3.4 BIOLOGICAL RESOURCES

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Introduction

The Biological Resources section of the Draft EIR evaluates existing and potentially occurring flora and fauna on the Fairfax Timberland Conversion project site; describes potential significant adverse impacts to those resources resulting from the proposed project; and identifies measures to eliminate or reduce those impacts, where feasible. Existing plant communities, wetlands, wildlife habitats, and the potential for special-status species and communities occurring on the project site are discussed. This section was prepared by Monk & Associates, Inc. (See Appendix H for a Statement of Qualifications) based on site surveys and research they conducted with assistance from Raney Planning & Management. Full taxonomic tables are included as Appendix I to the Draft EIR. Additional sources include: the *Fairfax Conversion Fisheries Assessment*[1] prepared by Inland Ecosystems (Appendix J to the Draft EIR), and plant and animal survey guidelines for evaluating impacts to wildlife movement corridors,[2] conducting rare plant surveys,[3] and United States Fish and Wildlife Service guidelines.[4]

Environmental setting

The following section describes the project location and the current characteristics of the project site.

Project Location

The project site is located approximately one-half mile southeast of the town of Annapolis in Sonoma County, California. The project area is approximately five miles east of the Pacific Ocean. Buildings or other structures are not located on the site. Two dirt roads provide access from Annapolis Road through the project site to adjoining properties.

General Characteristics of the Project Site and Surrounding Lands

The project site has had a long history of resource use, and was converted to agriculture use in the late 1800s or early 1900s. The project site was completely logged over 40 years ago and was used for sheep production and apple orchards until the early 1960's. Remnant apple trees remain in the grasslands in the northern portion of the project site. The dominant vegetation community on the project site is north coast coniferous forest, with coastal scrub, northern coastal grasslands, and riparian vegetation occupying smaller but significant proportions of the site. Seasonal wetlands and a small man-made pond are also present onsite.

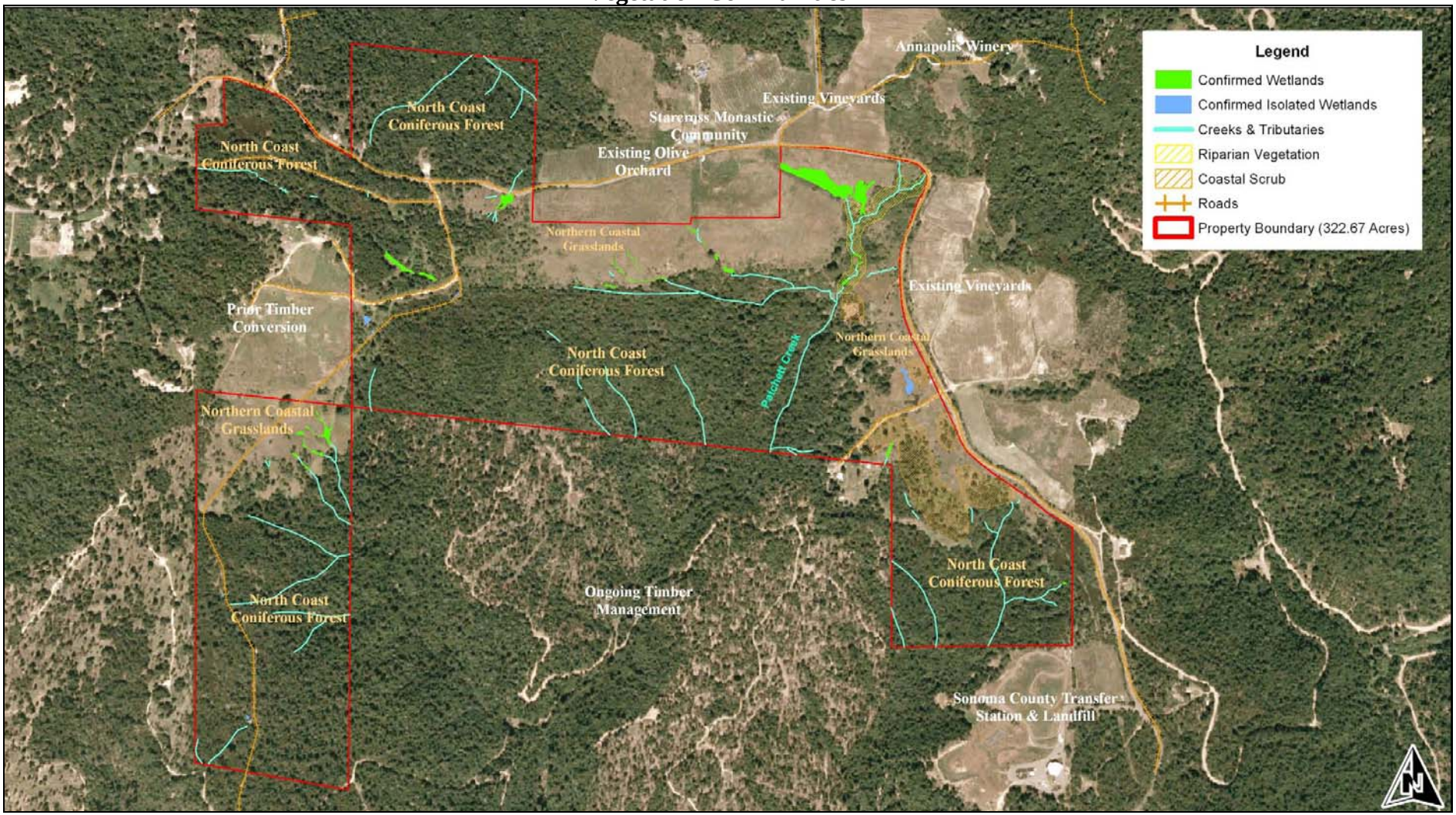
The topography of the project site ranges from gently sloping hills to steep ravines. Elevations range from approximately 520 to 850 feet above sea level. The highest elevations are located near Annapolis Road and along the southwestern edge of the project site. Patchett Creek and approximately twenty ephemeral tributaries drain the project site. The distance between the tops-of-bank in tributaries ranges from 1 to 12 feet across. Patchett Creek is the primary drainage on the project site and flows from north to south along the northeast side of the site, dropping in elevation into a progressively more incised creekbed. Patchett Creek has intermittent flows that typically cease by July. In its southern reaches on the project site it is completely covered by forest canopy. Under this canopy its deeper pools, which are 2 to 3 feet deep, remain inundated year round.

All tributaries south of Annapolis Road eventually drain into the Wheatfield fork of the Gualala River, approximately 2 miles south of the project site. The Wheatfield fork of the Gualala River flows from east to west, and is a tributary to the South Fork of the Gualala River, approximately 5 miles downstream. The South Fork of the Gualala River flows southeast to northwest along the San Andreas Fault, eventually emptying into the Pacific Ocean 11 miles downstream at the town of Gualala. North of Annapolis Road, two deeply incised ephemeral tributaries drain into Grasshopper Creek 0.25-mile to the north of the project site. Grasshopper Creek flows from southeast to northwest 1.75 miles before draining into Buckeye Creek, which flows east to west into the South Fork of the Gualala River, 10 miles downstream.

A small, man-made pond and a man-made seasonal wetland, which pool water in the winter and spring, are located on the west and east sides of the project site, respectively. Seasonal wetlands occur in grassland swales, primarily at the head or along the edges of the tributaries onsite.

Present vegetation patterns in the vicinity of the project area are likely the result of early settlement, grazing, and subsequent manipulations. Cattle and sheep have grazed the area for many years, and early ranchers logged and continually burned the project area and surrounding vicinity. Douglas-fir, sparse stands of redwood, and considerable amounts of tanoak and brush have become reestablished in portions of the property where agriculture became less dominant over the last 25 years. Current land uses in the area include several single family homes and associated outbuildings that are located to the north, south and west of the property boundary. Two historic sites, the Old Horicon School and the Annapolis Cemetery, are located immediately to the west of the project site. Starcross Monastic Community occupies property north of the project site. Other surrounding land uses include vineyards to the northeast, a county refuse transfer station to the south, and logging operations south and southwest of the project site (See Figure 3.4-1, Vegetation Communities).

Figure 3.4-1
Vegetation Communities



Project Site

The project site consists of 190 acres of the 324-acre Artesa property. The 190-acre portion of the property, which is proposed for conversion to vineyard, reservoir, and corporation yard, is hereafter referred to as the "project site" (See Figure 2-4, Project Site Plan, in the Project Description chapter of this Draft EIR). The project site includes a 170-acre timber conversion area and approximately 19 acres of grassland.

Plant Communities

As described in this Monk & Associates *Biological Resources Analysis*, the project site contains examples of five plant communities: North Coast Coniferous Forest, Northern Coastal Grassland, Coastal Scrub, Riparian Vegetation, and Seasonal Wetlands. These communities are described below. A complete list of plant and tree species observed during the project biological resource surveys is provided in Table 3.4-1.

North Coast Coniferous Forest

North coast coniferous forest is the dominant community, covering the majority of the project site. Second growth north coast coniferous forest is dominated by stands of Douglas-fir (*Pseudotsuga menziesii* var. *menziesii*) and wide spread growth of tan oak (*Lithocarpus densiflorus* var. *densiflorus*). Redwood (*Sequoia sempervirens*), madrone (*Arbutus menziesii*), sugar pine (*Pinus lambertiana*) and California bay (*Umbellularia californica*) trees occur sporadically on the site. Redwoods are concentrated primarily along the steeper drainages of the project site. As the project site was formerly harvested, likely between 1940 and 1960, no "old growth" occurs on the project site. Much of the timbered areas are dominated by dense stands of tan oak. Where timber is less dense, there is often a dense, brushy understory that likely became established after the site was logged. The project THP notes that the site does not currently support many snags. Most snags previously occurring on the project site were removed by past landowners, who logged and burned the site in order to obtain grazing land for their livestock. The understory shrub vegetation is primarily composed of hairy manzanita (*Arctostaphylos columbiana*), Annapolis manzanita (*A. stanfordiana* x *A. manzanita)*, California huckleberry (*Vaccinium ovatum*), and coast whitethorn (*Ceanothus incanus*). Herbaceous understory species include yerba de selva (*Whipplea modesta*), bracken fern (*Pteridium aquilinum* var. *pubescens*), western sword fern (*Polystichum munitum*), California milkwort (*Polygala californica*), evergreen violet (*Viola sempervirens*), Douglas' iris (*Iris douglasiana*), redwood sorrel (*Oxalis oregana*), scoliopus (*Scoliopus bigelovii*), giant trillium (*Trillium chloropetalum*), fairy slipper (*Calypso bulbosa*), phantom orchid (*Cephalanthera austinae*), piperia (*Piperia elongata*), white-veined wintergreen (*Pyrola picta*), and yerba buena (*Satureja douglasii*).

Table 3.4-1
Wildlife and Plant Species Observed on the Project Site During Surveys

Reptiles/Amphibians	Mammals	Birds	Plants/Trees/Lichen
California giant salamander *Dicamptodon ensatus*	Virginia opossum *Didelphis virginiana*	Turkey vulture *Cathartes aura*	Giant Chain fern *Woodwardia fimbriata*
Arboreal salamander *Aneides lugubris*	Western gray squirrel *Sciurus griseus*	Red-tailed hawk *Buteo jamaicensis*	Bracken fern *Pteridium aquilinum pubescens*
California slender salamander *Batrachoseps attenuatus*	Trowbridge's shrew *Sorex trowbridgii*	American kestrel *Falco sparverius*	Western lady fern *Athyrium filix-femina cyclosporum*
Foothill yellow-legged frog *Rana boylii*	Broad-footed mole *Scapanus latimanus*	Merlin *Falco columbarius*	Western sword fern *Polystichum munitum*
Pacific tree frog *Hyla regilla*	Black-tailed hare *Lepus californicus*	Wild turkey *Meleagris gallopavo*	Giant horsetail *Equisetum telemateia braunii*
Western fence lizard *Sceloporus occidentalis*	Yellow-cheeked chipmunk *Tamias ochrogenys*	California quail *Callipepla californica*	California polypody *Polypodium californicum*
Sagebrush lizard *Sceloporus graciosus*	Botta's pocket gopher *Thomomys bottae*	Band-tailed pigeon *Columba fasciata*	Goldback fern *Pentagramma triangularis triangularis*
Western skink *Eumeces skiltonianus*	Columbian black-tailed deer *Odocoileus hemionus columbianus*	Barn owl *Tyto alba*	Sugar Pine *Pinus lambertiana*
Northern alligator lizard *Elgaria coerulea*	Deer mouse *Peromyscus maniculatus*	Western screech-owl *Otus kennicottii*	Douglas-fir *Pseudotsuga menziesii menziesii*
Racer *Coluber constrictor*	Dusky-footed woodrat *Neotoma fuscipes*	Anna's hummingbird *Calypte anna*	Redwood *Sequoia sempervirens*
Gopher snake *Pituophis melanoleucus*	California meadow vole *Microtus californicus*	Acorn woodpecker *Melanerpes formicivorus*	Western poison-oak *Toxicodendron diversilobum*
California red-sided garter snake *Thamnophis sirtalis infernalis*	Coyote *Canis latrans*	Hairy woodpecker *Picoides villosus*	Rattlesnake weed *Daucus pusillus*
	Red fox *Vulpes vulpes*	Northern flicker *Colaptes auratus*	California coyote-thistle *Eryngium aristulatum aristulatum*
	Gray fox *Urocyon cinereoargenteus*	Western wood-pewee *Contopus sordidulus*	Sweet fennel *Foeniculum vulgare**
	Raccoon *Procyon lotor*	Pacific-slope flycatcher *Empidonax difficilis*	Sweet cicely *Osmorhiza chilensis*
	Striped skunk *Mephitis mephitis*	Ash-throated flycatcher *Myiarchus cinerascens*	*Purple sanicle* *Sanicula bipinnatifida*
	Wild pig *Sus scrofa*	Hutton's vireo *Vireo huttoni*	Gamble weed *Sanicula crassicaulis*
		Steller's jay *Cyanocitta stelleri*	Torilis *Torilis arvensis**

Table 3.4-1
Wildlife and Plant Species Observed on the Project Site During Surveys

Reptiles/Amphibians	Mammals	Birds	Plants/Trees/Lichen
		Western scrub jay *Aphelocoma californica*	Yarrow *Achillea millefolium*
		American crow *Corvus brachyrhynchos*	Pearly everlasting *Anaphalis margaritacea*
		Common raven *Corvus corax*	Broad-leaf aster *Eurybia radulina*
		Northern rough-winged swallow *Stelgidopteryx serripennis*	Coyote brush *Baccharis pilularis*
		Chestnut-backed chickadee *Poecile rufescens*	English daisy *Bellis perennis**
		Oak titmouse *Baeolophus inornatus*	Italian thistle *Carduus pycnocephalus**
		Bushtit *Psaltriparus minimus*	Pineapple-weed *Chamomilla suaveolens**
		White-breasted nuthatch *Sitta carolinensis*	Corn chrysanthemum *Chrysanthemum segetum**
		Brown creeper *Certhia americana*	Bull thistle *Cirsium vulgare**
		Winter wren *Troglodytes troglodytes*	Hairy fleabane *Conyza bonariensis**
		Western bluebird *Sialia mexicana*	Woolly sunflower *Eriophyllum lanatum achillaeoides*
		Swainson's thrush *Catharus ustulatus*	Western goldenrod *Euthamia occidentalis*
		American robin *Turdus migratorius*	Narrow-leaved filago *Filago gallica**
		Wrentit *Chamaea fasciata*	Weedy cudweed *Gnaphalium luteo-album**
		European starling *Sturnus vulgaris*	Western march cudweed *Gnaphalium purpureum*
		Orange-crowned warbler *Vermivora celata*	White hawkweed *Hieracium albiflorum*
		Yellow warbler *Dendroica petechia*	Rough cat's-ear *Hypochaeris radicata**
		Wilson's warbler *Wilsonia pusilla*	Ox-ear daisy *Leucanthemum vulgare**
		Western tanager *Piranga ludoviciana*	Slender tarweed *Madia gracilis*
		Spotted towhee *Pipilo maculatus*	Woolly-tuft malacothrix *Malacothrix floccifera*
		California towhee *Pipilo crissalis*	Microseris *Microseris paludosa*

Table 3.4-1
Wildlife and Plant Species Observed on the Project Site During Surveys

Reptiles/Amphibians	Mammals	Birds	Plants/Trees/Lichen
		Savannah sparrow *Passerculus sandwichensis*	Dwarf woolly-heads *Psilocarphus brevissimus brevissimus*
		Dark-eyed junco *Junco hyemalis*	Round woolly-marbles *Psilocarphus tenellus globiferus*
		Red-winged blackbird *Agelaius phoeniceus*	Butterweed *Senecio aronicoides*
		Brown-headed cowbird *Molothrus ater*	Milk thistle *Silybum marianum**
		Purple finch *Carpodacus purpureus*	Soliva *Soliva sessilis**
		Lesser goldfinch *Carduelis psaltria*	Prickly sow-thistle *Sonchus asper asper**
			Common sow-thistle *Sonchus oleraceus**
			California hazelnut *Corylus cornuta californica*
			Yellow and blue forget-me-not *Myosotis discolor**
			Coast popcorn flower *Plagiobothrys undulatus*
			Milk maids *Cardamine californica sinuata*
			Wild radish *Raphanus sativus**
			Wastewater water-starwort *Callitriche trochlearis*
			California honeysuckle *Lonicera hispidula vacillans*
			Mouse-ear chickweed *Cerastium glomeratum**
			Moenchia *Moenchia erecta erecta**
			Windmill-pink *Silene gallica**
			Saltmarsh sand-spurrey *Spergularia marina*
			Sugar stick *Allotropa virgata*
			Madrone *Arbutus menziesii*
			Hairy manzanita *Arctostaphylos columbiana*
			Annapolis manzanita *Arctostaphylos manzanita x stanfordiana*
			White-veined wintergreen *Pyrola picta*
			Western azalea *Rhododendron occidentale*

Table 3.4-1
Wildlife and Plant Species Observed on the Project Site During Surveys

Reptiles/Amphibians	Mammals	Birds	Plants/Trees/Lichen
			California huckleberry *Vaccinium ovatum*
			Turkey mullein *Eremocarpus setigerus*
			French broom *Genista monspessulana**
			Tangier pea *Lathyrus tingitanus**
			Lotus *Lotus angustissimus**
			Slender trefoil *Lotus formosissimus*
			Spanish-clover *Lotus purshianus purshianus*
			Common trefoil *Lotus wrangelianus*
			Miniature lupine *Lupinus bicolor*
			California burclover *Medicago polymorpha**
			Santa Ynez false lupine *Thermopsis macrophylla*
			Gray's clover *Trifolium barbigerum andrewsii*
			Dwarf sack clover *Trifolium depauperatum*
			Little hop clover *Trifolium dubium**
			Rose clover *Trifolium hirtum**
			Clover *Trifolium oliganthum*
			White clover *Trifolium repens**
			Subterranean clover *Trifolium subterraneum**
			Tomcat clover *Trifolium willdenovii*
			Narrow-leaved vetch *Vicia sativa nigra**
			Tanbark oak *Lithocarpus densiflorus*
			Scrub oak *Quercus berberidifolia*
			Garry oak *Quercus garryana garryana*
			Interior live oak *Quercus wislizeni wislizeni*
			Davy's Centaury *Zeltnera davyi*

Table 3.4-1
Wildlife and Plant Species Observed on the Project Site During Surveys

Reptiles/Amphibians	Mammals	Birds	Plants/Trees/Lichen
			Timwort *Cicendia quadrangularis*
			Broad-leaf filaree *Erodium botrys**
			Cut-leaf geranium *Geranium dissectum**
			Nemophila *Nemophila parviflora parviflora*
			Klamathweed *Hypericum perforatum**
			Field mint *Mentha arvensis*
			Pennyroyal *Mentha pulegium**
			Self-heal *Prunella vulgaris lanceolata*
			Yerba Buena *Satureja douglasii*
			Rigid hedge-nettle *Stachys ajugoides rigida*
			California bay *Umbellularia californica*
			Flax *Linum bienne**
			Hyssop loosestrife *Lythrum hyssopifolium**
			Pacific bayberry *Myrica californica*
			Sun cup *Camissonia ovata*
			Four spot *Clarkia purpurea quadrivulnera*
			Redwood sorrel *Oxalis oregana*
			Yerba de selva *Whipplea modesta*
			English plantain *Plantago lanceolata**
			Needle-leaved navarretia *Navarretia intertexta intertexta*
			Skunkweed *Navarretia squarrosa*
			Navarretia *Navarretia viscidula*
			California milkwort *Polygala californica*
			Common knotweed *Polygonum arenastrum**
			Sheep sorrel *Rumex acetosella**

Table 3.4-1
Wildlife and Plant Species Observed on the Project Site During Surveys

Reptiles/Amphibians	Mammals	Birds	Plants/Trees/Lichen
			Curly dock *Rumex crispus**
			Red maids *Calandrinia ciliata*
			Miner's lettuce *Claytonia perfoliata*
			Blinks *Montia fontana*
			Scarlet pimpernel *Anagallis arvensis**
			Mosquito bills *Dodecatheon hendersonii*
			Starflower *Trientalis latifolia*
			California buttercup *Ranunculus californicus*
			California lilac *Ceanothus foliosus foliosus*
			Coast whitethorn *Ceanothus incanus*
			Jim brush *Ceanothus oliganthus sorediatus*
			California coffeeberry Rosaceae *Rhamnus californica californica*
			Cotoneaster *Cotoneaster pannosa**
			Wood strawberry *Fragaria vesca*
			Toyon *Heteromeles arbutifolia*
			Oceanspray *Holodiscus discolor*
			Thin-lobed horkelia *Horkelia tenuiloba*
			Apple tree *Malus* sp.
			Wood rose *Rosa gymnocarpa*
			Nootka rose *Rosa nutkana nutkana*
			Wood rose *Rosa spithamea*
			Himalayan blackberry *Rubus discolor**
			Blackcap raspberry *Rubus leucodermis*
			Thimbleberry *Rubus parviflorus*

Table 3.4-1
Wildlife and Plant Species Observed on the Project Site During Surveys

Reptiles/Amphibians	Mammals	Birds	Plants/Trees/Lichen
			Salmonberry *Rubus spectabilis*
			California blackberry *Rubus ursinus*
			Goose grass *Galium aparine**
			California bedstraw *Galium californicum californicum*
			Wall bedstraw *Galium parisiense**
			Field madder *Sherardia arvensis**
			Weeping willow *Salix babylonica**
			Arroyo willow *Salix lasiolepis bigelovii*
			Alumroot *Heuchera micrantha*
			Common monkeyflower *Mimulus guttatus*
			Musk monkeyflower *Mimulus moschatus*
			Indian warrior *Pedicularis densiflora*
			California figwort *Scrophularia californica*
			Butter-and-eggs *Triphysaria eriantha rosea*
			Owl's-clover *Triphysaria pusilla*
			Triphysaria *Triphysaria versicolor faucibarbata*
			Woolly mullein *Verbascum thapsus**
			Wand mullein *Verbascum virgatum**
			Short-spurred plectritis *Plectritis macrocera*
			Western heart's ease *Viola ocellata*
			Evergreen violet *Viola sempervirens*
			Stellate coastal sedge *Carex echinata phyllomanica*
			Slough sedge *Carex obnupta*
			Clustered field-sedge *Carex praegracilis*
			Tall flatsedge *Cyperus eragrostis*

Table 3.4-1
Wildlife and Plant Species Observed on the Project Site During Surveys

Reptiles/Amphibians	Mammals	Birds	Plants/Trees/Lichen
			Creeping spikerush *Eleocharis macrostachya*
			Small-fruit bulrush *Schoenoplectus microcarpus*
			Douglas' iris *Iris douglasiana*
			Blue-eyed grass *Sisyrinchium bellum*
			Baltic rush *Juncus balticus*
			Bolander's rush *Juncus bolanderi*
			Toad rush *Juncus bufonius*
			Capped rush *Juncus capitatus**
			Rush *Juncus covillei obtusatus*
			Mariposa rush *Juncus dubius*
			Soft rush *Juncus effusus brunneus*
			Slender rush *Juncus occidentalis*
			Common wood-rush *Luzula comosa*
			Brodiaea *Brodiaea terrestris terrestris*
			Pussy ears *Calochortus tolmiei*
			Soap plant *Chlorogalum pomeridianum pomeridianum*
			Blue dicks *Dichelostemma capitatum capitatum*
			Fairy bells *Disporum hookeri*
			Daffodil *Narcissus* sp.*
			Scoliopus *Scoliopus bigelovii*
			False Solomon's seal *Smilacina stellata*
			Giant trillium *Trillium chloropetalum*
			White brodiaea *Triteleia hyacinthina*
			Ithuriel's spear *Triteleia laxa*

Table 3.4-1 Wildlife and Plant Species Observed on the Project Site During Surveys			
Reptiles/Amphibians	**Mammals**	**Birds**	**Plants/Trees/Lichen**
			Fairy slipper *Calypso bulbosa*
			Phantom orchid *Cephalanthera austiniae*
			Piperia *Piperia elongata*
			Colonial bent *Agrostis capillaris**
			Leafy bent *Agrostis pallens*
			Silver European hairgrass *Aira caryophyllea**
			Slender wild oat *Avena barbata**
			Quaking grass *Briza maxima**
			Small quaking grass *Briza minor**
			Ripgut grass *Bromus diandrus**
			soft chess *Bromus hordeaceus**
			Cheat grass *Bromus tectorum**
			Pacific small-reedgrass *Calamagrostis nutkaensis*
			Pampas grass *Cortaderia jubata**
			Hedgehog dogtail *Cynosurus echinatus**
			Orchard grass *Dactylis glomerata**
			California oatgrass *Danthonia californica americana*
			Annual hairgrass *Deschampsia danthonioides*
			Blue wildrye *Elymus glaucus glaucus*
			California fescue *Festuca californica*
			Nit grass *Gastridium ventricosum**
			Common velvet grass *Holcus lanatus**
			Mediterranean barley *Hordeum marinum gussoneanum**
			Creeping wildrye *Leymus triticoides*
			Western panicgrass *Panicum acuminatum acuminatum*

Table 3.4-1
Wildlife and Plant Species Observed on the Project Site During Surveys

Reptiles/Amphibians	Mammals	Birds	Plants/Trees/Lichen
			Annual semaphore grass *Pleuropogon californicus*
			Annual bluegrass *Poa annua**
			Kentucky bluegrass *Poa pratensis pratensis**
			Medusa-head *Taeniatherum caput-medusae**
			Rat-tail fescue *Vulpia myuros hirsuta**

* Indicates a non-native species.
Source: Monk & Associates, Inc. 2007.

Common wildlife species found in north coast coniferous forest habitats include: broad-footed mole (*Scapanus latimanus*), dusky-footed woodrat (*Neotoma fuscipes*), western gray squirrel (*Sciurus griseus*), yellow-cheeked chipmunk (*Tamias ochrogenys*), Anna's hummingbird (*Calypte anna*), Western wood-peewee (*Contopus sordidulus*), Pacific-sloped flycatcher (*Empidonax difficilis*), hairy woodpecker (*Picoides villosus*), northern flicker (*Colaptes auratus*), Steller's jay (*Cyanocitta stelleri*), common raven (*Corvus corax*), chestnut-backed chickadee (*Poecile rufescens*), band-tailed pigeon (*Columba fasciata*), white-breasted nuthatch (*Sitta carolinensis*), brown creeper (*Certhia americana*), spotted towhee (*Pipilo maculatus*), dark-eyed junco (*Junco hyemalis*), winter wren (*Troglodytes troglodytes*), Wilson's warbler (*Wilsonia pusilla*), yellow warbler (*Dendroica petechia*), and ash-throated flycatcher (*Myiarchus cinerascens*).

Northern Coastal Grassland

Northern coastal grassland vegetation is found south and west of Annapolis Road and on the western side of the project site. A rich diversity of grasses occurs in the northern coastal grassland community onsite. Dominant grass species include the native Pacific small-reedgrass (*Calamagrostis nutkaensis*), annual hairgrass (*Deschampsia danthonioides*) and western panicgrass (*Panicum acuminatum* var. *acuminatum*), as well as the non-native quaking grass (*Briza maxima*). Subdominant grasses found in the coastal grassland include native species such as leafy bent grass (*Agrostis pallens*), California oatgrass (*Danthonia californica*), blue wildrye (*Elymus glaucus*), California fescue (*Festuca californica*) and creeping wildrye (*Leymus triticoides*). Non-native species include slender wild oat (*Avena barbata*), ripgut grass (*Bromus diandrus*), soft chess (*Bromus hordeaceus*), common velvet grass (*Holcus lanatus*), medusa-head (*Taeniatherum caput-medusae*), and hedgehog dogtail (*Cynosurus echinatus*). Other non-grass species commonly found in this plant community include bracken fern, rough cat's-ear (*Hypochaeris radicata*), slender trefoil (*Lotus formosissimus*), thin-lobed horkelia (*Horkelia tenuiloba*), English plantain (*Plantago lanceolata*), and blue-eyed grass (*Sisyrinchium bellum*). Apple trees (*Malus* sp.) from a former orchard are scattered in the grasslands south of Annapolis Road.

Common wildlife species observed in northern coastal grassland habitats include: coyote (*Canis latrans*), red fox (*Vulpes vulpes*), gray fox (*Urocyon cinereoargenteus*), black-tailed hare (*Lepus californicus*), western fence lizard (*Sceloporus occidentalis*), sagebrush lizard (*Sceloporus graciosus*), western skink (*Eumeces skiltonianus*), northern alligator lizard (*Elgaria coerulea*), racer (*Coluber constrictor*), and gopher snake (*Pituophis melanoleucus*). Birds observed included western bluebird (*Sialia mexicana*), savannah sparrow (*Passerculus sandwichensis*), and lesser goldfinch (*Carduelis psaltria*). Several avian species also were observed foraging over grassland habitats, including northern rough-winged swallow (*Stelgidopteryx serripennis*) and the turkey vulture (*Cathartes aura*). In addition, raptors such as, barn owl (*Tyto alba*), American kestrel (*Falco sparverius*), and red-tailed hawk (*Buteo jamaicensis*) were observed hunting over or within the grasslands. A healthy population of Calisoga spiders (*Calisoga longitarsis*) also occurs in grassland habitats of the project site, especially where grasslands transition to wet meadow areas.

Coastal Scrub

Coastal scrub forms an ecotone between the coastal grassland and coniferous forest plant communities on the east side of the project site. Dominant species are Annapolis manzanita, hairy manzanita, coast whitethorn and California coffeeberry (*Rhamnus californica* ssp. *californica*).

Wildlife species associated with the coastal scrub habitat onsite include: wrentit (*Chamaea fasciata*), Bewick's wren (*Thryomanes bewickii*), spotted towhee, California towhee (*Pipilo crissalis*), western scrub jay (*Aphelocoma californica*), California quail (*Callipepla californica*), western harvest mouse (*Reithrodontomys megalotis*), western terrestrial garter snake (*Thamnophis elegans*), western fence lizard, and sagebrush lizard.

Riparian Vegetation

Riparian vegetation occurs in limited areas along the drainages in the northeastern portion of the project site. Well developed riparian canopies do not occur. Owing to past timber harvesting on the project site, riparian vegetation is poorly developed. It is defined more by its location in and adjacent to tributaries rather than the actual plant community that is present. Dominant species are interior live oak (*Quercus wislizenii* var. *wislizenii*), California bay, California hazelnut (*Corylus cornuta* var. *californica*), Himalayan blackberry (*Rubus discolor*), California blackberry (*Rubus ursinus*), and poison oak (*Toxicodendron diversilobum*). None of the dominant North Coast riparian forest tree species characterized by Holland (1986) are present on the project site. These include black cottonwood (*Populus trichocarpa*), red alder (*Alnus rubra*), big-leaf maple (*Acer macrophyllum*), vine maple (*Acer circinatum*), dogwood (*Cornus* sp.) and willows (*Salix* sp.).

Most riparian communities have been described by Holland (1986) as sensitive communities meriting inclusion in the CNPS' *Inventory of Rare and Endangered Vascular Plants of California* (CNPS 2001). CDFG also considers most riparian plant

communities rare enough to warrant monitoring, and have included them in the California Natural Diversity Database (RareFind 3) records (CNDDB 2006). Riparian vegetation is also protected under §1602 of the California Fish and Game Code.

Riparian woodland is considered to be one of the most valuable wildlife habitats of temperate climates. The mixture of oaks, bays, and hazelnut along with the dense cover of shrubby understory vegetation including California and Himalayan blackberry and poison oak, provide wildlife with many different food sources, nesting opportunities and cover from predators. Wildlife observed in the adjacent woodland and grassland communities can also be expected to occur in the riparian woodland community due to its diverse plant composition, nesting, and foraging opportunities. Wildlife observed in the riparian woodland on the project site includes amphibians such as California slender salamander (*Batrachoseps attenuatus*), California giant salamander, and arboreal salamander (*Aneides lugubris*). Reptiles observed within the riparian community included California red-sided garter snake (*Thamnophis sirtalis infernalis*) and northern alligator lizard (*Elgaria coerulea*). Reptiles that likely occur in this habitat based upon M&A's experience with similar habitats in the region of the project site, but that were not observed include ring-neck snake (*Diadophis punctatus*), and California king snake (*Lampropeltis getulus*). Common birds that were observed or that are expected to use riparian woodland on the project site include red-shouldered hawk (*Buteo lineatus*), Cooper's hawk (*Accipiter cooperii*), sharp-shinned hawk (*Accipiter striatus*), great-horned owl *(Bubo virginianus*), barn owl, northern flicker, downy woodpecker (*Picoides pubescens*), acorn woodpecker (*Melanerpes formicivorus*), Nuttall's woodpecker (*Picoides nuttallii*), western scrub jay, Steller's jay, oak titmouse (*Baeolophus inornatus*), yellow-rumped warbler (*Dendroica coronata*), dark-eyed junco (*Junco hyemalis*), California towhee, and chestnut-backed chickadee. Common mammals observed or expected to use the riparian woodland for bedding areas, nesting, foraging, or to serve as wildlife corridors include western gray squirrel, raccoon (*Procyon lotor*), striped skunk (*Mephitis mephitis*), Columbian black-tailed deer (*Odocoileus hemionus columbianus*), Virginia opossum (*Didelphis virginiana*), and deer mouse (*Peromyscus maniculatus*).

Seasonal Wetlands

Seasonal wetlands occur on the project site in depressions and swales, primarily in the coastal grasslands. Dominant wetland species detected include rush (*Juncus* spp.), tall flatsedge (*Cyperus eragrostis*), creeping spikerush (*Eleocharis macrostachya*), field mint (*Mentha arvensis*), common knotweed (*Polygonum arenastrum*), and Mediterranean barley (*Hordeum marinum* ssp. *leporinum*). Other wetland species present were hyssop loosestrife (*Lythrum hyssopifolium*), coast popcornflower (*Plagiobothrys undulatus*), and needle-leaved navarretia (*Navarretia intertexta* ssp. *intertexta*).

Seasonal wetlands that inundate provide wildlife with a seasonal water source that allows animals to drink and forage in the water during the winter and spring months. Two man-made seasonal wetlands, and in several other instances mostly-man-made seasonal wetlands (e.g. tire rut depressions) that were inundated onsite provide breeding habitat for

Pacific tree frog (*Hyla regilla*), dragonfly (Anisoptera), damselfly (Zygoptera) and other invertebrates.

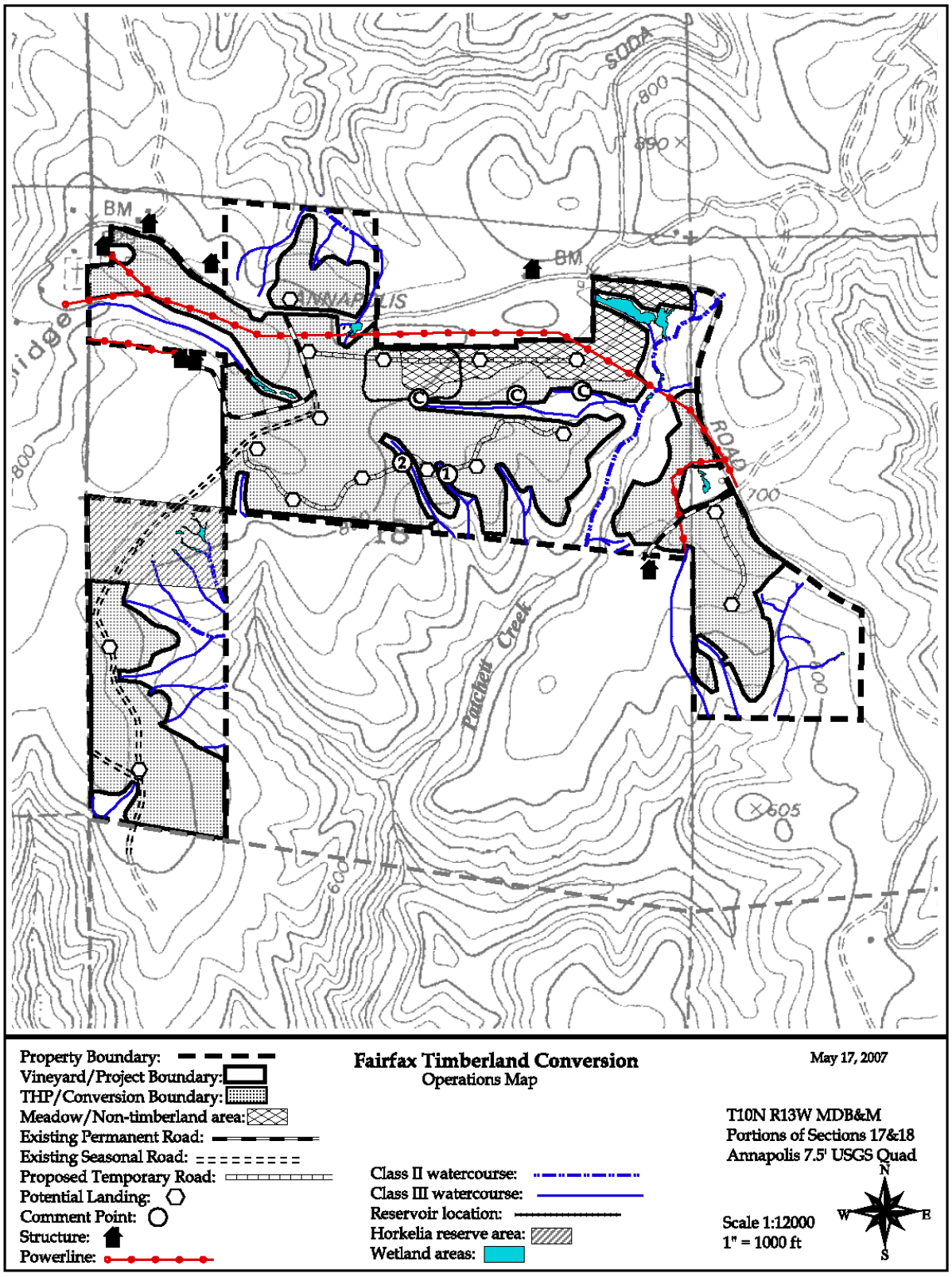
Watercourses

The project site is located primarily within the watershed of the Wheatfield Fork of the Gualala River (See Figure 2-2, Project Location Map, in the Project Description chapter of the Draft EIR). As noted in the THP, the two Class III watercourses in the northern portion of the conversion area drain into Grasshopper Creek, and then into Buckeye Creek, both of which are Class I watercourses. (Please refer to p. 2-4 of the Draft EIR for a discussion of stream class designations.) Various Class III watercourses combine in or near the southern portion of the conversion area to form Patchett Creek, which is a Class II watercourse for approximately 0.9 miles south of the vineyard boundary, and then becomes a Class I watercourse for another approximately 0.8 miles, eventually joining the Wheatfield Fork. Redfern Creek is a Class III watercourse in the northwestern portion of the project site draining west and then south into the Wheatfield Fork. The entire conversion area ultimately drains into the South Fork of the Gualala River, which drains into the Pacific Ocean.

Although the planned timber conversion units have been designed to avoid inclusion of any watercourses, a number of Class II and III watercourses exist adjacent to and between the conversion units (See Figure 3.4-2). In the course of THP preparation, the watercourses were walked, classed and checked for erosion, channel stability, canopy cover, large woody debris (LWD), and aquatic habitat. The watercourses generally have a gentle gradient, have shallow channels (one to 2½ feet deep), and are ephemeral, containing water only in the immediate aftermath of precipitation. The THP notes that the stream channels are stable, with varying amounts and types of streamside vegetation.

Canopy cover ranges from 0 to 100 percent, with the majority of the watercourses containing an average canopy cover of greater than 70 percent. The Class III watercourses contain limited amounts of LWD, little to no pool structure, and did not contain aquatic habitat. The Class II watercourse contains limited amounts of aquatic habitat, with only slightly more pools and LWD. The THP notes that these watercourses are in fair to good condition and would be protected during timber harvest operations by Watercourse and Lake Protection Zones (WLPZs) or Equipment Limitation Zones (ELZs), as required under the Forest Practice Rules.

Figure 3.4-2
Onsite Watercourses (as illustrated in Timber Conversion Operations Map)



Special-Status Species

For purposes of this EIR, special-status species are plants and animals that are legally protected under the California and Federal Endangered Species Acts (CESA and FESA, respectively) or other regulations, and species that are considered rare by the scientific community. Special-status species are defined as:

- Plants and animals that are listed or proposed for listing as threatened or endangered under the CESA (Fish and Game Code §2050 *et seq*.; 14 CCR §670.1 *et seq.*) or the FESA (50 CFR 17.12 for plants; 50 CFR 17.11 for animals; various notices in the Federal Register [FR] for proposed species);

- Plants and animals that are candidates for possible future listing as threatened or endangered under the FESA (50 CFR 17; FR Vol. 64, No. 205, pages 57533-57547, October 25, 1999); and under the CESA (California Fish and Game Code §2068);

- Plants and animals that meet the definition of endangered, rare, or threatened under the CEQA (14 CCR §15380) that may include species not found on either State or Federal Endangered Species lists;

- Plants occurring on Lists 1A, 1B, 2, 3, and 4 of CNPS' most current version of their electronic *Inventory* (CNPS 2001). The California Department of Fish and Game (CDFG) recognizes that Lists 1A, 1B, and 2 of the CNPS inventory contain plants that, in the majority of cases, would qualify for State listing, and CDFG requests their inclusion in EIRs. According to CNPS, all of the plants constituting List 1B meet the definitions of Section 1901, Chapter 10 (Native Plant Protection Act) or Sections 2062 and 2067 (California Endangered Species Act) of the CDFG Code and are eligible for state listing. Plants occurring on CNPS Lists 3 and 4 are "plants about which more information is necessary," and "plants of limited distribution," respectively (CNPS 2001). Such plants may be included as special-status species on a case by case basis due to local significance or recent biological information;

- Migratory nongame birds of management concern listed by U.S. Fish and Wildlife Service (Migratory Nongame Birds of Management Concern in the United States: The list 1995; Office of Migratory Bird Management; Washington D.C.; Sept. 1995);

- Animals that are designated as "species of special concern" by CDFG (2006); or

- Animal species that are "fully protected" in California (Fish and Game Codes 3511, 4700, 5050, and 5515).

The paragraphs below provide further definitions of legal status as pertaining to the special-status species discussed in this report or in the attached tables.

Federal Endangered or Threatened Species. A species listed as Endangered or Threatened under the FESA is protected from unauthorized "take" (that is, harass, harm, pursue, hunt, shoot, trap) of that species. If it is necessary to take a Federal listed Endangered or Threatened species as part of an otherwise lawful activity, it would be necessary to receive an Incidental Take Permit from the USFWS prior to initiating the take.

State Endangered or Threatened Species. A species listed as Endangered or Threatened under the state Endangered Species Act (§2050 of California Fish and Game Code) is protected from unauthorized "take" (that is, harass, pursue, hunt, shoot, trap) of that species. If it is necessary to "take" a state listed Endangered or Threatened species as part of an otherwise lawful activity, it would be necessary to receive a formal authorization from CDFG pursuant to section 2081 of the Fish and Game Code prior to initiating the "take."

California Species of Special Concern. These are species in which their California breeding populations are seriously declining and extirpation from all or a portion of their range is possible. This designation affords no legally mandated protection; however, pursuant to the CEQA Guidelines (14 CCR §15380), some species of special concern could be considered "rare." Pursuant to its rarity status, any unmitigated impacts to rare species could be considered a "significant effect on the environment" (§15382). Thus, species of special concern must be considered in any project that will, or is currently, undergoing CEQA review, and/or that must obtain an environmental permit(s) from a public agency.

CNPS List Species. The California Native Plant Society (CNPS) maintains an inventory of special status plant species. This inventory has four lists of plants with varying rarity. These lists are: List 1, List 2, List 3, and List 4. Although plants on these lists have no formal legal protection (unless they are also state or federal listed species), the California Department of Fish and Game requests the inclusion of List 1 species in environmental documents. In addition, other state and local agencies may request the inclusion of species on other lists as well. List 1 species have the highest priority: List 1A species are thought to be extinct, and List 1B species are known to still exist but are considered "rare, threatened, and endangered in California and elsewhere." All of the plants constituting List 1B meet the definitions of Section 1901, Chapter 10 (Native Plant Protection Act) or Sections 2062 and 2067 (California Endangered Species Act) of the CDFG Code, and are eligible for state listing (CNPS 2001). List 2 species are rare in California, but more common elsewhere. Lists 3 and 4 contain species about which there is some concern, and are review and watch lists, respectively. Additionally, in 2006 CNPS updated their lists to include "threat code extensions" for each list. For example, List 1B species would now be categorized as List 1B.1, List 1B.2, or List 1B.3. These threat codes are defined as follows: .1 is considered "seriously endangered in California (over 80% of occurrences threatened/high degree and immediacy of threat)"; .2 is "fairly endangered in California

(20-80% of occurrences threatened)"; .3 is "not very endangered in California (less than 20% of occurrences threatened or no current threats known)."

Under the CEQA review process, typically only impacts to CNPS List 1 and 2 species are considered significant since these are the only CNPS species that meet CEQA's definition of "rare" or "endangered." Impacts to List 3 and 4 species are typically not regarded as significant pursuant to CEQA.

Fully Protected Birds. Fully protected birds, such as the white-tailed kite and golden eagle, are protected under California Fish and Game Code (§3511). Fully protected birds may not be "taken" or possessed (i.e., kept in captivity) at any time.

Protected Amphibians. Under Title 14 of the California Code of Regulations (14 CCR 41), protected amphibians, such as the California tiger salamander, may only be taken under special permit from California Department of Fish and Game issued pursuant to Sections 650 and 670.7 of these regulations.

Special-Status Plant Species Occurring On or Near the Project Site

Based on a record search of CDFG's California Natural Diversity Database (CNDDB), the CDFG maintained California Wildlife Habitat Relationships System, and the CNPS Electronic Inventory of Rare and Endangered Vascular Plants of California, Monk & Associates found that 30 special-status plant species occur within five miles of the project site. These species are listed in Table 3.4-2, Special-Status Plant Species Known to Occur in the Vicinity of the Project Site, and the detection locations are graphically represented on Figure 3.4-3, *Known Records of Special Status Spe*cies.

Of the 30 plants listed in Table 3.4-2, 18 occur in specialized habitats such as serpentine chaparral, coastal bluff scrub, coastal prairie, coastal dunes, and coastal salt marshes. Therefore, the plants would not occur on the project site and were excluded from further evaluation. Monk & Associates conducted rare plant surveys on April 25, 26, and 27, 2006; June 13, 14, 15, 2006; and August 8, 9, and 10, 2006 for special-status plant species that they determined had the potential to occur on or within five miles of the project site. The surveys were conducted during the period of time in which special-status plant species from the region are known to be evident and flowering. The survey was conducted by walking systematic transects through potential habitat; and by closely examining any existing micro-habitats that could potentially support special-status plants.

Due to the diversity of plant communities and the isolation of the project site from other habitats where non-native species have successfully colonized and are now dominant, a large number of native species were observed during the surveys. Overall, a total of 216 plant species were observed on the project site. Of these 216 species, 148 plants (or 69%) were native, and 68 plants (or 31%) were non-native. Only two species out of the 216 detected plant species require further consideration, and are therefore discussed below.

Table 3.4-2
Special-Status Plant Species Known to Occur in the Vicinity of the Project Site

Common Name *Scientific Name*	Status	Associated Habitat	Blooming Period	Area Locations	Probability on Project Site
Asteraceae					
Serpentine daisy *Erigeron serpentinus*	Fed: State: CNPS: List 1B.3	Chaparral (serpentinite), elevation 60-670 meters.	May-August	On CNPS 9 quad list.	**None**. No serpentine habitat present onsite. Would have been detectable during appropriately-timed surveys.
Supple daisy *Erigeron supplex*	Fed: State: CNPS: List 1B.2	Coastal bluff scrub; coastal prairie; elevation 10-50 meters.	May-July	Record for this species located 4.5 miles southwest of the project site (Occurrence No. 2).	**None**. No coastal bluff or coastal prairie habitat present onsite. Would have been detectable during appropriately-timed surveys.
Short-leaved evax *Hesperevax sparsiflora brevifolia*	Fed: State: CNPS: List 2.2	Coastal bluff scrub; coastal dunes; elevation 0-215 meters	March-June	Record for this species located 4.4 miles west of the project site (Occurrence No. 15).	**None**. No coastal bluff or dune habitat present onsite. Would have been detectable during appropriately-timed surveys.
Goldfields *Lasthenia macrantha bakeri*	Fed: State: CNPS: List 1B.2	Closed-cone coniferous forest (openings), meadows and seeps; marshes and swamps; coastal scrub; elevation 60-520 meters.	April-October	On CNPS 9 quad list.	**None**. Suitable habitat present onsite. Would have been detectable during appropriately-timed surveys.
Goldfields *Lasthenia macrantha macrantha*	Fed: State: CNPS: List 1B.2	Coastal bluff scrub, coastal dunes, coastal scrub; elevation 5-520 meters.	January-November	On CNPS 9 quad list.	**None**. No coastal bluff or dune habitat present onsite. Would have been detectable during appropriately-timed surveys.
Beaked tracyina *Tracyina rostrata*	Fed: State: CNPS: List 1B.2	Cismontane woodland; valley and foothill grassland; elevation 90-790 meters	May-June	On CNPS 9 quad list.	**None**. Suitable habitat present onsite. Would have been detectable during

Table 3.4-2
Special-Status Plant Species Known to Occur in the Vicinity of the Project Site

Common Name *Scientific Name*	Status	Associated Habitat	Blooming Period	Area Locations	Probability on Project Site
					appropriately-timed surveys.
Brassicaceae					
Secund jewelflower *Streptanthus glandulosus hoffmani*	Fed: State: CNPS: List 1B.3	Chaparral; cismontane woodland; valley and foothill grassland (rocky, often serpentinite); elevation 120-475 meters.	March-July	On CNPS 9 quad list.	**None**. Suitable habitat present onsite. Would have been detectable during appropriately-timed surveys.
Three Peaks jewelflower *Streptanthus morrisonii elatus*	Fed: FC State: CNPS: List 1B.2	Chaparral (serpentinite); elevation 90-815 meters.	June-September	On CNPS 9 quad list.	**None.** No serpentine habitat present onsite. Would have been detectable during appropriately-timed surveys.
Dorr's Cabin jewelflower *Streptanthus morrisonii hirtiflorus*	Fed: FC State: CNPS: List 1B.2	Chaparral [serpentinite]; closedcone coniferous forest; elevation 185-820 meters.	June-June	On CNPS 9 quad list.	**None**. Suitable habitat present onsite. Would have been detectable during appropriately-timed surveys.
Morrison's jewelflower *Streptanthus morrisonii morrisonii*	Fed: State: CNPS: List 1B.2	Chaparral (serpentinite, rocky talus); elevation 120-585 meters.	May-September	On CNPS 9 quad list.	**None**. No serpentine or talus habitat present onsite. Would have been detectable during appropriately-timed surveys.
Campanulaceae					
Swamp bellflower *Campanula californica*	Fed: State: CNPS: List 1B.2	Bogs & fens; closed-cone coniferous forest; coastal prairie; meadows; marshes & swamps (freshwater); north coast coniferous forest (mesic); elevation 1-405 meters.	June-October	Record for this species located 1.1 mile west of the project site (Occurrence No. 16).	**None**. Suitable habitat present onsite. Would have been detectable during appropriately-timed surveys.
Convolvulaceae					
Coastal bluff morning-glory *Calystegia purpurata saxicola*	Fed: State: CNPS: List 1B.2	Coastal dunes, coastal scrub; elevation 10-105 meters.	May-September	On CNPS 9 quad list.	**None**. No coastal bluff or coastal dune habitat present onsite. Would have been detectable during

Table 3.4-2
Special-Status Plant Species Known to Occur in the Vicinity of the Project Site

Common Name *Scientific Name*	Status	Associated Habitat	Blooming Period	Area Locations	Probability on Project Site
					appropriately-timed surveys.
Cupressaceae					
Pygmy cypress *Cupressus goveniana pigmaea*	Fed: State: CNPS: List 1B.2	Closed-cone coniferous forest (usually podzol-like soil), elevation 30-500 meters.	March-March	On CNPS 9 quad list.	**None.** No suitable habitat present onsite. Would have been detectable.
Cyperaceae					
Deceiving sedge *Carex saliniformis*	Fed: State: CNPS: List 1B.2	Closed-cone coniferous forest (usually podzol-like soil), elevation 30-500 meters.	June-June	On CNPS 9 quad list.	**None**. No suitable habitat present onsite. Would have been detectable during appropriately-timed surveys.
Ericaceae					
The Cedars manzanita *Arctostaphylos bakeri sublaevis*	Fed: State: CR CNPS: List 1B.2	Closed-cone coniferous forest; chaparral; [serpentinite seeps]; elevation 185-760 meters.	February-May	On CNPS 9 quad list.	**None**. Suitable habitat present onsite. Would have been detectable during appropriately-timed surveys.
Fabaceae					
California indigobush *Amorpha californica napensis*	Fed: State: CNPS: List 1B.2	Broad-leaved upland forest (openings); chaparral; cismontane woodland; elevation 120-2,000 meters	April-July	On CNPS 9 quad list.	**None**. Suitable habitat present onsite. Would have been detectable during appropriately-timed surveys.
Cobb Mountain lupine *Lupinus sericatus*	Fed: State: CNPS: List 1B.2	Broadleaved upland forest; chaparral; cismontane woodland; lower montane coniferous forest; elevation 275-1,525 meters.	March-June	On CNPS 9 quad list.	**None**. Suitable habitat present onsite. Would have been detectable during appropriately-timed surveys.
Liliaceae					
Cedars fairy lantern *Calochortus raichei*	Fed: State: CNPS: List 1B.2	Closed-cone coniferous forest; chaparral [serpentinite]; elevation 00-490 meters.	May-August	On CNPS 9 quad list.	**None**. Suitable habitat present onsite. Would have been detectable during appropriately-timed surveys.

Table 3.4-2
Special-Status Plant Species Known to Occur in the Vicinity of the Project Site

Common Name *Scientific Name*	Status	Associated Habitat	Blooming Period	Area Locations	Probability on Project Site
Coast lily *Lilium maritimum*	Fed: C State: CNPS: List 1B.1	Broadleafed upland forest; closed-cone coniferous forest; coastal prairie; coastal scrub; northcoast coniferous forest; marshes and swamps; elevation 5-335 meters.	May-August	Record for this species located 4.0 miles southwest of the project site (Occurrence No. 41).	**None**. Suitable habitat present onsite. Would have been detectable during appropriately-timed surveys.
Malvaceae					
Point Reyes checkerbloom *Sidalcea calycosa rhizomata*	Fed: State: CNPS: List 1B.2	Freshwater marshes and swamps, near coast; elevation 3-75 meters.	April-September	Record for this species 4.4 miles west of the project site (Occurrence No. 13).	**None**. No suitable habitat present onsite. Would have been detectable during appropriately-timed surveys.
Maple-leaved checkerbloom *Sidalcea malachroides*	Fed: State: CNPS: List 1B.2	Broadleafed upland forest; coastal prairie; north coast coniferous forest; coastal scrub riparian woodland [often in disturbed areas]. Elevation 2-730 meters.	April-August	On CNPS 9 quad list.	**None**. Suitable habitat present onsite. Would have been detectable during appropriately timed surveys.
Checker mallow *Sidalcea malvaeflora purpurea*	Fed: State: CNPS: List 1B.2	Broadleafed upland forest, coastal prairie. Elevation 15-65 meters.	May-May	Record for this species 4.5 miles southeast of the project site (Occurrence No. 11).	**None**. No suitable habitat present onsite. Would have been detectable during appropriately-timed surveys.
Poaceae					
Blasdale's bent grass *Agrostis blasdalei*	Fed: State: CNPS: List 1B.2	Coastal bluff scrub; coastal dunes; coastal prairie. Elevation 5-150 meters.	May-July	On CNPS 9 quad list.	**None**. No suitable habitat present onsite. Would have been detectable during

Table 3.4-2
Special-Status Plant Species Known to Occur in the Vicinity of the Project Site

Common Name *Scientific Name*	Status	Associated Habitat	Blooming Period	Area Locations	Probability on Project Site
					appropriately-timed surveys.
Polemoniaceae					
Globe gilia *Gilia capitata tomentosa*	Fed: State: CNPS: List 1B.1	Coastal bluff scrub (rocky, outcrops). Elevation 15-155 meters.	May-July	Record for this species 4.5 miles southwest of the project site (Occurrence No. 10).	**None**. No coastal bluff scrub habitat present onsite. Would have been detectable during appropriately-timed surveys.
Dark-eyed gilia *Gilia millefoliata*	Fed: State: CNPS: List 1B.2	Coastal dunes; elevation 2-30 meters.	April-July	On CNPS 9 quad list.	**None**. No suitable dune habitat present onsite. Would have been detectable during appropriately-timed surveys.
Rose leptosiphon *Leptosiphon rosaceus*	Fed: State: CNPS: List 1B.1	Coastal bluff scrub; elevation 0-100 meters.	April-July	On CNPS 9 quad list.	**None**. No coastal bluff scrub habitat present onsite. Would have been detectable during appropriately-timed surveys.
Polygonaceae					
Sonoma spineflower *Chorizanthe valida*	Fed: FE State: CE CNPS: List 1B.1	Coastal prairie (sandy). Elevation 10-305 meters.	June-August	On CNPS 9 quad list.	**None**. No coastal bluff scrub habitat present onsite. Would have been detectable during appropriately-timed surveys.
Snow Mountain buckwheat *Eriogonum nervulosum*	Fed: State: CNPS: List 1B.2	Chaparral (serpentinite). Elevation 300-2,105 meters.	June-September	On CNPS 9 quad list.	**None**. No suitable habitat present onsite. Would have been detectable during appropriately-timed surveys.
Rhamnaceae					
Holly-leaf ceanothus *Ceanothus purpureus*	Fed: State: CNPS: List 1B.2	Chaparral (serpentinite). Elevation 300-2,105 meters.	February-June	On CNPS 9 quad list.	**None**. No serpentine habitat present onsite. Would have been detectable during appropriately-timed surveys.

Table 3.4-2
Special-Status Plant Species Known to Occur in the Vicinity of the Project Site

Common Name *Scientific Name*	Status	Associated Habitat	Blooming Period	Area Locations	Probability on Project Site
Rosaceae					
Thin-lobed horkelia *Horkelia tenuiloba*	Fed: State: CNPS: List 1B.2	Chaparral; cismontane woodland (volcanic, rocky). Elevation 120- 640 meters.	May-July		**Present** on project site. See text for further information.

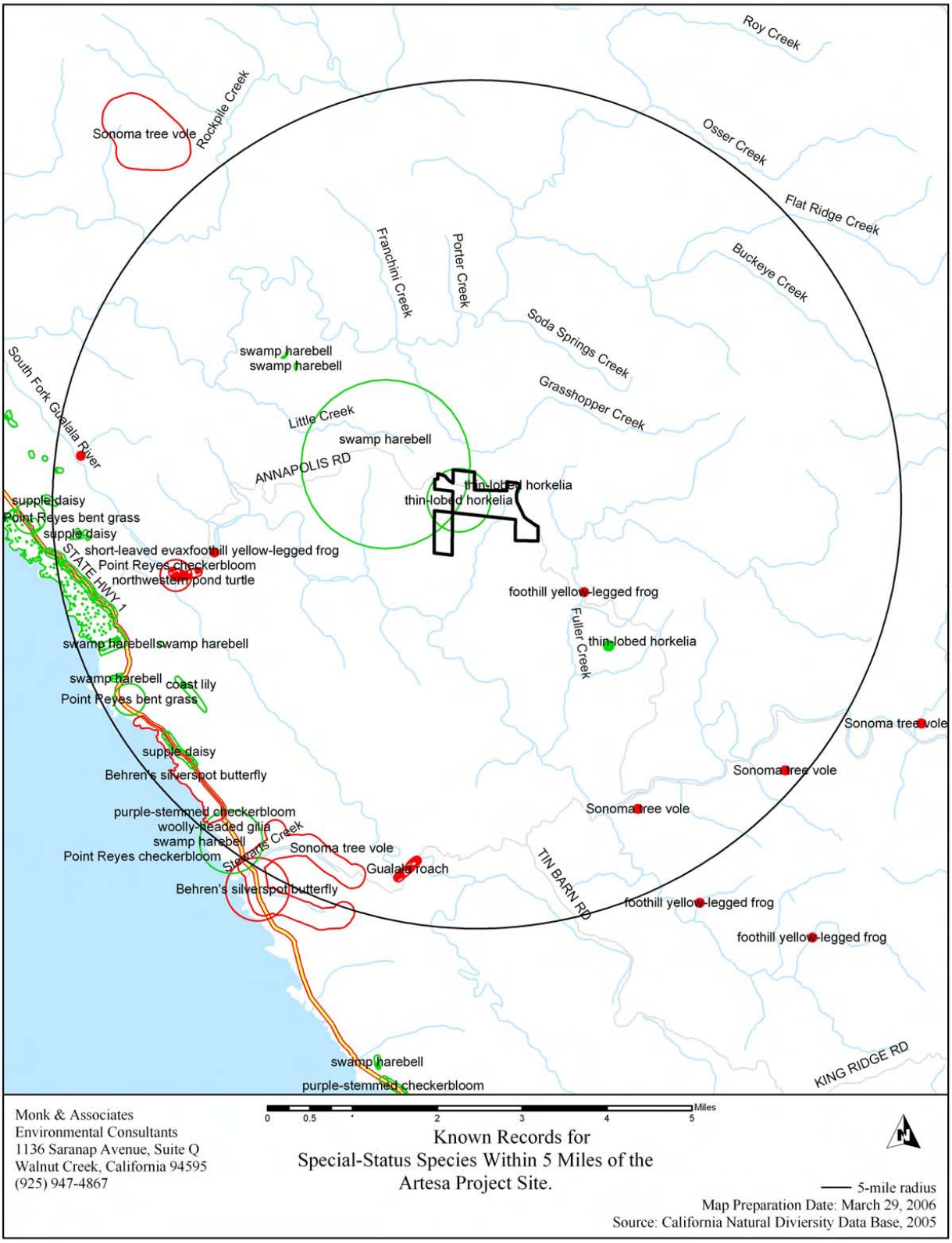
Federal:
FE - Federal Endangered
FT - Federal Threatened
FPE - Federal Proposed Endangered
FPT - Federal Proposed Threatened
FC - Federal Candidate

State:
CE - California Endangered
CT - California Threatened
CR - California Rare
CC - California Candidate
CSC - California Species of Special Concern

CNPS:
List 1A - Presumed extinct in California
List 1B - Plants rare, threatened, or endangered in California and elsewhere
List 1B.1 - Seriously endangered in California (over 80% occurrences threatened/high degree and immediacy of threat)
List 1B.2 - Fairly endangered in California (20-80% occurrences threatened)
List 1B.3 - Not very endangered in California (<20% of occurrences threatened or no current threats known)
List 2 - Plants rare, threatened, or endangered in California, but more common elsewhere
List 2.1 - Seriously endangered in California, but more common elsewhere
List 2.2 - Fairly endangered in California, but more common elsewhere
List 2.3 - Not very endangered in California, but more common elsewhere
List 3 - Plants about which we need more information - a review list
List 4 - Plants of limited distribution - a watch list

Source: Monk & Associates, Inc. 2007.

Figure 3.4-3
Known Records of Special-Status Species



Thin-Lobed Horkelia

One special-status plant species was identified on the project site during the appropriately timed rare plant surveys: thin-lobed horkelia (*Horkelia tenuiloba*). Thin-lobed horkelia occurs in the northern coastal grassland community, in the western and northeastern portions of the project site. The western population was previously identified by Mr. Dean Schlichlting of NRCM in 2000, and was recorded by the CNDDB as Occurrence No. 18. Thin-lobed horkelia is not protected pursuant to the Federal or California Endangered Species Acts, nor does thin-lobed horkelia have any special federal or state protected status. However, the plant is a CNPS List 1B.2 species. While CNPS List 1B.2 species are not protected pursuant to any state or federal law or regulation, such species should be considered in any CEQA document prepared for a proposed project/project site.

Annapolis Manzanita

Another plant species of note also occurs on the project site. Annapolis manzanita (*Arctostaphylos manzanita* x *A. stanfordiana*) is a hybrid population unique to the Annapolis area. The population was examined in 2003 by Dr. Tom Parker and Mr. Michael Vasey of San Francisco State University. Annapolis manzanita does not have any special state or federal status, nor is the plant listed by CNPS. However, because of the uniqueness of the Annapolis population, the proposed project includes dedication of a 1.6-acre and a 2.5-acre preserve in coastal scrub habitat on the east side of the project site where a relatively high number of Annapolis manzanita occur (See Figure 3.4-4). Establishment of the preserve would preserve this species on the project site.

Special-Status Fish and Wildlife Species Occurring On or Near the Project Site

Based on information gathered from CDFG's California Natural Diversity Database (CNDDB) Monk & Associates found that 12 special-status animal species potentially occur on the project site (See Table 3.4-3). Further discussions of special-status animals that are known to occur on the project site or that, while not found on the project site, have sensitivity in the area of the project site are presented below.

Invertebrate(s)

Behren's silverspot butterfly

The Behren's silverspot butterfly (*Speyeria zerene behrensii*) is a federally listed endangered species. The butterfly does not have a State status. The Behren's silverspot butterfly is a coastal subspecies of the Zerene silverspot (*Speyeria zerene*), a member of the brush-foot family (Nymphalidae). The Zerene silverspot has six recognized subspecies distributed in northern California, Oregon, and Washington. All of these subspecies occupy restricted habitat types near the coast, and have been seriously affected by human activities. The U.S. Fish and Wildlife Service listed the Behren's silverspot butterfly as an endangered species on December 5, 1997. Critical habitat has not been designated for this species.

Figure 3.4-4
Project Preserve Areas

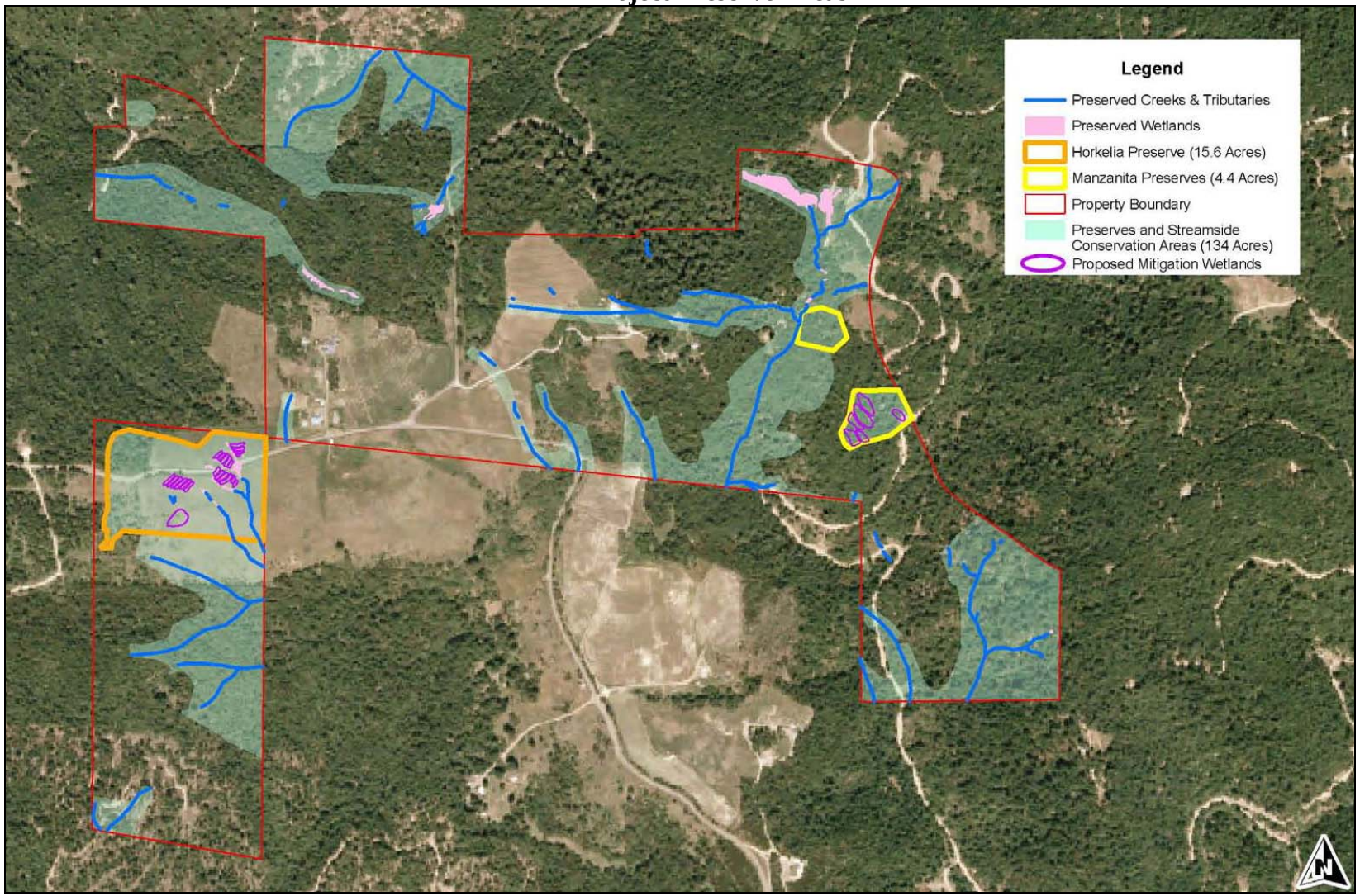


Table 3.4-3
Special-Status Wildlife Species Potentially Occurring on the Project Site

Species	Status	Habitat	Closest Locations	Potential for Occurrence
Insects				
Behren's silverspot butterfly *Speyeria zerene behrensii*	Fed: FE State: Other:	Restricted to the pacific side of the coast ranges, from Point Arena to Cape Mendocino, Mendocino County. Inhabits coastal terrace prairie habitat. Food plant is viola sp.	Record for this species located 4.6 miles southwest of the project site (Occurrence No. 4).	**None**. No suitable habitat present on the project site.
Fish				
Coho Salmon – Central California ESU *Oncorhynchus kisutch*	Fed: FE State: CSC Other:	Federal listing = populations between Punta Gorda and San Lorenzo River. State listing = populations south of San Francisco Bay only. Requires beds of loose, silt-free, coarse gravel for spawning. Also needs cover, cool water and sufficient dissolved oxygen.	No records within 10 miles of the project site.	**None.** Downstream diversions and blockages stop anadromous fish from reaching the project site. Largest tributary on site (Patchett Creek) dries over most of its reach on the project site in the summer months, with perennial pools remaining in some locations. Not suitable rearing habitat for anadromous fish.
Steelhead – Northern California ESU *Oncorhynchus mykiss*	Fed: FT State: Other:	Coastal basins from Redwood Creek south to the Gualala River, inclusive. Does not include summer-run steelhead.	No records within 10 miles of the project site.	**None.** No suitable habitat present on project site. Water is intermittent and too warm in summer months to support fry. Downstream diversions and blockages stop anadromous fish from reaching the project site. Largest tributary on site (Patchett Creek) dries over most of its reach on the project site in the summer months, with perennial pools remaining in some locations. Not suitable rearing habitat for anadromous fish.

Table 3.4-3
Special-Status Wildlife Species Potentially Occurring on the Project Site

Species	Status	Habitat	Closest Locations	Potential for Occurrence
Chinook Salmon – California coastal ESU *Oncorhynchus tshawytscha*	Fed: FT State: Other:	Federal listing refers to wild spawned, coastal spring and fall runs between Redwood Creek, Humboldt County and Russian River, Sonoma County.	No records within 10 miles of the project site.	**None.** No suitable habitat present on project site. Water is intermittent and too warm in summer months to support fry. Downstream diversions and blockages stop anadromous fish from reaching the project site. Largest tributary on site (Patchett Creek) dries over most of its reach on the project site in the summer months, with perennial pools remaining in some locations. Not suitable rearing habitat for anadromous fish.
Gualala roach *Lavinia symmetricus parvipinnus*	Fed: State: CSC Other:	Found only in the Gualala River.	Record for this species located 3.3 miles west of the project site (Occurrence No. 1).	**None**. No suitable habitat for this species is present in Patchett Creek. This species was not detected during appropriately-timed surveys.
Amphibians				
Tailed frog *Ascaphus truei*	Fed: State: CSC Other:	Occurs in Montane hardwood-conifer, redwood, Douglas fir, and ponderosa pine habitats. Restricted to perennial montane streams. Tadpoles require water below 15 degrees Centigrade.	Closest records for this frog are 24 miles northwest of the project site.	**None.** Frog surveys did not detect this species on the project site. Egg and larval development require water temperatures that remain below 15 degrees Centigrade. Shallow streams on the project site are exposed to sunlight, and are likely too warm in spring/summer.
Northern red-legged frog *Rana aurora aurora*	Fed: State: CSC Other:	Occur in ponds and deep pools along streams.	Record for this species located 9.7 miles northwest of the project site. (Occurrence No. 967).	**None.** Aquatic habitats not regarded as suitable northern red-legged frog habitats. Frog surveys did not detect this species on the project site (see text for further information).
California red-legged frog *Rana aurora draytonii*	Fed: FT State: CSC	Occurs in lowlands and foothills in deeper pools and streams,	Record for this species located 19	**None.** California red-legged frogs were not observed during surveys conducted in 2006

Table 3.4-3
Special-Status Wildlife Species Potentially Occurring on the Project Site

Species	Status	Habitat	Closest Locations	Potential for Occurrence
	Other	usually with emergent wetland vegetation. Requires 11 to 20 weeks of permanent water for larval development.	miles southeast of the project site (Occurrence No. 585)	and 2007 (see text for further information).
Foothill yellow-legged frog *Rana boylii*	Fed: State: CSC Other:	Found in partially shaded, shallow streams with rocky substrates. Needs some cobble sized rocks as a substrate for egg laying. Requires water for 15 weeks for larval transformation.	Record for this species located 3.1 miles west of the project site (Occurrence No. 367).	**Present.** Species is present on the project site (see text for further information).
Reptiles				
Pacific pond turtle (=Western pond turtle) *Actinemys marmorata (=Clemmys marmorata marmorata)*	Fed: State: CSC Other:	Inhabits ponds, marshes, rivers, streams, and irrigation ditches with aquatic vegetation. Needs suitable basking sites and upland habitat for egg laying. Occurs in the Central Valley and Contra Costa County.	Record for this species located 3.4 miles west of the project site (Occurrence No. 61).	**None**. No suitable habitat is present in Patchett Creek or any other tributary found on the project site. This species was not detected during appropriately-timed surveys.
Birds				
Osprey *Pandion haliaetus*	Fed: State: CSC Other:	Ocean shore, bays, fresh-water lakes, and larger streams. Large nests built in tree-tops within 15 miles of a good fish producing body of water.	Record for this species located 12 miles south (CNDDB 51) from the project site.	**None.** Multiple nesting surveys did not detect this species on or near the project site.
Bald Eagle *Haliaeetus leucocephalus*	Fed: FT State: CE Other: *	Ocean shorelines, lake margins, and river courses for both nesting and wintering. Most nests within one mile of water.	Nearest nesting record is greater than 30 miles from the project site.	**None.** Multiple nesting surveys did not detect this species on or near the project site. Preconstruction surveys shall be conducted to determine the presence or absence of this species on site at the time the project is implemented.

Table 3.4-3
Special-Status Wildlife Species Potentially Occurring on the Project Site

Species	Status	Habitat	Closest Locations	Potential for Occurrence
Northern harrier *Circus cyaneus*	Fed: State: CSC Other: *	Found in or near freshwater and salt marshes. Nests on the ground or in shrubby vegetation.	No nest sites known from the vicinity of the project site.	**None.** Project site only provides small areas of marginal hunting habitat. Not expected to nest on the project site. Multiple nesting surveys did not detect this species on or near the project site.
Sharp-shinned hawk *Accipiter striatus*	Fed: State: CSC (nesting only) Other: *	Inhabits a variety of habitats, including mixed conifer woodlands and riparian habitats. Usually nests within 300 feet of water.	Record for this species is greater than five miles from the project site.	**Moderate.** Suitable nesting habitat for this species is present on the project site. Not found during preliminary raptor nesting surveys. Preconstruction surveys shall be conducted to determine the presence or absence of this species on site.
Cooper's hawk *Accipiter cooperii*	Fed: State: CSC (nesting only) Other: *	Nests in heavily wooded areas along streams, rivers, or near springs/seeps. Prefers to nest in tall canopies with an open understory usually near openings. Oak and riparian woodlands are preferred habitats.	Record for this species is greater than five miles from the project site.	**Moderate.** Suitable nesting habitat for this species is present on the project site. Not found during preliminary raptor nesting surveys. Preconstruction surveys shall be conducted to determine the presence or absence of this species onsite.
Northern goshawk *Accipiter gentilis*	Fed: -- State: CSC (nesting only) Other:	In summer, within and in vicinity of coniferous forest. Uses old nests and maintains alternate sites. Usually nests on north slopes, near water, red fir, lodgepole pine, Jeffrey pine, and aspens are typical nest trees.	Closest record is 13 miles north of the project site (CNDDB record 286).	**None.** Multiple nesting surveys did not detect this species on or near the project site. Preconstruction surveys shall be conducted to determine the presence or absence of this species on site at the time the project is implemented.
Red-shouldered hawk *Buteo lineatus*	Fed: State: Other: *	Found in a wide variety of habitats. Nest in oaks, eucalyptus, cypress trees, riparian woodland. Forages over grasslands, agricultural fields, woodlands.	No recorded nest sites in the vicinity of the project site.	**Moderate.** Suitable nesting habitat for this species is present on the project site Not found during preliminary raptor nesting surveys. Preconstruction surveys shall be conducted to determine the presence or absence of this species onsite.

Table 3.4-3
Special-Status Wildlife Species Potentially Occurring on the Project Site

Species	Status	Habitat	Closest Locations	Potential for Occurrence
Red-tailed hawk *Buteo jamaicensis*	Fed: State: Other: *	Found in a wide variety of habitats. Nests in oaks, eucalyptus, cypress trees, among others. Forages over grasslands, agricultural fields, woodlands, marshes.	No recorded nest sites in the vicinity of the project site.	**Present.** Species has been observed on the project site. Suitable nesting habitat for this species is present on the project site. Preconstruction surveys shall be conducted to determine the presence or absence of this species onsite.
Golden eagle *Aquila chrysaetos*	Fed: State: CSC Other: *	Found in rolling foothill grassland with scattered trees. Nests on cliffs and in large trees in open areas.	No nests known from within 30 miles of the project site.	**None.** Multiple nesting surveys did not detect this species on or near the project site. Preconstruction surveys shall be conducted to determine the presence or absence of this species on site at the time the project is implemented.
Great gray owl *Strix nebulosa*	Fed: State: CE Other: *	Resident of dense, old growth mixed conifer or red fir forest habitat, in or on edge of meadows. Require large diameter snags in a forest with high canopy closure, which provide a cool sub-canopy microclimate.	Record for this species is greater than five miles from the project site.	**None.** The project site does not support dense old-growth forest. This species was not detected during spotted owl surveys in 2006/2007.
Merlin *Falco columbarius*	Fed: State: CSC Other:	Seacoast, tidal estuaries, open woodlands, savannahs, edges of grasslands and deserts, farms and ranches. Clumps of trees or windbreaks are required for roosting in open country.	Not known to nest in California.	**None.** While this species was observed migrating through the area of the project site (as a high flier not temporarily residing on the project site), migration habitat is not limited in distribution or regarded as sensitive. This species is not known to nest in California.

Table 3.4-3
Special-Status Wildlife Species Potentially Occurring on the Project Site

Species	Status	Habitat	Closest Locations	Potential for Occurrence
Peregrine falcon *Falco peregrinus*	Fed: State: CT Other:	Nests on high cliffs near wetlands, lakes, rivers, or other water; also nests on human-made structures. Nest consists of a scrape on a depression or ledge in an open site.	Nearest nest site for this species is greater than 10 miles east of the project site.	**None.** No suitable nesting habitat on or near project site.
Marbled murrelet *Brachyramphus marmoratus*	Fed: FT State: CE Other:	Inhabits coniferous forest along the coast from Santa Cruz to Oregon. Nests in old-growth redwood forest, often in large Douglas firs.	Nearest nesting record is greater than 30 miles from the project site.	**None.** No old growth habitat occurs on or adjacent to the project site and thus this species would not be expected to nest on or near the project site.
Western screech-owl *Otus kennicottii*	Fed: State: Other: *	Found in open woods at forest edges. Common in riparian, oak woodland and mixed oak and Douglas fir forests. Nest in hollow stumps and tree cavities.	A probable nesting location for this species was identified along Annapolis Road by the Sonoma County Breeding Bird Atlas.	**High.** Western screech-owls were detected during spotted owl surveys in 2006/2007. Nest sites were not found during surveys. Preconstruction surveys shall be conducted to determine the presence or absence of this species onsite.
Northern spotted owl *Strix occidentalis caurina*	Fed: FT State: Other:	Old-growth forests or mixed stands of old growth and mature trees. Occasionally in younger forests with patches of big trees. High, multistory canopy dominated by big trees, many trees with cavities or broken tops, woody debris and space under canopy.	Record for this species located 0.7-mile south of the project site (NSO territory #SO043 and #SONOO58)	**None.** No spotted owls were detected during protocol surveys conducted in 2006 and 2007. No old growth habitat occurs on or near the project site and thus this species is not expected to move on or near the project site to nest or reside. See text.

Table 3.4-3
Special-Status Wildlife Species Potentially Occurring on the Project Site

Species	Status	Habitat	Closest Locations	Potential for Occurrence
Yellow warbler *Dendroica petechia*	Fed: State: CSC Other:	Found in riparian habitats with willows, cottonwoods, sycamores, and alders for nesting and foraging.	No records within 10 miles of the project site. There are no confirmed breeding records for this species in Sonoma County.	**Present.** Species was detected foraging on the project site. Not found nesting during avian nesting surveys. Preconstruction surveys shall be conducted to determine the presence of nesting birds on-site. See text.
Mammals				
Red tree vole *Arborimus pomo*	Fed: State: CSC Other:	Inhabits the north coast fog belt from Oregon to Sonoma County. Feeds almost exclusively on Douglas-fir needles.	Record for this species located 4.0 miles southeast of the project site (Occurrence No. 172).	**None**. No suitable habitat is present on project site. Generally requires old growth forest or stability associated with old growth. This habitat is not present on the project site. This species was not detected during NCRM and Monk & Associates surveys (See Text).
Humboldt marten *Martes americana humboldtensis*	Fed: State: CSC Other:	Requires old growth Douglas fir forest.	CNDDB Record No. 8 is the closest known record. This record is 43 miles northeast of the project site.	**None.** Species requires old growth habitat. No old growth is on the project site. At least three residences border the site with large dogs. Large dogs often seen roaming the project site and would discourage the use of site by martens.
Pacific fisher *Martes pennanti pacifica*	Fed: State: CSC Other:	Intermediate to large-tree stages of coniferous forests and deciduous-riparian areas with high percent canopy closure. Use cavities, snags, logs, and rocky areas for cover and denning. Need large areas of mature, dense forest.	CNDDB Record No. 47 is the closest known record. This record is 43 miles northeast of the project site.	**None.** Habitat is not suitable. Sparse shrub cover is second-growth characteristic that facilitates fisher-hunting. Undergrowth onsite is dense thickets under second-growth. Residences on borders of project site support large dogs that roam freely on the site.

Table 3.4-3
Special-Status Wildlife Species Potentially Occurring on the Project Site

Species	Status	Habitat	Closest Locations	Potential for Occurrence

Federal:
FE - Federal Endangered
FT - Federal Threatened
FC - Federal Candidate
FSC - Federal Species of Concern
FSC species are recognized by USFWS' Sacramento field office only.
DT/R/BM - Delisted Taxon, Recovered, Being Monitored

State:
CE - California Endangered
CT - California Threatened
CSC - California Species of Special Concern
CDFSC - CDF Sensitive Species

*Other:
Most birds have protection under the Migratory Bird Treaty Act. Raptors and their nests are protected by provisions of the California Fish and Game Code. A few species, such as the monarch butterfly and "California Fully Protected Animals," may be protected by policies of the California Department of Fish and Game.

Source: *Monk & Associates, Inc. 2007.*

The Behren's silverspot butterfly is a medium-sized butterfly with a wingspan of approximately 5.5 centimeters (2.2 inches). The upper surfaces are golden brown with numerous black spots and lines. Wing undersides are brown, orange-brown, and tan with black lines and distinctive silver and black spots. Basal areas of the wings and body are densely pubescent (covered with short, soft hairs).

This butterfly inhabits coastal terrace prairie habitat. Although formal studies have not been conducted on the Behren's silverspot butterfly, the butterfly's life cycle is likely the same as or very similar to that of the closely related Oregon silverspot butterfly (*Speyeria zerene hippolyta*). Studies conducted on the Oregon silverspot butterfly (McCorkle 1980; McCorkle and Hammond 1988) found that females lay their eggs in the debris and dried stems of the larval food plant, the early blue violet (*Viola adunca*). However, other violets (*Viola* spp.) are likely used as well.

The current distribution of the Behren's silverspot butterfly is a single extant site on private land near Point Arena, Mendocino County, California. Behren's silverspot butterfly was historically known from six locations, which extended from the vicinity of the City of Mendocino, Mendocino County, south to the area of Salt Point State Park, Sonoma County.

The closest known record for Behren's silverspot butterfly is located approximately 4.6 miles southwest of the project site. The site of record is located on the coastal bluffs north of Stewart's Point. As this butterfly is known from coastal, and grassland terraces immediately adjacent to the ocean, the butterfly is not expected to be found on the project site. In addition, the butterfly's host plants *Viola* spp., while sparsely present on the project site, occur in densely wooded areas that do not otherwise provide suitable conditions for the butterfly. Thus the proposed project would not impact Behren's silverspot butterfly.

Fish

Gualala Roach

Gualala roach (*Lavinia symmetricus* ssp. *parvipinnis*) is a subspecies of the California roach, which was designated as a fish Species of Special Concern by the California Department of Fish and Game in 1995 and is known to exist only within the Gualala River watershed. Roach are warm water-adapted species that can survive in water temperatures up to 95° F. The increased water temperatures associated with loss of riparian vegetation and stream aggradation in the Gualala River basin have favored roach over salmonids. However, as riparian areas continue to recover in future decades and the river cools, the Gualala Roach would likely decrease in abundance in the Gualala River Watershed.

The Gualala roach is usually less than 10 cm long, with an elongate and rounded body in cross section and a relatively large and conical head. Gualala roach are

omnivores that feed primarily on filamentous algae, but ingest lesser quantities of crustaceans and aquatic insects. During the winter, their diet consists largely of diatoms and other unicellular algae.

Gualala roach are generally found in small, warm intermittent streams, and dense populations are frequently found in isolated pools. The fish is common in the Gualala River and is the dominant fish in some headwater areas. The Gualala roach's numbers may actually have increased temporarily as the result of warmer water associated with habitat degradation.

Gualala roach are threatened to some degree because they tend to be located in small streams vulnerable to human disturbance (especially diversions) and to introduced predatory fishes (such as green sunfish), to which roach seem exceptionally vulnerable. The Gualala roach has a rather restricted distribution within a watershed that has been subjected to much logging and road building in recent years.

The closest known record for Gualala roach is located approximately 3.3 miles southwest of the project site, and 6.2 miles downstream from the project site. This record is at the confluence of the South fork and the Wheatfield fork of the Gualala River, along Annapolis Road in wide and fast water. The project site does not provide suitable habitat for Gualala roach, because the tributaries onsite do not provide suitable flows or water depths for fish. Careful surveys were conducted in all aquatic habitats on the project site for amphibian larvae. Fish were not observed in pools in Patchett Creek or anywhere else on the project site. Patchett Creek is only partially perennial on the project site. In the summer, it dries down to just a few pools that persist in heavily shaded habitats. Records of fish on the project site do not exist.

The Gualala roach is only known from the Gualala River and its adjacent tributaries. It is not known from any tributary that occurs on the project site. The proposed project will not impact this species. Similarly, downstream populations of this fish would not be impacted by the proposed project. There is no significant potential for contamination of downstream watercourses by the use of fertilizer, herbicide, insecticide, or other agricultural chemicals in the proposed vineyard. Qualified, properly certified vineyard managers will use only State-approved fertilizers, herbicides, insecticides or other agricultural chemicals in accordance with the label instructions and any applicable usage guidelines. In addition, a SWPPP (a preconstruction pollution prevention plan) and a SWMP (a post-construction storm water management plan) will be implemented to ensure that sediment transport downstream of the project site is negligible, protecting downstream water quality. As such, there is no significant risk to the Gualala roach where it occurs in tributaries in watersheds below the project site. Thus, no significant adverse impacts are expected to occur to the Gualala roach from the proposed project.

Avian Species

Yellow Warbler

The yellow warbler (*Dendroica petechia brewsteri*) is a California Species of Special Concern. The species is a neo-tropical migrant that breeds from Alaska to Newfoundland and southern Labrador south to western South Carolina and northern Georgia, and west sporadically through the Southwest to the Pacific Coast. The yellow warbler winters in Central America and the West Indies south to northern Peru. In the western United States the yellow warbler is most commonly found nesting in riparian woodlands, but can also nest in coniferous forests with brushy understory.[6,7] Yellow warblers begin their southward migration in the summer. Birds begin departing the breeding areas as soon as their young can fend for themselves typically by September.

The yellow warbler was once a common to locally abundant summer resident in riparian areas virtually throughout California, but today populations are much reduced and even extirpated in some areas. The destruction of riparian habitat has contributed to the decline of this species, especially in the San Joaquin Valley and Colorado River Valley, but the warbler's absence from many areas of suitable habitat and the birds susceptibility to nest parasitism by brown-headed cowbirds (*Molothrus ater*) indicates the population explosion of the brown-headed cowbird may be the key factor (Gaines 1974). In some studies that have been undertaken, as many as 40 percent of yellow warbler nests are parasitized by the brown-headed cowbird. The yellow warbler has developed a strategy to cope with unwanted cowbird eggs that are laid in their nests. When two or more cowbird eggs are laid in a nest, yellow warblers build a "floor" over the unwanted eggs so they are insulated from incubation and begin laying their own eggs again. If a nest already contains two or more yellow warbler eggs, the parents will usually hatch them together with the additional cowbird eggs. Yellow warblers begin their southward migration in the summer. Birds begin departing the breeding areas as soon as their young can fend for themselves typically by September.

In Sonoma County and much of northern California, the yellow warbler is still fairly common (Burridge 1995). The bird is particularly common in riparian groves along the Russian River and the larger wooded streams of the county. Monk & Associates biologists observed yellow warblers on the project site. Riparian habitat on the project site is not well developed, but provides marginal nesting habitat for this species. The coniferous forest on the project site also provides potential nesting habitat for the yellow warbler, even though it is less commonly used by this species.

While there are no confirmed breeding records of yellow warbler along the Sonoma Coast (Burridge 1995; CNDDB 2006), yellow warblers have been observed foraging on the site in coniferous areas. To ensure that no construction-related impacts occur to nesting yellow warblers on the project site,

preconstruction surveys for yellow warblers should be conducted no more than two weeks (14 days) prior to tree and/or brush removal. If nesting yellow warblers are identified nesting on or adjacent to the project site, a suitable temporary buffer area should be fenced around the nest tree. The size of the nesting buffer would need to be determined in the field by a qualified ornithologist, but should be, at a minimum, no less than 100 feet between the nest site and the disturbance area. See the impacts section for further details.

Marbled Murrelet

The Marbled Murrelet (*Brachyramphus marmoratus*) in Washington, Oregon and California is listed as threatened under the Federal Endangered Species Act. In California it is also listed as endangered under the California Endangered Species Act. The Marbled Murrelet feeds at sea both in pelagic offshore areas (often associating with upwellings) and inshore in protected bays. It feeds principally on sandeels, also taking herring, capelin and shiner perch. The breeding behavior of the Marbled Murrelet is very unusual, unlike seabirds outside its genus it does not nest in colonies, rather it nests on branches of old-growth and mature conifers such as Western Hemlock, Sitka Spruce, Douglas Fir and Coastal Redwood, as far as 50 miles inland. It lays one egg on a platform of lichen or moss on a lateral branch (less often on the ground). The egg is incubated for a month. Chicks are fed for around 40 days until the chick is able to fledge. The chick then leaves the nest and flies unaccompanied to the sea. Breeding success is low and chick mortality high.

The biggest threat to the marbled murrelet was long considered to be loss of nesting habitat (old-growth and mature forests) to logging. Additional factors including high predation rates due to human disturbances and climate-driven changes in ocean conditions are also considered important. Recently, scientists at Redwood National Park have established a connection between human presence in marbled murrelet territory and corvid predation of marbled murrelet chicks.

Owing to an absence of old growth on and adjacent to the project site, the marbled murrelet is not expected to be found nesting on or adjacent to the project site. As such, the proposed project will not impact the marbled murrelet.

Northern Spotted Owl

The northern spotted owl (*Strix occidentalis caurina*) was listed as a Federally Threatened species on June 26, 1990. The species' distribution is primarily limited to old-growth forests of the Pacific Northwest including California, Oregon, Washington, and southwest British Columbia. Because of the threatened status of this owl species, all proposed projects within the current and/or historic range of the spotted owl must address potential impacts to this species.

The northern spotted owl is a medium-sized owl, typically 16.5 to 19 inches tall. Females are generally larger than males. The owl has an average wing span of 48 inches and weighs between 17 and 34 ounces. Spotted owls have dark eyes, no ear-tufts, and are gray-brown in color with round to oval white spots on their head, back, and breast. Spotted owls are carnivorous, usually feeding on small prey including deer mice, woodrats (*Neotoma sp*), flying squirrels (*Glaucomys sabrinus*), and other small rodents. Spotted owls will also prey on bats, birds, insects, and reptiles. The owls are primarily nocturnal but may also hunt during the day during nesting season. Spotted owls are monogamous, breed between February and April, and lay 1 or 2 eggs in March or April that hatch after 28 to 32 days. Young remain with their parents for 60 to 90 days.

Spotted owl prime habitat is old-growth forest, characterized by multilayered canopies of trees open enough to fly between. The owls prefer large expanses of undisturbed mature forest often near streams or other water sources. Typically, the northern spotted owl utilizes large cavities in old, broken, or deformed trees for nesting and cover. Spotted owls exhibit high site fidelity, reuse nest sites year after year and defend their territory year-round.

To determine the status of the Northern spotted owl in the vicinity and region of the project site, queries of the Northern Spotted Owl Database maintained by the CDFG were conducted with respect to the project site in 2000, 2008, and 2009. There are two known territories for this species located south of the project site. Territory #SON0043 was last recorded in 2007 and is approximately 0.7-mile south of the project site. Territory SONOO58 was first recorded approximately 1.3 miles southwest of the project site in 1998. In 2007, this owl had reportedly moved 0.7-mile southwest of the project site.

As the project site has areas that support greater than 40 percent tree cover and the trees average greater than 11 inches in diameter at breast height, Monk & Associates determined that the project site supports areas that should be regarded as “suitable” northern spotted owl habitat. Suitability does not infer presence, only that a more thorough investigation must be conducted to determine if this owl could be present on or near the project site.

To determine if the northern spotted owl occurs on the project site, Monk & Associates conducted six separate surveys of the project site in 2006 and three separate surveys of the project site in 2007. The surveys were conducted in accordance with two-year survey methods provided the USFWS’s survey protocol for the northern spotted owl (USFWS 1992a). While a single year of survey can be conducted pursuant to the USFWS’s survey protocol, the USFWS encourages completion of a two-year survey “to provide a higher likelihood of accurately determining presence or absence of spotted owls” (please review Methods/Northern Spotted Owl above). No northern spotted owls were detected during the two-year survey.

Monk & Associates' lead biologist Mr. Geoff Monk has extensive experience with the northern spotted owl dating back and continuously since his employment of the U.S. Bureau of Land Management in the Ukiah District Office (See Appendix H). After examining the project site, Mr. Monk concluded that the previously cut over project site provides conditions that normally would not be associated with occupancy by the northern spotted owl. The closed understory (brushed conditions) would not normally be expected to provide habitat conditions conducive to occupation by the northern spotted owl. Regardless, owing to records for this owl species in the area of the project site, Monk & Associates biologists spent considerable effort to determine if this owl could be present on the project site. Mr. Monk participated in all onsite surveys for the Northern spotted owl

After completing a two-year survey conducted in accordance with the USFWS' survey protocol, Monk & Associates did not find any evidence that northern spotted owls are currently using the project site. Mr. Monk does not believe these owls are currently using the project site due to poor habitat quality.

Regarding offsite areas immediately adjacent to the project site, similar to the project site there is no old growth forest where Northern spotted owls would be most likely to occur. The timber immediately southwest of the project site was harvested in 2006 and/or 2007. The southeast border of the project site is a county refuse transfer station that is open to the public and does not provide suitable habitat for this owl species. To the west of the project site there is timber harvesting and rural residential development. This habitat type also occurs north of the project site. To the northwest there is an olive orchard and the Starcross Monastic Community. Vineyards occur immediately to the northeast and east of the project site. East and southeast of the project site there is rural residential development and associated forest clearing. It should be noted that the number of rural residences identified during surveys was surprisingly large and belies the appearance of the area when driving along Annapolis Road through the project area. Most residences were identified at night by lights or from barking dogs residing at residences. Owing to surrounding residential, agricultural conversions, and the extent of timber harvesting that has occurred in distant past and recently, the areas surrounding the project site do not present conditions that would be attractive to Northern spotted owls.

Owl species observed or heard during Monk & Associates' two-year survey included barn owls, western screech owls (*Otus kennicottii*), and great horned owls. During dusk hours (1900 to 2000 hours) as Monk & Associates walked to remote calling stations, other wildlife species were heard or observed during the 0.5 hour period and were recorded in project notebooks. Just after dark, species such as wrentit, American crow (*Corvus brachyrhynchos*), common raven, western scrub jay, spotted towhee, dark-eyed junco, lesser goldfinch, acorn woodpecker, western toad (*Bufo boreas*), Douglas' squirrel (*Tamiasciurus douglasii)*, black-tailed hare, Columbian black-tailed deer, chipmunk (*Tamias*

sp.), dusky-footed woodrat, Botta's pocket gopher (*Thomomys bottae*), and gray fox were all observed or heard.

After conducting the two-year protocol survey for northern spotted owls, Monk & Associates concludes that spotted owls do not use the project site now, nor are they likely to use the project site in the near future. Similarly, Monk & Associates concludes that adjacent properties do not provide suitable habitat that would be used by the Northern spotted owl. Therefore, all activities related to project site development will not, at this time, affect the spotted owl. However, as this owl is known from the region of the project site, pursuant to the USFWS's northern spotted owl survey protocol, surveys would again need to be conducted in 2010 if the project site has not been cleared pursuant to the proposed project by this date (see Impacts and Mitigation Measures described below).

Forest Practices Act

The proposed project includes a timber harvest component and conversion of timber to vineyard. Accordingly, the California Department of Forestry and Fire Protection (CAL FIRE) must make preliminary determinations of incidental take avoidance for the federally listed northern spotted owl in order to approve the Timber Harvesting Plan since it will be implemented within the range of the northern spotted owl in California (ref. 14 CCR §§ 898.2, 919.10 and 939.10). In order to make such determinations prior to plan approval and to assure compliance with the disclosure requirements of the Forest Practice Act and California Environmental Quality Act, CAL FIRE must ensure all plans located within the range of the northern spotted owl incorporate sufficient information related to the species and its associated habitat and include enforceable protection measures for the species.

Applicability to Proposed Project: No northern spotted owl territories are known to occur any closer than 0.7-mile from the project site. A two-year protocol level northern spotted owl survey was completed by Monk & Associates that demonstrated absence of this owl on or near the project site. Pursuant to the northern spotted owl survey protocol, the findings remain valid for two years or until 2010. Surveys would be required again pursuant to the protocol in the event that the THP is not implemented by the end of 2009. Regardless, a pre-harvest northern spotted owl survey will be conducted to ensure that there are no impacts to the northern spotted owl. Similarly, if the THP is not implemented prior to 2010, protocol level surveys would once again be completed to ensure that the proposed project will not result in impacts to the northern spotted owl. While northern spotted owls have not been detected during protocol surveys, mitigation measures are nonetheless presented in this DEIR in the event that this owl is discovered within an area of defined affect during subsequent surveys. These mitigation measures address the requirements of the Forest Practices Act as further defined in 14 CCR § 919.9. Please review these mitigation measures in the Impacts and

Mitigation Section below. When implemented these measure will ensure that there is no take of northern spotted owl pursuant to the Federal Endangered Species Act, and that there will not be significant adverse impacts to the northern spotted owl pursuant to the CEQA from implementation of the proposed project.

Western Screech Owl

Western screech owl (*Otus kennicottii*) is protected under California Fish and Game Code Sections 3503, 3503.5, 3800, which protect nesting raptors, their eggs, and young. The owl is also protected under the Federal Migratory Bird Treaty Act (50 CFR 10.13). The western screech owl is fairly common in areas of oak woodland and in mixed oak and Douglas-fir forests. In Sonoma County the owl is fairly common in inland forests. The Sonoma County Breeding Bird Atlas has a "probable" nesting location for this owl along Annapolis Road. During nocturnal calling surveys for spotted owl on the project site, Monk & Associates detected western screech owls calling on multiple occasions from the project site while conducting northern spotted owl surveys. Because the project site's forest provides suitable nesting habitat for this owl species, and the species has been detected on the project site, the owl could nest on the project site. Hence, prior to any tree removal during the nesting season (February 1st through September 1st), a preconstruction nesting survey should be conducted.

Red-tailed Hawk

The red-tailed hawk (*Buteo jamaicensis*) is protected under the Migratory Bird Treaty Act (50 CFR 10.13) and under California Fish and Game Code §3503.5, 3800, and 3513, which protect nesting raptors and their eggs/young. This raptor species has an extremely wide tolerance for habitat variation, which can be attributed to its very broad spectrum of prey (Johnsgard 1990). Some clear habitat preferences do exist, however, and have been analyzed by a variety of studies. Habitat preferences in the winter for both sexes are oriented toward upland pasture, grassland, and hardwood habitats, with females also using lowland hardwoods and males using marsh–shrub communities. In the spring, females continue to use mainly upland and lowland hardwoods, probably as a reflection of their orientation toward a nest site. Monk & Associates observed red-tailed hawks foraging over the project site on multiple occasions. Furthermore, the project site provides suitable nesting habitat for red-tailed hawk. Hence, prior to any tree removal during the nesting season (February 1st through September 1st), a preconstruction nesting survey should be conducted.

Red Shouldered Hawk

Red shouldered hawk (*Buteo lineatus*) is protected under the Migratory Bird Treaty Act (50 CFR 10.13) and under California Fish and Game Code Sections 3503, 3503.5, 3800, and 3513, which protect nesting raptors and their eggs/young. This

medium-sized raptor prefers the largest trees in a particular area for nest construction. Blue gum eucalyptus (*Eucalyptus globulus*) trees have become favorite nesting trees for this species in California. A stick nest is constructed and usually two to four eggs are laid in the spring. Incubation lasts about 27 days. Usually two or three nests are built over a several year period by a nesting pair and then are reused year after year. Prey consists of reptiles and small rodents. The project site provides suitable nesting habitat for red shouldered hawk. Hence, prior to any tree removal during the nesting season (February 1st through September 1st), a preconstruction nesting survey should be conducted.

Cooper's hawk

Cooper's hawk (*Accipiter cooperi*) is a California Species of Special Concern. The raptor is also protected under the Federal Migratory Bird Treaty Act (50 CFR 10.13). The Cooper's hawks' nest, eggs, and young are also protected under California Fish and Game Code (§3503, §3503.5, and §3800). Finally, nesting Cooper's hawks are also regarded as species of special concern by the CDFG. The Cooper's hawk is a yearlong resident that typically nests in heavily wooded areas along streams, rivers, or in close proximity to springs or seeps. Migratory Cooper's hawks can also be found locally in the fall and winter months. The Cooper's hawk prefers to nest in tall canopies with an open understory, usually near openings. Cooper's hawks construct nests near the trunk of large trees. Nests are constructed of sticks, and may be reused in subsequent years. In the region of the project site, Cooper's hawks nest from April through July. Peak nesting months occur in May and June. Prey consists primarily of avian species and to a lesser extent mammalian species. Prey is usually captured in flight.

The project likely provides foraging habitat for the Cooper's hawk, especially during the migration season. Cooper's hawk was not found nesting on the project site during raptor nesting surveys; however, Patchett Creek's riparian habitat provides suitable nesting habitat for the Cooper's hawk. Hence, prior to any tree removal during the nesting season (February 1st through September 1st), a preconstruction nesting survey should be conducted.

Sharp-shinned Hawk

The sharp-shinned hawk (*Accipiter striatus*) is a California Species of Special Concern. CDFG is primarily concerned with this species' nesting habitat. The raptor is also protected under the Migratory Bird Treaty Act (50 CFR 10.13). Finally, nesting sharp-shinned hawks are also regarded as species of special concern by the CDFG. The sharp-shinned hawk's nest, eggs, and young are also protected under California Fish and Game Code Sections that protect nesting raptors (§3505, §3503.5, and §3800). The sharp-shinned hawk typically nests in heavily wooded areas, near open habitats, sometimes near streams, rivers, or in close proximity to spring or seeps. Sharp-shinned hawks are usually found nesting in more densely wooded areas than Cooper's hawks. The species nests in

thick tree canopies often with shrubby understories. Nests are constructed of sticks and are typically built near a major branch of the nesting tree.

The project likely provides foraging habitat for the sharp-shinned hawk, especially during the migration season. This hawk was not found nesting on the project site during raptor nesting surveys; however, Patchett Creek's riparian habitat provides suitable nesting habitat for the sharp-shinned hawk. Hence, prior to any tree removal during the nesting season (February 1st through September 1st), a preconstruction nesting survey should be conducted.

Amphibians

Foothill Yellow-Legged Frog

The foothill yellow-legged frog (*Rana boylii*) is a California Species of Special Concern. The State status designation does not provide any special legally mandated protection for this frog species. However, the status designation likely meets the definition of "rare" pursuant to the California Environmental Quality Act (CEQA) (14 CCR §15380(2)(A)). As such, potential impacts to foothill yellow-legged frog should be considered during any CEQA review or during the environmental permit application process if the permit will come from a public agency. Any unmitigated impacts to the species would likely be regarded by the resource agencies (CDFG and USFWS) as a significant adverse impact to the environment pursuant to CEQA (§21068).

The foothill yellow-legged frog is found in or near rocky streams in a variety of habitats, including valley-foothill riparian, ponderosa pine, mixed conifer, coastal scrub, mixed chaparral, and wet meadow types. The species is rarely encountered far from permanent water. Bullfrogs and Centrarchid fish are known predators.

Foothill yellow-legged frog is present on the project site in limited numbers in local areas. Originally, Monk & Associates biologists observed foothill yellow-legged frogs in the central section of Patchett Creek that supports deep pools with vertical rock slopes above these pools. It was noted that these frogs persist in the dry months late in the summer in these deeper, remnant pools. In the winter of 2007/08, these frogs were observed in Patchett Creek in its northern reach on the project site where winter flows supported larger pools in the channel. In contrast, they were not found in the deeper pools located centrally on the project site. In March 2008, the northern reach of Patchett Creek began to dry down, and the frogs began moving downstream to the deeper pools located in the central portion of Patchett Creek on the project site. By the end of March 2008, no foothill yellow-legged frogs remained in the northern reaches of Patchett Creek.

The move by frogs to the northern reaches in the winter months is likely in response to higher daytime temperatures and availability of sunlight. The deeper pools located in the central portion of the project site do not receive sunlight in

the winter months owing to the deeply incised condition of the creek and steep topography that characterizes that portion of the project site. The water and air temperature in these central pools are considerably lower in the winter months than the northern reaches of this creek, which are not timbered. By summer, when the sun is higher in the sky, the deeper pools that are used by this frog on the central portion of the project site are warmer, but most importantly they remain inundated perennially and thus this frog must make its way to the remnant pools located centrally on the project site in Patchett Creek that remain inundated through the summer months.

Implementation of the proposed project will not impact Patchett Creek. A minimum 100-foot protective buffer will be maintained between the top of banks of Patchett Creek and the vineyard disturbance areas (Figure 3.4-4). All vegetation in this buffer will be protected so the existing availability of both sunshine and shade will be maintained by the project. The protective buffer is considerably larger around the reach of Patchett Creek were late summer pools remain in this creek.

A project site preconstruction Storm Water Pollution Prevention Plan (SWPPP) will be implemented prior to implementation of grading activities to ensure that Patchett Creek, and indeed most tributaries on the project site (with rare exception), are protected from siltation and/or other project-related impacts. Similarly, a post-project Storm Water Management Plan (SWMP) will also be implemented to ensure that there are no impacts to the water quality in Patchett Creek or other downstream receiving waters after implementation of the project. In addition, there is no significant potential for contamination of Patchett Creek by the use of fertilizer, herbicide, insecticide, or other agricultural chemicals in the proposed vineyard. Qualified, properly certified vineyard managers will use only State-approved fertilizers, herbicides, insecticides or other agricultural chemicals in accordance with the label instructions and any applicable usage guidelines. Implementation of the SWPPP and the SWMP and the establishment of a protective buffer in the Patchett Creek corridor will ensure that impacts to the foothill yellow-legged frog are avoided. Consequently, no significant adverse impacts are expected to occur to this species from the proposed project.

Red-Legged Frog (*Northern and California Red-Legged Frog*)

Northern red-legged frog (*Rana aurora*) is a California "species of special concern." This northern red-legged frog has no Federal status. Species of special concern are closely monitored for trends in population numbers because, in most cases, their California breeding populations are seriously declining and extirpation from all or a portion of their range is possible (Remsen 1978). This title affords no legally mandated protection for this species; however, pursuant to the California Environmental Quality Act (CEQA) (14 CCR §15380), this title shall be presumed to indicate the species is rare for purposes of CEQA. Thus, northern red-legged frog should be considered in any project that will, or is

currently, undergoing CEQA review, and/or that must obtain an environmental permit(s) from a public agency.

The California red-legged frog (CRLF) (*Rana draytonii*) was federally listed as threatened on May 23, 1996 (Federal Register 61: 25813-25833) and as such is protected pursuant to the Federal Endangered Species Act. Critical habitat for this species was designated by USFWS on March 13, 2001 (Federal Register 66: 14625-14674); however on November 6, 2002 a court decision removed many of the critical habitat units that had been designated for the frog on March 13, 2001. On April 13, 2004 the USFWS re-proposed critical habitat for CRLF which was adopted on April 13, 2006. In September 2008, the USFWS again re-proposed critical habitat for the California red-legged frog (USFWS 2008). Closest mapped critical habitat or proposed critical habitat occurs in southern Sonoma County and in south-central Mendocino County. No critical habitat or proposed critical habitat is mapped any closer than approximately 28 miles (straight-line) from the project site. Unit MEN-1 is recently re-proposed critical habitat that is approximately 28 miles north of the project site. Units MRN 1, 2, and 3 are critical habitats that at the closest point to the project site are approximately 34 miles to the south. Critical habitat Units SON 1, 2, and 3 at their closest point to the project site are approximately 45 miles to the southeast. The closest record for the California red-legged frog to the project site is approximately 9.7 miles northwest of the project site (CNDDB Occurrence No. 967). The record location is for a pond in a Bishop pine (*Pinus muricata*) forest north of the Gualala River.

The California red-legged frog is also a state "species of special concern." This title affords no legally mandated protection for this species; however, pursuant to CEQA (14 CCR §15380), any project related impacts to this species would be regarded as significant.

Until California red-legged frog critical habitat was proposed for revision by USFWS in September 2008 (op. cit.) the project site heretofore had been regarded as within the range of the northern red-legged frog. The California red-legged frog was typically regarded as occurring from Sonoma County in northern California south to northern Baja California, and inland through the northern Sacramento Valley into the foothills of the Sierra Nevada Mountains, south to Tulare County, and possibly Kern County. The northernmost extent of its confirmed range was the Russian River. In contrast the northern red-legged frog is regarded as occurring from Vancouver Island, British Columbia, Canada, south along the Pacific coast west of the Cascade ranges to northern California (northern Del Norte County). Formerly, red-legged frogs found from southern Del Norte to northern Marin County (the project site lies within this range) were believed to exhibit intergrade characteristics of both *the northern and California red-legged frog* (USFWS 1996). Relatively recently Schaeffer et al., as reported in the recently published Proposed Rule that re-proposes critical habitat of the California red-legged frog (USFWS 2008), that data obtained from a 2004 genetics study determined that *R. aurora* actually consists of two species, the

northern red-legged frog, and the California red-legged frog. Also that these two frogs ranges overlap only in a narrow zone in Mendocino County. Owing to the populations of California red-legged frog found in Mendocino County there is now evidence that the range of the California red-legged frog extends northward from its traditionally recognized coastal habitats in Marin and Sonoma Counties to Mendocino County. What remains unknown is if both species occur in the overlap area between northern Sonoma and Southern Mendocino Counties. More work on this subject in the next few years will be of great interest to the scientific community.

Northern red-legged frogs are found in dense, shrubby or emergent vegetation closely associated with deep (>0.7 meters) still or slow moving water. They breed from January to March. Northern red-legged frogs over-summer in small mammal burrows and moist leaf litter. Over summering habitat is essential for the survival of red-legged frogs within a watershed, and availability of suitable over-summering habitat can be a limiting factor to northern red-legged frog survival.

The California red-legged frog is typically found in slow-flowing portions of perennial streams, and in ephemeral streams, and hillside seeps that maintain pool environments or saturated soils throughout the summer months. Riparian vegetation such as willows (*Salix* sp.) and emergent vegetation such as cattails (*Typha* sp.) are preferred red-legged frog habitats, though not necessary for this species to be present. This frog is also found in perennial ponds.

Monk & Associates determined that the aquatic habitats at the project site do not constitute habitat that would typically be used by either the Northern or California red-legged frog. Monk & Associates direct experience capturing and handling both larvae and adult California red-legged frogs is extensive. For example, Monk & Associates has worked to establish and preserve well over 1,000 acres of occupied California red-legged frog habitats since this species was first listed under the Federal Endangered Species Act in 2006. Similarly, Monk & Associates has developed over 25 California red-legged frog breeding ponds in the last 10 years. Finally, Monk & Associates carries a permit (i.e., a 10(A)(1)(a) federal permit)) issued from the U.S. Fish and Wildlife Service that allows Mr. Monk and other named employees to work directly with this frog species. This permit has been maintained continuously since 1996.

Mr. Monk, using his extensive knowledge of the habitat requirements of the California red-legged frog, after conducting multiple surveys concluded that neither red-legged frog species would be likely to be present on the project site. The man-made pond and all tributaries on the site, with the exception of a few small pools in Patchett Creek, dry out by mid-summer. To provide suitable breeding habitat Patchett Creek would have to remain inundated into and through August in order for the California red-legged frogs to successfully complete a breeding cycle. Where pools persist in Patchett Creek in the late summer months, they occur under heavy forest canopy in an almost complete absence of sunshine.

The pools are small, shallow, crystal clear, and are cobbled with an absence of mud or escape vegetation. The rocky substrate and clear water in the absence of shoreline vegetation is generally not a condition that would support red-legged frogs. Finally, no red-legged frog egg masses have ever been observed in Patchett Creek during appropriately timed surveys. Thus, there is very good reason to believe that red-legged frogs are not present on the project site. A final consideration that also has merit is that the yellow-legged frog has been observed on many occasions in Patchett Creek by Monk & Associates. The red-legged frog and yellow-legged frog are not known to co-occur in small tributaries. Indeed the yellow-legged frog population on the project site would be unlikely to survive if a red-legged frog population were present.

Even though Monk & Associates did not regard the project site as suitable for occupation by red-legged frogs, Monk & Associates biologists conducted two diurnal and two nocturnal surveys in all aquatic habitats on the project site. This level of survey meet the standards of care required by the CEQA to address potential impacts to red-legged frogs. The surveys were conducted at a time when egg masses, if present, would have been detected. Had egg masses been present, they would have been very easy to detect owing to the crystal clear and shallow water found on the project site.

No red-legged frog egg masses and no red-legged frog larvae, morphs, or adults have been observed during formal surveys or during any other survey of the tributaries on the project site. Consequently, Monk & Associates concludes that red-legged frogs do not occur on the project site and that the proposed project will not impact the northern or California red-legged frog in any way. Regardless, with the new information about overlap in range between the Northern red-legged frog and the California red-legged frog, and because there are freshwater habitats on the site, Monk & Associates from the perspective of CEQA are regarding the project site as suitable habitat of the red-legged frog. This does not infer that red-legged frogs occur on the site only that water is present that could support this frog albeit temporarily. As such, mitigation measures are proposed for these two frog species.

Reptile(s)

Pacific Pond Turtle

The Pacific pond turtle (*Actinemys marmorata marmorata*) (previously known as the northwestern pond turtle) is a State Species of Special Concern. The Pacific pond turtle is a habitat generalist, inhabiting a wide range of fresh and brackish, permanent and intermittent water bodies from sea level to about 4,500 feet above sea level (USFWS 1992). Typically, the species is found in ponds, marshes, ditches, streams, and rivers that have rocky or muddy bottoms. The Pacific pond turtle is most often found in aquatic environments with plant communities dominated by watercress, cattail, and other aquatic vegetation. The turtle is truly aquatic, and

usually only leaves the aquatic site to reproduce and to overwinter. Recent field work has demonstrated that Pacific pond turtles may overwinter on land or in water, or may remain active in water during the winter season; this pattern may vary considerably with latitude, water temperature, and habitat type and remains poorly understood.

The pond turtle also requires upland areas for burrowing habitat where nests can be dug in which eggs are then buried. The nests can extend from 52 feet to 1,219 feet from watercourses; however, most pond turtles nest in uplands within 250 meters of water. Upland nest sites are usually found in areas with sparse vegetation. Sunny, barren, and undisturbed (not disked) land provides optimal habitat, while shady riparian habitat and planted agricultural fields do not provide suitable habitat. Eggs are typically laid from March to August, with most eggs being laid in May and June. Hatchlings will stay in the nest until the following April. Predators of juvenile pond turtles include the non-native bullfrog (*Rana catesbeiana*) and Centrarchid fish (sunfish). The Pacific pond turtle is most visible between April and July when they can be observed basking in the sun. In areas where the water is very warm during these months, however, the turtle will bask in the warm water and will be more difficult to observe. The turtle eats plants, insects, worms, fish and carrion.

The closest known record for the northern distribution of the Pacific pond turtle is located approximately 3.4 miles southwest of the project site at the junction of the Wheatfield fork and the South fork of the Gualala River. The largest tributary on the project site is Patchett Creek. While there are small pools that persist in this creek even through the dry summer months, the pools are small, heavily shaded, and are not regarded to constitute habitat that would be used by the Pacific pond turtle. The species was not detected on the project site during Monk & Associates surveys conducted in February, April, May, June and August 2006. Consequently, no significant adverse impacts are expected to occur to this species from the proposed project.

Mammal(s)

Red Tree Vole

The red tree vole (*Arborimus pomo*) is a State species of special concern. It has no special Federal status. This species is restricted to old growth forests composed of at least some Douglas-fir or grand fir (*Abies grandis*) from Sonoma County north to the Oregon border. This vole is reported to be rare to uncommon throughout its range, but the difficulty of locating nests and capturing individuals makes abundance hard to assess. Clear-cuts, forest fires, and other factors that create openings in the forest and isolate blocks of trees are detrimental to red tree voles. The red tree vole feeds on conifer needles. Males nest most frequently in a tree nest constructed of fir needles, or, less frequently, in shallow burrows at the base of fir trees, beneath litter. Females seem to spend most of their lives in trees,

constructing large, domed nursery nests of Douglas-fir needles, from 6 to 150 feet above the ground. The red tree vole breeds year round, but mostly from February through September. Research has shown that the northern spotted owl is one of the main predators of the red tree vole.

Red tree voles are sporadically concentrated in their distribution rather than evenly distributed. Although many of the factors determining the occurrence of red tree voles are not known, these animals are thought to be limited to sites where consistent moisture keeps the needles moist. They are observed to "drink" from the same needles that they eat in the relative safety of dense tree branches. Studies have linked the abundance and distribution of voles to fog-rich coastal zones in dense temperate forests. Inhabited trees are often close to streams or creeks due to the higher ambient moisture in the air (Parmer, R., undated). Red tree voles are typically limited in distribution to old growth. Their diet of conifer needles plays a role in their distribution. Carey (1999) states that this vole requires a relatively stable environment such as that provided by old growth timber.

The closest known record for the red tree vole is located approximately 4.0 miles southeast of the project site, near the Wheatfield fork of the Gualala River (CNDDB Occurrence Number 172). One red tree vole nest was observed near the Wheatfield fork in 1997. Specific habitat information is not provided in the CNDDB record.

Nests or other signs of red tree voles were not detected during surveys conducted by NCRM in 2001 (NCRM 2001). Similarly, Monk & Associates did not detect this species on the project site during surveys. Owing to the clear cutting of the project site that likely occurred between 1940 and 1960, the project site does not contain mature stands of Douglas-fir or mixed conifer trees (the known nesting material and major food source for this species).

Monk & Associates lead biologist Mr. Geoff Monk conducted similar studies in the past while working as biologist at the Bureau of Land Management, in the Ukiah District Office. Mr. Monk actually trapped red-tree voles while working at the Bureau of Land Management and so has direct experience with the species. Mr. Monk examined suitable trees on the project site for potential nests and evidence of occupation by red tree vole. Leaf nests or "needle nests" were searched in appropriate stands of timber for the potential presence of red tree vole. The ground under all observed leaf nests was examined for evidence of pine needle harvesting and other signs of this vole species such as droppings, stick accumulations, etc. No signs of this vole were found. Suitable leaf nests were not observed nor was there any evidence such as shredded fir needle "balls" under Douglas fir that might otherwise indicate this species is present on the project site.

Mr. Monk does not believe that habitat on the project site is suitable for the red tree vole. Typically, this vole is limited in distribution to old growth or mature timber. These conditions are not present on this logged over project site. It should

be noted that a separate study was conducted for red-tree vole by North Coast Resources Management in 2000 and 2001. This company also found no evidence of the red tree vole on the project site. As this species has not been observed on the project site during independent surveys by two biological companies, and owing to unsuitable habitat conditions, no significant impacts to this species are expected to occur from implementation of the proposed project.

Fisheries Setting

Fisheries information for the proposed project was provided by Inland Ecosystems, Inc., of Reno, Nevada. The Inland Ecosystems Fisheries Assessment notes that the Gualala River watershed, located along the coast of southern Mendocino and northern Sonoma Counties, is approximately 32 miles long in a north/south direction with an average width of 14 miles. Elevations vary from sea level to 2,602 feet at Gube Mountain and terrain is most mountainous in the northern and eastern parts of the watershed (North Coast Watershed Assessment Project [NCWAP]). The river enters the Pacific Ocean near the town of Gualala, 114 miles north of San Francisco and 17 miles south of Point Arena.

The project site itself does not contain suitable aquatic habitat for special-status fish species; however, the assessment area for special-status fish species is not necessarily limited to a certain radius around the project site, but can encompass all applicable downstream portions of the Gualala River watershed. Patchett Creek is a seasonally dry Class III watercourse that flows through the project site and joins the Wheatfield Fork of the Gualala River approximately 1.7 miles below the project site. The Patchett Creek watershed averages about 6,000 feet wide over a length of 10,800 feet, for a total area of approximately 1,125 acres. The lower approximately 0.8 miles of Patchett Creek are categorized as Class I (a year-round fish-bearing stream). At this point, the watercourse has a very steep section that blocks the further upward migration of salmonids. The approximately 0.9 miles (4,800 feet) of the stream between the impassable area and the vineyard discharge point are categorized as a Class II stream.

Fish species present in the Gualala River Basin include coho salmon (*Oncorhynchus kisutch*), steelhead trout (*Oncorhynchus mykiss irideus*), pacific lamprey (*Entosphenus tridentatus*), threespine stickleback (*Gasterosteus aculeatus*), Gualala roach (*Lavinia symmetricus parvipinnis*), coastrange sculpin (*Cottus aleuticus*), prickly sculpin (*Cottus asper*), and riffle sculpin (*Cottus gulosus*). Further downstream towards the coastal habitats of the river the federally endangered tidewater goby (*Eucyclogobius newberryi)* may be found. However, on-site habitat for the tidewater goby does not exist.

The RWQCB has compiled existing information on historic fish populations and surveys in the Gualala watershed dating back to the 1950s, including angler surveys, spawner surveys, summer electrofishing, species composition surveys, and snorkel surveys, in order to determine the health of salmonid populations in the Gualala Basin. The results indicate that coho salmon have all but vanished throughout the watershed. Stream surveys reviewed as part of the NCWAP indicate that the coho salmon population began to decline prior to the 1960s. Inland Ecosystem's review addresses steelhead trout in

lower Patchett Creek as the primary coldwater fish species of concern potentially occurring downstream from the project site.

In July and October 1991 Entrix, Inc. conducted a fisheries survey and habitat assessment on a stretch of the Gualala River from the Wheatfield Fork/South Fork Gualala River confluence downstream to the confluence of the South Fork and North Fork Gualala River. Seven species of fish were collected during the surveys, including steelhead trout, coastrange sculpin, prickly sculpin, Pacific lamprey, threespine stickleback, green sunfish, and Gualala roach. Coho salmon were not collected during the study. The three most abundant species over all sampling stations (both upstream and downstream) were juvenile steelhead trout, Gualala roach, and threespine stickleback.

The Northern California Evolutionarily Significant Unit (ESU) of steelhead trout was listed as "Threatened" under the federal Endangered Species Act (ESA) on August 7, 2000 by the National Marine Fisheries Service (NMFS). Factors contributing to the steelhead trout decline in California include freshwater habitat loss and degradation resulting from blocked access to historic spawning and rearing areas by dams; inadequate stream flows; and human activities that discharge sediment and debris into watercourses (NCWAP).

Figure 3.4-5 presents the historic (pre-1900) and current distribution of steelhead trout in California. The Northern California ESU includes steelhead trout in California coastal river basins from Redwood Creek south to the Gualala River. The steelhead trout population estimate for this ESU is approximately 25,000 individuals (See Figure 3.4-6).

Within the Gualala watershed, past land use activities have included streamside road construction and stream clearance projects (e.g., removal of large woody debris), timber operations, and ranchland conversions which were detrimental to fish populations. The above listed activities removed riparian canopy cover, contributed to reduced instream shelter and baseflow, and increased fine organic sediment loading (NCWAP). Heavy rainfall and high river flows during mid-20th-century storm events activated many road debris slides and washed out large sections of streamside roads, introducing considerable quantities of sediment into the basin waterways.

The RWQCB *Technical Support Document* (TSD) for the Gualala River Watershed Water Quality Attainment Action Plan for Sediment concluded that "available information indicates that the (steelhead trout) populations show a pattern of decline." Data from the NCWAP show that steelhead trout have diminished substantially in distribution and abundance in the Gualala River watershed.

Wildlife and Plant Observations

Wildlife and plant species that were observed by Monk & Associates in the project area, including their signs, are listed in Table 3.4-1.

Figure 3.4-5
California Steelhead Trout Population Distribution by ESU

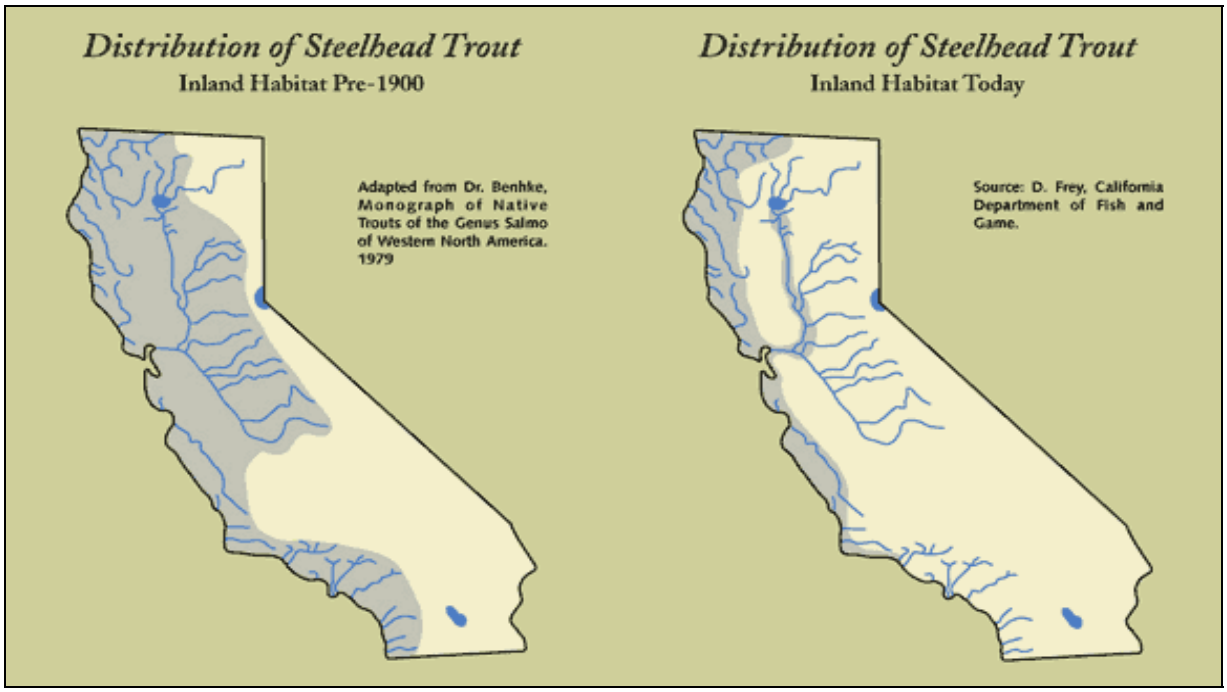
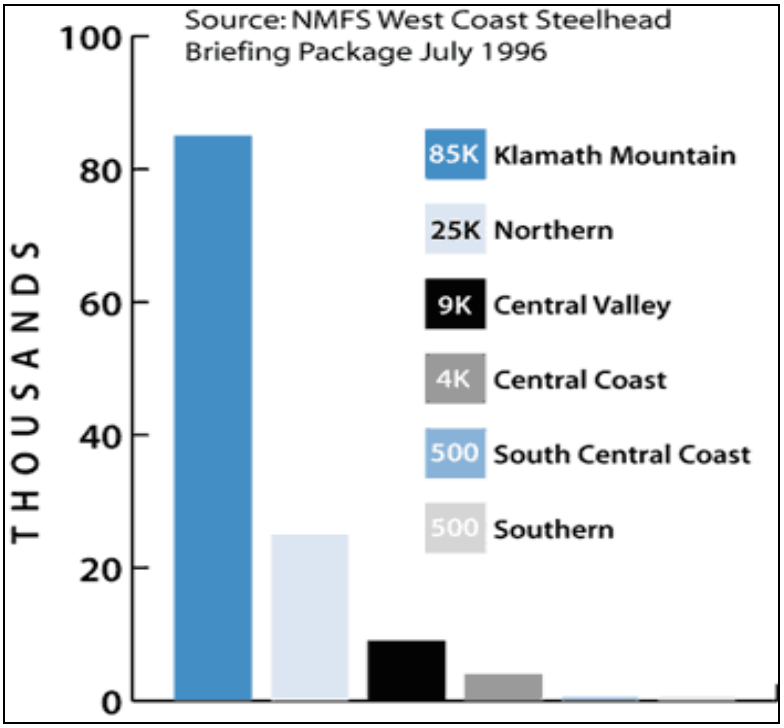


Figure 3.4-6
California Steelhead Trout Estimated Population Size by ESU



REGULATORY CONTEXT

A number of federal, State, and local policies provide the regulatory framework that guides the protection of biological resources. The following discussion summarizes those laws that are most relevant to biological resources in the vicinity of the project site.

Riparian areas, wetlands, waters of the U.S., and special-status species are considered sensitive biological resources and fall under the jurisdiction of several regulatory agencies. Impacts to these areas often require federal, State, and/or local permits or agreements. The permits required vary depending upon the location of the project and the type and extent of impacts. However, prior to the issuance of any permit for actions that would result in impacts to wetlands, waters, or special-status species, notification to all or some of the following agencies may be required:

- California Department of Forestry and Fire Protection (CAL FIRE);
- U.S. Army Corps of Engineers (Corps);
- California Department of Fish and Game (CDFG);
- California Regional Water Quality Control Board (RWQCB);
- U.S. Fish and Wildlife Service (USFWS); and
- National Marine Fisheries Service (NMFS).

An overview of the jurisdiction, application requirements and required permits for each of the above-listed agencies is provided in the following sections. Under each law we discuss its pertinence to the proposed project.

Federal

U.S. Army Corps of Engineers (Corps)

Pursuant to Section 404 of the Clean Water Act (33 U.S.C. 1344), the U.S. Army Corps of Engineers (Corps) regulates the discharge of dredged or fill material into "waters of the United States" (33 Code of Federal Regulations (CFR) Parts 328 through 330). Project Applicants are required to obtain authorization from the Corps prior to discharging dredged or fill materials into any water of the United States. "Waters of the United States" are defined as, "...all interstate waters including interstate wetlands...intrastate lakes, rivers, streams (including intermittent streams), wetlands, [and] natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce..." (33 CFR Section 328.3).

Limits of Corps' Jurisdiction

(a) Territorial Seas. The limit of jurisdiction in the territorial seas is measured from the baseline in a seaward direction a distance of three nautical miles (See 33 CFR 329.12).

(b) Tidal Waters of the United States. The landward limits of jurisdiction in tidal waters:

(1) Extends to the high tide line, or
(2) When adjacent non-tidal waters of the United States are present, the jurisdiction extends to the limits identified in paragraph (c) of this section.

(c) Non-Tidal Waters of the United States. The limits of jurisdiction in non-tidal waters:

(1) In the absence of adjacent wetlands, the jurisdiction extends to the ordinary high water mark.
(2) When adjacent wetlands are present, the jurisdiction extends beyond the ordinary high water mark to the limit of the adjacent wetlands.
(3) When the water of the United States consists only of wetlands the jurisdiction extends to the limit of the wetland.

Section 404 jurisdiction in "other waters" such as lakes, ponds, and streams, extends to the upward limit of the ordinary high water mark (OHWM) or the upward extent of any adjacent wetland. The OHWM on a non-tidal water is the "line on shore established by the fluctuations of water and indicated by physical characteristics such as a clear natural line impressed on the bank; shelving; changes in the character of soil; destruction of terrestrial vegetation; the presence of litter or debris; or other appropriate means that consider the characteristics of the surrounding areas" (33 CFR Section 328.3[e]). Wetlands are defined as "...those areas that are inundated or saturated by surface or ground water at a frequency and duration to support a prevalence of vegetation adapted for life in saturated soil conditions" (33 CFR Section 328.8 [b]). Wetlands usually must possess hydrophytic vegetation (i.e., plants adapted to inundated or saturated conditions), wetland hydrology (e.g., topographic low areas, exposed water tables, stream channels), and hydric soils (i.e., soils that are periodically or permanently saturated, inundated or flooded) to be regulated by the Corps pursuant to Section 404 of the Clean Water Act.

It should be noted that the extent of the Corps jurisdiction pursuant to Section 404 of the Clean Water Act was recently modified. In Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers, the U.S. Supreme Court [148 L. Ed. 2d 576 (2001) (SWANCC)] ruled that the Corps exceeded its authority under the Clean Water Act when it regulated discharges of fill material into "isolated" waters used as habitat by migratory birds. Accordingly, waters (including wetlands) that are not connected hydrologically to navigable waters may now not be subject to regulation by the Corps.

A recent Supreme Court decision may also significantly change how the Corps defines waters of the United States. On June 19, 2006 the United States Supreme Court, in a "four-one-four" decision, addressed the extent of Clean Water Act jurisdiction over wetlands adjacent to tributaries of navigable waters. The extent to which the decision will further restrict federal regulation of wetlands remains unclear. In two consolidated cases, *Rapanos v. United States* and *Carabell v. U.S. Army Corps of Engineers*, a five-Justice majority of the Court remanded the case to the Sixth circuit for further consideration. The Court was unable to produce a majority vote in favor of any one jurisdictional standard

for the Sixth Circuit to apply (or for the regulated community to follow). Instead, Justice Scalia authored a plurality opinion that would significantly narrow the reach of federal wetlands jurisdiction, while Justice Kennedy, concurring in the judgment only, concluded that the appropriate test for jurisdiction over wetlands was the presence of a "significant nexus" between wetlands and "navigable waters" in the traditional sense. The remaining four Justices, in a dissenting opinion by Justice Stevens, would have upheld the Corps of Engineers' assertion of jurisdiction and would have affirmed the Sixth Circuit's decision. When no opinion garners at least five votes, lower courts follow the concurrence that reached the result on the narrowest grounds. Here, that is Justice Kennedy's opinion. However, Justice Kennedy did not provide specific guidance about the extent of federal jurisdiction over wetlands that are adjacent to tributaries of navigable waters.

Justice Kennedy concluded that the Clean Water Act applies only to those wetlands with a "significant nexus" to "navigable waters in the traditional sense." A significant nexus exists when a wetland, "either alone or in combination with similarly situated lands in the region, significantly affect[s] the chemical, physical, and biological integrity" of factually navigable waters. Under Supreme Court precedent, wetlands adjacent to navigable waters meet this test. For wetlands located near *tributaries* of navigable waters, however, each wetland demands a case-by-case jurisdictional inquiry. The Court found that a "mere hydrological connection" is not enough in all cases, and that "speculative or insubstantial" effects on water quality will not suffice to satisfy the test.

EPA and the Corps of Engineers have jointly issued a legal memorandum that interprets the June 19, 2006 Supreme Court decision in the consolidated cases *Rapanos v. U.S.* and *Carabell v. U.S.* (known as the "Rapanos" decision). The guidance was released to Corps of Engineers and EPA field offices to ensure nationwide predictability, reliability, and consistency in identifying wetlands, streams and rivers subject to the Clean Water Act (CWA). The EPA/Corps guidance reflects the agencies' intent to provide maximum protection for the Nation's aquatic resources under the CWA as interpreted by the Supreme Court in Rapanos. To ensure such decisions are made in a timely manner, the agencies have released concurrently with the guidance a Memorandum of Agreement laying out a process with specific short timeframes, when necessary, for reaching interagency agreements on jurisdictional calls. The below listed information summarizes the key points in the legal memorandum:

The agencies will assert jurisdiction over the following waters:

- Traditional navigable waters.
- Wetlands adjacent to traditional navigable waters.
- Non-navigable tributaries of traditional navigable waters that are relatively permanent where the tributaries typically flow year-round or have continuous flow at least seasonally (e.g., typically three months).
- Wetlands that directly abut such tributaries.

The agencies will decide jurisdiction over the following waters based on a fact-specific analysis to determine whether they have a significant nexus with a traditional navigable water:

- Non-navigable tributaries that are not relatively permanent.
- Wetlands adjacent to non-navigable tributaries that are not relatively permanent.
- Wetlands adjacent to but that do not directly abut a relatively permanent non-navigable tributary.

The agencies generally will not assert jurisdiction over the following features:

- Swales or erosional features (e.g., gullies, small washes characterized by low volume, infrequent, or short duration flow).
- Ditches (including roadside ditches) excavated wholly in and draining only uplands and that do not carry a relatively permanent flow of water.

The agencies will apply the significant nexus standard as follows:

- A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by all wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical and biological integrity of downstream traditional navigable waters.
- Significant nexus includes consideration of hydrologic and ecologic factors.

To remain in compliance with Section 404 of the Clean Water Act, project proponents and property owners (applicants) are required to be permitted by the Corps prior to discharging or otherwise impacting "waters of the United States". In many cases, the Corps must visit a proposed project area (to conduct a "jurisdictional determination") to confirm the extent of area falling under their jurisdiction prior to authorizing any permit for that project area. Typically, at the time the jurisdictional determination is conducted, applicants (or their representative) will discuss the appropriate permit application that would be filed with the Corps for permitting the proposed impact(s) to "waters of the United States."

Pursuant to Section 404 of the Clean Water Act, the Corps normally provides two alternatives for permitting impacts to the type of "waters of the United States" found in the project area. The first alternative would be to use Nationwide Permit(s) (NWP). The second alternative is to apply to the Corps for an Individual Permit (33 CFR Section 235.5(2)(b)). The application process for Individual Permits is extensive and includes public interest review procedures (i.e., public notice and receipt of public comments) and must contain an "alternatives analysis" that is prepared pursuant to Section 404(b) of the Clean Water Act (33 U.S.C. 1344(b)). The alternatives analysis is also typically reviewed by the federal Environmental Protect Agency (EPA), and thus brings another resource

agency into the permitting framework. Both the Corps and EPA take the initial viewpoint that there are practical alternatives to the proposed project if there would be impacts to waters of the U.S., and the proposed permitted action is not a water dependent project (e.g. a pier or a dredging project). Alternative analyses therefore must provide convincing reasons that the proposed permitted impacts are unavoidable. Individual Permits may be available for use in the event that discharges into regulated waters fail to meet conditions of NWP(s).

NWPs are a type of general permit administered by the Corps and issued on a nationwide basis that authorize minor activities that affect Corps regulated waters. Under the NWP, if certain conditions are met, the specified activities can take place without the need for an individual or regional permit from the Corps (33 CFR, Section 235.5[c][2]). In order to use NWP(s), a project must meet 27 general nationwide permit conditions, and all specific conditions pertaining to the NWP being used (as presented at 33 CFR Section 330, Appendices A and C). It is also important to note that pursuant to 33 CFR Section 330.4(e), there may be special regional conditions or modifications to NWPs that could have relevance to individual proposed projects. Finally, pursuant to 33 CFR Section 330.6(a), Nationwide permittees may, and in some cases must, request from the Corps confirmation that an activity complies with the terms and conditions of the NWP intended for use (*i.e.,* must receive "verification" from the Corps).

The Corps maintains a policy of "no net loss" of wetlands (waters of the United States) from project area development. Therefore, it is incumbent upon applicants that propose to impact Corps regulated areas to submit a mitigation plan that demonstrates that impacted regulated areas would be recreated (*i.e.,* impacts would be mitigated). Typically, the Corps requires mitigation to be "in-kind" (i.e., if a stream channel would be filled, mitigation would include replacing it with a new stream channel), and at a minimum of a 1:1 replacement ratio (i.e., one acre or fraction thereof recreated for each acre or fraction thereof lost). Often a 2:1 replacement ratio is required. Usually the 2:1 ratio is met by recreation or enhancement of an equivalent amount of wetland as is impacted, in addition to a requirement to preserve an equivalent amount of wetland as is impacted by the project. In some cases, the Corps allows "out-of-kind" mitigation if the compensation site has greater value than the impacted site. For example, if project designs call for filling an intermittent drainage, mitigation should include recreating the same approximate jurisdictional area (same drainage widths) at an offsite location or on a set-aside portion of the project area. Finally, there are many Corps approved wetland mitigation banks where wetland mitigation credits can be purchased by applicants to meet permitting requirements. Mitigation banks have limited distribution and the Corps typically only allows their use when project's have minimal affects on wetlands. If a project meets conditions of Nationwide Permits, and an Individual Permit is not required by the Corps, then typically the Corps allows use of wetland mitigation banks (if available) to meet the "no net loss" requirement and to otherwise mitigate the impacts of the project.

Applicability to the Proposed Project

Monk & Associates conducted a preliminary wetland delineation on the project site on February 15, 2006, May 1, 2, 3, 4, 5, 6, 7, and 8, 2006. Hydrology was mapped in February, while soils analysis and plant species identification were completed in the areas exhibiting hydrology in subsequent visits. Monk & Associates prepared a draft preliminary wetlands map of the project site and submitted it to the Corps for their review on July 31, 2006. The Corps visited the project site on November 2 and 16, 2006 to examine and verify Monk & Associates' map. On November 28, 2006 Monk & Associates submitted a revised final jurisdictional map depicting the extent of the Corps' jurisdiction on the project site. On December 4, 2007 the Corps confirmed a total of 3.35 acres of waters of the U.S. within the Corps jurisdiction on the project site. In addition, the Corps confirmed that there is 0.26-acre of isolated wetlands on the project site that are not within the Corps' jurisdiction. Figure 3.4-7 on page 3.4-79 depicts the extent of the Corps' jurisdiction on the project site.

The project has been carefully designed to minimize impacts to waters of the U.S. to the maximum extent possible while allowing the project to proceed. Figure 3.4-7 illustrates impacts that would occur to waters of the U.S. from implementation of the proposed project. In summary, impacts to Corps regulated areas from grading for vineyard installation total 0.308-acre enumerated as follows: approximately 0.011-acre of other waters and 0.269-acre of seasonal wetlands. In addition, there would be impacts to 0.001-acre of other waters and 0.027-acre of seasonal wetland from construction of infrastructural elements of the project. These elements are enumerated as follows:

1) Minor temporary impacts to other waters would occur when trenches are installed through two ephemeral tributaries for drain pipe installation. Upon installation of the drainpipe, the trenches would be backfilled and the contours of the tributaries restored to their original configurations. The drain pipe will take stormwater runoff from the vineyard reservoir to the sump basin.

2) Upon reaching capacity, the sump basin would overflow via a spillway into an ephemeral tributary on the project site. The spillway termination point would result in minor additional impacts to other waters.

3) Finally, two rocked ford crossings through minor tributaries will be constructed to facilitate construction of access roads within the vineyard and will impact other waters and seasonal wetland. The rocked ford crossing of the seasonal wetland was the engineering method of choice to ensure that there would be the smallest impact possible to the seasonal wetland while leaving the remainder of the wetland and its hydrology intact.

In total, 0.308-acre of waters of the United States would be impacted by the proposed project. Of this amount 0.296-acre is seasonal wetland and 0.012-acre is "other waters." These impacts are mapped on Figure 3.4-7. Of the 3.35 acres of waters of the United States on the project site, 3.041 acres (91 percent) will be avoided by the project. These avoided waters of the U.S. will be preserved in perpetuity in stream buffers or other preserves established as part of the project.

Prior to filling any Corps jurisdictional area it would be necessary to receive a permit from the Corps. Because the project will impact less than 0.5-acre and less than 300 lineal feet of tributary, *as proposed, the project meets all general and specific conditions for use of Nationwide Permits (NWPs)*. Accordingly, the Corps can authorize use of Nationwide Permits for this project (see above discussions on permitting alternatives).

The Corps maintains a policy that projects shall not result in a net decrease in wetland acreage. As such, the Corps typically requires that all impacted wetlands be re-created at a minimum 1:1 (impacts to creation) ratio. Any new wetlands created would have to be preserved in perpetuity in a permanently protected preserve. Biological monitoring would be required for a minimum of five years to ensure that created wetlands meet pre-established success criteria. Annual monitoring reports must be submitted to the Corps demonstrating that the created wetlands are meeting the success criteria goals. In the event that the wetlands do not meet success criteria at the end of the five year monitoring period, the Corps can require the applicant to implement remedial actions that would correct deficiencies and under this circumstance would extend the biological monitoring requirement an additional five years. The Erosion Control and Mitigation Plan included in this DEIR illustrates the proposed wetland mitigation compensation plan that will be implemented as part of the proposed project. A complete discussion of potential project-related impacts to waters of the U.S. and State, and appropriate mitigation measures are provided in the "Impacts and Mitigations" section below.

Several regulatory agencies with commenting authority may provide input and specify permit conditions during the Corps' permit authorization process. The agencies typically involved include U.S. Fish and Wildlife Service, State Office of Historical Protection, Environmental Protection Agency, NMFS, and Regional Water Quality Control Board.

U.S. Fish and Wildlife Service and NMFS

Federal Endangered Species Act

The primary focus of the FESA of 1973 is that all federal agencies must seek to conserve threatened and endangered species through their actions. FESA has been amended several times in the past to correct perceived and real shortcomings. FESA contains three key sections. Section 4 (16 USCA §1533) outlines the procedure for listing endangered plants

and wildlife. Section 7 (§1536) imposes limits on the actions of federal agencies that might impact listed species. Section 9 (§1538) prohibits the "taking" of a listed species by anyone, including private individuals, and State and local agencies. In the case of salt water fish and other marine organisms, the requirements of FESA are enforced by the National Marine Fisheries Service (NMFS). The USFWS enforces all other cases. Below, Sections 7 and 9 of FESA are discussed since they are the two sections most relevant to the proposed project.

Section 9 of FESA as amended, prohibits the "take" of any fish or wildlife species listed under FESA as endangered. Under Federal regulation, "take" of fish or wildlife species listed as threatened is also prohibited unless otherwise specifically authorized by regulation. *"Take," as defined by FESA, means "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct."* Recent court cases have found "harm" includes not only the direct taking of a species itself, but the destruction or modification of the species' habitat resulting in the potential injury of the species. As such, "harm" is further defined 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). Harm must be tempered against a court decision from the United States District Court for the District of Arizona [United States Court of Appeals for the Ninth Circuit. 2001. *Arizona Cattle Growers' Association, Jeff Menges, v. United States Fish and Wildlife, Bureau of Land Management, and Southwest Center for Biological Diversity*. Filed December 17, 2001.]. This Court held based on the legislative history, case law, prior agency representations, and the plain language of the Endangered Species Act, that an Incidental Take Statement must be predicated on a finding of an incidental take. Further, the Fish and Wildlife Service acted in an arbitrary and capricious manner by issuing Incidental Take Statements imposing terms and conditions on land use permits, where there either was no evidence that the endangered species existed on the land or no evidence that a take would occur if the permit were issued.

Section 9 applies not only to federal agencies but also to any local or State agency, and to any individual. If "take" of a listed species is necessary to complete an otherwise lawful activity, this triggers the need for consultation under Section 7 of FESA (for Federal agencies), or requires preparation of a Habitat Conservation Plan (HCP) pursuant to Section 10 of FESA (for state and local agencies, or individuals).

Section 7(a)(2) of the Act requires that each Federal agency shall, in consultation with and with the assistance of the USFWS, insure that any action authorized, funded or carried out by such agency is not likely to jeopardize the continued existence of an endangered or threatened species or result in the destruction or adverse modification of critical habitat. Critical habitat identifies specific areas, both occupied and unoccupied, that are essential to the conservation of a listed species and that may require special management considerations or protection. Section 4 of the Act requires USFWS to consider economic and other relevant impacts of specifying any particular area as critical habitat.

Federal actions include permitting, funding, and entitlements for both federal projects, as well as private projects facilitated by federal actions (for example, a private landowner applying to the Corps for a permit). As an example, if a federally listed endangered species is present in "waters of the United States" on a project site, prior to authorizing impacts to “waters of the United States,” the U.S. Army Corps of Engineers (who administers the Clean Water Act) would be required to initiate “formal consultation” with USFWS pursuant to Section 7 of FESA. As part of the formal consultation, the USFWS would then be required to prepare a Biological Opinion based on a review and analysis of the project applicant’s avoidance and mitigation plan. The Biological Opinion will either state that the project will or will not result in “take” or threaten the continued existence of the species (not just that population). If an endangered species could be harmed by a proposed project, USFWS has to be in complete concurrence with the proposed avoidance and mitigation plan. If USFWS is not in complete concurrence with the mitigation plan, they will submit a Biological Opinion to the Corps containing a “jeopardy decision” and stating that a Corps’ permit should not be issued for the pending project. The applicant would then have an opportunity to submit a revised mitigation plan that provides greater protection for the species.

In the 1982 amendments to FESA, Congress established a provision in Section 10 that allows for the "incidental take" of endangered and threatened species of wildlife by non-federal entities (for example, project applicants, state and local agencies). "Incidental take" is defined by FESA as take that is "incidental to, and not the purpose of, the carrying out of an otherwise lawful activity." Under Section 10 of FESA, the applicant for an "incidental take permit" is required to submit a "conservation plan" to USFWS or NMFS that specifies, among other things, the impacts that are likely to result from the taking, and the measures the permit applicant will undertake to minimize and mitigate such impacts, and the funding that will be available to implement those steps.

Conservation plans under FESA have come to be known as "habitat conservation plans" or "HCPs" for short. The terms incidental take permit, Section 10 permit, and Section 10(a)(1)(B) permit are used interchangeably by USFWS. Section 10(a)(2)(B) of FESA provides statutory criteria that must be satisfied before an incidental take permit can be issued.

A recent (December 2001) decision by the Ninth Circuit Court of Appeals (*Arizona Cattle Growers’ Association, Jeff Menges, vs. the U.S. Fish and Wildlife Service and Bureau of Land Management, and the Southwest Center for Biological Diversity*) ruled that the USFWS must show that a threatened or endangered species is present on a project site and that it would be taken by the project activities. According to this ruling, the USFWS can no longer require minimization measures based on the probability that the species could use the site. Rather they must show that it is actually present.

The study area is in an area regulated by the USFWS’ Sacramento Endangered Species Office. This office believes the above case was narrowly focused on federal grazing leases and the effects of these leases on federal listed species. Due to this narrow focus, the Sacramento office believes that this case has little bearing in northern California. This

office claims that probable use of habitat by a federal listed species would still be subject to the provisions of FESA.

Responsible Agency

FESA gives regulatory authority over terrestrial species and non-anadromous fish to the USFWS. The NMFS has authority over marine mammals and anadromous fish.

Applicability to the Proposed Project

The project site does not provide habitat for any fish species, listed or non-listed, since Patchett Creek and the tributaries onsite do not provide suitable flows or water depths for fish. Also, Patchett Creek dries almost completely in the summer months only retaining a few relatively small and shallow pools in the south central reach of Patchett Creek on the project site. While endangered fish species are known to occur in the Gualala River many miles downstream of the project site, the proposed project will not impact these species.

There is no significant potential for contamination of downstream watercourses by the use of fertilizer, herbicide, insecticide, or other agricultural chemicals in the proposed vineyard. Qualified, properly certified vineyard managers will use only State-approved fertilizers, herbicides, insecticides or other agricultural chemicals in accordance with the label instructions and any applicable usage guidelines. In addition, a SWPPP and a SWMP will be implemented to ensure that sediment transport downstream of the project site is negligible, protecting downstream water quality. Accordingly, Monk & Associates believes that proposed project will have no effects on federal listed species. Thus, prior authorization (that is, issuance of an "incidental take" permit) from the NMFS should not be required for the proposed project.

Similarly, no federal listed plant or animal species were identified on the project site during surveys (Table 3.4-1). Northern spotted owls were not detected during protocol surveys conducted in 2006 and 2007 in accordance with the USFWS' survey protocol for the northern spotted owl. Habitat on the project site is not likely suitable for this owl species. Monk & Associates concludes that the proposed project will have no effects on federal listed species. Accordingly, prior authorization (that is, issuance of an "incidental take" permit) may not required by the USFWS for the proposed project.

Finally, it should also be noted that in a letter dated January 20, 2009 prepared for Ms. Leslie Markham, the Deputy Director of CAL FIRE, the Arcata USFWS office (AFWO) instructed CAL FIRE that they no longer will be providing Technical Assistance for new timber harvest plans. Thus, the THP completed as part of this project will not be subject to technical assistance from the AFWO. AFWO completed several workshops with CAL FIRE to provide staff with a

working understanding of USFWS' "Take Avoidance Guidelines." In the January 20, 2009 letter from the AFWO to CAL FIRE it was stated that it was USFWS' understanding that CAL FIRE staff is now capable of making "no take" determinations. Regardless, as this project will require a permit from the U.S. Army Corps of Engineers, the Corps of Engineers will be required to consult with the USFWS pursuant to Section 7 of the Federal Endangered Species Act for this project. Accordingly, USFWS will be reviewing the proposed project's "effects" on all federal listed species.

Federal Migratory Bird Treaty Act

The Migratory Bird Treaty Act of 1918 (16 U.S.C. §§ 703-712, July 3, 1918, as amended 1936, 1960, 1968, 1969, 1974, 1978, 1986 and 1989) makes it unlawful to "take" (kill, harm, harass, shoot, etc.) any migratory bird listed in Title 50 of the Code of Federal Regulations, Section 10.13, including their nests, eggs, or young. Migratory birds include geese, ducks, shorebirds, raptors, songbirds, wading birds, seabirds, and passerine birds (such as warblers, flycatchers, swallows, etc.).

Applicability to Proposed Project

Western screech owl, Cooper's hawk, sharp-shinned hawk, red-tailed hawk, and red-shouldered hawk are raptors that conceivably could nest on the project site. Many other passerine bird species (for example, American robins, sparrows, dark-eyed juncos) could or are known to nest on the project site. All raptors and most passerines (indeed all birds observed on the project site) are protected pursuant to the Migratory Bird Treaty Act. This Act prohibits "take" of most bird species known from the region of the project site.

To comply with the Migratory Bird Treaty Act the proposed project may not kill or otherwise harm species protected pursuant to this Act. It should be noted, however, that provided there is no direct mortality of species protected pursuant to this Act caused by the proposed project, there would be no constraints to implementation of the proposed project.

Since birds are mobile species, most would not be expected to be harmed by the project since they would simply fly out of harm's way. The exception occurs when birds are nesting. Any impact that causes mortality of young or adults that may be nesting (or otherwise) would be prohibited pursuant to the Migratory Bird Treaty Act. Thus, care will be required to conduct thorough nesting surveys prior to clearing the project site if such clearing would occur between February 1 and August 31, the timeframe when most birds are expected to complete their nesting cycles (a noted exception is the barn owl that can nest year round).

While raptor nests were not identified on the project site during nesting surveys, raptors are mobile species and change nesting locations from year to year. Thus nesting surveys conducted this year must be repeated the year that the project

commences to ensure that no impacts occur to nesting raptors. Similarly, intensive passerine nesting surveys will have to be completed prior to brush/timber clearing to ensure that nesting birds are not impacted. To comply with the Migratory Bird Treaty Act, all active nest sites that are found will have to be avoided while such birds were nesting. Upon completion of nesting, the project could commence as otherwise planned. Please review specific requirements for avoidance of nest sites for potentially occurring species in the Impacts and Mitigations below.

State

California Department of Fish and Game

Section 2081 of The State Endangered Species Act

In 1984, the state legislated the California Endangered Species Act (CESA) (Fish and Game Code §2050). The basic policy of CESA is to conserve and enhance endangered species and their habitats. State agencies will not approve private or public projects under their jurisdiction that would jeopardize threatened or endangered species if reasonable and prudent alternatives are available.

CESA requires that all state lead agencies (as defined under CEQA) conduct an endangered species consultation with CDFG if their actions could affect a state listed species. The state lead agency and/or project applicants must provide information to CDFG on the project and its likely impacts. CDFG must then prepare written findings on whether the proposed action would jeopardize a listed species would result in the direct take of a listed species. Because CESA does not have a provision for "harm" (see discussion of FESA, above), CDFG considerations pursuant to CESA are limited to those actions that would result in the direct take of a listed species.

If CDFG determines that a proposed project could impact a State listed threatened or endangered species, CDFG will provide recommendations for "reasonable and prudent" project alternatives. The CEQA lead agency can only approve a project if these alternatives are implemented, unless it finds that the project's benefits clearly outweigh the costs, reasonable mitigation measures are adopted, there has been no "irreversible or irretrievable" commitment of resources made in the interim, and the resulting project would not result in the extinction of the species. In addition, if there would be threatened or endangered species impacts, the lead agency typically requires project applicants to demonstrate that they have acquired "incidental take" permits from CDFG and/or USFWS (if it is a Federal listed species) prior to allowing/permitting impacts to such species.

If proposed projects would result in impacts to a State listed species, an "incidental take" permit pursuant to §2081 of the Fish and Game Code would be necessary (versus a Federal incidental take permit for Federal listed species). CDFG will issue an incidental take permit only if:

1) The authorized take is incidental to an otherwise lawful activity;
2) The impacts of the authorized take are minimized and fully mitigated;

3) The measures required to minimize and fully mitigate the impacts of the authorized take:
    a) Are roughly proportional in extent to the impact of the taking on the species;
    b) Maintain the project applicant's objectives to the greatest extent possible; and,
    c) Capable of successful implementation; and,
4) Adequate funding is provided to implement the required minimization and mitigation measures and to monitor compliance with, and the effectiveness of, the measures.

If an applicant is preparing a habitat conservation plan (HCP) as part of the federal 10(a) permit process, the HCP might be incorporated into the §2081 permit if it meets the substantive criteria of §2081(b). To ensure that an HCP meets the mitigation and monitoring standards in Section 2081(b), an applicant should involve CDFG staff in development of the HCP. If a final Biological Opinion (federal action) has been issued for the project pursuant to Section 7 of the federal Endangered Species Act, it might also be incorporated into the §2081 permit if it meets the standards of §2081(b).

No §2081 permit may authorize the take of a species for which the Legislature has imposed strict prohibitions on all forms of "take." These species are listed in several statutes that identify "fully protected" species and "specified birds." See Fish and Game Code §§ 3505, 3511, 4700, 5050, 5515, and 5517. If a project is planned in an area where a "fully protected" species or a "specified bird" would be taken, an applicant should design the project to avoid all take.

In September 1997, Assembly Bill 21 (Fish and Game Code §2080.1) was passed. This bill allows an applicant who has obtained a "non-jeopardy*" federal Biological Opinion* pursuant to Section 7, or who has received a Federal 10(a) permit (Federal incidental take permit), to submit the federal opinion or permit to CDFG for a determination as to whether the federal document is "consistent" with CESA. If after 30 days CDFG determines that the federal incidental take permit is consistent with state law, and that there are that all state listed species under consideration have been considered in the federal Biological Opinion, then no further permit or consultation is required under CESA for the project. However, if CDFG determines that the federal opinion or permit is not consistent with CESA, or that there are state listed species that were not considered in the federal Biological Opinion, then the applicant must apply for a state permit under section 2081(b).

The process provided in Fish and Game Code §2080.1 (Assembly Bill 21) may be of use when the incidental take would occur to species that are listed under both the federal and state endangered species acts. Assembly Bill 21 is of no use if an affected species is state-listed, but not federally listed.

State and federal incidental take permits are issued on a discretionary basis, and are typically only authorized if applicants are able to demonstrate that impacts to the listed

species in question are unavoidable, and can be mitigated to an extent that the reviewing agency can conclude that the proposed impacts would not jeopardize the continued existence of the listed species under review. Typically, if there would be impacts to a listed species, mitigation that includes habitat avoidance, preservation, and creation of endangered species habitat is necessary to demonstrate that projects would not threaten the continued existence of a species. In addition, management endowment fees are usually collected as part of the agreement for the incidental take permit(s). The endowment is used to manage any lands set-aside to protect listed species, and for biological mitigation monitoring of these lands over (typically) a five-year period.

Applicability to Proposed Project

Focused surveys for special-status plants were conducted by Monk & Associates biologists during the spring and summer of 2006. No state listed plants were identified during these appropriately timed surveys. Hence, no state listed plant species would be impacted by the proposed project (Table 3). The project site does not provide habitat for any animal or fish species protected pursuant to the State Endangered Species Act (Table 4). Consequently, an incidental take permit issued by CDFG pursuant to Section 2081 of the Fish and Game Code is not be required for the proposed project.

Applicable CEQA Regulations

Section 15380 of CEQA defines "endangered" species as those whose survival and reproduction in the wild are in immediate jeopardy from one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, disease, or other factors. "Rare" species are defined by CEQA as those who are in such low numbers that they could become endangered if their environment worsens; or the species is likely to become endangered within the foreseeable future throughout all or a significant portion of its range and may be considered "threatened" as that term is used in the Federal Endangered Species Act. The CEQA Guidelines also state that a project will normally have a significant effect on the environment if it will "substantially affect a rare or endangered species of animal or plant or the habitat of the species." The significance of impacts to a species under CEQA, therefore, must be based on analyzing actual rarity and threat of extinction to that species despite its legal status or lack thereof.

Applicability to Proposed Project

This DEIR (and the subsequent FEIR) ensure that the proposed project will comply with the environmental review requirements set forth in CEQA for proposed projects. This biological resources section of the DEIR includes analyses of potential impacts to sensitive biological resources, including wetlands, stream channels, and species that would be defined as endangered or rare pursuant to Section 15380 of CEQA. It also prescribes mitigation measures that when implemented would reduce the significance of impacts to biological resources to a level considered less than significant pursuant to CEQA.

California Fish and Game Code § 3503, 3503.5, 3511, and 3513

California Fish and Game Code §3503, 3503.5, 3511, 3513, and 3800 prohibit the "take, possession, or destruction of birds, their nests or eggs." Disturbance that causes nest abandonment and/or loss of reproductive effort (killing or abandonment of eggs or young) is considered a "take." Such a take would also violate federal law protecting migratory birds (Migratory Bird Treaty Act).

All raptors (that is, hawks, eagles, owls) their nests, eggs, and young are protected under California Fish and Game Code (§3503.5). Additionally, "fully protected" birds, such as the white-tailed kite (*Elanus leucurus*) and golden eagle (*Aquila chrysaetos*), are protected under California Fish and Game Code (§3511). "Fully protected" birds may not be taken or possessed (that is, kept in captivity) at any time.

Applicability to Proposed Project

Raptors that could be impacted by the project include western screech owl, great horned owl, barn owl, Cooper's hawk, sharp-shinned hawk, red-shouldered hawk, and red-tailed hawk. Preconstruction nesting surveys should be conducted for these species to ensure that there is no direct take of these birds including their eggs or young. Any active nests that were found during preconstruction surveys should be avoided by the project. Suitable non-disturbance buffers should be established around nest sites until the nesting cycle is complete. More specifics on the size of buffers are provided below by each species that could be affected by the project.

Monk & Associates did not observe any northern spotted owls on the project site after completing surveys conducted in accordance with USFWS' survey protocol for a 2-year survey. Furthermore no prime spotted owl habitat occurs on the project site. Consequently, Monk & Associates concludes that spotted owls do not occupy the project site now, and likely will not occupy the project site at any time in the near future. Similarly, no northern spotted owls were found adjacent to the project site during surveys and owing to extensive past timber harvesting, orchard and vineyard conversion, and rural residential clearing surrounding the project site, Monk & Associates do not believe the northern spotted owl is likely to occupy adjacent habitats. Accordingly it is Monk & Associates' conclusion that activities related to project site development will not, at this time, affect the northern spotted owl.

Protected Amphibians

Under Title 14 of the California Code of Regulations (CCR 14, Division 1, Subdivision 1, Chapter 5, §41. Protected Amphibians), protected amphibians, such as the foothill yellow-legged frog, may only be taken under special permit from CDFG issued pursuant to Sections 650 and 670.7 of these regulations.

Applicability to Proposed Project

Foothill yellow-legged frog is present on the project site. This species was detected by Monk & Associates biologists in June and August 2006 and in March 2008 in Patchett Creek on the project site. Implementation of the proposed project will not impact Patchett Creek. A minimum 100-foot protective buffer from the top-of-banks of Patchett Creek will protect this species from disturbance associated with the proposed project. No vegetation will be removed from the buffer and thus current shade and sunshine characteristics will persist in this creek. In addition, a SWPPP and a SWMP will be implemented to ensure that there are no impacts to water quality in Patchett Creek resulting from project construction or post-construction storm water run-off. In addition, any use of fertilizer, herbicide, insecticide, or other agricultural chemicals in the proposed vineyard will be conducted by qualified, properly certified vineyard managers who will use State-approved chemicals in accordance with the label instructions and any applicable usage guidelines. As such, no significant adverse impacts are expected to occur to protected amphibians from implementation of the proposed project.

Section 1602 of California Fish and Game Code

Pursuant to Section 1602 of the California Fish and Game Code, California Department of Fish and Game (CDFG) regulates activities that divert, obstruct, or alter stream flow, or substantially modify the bed, channel, or bank of a stream, which CDFG typically considers to include riparian vegetation. Any proposed activity in a natural stream channel that would substantially adversely affect an existing fish and/or wildlife resource, would require entering into a Streambed Alteration Agreement (SBAA) with CDFG prior to commencing work in the stream. However, prior to authorizing such permits, CDFG typically reviews an analysis of the expected biological impacts, any proposed mitigation plans that would be implemented to offset biological impacts and engineering and erosion control plans.

Applicability to Proposed Project

The applicant is proposing a vineyard conversion that would be designed to avoid most drainages on the project site. A sump basin on the project site, upon reaching capacity, would overflow via a spillway into a tributary on the project site. Trenches will be dug across two minor tributaries for drain pipe installation. In addition, a rock ford crossing will be built across an ephemeral tributary for equipment access to a vineyard unit. These impacts will require a SBAA with CDFG.

<u>State Water Resources Control Board</u>

The State Water Resources Control Board (SWRCB) and the Regional Water Quality Control Board (RWQCB) are responsible for ensuring implementation and compliance

with the provisions of the federal CWA and California's Porter-Cologne Water Quality Control Act. While the Corps administers permitting programs that authorize impacts to waters of the United States, including wetlands, and other waters, any Corps permit authorized for a proposed project would be invalid unless it is a Nationwide Permit (NWP) that has been certified for use in California by the SWRCB, or if the RWQCB has issued a project specific certification or waiver of water quality. Certification of NWPs requires a finding by the SWRCB that the activities permitted by the NWP will not violate water quality standards individually or cumulatively over the term of the issued NWP (the term is typically for five years). Certification must be consistent with the requirements of the federal Clean Water Act, the California Environmental Quality Act, the California Endangered Species Act, and the SWRCB's mandate to protect beneficial uses of waters of the State. Any denied (i.e., not certified) NWPs, and all Individual Corps permits, would require a project specific RWQCB certification or waiver of water quality.

Pursuant to Section 401 of the Clean Water Act and USEPA 404(b)(1) Guidelines, an applicant for a federal permit to conduct any activity which may result in discharge into navigable waters must provide a certification from the applicable Regional Water Quality Control Board (RWQCB) that such discharge would comply with the state water quality standards (Cal. Code Regs. tit. 23, §§3830 et seq.).

The Porter-Cologne Water Quality Control Act, Water Code § 13260, requires that "any person discharging waste, or proposing to discharge waste, within any region that could affect the waters of the State to file a report of discharge" with the RWQCB through an application for waste discharge (Water Code Section 13260(a)(1). The term "waters of the State" is defined as any surface water or groundwater, including saline waters, within the boundaries of the State (Water Code § 13050(e)). It should be noted that pursuant to the Porter-Cologne Water Quality Control Act, the RWQCB also regulates "isolated wetlands," or those wetlands considered to be outside of the Corps' jurisdiction pursuant to the SWANCC decision.

The RWQCB generally considers filling in waters of the State to constitute "pollution." Pollution is defined as an alteration of the quality of the waters of the state by waste that unreasonably affects its beneficial uses (Water Code §13050(1)). The RWQCB litmus test for determining if a project should be regulated pursuant to the Porter-Cologne Water Quality Control Act is if the action could result in any "threat" to water quality.

If a proposed project would impact waters of the State, including wetlands, and the project applicant cannot demonstrate that the project is unable to avoid these adverse impacts, water quality certification will most likely be denied. Section 401 Certification may also be denied based on significant adverse impacts to waters of the United States, including wetlands. The RWQCB has also adopted the Corps' policy that there shall be "no net loss" of wetlands. Thus, prior to certifying water quality, the RWQCB will impose avoidance mitigation requirements on project proponents that impact waters of the State.

In 1972 the Clean Water Act was amended to provide that the discharge of pollutants to waters of the United States from any point source is unlawful unless the discharge is in

compliance with an NPDES permit. The 1987 amendments to the CWA added Section 402(p) which establishes a framework for regulating municipal and industrial storm water discharges under the NPDES Program. On November 16, 1990, the U.S. Environmental Protection Agency (USEPA) published final regulations that establish storm water permit application requirements for specified categories of industries. The regulations provide that discharges of storm water to waters of the United States from construction projects that encompass five (5) or more acres of soil disturbance are effectively prohibited unless the discharge is in compliance with an NPDES Permit. Regulations (Phase II Rule) that became final on December 8, 1999 expand the existing NPDES program to address storm water discharges from construction sites that disturb land equal to or greater than one (1) acre. The one acre threshold was lowered to 10,000 square feet in late 2005.

While federal regulations allow two permitting options for storm water discharges (individual permits and General Permits), the SWRCB has elected to adopt only one statewide The General Permit requires all dischargers where construction activity disturbs greater than 10,000 square feet to:

1. Develop and implement a Storm Water Pollution Prevention Plan (SWPPP) which specifies Best Management Practices (BMPs) that will prevent all construction pollutants from contacting storm water and with the intent of keeping all products of erosion from moving off site into receiving waters.

2. Eliminate or reduce non-storm water discharges to storm sewer systems and other waters of the nation.

3. Perform inspections of all BMPs.

Construction activity subject to this General Permit includes clearing, grading, and disturbances to the ground such as stockpiling, or excavation that results in soil disturbances of at 10,000 square feet or more of total land area. Construction activity that results in soil disturbances to a smaller area would still be subject to this General Permit if the construction activity is part of a larger common plan of development that encompasses greater than 10,000 square feet of soil disturbance or if there is significant water quality impairment resulting from the activity. Construction activity does not include routine maintenance to maintain original line and grade, hydraulic capacity, or original purpose of the facility, nor does it include emergency construction activities required to protect public health and safety. Dischargers should confirm with the local RWQCB whether or not a particular routine maintenance activity is subject to this General Permit.

Applicability to the Proposed Project

The project site is located within the jurisdiction of the North Coast Regional Water Quality Control Board (NCRWQCB). The NCRWQCB has the authority to implement water quality protection standards through the issuance of permits for discharges to waters at locations within its jurisdiction. Water quality objectives for the Gualala River and its tributaries are specified in the Basin Plan

prepared by the NCRWQCB in compliance with the federal CWA and the Porter-Cologne Act. The Basin Plan establishes water quality objectives and implementation programs to meet stated objectives, and to protect the beneficial uses of water in the Gualala River Basin and other watersheds under NCRWQCB jurisdiction. Because the project site is located within the NCRWQCB's jurisdiction, all discharges to surface water or groundwater are subject to the Basin Plan requirements.

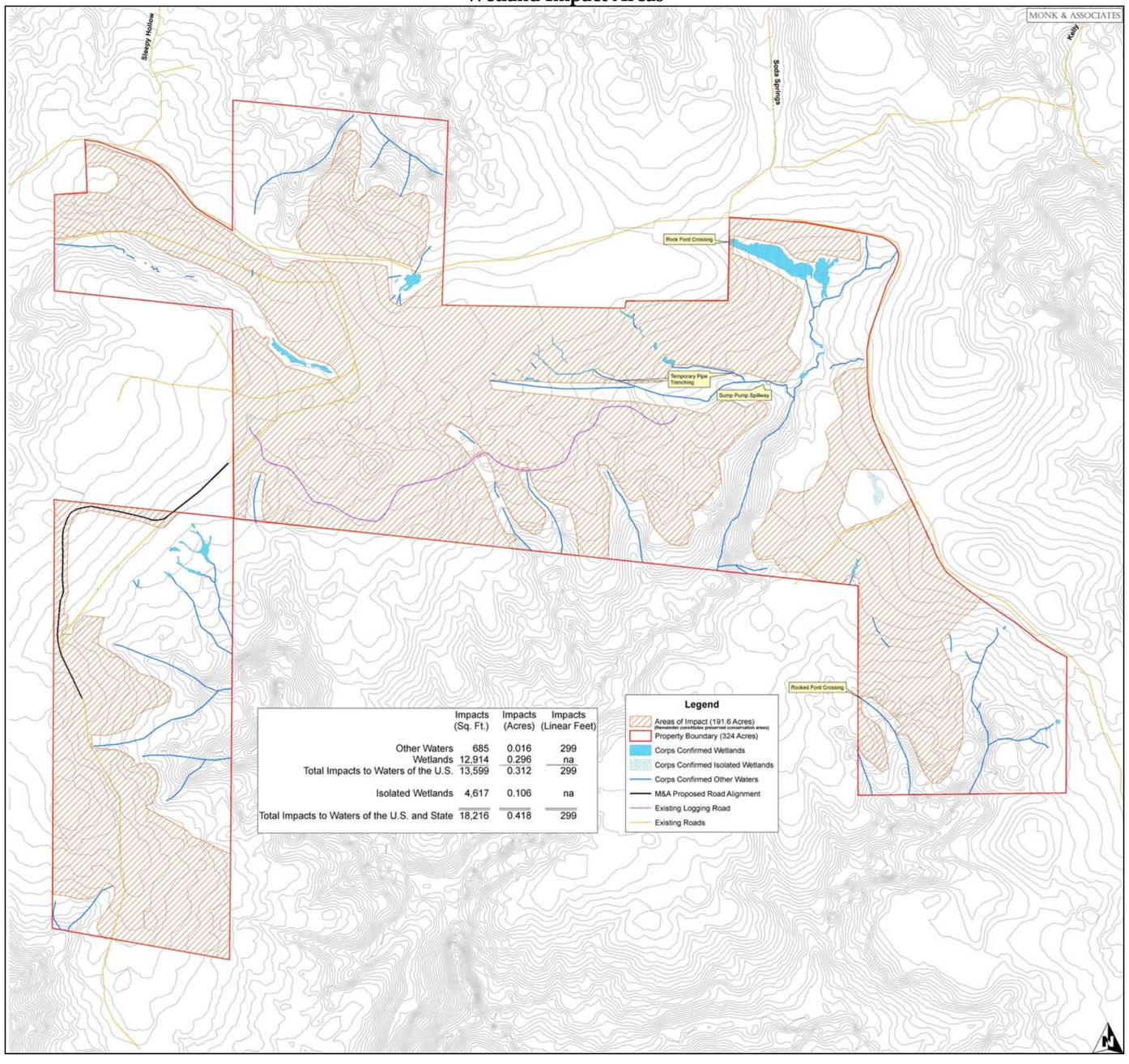
On December 4, 2007 the Corps confirmed a total of 3.35 acres of waters of the U.S. within the Corps jurisdiction on the project site. In addition, the Corps confirmed that there is 0.26-acre of isolated wetlands on the project site that while not within the Corps' jurisdiction, are within the NCRWQCB's jurisdiction (Figure 3.4-7). All mapped waters/wetlands are within the jurisdiction of the Regional Water Control Board pursuant to Section 401 of the Clean Water Act and/or the Porter Cologne Water Quality Control Act. In total, the RWQCB has jurisdiction over 3.610 acres of waters of the State on the project site.

Any Section 404 permit authorized by the Corps for the proposed project would be inoperative without also obtaining authorization from the RWQCB pursuant to Section 401 of the Clean Water Act (i.e., without obtaining a certification of water quality). Since the RWQCB does not have a formal method for technically defining what constitutes waters of the state, Monk & Associates expect that the RWQCB should remain consistent with the Corps' jurisdictional map. Please note that "isolated wetlands" and "other waters" confirmed to be on the project site by the Corps, while not in the Corps jurisdiction pursuant to the SWANCC Supreme Court decision, remain regulated by the RWQCB pursuant to the Porter-Cologne Water Quality Control Act (see below). Typically, impacts to isolated wetlands are permitted by the RWQCB by issuing or waiving Waste Discharge Requirements (WDRs).

Any impacts to waters of the State would have to be mitigated to the satisfaction of the RWQCB prior to the time this resource agency would issue a permit for impacts to such features. Figure 3.4-7 illustrates impacts that would occur to waters of the State from implementation of the proposed project.

In summary, impacts to RWQCB regulated areas from grading for vineyard installation total 0.414-acre enumerated as follows: impacts to approximately 0.011-acre of other waters; impacts to 0.106-acre of isolated wetland; and impacts to 0.269-acre of seasonal wetlands (Figure 3.4-7). In addition, there would be impacts to 0.001-acre of other waters and 0.027-acre of seasonal wetland from construction of infrastructural elements of the project. These elements are enumerated as follows:

Figure 3.4-7
Wetland Impact Areas



1) Minor temporary impacts to other waters would occur when trenches are installed through two ephemeral tributaries for drain pipe installation. Upon installation of the drainpipe, the trenches would be backfilled and the contours of the tributaries restored to their original configurations. The drain pipe will take stormwater runoff from the vineyard reservoir to the sump basin.

2) Upon reaching capacity, the sump basin would overflow via a spillway into a tributary on the project site. The spillway termination point would result in additional impacts to other waters.

3) Finally, two rocked ford crossings through minor tributaries will be constructed to facilitate construction of access roads within the vineyard and will impact other waters and seasonal wetland. The rocked ford crossing of the seasonal wetland was the engineering method of choice to ensure that there would be the smallest impact possible to the seasonal wetland while leaving the remainder of the wetland and its hydrology intact.

In total, 0.414-acre of waters of the State would be impacted by the proposed project. Of this amount 0.296-acre is "seasonal wetland," 0.106-acre is "isolated wetland," and 0.012-acre is "other waters." These impacts are mapped on Figure 3.4-7. Of the 3.610 acres of waters of the State mapped on the project site, 3.20 acres (89 percent) will be avoided by the project. These avoided wetlands will be preserved in perpetuity in stream buffers or preserves established as part of the proposed project.

The RWQCB requirements for issuance of a "401 Permit" and/or WDRs for projects that impact wetlands, typically parallel the Corps' requirements for permitting impacts to Corps regulated areas pursuant to Section 404 of the Clean Water Act. Please refer to the Corps Applicability Section above for likely mitigation requirements for impacts to RWQCB regulated wetlands.

The RWQCB will be looking for complete pre- and post-BMPs plan for the proposed project. This means that a water quality protection/treatment plan for the pre- and post-planted project site would be required. Preconstruction requirements would be consistent with the requirements of the National Pollutant Discharge Elimination System (NPDES) for grading that affects greater than one acre. That is, a Stormwater Pollution Prevention Plan (SWPPP) would have to be developed prior to the time the site was graded (see NPDES section below). In addition, the project will have to incorporate post-planting BMPs that ensure stormwater is treated prior to being discharged from the project site.

It should also be noted that prior to issuance of any permit from the RWQCB this agency will require submittal of a Notice of Determination from CAL FIRE

indicating that the proposed project has completed a review conducted pursuant to CEQA.

The applicant will implement a SWPPP prior to grading the site for the proposed project. These measures will ensure that siltation of onsite and downstream tributaries are minimized to an imperceptible degree. Similarly, all preserved tributaries and wetlands will be protected from inadvertent impacts from the proposed project. The project also includes post-vineyard construction BMPs including desilting catch basins at the lower ends of all drainage points discharging stormwater from the project site. First flushes from the project site will be captured in these basins and "treated." These basins will ensure that any silt leaving the project in stormwater flows will undergo "stilling" and desilting prior to flowing off the site. As this is an agricultural project, and as vineyard rows are colonized by the natural vegetation growing in the region of the project site, all stormwater flows from the project site will be filtered through vegetation and vegetated collection ditches constructed in native soils prior to flowing into the desilting basins.

This treatment far exceeds standards now imposed on the development industry for development projects that create extensive impervious surfaces. Treatment basins will also function to decrease erosive flow potential from the project site by collecting stormwater and metering releases through controlled discharge points. All discharges will be further released into vegetated swales that constitute additional treatment prior to the time that stormwaters enter downstream receiving waters.

California Department of Forestry and Fire Protection

Pursuant to the Z'Berg-Nejedly Forest Practice Act of 1973 (Division 4, Chapter 8, Public Resources Code), the California Department of Forestry and Fire Protection (CAL FIRE) regulates logging on privately-owned lands in California. The intent of the Z'berg-Nejedly Forest Practice Act is to ensure that logging is done in a manner that will also preserve and protect California's fish, wildlife, forests, and streams. The Forest Practice Rules (Title 14, California Code of Regulations, Chapters 4, 4.5 and 10) implement the provisions of the Z'berg-Nejedly Forest Practice Act in a manner consistent with other laws, including but not limited to, the Timberland Productivity Act of 1982, the California Environmental Quality Act (CEQA) of 1970, the Porter Cologne Water Quality Act, and the California Endangered Species Act.

Although in some cases there are specific exemptions, compliance with the Forest Practice Act applies to all commercial harvesting operations. The Timber Harvesting Plan (THP) is the environmental review document submitted by landowners to CAL FIRE outlining what timber will be harvested, how it will be harvested, and the steps that will be taken to prevent damage to the environment. THPs are prepared by Registered Professional Foresters (RPFs) who are licensed to prepare these plans. THPs must adopt

feasible mitigation measures or alternatives which would substantially lessen or avoid significant adverse impacts which the activity may have on the environment.

Applicability to the Proposed Project

A THP has been prepared for the project by NCRM and is included in this DEIR as Appendix E. This document incorporates mitigation and avoidance measures that will reduce impacts to the environment to a level that is considered less than significant pursuant to the CEQA.

Local Plans, Ordinances, and Policies

Sonoma County General Plan

The Sonoma County General Plan was adopted in 1998. The Resource Conservation Element of this Plan provides for the conservation of natural resources, guiding land use decisions that will contribute to the long term maintenance of resource production for the County. Resources addressed in the 1998 General Plan pertinent to the Artesa Winery project include soil, water, forest and woodland, fisheries, vegetation and wildlife. The pertinent goals and policies for each resource and their applicability to the project are itemized below.

The Sonoma County General Plan 2020, currently in draft form, is a revision of the 1998 General Plan. When approved, the draft 2020 General Plan will supersede and replace the 1989 document. In this analysis, both the 1989 General Plan and the 2020 draft General Plan are considered.

Sonoma County General Plan 1998

Prevention of Soil Erosion

Goal RC-2: Promote and encourage soil conservation and management practice that maintain the productivity of soil resources.

Objective RC-2.1: Ensure that permitted uses are compatible with reducing potential damage due to soil erosion.

Objective RC-2.2: Establish ways to prevent soil erosion and restore areas damaged by erosion.

Policy RC-2a: Design discretionary projects so that structures and roads are not located on slopes of 30 percent or greater. This requirement is not intended to make any existing parcel unbuildable if Health

Department and Building Department requirements can be met.

Applicability: The proposed vineyards and associated roads and structures will be situated on broad ridges and hillside slopes of 0-25 percent.

Policy RC-2b: Include erosion control measures for any discretionary project involving construction or grading near waterways or on lands with slopes over 10 percent.

Applicability: The project involves agricultural conversion near waterways and on lands with slopes over 10 percent. The Erosion Control and Mitigation Plan for the project, discussed in this DEIR and included as Appendix D, incorporates extensive erosion and sediment control features.

Policy RC-2c: Encourage agricultural land owners to work closely with the U. S. Soil Conservation Service and local Resource Conservation Districts to reduce soil erosion and to encourage soil restoration.

Applicability: The Erosion Control and Mitigation Plan for the project is consistent with the recommendations, practices and standards of the USDA Soil Conservation Service.

Policy RC-2d: Require a soil conservation program to reduce soil erosion impacts for discretionary projects which could increase waterway or hillside erosion. Design improvements such as roads and driveways to retain natural vegetation and topography to the extent feasible.

Applicability: The Erosion Control and Mitigation Plan for the project, summarized in the Project Description chapter of this DEIR, includes extensive erosion and sediment control features.

Policy RC-2e: Retain natural vegetation and topography to the extent economically feasible for any discretionary project improvements near waterways or in areas with a high risk of erosion as noted in the Sonoma County Soil Survey.

Applicability: Natural vegetation will be protected alongside all tributaries on the project site. Protective buffers will be established from top-of-banks that are between 25 feet and over 100 feet wide from top-of-banks. The Erosion Control and Mitigation Plan for the project included in this DEIR includes extensive erosion and sediment control features.

Policy RC-2f: Prepare and submit to the Board of Supervisors an erosion and sediment control report.

Applicability: The Erosion Control and Mitigation Plan for the project summarized in this DEIR will be submitted to the Sonoma County Board of Supervisors.

Water Resources

Goal RC-3: Conserve, enhance, and manage water resources, protect their quality, and assure an adequate long term supply of water for domestic, fishing, industrial and agricultural use.

Objective RC-3.1: Preserve watersheds and groundwater recharge areas by avoiding the placement of potential pollution sources in areas with high percolation rates.

Objective RC-3.2: Provide development standards in recharge areas to maintain groundwater supplies.

Objective RC-3.3: Preserve and enhance the quality of surface and groundwater resources.

Objective RC-3.4: Insure that land uses in rural areas be consistent with the availability of groundwater resources.

Policy RC-3a: Grading, filling and construction should not substantially reduce or divert any stream flow that would affect groundwater recharge.

Applicability: The proposed project will not affect stream flows on the project site. A 9-acre sump pump/reservoir system will be constructed on the slopes of the northern portion of the project site to capture surface runoff water for vineyard irrigation. Upon filling in the fall/winter months, it would overflow into the tributaries to the

south. All water captured by this system will be recycled directly onto the vineyards on the project site. Thus, rainfall retention time on the land above the groundwater table will effectively be increased and consequently groundwater recharge will likely be increased from the proposed project.

Policy RC-3d: Continue to encourage the construction of wastewater disposal systems designed to reclaim and reuse treated wastewater on agricultural crops, and for other irrigation and wildlife enhancement projects.

Applicability: Please refer to the Utilities and Service Systems section of the Initial Study, included as Appendix C in Volume II of this Draft EIR, which addresses wastewater treatment on the project site.

Policy RC-3e: Encourage wastewater disposal methods which minimize reliance on discharges into natural waterways. If discharge is proposed, review and comment on projects and environmental documents and request that projects maximize reclamation, conservation and reuse programs to minimize discharges and protect water quality and aquifer recharge areas.

Applicability: Wastewater generated on the project site will not discharge directly into natural waterways. Please refer to the Utilities and Service Systems section of the Initial Study, included as Appendix C in Volume II of this Draft EIR, which addresses wastewater treatment on the project site.

Policy RC-3h: Require proof of adequate groundwater in Class III and IV water areas. Require test wells or the establishment of community water systems in Class IV water areas. Test wells may be required in Class III areas. Deny discretionary applications unless a geologic report establishes that groundwater supplies are adequate and will not be adversely impacted by the cumulative amount of additional development.

Applicability: A well will be dug to provide potable water for the farm workers. Well water would not be used to irrigate vineyards. Groundwater supplies are adequate for this minor water use and thus

cumulative impacts are expected to be insignificant. The above-mentioned information will be provided at the time a well permit application is submitted to Sonoma County.

Forest and Woodland Resources

Goal RC-4 Preserve, sustain and restore forestry resources for their economic, conservation, recreation, and open space values.

Objective RC-4.1: Identify and preserve areas with timber soils and commercial timber stands for timber production. Avoid incompatible uses in these areas.

Objective RC-4.2: Minimize the potential adverse impacts of timber harvesting on economic, conservation, recreation and open space values and restore harvested areas to production for a future yield.

Policy RC-4b: Review all timber harvest plans for compatibility with general plan policies and economic viability of the industry.

Applicability: The timber harvest plan for the proposed project is discussed in this DEIR in other sections and has been submitted to Sonoma County for their review.

Policy RC-4c: Where applicable, comment on timber harvest plans in support of increased protection of Class III streams.

Applicability: Patchett Creek on the project site is a Class II tributary that will be protected with minimum 100-foot buffers from its top of banks. All other tributaries on the project site are Class III tributaries. A protective buffer that averages 25 to 75 feet in width on either side of the top-of-banks of all Class III tributaries shall be established on site, and Best Management Practices will be implemented within the vineyard project site to ensure that Class III tributaries and their buffers remain protected. Sheet flow over the impacted areas will be filtered via v-ditches, surface drains and fiber roll checks, then directed into sediment basins before draining into the Class III tributaries on the project site.

Vegetation and Wildlife Resources

Goal RC-5: Promote and maintain the County's diverse plant and animal communities and protect biotic resources from development activities.

Objective RC-5.1: Identify and encourage protection of areas with important wildlife habitats and woodland resources.

Objective RC-5.2: Encourage the use of native plants in landscaping to reduce the risk of introducing exotic plant species into wildlife areas.

Objective RC-5.4: Identify important valley oak habitat areas and protect and enhance valley oaks and valley oak woodlands in these areas.

Policy RC-5b: On discretionary projects, use native or compatible non-native species to the extent possible for landscaping. Discourage use of exotics, such as pampas grass and scotch broom.

Applicability: Landscaping proposed as part of the vineyard planting plan will include native or compatible non-native species. No invasive exotic species will be used.

Policy RC-5c: Make the preservation of significant native oaks and other native trees a primary consideration in the review of development projects.

Applicability: A large and ancient Oregon oak (*Quercus garryana*) occurs on the eastern side of the project site. This tree will be included within the stream conservation area of Patchett Creek and will therefore not be impacted by the proposed project. Most trees of significance on the site, that is those trees that have grown to a larger size since the site was last harvested, occur within the streamside conservation areas.

Policy RC-5e: Encourage landowners to voluntarily participate in the County's Landmark Tree Program.

Applicability: No heritage or landmark trees occur on the project site. A large and ancient Oregon oak occurs on the eastern side of the project site; however, this tree lies within the Patchett Creek streamside conservation area and will not be impacted by the proposed project.

Policy RC-5h: Provide for voluntary programs to protect and enhance valley oaks and valley oak woodlands in designated important valley oak habitat areas. Develop and require compliance with standards and guidelines for mitigating losses of valley oaks and valley oak woodlands in designated important valley oak habitat areas.

Applicability: No valley oaks occur on the project site.

Protection of Rare and Endangered Species

Goal RC-6: Identify and protect rare and endangered species and their environment.

Objective RC-6.1: Identify the locations of rare and endangered plants and animals.

Objective RC-6.2: Require that any development on lands containing rare and endangered species be done in a manner which protects the resource or mitigates adverse impacts.

Policy RC-6b: Protection for rare and endangered species, wetlands, and other biotic resources not indicated on Figure OS-3 on page 183 of the Sonoma County General Plan shall be accomplished through compliance with applicable state and federal law.

Applicability: The biotic resources indicated on Figure OS-3 include Sonoma County-designated critical habitat areas and riparian corridors. None of these resources are present on the project site. The project site does not provide habitat for any animal or fish species protected under the Federal or State Endangered Species Act (Tables 3.4-2 and 3.4-3). Biotic resources on the project site that are regulated by CEQA include thin-lobed horkelia, Annapolis manzanita, yellow warbler, foothill yellow-legged frog, nesting raptors, trees, and wetlands. Mitigation measures for direct and

indirect adverse impacts to these resources are addressed in the impact discussions below.

Policy RC-6c: Notwithstanding the densities shown on the land use maps, provide for creation of separate parcels of land where necessary to establish sites for the preservation of rare and endangered species and other biotic resources.

Applicability: Biotic resources on the project site that are regulated by CEQA include thin-lobed horkelia, Annapolis manzanita, yellow warbler, foothill yellow-legged frog, nesting raptors, trees and wetlands. In order to compensate for impacts to thin-lobed horkelia from the proposed vineyard project, a 15.65-acre preserve has been designated on the west side of the project site that will protect the largest population of thin-lobed horkelia from the proposed project impacts (Figure 3.4-4). To minimize impacts to Annapolis manzanita from grading and planting of the project site, two preserves will be created for the Annapolis manzanita populations on the east side of the project site, which will protect the manzanita from agricultural conversion (Figure 3.4-4). The northern manzanita preserve shall be joined with two archaeological sites and the Patchett Creek protective buffer to form a single larger preserve. These preserves are further described in the Impacts and Mitigation Measures below.

Protection and Conservation of Freshwater Fishery Resources

Goal RC-8: Encourage effective management of freshwater fishery resources and balance competing agricultural, development, and mining needs with protection of the stream environment.

Objective RC-8.1: Identify sources of sediment and erosion and minimize their impact on local water courses.

Objective RC-8.2: Manage riparian corridors along streams to provide protection for fish habitat.

Objective RC-8.3: Encourage the preparation of a fishery management plan.

Policy RC-8c: Design public and private projects to minimize damage to the stream environment and to maintain instream flows.

Applicability: The proposed project would not impact Patchett Creek. Proposed impacts to minor tributaries on the project site include the filling of approximately 299 feet of other waters of the U.S. This impact would only be completed upon receipt of permits from Sonoma County (as necessary), the Corps, RWQCB, and the CDFG that allows this fill to occur. This fill would occur in very minor ephemeral drainages (regarded as "other waters"). These impacts would be mitigated at a 2:1 ratio (2 square feet of creation/enhancement to each square foot of impact) through creation of mitigation wetlands, which have higher ecological functions and values than the impacted highly ephemeral "other waters." As the fill will occur in the top reaches of ephemeral tributaries, downstream reaches will remain unaffected. In addition, there would be two temporary pipeline trenches open cut through two ephemeral channels. The work would occur when the channels are dry, and the original contours of the channels would be restored upon completion. This work would be completed with permits from Sonoma County (as necessary), the Corps, RWQCB, and the CDFG. Finally, one ephemeral channel would be modified to allow for an all-season ford stream crossing. While rock would be used to construct this crossing, it would be installed in contour with the channel, assuring that the original flow capacity in the channel is not restricted in any manner or fashion. This ford crossing would only be constructed with permits issued by Sonoma County (as necessary), the Corps, RWQCB, and the CDFG. No proposed work in any tributary will impair, impede or obstruct flows in tributaries on the project site.

Sonoma County General Plan 2020

The draft General Plan's Open Space and Resource Conservation Element and Water Resources Element provide goals and policies for the conservation of natural resources in the County. Resources addressed in the General Plan pertinent to the Fairfax Conversion project include biotic habitat areas, riparian corridors, soil erosion, timber resources and water. The pertinent goals and policies for each resource and their applicability to the project are itemized below.

Open Space and Resource Conservation Element

Biotic Habitat Areas

Goal OSRC-7: Protect and enhance the County's natural habitats and diverse plant and animal communities.

Objective OSRC-7.1: Identify and protect native vegetation and wildlife, particularly occurrences of

special-status species, wetlands, sensitive natural communities, and areas of essential habitat connectivity.

Objective OSRC-7.2: Designate important biotic habitat areas and update designations regularly using credible data sources.

Objective OSRC-7.3: Establish development guidelines to protect designated Biotic Habitat Areas and assure that the quality of these natural resources is maintained.

Objective OSRC-7.4: Support regulatory efforts by other agencies to protect biotic habitat.

Objective OSRC-7.5: Maintain connectivity between natural habitat areas.

Objective OSRC-7.6: Establish standards and programs to protect native trees and plant communities.

Objective OSRC-7.7: Support use of native plant species and removal of invasive exotic species.

Objective OSRC-7.8: Encourage voluntary efforts to restore and enhance biotic habitat.

Policy OSRC-7a: Designate as Biotic Habitat Areas in the Open Space and Resource Conservation Element the areas identified as Special-Status Species Habitat, Marshes and Wetlands, Sensitive Natural Communities, and Habitat Connectivity Corridors. Sources of information to be considered include, but are not limited to: CDFG, USFWS, CNDDB, California Native Plant Society, Sonoma County Agricultural Preservation and Open Space District, EIRs, site assessments, National Wetland Inventory, and other credible data sources.

Applicability: Within the project site, Special-Status Species Habitat and Wetland Habitat are the Biotic Habitat Areas regulated by Sonoma County. Special-Status Species Habitat on the project site has been designated at an occurrence of thin-lobed horkelia in

the western portion of the project site, within the proposed horkelia preserve (Figure 3.4-4). Sonoma County designated Wetlands are those that are subject to regulation by the Corps, RWQCB, USFWS or CDFG. On the project site, these wetlands fall under the jurisdiction of the Corps and RWQCB, and are mapped in Figure 3.4-7.

Policy OSRC-7b: Rezone to the Biotic Resources combining all lands designated as Biotic Habitat Areas. Adopt an ordinance that provides for protection of Biotic Habitat Areas in conformance with the following principles. Until the ordinance is adopted, require that land use and development in designated areas comply with these principles:

(1) For ministerial permit applications: Notify applicants of protected habitats and species and possible requirements of Federal and State regulatory agencies, request identification of known protected habitats and species, and:

(a) In designated Special-Status Species Habitat, require site assessment and adequate mitigation. The priorities for adequate mitigation are, in order of highest to lowest priority:

- Avoid the habitat.
- Mitigate on site to achieve no net loss.
- Mitigate off site to achieve no net loss.
- Create replacement habitat off site to achieve no net loss.

To the extent feasible, the mitigation required by the County should be consistent with permit requirements of Federal and State regulatory agencies.

Applicability: The horkelia population on the west side of the project site, a Special-Status Species Habitat, was identified by biologist Dean Schlichlting of NRCM (2001b) and was recorded by CNDDB as Occurrence No. 18. Thin-lobed horkelia is a CNPS List 1B.2 species. CNPS List 1B.2 species are not protected under either the State or Federal Endangered Species Acts, or other state or federal laws/regulations; however, according to CNPS, List 1B.2 species should be considered in any CEQA document prepared for a proposed project/project site. In compliance with Policy OSRC-7b, impacts to thin-lobed horkelia will be minimized through the dedication of a permanent preserve on the west side of the project site (Figure 3.4-4).

Policy OSRC-7b(1): (b) In designated Marshes and Wetlands, require site assessment and adequate mitigation, pursuant to the priorities in (1) (a), and a setback of 100 feet from the delineated edges of wetlands. The setback may be reduced to a minimum of 50 feet based upon site assessment and appropriate mitigation. If there is no other feasible location on the property and adequate mitigation is provided, the setback may be further reduced.

Applicability: The Corps has confirmed their jurisdiction over 3.35 acres of other waters (tributaries) and wetlands. The Corps also mapped 0.26-acre of isolated wetlands that are not within the Corps jurisdiction but that are within the Regional Water Quality Control Board's jurisdiction (Figure 3.4-7). In accordance with Policy RC-7b (1)(b), protection of wetlands and creeks onsite will be accomplished through compliance with Sections 404 and 401 of the Clean Water Act and Section 1602 of Fish and Game Code. Prior to impacting any waters of the United States/State, including wetlands, or stream channels on the project site, the project applicant will obtain all necessary permits/ authorizations and implement appropriate mitigation as required by the federal and state resource agencies (that is, the Corps, RWQCB, and CDFG).

The Erosion Control and Mitigation Plan included as Appendix D to this DEIR has been designed to minimize impacts to these features. Approximately 0.296-acre of wetlands and 0.012-acre of other waters of the U.S. will be impacted by the proposed project,

preserving 91% of the delineated waters of the U.S. on the project site. Best Management Practices will be implemented to ensure water quality within the watershed. Sheet flow over the impacted areas will be filtered via v-ditches, surface drains and fiber roll checks, then directed into sediment basins before draining into the tributaries and Patchett Creek on the project site.

Mitigation wetlands shall be created to replace those wetland areas permanently affected by project activities. Wetlands will be created on-site, replacing impacted wetlands at a minimum 2:1 ratio (for each square foot of impact, two square feet of wetland would be enhanced/created) or as otherwise specified in permitting conditions imposed by the Corps and RWQCB. The Erosion Control and Mitigation Plan included as Appendix D to this DEIR illustrates the proposed wetland mitigation plan for the proposed project.

Preserved wetlands adjacent to the vineyard conversion area will be protected within designated preservation areas. While most wetlands are protected by large buffers from the vineyard conversion, in a few instances there are a minimum of 25 foot setbacks. These smaller setback areas are the exception rather than the rule, and in all cases are carefully planned so that the preserved wetlands maintain their functions and values. The majority of preserved wetlands are located within the proposed horkelia and manzanita preserves. In some cases mitigation wetlands will be constructed adjacent to these preserved wetlands. Buffers between existing wetlands and proposed constructed wetlands vary from hundreds of feet to a minimum 10 foot setback. The smallest setbacks are ample to protect the functions and values of the protected wetlands, while allowing additional wetlands to be constructed within the preserve. Because of the much larger plant protection acreage within the preserve, the acreage of wetlands will not be out of balance with respect to the protected uplands.

Policy OSRC-7b(1): (c) In designated Sensitive Natural Communities, send referrals to CDFG and, where CDFG comments or other agency information indicates sensitive biotic resources could be adversely affected, require site assessment and adequate mitigation, pursuant to the priorities in (1) (a).

Applicability: No Sensitive Natural Communities are located within the project site.

Policy OSRC-7b(1): (d) In designated Habitat Connectivity Corridors:

Minimize new fencing which is designed to exclude wildlife and which contains one or more of the following features: lowest horizontal is within 1.5 feet of ground or highest horizontal is over 6 feet or top or bottom wire is barbed or distance between top wires is less than 10 inches or it combines with existing structures or fences, even on neighboring parcels, to create an obstacle up/down stream. Locate any such fencing closely around residences, crops, and gardens to enclose an area as small as possible. Encourage property owners to consult with CDFG and install wildlife friendly fencing generally less than 4.5 feet high and designed to allow passage of wildlife.

Provide for roadway under crossings and oversized culverts and bridges to allow movement of terrestrial wildlife.

Applicability: No designated Habitat Connectivity Corridors are located within the project site.

Policy OSRC-7b: (2) For discretionary projects in all designated Biotic Habitat Areas, send referrals to appropriate regulatory agencies and, where such agencies' comments or other agency information indicates biotic resources could be adversely affected, require site assessment, compliance with agency requirements and adequate

mitigation pursuant to the priorities in (1) (a).

Applicability: In accordance with Policy RC-7b(2), CNPS List 1B.2 species thin-lobed horkelia is being considered in this CEQA review (DEIR) document prepared for a proposed project/project site. Impacts to thin-lobed horkelia will be minimized through the dedication of a permanent 15.65-acre preserve on the west side of the project site (Figure 3.4-4). Protection of wetlands and tributaries onsite will be accomplished through compliance with Sections 404 and 401 of the Clean Water Act and Section 1602 of Fish and Game Code. Prior to impacting any waters of the United States/State, including wetlands, or stream channels on the project site, the project applicant will obtain all necessary permits/ authorizations and implement appropriate mitigation as required by the federal and state resource agencies (that is, the Corps, RWQCB, and CDFG).

Policy OSRC-7b: (3) Site assessments shall be performed by a qualified professional and include a comprehensive analysis of existing site conditions, identification of project impacts, comparison of post-project conditions to existing site conditions, and adequate mitigation for the potential loss of habitat related to the proposed uses.

Applicability: Site assessments for wetlands and thin-lobed horkelia have been performed by Monk & Associates biologists. An analysis of existing site conditions, project impacts, identification of project impacts, comparison of post-project conditions to existing site conditions, and mitigation are described in this document.

Policy OSRC-7b: (4) For any permit or project where the County's conditions of approval include mitigation to protect biotic resources, ensure the mitigation is carried out and require monitoring and documentation as needed to assure compliance with approved conditions and long-term success of the mitigation. Mitigation should specify success criteria, maintenance and monitoring requirements, contingency measures and a schedule for implementation.

Applicability: Appropriate compensation mitigation and monitoring shall be implemented for proposed wetland impacts and impacts to sensitive plant communities. All wetland impacts shall remain in compliance with regulations and laws administered by the federal and state resource agencies (that is, the Corps, RWQCB, and CDFG).

Policy OSRC-7c: For discretionary projects and larger ministerial permits outside of designated Biotic Habitat Areas, send referrals to appropriate regulatory agencies and, where such agencies' comments or other agency information indicates sensitive biotic resources could be adversely affected, require site assessment and adequate mitigation pursuant to the priorities in OSRC-7b 1)a).

Applicability: Surveys for sensitive biotic resources were performed by Monk & Associates in 2006, as described in this document. Impacts to sensitive biotic resources outside of the designated Biotic Habitat Areas are minimized to the maximum extent practicible by the proposed project. Adequate mitigation is prescribed to offset significant adverse impacts to levels regarded as less than significant pursuant to the CEQA.

Policy OSRC-7e: In all areas outside urban land use designations, encourage property owners to consult with CDFG and install wildlife friendly fencing generally less than 4.5 feet high and designed to allow passage of wildlife.

Applicability: Wildlife friendly fencing, if installed, will be designed to prevent animals from entering individual vineyard units while maintaining wildlife corridors through and around the project site.

Policy OSRC-7l: Require the identification, preservation and protection of native trees and woodlands in the design of discretionary projects. To the maximum extent practicable, minimize the removal of native trees and fragmentation of woodlands, require any trees removed to be replaced, preferably on the site, and provide permanent protection of other existing

woodlands where replacement planting does not provide adequate mitigation.

Applicability: The proposed project is not, by the express terms of Ordinance No. 5651, subject to a use permit requirement for timberland conversions. See the Timberland Conversion Ordinance section below for further details.

Policy OSRC-70: Encourage landowners to voluntarily participate in a program that protects officially designated individual trees or groves which either have historical interest or significance or have outstanding size, age, rarity, shape or location.

Applicability: A large and ancient Oregon oak (*Quercus garryana*) occurs on the eastern side of the project site. This tree will be included within the stream conservation area of Patchett Creek and will therefore not be impacted by the proposed project. Most trees of significance on the site, that is those trees that have grown to a larger size since the site was last harvested, occur within the streamside conservation area.

Policy OSRC-7p: Encourage the use of native plant species in landscaping, and for discretionary projects, require the use of native or compatible non-native species for landscaping and prohibit the use of invasive exotic species, including but not limited to: European beach grass, giant reed (*Arundo donax*), Italian thistle, yellow star thistle, pampas grass, cotoneaster, Scotch broom, French broom, St. John's wort, perennial pepperweed, purple loosestrife, pennyroyal, Harding grass, cherry plum, Himalayan blackberry, Cape ivy, gorse, and other priority species identified by the California Exotic Pest Plant Council, Agricultural Commissioner or California Department of Agriculture.

Applicability: Landscaping proposed as part of the vineyard planting plan will include native or compatible non-native species. No invasive exotic species will be used.

Riparian Corridors

Goal OSRC-8: Protect and enhance riparian corridors and functions along selected streams, balancing the need for agricultural production, urban development, timber and mining operations, flood control and other land uses with the preservation of riparian vegetation, water resources and habitat functions and values.

Objective OSRC-8.1: Designate all perennial and intermittent streams, as shown on USGS topographic maps as of March 18, 2003, as riparian corridors and establish streamside conservation areas along these designated corridors.

Objective OSRC-8.2: Provide standards for land use and development in streamside conservation areas which protect riparian vegetation, water resources and habitat values while considering the needs of residents, agriculture, businesses and other land users.

Objective OSRC-8.3: Recognize and protect habitat functions and values of ephemeral drainages during review of discretionary projects.

Policy OSRC-8a: Classify "Riparian Corridors" designated in the Open Space and Resource Conservation Element as follows:

(1) "Russian River Riparian Corridor" is the corridor adjacent to the main stem of the Russian River, excluding lands located within the urban land use categories or within the jurisdiction of a city.

(2) "Other" are the corridors within urban land use categories along the Russian River and the designated corridors along other rivers and streams.

Applicability: On the project site, the riparian corridor of Patchett Creek is a Sonoma County designated Riparian Corridor. The proposed project would not impact riparian habitat associated with this creek, rather this creek will be protected in a streamside conservation area that is a minimum of 100 feet wide measured from the top-of-banks (Figure 3.4-4).

Policy OSRC-8b: Establish streamside conservation areas along both sides of designated Riparian Corridors as follows, measured from the top of the higher bank on each side of the stream as determined by the Sonoma County Permit and Resource Management Department:

(1) Russian River Riparian Corridor: 200'
(2) Other Riparian Corridors: 100'

Applicability: A protective buffer, or streamside conservation area, has been established to protect the Sonoma County designated Patchett Creek Riparian Corridor from the impacts of vineyard conversion, in accordance with policy OSRC-8b (Figure 3.4-4). This buffer shall be a minimum of 100 feet in width, on either side of the creek as measured from the top of bank. The proposed project would not impact riparian habitat associated with this creek.

Policy OSRC-8c: Rezone to the Biotic Resources combining zoning district all lands within the streamside conservation areas. Adopt an ordinance which provides for their protection in conformance with the following principles. Until the ordinance is adopted, require that land use and development comply with these principles:

(1) Allow vegetation removal and grading only where necessary for an allowed use listed below.

Applicability: No vegetation removal or grading will occur within the Patchett Creek streamside conservation area. The proposed project would not impact riparian habitat associated with this creek.

(2) No structures, roads, utility lines and parking areas are allowed, except for the following:

(a) Small structures and accessory uses which do not require building permits and wells and related electrical connections, provided that they do not cause a net loss of habitat.

(b) Continuation and maintenance of existing non-conforming uses.
(c) Minor expansion of existing non-conforming uses if the expanded use would not be any closer to the stream than the existing use and if no net loss of habitat occurs.
(d) Where the parcel is otherwise unbuildable, a site assessment is required, vegetation removal is minimized, and adequate mitigation provided to ensure no net loss of habitat.

Applicability: No structures, roads, utility lines or parking areas will be constructed within the Patchett Creek streamside conservation area.

(3) Allow new agricultural cultivation only within the outer half of the streamside conservation area along designated intermittent streams but not along perennial streams and not where slopes are 20% or greater.

Applicability: No vineyards or other agricultural cultivation will occur within the Patchett Creek streamside conservation area. The proposed project would not impact riparian habitat associated with this creek.

(4) Allow replanting of crops where legally established but no closer than 25 feet from top of higher bank on each side of the stream. The ordinance should explore options and incentives for increasing the setbacks for replacement of existing vines and orchards.

Applicability: No vineyards or other agricultural cultivation will occur within the Patchett Creek streamside conservation area. The proposed project would not impact riparian habitat associated with this creek.

(5) Prohibit new fencing which is designed to exclude wildlife and which contains one or more of the following features:

lowest horizontal is within 1.5 feet of ground OR highest horizontal is over 6 feet OR top or bottom wire is barbed OR distance between top wires is less than 10 inches OR it combines with existing structures or fences, even on neighboring parcels, to create an obstacle up/down stream. The ordinance should explore options and incentives for removing existing non-conforming fencing and permitting exclusionary fencing in some situations to guide wildlife to road crossings and habitat corridors.

Applicability: Deer fencing or other exclusionary fencing will not be constructed within the Patchett Creek protective buffer. All fencing on the project site will be designed to maintain wildlife corridors through the Sonoma County designated Riparian Corridor.

(6) Allow free-range livestock grazing but no confined animal operations and no mechanical removal of vegetation to accommodate additional grazing areas. Encourage "best management practices" which could include wildlife-friendly fencing, protection of existing riparian vegetation, and restoration of areas not necessary for stream access.

Applicability: No grazing is proposed for this project. Deer fencing or other exclusionary fencing will not be constructed within the streamside conservation area and will be designed to maintain wildlife corridors through Patchett Creek, a Sonoma County designated Riparian Corridor. No vegetation removal or grading will occur within the Patchett Creek protective buffer.

(7) Allow adaptive habitat management and pest management programs in conjunction with the Agricultural Commissioner and CDFG.

Applicability: Pest management in the proposed vineyard will conform to the recommendations of the Sonoma County Agricultural

Commission and CDFG requirements. A habitat management plan will be prepared and implemented for streamside conservation areas and designated preserves that specifically states allowable uses. Allowable uses shall all be focused on maintaining natural vegetation and drainageways. Maintenance as required to restore drainages would be one of the only allowable uses (See Impacts and Mitigation Measures described below).

(8) Allow timber operations conducted in accordance with an approved timber harvest plan, but not within 25 feet of the top of the higher bank on each side of the stream.

Applicability: Timber harvesting and site preparation will not occur within the Patchett Creek protective buffer or within other streamside conservation areas. The proposed project would not impact any riparian habitat.

(9) Allow mining operations conducted in accordance with the County ARM Plan and Surface Mining and Reclamation Ordinance.

Applicability: No mining will occur within the Patchett Creek protective buffer.

(10) Allow stream crossings for roads and utility lines subject to the following design requirements:

(a) Be at 75 to 90 degrees to the channel.
(b) Be built and maintained to meet FishNet4C and County road standards.
(c) Maintain a natural channel bottom.
(d) Withstand 100-year flood flows.
(e) Be consolidated to minimize road crossings where feasible.

Applicability: No stream crossings are proposed within the Patchett Creek protective buffer. All other streamside conservation areas that are crossed by utilities or roads shall be in compliance with Sonoma County design requirements, and other state and federal resource agency requirements.

(11) Allow streamside maintenance conducted in accordance with all required permits from Federal, State and local agencies, summer dams and summer crossings where all applicable permits are obtained, restoration and enhancement of natural vegetation and habitat, fire fuel management, and emergency response activities.

Applicability: Maintenance of the Patchett Creek protective buffer on the project site will be conducted in accordance with all permits acquired for the proposed project.

(12) Allow public projects, including water-dependent public recreational facilities, which provide for maximum protection of the riparian functions of the site, including habitat for aquatic and terrestrial species, water quality, groundwater recharge, flood management, erosion control, habitat connectivity and other benefits. Public projects should also meet any requirements that would apply to similar private projects.

Applicability: No public projects are anticipated on the project site.

(13) Allow reduction up to 50% of any setback, except for the crop planting and replanting setbacks in 3 and 4 above, where the reduction ensures no net loss of sensitive riparian habitat and an overall improvement of riparian functions. Approval of the reduction is subject to a site assessment which is performed by a qualified professional and includes a comprehensive analysis of existing site conditions, including stream functions and meandering, water quality and temperature, erosion protection, terrestrial habitat, wildlife movement, identification of project impacts; comparison of post-project conditions to existing site conditions;

and mitigation for the potential loss of habitat related to the proposed uses. It is also the intent to avoid unauthorized removal of woody vegetation prior to consideration of the setback reduction. Mitigation measures may include:

(a) Restoration of any denuded riparian areas on the property.
(b) Replacement of the vegetation and habitat lost.
(c) Wildlife-friendly fencing to protect riparian vegetation from grazing animals.
(d) Providing a "no fencing" covenant in crop production areas.
(e) Providing a protective easement restricting removal of riparian vegetation.

Proposed reductions require a public notice, an appeal process and a public hearing if an appeal is filed, except that public notice and appeal is not required for parcels which would be unbuildable due to the setback.

Applicability: No reductions to the Patchett Creek protective buffer are proposed. While vineyards will be fenced, the creek protection zones will not have any installed fencing.

Policy OSRC-8d: Where additional riparian corridors are designated in specific plans, area plans, or local area development guidelines, revise such plans and guidelines as needed to provide protection of riparian corridors equivalent or better than the protection provided by the General Plan.

Applicability: The only corridor supporting riparian vegetation on the project site is associated with Patchett Creek. This corridor will be protected in 100 foot protective buffers established from the top-of-banks from this creek (i.e., in a streamside conservation area) (Figure 3.4-4). All other tributaries on the site do not support riparian vegetation. Regardless, all other tributaries shall be protected in buffers that average 25 to 75 feet in width, on either

side of the top-of-banks. All streamside conservation areas on the project site will be dedicated in permanent deed restrictions recorded on the title of the property. These deed restrictions shall run with the land in perpetuity. The protection of these tributaries exceeds that required by the Sonoma County General Plan.

Policy OSRC-8e: As part of the environmental review process, refer discretionary permit applications near all designated and ephemeral streams to CDFG and other agencies responsible for natural resource protection and require site assessment and appropriate mitigation if riparian corridors, habitat or functions might be adversely affected, including riparian vegetation extending outside streamside conservation areas.

Applicability: All appropriate permits will be acquired for impacts to the tributaries on the project site, as required by the federal and state resource agencies (that is, the Corps, RWQCB, and CDFG). No riparian vegetation extends beyond the Patchett Creek protective buffer.

Policy OSRC-8f: Notify permit applicants of possible Federal and State permit requirements in areas near streams and notify landowners whose property overlaps or touches a designated Riparian Corridor regarding the designated resources and the regulations and policies affecting them.

Applicability: Does not apply.

Reduction of Soil Erosion

Goal OSRC-11: Promote and encourage soil conservation and management practices that maintain the productivity of soil resources.

Objective OSRC-11.1: Ensure that permitted uses are compatible with reducing potential damage due to soil erosion.

Objective OSRC-11.2: Establish ways to prevent soil erosion and restore areas damaged by erosion.

Policy OSRC-11a: Design discretionary projects so that structures and roads are not located on slopes of 30 percent or greater. This requirement is not intended to make any existing parcel unbuildable if Health and Building requirements can be met.

Applicability: The proposed vineyards and associated roads and structures will be situated on broad ridges and hillside slopes of 0-25 percent.

Policy OSRC-11b: Include erosion control measures for any discretionary project involving construction or grading near waterways or on lands with slopes over 10 percent.

Applicability: The project involves agricultural conversion near waterways and on lands with slopes over 10 percent. The Erosion Control and Mitigation Plan for the project, discussed in this DEIR, incorporates extensive erosion and sediment control features.

Policy OSRC-11c: Encourage agricultural land owners to work closely with the U. S. Soil Conservation Service and local Resource Conservation Districts to reduce soil erosion and to encourage soil restoration.

Applicability: The Erosion Control and Mitigation Plan for the project is consistent with the recommendations, practices and standards of the USDA Soil Conservation Service.

Policy OSRC-11d: Require a soil conservation program to reduce soil erosion impacts for discretionary projects which could increase waterway or hillside erosion. Design improvements such as roads and driveways to retain natural vegetation and topography to the extent feasible.

Applicability: The Erosion Control and Mitigation Plan for the project, summarized elsewhere in this DEIR, includes extensive erosion and sediment control features.

Policy OSRC-11e: Retain natural vegetation and topography to the extent economically feasible for any discretionary project improvements near waterways or in areas with a high risk of erosion as noted in the Sonoma County Soil Survey.

Applicability: Natural vegetation will be protected alongside all tributaries on the project site. Protective buffers will be established from top-of-banks that are between 25 feet and over 100 feet wide from top-of-banks. The Erosion Control and Mitigation Plan for the project included in this DEIR includes extensive erosion and sediment control features.

Policy OSRC-11f: Prepare and submit to the Board of Supervisors an erosion and sediment control report.

Applicability: The Erosion Control and Mitigation Plan for the project summarized in this DEIR will be submitted to the Sonoma County Board of Supervisors.

Policy OSRC-11g: Continue to enforce the Uniform Building Code to reduce erosion and slope instability problems.

Applicability: The agricultural storage building proposed for this project would conform to the Uniform Building Code.

Timber Resources

Goal OSRC-12: Preserve, sustain and restore forestry resources for their economic, conservation, recreation, and open space values.

Objective OSRC-12.1: Identify and preserve areas with timber soils and commercial timber stands for timber production. Reduce incompatible uses and the conversion of timberlands to agriculture and other uses which

effectively prevent future timber production in these areas.

Objective OSRC-12.2: Minimize the potential adverse impacts of timber harvesting on economic, conservation, recreation and open space values and restore harvested areas to production for a future yield.

Policy OSRC-12b: Review all timber harvest plans for compatibility with General Plan policies and economic viability of the industry.

Applicability: The timber harvest plan for the proposed project is discussed in this DEIR in other sections and has been submitted to Sonoma County for their review.

Policy OSRC-12c: Where applicable, comment on timber harvest plans in support of increased protection of Class III streams.

Applicability: Patchett Creek is a Class II tributary; all other tributaries on the project site are Class III tributaries. A protective buffer that averages 25 to 75 feet in width on either side of the top-of-banks of all Class III tributaries shall be established on site, and Best Management Practices will be implemented within the vineyard project site to ensure that Class III tributaries and their buffers remain protected. Sheet flow over the impacted areas will be filtered via v-ditches, surface drains and fiber roll checks, then directed into sediment basins before draining into the Class III tributaries on the project site.

Policy OSRC-12d: Review timber harvest plans adjacent to designated riparian corridors and request that clear cutting not occur within streamside conservation areas. Where clear cutting is approved by the applicable state or federal agency along designated riparian corridors, ensure that at least 50 percent of the overstory canopy and at least 50

percent of the understory vegetation be retained.

Applicability: No clear cutting will occur within any streamside conservation areas.

Policy OSRC-12e: Revise the zoning districts which implement the Resources and Rural Development land use category to prohibit agricultural production and other uses which would result in the conversion of timberlands unless the uses qualify for a timber conversion exemption pursuant to the Forest Practice Rules, they provide an overriding benefit, or they result in no net loss of timberland. The districts shall also provide that these exceptions are not allowed if they result in habitat fragmentation.

Applicability: The proposed project is not, by the express terms of Ordinance No. 5651, subject to a use permit requirement for timberland conversions. See the discussion of the Timberland Conversion Ordinance below for further details.

Water Resources Element

Water Quality

Goal WR-1: Protect, restore and enhance the quality of surface and groundwater resources to meet the needs of all beneficial uses.

Objective WR-1.2: Require quality of treated water to conform with beneficial water use standards to the maximum extent feasible.

Objective WR-1.4: Encourage new groundwater recharge opportunities and protect existing groundwater recharge areas.

Objective WR-1.5: Inform the public about practices and programs to minimize water pollution and provide educational and technical assistance to agriculture in order to reduce

sedimentation and increase on-site retention and recharge of storm water.

Objective WR-1.6: Conserve and recognize storm water as a valuable resource.

Objective WR-1.7: Require consideration of naturally occurring and human caused contaminants in groundwater in new development projects. Work with the SCEHD and RWQCB to educate the public on evaluating the quality of groundwater.

Policy WR-1a: Coordinate with the RWQCB, SCWA contractors, Cities, Resource Conservation Districts, watershed groups, stakeholders and other interested parties to develop and implement public education programs and water quality enhancement activities and provide technical assistance to minimize storm water pollution, support RWQCB requirements and manage related County programs. Where appropriate, utilize watershed planning approaches to resolve water quality problems.

Applicability: Not applicable.

Policy WR-1c: Prioritize storm water management measures in coordination with the RWQCB direction, focusing first upon watershed areas that are urbanizing and watersheds with impaired water bodies. Work cooperatively with the RWQCBs to manage the quality and quantity of storm water runoff from new development and redevelopment in order to:

(1) Prevent, to the maximum extent practicable, pollutants from reaching storm water conveyance systems.
(2) Limit, to the maximum extent practicable, storm water flows from post development sites to pre-development quantities.
(3) Conserve and protect natural areas to the maximum extent practicable.

Applicability: The Erosion Control and Mitigation Plan for the project is summarized in this DEIR and includes extensive erosion and sediment control features. The applicant will submit a Stormwater Pollution Prevention Plan (SWPPP) to the RWQCB, which will be implemented prior to grading the site for the proposed project. These measures will ensure that siltation of onsite and downstream tributaries is minimized to an imperceptible degree while the project is constructed. Similarly, all preserved tributaries and wetlands will be protected from inadvertent impacts from the operation of the proposed project. A Stormwater Management Plan (SWMP) will be submitted to the RWQCB that requires the construction of desilting catch basins at the lower end of drainage points from the project site. First flushes from the project site will be captured in these basins and "treated." These basins will ensure that any stormwater leaving the project will undergo "stilling" and "desilting" prior to flowing off the site. As this is an agricultural project, and as vineyard rows will be vegetated with the natural vegetation growing in the region of the project site, all stormwater flows from the project site will be filtered through vegetation and vegetated collection ditches constructed in native soils prior to flowing into the desilting basins. This treatment far exceeds standards now imposed on the development industry for development projects that create extensive impervious surfaces. Treatment basins will also function to decrease "erosive flow potential" from the project site by collecting first flush and larger stormwater flows and metering releases through controlled discharge points into onsite drainages. Below catch basins discharges will be released into vegetated swales that constitute additional treatment prior to the time that stormwaters enter downstream receiving waters.

Policy WR-1d: Support RWQCB waste discharge requirements for all wastewater treatment systems and other point sources.

Applicability: A Section 401 Clean Water Act and Waste Discharge application will be filed with the RWQCB. All conditions of the issued permit shall be complied with, thereby meeting all RWQCB waste discharge requirements.

Policy WR-1g: Minimize deposition and discharge of sediment, debris, waste and other pollutants into surface runoff, drainage systems, surface water bodies, and groundwater.

Applicability: Deposition and discharge of pollutants will be minimized to the greatest extent practicable through the implementation of the SWPPP and SWMP described above in Policy WR-1c.

Policy WR-1h: Continue to require grading plans to include measures to avoid soil erosion and consider upgrading requirements as needed to avoid sedimentation in storm water to the maximum extent practicable.

Applicability: Soil erosion and stormwater sedimentation will be avoided through the development of the SWPPP and SWMP described above in Policy WR-1c.

Policy WR-1i: Implement erosion and sediment control requirements for vineyards and row crops. Develop and implement educational and technical assistance programs for agricultural activities including vineyard and crop production and maintenance practices and educational programs and technical assistance to grazing, ranch, and dairy operations. Encourage programs to disseminate information on the benefits of on-site retention and recharge of storm waters.

Applicability: Soil erosion and stormwater sedimentation measures will be implemented through the development of the SWPPP and SWMP described above in Policy WR-1c.

Policy WR-1p: Require new development projects to evaluate and consider naturally-occurring and human caused contaminants in groundwater.

Applicability: Groundwater testing would be conducted at the time the proposed well is dug, to verify that the water is potable.

Groundwater

Goal WR-2: Manage groundwater as a valuable and limited shared resource.

Objective WR-2.1: Conserve, enhance and manage groundwater resources on a sustainable basis which assures sufficient amounts of

clean water required for future generations, the uses allowed by the General Plan, and the natural environment.

Objective WR-2.2: Monitor groundwater conditions, require descriptive information for well permits, and analyze, map and publicize the data gathered.

Objective WR-2.6: Avoid land subsidence caused by groundwater extraction and reduce subsidence that has occurred.

Policy WR-2c: Revise ordinance requirements for permits to drill, replace, deepen or repair all wells as follows:

(1) Show exact locations, depths, yield, drilling logs, soil data, flow direction and water levels of proposed wells and existing wells on the site, locations of known nearby wells, proposed uses of the water, and estimated amount of water use. Review available groundwater data and well permit information in the permit area and make this information available to the applicant to the extent allowed by law.
(2) Based upon available information indicating a need, require that new wells be located definite distances from property lines and existing wells. Implementation would develop setbacks which could vary by well size, location of nearby wells, water use, groundwater availability, lot size and other appropriate factors.
(3) Require proof of groundwater quantity and quality sufficient for proposed uses and existing beneficial uses on the site in all Class 3 and 4 areas and in other areas with identified water quality and quantity problems, special area studies underway or where adopted management plans require it.

Implementation would develop procedures and quantitative standards for pump tests, well yields, pollutant levels, and water storage.

(4) Require well monitoring for all wells. Implementation would include procedures for meters, access, testing and reporting water levels, flow direction and quality, and responding to monitoring results. Standards could be less stringent in Class 1 and 2 areas without identified problems.

(5) Include provisions for applicant fees and other funding of County costs.

(6) In areas where a groundwater management plan has been approved and has been accepted by the County, require the issuance of well permits and any limitations imposed on well permits to be consistent with the adopted plan.

Applicability: A well will be dug for limited domestic use. The above-mentioned information will be provided at the time a well permit application is submitted to Sonoma County.

Policy WR-2d: Require proof of groundwater with a sufficient yield and quality to support proposed uses in Class 3 and 4 water areas. Require test wells or the establishment of community water systems in Class 4 water areas. Test wells may be required in Class 3 areas. Deny discretionary applications in Class 3 and 4 areas unless a hydrogeologic report establishes that groundwater quality and quantity are adequate and will not be adversely impacted by the cumulative amount of development and uses allowed in the area, so that the proposed use will not cause or exacerbate an overdraft condition in a groundwater basin or subbasin.

Applicability: A well will be dug to provide potable water for the farm workers. The above-mentioned information will be provided at the time a well permit application is submitted to Sonoma County.

Policy WR-2e: Revise procedures for proving adequate groundwater for discretionary projects by adding criteria for study boundaries, review procedures, and required findings that the area's groundwater supplies and surface water flows will not be adversely impacted by the project and the cumulative amount of development allowed in the area and will not cause or exacerbate groundwater overdraft, land subsidence or saltwater intrusion. Procedures for proving adequate groundwater for discretionary projects should be flexible enough to consider the expense of such study in relation to the size of the discretionary project.

Applicability: A well will be dug to provide potable water for the farm workers. Groundwater extraction required for these uses will be minimal, and is expected to have a negligible impact on groundwater supplies and surface water flows.

Policy WR-2f: Require that discretionary projects, to the maximum extent practicable, maintain or increase the site's pre-development absorption of runoff to recharge groundwater. Implementation would include standards which could regulate impervious surfaces, vary by project type, land use, soils and area characteristics, and provide for water impoundments, protecting and planting vegetation, cisterns and other measures to increase runoff retention and groundwater recharge.

Applicability: A well will be dug to provide potable water for the farm workers. Groundwater extraction required for these uses will be minimal, and is expected to have a negligible impact on groundwater supplies and surface water flows.

Timberland Conversion Ordinance

While in the process of updating Sonoma County's General Plan ("GP2020") the Sonoma County Board of Supervisors ("Board") directed that the Sonoma County Permit & Resource Management Department study timberland conversions as part of the GP2020 update. Subsequent to this directive, the Board concluded that, even before the GP2020 update was completed, the County should implement timberland conversion regulations.

To that end, on March 14, 2006, the Board adopted Sonoma County Ordinance No. 5651 ("Ordinance"). The Ordinance sets forth a use permit requirement for timberland conversions within the County.

Applicability: The proposed project is not, by the express terms of Ordinance No. 5651, subject to the Ordinance's use permit requirement. That use permit requirement applies to timberland conversions proposed in Timberland Production, Resources and Rural Development and Resources and Rural Development / Agricultural Preserve zoning districts. However, Section II (a)-(b) of the Ordinance provides that the Ordinance is applicable only to timberland conversion projects that did not have, as of October 4, 2005, a completed timberland conversion application filed with CAL FIRE and an environmental review process initiated with CAL FIRE as lead agency. As of October 4, 2005, Artesa had a completed conversion application filed with CAL FIRE (THP 1-01-171 SON; Fairfax Timber Conversion Project), and an Environmental Impact Report (State Clearinghouse Environmental Impact Report No. 2004082094) process initiated, pursuant to the California Environmental Quality Act, with CAL FIRE as lead agency. Consequently, the proposed project is not subject to the County use permit provisions set forth in the Ordinance.

Sonoma County Drainage and Stormwater Management Ordinance

Chapter 11 of the Sonoma County Code regulates all acts that obstruct or diminish free flow of floodwaters in channels or waterways within the county (Ordinance No. 4803 § 1 and 1994: Ord. No. 1108 § 15). A permit for any of the following acts is required:

(a) Impair or impede or obstruct the natural flow of storm waters or other water running in a defined channel, natural or man-made, or cause or permit the obstruction of any such channel.

Applicability: The proposed project would not impact Patchett Creek. Proposed impacts to the tributaries on the project site include the filling of approximately 299 feet of other waters of the U.S. This impact would only be completed upon receipt of permits from Sonoma County (as necessary), the Corps, RWQCB, and the CDFG that allows this fill to occur. This fill would occur in very minor ephemeral drainages (regarded as “other waters”). These impacts would be mitigated at a 2:1 ratio (2 square feet of creation/enhancement to each square foot of impact) through creation of mitigation wetlands, which have higher ecological functions and values than the impacted “other waters.” As the fill will occur in the top reaches of ephemeral tributaries, downstream

reaches will remain unaffected. In addition, there would be two temporary pipeline trenches open cut through two ephemeral channels. The work would occur when the channels are dry, and the original contours of the channels would be restored upon completion. This work would be completed with permits from Sonoma County (as necessary), the Corps, RWQCB, and the CDFG. Lastly, one ephemeral channel would be modified to allow for an all-season ford stream crossing. While rock would be used to construct this crossing, it would be installed in contour with the channel, assuring that the original flow capacity in the channel is not restricted in any manner or fashion. This ford crossing would only be constructed with permits issued by Sonoma County (as necessary), the Corps, RWQCB, and the CDFG. No proposed work in any tributary will impair, impede or obstruct flows in tributaries on the project site.

(b) Deposit any material in such channel.

Applicability: No materials will be deposited in Patchett Creek as part of the proposed project. Other minor impacts to tributaries discussed above will be permitted by the Corps, RWQCB and Sonoma County. All deposited materials would be "in contour" with the tributary and thus will not change or modify the existing contours of any tributary. Flows will essentially remain unaffected by any proposed and permitted changes to tributaries.

(c) Alter the surface of land so as to reduce the capacity of such channel.

Applicability: Channel capacity reduction will not occur as a result of the proposed impacts mentioned above.

(d) Construct, alter or repair any storm water drainage structure, facility or channel without first obtaining a permit therefore, as provided by this article.

Applicability: A permit from Sonoma County shall be obtained for the proposed impacts mentioned above.

(e) Commit any act, within any easement dedicated for drainage purposes that will impair the use of such easement for such purpose.

Applicability: No easements dedicated for drainage purposes are present on the project site.

(f) Place any material along the sides of any defined channel or so close to the side of such channel as to cause such material to be carried away by flood waters passing through such channel.

Applicability: No materials that can be carried away by flood waters will be placed in or near Patchett Creek or other tributaries on the project site.

(g) Construct any structure within 100 feet of the top of any embankment, natural or man-made which defines a channel, except structures constructed on a lot in a subdivision where the flood hazard has been found to be remote in the review by the county water agency.

Applicability: Permits would be acquired from Sonoma County (as necessary) for any structure constructed on the project site.

(h) Deposit any material as aforesaid, which contains paper, bottles, cans, lumber, garbage, organic matter or other material which will not readily become an integral part of the channel side.

Applicability: None of the materials described above will be deposited in the tributaries on the project site.

(i) Deposit car bodies or any unsightly material on the top of sides of any embankment, natural or man-made which defines a channel. (Ord. Nos. 1108 § 1, 1300 § 1.)

Applicability: None of the materials described above will be deposited in the tributaries on the project site.

All drainage structures and facilities shall be designed and constructed according to the Sonoma County water agency's flood control design criteria (Ord. No. 4981 § 5, 1996.).

Applicability: The proposed drainage structures described in the Erosion Control and Mitigation Plan included in this DEIR meet the criteria of the Sonoma County water agency's flood control design criteria.

Section 11-25 of the Sonoma County Code protects and enhances the water quality of the Sonoma County's watercourses pursuant to and consistent with the Federal Clean Water Act and amendments, and assures compliance with the conditions set forth by the National Pollution Discharge Elimination System (NPDES) as requirements of stormwater discharge permits. The release of non-stormwater discharges to the county's stormwater system is prohibited without an NPDES permit.

Applicability: An NPDES Permit from the State Water Resources Control Board shall be acquired prior to commencement of construction activities. See Section 8.3 for further information.

Sonoma County Heritage or Landmark Tree Ordinance

The Sonoma County Heritage or Landmark Tree Ordinance (Chapter 26D, Sonoma County Code) protects trees that have been designated as heritage or landmark trees by the Sonoma County Board of Supervisors. A tree permit must be filed to remove or potentially damage a heritage or landmark tree, including application for a building, grading or demolition permit.

No permit or compliance is required for the following:

- Trimming, pruning or maintenance of heritage or landmark trees as long as there is no damage to the tree and there is no violation of any provisions of this chapter;

  Applicability: No heritage or landmark trees occur on the project site. A large and ancient Oregon oak occurs on the eastern side of the project site; however, this tree lies within the Patchett Creek streamside conservation area and will not be impacted by the proposed project.

- Trees within incorporated city limits;

  Applicability: The project site does not fall within incorporated city limits.

- Commercial timber operations on private land subject to the Z'berg-Nejedly Forest Practice Act of 1973. (Chapter 8 of Division 4 of the Public Resources Code) Refer to Section 26D-4.

  Applicability: A THP has been prepared for the project site that demonstrates the project is in compliance with the Z'berg-Nejedly Forest Practice Act of 1973. Therefore, no tree permit will be required.

- Removal of trees on lands owned by the United States of America or the state of California.

  Applicability: No lands under the ownership of the U.S. or the state of California will be affected by the proposed project.

- Removal of any tree when such removal is authorized by CAL FIRE.

  Applicability: A THP has been prepared for the project site that is in compliance with regulations and ordinances enforced by the CAL FIRE.

- Removal of any tree when authorized by other ordinances or laws of the county of Sonoma, the state of California, or the United States of America;

Applicability: A THP has been prepared for the project site that is in compliance with regulations and ordinances enforced by Sonoma County, the state of California and the United States of America.

- In the case of an emergency where a tree is in a hazardous, dangerous or unhealthy condition so as to endanger life, property or other members of its own species, any members of the sheriff's department, fire department, county department of agriculture, department of public works, water agency or the planning department may authorize removal of such trees;

  Applicability: Emergency tree removal is not proposed for this project.

- Any utility company licensed by the California Public Utilities Commission is exempt from the requirement of obtaining a permit so that they or their agents may maintain the required clearance around power lines. (Ord. No. 3651 § 5, 1986.)

  Applicability: Tree removal by a utility company is not proposed for this project.

IMPACTS AND MITIGATION MEASURES

Standards of Significance

For the purposes of this Draft EIR, impacts to biological resources are considered significant if implementation of the proposed project could result in one or more of the following specific conditions (following CEQA Guidelines §15065 and CEQA Guidelines Appendix G):

- A substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, polices, or regulations, or by the CDFG or USFWS;

- A substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the CDFG or USFWS;

- A substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;

- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;

- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or

- Conflict with the provisions or an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

Furthermore, standards of significance pertaining specifically to the coldwater steelhead trout were crafted by the project fisheries consultant. Effects of the proposed project on steelhead trout were considered significant if the project would:

- Cause changes to lower Patchett Creek and/or Wheatfield Fork Gualala River water quality and quantity, of sufficient magnitude and frequency to cause a reduction in species abundance or long-term population levels in these water bodies; or

- Cause sufficient degradation in aquatic habitat in lower Patchett Creek and/or Wheatfield Fork Gualala River that would substantially cause interference with the success of upstream adult immigration or downstream juvenile emigration of steelhead trout, thereby resulting in adverse population-level effects.

Methods of Analysis

Background Research

At project onset, Monk & Associates reviewed all available past biological studies conducted on the project site by NCRM in support of a biology section presented in the 2003 Negative Declaration. Data and draft reports that were available from NCRM included a Biological Assessment (NCRM 2001a), a Special Status Species Report (NCRM 2001b), and an incomplete preliminary wetlands map. Other biological information obtained for this DEIR was taken directly from the Negative Declaration. While to some extent the data provided by NCRM were used anecdotally, Monk & Associates completed independent evaluations and studies for all potentially occurring sensitive biological resources.

Prior to preparing this biological resource constraints analysis report, Monk & Associates researched the following database programs for historic and recent records of special-status plant and animal species (that is, threatened, endangered, rare) known to occur in the region of the project site:

1) The 2009 version of the CDFG Natural Diversity Database, RareFind 3 application (CNDDB 2007);
2) The 2009 version of the California Wildlife Habitat Relationships System for information regarding the potential presence of special-status species;

3) The 2000, 2008, and 2009 Northern Spotted Owl Database maintained by the CDFG; and
4) The California Native Plant Society's (CNPS) *Inventory of Rare and Endangered Plants of California* (CNPS 2001). All special-status species records were compiled in tables.

Wetland Delineation

A formal wetland delineation of the project site was conducted on February 15, May 1, 2, 3, 4, and 5, 2006 by Mr. Geoff Monk and Ms. Isabelle de Geofroy, on June 6, 7 and 8, 2006 by Mr. Monk and Ms. Kimberly DeBriansky, and on June 14 and 15, 2006 by Ms. de Geofroy and Ms. Stephanie Scolari. The wetland delineation was conducted according to the Corps' 1987 *Wetlands Delineation Manual*. Vegetation, hydrology, and soils information were recorded on data sheets.

Data points, potential wetlands, and other features were mapped using a Trimble Pro-XT Global Positioning System (GPS) having sub-meter accuracy. A preliminary wetlands delineation map was made from the GPS files using ArcMap 9.1. All spatial data were projected into the California State Plane, NAD 83 (feet) coordinate system, Zone 2. Using GPS technology, the boundaries (within 30 inches) of each delineated wetland was transferred to a LiDAR topography map of the project site. On November 2 and 16, 2006, the Corps field verified the extent of their jurisdiction on the project site pursuant to Section 404 of the Clean Water Act. Monk & Associates incorporated the Corps mapping additions and edits onto its wetlands map and subsequently submitted the final Wetlands Map of the project site to the Corps on November 28, 2006. The Corps formally assumed the extent of its jurisdiction over the project site on December 4, 2007.

Rare Plant Surveys

Special-status plant surveys were conducted by Monk & Associates biologists Ms. Isabelle de Geofroy and Ms. Sarah Lynch on April 25, 26 and 27, 2006; by Ms. de Geofroy and Ms. Stephanie Scolari on June 13, 14 and 15, 2006; and again by Ms. de Geofroy and Ms. Lynch on August 8, 9 and 10, 2006. The surveys followed methods prescribed by the USFWS (Cypher 2002, USFWS 1996), CDFG (2000), and CNPS (2001) published survey guidelines. These guidelines state that special-status surveys should be conducted at the proper time of year when special-status and locally significant plants are both evident and identifiable. The guidelines also state that the surveys be floristic in nature with every plant observed identified to species, subspecies, or variety as necessary to determine their rarity status. Finally, these surveys must be conducted in a manner that is consistent with conservation ethics and accepted plant collection and documentation techniques. Following these guidelines, surveys were conducted during the months when special-status plant species from the region are known to be evident and flowering. All areas of the project site were examined by walking systematic transects through potential habitat, and by closely examining any existing microhabitats that could potentially support special-status plants.

Nearly all plant species found on the project site were identified to species. All were identified to the level needed to determine whether they qualify as special-status plants. A list of all vascular plant taxa encountered within the project site was recorded in the field during each survey. Plants that needed further evaluation were collected and keyed in the lab. Final determinations for collected plants were made by keying specimens using standard references such as *The Jepson Manual* (Hickman 1993).

Northern Spotted Owl Surveys

Monk & Associates biologists conducted a two-year protocol survey for the northern spotted owl (*Strix occidentalis caurina*) according to USFWS' Northern Spotted Owl Survey Protocol (USFWS 1992a). While a single year of survey can be conducted pursuant to the USFWS's survey protocol, the USFWS encourages completion of a two-year survey "to provide a higher likelihood of accurately determining presence or absence of spotted owls." No northern spotted owls were detected during the two-year survey.

The northern spotted owl survey regimen was developed by Mr. Geoff Monk, certified wildlife biologist, in conjunction with Monk & Associates staff. The regimen was prepared after walking the entire project site to develop an understanding of the accessibility opportunities and determining the most likely areas for detections during night time auditory surveys. During the daytime scoping surveys, Monk & Associates also looked for direct and indirect evidence of spotted owl occupation of the project site. Evidence of occupation would include a visual sighting of this owl species, a response from calling activities, and/or the presence of pellets. All larger trees were examined for suitable nesting cavities, and the forest floor where open was examined for the presence of white-wash, molt feathers, and other indicators of presence.

Monk & Associates conducted night surveys for the northern spotted owl on six separate dates during the 2006 survey period. In 2006, surveys were conducted on April 27 by Monk & Associates biologists Mr. Geoff Monk, Ms. Melisa Anderson, and Ms. Isabelle de Geofroy, on May 4 by Mr. Monk and Ms. de Geofroy, on June 5 and 10 by Mr. Monk and Ms. Kimberly Debriansky, on July 26 by Mr. Monk and Mr. Geoff Thomas, and on August 2, 2006 by Mr. Monk and Ms. Anderson. In 2007, Monk & Associates biologist Mr. Geoff Monk and Ms. Melisa Anderson conducted additional northern spotted owl surveys on three separate dates: April 26, July 12, and August 2, 2007, as required by the U.S. Fish and Wildlife Service (USFWS) for a two year survey.

Pursuant to USFWS's survey protocol, Monk & Associates biologists conducted auditory (calling) surveys by walking throughout the project site along the forest/meadow edges, along all accessible roadways and paths, and within any stands of (more) mature timber. Spotted owl calls were played from a recording prepared by Dr. Eric Foreman for the U.S. Forest Service, the Bureau of Land Management, and other interested parties. As the site was thoroughly logged likely sometime between 1940 and 1960, very little open understory habitat is present on the project site. Rather, there is a thick, brushy condition that now has an enveloping overstory of trees over most of the timbered portion of the project site. Thus, nocturnal accessibility for surveys was limited to some degree by

impenetrable brush, but Monk & Associates did endeavor to reach "most likely areas." This was accomplished by flagging routes through the forest in the daytime to optimal calling positions. During nighttime surveys, Monk & Associates could follow the flagging to the established calling stations in areas regarded as "most likely" to support northern spotted owls. Flagging was followed as quietly as possible using low intensity flashlights. Upon reaching designated calling locations, lights were turned off and then Monk & Associates biologists remained at the calling station quietly for at least 15 minutes prior to commencing with recorded calls. The pre-listening method was actually the most successful method for detections of other owl species on the project site.

Along roadways, pathways, and meadow edges, calling surveys were conducted on foot by pausing at approximately 50 yards intervals and playing various calls of the northern spotted owl. At all calling stations, the recording was amplified to a volume that could be heard at least ¼ mile away. During each calling effort, the recording was played for 3 to 7 calls followed by the observer listening for a response for one to five minutes. This process was repeated for at least 15 minutes before moving on to the next calling station. Field notes included weather at the time of each survey, description of survey route, the survey start and stop time and any owl responses or observations. Positions of any owl detections were marked on a project maps.

Northern Red-Legged Frog Surveys

In 2008, two full (all aquatic habitats) project site diurnal surveys and two full project site nocturnal surveys were conducted for the northern red-legged frog (*Rana aurora*). Formal amphibian surveys were conducted in all tributaries and the man-made pond by Mr. Monk and Ms. Melisa Anderson, both federally permitted 10(a)(1)(A) California red-legged frog biologists, on March 20 and 21, 2008. These surveys were repeated by Mr. Monk and Mr. Geoff Thomas (Mr. Thomas is also a 10(a)(1)(A) California red-legged frog biologist) on March 25 and 26, 2008. Surveys were conducted by slowly walking along tributaries and using high powered binoculars to scan ahead looking for frogs both in wetted areas and areas adjacent to wetted areas (i.e. shorelines and stream banks). Auditory detection was considered paramount during surveys. Accordingly, every 20 meters while conducting surveys along tributaries biologists paused for 3 to 10 minutes in an attempt to detect amphibians via vocalizations. Similar methods were used to survey the man-made pond on the project site. As this pond is very small, being only about 30 feet in diameter, it was a relatively simple process to thoroughly survey this pond.

Nesting Raptors and General Wildlife Surveys

Monk & Associates biologists Mr. Geoff Monk, Ms. Kimberly Debriansky, Ms. Melisa Anderson, Ms. Sarah Lynch, and Ms. Isabelle de Geofroy conducted systematic raptor nesting surveys of the project site in the first week of April and the second week of May 2006. All portions of the project site were examined. General wildlife surveys were also conducted on June 7 and 8, 2006, September 19, 2006, October 12, 2006, and December 11, 2006. It should be noted that during all surveys of the project site conducted by Mr.

Monk and others from Monk & Associates, all wildlife species observed (tracks, individuals, or other sign) were noted in project site notebooks.

During formal raptor nesting surveys, all tree canopies were examined for presence of stick nests that could be used by nesting raptors. Tree nests encountered were classified as non-raptor, or if potentially a raptor nest, were subject to subsequent and additional scrutiny. White wash, molt feathers, plucking posts, or evidence of kills were all searched for during surveys. General wildlife surveys for birds, reptiles and amphibians were conducted simultaneously. Lists of all wildlife encountered were kept in project notebooks. Amphibian surveys were conducted by walking stream courses and examining larvae in pools, and searching for adults. Logs in the forest and in meadows were temporarily dislodged for scanning underneath such logs for amphibians, reptiles, and rodents. All logs were carefully restored to their prior placement upon completion of examinations. Leaf nests or "needle nests" were also searched for in appropriate stands of timber for the potential presence of red tree vole. Under observed leaf nests, evidence of pine needle harvesting and other signs indicating the potential presence of this vole species could be present, such as droppings, stick accumulations, etc. were searched for. Monk & Associates lead biologist Mr. Geoff Monk conducted similar studies in the past while working as a biologist at the Bureau of Land Management, in the Ukiah District Office (Please review the section above on Red Tree Vole).

Fisheries Analysis

The August 2007 Fisheries Assessment conducted for the proposed project by Inland Ecosystems of Reno, Nevada (See Appendix J of this DEIR) consisted of a review of project environmental documentation with specific reference to identifying potential impacts to listed coldwater salmonids, particularly steelhead trout (*Oncorhynchus mykiss irideus*), downstream of the project site.

Project-Specific Impacts and Mitigation Measures

3.4-1 Impacts to thin-lobed horkelia (*Horkelia tenuiloba*).

Thin-lobed horkelia has been identified on the project site and the proposed project would result in minor impacts to this plant. This plant is not protected under either the State or Federal Endangered Species Acts and it is not protected pursuant to any special state or federal regulation or law. The thin-lobed horkelia is a CNPS List 1B.2 species. According to the CNPS, all of the plants constituting List 1B meet the definitions of Section 1901, Chapter 10 (Native Plant Protection Act) or Sections 2062 and 2067 (California Endangered Species Act) of the CDFG Code, and thus would be eligible for state listing (CNPS 2001). CDFG requires their discussion in CEQA documents.

Most of the project site does not support thin-lobed horkelia. Rather thin-lobed horkelia is found primarily in the Northern Coastal Grassland habitat on the southwestern portion of the project site. Small numbers of thin-lobed horkelia

would be impacted by the proposed vineyard project. While mitigation wetlands that will be constructed as part of the project in grasslands in the southwestern portion of the project site could conceivably impact this plant, such impacts are not anticipated at this time. The mitigation wetland locations were carefully selected outside of the known distribution of thin-lobed horkelia. Nonetheless, by the time the mitigation wetlands are constructed, the possibility remains that thin-lobed horkelia could expand its current distribution within the grassland area to locations where wetlands would be constructed. Project activities that could adversely affect this plant include earth-moving/grading activity that kills individual plants, and earth-moving/grading activity that alters the hydrology of the project site. These activities would be regarded as ***potentially significant*** adverse impacts.

Mitigation Measure(s)

Implementation of the following mitigation measure is consistent and commensurate with resource agency (CDFG and USFWS) requirements for reducing/ameliorating impacts to plants that are protected pursuant to the state and federal Endangered Species Acts. While thin-lobed horkelia is not listed under either the state or federal Endangered Species Act, the typical mitigation requirements for listed plants are adopted by the proposed project to ensure a greater level of protection and compensation for impacted rare plants. As such, implementation of the following mitigation measures would reduce the impact to a *less-than-significant* level.

3.4-1 *Prior to the issuance of a grading permit, the applicant shall establish a 15.65-acre preserve on lands that have been designated on the west side of the project site that will protect the largest population of thin-lobed horkelia from the proposed project impacts (Figure 3.4-4). This preserve will be dedicated in a permanent deed restriction recorded on the title of the property that shall run with the land in perpetuity. A wetland mitigation plan proposes the creation of wetlands in the thin-lobed horkelia preserve and in an Annapolis manzanita preserve (see below). Wetland creation will occur in portions of the preserve that do not currently support thin-lobed horkelia. Regardless, a very small number of these plants could be impacted within the preserve from implementation of a wetland mitigation compensation plan. This plan shall be subject to the review and approval of the CAL FIRE and the Sonoma County Permit and Resource Management Department. In addition, the vineyard has been designed to ensure that agricultural runoff does not enter the preserve. Following completion of vineyard development activities, the applicant shall ensure that any herbicide applications which may take place in the nearby vineyard unit(s) do not affect or enter the thin-lobed horkelia reserve. The plan shall be subject to the review and approval of*

the Department of Forestry and the Sonoma County Permit and Resource Management Department.

3.4-2 Impacts to Annapolis manzanita (*Arctostaphylos manzanita x A. stanfordiana)*.

Annapolis manzanita is a hybrid manzanita unique to the Annapolis area. Two Annapolis manzanita populations occur on the project site (Figure 3.4-4). Annapolis manzanita does not have any state or federal status, nor is it listed by CNPS. However, because of the uniqueness of this population, Dr. Tom Parker and Mr. Michael Vasey of San Francisco State University recommended that the proposed project include incorporation of protection measures for Annapolis manzanita until further studies have been conducted. Since CEQA documents will take into account the local or unique rarity of a species and require protection for these locally unique or locally rare species, any impacts to Annapolis manzanita must be considered ***potentially significant*** and adverse pursuant to CEQA.

Mitigation Measure(s)

Implementation of the following mitigation measure is consistent and commensurate with resource agency (CDFG and USFWS) requirements for reducing/ameliorating impacts to plants that are protected pursuant to the state and federal Endangered Species Acts. While Annapolis manzanita is not listed under either the state or federal Endangered Species Acts, the typical mitigation requirements for listed plants are adopted by the proposed project to ensure a greater level of protection and compensation for impacted rare plants. As such, implementation of the following mitigation measures would reduce the impact to a *less-than-significant* level.

3.4-2 *Prior to issuance of a grading permit, the applicant shall set aside an area totaling approximately 4.4 acres on the east side of the project site (See Figure 3.4-4) for the preservation of Annapolis manzanita identified on the Artesa property. The reserve shall be dedicated in perpetuity through a permanent deed restriction recorded on the title of the property. The reserve area shall not be developed. Timber operations in the areas adjacent to the preserve shall use directional falling so that timber marked for removal falls away from the reserve area. Heavy equipment and vehicles shall be excluded from the reserve area during project development and operations. The manzanitas within these preserves will be protected by fencing that will be maintained by the owner also in perpetuity. Fencing specifications shall be as recommended by CDFG, but at a minimum would include a metal post and wire fence that would allow wildlife access to the preserves. The vineyard has been designed to ensure that agricultural runoff does not enter the preserve. Following completion of vineyard development activities, the applicant shall*

ensure that any herbicide applications which may take place in the nearby vineyard unit(s) do not affect or enter the Annapolis manzanita reserve. The plan shall be subject to the review and approval of the Department of Forestry and the Sonoma County Permit and Resource Management Department.

3.4-3 Impacts pertaining to loss of wildlife corridors.

Wildlife corridors are linear and/or regional habitats that provide connectivity to other natural vegetation communities within a landscape fractured by farming, urbanization, and/or other development. Wildlife corridors have several functions: 1) they provide avenues along which wide-ranging animals can travel, migrate, and breed, allowing genetic interchange to occur; 2) populations can move in response to environmental changes and natural disasters; and 3) individuals can recolonize habitats where populations have been locally extirpated (Beier and Loe 1992). All three of these functions can be met if both regional and local wildlife corridors are accessible to wildlife. Regional wildlife corridors provide foraging, breeding, and retreat areas for migrating, and dispersing wildlife populations. Local wildlife corridors provide access routes to food, cover, and water resources within restricted habitats.

Monk & Associates biologists examined the project site to determine if there are wildlife corridors that occur on the project site that have regional or other significance. None of the wildlife corridors on the project site appear to support what would be considered a regionally significant wildlife corridor. However, wildlife corridors through the project site play a valuable role in supporting use of the area by local wildlife populations and provide a valuable asset to local wildlife species.

The proposed project would result in the conversion of approximately 190 acres of existing North Coast Coniferous Forest, Northern Coastal Grasslands, and Coastal Scrub plant communities to vineyards and vineyard support infrastructure. These vegetation communities support the foraging and nesting activities of various wildlife species on the project site, and therefore, the timber harvest and vineyard construction associated with the proposed project could result in direct adverse impacts to the movement patterns of individual animals using the proposed timber conversion area as a local movement or migration corridor.

However, as discussed in the THP, disruption of wildlife habitat and activities due to the proposed project would be minimized to the extent feasible through the provision of suitable movement corridors between the vineyard units. The applicant would preserve wildlife corridors within the project area by fencing only the vineyard units, and incorporating remaining natural habitat, such as mixed-hardwood or oak woodland, riparian areas and tributary set-asides, and other high-use habitats and elements, into the site plan. Fencing around the vineyard units would include a number of “escape gates” to allow for the safe

release of deer or other wildlife, should they become trapped in the vineyard units. The applicant would protect approximately 133 acres with permanent open space easements on the site, part of which would preserve a wildlife corridor running the length of Patchett Creek on the property. The streamside conservation area would be a minimum of 100 feet in width, on either side of the creek as measured from the top of bank. All other tributaries would be protected in buffers that are 25 to 75 feet in width, on either side of the top-of-banks.

All streamside conservation areas on the project site would be dedicated in permanently protected deed restricted areas. Canopy cover in this area ranges from 50 percent to 100 percent, and the existing vegetation, including redwood, Douglas-fir, and riparian vegetation, would not be removed from the protected corridors. In addition, the 15.65-acre thin-lobed Horkelia preserve would protect a wetland area and would provide a corridor for wildlife to move from the west side of the project to areas south of the project site, including the Patchett Creek headwaters.

Because the proposed project design incorporates features intended to preserve wildlife access through the property, and since no regionally significant wildlife corridor is known to occur on the project site, impacts relating to loss of wildlife corridors are considered ***less-than-significant***.

Mitigation Measure(s)
None required.

3.4-4 Impact to the northern spotted owl (*Strix occidentalis caurina*).

The project site does not support old growth or mature timber owing to fact the site was completely clear cut circa 50 years ago. Second growth timber now forms marginally suitable nesting habitat for the federally threatened northern spotted owl. Surrounding properties similarly do not support old growth timber or provide conditions that would normally be associated with the presence of the northern spotted owl.

Any substantial project-related impacts to the northern spotted owl or its habitat would be considered a significant adverse impact. Potential impacts to this species from the proposed project include loss of nesting habitat, disturbance to nesting birds, and possibly death of adults and/or young.

No northern spotted owls were identified on the proposed project site during a two year survey conducted in accordance with the USFWS's northern spotted owl survey protocol in 2006 and 2007. While a single year of survey can be conducted pursuant to the USFWS's survey protocol, the USFWS encourages completion of a two-year survey "to provide a higher likelihood of accurately determining presence or absence of spotted owls" (please review Methods/Northern Spotted Owl above). Out of an abundance of caution the applicant chose to conduct the

more rigorous two year survey to ensure that the proposed project would not impact the northern spotted owl. The surveys were conducted by Monk & Associates biologists that have direct experience with northern spotted owls.

Monk & Associates concludes that spotted owls do not use the project site now, nor are they likely to use the project site in the near future. Similarly, owing to extensive disturbance (i.e., vineyards, orchard, timber harvesting, and rural residential forest clearing) Monk & Associates biologists concluded that the northern spotted owl would also be unlikely to occupy habitats immediately adjacent to the project site. Regardless, there are two known northern spotted owl territories south of the project site. Territory #SON0043 was last recorded in 2007 and is approximately 0.7-mile south of the project site. Territory SONOO58 was first recorded approximately 1.3 miles southwest of the project site in 1998. In 2007, this owl had reportedly moved 0.7-mile southwest of the project site. Thus, while the proposed project would not impact this owl species owing to the nearness of records and the mobility of this owl, mitigation measures are presented to ensure that no significant impacts occur to this owl from the proposed project and to otherwise ensure the proposed project complies with the Forest Practices Act. Since this owl is known from the region of the project site within 0.7-mile of the project site, and thus could move onto the project site in the future, impacts to the northern spotted owl are regarded as ***potentially significant***.

Mitigation Measure(s)

Implementation of the following mitigation measures will ensure that the proposed project would not result in take of the northern spotted owl. Accordingly, implementation of the measures below would reduce impacts to the northern spotted owl to levels regarded as *less-than-significant*.

3.4-4(a) *While a single year of survey can be conducted pursuant to the USFWS's survey protocol, the USFWS encourages completion of a two-year survey "to provide a higher likelihood of accurately determining presence or absence of spotted owls." No northern spotted owls were detected during the two-year survey. Pursuant to the USFWS' survey protocol (USFWS 1992a), completion of a two-year survey with negative results indicates that the project site does not have to be surveyed again for two more years. Thus, if timber harvesting begins prior to 2010, no further surveys are necessary pursuant to the protocol. However, as the northern spotted owl is a mobile species, out of an abundance of precaution, if timber harvesting or site grading commences before 2010, a pre-disturbance northern spotted owl survey shall be completed in the 30 day period prior to site disturbance. If timber harvesting commences in 2010 or in later years, a second set of full protocol-level surveys shall be required prior to the commencement of site disturbance.*

3.4-4(b) *Current survey information indicates that at this time there are no impacts that are expected to occur to the northern spotted owl. Regardless, as required to comply with the Forest Practices Act as detailed at 14 CCR § 919.9, the following habitat protection measures shall be established to protect the northern spotted owl if any northern spotted owl is detected during subsequent surveys.*

Habitat Protection Measures

The following definitions shall be used when evaluating impacts to the northern spotted owl:

1. *Definitions of nesting-roosting and foraging habitat.*

    a. *Nesting-Roosting Habitat includes the following:*

        A. *≥60% canopy cover of trees ≥11 inches diameter at breast height (dbh).*

    b. *Foraging Habitat includes the following:*

        A. *≥40% canopy cover of trees 11 inches dbh.*

        B. *Basal area = ≥75 ft2/acre of trees ≥11 inches dbh.*

2. *Priority Ranking of Habitat Retention Areas.*

    a. *Tree Species Composition. Mixed conifer stands should be selected over pine-dominated stands.*

        A. *Abiotic Considerations include the following:*

            i. *Distance to Nest.*

                I. *Nesting-roosting and foraging habitat should be located closest to identified nest tree(s), or closest to roosting tree(s), if no nesting trees are identified.*

            ii. *Contiguity.*

                I. *Nesting-roosting habitat within the 0.5-radius circle around an activity center must be as contiguous as possible.*

II. *Fragmentation of foraging habitat must be minimized as much as possible.*

iii. *Slope Position.*

I. *Habitats located on the lower one-third of slopes provide optimal microclimatological conditions and an increased potential for the presence of intermittent or year-round water resources.*

iv. *Aspect.*

I. *Habitats located on northern aspects provide optimal vegetation composition and cooler site conditions.*

v. *Elevation.*

I. *Habitat should be located at elevations of less than 6000 feet, although the elevation of some activity centers (primarily east of Interstate 5) may necessitate inclusion of habitat at elevations greater than 6000 feet.*

3. *Habitat Quantities.*

a. *Within 1000 feet of each activity center:*

A. *Outside of the breeding season (August 1 through January 31), no timber operations shall occur within 1000 feet of an activity center other than use of existing roads.*

B. *During the breeding season (February 1 through July 30), no timber operations shall occur within 1000 feet of an activity center other than use of existing, permanent, year-round roads.*

b. *Within 0.7-mile radius (1000 acres) of, and centered on, each activity center:*

A. *Habitat shall be retained to maximize attributes desirable for NSOs described in (2) above.*

B. At least 500 acres of suitable habitat must be present, as follows:

i. 200 acres of nesting-roosting habitat.

I. No timber harvest shall occur within the 100 acres of nesting-roosting habitat immediately surrounding each activity center.

II. If the remaining 100 acres of nesting-roosting habitat is contiguous with the activity center or is located within the same drainage, harvest shall not reduce the pre-harvest basal area of these acres by more than 33%.

III. If the remaining 100 acres of nesting-roosting habitat is not contiguous with the activity center or is not located within the same drainage, ≥60% canopy cover of trees ≥11 inches dbh shall be retained.

ii. ≥300 acres of foraging habitat.

C. No more than 1/3 of the remaining suitable habitat shall be harvested during the life of the plan.

c. Between the 0.7-mile and 1.3-mile radius circles centered on each activity center:

A. Retention of habitat should follow the ranking guidelines contained in (2) above.

B. ≥836 acres of suitable habitat must be present.

C. No more than 1/3 of the remaining suitable habitat shall be harvested during the life of the plan.

If there is a deficit of any habitat quantities pre harvest, operations within that habitat type shall not reduce or degrade the amount or quality of that habitat.

Operational Protection Measures

- *Helicopter yarding within 0.5 miles of an NSO activity center is prohibited between February 1st and August 31st.*

- *No timber harvest operations shall occur until such time as CAL FIRE has reviewed all survey and habitat information required by 919.9(g) (provided in Section V of the THP) and has determined pursuant to 14 CCR 919.10 that take of an NSO will not occur. Any change in timber operations that results from a change in location, or the discovery, of an NSO after plan approval will have to be incorporated into the plan through the amendment process per 14 CCR §§ 1039, 1040, 1090.24, 1090.25 and 1092.27. CAL FIRE will treat such a change in timber operations as a minor or substantial amendment, depending on the extent of the change.*

  If in subsequent years surveys are again completed and northern spotted owls are found nesting in the trees on or immediately adjacent to the project site, or subsequent credible information becomes available that demonstrates that the northern spotted owl could be affected by the proposed project pursuant to the Forest Practices Act, the mitigation measures above shall be implemented. In addition, the applicant will consult with USFWS and any additional restrictions or mitigation measures imposed by this agency will become conditions of project approval.

3.4-5 Impacts to nesting raptors.

Suitable nesting habitat for western screech owl, great horned owl, barn owl, Cooper's hawk, sharp-shinned hawk, red-shouldered hawk, and red-tailed hawk occurs on the project site. All are protected under the Migratory Bird Treaty Act (50 CFR 10.13) and their nest, eggs, and young are protected under California Fish and Game Code Sections 3503, 3503.5, 3513, and 3800. Additionally, the Cooper's hawk and sharp-shinned hawk are California species of special concern. Any substantial project-related impacts to these species would be considered a significant adverse impact. Potential impacts to these species from the proposed project include disturbance to nesting birds, and possibly death of adults and/or young. No nesting raptors (birds of prey) have been identified on the proposed project site during cursory raptor nesting surveys. Four raptors including the barn owl, red-tailed hawk, western screech owl, and American kestrel have been identified onsite. All birds are mobile species and can readily change nest sites from year to year. As such, impacts to nesting raptors are regarded as ***potentially significant***.

Mitigation Measure(s)

Implementation of the following mitigation measures will ensure that the proposed project would not result in take of the nesting raptors. Accordingly,

implementation of the measures below would reduce impacts to the nesting raptors to levels regarded as *less-than-significant*.

3.4-5 *Nesting surveys shall be conducted 30 days prior to commencing with any tree/brush removal or any earth-moving activity if this work would commence between February 1st and September 1st. The raptor nesting surveys shall include examination of all trees on the project site and within 500 feet of the entire project site, if possible, and not just trees slated for removal. All stick nests and all tree cavities shall be examined for evidence of nesting raptors.*

If nesting raptors are identified during the surveys a 300-foot radius around the nest tree must be demarcated with a double stand of bright orange flagging tape tied 5 to 8 feet above the ground. If the tree is adjacent to the project site then the buffer shall be demarcated per above where the buffer occurs on the project site. The size of the buffer may be altered if a qualified raptor biologist conducts behavioral observations and determines the nesting raptors are well acclimated to disturbance. If this occurs, the raptor biologist shall prescribe a modified buffer that allows sufficient room to prevent undue disturbance/harassment to the nesting raptors. Any buffer that is established that is less than 150 feet shall require behavioral monitoring by a qualified raptor biologist until such time that the young fledge. In the event the smaller buffer is not sufficient to protect the nesting birds the monitoring biologist shall have the right to re-establish a larger buffer up to a 300 foot buffer. No tree or brush removal, earth-moving activities, or human intrusion (except by biologists or individuals accompanied by a qualified raptor biologist) shall occur within the established buffer until it is determined by a qualified raptor biologist that the young have fledged (that is, left the nest) and have attained sufficient flight skills to avoid project construction zones. This typically occurs by August 1. This date may be earlier than August 1, or later, and would have to be determined by a qualified raptor biologist.

3.4-6 Impacts to nesting birds (general).

Most birds known from the region of the project site are protected under the Migratory Bird Treaty Act (50 CFR 10.13). This Act prohibits “take” (i.e., direct or indirect activities that cause avian mortality including their eggs and young) of any species listed under this Act. Similarly, nests, eggs, and/or young of all nesting birds are protected under California Fish and Game Code Sections 3503. Section 3800 makes it unlawful to take any nongame bird except as otherwise allowed by Fish and Game Codes. Section 3503.5 of the Fish and Game Code makes it unlawful to take, possess, or destroy raptors or their eggs. Finally, Fish

and Game Code Section 3513 prohibits take and/or possession of any bird protected pursuant to the Migratory Bird Treaty Act. Many passerine bird species (for example, American robins, sparrows, dark-eyed juncos) that occur in the region of the project site could or are known to nest on the project site.

To comply with the Migratory Bird Treaty Act and Fish and Game Codes that protect nesting birds, the proposed project may not result in the killing (take) or indirect activities that would otherwise cause mortality of birds protected pursuant to this Act or Fish and Game Codes that protect nesting birds. It should be noted, however, that provided there is no direct mortality of birds and/or their eggs or young caused by the proposed project, there would be no constraints to implementation of the proposed project pursuant to both the Migratory Bird Treaty Act and Fish and Game Codes.

Because birds are mobile species, most would not be expected to be harmed by the project since they would simply fly out of harm's way. The exception occurs when birds are nesting. Any impact that causes mortality of young or adults that may be nesting (or otherwise) would be prohibited pursuant to the Migratory Bird Treaty Act. Thus, care will be required to conduct through nesting surveys prior to clearing the project site if such clearing would occur between February 1st and September 1st, the timeframe when most birds are expected to complete their nesting cycles (a noted exception is the barn owl that can nest year round). However, should appropriate measures not be taken a ***potentially significant*** impact to nesting birds would occur.

Mitigation Measure(s)

Implementation of the following mitigation measures will ensure that the proposed project would not result in take of the nesting birds. Accordingly, implementation of the measures below would reduce impacts to the nesting birds to levels regarded as *less-than-significant*.

3.4-6 *The Migratory Bird Treaty Act and California Fish and Game Code Sections 3503, 3513, and 3800 prohibit the direct take of birds and their eggs and/or young. While birds in general can fly out of harm's way, bird's nests are vulnerable to destruction and disturbance that causes nest abandonment and concomitant loss of eggs and/or young. The project shall not impact nesting birds. Accordingly, if harvesting/conversion/land clearing and/or grading would occur between February 1st and September 1st, qualified biologists shall be required to conduct systematic, intensive preconstruction nesting bird surveys to ensure that there is no direct take of nesting birds, their eggs or young. Surveys should be in focused areas that consist of 100'x 100' plots of land and shall commence no sooner than two weeks in advance of timber harvesting/land conversion.*

The buffer of any nest identified would have to be demarcated with a double stand of bright orange flagging tape tied 5 to 8 feet above the ground, and would have to be of sufficient size to protect the nest until such time that young fledge and reach independence of the nest. The size of the nesting buffer would need to be determined in the field by a qualified ornithologist, but should be, at a minimum, no less than 50 feet in diameter measured from the drip line of the nesting tree/bush. While labor intensive, such nesting bird surveys would best protect nesting birds and would otherwise ensure the project remains in compliance with the Migratory Bird Treaty Act and Fish and Game Codes that protect nesting birds.

3.4-7 Impacts to nesting yellow warblers.

The yellow warbler (*Dendroica petechia brewsteri*) is a California species of special concern. Monk & Associates has observed yellow warblers on the project site. Potential impacts to the yellow warbler from the proposed project include death to individual warblers, their eggs, and/or young. Such impacts would be regarded as a ***potentially significant*** adverse impact to this species.

Mitigation Measure(s)
Implementation of the following mitigation measures will ensure that the proposed project would not result in take of the yellow warbler. Accordingly, implementation of the measures below would reduce impacts to the nesting yellow warblers to levels regarded as *less-than-significant*.

3.4-7 *To ensure that no construction-related impacts occur to nesting yellow warblers on the project site, preconstruction surveys for yellow warblers should be conducted no more than two weeks (14 days) prior to ground disturbance and/or clearing of brush and/or timber. If nesting yellow warblers are identified nesting on or adjacent to the project site, a suitable temporary buffer area should be fenced around the nest tree. The size of the nesting buffer would need to be determined in the field by a qualified ornithologist, but should be, at a minimum, no less than 100 feet between the nest site and the construction area.*

The dripline of the nest tree should be fenced with orange construction fencing (provided the tree is on the project site), and a 100-foot radius around the nest tree should be demarcated with a double stand of bright orange flagging tape tied 5 to 8 feet above the ground. If the tree is adjacent to the project site then the buffer shall be demarcated per above where the buffer occurs on the project site. The size of the buffer may be altered if a qualified ornithologist conducts behavioral observations and determines the warblers are well acclimated to disturbance. If this occurs, the

ornithologist shall prescribe a modified buffer that allows sufficient room to prevent undue disturbance/harassment to the nesting birds. No disturbances shall be allowed within the established buffer until it is determined by a qualified ornithologist that the young have fledged (that is, left the nest) and have attained sufficient flight skills to avoid project construction zones. This typically occurs by August 1. This date may be earlier than August 1, or later, and would have to be determined by a qualified ornithologist.

3.4-8 Impacts pertaining to the potential for project-related introduction or spread of tree-afflicting diseases.

The project site is located within the Coastal Pitch Canker and Sudden Oak Death Zones of Infestation. Pitch canker is caused by the fungus *Fusarium circinatum*, affects various pine species as well as Douglas-fir, and is frequently fatal to infected trees, with no effective treatment currently available. The disease is believed to be primarily spread by insects, such as pine engraver beetles. The THP notes that signs of pitch canker have not been observed on the project site. However, as a precautionary measure and in accordance with 14 CCR 917.9, the THP requires standard slash treatment measures designed to minimize the enhancement of breeding habitat for the engraver beetle and other forest insect pests.

The THP also addresses Sudden Oak Death (SOD), caused by the fungus *Phytophthora ramorum*. SOD was first reported in the mid-1990s, killing oaks in Marin and Santa Cruz counties. The pathogen was isolated in 2000, and since that time, the disease has spread throughout the coastal counties of northern and central California and currently infects dozens of tree and plant species. While a preliminary preventive treatment has been developed, an effective treatment does not exist for hosts which are already infected. The disease is spread through the transport of infected plant material to new areas. Non-oak species may not be killed by the disease, but commonly act as foliar hosts. California Department of Food and Agriculture (CDFA) protocols prohibit the movement of plant materials from *P. ramorum* host plants within or out of counties infested with SOD without authorization of the local County Agricultural Commissioner. The project THP requires implementation of mitigation measures that comply with CDFA regulations to minimize the risk of transporting this pathogen.

Because the applicant would implement measures designed to prevent spread of tree-afflicting diseases as part of the project THP/TCP, the impact of potential introduction or spread of the aforementioned diseases is considered to be ***less-than-significant***.

Mitigation Measure(s)
None required.

3.4-9 Impacts to the foothill yellow-legged frog.

The foothill yellow-legged frog is a state species of special concern. It has no special federal status. Species of special concern must be addressed in CEQA documents. This frog has been identified in Patchett Creek onsite. It should be noted that most of Patchett Creek on the project site, and in all cases where foothill yellow-legged frogs have been found, is deeply incised in solid rock. Where the frogs occur the creek banks are vertical ranging between 6 and 8 feet in height. A broad channel bottom characterized by deep pools lies within the incised channel banks. Foothill yellow-legged frog survives on the project site in this protected aquatic system that is for all intents and purposes inaccessible to predators. Regardless, any impact to Patchett Creek from the proposed project could result in significant adverse impacts to the foothill yellow-legged frog. While no impacts are proposed to occur to Patchett Creek, at this time impacts to this frog are considered ***potentially significant.*** This impact could be reduced to a level considered less than significant pursuant to CEQA by implementation of the following mitigation measure.

Mitigation Measure(s)

Implementation of the following mitigation measures would reduce the impact to a *less-than-significant* level.

3.4-9 *In order to avoid impacting Patchett Creek and the foothill yellow-legged frogs that reside in this creek, a minimum 100-foot protective buffer will be maintained between Patchett Creek top-of-banks and project site development (Figure 3.4-4). This buffer will ensure that the existing shade and sunlight regimes present today in Patchett Creek are maintained except as modified by natural succession. In addition, a project site preconstruction SWPPP will be implemented prior to implementation of grading activities to ensure that Patchett Creek, and indeed most tributaries on the project site (with rare exception), are protected from siltation and/or other project-related downstream impacts. Similarly, a post-project BMPs plan will also be implemented to ensure that there are no impacts to the water quality in Patchett Creek or other downstream receiving waters after implementation of the project. In addition, there is no significant potential for contamination of Patchett Creek by the use of fertilizer, herbicide, insecticide, or other agricultural chemicals in the proposed vineyard. Qualified, properly certified vineyard managers will use only State-approved fertilizers, herbicides, insecticides or other agricultural chemicals in accordance with the label instructions and any applicable usage guidelines in the event that any of these are determined necessary. Implementation of the SWPPP and the post project BMPs plan, and the establishment of protective buffers along Patchett Creek will ensure that impacts to the foothill*

yellow-legged frog are avoided. These measures are refined in Mitigation Measure(s) 3.7-2(a-h), 3.7-3(a and b) and 3.7-4.

3.4-10 Impacts to the red-legged frog *(Northern and California red-legged frog).*

The California red-legged frog (CRLF) (*Rana draytonii*) was federally listed as threatened on May 23, 1996 (Federal Register 61: 25813-25833) and as such is protected pursuant to the Federal Endangered Species Act. In September 2008, the USFWS re-proposed critical habitat for the California red-legged frog (USFWS 2008). Closest mapped critical habitat or proposed critical habitat occurs in southern Sonoma County and in south-central Mendocino County. No critical habitat or proposed critical habitat is mapped any closer than approximately 28 miles (straight-line) from the project site. Unit MEN-1 is recently re-proposed critical habitat that is approximately 28 miles north of the project site. Units MRN 1, 2 , and 3 are critical habitats that at the closest point to the project site are approximately 34 miles to the south. Critical Habitat Units SON 1, 2, and 3 at their closest point to the project site are approximately 45 miles to the southeast. The closest record for the California red-legged frog to the project site is approximately 9.7 miles northwest of the project site (CNDDB Occurrence No. 967). The record location is for a pond in a Bishop pine (*Pinus muricata*) forest north of the Gualala River. The California red-legged frog is also a state "species of special concern." This title affords no legally mandated protection for this species; however, pursuant to CEQA (14 CCR §15380), any project related impacts to this species would be regarded as significant.

Until California red-legged frog critical habitat was proposed for revision by USFWS in September 2008 (op. cit.) the project site heretofore had been regarded as within the range of the Northern red-legged frog. The California red-legged frog was typically regarded as occurring from Sonoma County in northern California south to northern Baja California, and inland through the northern Sacramento Valley into the foothills of the Sierra Nevada Mountains, south to Tulare County, and possibly Kern County. The northernmost extent of its confirmed range was the Russian River. In contrast the Northern red-legged frog, a species of special concern that is not protected either pursuant to the State of Federal Endangered Species Acts, is regarded as occurring from Vancouver Island, British Columbia, Canada, south along the Pacific coast west of the Cascade ranges to northern California (northern Del Norte County). Formerly, red-legged frogs found from southern Del Norte to northern Marin County (the project site lies within this range) were believed to exhibit intergrade characteristics of both *the northern and California red-legged frog* (USFWS 1996). As reported in the recently published Proposed Rule that re-proposes critical habitat of the California red-legged frog (USFWS 2008), Schaeffer et al. reported that a genetics study had determined that *R. aurora* actually consists of two species – the northern red-legged frog and the California red-legged frog. In addition, it was reported that the ranges of these two frogs overlap only in a narrow zone in Mendocino County. Owing to the populations of California red-

legged frog found in Mendocino County there is now evidence that the range of the California red-legged frog extends northward from its traditionally recognized coastal habitats in Marin and Sonoma Counties to Mendocino County.

Even though Monk & Associates did not regard the project site as suitable for occupation by red-legged frogs, Monk & Associates biologists conducted two diurnal and two nocturnal surveys in all aquatic habitats on the project site. This level of survey meets the standards of care required by the CEQA to address potential impacts to red-legged frogs. The surveys were conducted at a time when egg masses, if present, would have been detected. Had egg masses been present, they would have been easy to detect owing to the crystal clear and shallow water found on the project site. No red-legged frog egg masses, larvae, morphs, or adults were detected during formal surveys or during any other survey of the tributaries on the project site. Consequently, Monk & Associates concludes that red-legged frogs do not occur on the project site and that the proposed project will not impact the Northern or California red-legged frog in any way. Regardless, with the new information about overlap in range between the Northern red-legged frog and the California red-legged frog, and because there are tributary freshwater habitats on the site, these habitat are regarded as "suitable" for the red-legged frog, which does not infer presence only that aquatic conditions are present that potentially could support red-legged frogs. As such, mitigation measures are proposed for these two frog species.

Monk & Associates believes that a formal study (protocol-level survey) will be necessary to dismiss the potential presence of the California red-legged frog on the project site. The proposed Timber Harvest Plan and Vineyard Conversion project could result in impacts to 191.6 acres of upland habitat that provides potential dispersal habitat for California red-legged frogs. No suitable breeding habitat occurs on the project site and thus no impacts are expected to occur to red-legged frog breeding habitat. Because of the presence of suitable dispersal and aquatic habitats, impacts to the California red-legged frog are regarded as a ***potentially significant*** adverse impact. This impact could be mitigated to a level considered less than significant. Mitigation measures to offset these impacts are discussed in the mitigation section below.

Mitigation Measure(s)
Implementation of the following mitigation measures would reduce the impact to a *less-than-significant* level.

3.4-10(a) *A qualified 10(a)(1)(A) biologist authorized to work with the California red-legged frog shall conduct protocol-level surveys for California red-legged frog based on the field methods presented in the U.S. Fish and Wildlife Service's (USFWS) Revised Guidance on site assessment and field surveys for California red-legged frogs (dated August 2005). The USFWS Guidance recommends a total of eight (8) surveys to determine the presence of California*

red-legged frog at or near a project site. Two (2) day surveys and four (4) night surveys are recommended during the breeding season (January 1 to June 30); one (1) day and one (1) night survey are recommended during the non-breeding season (July 1 and September 30). Each survey must take place at least seven (7) days apart, although you can pair a diurnal and a nocturnal survey during a 24 hour period. At least one diurnal and one nocturnal survey must be conducted after July 1st and before August 15th. The survey period must be over a minimum period of 6 weeks (i.e., the time between the first and last survey must be at least 6 weeks). If no California red-legged frogs are found within the project area during these surveys, no further regard for the California red-legged frog would be necessary. No additional mitigation measures would be required and impacts would be regarded as less than significant pursuant to the CEQA. If red-legged frogs are identified at any time during the course of surveys, no additional surveys will be conducted in the area, unless the surveying effort is part of a Service-approved project to determine the distribution of frogs at a site.

3.4-10(b) *Permission will be obtained from the USFWS for genetic testing to determine what species of red-legged frog occurs on the project site. If the species is the northern red-legged frog, mitigation compensation shall consist of dedicating Patchett Creek in a permanently preserved corridor and compensating for impacts to waters of the U.S. at a 2:1 ratio (replacement to impacts) consistent with other mitigation measures detailed herein that project wetlands and creek corridors.*

3.4-10(c) *If genetic testing confirms the presence of the California red-legged frog the following additional mitigation measures shall be required. An incidental take permit shall be acquired from USFWS for the proposed project prior to implementing the project. In addition, the applicant shall purchase mitigation credits at a USFWS-approved mitigation bank with a Service Area that covers the project site or as otherwise approved by the USFWS. Mitigation credits that are purchased shall be based upon a minimum of a 1:1 compensation to impacts ratio for impacts to 191.6 acres of upland dispersal habitat. The total credits purchased by the applicant shall ultimately be consistent with USFWS requirements for this project.*

3.4-10(d) *In lieu of purchase of mitigation credits from an approved CRLF mitigation bank, the applicant may secure and preserve in perpetuity habitat that is known to support the CRLF.*

3.4-11 Sedimentation impacts to special-status salmonids.

As detailed in Chapter 3.7 of this Draft EIR (Hydrology and Water Quality), the Gualala River watershed is designated as Threatened and Impaired by the U.S. Environmental Protection Agency for excessive sedimentation, under Section 303(d) of the federal Clean Water Act. The ongoing sedimentation problem in the Gualala watershed is generally acknowledged to be the legacy of decades of environmentally-unsound land use practices, particularly improper logging road construction and maintenance. The result of the excessive sedimentation, in combination with other factors including inadequate stream flows, has been a severe reduction in suitable salmonid habitat in watercourses within the Gualala watershed, and corresponding decreases in populations of coho salmon (*Oncorhynchus kisutch*) and steelhead trout (*Oncorhynchus mykiss irideus*). Both of these species are federally listed as Threatened by the U.S. Fish and Wildlife Service, and therefore both the fish and their habitat are protected under the Federal Endangered Species Act.

The Fisheries Assessment notes that, according to the North Coast Regional Water Quality Control Board (NCRWQCB), steelhead are found in the lower (Class I) reaches of Patchett Creek commencing about 4,800 feet downstream of the project area. Steelhead are not able to migrate above this point, as there is an impassable area to further upstream reaches.

The proposed project includes the creation of vineyard units, a corporation yard, and a reservoir on an approximately 190-acre project site. The estimated net increase in sediment yield from proposed vineyard areas with the incorporation of sediment basins is approximately 11 tons/year (t/yr). The project has been designed in such a way as to eliminate the potential increase in sediment. As part of the sediment reduction measures, the project reservoir collection system would largely eliminate runoff to a 1,200 ft reach of Class III channel south of the proposed reservoir site. The channel erosion and bank creep processes in this section of channel are expected to be reduced by 1.7 t/yr.

The reservoir collection system would also largely eliminate storm runoff delivered to two large gullies. The reduction in erosion rates in these gullies would reduce mean annual sediment yield by 8.3 to 15.8 t/yr for the low range and high range estimates respectively.

Three additional locations have been identified where gully erosion currently exists on the project site. Measures incorporated into the design of the project for erosion at these sites would be implemented to correct inadequate drainage conditions and erosion, thereby reducing mean annual sediment yield at the project boundaries by 10.6 to 13.3 t/yr for the low and high range estimates, respectively.

The estimated sediment yield for Patchett Creek from the proposed project site would be decreased by 10 to 21 t/yr following implementation of the erosion and sedimentation reduction measures included in the project design. Current erosion rates in Patchett Creek are relatively low compared to other portions of the Gualala River watershed, and the magnitude of potential erosion from the proposed project would not be significant in relation to both existing and natural background rates. Furthermore, to the extent that the project would reduce net sedimentation of downstream waterways, the project could be beneficial to habitat quality.

In addition, the proposed timber harvesting and vineyard development activities incorporate numerous erosion control measures as part of the design of the project, as required by the California Forest Practice Rules and the Sonoma County Vineyard Erosion and Sediment Control Ordinance. However, should the project design features intended to reduce sedimentation not achieve the anticipated reductions in sedimentation a ***potentially significant*** impact could occur**.**

Mitigation Measure(s)
Implementation of the following mitigation measure(s) would reduce the impact to a *less-than-significant* level because the measure requires monitoring of post-project sedimentation rates in the field to determine if the rates increase above the rates estimated in the Erosion Analysis (See Chapter 3.7, Hydrology and Water Quality, Impact 3.7-3), which determined that the project would result in a reduction of sedimentation by 10 to 21 tons per year. If the rates are found to have increased Mitigation Measure 3.7-3 includes additional measures intended to further decrease sedimentation.

3.4-11 Implement Mitigation Measure 3.7-3.

3.4-12 Water temperature impacts to special-status salmonids.

The project Fisheries Assessment (p. 11) notes that the Gualala River and its tributaries have been identified as having serious water temperature problems for coldwater fish species such as steelhead. Optimal water temperatures for steelhead fry and juvenile rearing range from 48ºF to the mid-60ºs. Temperatures warmer than the mid-60ºs induce thermal stress in steelhead, and can also promote disease and reduce growth. Few of the waterways within the Gualala Basin have suitable water temperatures for steelhead survival during summer months, although Higgins (2003) noted that the flow from Patchett Creek may provide an area of cooler water for juvenile steelhead trout near the confluence of Patchett Creek and the Wheatfield Fork of the Gualala River (Fisheries Assessment, p. 11). Water temperature can be adversely affected by timber harvesting, due to the removal of canopy cover over watercourses. Temperature may also be affected by reductions in flows, as well as by sedimentation, due to the effect of turbid water absorbing an increased amount of solar radiation.

Although the proposed project includes timber harvesting and earthmoving activities, the project would not be expected to result in water temperature increases to project-area watercourses due to canopy removal, because avoidance of the WLPZ during timber harvesting activities would preserve the existing shade canopy over Patchett Creek and the Class III waterways. In addition, because the proposed project is not expected to result in increased sedimentation of watercourses with incorporation of the recommended mitigation, as discussed above in Impact Statement 3.4-8, the potential for sediment-induced water temperature increases would not be adverse. Finally, low summer instream flows are unlikely to result from the proposed project for reasons explained below in Impact Statement 3.4-11, and therefore, adverse water temperature effects would not be expected to result from project implementation. For these reasons, the impact of the proposed project on aquatic resources, resulting from increased water temperature, would be considered ***less-than-significant***.

Mitigation Measure(s)
None required.

3.4-13 Impacts to special-status salmonids from project-related increases in peak flows.

As discussed in Chapter 3.7, Hydrology and Water Quality, the project Hydrologic Assessment finds that minor increases in peak flow in Patchett Creek and downstream areas could result from project implementation. As noted in the project Fisheries Assessment (p. 6), increases in peak flows could result in downstream scouring and displacement of juvenile steelhead to less suitable habitat types, which would be considered a significant impact. The West Yost Associates Hydrologic Evaluation (WYA) estimated peak runoff flows for Patchett Creek, and found that peak flows would increase by two to five percent at Node 1, and by two to four percent at Node 2 (See Figure 3.7-8 of the Hydrology and Water Quality section for Node locations). The WYA (July 2008) analysis conservatively assumed that the reservoir would be full and that all flows would be directed towards Patchett Creek. However, as stated in the report, the reservoir would not be full the vast majority of the time and a portion of the runoff would be collected and pumped to the reservoir for storage. Under such operating conditions, the peak runoff under a 2-year storm is estimated to decrease by four percent at Node 1 and by three percent at Node 2. Therefore, net gain in peak flow for a 2-year storm event may, on average, be one percent.

The O'Connor Hydrologic Analysis found that the channels downstream of the project site have a low sensitivity to potential peak flow changes from the proposed project because of the small potential magnitude of peak flow increase (less-than 10 percent) resulting from the project. It should also be noted that the proposed project includes the installation of gully protection measures and sedimentation basins, which are expected to reduce existing sedimentation by 10 to 21 t/yr. Because alteration to the morphology or hydrology of Patchett Creek is

not expected based on project-related contributions to flow in downstream channel reaches, these peak flow impacts are not considered to represent a substantial detriment to downstream steelhead trout. The impact is therefore considered to be ***less-than-significant***.

Mitigation Measure(s)
None required.

3.4-14 Impacts to special-status salmonids from project-related decreases in instream base flows.

The project Fisheries Assessment (p. 3) notes that one result of past land use activities within the Gualala River watershed has been reduced instream base flow. Steelhead trout spawning and rearing success are dependent upon adequate flow during these important life stages. Any substantial change in flow in Patchett Creek would be a significant impact.

Vineyard Conversion

The O'Connor Hydrologic Analysis used the watershed experimental data conducted at Caspar Creek to assess potential hydrologic effects for vineyard conversion projects. Conversion of timberland to vineyard may affect hydrologic processes by the removal of forest vegetation and alteration of soil conditions. A reduction in forest vegetation would reduce interception of rainfall by forest canopy which represents a net gain to water delivered to the soil surface for infiltration and percolation.

As summarized in the O'Connor Hydrologic Analysis, at Caspar Creek, minimum mean daily summer flows increased an average of 148% following clearcut harvesting of about 50% of the watershed of North Fork Caspar Creek and resulted in increased aquatic habitat that would benefit aquatic resources. Annual runoff increased an average of 15% following harvest at Caspar Creek.

As outlined in Chapter 3.7, Hydrology and Water Quality, the proximity and general similarity of the Caspar Creek watershed to the Patchett Creek watershed indicates that the experimental results at Caspar Creek would be generally applicable at the project site. Observations from Caspar Creek suggest that the Artesa Fairfax project will result in higher soil moisture levels, higher annual streamflow, and higher summer baseflow. Groundwater quantity would tend to increase as a result of the project. Reduced evapotranspiration and canopy interception is the likely cause of increases in both total annual runoff and summer stream flow. Any increase in dry-season base flows would help maintain cooler water and enhance habitat that is critical to steelhead trout survival.

Furthermore, project implementation would require the ripping of the topsoil and subsoil and the removal of the existing on-site vegetative cover in the vineyard

unit and perimeter avenue areas, thereby likely resulting in increased infiltration, and correspondingly, increased dry season return flows. (Please see Impact Statement 3.7-6 in the Draft EIR Hydrology and Water Quality chapter for further discussion of this issue.)

Diversion of Overland Flows - Winter

The California Department of Fish and Game (DFG) and the NOAA Marine Fisheries jointly developed draft guidelines for diverting water from central coastal watersheds in California. The guidelines, issued in 2002, call for diversions during the winter period (December 15-March 31) when stream flows are generally high and when water withdrawals would be least likely to adversely affect fisheries resources.

The guidelines recommend that diversions should not be permitted or otherwise sanctioned if:

1) The cumulative maximum rate of instantaneous withdrawal at the point of diversion exceeds a flow rate equivalent to 15 percent of the estimated "winter 20 percent exceedence flow". The "winter 20 percent exceedence flow" is the 20 percent exceedence value of the stream's daily average flow duration curve for the period December 15 to March 31 or;

2) The total cumulative volume of water to be diverted from the stream at historical points of anadromy exceeds 10 percent of the unimpaired runoff between October 1 and March 31 during normal water years. Spawning habitat for anadromous salmonids can be adversely affected by diverting more than 10 percent of winter runoff.

In addition the guidelines state that the maximum cumulative rate of withdrawal from proposed and existing diversions will not appreciably diminish the natural hydrograph (decreases of less-than five percent) in the frequency and magnitude of unimpaired high flows necessary for channel maintenance and will not appreciably reduce the frequency and magnitude of unimpaired moderate and high flows (e.g., flows higher than median February) used by migrating and spawning fishes.

According to the guidelines, hydrologic analysis indicates that adequate spawning flows, and near natural hydrographs, are generally maintained when the natural volume of winter runoff is impaired (i.e., reduced) by less than 10 percent.

For the Artesa Fairfax conversion, the diversion of runoff to the irrigation reservoir will reduce stream flow during some periods of storm runoff. However, this will occur only during peak flow periods during the winter when the reduced flow will be negligible downstream. This is in accordance with CDFG/NOAA

Marine Fisheries (2002) guidelines for cumulative diversions less than 5 percent during winter peak flow conditions when stream flows are generally high and when water withdrawals would be least likely to adversely affect fisheries resources. The diversion of this runoff will tend to offset predicted increases in runoff from the project area.

Therefore, based on the factors considered above, the available instream flows after project implementation would be sufficient to maintain necessary aquatic habitats for anadromous fish. As noted in the Fisheries Assessment (p. 8), any increase in dry season base flows would help maintain cooler water, which is critical to steelhead survival. For the reasons noted above, and based on the findings of the project Fisheries Assessment, the impact of project-related instream flow changes on salmonids is found to be ***less-than-significant***.

Mitigation Measure(s)
None required.

3.4-15 Impacts to waters of the United States and State.

The proposed project will result in impacts to areas that are within the Corps' jurisdiction pursuant to Section 404 of the Clean Water Act. Similarly the project will impact areas that are within RWQCB jurisdiction pursuant to Sections 401 of the Clean Water Act and the Porter-Cologne Water Quality Act. In total, 0.308-acre of waters of the United States would be impacted by the proposed project. Of this amount, 0.296-acre is "seasonal wetland" and 0.012-acre is "other waters." Of the 3.35 acres of waters of the United States on the site, 3.04 acres (91 percent) will be avoided by the project. All avoided waters of the U.S. will be preserved in perpetuity in stream buffers or preserves established as part of the proposed project.

Similarly, in total 0.414-acre of waters of the State would be impacted by the proposed project. The additional acreage over and above total impacts to waters of the U.S. consist of impacts that would occur to "isolated wetlands" that are not under the jurisdiction of the Corps, rather are only under the jurisdiction of the RWQCB. Impacts to other waters and seasonal wetlands are mapped on Figure 3.4-7. Similarly, of the 3.610 acres of waters of the State on the project site, 3.20 acres (89 percent) will be avoided by the proposed project. Avoided waters of the State will also be preserved in perpetuity in stream buffers or preserves established as part of the proposed project.

Proposed impacts to waters of the U.S. and/or State are mapped on Figure 3.4-7, and include:

1) Impacts to seasonal wetlands and other waters from grading and installation of the proposed vineyard.

2) Minor temporary impacts to other waters would occur when trenches are installed through two ephemeral tributaries for drain pipe installation. Upon installation of the drainpipe, the trenches would be backfilled and the contours of the tributaries restored to their original configurations. The drain pipe will take stormwater runoff from the vineyard reservoir to the sump basin.

3) Upon reaching capacity, the sump basin would overflow via a spillway into a tributary on the project site. The spillway termination point would result in additional impacts to other waters.

4) Finally, two rocked ford crossings through minor tributaries will be constructed to facilitate construction of access roads within the vineyard and will impact other waters and seasonal wetland. The rocked ford crossing of the seasonal wetland was the engineering method of choice to ensure that there would be the smallest impact possible to the seasonal wetland while leaving the remainder of the wetland and its hydrology intact so that it will continue to function as it does today.

Of the 3.35 acres of waters of the United States on the project site, 3.041 acres (91 percent) will be avoided by the project. Similarly, of the 3.61 acres of waters of the State on the project site, 3.200 acres (89 percent) will be avoided by the project. Avoided waters of the U.S. and State will be preserved in permanently protected steam zone buffers or preserves established as part of the proposed project.

Total impacts to jurisdictional waters of the State and U.S. will be to 0.414-acre, which would result in a ***potentially significant*** impact to wetlands.

Mitigation Measure(s)

For those wetlands and other waters that cannot be avoided, new wetlands would be created to compensate for the loss of these features. Compensation wetlands shall be created onsite in what is now upland to compensate for the loss of waters of the U.S. and State. The replacement to impacts ratio is 2:1 (for each square foot of impacts to waters of the U.S. and State, two square feet of waters of the U.S. and State would be created). While the prescribed mitigation ratio shall be 2:1, to ensure that the targeted acreage of new wetlands is functioning at the end of a formal five-year monitoring period, the project will actually construct almost 3 times as much wetland as would be impacted by the project. In this fashion, the project will be assured of meeting the 2:1 mitigation ratio. The new wetlands will resemble those wetlands affected by the project (known as in-kind replacement).

Construction of the mitigation wetlands on the project site will create 1.24 acres of new seasonal wetlands to replace 0.414 acres of impacts to waters of the U.S. and State. The newly created wetlands will constitute waters of the United States and State when completed. The Erosion Control and Mitigation Plan illustrate the

mitigation wetland design (See Figure 3.4-8). Mitigation wetlands are proposed to be constructed in the thin-lobed horkelia preserve and in the southern Annapolis manzanita preserve on the project site (Figure 3.4-3). The preserves and streamside conservation areas on the project site will be recorded as permanent deed restrictions on the title of the property that run with the title in perpetuity. In total, 134 acres of preserves would be recorded on the property title in permanent deed restricted preserves.

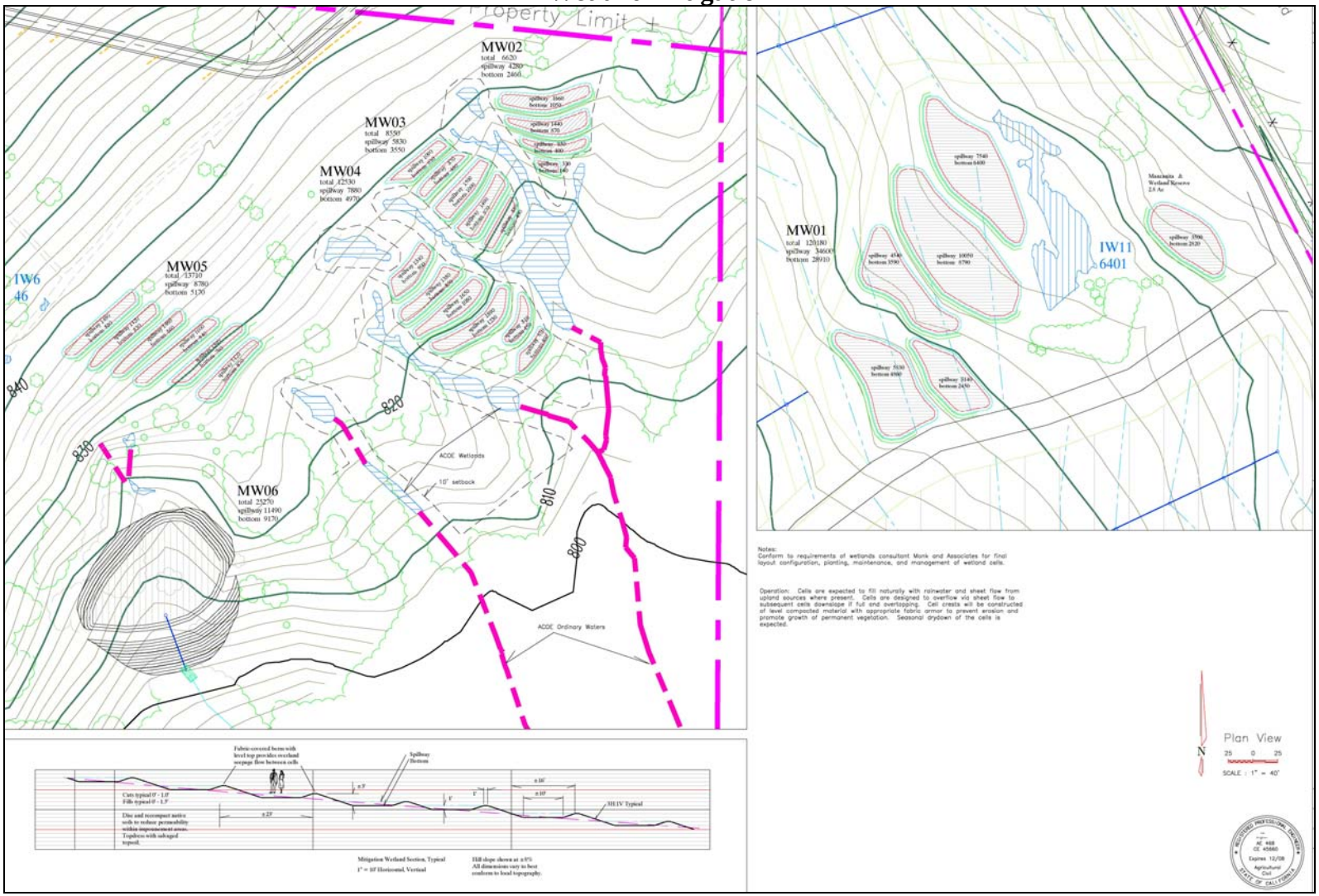
If pool environments are impacted by the project, wetland plant/animal populations will be relocated from the pools to other pools on the project site. Topsoils will be removed from wetlands that would be impacted, and placed into the re-created wetlands. These topsoils would contain a seed bank of the impacted pool plant species which would germinate with fall/winter hydration of the re-created pools. Implementation of the following mitigation measure(s) would reduce the impact to a *less-than-significant* level by replacing wetlands impacted by the proposed project at a 2:1 ratio.

3.4-15(a) *Prior to the issuance of grading permits, the project applicant shall obtain a 404 permit (CWA) from the Corps. If a 404 permit is obtained, the applicant must also obtain a water quality certification from RWQCB under Section 401 of the CWA, an NOI from the SWRCB and a Streambed Alteration Agreement from CDFG.*

3.4-15(b) *Prior to the issuance of grading permits, the project applicant shall compensate for the loss of wetland habitat to ensure no net loss of habitat functions and values. To mitigate for the direct loss of 0.414 acres of jurisdictional wetlands, the applicant shall create/restore wetlands at a ratio of 2:1 (2 acres created/restored for every acre lost) on the project site. Created features shall generally be in-kind for seasonal wetlands lost.*

A detailed wetland mitigation plan shall be required that includes a five-year monitoring program and reporting requirements, responsibilities, performance success criteria, and contingency requirements. At the end of each monitoring year, an annual report shall be submitted to the Corps, RWQCB and Sonoma County. The report shall document the hydrological and vegetative conditions of the mitigation wetlands, and shall recommend remedial measures as necessary to correct deficiencies. Mitigation lands would be subject to a conservation easement and an agency approved long-term management plan.

Figure 3.4-8
Wetland Mitigation



The conservation easement would ensure that the wetlands are protected in perpetuity. The wetland mitigation plan would require approval by the Corps and the RWQCB.

3.4-15(c) In lieu of creating compensation wetlands, as approved by the Corps and RWQCB, the applicant may purchase mitigation credits from an approved mitigation bank at a 2:1 ratio or as otherwise specified by the Corps and RWQCB.

3.4-16 Impacts to streamside conservation areas.

The proposed project is adjacent to the Sonoma County-designated Patchett Creek Riparian Corridor, which traverses the east side of the project site. Numerous other ephemeral streams also drain the project site. The proposed County's 2020 General Plan contains Goal OSRC-8 which calls for the County to protect the habitat functions and values of riparian corridors and ephemeral drainages, including those on the project site. The 2020 General Plan has not been adopted; however, in seeking to comply with the anticipated goal, impacts to riparian corridors and ephemeral drainages are considered adverse.

In order to avoid impacts to the on-site portion of Patchett Creek, a protective buffer, or streamside conservation area, is proposed as part of the project. Streamside buffers are depicted on Figure 3.4-4. The proposed buffer along Patchett Creek will be a minimum of 100 feet in width, on either side of the creek as measured from the top of bank. All other tributaries will be protected in buffers that average 25 to 75 feet in width, on either side of the top-of-banks. All streamside buffers on the project site will be recorded as permanent deed restrictions on the title of the property. These deed restrictions will run with the land in perpetuity.

Proposed areas impacting waters of the U.S. and/or State would be excluded from the streamside conservation areas. An existing logging road would also be excluded from the streamside conservation areas, because this road does not cross a stream bed, channel, or bank that is under the jurisdiction of the Corps or CDFG. These areas are mapped on Figure 3.4-2 and further detailed in the Erosion Control and Mitigation Plan. Impacts include the installation of an underground pipeline between the vineyard reservoir and the sump pump, temporary pipeline trenches at two locations across an ephemeral creek, the construction of a spillway over an ephemeral creek, and two rock armored ford crossings to provide access between vineyard units.

Vegetation removal, grading, building construction, or vineyard cultivation will not occur within the Patchett Creek buffer. In addition, deer fencing or other exclusionary fencing will not be constructed within streamside buffers although such fencing shall be allowed at the edge of vineyards constructed parallel and on the outside edge of the buffers. Outside of the Patchett Creek riparian corridor, all

other streamside buffers that are crossed by utilities or roads will be in compliance with Sonoma County design requirements, and other state and federal resource agency requirements.

Pest management in the proposed vineyard will conform to the recommendations of the Sonoma County Agricultural Commission and CDFG requirements. While the proposed project would establish streamside conservation areas, a long-term plan for the maintenance and protection of the conservation areas has not been completed. Therefore, the possibility exists that a ***potentially significant*** impact could result from future activities in the conservation areas.

Mitigation Measure(s)
Implementation of the following mitigation measure(s) would reduce the impact to a *less-than-significant* level.

3.4-16(a) *A habitat management plan shall be prepared and implemented for all streamside conservation areas and designated preserves. Maintenance as required to restore drainages would be one of the only allowable uses. The following uses and practices may be permitted in the streamside conservation areas:*

- *Access to the streamside conservation areas shall be limited to occasional activities for management, restoration and maintenance of the site's natural vegetation and drainageways; or for scientific study purposes.*

- *State and federal resource agencies shall have access with adequate (24 hours) notice to the applicant for the purpose of inspecting the site's natural resources and monitoring the status and effectiveness of management practices.*

- *Any existing pipelines and easements may continue to be maintained.*

- *Existing roads, structures, fences, ditches, pumps, and other improvements may be maintained and repaired.*

- *The streamside conservation areas shall be used for the conservation of wildlife or plant habitat including the development or maintenance of wetland areas.*

The following activities and uses shall be prohibited in the streamside conservation areas:

- *The legal or de facto subdivision or use of the streamside conservation areas including, but not limited to, any such subdivisions or establishment of separate legal parcels by (i) certificates of compliance or (ii) lot line adjustments.*

- *The construction of deer fencing or other exclusionary fencing. Such fencing shall be allowed at the edge of vineyards constructed parallel and on the outside edge of the buffers.*

- *The placement or construction of any buildings, structures, or other improvements of any kind, (including, without limitation, pipelines, fences, roads, parking lots, mobile homes, wind turbines, antennas, maintenance or other buildings).*

- *Any agricultural, commercial, residential or industrial use or activity.*

- *Any recreational use or activity.*

- *Any use of chemicals including insecticides, rodenticides, and fertilizers. The applicant may, with approval from the Department of Fish and Game, use herbicides to control noxious weeds to benefit native California flora/fauna.*

- *The installation of new, or the extension of existing utilities including, without limitation, water, sewer, power, fuel, and communication lines and related facilities.*

- *The operation of any motorized vehicle for any purpose, except for emergency use, fire control, or for maintenance, repair and restoration of the streamside conservation areas.*

- *The pruning, felling, or other destruction or removal of dead or living native trees and shrubs or other native vegetation, except as necessary to control or prevent hazards, disease, or fire.*

- *Any alteration of the surface of the land, including, without limitation, the excavation or removal of soil, sand, gravel, rock, peat, or sod.*

- *Mining, drilling, exploration for, or extraction of minerals, hydrocarbons, steam, soils, or other materials on or below the surface.*

- *Any use or activity that causes or is likely to cause soil degradation or erosion, or pollution of any surface or subsurface waters.*

- *The storage of any materials, vehicles, and/or supplies.*

- *The dumping or other disposal of wastes, refuse, and/or debris.*

These or similar measures, when implemented, would reduce project impacts to streamside conservation areas to a level considered less than significant.

Cumulative Impacts and Mitigation Measures

Cumulative impacts to Biological Resources are analyzed in Impact Statements 4-4 and 4-5 of Chapter 4, Cumulative Impacts.

Endnotes

[1] Inland Ecosystems, *Fisheries Assessment for the Fairfax Conversion Project*, August 2007.

[2] Beier, P. and S. Loe. 1992. "In my experience.." a checklist for evaluating impacts to wildlife movement corridors. Wildlife Society Bulletin Vol. 20(4): 6.

[3] Cypher, E. A. 2002. General Rare Plant Survey Guidelines. California State University, Stanislaus; Endangered Species Recovery Program; P.O. Box 9622, Bakersfield, CA 93389-9622; ecypher@esrp.org; Revised July 2002; Available at Sacramento Fish and Wildlife Office in 2008. Endangered Species Information. INTERNET(http://sacramento.fws.gov/es/spp_info.htm).

[4] USFWS, *Sacramento Fish & Wildlife Office Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed and Candidate Plants*, prepared September 23, 1996; available at Sacramento Fish and Wildlife Office in 2008. Endangered Species Information. INTERNET (http://sacramento.fws.gov/es/spp_info.htm).

[6] Burridge, B. (ed). 1995. Sonoma County breeding bird atlas: detailed maps and accounts for our nesting birds. 216 pp. Madrone Audubon Society, Inc.

[7] Fix, David & Andy Bezener, *Birds of Northern California*, 2000.