-8** shows the waters of the U.S. occurring on the Madera site.

TABLE 3.5-5
WATERS OF THE U.S. ACREAGE ESTIMATE – MADERA SITE

Land Form	Acreage
Schmidt Creek Drainage Ditch	6.82
Wetlands	1.69
Total	8.51

SOURCE: H. T. Harvey & Associates, 2005; AES, 2004.

Figure 3.5-8 Waters of the U.S.-Madera Site

NORTH FORK SITE

H.T. Harvey and Associates, on May 11 and 12, 2005, conducted an assessment of wetlands occurring within the North Fork site. Six watershed drainages were observed on the site (**Figure 3.5-9**). The four drainages on the western side of the site drain into Willow Creek, while the two on the eastern side of the site drain into Whiskey Creek. Two of the drainages (one on the eastern side and one on the western side) are USGS (U.S. Geological Survey) blue-line streams. Due to the connectivity to identified waters of the U.S., all drainages are considered jurisdictional other waters of the U.S. The pond and potential wetlands located on the site occupy approximately 1.19 acres and are also hydrologically connected to waters of the U.S., and are therefore considered jurisdictional. An acreage estimate of waters of the U.S. within the site is presented in **Table 3.5-6** below.

TABLE 3.5-6
WATERS OF THE U.S. ACREAGE ESTIMATE – NORTH FORK SITE

Land Form	Acreage
Streams and other potential wetlands	1.11
Ponds	0.08
Total	1.19

SOURCE: H. T. Harvey & Associates, 2005; AES, 2004.

Figure 3.5-9 Waters of the U.S- North Fork Site