

# **APPENDIX A**

*Vascular Plant Species Observed  
in the Project Area*



**APPENDIX A**  
**Vascular Plant Species Observed on the Project Area**

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**LYCOPODIAE**

***SELAGINELLACEAE – SPIKE-MOSS FAMILY***

*Selaginella bigelovii* – Bigelow’s spike-moss

*Selaginella cinerascens* – ashy spike-moss

**FILACEAE**

***PTERIDACEAE – BRAKE FAMILY***

*Pellaea mucronata* var. *mucronata* – bird’s-foot fern

*Pentagramma triangularis* ssp. *triangularis* – goldenback fern

**MARSILEACEAE**

***PILULARIA – MARSILEA FAMILY***

*Pilularia Americana* – American pillwort

**ANGIOSPERMAE (DICOTYLEDONES)**

***ANACARDIACEAE – SUMAC FAMILY***

*Malosma laurina* – laurel sumac

*Rhus integrifolia* – lemonadeberry

\* *Schinus* sp. – pepper tree

*Toxicodendron diversilobum* – western poison oak

***APIACEAE – CARROT FAMILY***

*Apiastrum angustifolium* – wild celery

*Daucus pusillus* – rattlesnake weed

*Lomatium dasycarpum* ssp. *dasycarpum* – woolly-fruit lomatium

*Sanicula arguta* – sharp-toothed sanicle

*Sanicula bipinnatifida* – purple sanicle

***ASTERACEAE – SUNFLOWER FAMILY***

*Acourtia microcephala* – sacapellote

*Ambrosia psilostachya* var. *californica* – western ragweed

*Artemisia californica* – coastal sagebrush

*Baccharis salicifolia* – mulefat

*Baccharis sarothroides* – chaparral broom

*Brickellia californica* – California brickellbush

\* *Centaurea melitensis* – star-thistle

## APPENDIX A (Continued)

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- \* *Conyza canadensis* – horseweed
- \* *Cotula australis* – Australian brass-buttons
- \* *Cotula coronopifolia* – African brass-buttons
- Erigeron foliosus* var. *stenophyllus* – leafy daisy
- Eriophyllum confertiflorum* var. *confertiflorum* – long-stem golden yarrow
- Filago californica* – California fluffweed
- \* *Filago gallica* – narrow-leaf filago
- Gnaphalium californicum* – California everlasting
- Gutierrezia sarothrae* – broom snake-weed, matchweed
- Hazardia squarrosa* ssp. *grindelioides* – saw-toothed goldenbush
- \* *Hedypnois cretica* – Crete hedypnois
- Hemizonia fasciculata* – fascicled tarweed
- Holocarpha virgata* – virgate tarweed
- \* *Hypochaeris glabra* – smooth cat's-ear
- Isocoma menziesii* ssp. *veneta* – coastal goldenbush
- Iva hayesiana* – San Diego marsh elder
- Lasthenia californica* – coast goldfields
- Lessingia filaginifolia* – virgate cudweed aster
- Microseris douglasii* – Douglas' microseris
- Microseris douglasii* ssp. *Platycarpha* – small flowered microseris
- Osmadenia tenella* – rosin-weed
- Pentachaeta aurea* ssp. *aurea* – golden-rayed pentachaeta
- \* *Picris echioides* – bristly ox-tongue
- Porophyllum gracile* – odora
- Pluchea odorata* – marsh-fleabane
- Psilocarphus brevissimus* var. *brevissimus* – wooly marble

### **SENECIO CALIFORNICA – CALIFORNIA GROUNDSEL**

- \* *Silybum marianum* – milk thistle
- Stylocline gnaphalioides* – everlasting nest-straw
- Uropappus lindleyi* – silver puffs
- Viguiera laciniata* – San Diego County viguiera
- Xanthium strumarium* – cocklebur

### **BORAGINACEAE – BORAGE FAMILY**

- Amsinckia menziesii* – yellow fiddleneck
- Cryptantha* spp. – cryptantha
- Cryptantha intermedia* – common forget-me-not
- Harpagonella palmeri* – Palmer's grappling hook

## APPENDIX A (Continued)

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*Heliotropium curassavicum* – wild heliotrope

*Pectocarya linearis* – slender pectocarya

*Plagiobothrys acanthocarpus* – adobe popcorn flower

### **BRASSICACEAE – MUSTARD FAMILY**

\* *Brassica nigra* – black mustard

*Caulanthus heterophyllus* – San Diego jewelflower

*Lepidium nitidum* – shining peppergrass

\* *Raphanus sativus* – wild radish

*Thysanocarpus curvipes* – hairy fringedpod

### **CACTACEAE – CACTUS FAMILY**

*Ferocactus viridescens* – San Diego barrel cactus

*Opuntia littoralis* – coastal prickly-pear

*Opuntia prolifera* – coast cholla

### **CALLITRICHACEAE – WATER-STARWORT FAMILY**

*Callitriche marginata* – long-stalk water-starwort

### **CAPPARACEAE – CAPER FAMILY**

*Isomeris arborea* – bladderpod

### **CAPRIFOLIACEAE – HONEYSUCKLE FAMILY**

*Lonicera subspicata* var. *denudata* – southern honeysuckle

*Sambucus mexicana* – Mexican elderberry

### **CARYOPHYLLACEAE – PINK FAMILY**

\* *Cerastium glomeratum* – sticky mouse-ear

*Polycarpon depressum* – California polycarp

\* *Silene gallica* – common catchfly

\* *Stellaria media* – common chickweed

### **CHENOPODIACEAE – GOOSEFOOT FAMILY**

\* *Chenopodium murale* – nettle-leaved goosefoot

### **CISTACEAE – ROCK-ROSE FAMILY**

*Helianthemum scoparium* var. *aldersonii* – Alderson's rock-rose

## APPENDIX A (Continued)

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### **CONVOLVULACEAE – MORNING-GLORY FAMILY**

*Calystegia macrostegia* – western bindweed

*Dichondra occidentalis* – western dichondra

### **CRASSULACEAE – STONECROP FAMILY**

*Crassula aquatica* – aquatic crassula

*Crassula connata* – dwarf stonecrop

*Dudleya pulverulenta* – chalk dudleya

*Dudleya variegata* – variegated dudleya

### **CUCURBITACEAE – GOURD FAMILY**

*Marah macrocarpus* – wild cucumber

### **CUSCUTACEAE – DODDER FAMILY**

*Cuscuta californica* – California dodder

### **ERICACEAE – HEATH FAMILY**

*Xylococcus bicolor* – mission manzanita

### **EUPHORBIACEAE – SPURGE FAMILY**

*Chamaesyce albomarginata* – rattlesnake spurge

*Chamaesyce polycarpa* – small-seed sand mat

*Eremocarpus setigerus* – doveweed

\* *Ricinus communis* – castor-bean

### **FABACEAE – PEA FAMILY**

*Astragalus trichopodus* – Santa Barbara locoweed

*Lathyrus vestitus* var. *alefeldii* – wild pea

*Lotus hamatus* – grab lotus

*Lotus scoparius* – deerweed

*Lotus strigosus* – strigose deerweed

*Lupinus bicolor* – Lindley's annual lupine

\* *Melilotus indica* – yellow sweet-clover

*Pickeringia montana* – chaparral pea

### **FAGACEAE – OAK FAMILY**

*Quercus berberidifolia* – scrub oak

*Quercus dumosa* – Nuttall's scrub oak (may be mis-identified)

### **GENTIANACEAE – GENTIAN FAMILY**

*Centaurium venustum* – canchalagua

## APPENDIX A (Continued)

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### **GERANIACEAE – GERANIUM FAMILY**

- \* *Erodium botrys* – broad-lobed filaree
- \* *Erodium cicutarium* – red-stemmed filaree

### **GROSSULARIACEAE – CURRANT FAMILY**

*Ribes indecorum* – winter currant

### **HYDROPHYLLACEAE – WATERLEAF FAMILY**

*Eriodictyon trichocalyx* – hairy yerba santa  
*Phacelia cicutaria* – caterpillar phacelia  
*Phacelia parryi* – Parry’s phacelia

### **LAMIACEAE – MINT FAMILY**

- Acanthomintha ilicifolia* – San Diego thornmint
- \* *Marrubium vulgare* – horehound
  - Salvia apiana* – white sage
  - Salvia columbariae* – chia
  - Salvia munzii* – Munz’s sage

### **LYTHRACEAE – LOOSESTRIFE FAMILY**

- \* *Lythrum hyssopifolia* – Hyssop loosestrife

### **MALVACEAE – MALLOW FAMILY**

- Malacothamnus fasciculatus* – mesa bushmallow
- \* *Malva parviflora* – cheeseweed
  - Sidalcea malvaeflora* – checker mallow

### **MYRTACEAE – MYRTLE FAMILY**

- \* *Eucalyptus* sp. – eucalyptus

### **NYCTAGINACEAE – FOUR O’CLOCK FAMILY**

*Mirabilis californica* var. *californica* – California wishbone-bush

### **OLEACEAE – OLIVE FAMILY**

- \* *Olea europaea* – mission olive

### **ONAGRACEAE – EVENING-PRIMROSE FAMILY**

*Camissonia strigulosa* – field evening primrose

### **OXALIDACEAE – WOOD-SORREL FAMILY**

*Oxalis albicans* – wood-sorrel

## APPENDIX A (Continued)

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### **PAPAVERACEAE – POPPY FAMILY**

- Eschscholzia californica* – California poppy
- Romneya coulteri* – Coulter’s matilija poppy

### **PLANTAGINACEAE – PLANTAIN FAMILY**

- Plantago erecta* – dot-seed plantain
- \* *Plantago lanceolata* – English plantain

### **PLATANACEAE – SYCAMORE FAMILY**

- Platanus racemosa* – western sycamore

### **POLEMONIACEAE – PHLOX FAMILY**

- Eriastrum filifolium* – thread-leaved eriastrum
- Gilia capitata* ssp. *abrotanifolia* – ball gilia
- Linanthus dianthiflorus* – ground pink
- Navarretia hamata* – hooked navarretia

### **POLYGONACEAE – BUCKWHEAT FAMILY**

- Chorizanthe fimbriata* – fringed spineflower
- Eriogonum fasciculatum* – California buckwheat
- \* *Rumex crispus* – curly dock

### **PORTULACACEAE – PURSLANE FAMILY**

- Claytonia perfoliata* var. *perfoliata* – miner’s-lettuce

### **PRIMULACEAE – PRIMROSE FAMILY**

- \* *Anagallis arvensis* – scarlet pimpernel
- Dodecatheon clevelandii* – shooting star

### **RANUNCULACEAE – BUTTERCUP FAMILY**

- Clematis pauciflora* – ropevine
- Ranunculus californicus* – California buttercup
- Thalictrum polycarpum* – many-fruit meadow-rue

### **RHAMNACEAE – BUCKTHORN FAMILY**

- Adolphia californica* – California adolphia, spineshrub
- Ceanothus tomentosus* ssp. *olivaceus* – woolly-leaved ceanothus

### **ROSACEAE – ROSE FAMILY**

- Adenostoma fasciculatum* – chamise

## APPENDIX A (Continued)

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### **RUBIACEAE – MADDER FAMILY**

*Galium angustifolium* – narrow-leaved bedstraw

\* *Galium aparine* – goose grass

### **RUTACEAE – RUE FAMILY**

*Cneoridium dumosum* – bushrue, coast spicebush

### **SALICACEAE – WILLOW FAMILY**

*Salix gooddingii* var. *gooddingii* – black willow

*Salix lasiolepis* var. *bracelinae* – arroyo willow

### **SCROPHULARIACEAE – FIGWORT FAMILY**

*Castilleja affinis* – coast paintbrush

*Castilleja exserta* – common owl's-clover

*Linaria canadensis* – toadflax

*Mimulus aurantiacus* – bush monkeyflower

*Mimulus brevipes* – wide-throat monkeyflower

*Scrophularia californica* var. *floribunda* – coast figwort

### **SOLANACEAE – NIGHTSHADE FAMILY**

\* *Datura wrightii* – western jimsonweed

\* *Nicotiana glauca* – tree tobacco

*Solanum douglasii* – white nightshade

*Solanum xanti* – chaparral nightshade

### **VIOLACEAE – VIOLET FAMILY**

*Viola pedunculata* – johnny jump-up

## ANGIOSPERMAE (MONOCOTYLEDONES)

### **CYPERACEAE – SEDGE FAMILY**

*Eleocharis macrostachya* – pale spike-sedge

### **IRIDACEAE – IRIS FAMILY**

*Sisyrinchium bellum* – blue-eyed grass

### **JUNCACEAE – RUSH FAMILY**

*Juncus acutus* – spiny rush

*Juncus bufonius* – toad rush

*Juncus dubius* – mariposa rush

*Scirpus americanus* – bulrush

## APPENDIX A (Continued)

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### **LILIACEAE – LILY FAMILY**

- Allium* sp. – onion
- Bloomeria clevelandii* – San Diego goldenstar
- Calochortus* sp. – mariposa lily
- Chlorogalum parviflorum* – small-flowered amole
- Dichelostemma capitata* – blue dicks
- Yucca whipplei* – Our Lord’s candle

### **POACEAE – GRASS FAMILY**

- Achnatherum coronatum* – giant needlegrass
- \* *Arundo donax* – giant reed
- \* *Avena barbata* – slender oat
- \* *Brachypodium distachyon* – purple falsebrome
- \* *Bromus diandrus* – ripgut grass
- \* *Bromus hordeaceus* – soft chess
- \* *Bromus madritensis* ssp. *rubens* – foxtail chess
- \* *Cortaderia selloana* – pampas grass
- \* *Cynodon dactylon* – Bermuda grass
- Deschampsia danthoides* – graceful hairgrass
- \* *Lamarckia aurea* – goldentop
- Melica californica* – California melic
- Muhlenbergia microsperma* – littleseed muhly
- Nassella lepida* – foothill stipa
- Nassella pulchra* – purple needlegrass
- \* *Polypogon monspeliensis* – rabbit’s foot grass
- \* *Vulpia myuros* – rattail fescue

### **TYPHACEAE – CATTAIL FAMILY**

- Typha* sp. – cattail

- \* signifies introduced (non-native) species

# **APPENDIX B**

*Animal Species Observed on the Project Site*



**APPENDIX B**  
**Animal Species Observed on the Project Site**

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**WILDLIFE SPECIES –VERTEBRATES**

**AMPHIBIANS**

***PELOBATIDAE – SPADEFOOT TOADS***

*Spea hammondi* – western spadefoot toad

***BUFONIDAE – TRUE TOADS***

*Bufo boreas* – western toad

***HYLIDAE – TREEFROGS***

*Hyla regilla* – Pacific treefrog

***RANIDAE – TRUE FROGS***

\* *Rana catesbeiana* – bullfrog

**REPTILES**

***EMYDIDAE – BOX AND WATER TURTLE***

*Emys marmorata* – western pond turtle

***IGUANIDAE – IGUANID LIZARDS***

*Phrynosoma blainvillei* – San Diego [coast; Blainville's] horned lizard

*Sceloporus occidentalis* – western fence lizard

*Uta stansburiana* – side-blotched lizard

***TEIIDAE – WHIPTAIL LIZARDS***

*Aspidoscelis hyperythra* – orangethroat whiptail

*Aspidoscelis tigris multiscutatus*– coastal western (tiger) whiptail

***BOIDAE – BOAS***

*Charina trivirgata* – rosy boa

***COLUBRIDAE – COLUBRID SNAKES***

*Pituophis melanoleucus* – gopher snake

***VIPERIDAE – VIPERS***

*Crotalus ruber* – red-diamond rattlesnake

*Crotalus viridis* – western rattlesnake

## APPENDIX B (Continued)

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### BIRDS

#### ***PODICIPEDIDAE – GREBES***

*Podilymbus podiceps* – pied-billed grebe

#### ***ARDEIDAE – HERONS***

*Ardea herodias* – great blue heron

*Egretta thula* – snowy egret

*Nycticorax nycticorax* – black-crowned night-heron

#### ***THRESKIORNITHIDAE – IBISES***

*Plegadis chihi* – white-faced ibis

#### ***ANATIDAE – WATERFOWL***

*Anas platyrhynchos* – mallard

#### ***CATHARTIDAE – NEW WORLD VULTURES***

*Cathartes aura* – turkey vulture

#### ***ACCIPITRIDAE – HAWKS***

*Accipiter cooperii* – Cooper’s hawk

*Aquila chrysaetos* – golden eagle

*Buteo jamaicensis* – red-tailed hawk

*Buteo lineatus* – red-shouldered hawk

*Circus cyaneus* – northern harrier

*Elanus leucurus* – white-tailed kite

*Pandion haliaetus* – osprey

#### ***FALCONIDAE – FALCONS***

*Falco mexicanus* – prairie falcon

*Falco sparverius* – American kestrel

#### ***PHASIANIDAE – PHEASANTS AND QUAILS***

*Callipepla californica* – California quail

#### ***RALLIDAE – RAILS AND GALLINULES***

*Fulica americana* – American coot

#### ***COLUMBIDAE – PIGEONS AND DOVES***

\* *Columba livia* – rock dove

*Zenaidura macroura* – mourning dove

## APPENDIX B (Continued)

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### **CUCULIDAE – CUCKOOS AND ROADRUNNERS**

*Geococcyx californianus* – greater roadrunner

### **TYTONIDAE – BARN OWLS**

*Tyto alba* – barn owl

### **STRIGIDAE – TRUE OWLS**

*Athene cunicularia* – burrowing owl

*Bubo virginianus* – great horned owl

### **CAPRIMULGIDAE – GOATSUCKERS**

*Chordeiles acutipennis* – lesser nighthawk

### **APODIDAE – SWIFTS**

*Aeronautes saxatalis* – white-throated swift

### **TROCHILIDAE – HUMMINGBIRDS**

*Archilochus alexandri* – black-chinned hummingbird

*Calypte anna* – Anna’s hummingbird

*Calypte costae* – Costa’s hummingbird

### **PICIDAE – WOODPECKERS**

*Colaptes auratus* – northern flicker

*Picoides nuttallii* – Nuttall’s woodpecker

*Sphyrapicus* sp. – sapsucker

### **TYRANNIDAE – TYRANT FLYCATCHERS**

*Contopus sordidulus* – western wood-pewee

*Empidonax difficilis* – pacific slope flycatcher

*Sayornis nigricans* – black phoebe

*Tyrannus vociferans* – Cassin’s kingbird

### **ALAUDIDAE – LARKS**

*Eremophila alpestris* – horned lark

### **HIRUNDINIDAE – SWALLOWS**

*Stelgidopteryx serripennis* – northern rough-winged swallow

*Tachycineta thalassina* – violet-green swallow

## APPENDIX B (Continued)

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### **CORVIDAE – JAYS AND CROWS**

*Aphelocoma californica* – western scrub-jay

*Corvus brachyrhynchos* – American crow

*Corvus corax* – common raven

### **AEGITHALIDAE – BUSHTITS**

*Psaltriparus minimus* – bushtit

### **SYLVIIDAE – GNATCATCHERS**

*Polioptila caerulea* – blue-gray gnatcatcher

*Polioptila californica californica* – coastal California gnatcatcher

### **TURDIDAE – THRUSHES AND BABBLERS**

*Sialia mexicana* – western bluebird

*Turdus migratorius* – American robin

### **TROGLODYTIDAE – WRENS**

*Catherpes mexicanus* – canyon wren

*Salpinctes obsoletus* – rock wren

*Thryomanes bewickii* – Bewick's wren

*Troglodytes aedon* – house wren

### **TIMALIIDAE – LAUGHINGTHRUSH AND WRENTIT**

*Chamaea fasciata* – wrentit

### **MIMIDAE – THRASHERS**

*Mimus polyglottos* – northern mockingbird

*Toxostoma redivivum* – California thrasher

### **MOTACILLIDAE – PIPITS**

*Anthus rufescens* – American pipit

### **PTILOGONATIDAE – SILKY-FLYCATCHERS**

*Phainopepla nitens* – phainopepla

### **LANIIDAE – SHRIKES**

*Lanius ludovicianus* – loggerhead shrike

### **STURNIDAE – STARLINGS**

\* *Sturnus vulgaris* – European starling

## APPENDIX B (Continued)

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### **PARULIDAE – WOOD WARBLERS**

- Dendroica coronata* – yellow-rumped warbler
- Geothlypis trichas* – common yellowthroat
- Vermivora ruficapilla* – Nashville warbler

### **EMBERIZIDAE – BUNTINGS AND SPARROWS**

- Aimophila ruficeps* – rufous-crowned sparrow
- Ammodramus savannarum* – grasshopper sparrow
- Amphispiza bilineata* – black-throated sparrow
- Artemisospiza belli* – Bell’s sparrow
- Chondestes grammacus* – lark sparrow
- Melospiza melodia* – song sparrow
- Passerculus sandwichensis* – savannah sparrow
- Pipilo crissalis* – California towhee
- Pipilo maculatus* – spotted towhee
- Poocetes gramineus* – vesper sparrow
- Zonotrichia leucophrys* – white-crowned sparrow

### **CARDINALIDAE – CARDINALS AND GROSBEAKS**

- Passerina amoena* – lazuli bunting

### **ICTERIDAE – BLACKBIRDS AND ORIOLES**

- Agelaius phoeniceus* – red-winged blackbird
- Euphagus cyanocephalus* – Brewer’s blackbird
- Icterus cucullatus* – hooded oriole
- Molothrus ater* – brown-headed cowbird
- Sturnella neglecta* – western meadowlark

### **FRINGILLIDAE – FINCHES**

- Carpodacus mexicanus* – house finch
- Carduelis psaltria* – lesser goldfinch
- Carduelis tristis* – American goldfinch

## MAMMALS

### **LEPORIDAE – HARES AND RABBITS**

- Lepus californicus* – black-tailed jackrabbit
- Sylvilagus bachmani* – brush rabbit

### **SCIURIDAE – SQUIRRELS**

- Spermophilus beecheyi* – California ground squirrel

## APPENDIX B (Continued)

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### **GEOMYIDAE – POCKET GOPHERS**

*Thomomys bottae* – Botta’s pocket gopher

### **HETEROMYIDAE – POCKET MICE AND KANGAROO RATS**

*Dipodomys agilis* – agile (Pacific) kangaroo rat

### **MURIDAE – RATS AND MICE**

*Microtis californicus* – California vole

*Neotoma* sp. – woodrat species

*Peromyscus maniculatus* – deer mouse

### **CANIDAE – WOLVES AND FOXES**

\* *Canis familiaris* – domestic dog

*Canis latrans* – coyote

### **PROCYONIDAE – RACCOONS AND RELATIVES**

*Procyon lotor* – common raccoon

### **MUSTELIDAE – WEASELS, SKUNKS, AND OTTERS**

*Mephitis mephitis* – striped skunk

*Mustela frenata* – long-tailed weasel

### **FELIDAE – CATS**

*Lynx rufus* – bobcat

### **CERVIDAE – DEERS**

*Odocoileus hemionus* – mule deer

## WILDLIFE SPECIES – INVERTEBRATES

### CRUSTACEANS

#### **BRANCHINECTIDAE – FAIRY SHRIMP**

*Branchinecta sandiegonensis* – San Diego fairy shrimp

### ANTS, BEES, WASPS AND SAWFLIES

#### **APIDAE – CUCKOO, CARPENTER, DIGGER, BUMBLE, AND HONEY BEES**

*Apis mellifera* – honey bee

*Bombus* sp. – bumble bee

## APPENDIX B (Continued)

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### BUTTERFLIES AND MOTHS

#### **ARCTIIDAE – TIGER MOTHS**

[unidentified] – tiger moth

#### **HESPERIIDAE – SKIPPERS**

*Erynnis funeralis* – funereal duskywing

*Pyrgus albescens* – checkered skipper

#### **DANAIDAE – MILKWEED BUTTERFLIES**

*Danaus plexippus* – Monarch

*Danaus gilippus* – striated queen

#### **PAPILIONIDAE – SWALLOWTAILS**

*Papilio eurymedon* – pale swallowtail

*Papilio rutulus* – tiger swallowtail

*Papilio zelicaon* – anise swallowtail

#### **PIERIDAE – WHITES, SULFURS, MARBLES, AND ORANGE-TIPS**

*Anthocharis sara* – Sara’s orange-tip

*Colias eurydice* – California dogface

*Colias eurytheme* – alfalfa butterfly

*Colias harfordii* – Harford’s sulfur

*Eurema nicippe* – sleepy orange

*Pieris rapae rapae* – cabbage butterfly

*Pontia protodice* – checkered white

#### **RIODINIDAE – METALMARKS**

*Apodemia mormo virgulti* – Behr’s metalmark

*Calephelis wrightii* – Wright’s metalmark

#### **LYCAENIDAE – BLUES, HAIRSTREAKS, AND COPPERS**

*Callophrys augustinus* – brown elfin

*Callophrys dumetorum perplexa* – perplexing hairstreak

*Everes amyntula* – western tailed blue

*Glaucopsyche lygdamus australis* – southern blue

*Leptotes marina* – marine blue

*Hemiargus ceraunus gyas* – Edward’s blue

*Plebejus acmon acmon* – acmon blue

*Strymon melinus* – gray hairstreak

## APPENDIX B (Continued)

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### ***NYMPHALIDAE – BRUSH-FOOTED BUTTERFLIES***

- Adelpha bredowii californica* – California sister
- Euphydryas chalcedona* – Chalcedon checkerspot
- Euphydryas editha quino* – Quino checkerspot
- Charidryas gabbii gabbii* – Gabb’s checkerspot
- Thessalia leanira* – Leanira checkerspot
- Junonia coenia* – buckeye
- Speyeria callippe comstocki* – Comstock’s fritillary
- Limenitis lorquini* – Lorquin’s admiral
- Coenonympha californica californica* – California ringlet
- Nymphalis antiopa* – mourning cloak
- Phyciodes mylitta* – mylitta crescent
- Vanessa anabella* – west coast lady
- Vanessa atalanta* – red admiral
- Vanessa cardui* – painted lady
- Vanessa virginiensis* – American lady

**APPENDIX C**  
*Species Sensitivity Categories*



## APPENDIX C

### Species Sensitivity Categories

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#### FEDERAL (2014)

- Endangered. Taxa in danger of extinction throughout all or a significant portion of their range.
- Threatened. Taxa likely to become endangered in the foreseeable future throughout all or a significant portion of its range.
- Candidate. Taxa for which current information indicates the probable appropriateness of listing as Endangered or Threatened.

#### STATE OF CALIFORNIA (2014)

- Endangered. Taxa that are in serious danger of becoming extinct throughout all, or a significant portion, of their range due to one or more causes including loss of habitat, change in habitat, over exploitation, predation, competition, or disease Section 2062 of the Fish and Game Code).
- Threatened. Taxa that, although not presently threatened with extinction, are likely to become endangered species in the foreseeable future (Section 2067 of the Fish and Game Code).
- Rare. Taxa that, although not presently threatened with extinction, are present in such small numbers throughout their range that they may become endangered if the present environment worsens (Section 1901 of the Fish and Game Code).
- Candidate. Taxa that the Fish and Game Commission has formally noticed as being under review by the Department in addition to the list of threatened and endangered species.

#### CALIFORNIA NATIVE PLANT SOCIETY (2014)

##### Summary of CRPR 1, 2, 3, and 4

California Rare Plant Rank	Comments
CRPR 1A – Plants Presumed Extirpated in California and Either Rare or Extinct Elsewhere	Plants thought to be extinct in California based on a lack of observation or detection for many years.
CRPR 1B – Plants Rare, Threatened, or Endangered in California and Elsewhere	Plants that are rare throughout their range with the majority of them endemic to California.
CRPR 2A – Plants Presumed Extirpated in California, But More Common Elsewhere	Plants that presumed extirpated in California, but are more common outside of California.
CRPR 2B – Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere	Plants that are rare in California, but are more common outside of California.

## APPENDIX C (Continued)

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### Summary of CRPR 1, 2, 3, and 4

California Rare Plant Rank	Comments
CRPR 3 – Plants About Which More Information is Needed - A Review List	Plants for which CNPS lacks the information needed to assign to the appropriate rank. In addition, nearly all of the CRPR 3 species have associated taxonomic problems.
CRPR 4 – Plants of Limited Distribution - A Watch List	Plants of limited distribution of infrequent throughout a broader area in California. While not “rare” from a statewide perspective, they are uncommon enough that their status should be monitored regularly.

**Note:** Plants on CRPR 1B generally meet California Department of Fish and Wildlife Criteria for Rare or Endangered listing.

### Threat Code

CNPS also maintains a classification that specifies the threat level for each of the CRPR 1, 2, 3, or 4 Species. The threat code is represented by a numerical extension following the rank number for each species (e.g., CRPR 1B.2). The threat code extensions and their meanings are as follows:

1. Seriously threatened in California
2. Moderately threatened in California
3. Not very threatened in California.

# **APPENDIX D**

## *Jurisdictional Wetlands Delineation Data Sheets*



## WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Village 13 City/County: San Diego/San Diego Sampling Date: 12/12/13  
 Applicant/Owner: Baldwin & Sons LLC State: CA Sampling Point: DS1  
 Investigator(s): Danielle Mullen, Thomas Liddicoat, Marshall B Section, Township, Range: Section 32, Township 17S, Range 1E  
 Landform (hillslope, terrace, etc.): Channel Local relief (concave, convex, none): Convex Slope (%): \_\_\_\_\_  
 Subregion (LRR): C - Mediterranean California Lat: 32.648191 Long: -116.90849 Datum: NAD83  
 Soil Map Unit Name: Friant rocky fine sandy loam, 30 to 70 percent slopes NWI classification: \_\_\_\_\_

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation  Soil  or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation  Soil  or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: <u>Data station point taken within ephemeral drainage channel, vegetation included is only within channel</u>	

### VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b>		
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC:	0 (A)	
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata:	0 (B)	
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC:	0 % (A/B)	
4. _____	_____	_____	_____			
Total Cover: _____ %						
Sapling/Shrub Stratum					<b>Prevalence Index worksheet:</b>	
1. <i>Iva hayesiana</i>	3		FACW	Total % Cover of: _____ Multiply by: _____		
2. <i>Baccharis salicifolia</i>	1		FAC	OBL species	x 1 = 0	
3. _____	_____	_____	_____	FACW species	3 x 2 = 6	
4. _____	_____	_____	_____	FAC species	1 x 3 = 3	
5. _____	_____	_____	_____	FACU species	45 x 4 = 180	
Total Cover: 4 %						
Herb Stratum					UPL species	55 x 5 = 275
1. <i>Bromus hordeaceus</i>	45		FACU	Column Totals:	104 (A) 464 (B)	
2. <i>Bromus madritensis</i>	50		UPL	Prevalence Index = B/A = 4.46		
3. <i>Avena barbata</i>	5		UPL			
4. _____	_____	_____	_____			
5. _____	_____	_____	_____			
6. _____	_____	_____	_____			
7. _____	_____	_____	_____			
8. _____	_____	_____	_____			
Total Cover: 100%						
Woody Vine Stratum					<b>Hydrophytic Vegetation Indicators:</b>	
1. _____	_____	_____	_____	<input checked="" type="checkbox"/> Dominance Test is >50%		
2. _____	_____	_____	_____	<input checked="" type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup>		
				<input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)		
				<input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)		
				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.		
				<b>Hydrophytic Vegetation Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>		
Total Cover: _____ %						
% Bare Ground in Herb Stratum _____ %		% Cover of Biotic Crust _____ %				

Remarks: (Plot size: shrub- 1x20m; herb- 1x2m)

**SOIL**

Sampling Point: DS1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture <sup>3</sup>	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-0.25								NNG thatch
0.25-7	7.5YR 2.5/2	100						clay loam
7-12	10YR 3/4	100						sand with rocks and large cobbles

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix.    <sup>2</sup>Location: PL=Pore Lining, RC=Root Channel, M=Matrix.  
<sup>3</sup>Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

<b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) (LRR C) <input type="checkbox"/> 1 cm Muck (A9) (LRR D) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4)		<input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input checked="" type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Vernal Pools (F9)	<b>Indicators for Problematic Hydric Soils:<sup>4</sup></b> <input type="checkbox"/> 1 cm Muck (A9) (LRR C) <input type="checkbox"/> 2 cm Muck (A10) (LRR B) <input type="checkbox"/> Reduced Vertic (F18) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Other (Explain in Remarks)
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<b>Restrictive Layer (if present):</b> Type: _____ Depth (inches): _____ Remarks: Living roots, rocks and cobbles present	<b>Hydric Soil Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>
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**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (any one indicator is sufficient) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) (Nonriverine) <input type="checkbox"/> Sediment Deposits (B2) (Nonriverine) <input type="checkbox"/> Drift Deposits (B3) (Nonriverine) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Biotic Crust (B12) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6) <input checked="" type="checkbox"/> Other (Explain in Remarks)	<b>Secondary Indicators (2 or more required)</b> <input type="checkbox"/> Water Marks (B1) (Riverine) <input type="checkbox"/> Sediment Deposits (B2) (Riverine) <input type="checkbox"/> Drift Deposits (B3) (Riverine) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5)
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<b>Field Observations:</b> Surface Water Present?    Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present?    Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe)    Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____	<b>Wetland Hydrology Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
 Other: defined bed and bank (1ft wide x 1 ft deep)  
 Water stains within drainage downstream.



**SOIL**

Sampling Point: DS2

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture <sup>3</sup>	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-1.5								NNG thatch
1.5-10	7.5YR 2.5/2	100						clay loam
10-12	7.5YR 3/3	100						clay loam

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix.    <sup>2</sup>Location: PL=Pore Lining, RC=Root Channel, M=Matrix.  
<sup>3</sup>Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

<b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) (LRR C) <input type="checkbox"/> 1 cm Muck (A9) (LRR D) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4)		<input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input checked="" type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Vernal Pools (F9)	<b>Indicators for Problematic Hydric Soils:<sup>4</sup></b> <input type="checkbox"/> 1 cm Muck (A9) (LRR C) <input type="checkbox"/> 2 cm Muck (A10) (LRR B) <input type="checkbox"/> Reduced Vertic (F18) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Other (Explain in Remarks)
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<sup>4</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present.

<b>Restrictive Layer (if present):</b> Type: _____ Depth (inches): _____ Remarks: Living roots, rocks, and cobbles present	<b>Hydric Soil Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>
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**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (any one indicator is sufficient) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) (Nonriverine) <input type="checkbox"/> Sediment Deposits (B2) (Nonriverine) <input type="checkbox"/> Drift Deposits (B3) (Nonriverine) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Biotic Crust (B12) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6) <input type="checkbox"/> Other (Explain in Remarks)	<b>Secondary Indicators (2 or more required)</b> <input type="checkbox"/> Water Marks (B1) (Riverine) <input type="checkbox"/> Sediment Deposits (B2) (Riverine) <input type="checkbox"/> Drift Deposits (B3) (Riverine) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5)
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<b>Field Observations:</b> Surface Water Present?    Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present?    Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe)    Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____	<b>Wetland Hydrology Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Arid West Region**

Project/Site: Village 13 City/County: San Diego/San Diego Sampling Date: 1/3/14  
 Applicant/Owner: Baldwin & Sons LLC State: CA Sampling Point: DS3  
 Investigator(s): Patricia Schuyler, Thomas Liddicoat Section, Township, Range: Section 5, Township 18S, Range 1E  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Concave Slope (%): \_\_\_\_\_  
 Subregion (LRR): C - Mediterranean California Lat: 32.634594 Long: -116.89764 Datum: NAD83  
 Soil Map Unit Name: Olivenhain cobbly loam, 9 to 30 percent slopes NWI classification: \_\_\_\_\_

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation  Soil  or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation  Soil  or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>
Remarks: <u>Data Station immediately adjacent to road, just down-slope from road within an area mapped as mulefat scrub (MFS).</u>	

**VEGETATION**

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b>	
1. <i>Salix exigua</i>	10	Yes	FACW	Number of Dominant Species That Are OBL, FACW, or FAC:	2 (A)
2. _____				Total Number of Dominant Species Across All Strata:	4 (B)
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC:	50.0 % (A/B)
4. _____					
Total Cover:			10 %		
Sapling/Shrub Stratum				<b>Prevalence Index worksheet:</b>	
1. <i>Baccharis salicifolia</i>	20	Yes	FAC	Total % Cover of: _____ Multiply by: _____	
2. <i>Sambucus nigra</i>	5	No	FAC	OBL species	x 1 = 0
3. <i>Artemisia californica</i>	1	No	UPL	FACW species	10 x 2 = 20
4. _____				FAC species	25 x 3 = 75
5. _____				FACU species	x 4 = 0
Total Cover:			26 %	UPL species	5 x 5 = 25
Herb Stratum				Column Totals:	40 (A) 120 (B)
1. <i>Sonchus oleraceus</i>	3	Yes	UPL	Prevalence Index = B/A = 3.00	
2. <i>Foeniculum vulgare</i>	1	Yes	UPL		
3. _____					
4. _____					
5. _____					
6. _____					
7. _____					
8. _____					
Total Cover:			4 %		
Woody Vine Stratum				<b>Hydrophytic Vegetation Indicators:</b>	
1. <i>n/a</i>				<input checked="" type="checkbox"/> Dominance Test is >50%	
2. _____				<input checked="" type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup>	
Total Cover:			%	<input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)	
% Bare Ground in Herb Stratum _____ %	% Cover of Biotic Crust _____ %			<input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)	
				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.	
				<b>Hydrophytic Vegetation Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>	

Remarks: Sample plot reflects 30 ft radius within the center of the MFS and is representative of the entire polygon.

**SOIL**

Sampling Point: DS3

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture <sup>3</sup>	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-6	10YR 3/1	100					Loam	organic materials and roots present
6-12	7.5YR 4/4	100					Sandy Loam	
12	n/a							root layer, unable to dig further

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix.    <sup>2</sup>Location: PL=Pore Lining, RC=Root Channel, M=Matrix.  
<sup>3</sup>Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<b>Indicators for Problematic Hydric Soils<sup>4</sup>:</b>
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input type="checkbox"/> Stratified Layers (A5) (LRR C)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR D)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Vernal Pools (F9)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		

<sup>4</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**  
 Type: roots  
 Depth (inches): 12

**Hydric Soil Present?** Yes  No

Remarks: Depleted matrix within the soil. There are two channels present within the immediate vicinity, the channel to the northwest connects directly to the MFS polygon. The area may pond and receive waters from the channel and road runoff.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<u>Primary Indicators (any one indicator is sufficient)</u>		<u>Secondary Indicators (2 or more required)</u>
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Water Marks (B1) (Riverine)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Drift Deposits (B3) (Riverine)
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Thin Muck Surface (C7)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)
		<input type="checkbox"/> FAC-Neutral Test (D5)

**Field Observations:**

Surface Water Present?	Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): _____
Water Table Present?	Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): _____

**Wetland Hydrology Present?** Yes  No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: No signs of surface hydrology. Data Station taken in an area adjacent to culvert and channel, immediately adjacent to the road. The channel does not continue within the MFS polygon nor are there signs of flow. In addition, there are no other primary indicators for hydrology. The area may pond since it is located immediately adjacent to a slope created for the existing road.

**WETLAND DETERMINATION DATA FORM - Arid West Region**

Project/Site: Village 13 City/County: San Diego/ San Diego Sampling Date: 1/3/14  
 Applicant/Owner: Baldwin & Sons LLC State: CA Sampling Point: DS4a  
 Investigator(s): Patricia Schuyler, Thomas Liddicoat Section, Township, Range: Section 5, Township 18S, Range 1E  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): \_\_\_\_\_  
 Subregion (LRR): C - Mediterranean California Lat: 32.634702 Long: -116.906942 Datum: NAD83  
 Soil Map Unit Name: Olivenhain cobbly loam, 9 to 30 percent slopes NWI classification: \_\_\_\_\_

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation  Soil  or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation  Soil  or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: <u>The sampling point is taken within a depression area that was previously mapped as freshwater marsh (FWM). There is no culvert within this portion of the roadway that connects the area mapped as FWM with the lake.</u>	

**VEGETATION**

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b>	
1. <u>n/a</u>				Number of Dominant Species That Are OBL, FACW, or FAC:	<u>1</u> (A)
2. _____				Total Number of Dominant Species Across All Strata:	<u>2</u> (B)
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>50.0 %</u> (A/B)
4. _____					
Total Cover: _____ %					
Sapling/Shrub Stratum	Absolute % Cover	Dominant Species?	Indicator Status	<b>Prevalence Index worksheet:</b>	
1. <u>Nicotiana glauca</u>	<u>4</u>	<u>Yes</u>	<u>FAC</u>	Total % Cover of:	Multiply by:
2. _____				OBL species	x 1 = <u>0</u>
3. _____				FACW species	x 2 = <u>0</u>
4. _____				FAC species	<u>5</u> x 3 = <u>15</u>
5. _____				FACU species	<u>30</u> x 4 = <u>120</u>
Total Cover: <u>4</u> %				UPL species	<u>1</u> x 5 = <u>5</u>
				Column Totals:	<u>36</u> (A) <u>140</u> (B)
				Prevalence Index = B/A = <u>3.89</u>	
Herb Stratum	Absolute % Cover	Dominant Species?	Indicator Status	<b>Hydrophytic Vegetation Indicators:</b>	
1. <u>Croton setigerus</u>	<u>30</u>	<u>Yes</u>	<u>FACU</u>	<input checked="" type="checkbox"/> Dominance Test is >50%	
2. <u>Rumex crispus</u>	<u>1</u>	<u>No</u>	<u>FAC</u>	<input checked="" type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup>	
3. <u>Foeniculum vulgare</u>	<u>1</u>	<u>No</u>	<u>UPL</u>	<input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)	
4. _____				<input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)	
5. _____					
6. _____					
7. _____					
8. _____					
Total Cover: <u>32</u> %					
Woody Vine Stratum	Absolute % Cover	Dominant Species?	Indicator Status		
1. <u>n/a</u>					
2. _____					
Total Cover: _____ %					
% Bare Ground in Herb Stratum <u>95 %</u>		% Cover of Biotic Crust <u>0 %</u>		<b>Hydrophytic Vegetation Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>	

Remarks: Typha within the polygon mapped as FWM no longer is present. This area is now open with some herbaceous species. However, due to the presence of hydric soils this area is mapped as open water.

**SOIL**

Sampling Point: DS4a

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture <sup>3</sup>	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-13	10YR 3/2	65	5YR 4/6	35	C	M	Silty Clay Loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix.    <sup>2</sup>Location: PL=Pore Lining, RC=Root Channel, M=Matrix.  
<sup>3</sup>Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

<p><b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b></p> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <b>(LRR C)</b> <input type="checkbox"/> 1 cm Muck (A9) <b>(LRR D)</b> <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input checked="" type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Vernal Pools (F9)	<p><b>Indicators for Problematic Hydric Soils:<sup>4</sup></b></p> <input type="checkbox"/> 1 cm Muck (A9) <b>(LRR C)</b> <input type="checkbox"/> 2 cm Muck (A10) <b>(LRR B)</b> <input type="checkbox"/> Reduced Vertic (F18) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Other (Explain in Remarks)
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<sup>4</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present.

<p><b>Restrictive Layer (if present):</b></p> Type: _____ Depth (inches): _____ Remarks: _____	<p><b>Hydric Soil Present?</b>    Yes <input checked="" type="radio"/>    No <input type="radio"/></p>
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**HYDROLOGY**

<p><b>Wetland Hydrology Indicators:</b></p> <p>Primary Indicators (any one indicator is sufficient)</p> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <b>(Nonriverine)</b> <input type="checkbox"/> Sediment Deposits (B2) <b>(Nonriverine)</b> <input type="checkbox"/> Drift Deposits (B3) <b>(Nonriverine)</b> <input checked="" type="checkbox"/> Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Biotic Crust (B12) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6) <input type="checkbox"/> Other (Explain in Remarks)	<p><u>Secondary Indicators (2 or more required)</u></p> <input type="checkbox"/> Water Marks (B1) <b>(Riverine)</b> <input type="checkbox"/> Sediment Deposits (B2) <b>(Riverine)</b> <input type="checkbox"/> Drift Deposits (B3) <b>(Riverine)</b> <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5)
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<p><b>Field Observations:</b></p> Surface Water Present?    Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present?    Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe)    Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____	<p><b>Wetland Hydrology Present?</b>    Yes <input checked="" type="radio"/>    No <input type="radio"/></p>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: In depression area that was inundated in past survey years as shown on historical aerials. Area was previously mapped as FWM however no longer supports species representative of this vegetation community.

**WETLAND DETERMINATION DATA FORM - Arid West Region**

Project/Site: Village 13 (OTAY) City/County: San Diego/ San Diego Sampling Date: 1/3/14  
 Applicant/Owner: Baldwin & Sons LLC State: CA Sampling Point: DS4b  
 Investigator(s): Patricia Schuyler, Thomas Liddicoat Section, Township, Range: Section 5, Township 18S, Range 1E  
 Landform (hillslope, terrace, etc.): Terrace-like Local relief (concave, convex, none): Concave Slope (%): \_\_\_\_\_  
 Subregion (LRR): C - Mediterranean California Lat: 32.634764 Long: -116.90694 Datum: NAD83  
 Soil Map Unit Name: Olivenhain cobbly loam, 9 to 30 percent slopes NWI classification: \_\_\_\_\_

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation  Soil  or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation  Soil  or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>
Remarks: <u>Sampling point within a ring of freshwater marsh that surrounds the open water described in sampling point DS4a. Sampling point is approximately 20 ft from sampling point DS4a.</u>	

**VEGETATION**

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b>																																									
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC:	<u>1</u> (A)																																								
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata:	<u>1</u> (B)																																								
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>100.0 %</u> (A/B)																																								
4. _____	_____	_____	_____	<b>Prevalence Index worksheet:</b>																																									
Total Cover: _____ %			<table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:30%; text-align: center;">Total % Cover of:</td> <td style="width:10%;"></td> <td style="width:10%; text-align: center;">Multiply by:</td> <td style="width:10%;"></td> <td style="width:10%;"></td> </tr> <tr> <td>OBL species</td> <td align="center"><u>97</u></td> <td>x 1 =</td> <td align="center"><u>97</u></td> <td></td> </tr> <tr> <td>FACW species</td> <td></td> <td>x 2 =</td> <td align="center"><u>0</u></td> <td></td> </tr> <tr> <td>FAC species</td> <td align="center"><u>1</u></td> <td>x 3 =</td> <td align="center"><u>3</u></td> <td></td> </tr> <tr> <td>FACU species</td> <td align="center"><u>3</u></td> <td>x 4 =</td> <td align="center"><u>12</u></td> <td></td> </tr> <tr> <td>UPL species</td> <td align="center"><u>2</u></td> <td>x 5 =</td> <td align="center"><u>10</u></td> <td></td> </tr> <tr> <td>Column Totals:</td> <td align="center"><u>103</u></td> <td>(A)</td> <td align="center"><u>122</u></td> <td>(B)</td> </tr> <tr> <td colspan="3" style="text-align: right;">Prevalence Index = B/A =</td> <td align="center"><u>1.18</u></td> <td></td> </tr> </table>			Total % Cover of:		Multiply by:			OBL species	<u>97</u>	x 1 =	<u>97</u>		FACW species		x 2 =	<u>0</u>		FAC species	<u>1</u>	x 3 =	<u>3</u>		FACU species	<u>3</u>	x 4 =	<u>12</u>		UPL species	<u>2</u>	x 5 =	<u>10</u>		Column Totals:	<u>103</u>	(A)	<u>122</u>	(B)	Prevalence Index = B/A =			<u>1.18</u>	
Total % Cover of:		Multiply by:																																											
OBL species	<u>97</u>	x 1 =	<u>97</u>																																										
FACW species		x 2 =	<u>0</u>																																										
FAC species	<u>1</u>	x 3 =	<u>3</u>																																										
FACU species	<u>3</u>	x 4 =	<u>12</u>																																										
UPL species	<u>2</u>	x 5 =	<u>10</u>																																										
Column Totals:	<u>103</u>	(A)	<u>122</u>	(B)																																									
Prevalence Index = B/A =			<u>1.18</u>																																										
<u>Sapling/Shrub Stratum</u>				<b>Hydrophytic Vegetation Indicators:</b>																																									
1. <u>Nicotiana glauca</u>	<u>1</u>		FAC	<input checked="" type="checkbox"/> Dominance Test is >50%																																									
2. <u>Baccharis pilularis</u>	<u>1</u>		Not Listed	<input checked="" type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup>																																									
3. _____				<input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)																																									
4. _____				<input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)																																									
5. _____				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.																																									
Total Cover: <u>2</u> %				<b>Hydrophytic Vegetation Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>																																									
<u>Herb Stratum</u>																																													
1. <u>Typha sp</u>	<u>97</u>	Yes	OBL																																										
2. <u>Ambrosia psilostachya</u>	<u>3</u>	No	FACU																																										
3. <u>Foeniculum vulgare</u>	<u>1</u>	No	UPL																																										
4. _____																																													
5. _____																																													
6. _____																																													
7. _____																																													
8. _____																																													
Total Cover: <u>101</u> %																																													
<u>Woody Vine Stratum</u>																																													
1. <u>n/a</u>																																													
2. _____																																													
Total Cover: _____ %																																													
% Bare Ground in Herb Stratum <u>0</u> %		% Cover of Biotic Crust _____ %																																											

Remarks: Typha within the FWM polygon is partially dead, likely due to drought conditions. However, given the large quantity of the species, and the fact that FWM was previously mapped within this area, it was included within the sampling point.

**SOIL**

Sampling Point: DS4b

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features			Loc <sup>2</sup>	Texture <sup>3</sup>	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>			
0-12	7.5YR 4/1	70	5YR 4/6	30	C	PL	Clay	Roots present throughout. Loc <sup>2</sup>

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix.    <sup>2</sup>Location: PL=Pore Lining, RC=Root Channel, M=Matrix.  
<sup>3</sup>Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

<p><b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b></p> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) (LRR C) <input type="checkbox"/> 1 cm Muck (A9) (LRR D) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input checked="" type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Vernal Pools (F9)	<p><b>Indicators for Problematic Hydric Soils:<sup>4</sup></b></p> <input type="checkbox"/> 1 cm Muck (A9) (LRR C) <input type="checkbox"/> 2 cm Muck (A10) (LRR B) <input type="checkbox"/> Reduced Vertic (F18) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Other (Explain in Remarks)
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<sup>4</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

**Hydric Soil Present?**    Yes     No

Remarks: Hydric soils present due to depleted matrix. Depleted matrix has a chroma of 2 or less with redox concentrations (pore linings).

**HYDROLOGY**

<p><b>Wetland Hydrology Indicators:</b></p> <p>Primary Indicators (any one indicator is sufficient)</p> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) (Nonriverine) <input type="checkbox"/> Sediment Deposits (B2) (Nonriverine) <input type="checkbox"/> Drift Deposits (B3) (Nonriverine) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Biotic Crust (B12) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6) <input type="checkbox"/> Other (Explain in Remarks)	<p><u>Secondary Indicators (2 or more required)</u></p> <input type="checkbox"/> Water Marks (B1) (Riverine) <input type="checkbox"/> Sediment Deposits (B2) (Riverine) <input type="checkbox"/> Drift Deposits (B3) (Riverine) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5)
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**Field Observations:**

Surface Water Present?	Yes <input type="radio"/>	No <input checked="" type="radio"/>	Depth (inches): _____
Water Table Present?	Yes <input type="radio"/>	No <input checked="" type="radio"/>	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes <input type="radio"/>	No <input checked="" type="radio"/>	Depth (inches): _____

**Wetland Hydrology Present?**    Yes     No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Water was not present within the sampling point, however there are oxidized rhizospheres along roots present within the soil pit. Therefore, wetland hydrology is present.

**WETLAND DETERMINATION DATA FORM - Arid West Region**

Project/Site: Village 13 (OTAY) City/County: San Diego/San Diego Sampling Date: 1/3/14  
 Applicant/Owner: Baldwin & Sons LLC State: CA Sampling Point: DS4c  
 Investigator(s): Patricia Schuyler, Thomas Liddicoat Section, Township, Range: Section 5, Township 18S, Range 1E  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave Slope (%): \_\_\_\_\_  
 Subregion (LRR): C - Mediterranean California Lat: 32.634791 Long: -116.906994 Datum: NAD83  
 Soil Map Unit Name: Olivenhain cobbly loam, 9 to 30 percent slopes NWI classification: \_\_\_\_\_

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation  Soil  or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation  Soil  or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: <u>Data Station pit within AGL/dCSS area approximately 10 ft from sampling point DS4b and approximately 35 ft from sampling point DS4a.</u>	

**VEGETATION**

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b>	
1. <u>n/a</u>				Number of Dominant Species That Are OBL, FACW, or FAC:	<u>0</u> (A)
2. _____				Total Number of Dominant Species Across All Strata:	<u>2</u> (B)
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>0.0 %</u> (A/B)
4. _____					
Total Cover: _____ %					
Sapling/Shrub Stratum				<b>Prevalence Index worksheet:</b>	
1. <u>Lotus scoparius (Acmispon glaber)</u>	<u>8</u>	<u>Yes</u>	<u>UPL</u>	Total % Cover of: _____ Multiply by: _____	
2. <u>Eriogonum fasciculatum</u>	<u>2</u>	<u>No</u>	<u>UPL</u>	OBL species	<u>0</u>
3. <u>Baccharis pilularis</u>	<u>1</u>	<u>No</u>	<u>UPL</u>	FACW species	<u>0</u>
4. _____				FAC species	<u>0</u>
5. _____				FACU species	<u>60</u>
	<u>11 %</u>			UPL species	<u>255</u>
				Column Totals:	<u>66</u> (A) <u>315</u> (B)
				Prevalence Index = B/A = <u>4.77</u>	
Herb Stratum				<b>Hydrophytic Vegetation Indicators:</b>	
1. <u>Centaurea melitensis</u>	<u>40</u>	<u>Yes</u>	<u>UPL</u>	<input checked="" type="checkbox"/> Dominance Test is >50%	
2. <u>Bromus hordeaceus</u>	<u>15</u>	<u>No</u>	<u>FACU</u>	<input checked="" type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup>	
3. _____				<input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)	
4. _____				<input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)	
5. _____				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.	
6. _____					
7. _____					
8. _____					
	<u>55 %</u>			<b>Hydrophytic Vegetation Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>	
Woody Vine Stratum					
1. <u>n/a</u>					
2. _____					
	_____ %				
% Bare Ground in Herb Stratum <u>15 %</u>		% Cover of Biotic Crust _____ %			

Remarks: Area mapped within area mapped as non-native grassland. Some shrubs present.

**SOIL**

Sampling Point: DS4c

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture <sup>3</sup>	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-10	5YR 3/3	100					Sandy clay loam	roots in upper 4 inches
10-								Rocks (unable to dig deeper)

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix.    <sup>2</sup>Location: PL=Pore Lining, RC=Root Channel, M=Matrix.  
<sup>3</sup>Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

<b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) (LRR C) <input type="checkbox"/> 1 cm Muck (A9) (LRR D) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4)		<input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Vernal Pools (F9)	<b>Indicators for Problematic Hydric Soils:<sup>4</sup></b> <input type="checkbox"/> 1 cm Muck (A9) (LRR C) <input type="checkbox"/> 2 cm Muck (A10) (LRR B) <input type="checkbox"/> Reduced Vertic (F18) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Other (Explain in Remarks)
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<sup>4</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present.

<b>Restrictive Layer (if present):</b> Type: _____ Depth (inches): _____ Remarks: _____	<b>Hydric Soil Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>
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**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (any one indicator is sufficient) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) (Nonriverine) <input type="checkbox"/> Sediment Deposits (B2) (Nonriverine) <input type="checkbox"/> Drift Deposits (B3) (Nonriverine) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Biotic Crust (B12) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6) <input type="checkbox"/> Other (Explain in Remarks)	<b>Secondary Indicators (2 or more required)</b> <input type="checkbox"/> Water Marks (B1) (Riverine) <input type="checkbox"/> Sediment Deposits (B2) (Riverine) <input type="checkbox"/> Drift Deposits (B3) (Riverine) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5)
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<b>Field Observations:</b> Surface Water Present?    Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present?    Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe)    Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____	<b>Wetland Hydrology Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Arid West Region**

Project/Site: Village 13 (OTAY) City/County: San Diego, San Diego Sampling Date: 1/3/14  
 Applicant/Owner: Baldwin & Sons LLC State: CA Sampling Point: DS5  
 Investigator(s): Patricia Schuyler, Thomas Liddicoat Section, Township, Range: Section 31, Township 17S, Range 1E  
 Landform (hillslope, terrace, etc.): Depression Basin Local relief (concave, convex, none): Concave Slope (%): 0  
 Subregion (LRR): C - Mediterranean California Lat: 32.644822 Long: -116.9216 Datum: NAD83  
 Soil Map Unit Name: Olivenhain cobbly loam, 9 to 30 percent slopes NWI classification: \_\_\_\_\_

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation  Soil  or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation  Soil  or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: <u>Sampling point within an area mapped as mulefat scrub (MFS). The MFS is within an area that appears to be an old stock pond basin.</u>	

**VEGETATION**

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b>	
1. <u>n/a</u>				Number of Dominant Species That Are OBL, FACW, or FAC:	<u>1</u> (A)
2. _____				Total Number of Dominant Species Across All Strata:	<u>4</u> (B)
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>25.0 %</u> (A/B)
4. _____					
Total Cover: _____ %					
Sapling/Shrub Stratum				<b>Prevalence Index worksheet:</b>	
1. <u>Baccharis salicifolia</u>	<u>85</u>	<u>Yes</u>	<u>FAC</u>	Total % Cover of:	Multiply by:
2. <u>Baccharis pilularis</u>	<u>3</u>	<u>No</u>	<u>UPL</u>	OBL species	<u>x 1 = 0</u>
3. <u>Artemisia californica</u>	<u>1</u>	<u>No</u>	<u>UPL</u>	FACW species	<u>x 2 = 0</u>
4. _____				FAC species	<u>85 x 3 = 255</u>
5. _____				FACU species	<u>x 4 = 0</u>
Total Cover: <u>89 %</u>				UPL species	<u>10 x 5 = 50</u>
Herb Stratum				Column Totals:	<u>95 (A) 305 (B)</u>
1. <u>Cynara cardunculus</u>	<u>2</u>	<u>Yes</u>	<u>UPL</u>	Prevalence Index = B/A = <u>3.21</u>	
2. <u>Centaurea melitensis</u>	<u>2</u>	<u>Yes</u>	<u>UPL</u>		
3. <u>Brassica ssp.</u>	<u>2</u>	<u>Yes</u>	<u>UPL</u>		
4. _____					
5. _____					
6. _____					
7. _____					
8. _____					
Total Cover: <u>6 %</u>					
Woody Vine Stratum				<b>Hydrophytic Vegetation Indicators:</b>	
1. <u>n/a</u>				<input checked="" type="checkbox"/> Dominance Test is >50%	
2. _____				<input checked="" type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup>	
Total Cover: _____ %				<input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)	
% Bare Ground in Herb Stratum <u>5 %</u>		% Cover of Biotic Crust _____ %		<input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)	
				<b>Hydrophytic Vegetation Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>	

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present.

**Hydrophytic Vegetation Present?** Yes  No

Remarks: Understory mostly Baccharis salicifolia debris (i.e., dead plant material) and non-native herbs.

**SOIL**

Sampling Point: DS5

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture <sup>3</sup>	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-4	7.5YR 2.5/2	100					sandy loam	roots present
4-16	7.5YR 2.5/2	50	5YR 4/6	50	C	PL	sandy clay loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix.    <sup>2</sup>Location: PL=Pore Lining, RC=Root Channel, M=Matrix.  
<sup>3</sup>Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

<b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) ( <b>LRR C</b> ) <input type="checkbox"/> 1 cm Muck (A9) ( <b>LRR D</b> ) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4)		<input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input checked="" type="checkbox"/> Depleted Matrix (F3) <input checked="" type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Vernal Pools (F9)	<b>Indicators for Problematic Hydric Soils:<sup>4</sup></b> <input type="checkbox"/> 1 cm Muck (A9) ( <b>LRR C</b> ) <input type="checkbox"/> 2 cm Muck (A10) ( <b>LRR B</b> ) <input type="checkbox"/> Reduced Vertic (F18) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Other (Explain in Remarks)
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<sup>4</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present.

<b>Restrictive Layer (if present):</b> Type: _____ Depth (inches): _____	<b>Hydric Soil Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>
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Remarks: Redox concentrations were very prominent but not distinctive in matrix due to small size.  
 Depleted Matrix with depth 0-4 and Redox Dark Surface with depth (4-16).

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (any one indicator is sufficient) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) ( <b>Nonriverine</b> ) <input type="checkbox"/> Sediment Deposits (B2) ( <b>Nonriverine</b> ) <input type="checkbox"/> Drift Deposits (B3) ( <b>Nonriverine</b> ) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Biotic Crust (B12) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6) <input type="checkbox"/> Other (Explain in Remarks)	<b>Secondary Indicators (2 or more required)</b> <input type="checkbox"/> Water Marks (B1) ( <b>Riverine</b> ) <input type="checkbox"/> Sediment Deposits (B2) ( <b>Riverine</b> ) <input type="checkbox"/> Drift Deposits (B3) ( <b>Riverine</b> ) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5)
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<b>Field Observations:</b> Surface Water Present?    Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present?    Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe)    Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____	<b>Wetland Hydrology Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

# **APPENDIX E**

## *Village 13 Vernal Pool Floral Inventory*



# APPENDIX E

## Village 13 Vernal Pool Floral Inventory

### EXCEL TABLE FOR K6 MESA

Scientific Name	Common Name	1*	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
<i>Allium</i> sp.	onion																
<i>Alpecurus howellii</i>	Howell's foxtail					X											
<i>Avena barbata</i>	slender oat								X	X		X			X	X	
<i>Brodiaea jolonensis</i>	dwarf brodiaea			X		X		X	X				X	X			
<i>Bromus hordeaceus</i>	soft chess		X	X					X	X		X	X	X	X		X
<i>Bromus madritensis</i> ssp. <i>rubens</i>	foxtail chess				X						X				X	X	
<i>Calochortus splendens</i>	lilac manpova				X												
<i>Calystegia macrostegia</i>	western bindweed																
<i>Casilleja exserta</i>	common owl's-clover																
<i>Cerastium venustum</i>	cranulagium							X	X								
<i>Chlorogalum parviflorum</i>	small-flowered amole		X		X							X			X	X	
<i>Conula australis</i>	Australian brim-bottom																
<i>Crotalaria aguttata</i>	pygmyweed						X										
<i>Deinandra [Hemizonia] fasciculata</i>	fasciated tarweed		X	X	X		X	X	X	X	X	X	X	X	X	X	X
<i>Deschampsia ikanthoides</i>	hairgrass			X		X		X	X		X		X	X			
<i>Dodecatheon clevelandii</i>	shooting star																
<i>Dudleya variegata</i>	variegated dudleya																
<i>Eleocharis macrorhachya</i>	pale spike-rush			X									X				
<i>Eremocarpus setigerus</i>	cloverweed																
<i>Eriogonum fasciculatum</i>	California buckwheat		X														
<i>Erodium botrys</i>	broad-leaved filaree																
<i>Erodium</i> sp.	filaree									X	X						X
<i>Filago gallica</i>	narrow-leaf filago																
<i>Gastridium ventricosum</i>	nutgrass			X	X	X	X	X	X	X	X	X			X		X
<i>Hordeum</i> sp.	barley		X				X							X			
<i>Hypochaeris glabra</i>	smooth ear's-ear										X						X
<i>Jacoma menziesii</i>	coastal goldenbush			X													X
<i>Juncus biglomis</i>	toad-rush		X		X	X	X	X	X	X	X	X	X	X			
<i>Lepidium</i> sp.	peppergrass									X							X
<i>Lolium</i> sp.	ryegrass																
<i>Lolium hyzopifolia</i>	Hysop leonestrif			X		X	X	X	X	X	X	X	X				X
<i>Microseris douglasii</i>	Douglas's microseris																
<i>Microseris minima</i> var. <i>grua</i>	mouse-tail					X		X					X				
<i>Nassella pulchra</i>	purple needlegrass		X														X
<i>Plagiobolus</i> sp.	popcorn flower						X			X							
<i>Polypogon monspeliensis</i>	rabbit's-foot grass							X					X				
<i>Psilocarphus brevistylus</i>	woolly-heads			X		X	X	X	X	X	X		X	X			
<i>Selaginella cinerascens</i>	ashy spike-moss		X		X												
<i>Sisyrinchium bellum</i>	blue-eyed grass				X				X	X	X	X				X	X
<i>Spergularia bocconi</i>	sand spurrey																
<i>Timochia arguta</i>	southern tussock		X														
<i>Trichostema lanceolatum</i>	vinegar weed			X													
<i>Valota menziesii</i>	rat-tail fescue							X	X			X					X

\* No data collected

## APPENDIX E (Continued)

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### K6 MESA

#### K6 VP2

*Bromus hordeaceus* – soft chess  
*Chlorogalum parviflorum* – small-flowered amole  
*Deinandra* [*Hemizonia*] *fasciculata* – fascicled tarweed  
*Eriogonum fasciculatum* – California buckwheat  
*Nassella pulchra* – purple needlegrass  
*Selaginella cinerascens* – ashy spike-moss  
*Tauschia arguta* – southern tauschia

#### K6 VP3

*Brodiaea joloensis* – dwarf brodiaea  
*Bromus hordeaceus* – soft chess  
*Deinandra* [*Hemizonia*] *fasciculata* – fascicled tarweed  
*Deschampsia danthonioides* – hairgrass  
*Eleocharis macrostachya* – pale spike-rush  
*Hordeum* sp. – barley  
*Juncus bufonius* – toad-rush  
*Lythrum hyssopifolia* – Hyssop loosestrife  
*Psilocarphus brevissimus* – woolly-heads  
*Trichostema lanceolatum* – vinegar weed

#### K6 VP4

*Bromus madritensis* ssp. *rubens* – foxtail chess  
*Calochortus splendens* – lilac mariposa  
*Chlorogalum parviflorum* – small-flowered amole  
*Deinandra* [*Hemizonia*] *fasciculata* – fascicled tarweed  
*Gastridium ventricosum* – nitgrass  
*Isocoma menziesii* – coastal goldenbush  
*Selaginella cinerascens* – ashy spike-moss

#### K6 VP5

*Alopecurus howelli* – Howell's foxtail  
*Brodiaea joloensis* – dwarf brodiaea  
*Deschampsia danthonioides* – hairgrass  
*Gastridium ventricosum* – nitgrass  
*Juncus bufonius* – toad-rush  
*Lythrum hyssopifolia* – Hyssop loosestrife  
*Myosurus minimus* var. *apus* – mouse-tail (not observed since 1990)

## APPENDIX E (Continued)

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*Psilocarphus brevissimus* – woolly-heads

*Sisyrinchium bellum* – blue-eyed grass

### K6 VP6

*Crassula aquatica* – pygmyweed

*Deinandra* [*Hemizonia*] *fasciculata* – fascicled tarweed

*Gastridium ventricosum* – nitgrass

*Hordeum* sp. – barley

*Juncus bufonius* – toad-rush

*Lythrum hyssopifolia* – Hyssop loosestrife

*Psilocarphus brevissimus* – woolly-heads

*Vulpia myuros* – rattail fescue

### K6 VP7

*Brodiaea joloensis* – dwarf brodiaea

*Centaurium venustum* – canchalagua

*Deinandra* [*Hemizonia*] *fasciculata* – fascicled tarweed

*Deschampsia danthonioides* – hairgrass

*Gastridium ventricosum* – nitgrass

*Juncus bufonius* – toad-rush

*Lythrum hyssopifolia* – Hyssop loosestrife

*Myosurus minimus* var. *apus* – mouse-tail (not observed since 1990)

*Polypogon monspeliensis* – rabbit's-foot grass

*Psilocarphus brevissimus* – woolly-heads

*Vulpia myuros* – rattail fescue

### K6 VP8

*Avena barbata* – slender oat

*Brodiaea joloensis* – dwarf brodiaea

*Bromus hordeaceus* – soft chess

*Centaurium venustum* – canchalagua

*Deinandra* [*Hemizonia*] *fasciculata* – fascicled tarweed

*Deschampsia danthonioides* – hairgrass

*Gastridium ventricosum* – nitgrass

*Juncus bufonius* – toad-rush

*Lythrum hyssopifolia* – Hyssop loosestrife

*Psilocarphus brevissimus* – woolly-heads

*Sisyrinchium bellum* – blue-eyed grass

## APPENDIX E (Continued)

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### K6 VP9

*Avena barbata* – slender oat  
*Bromus hordeaceus* – soft chess  
*Deinandra* [*Hemizonia*] *fasciculata* – fascicled tarweed  
*Erodium* sp. – filaree  
*Gastridium ventricosum* – nitgrass  
*Juncus bufonius* – toad-rush  
*Lepidium* sp. – peppergrass  
*Lythrum hyssopifolia* – Hyssop loosestrife  
*Plagiobothrys* sp. – popcorn flower  
*Psilocarphus brevissimus* – woolly-heads  
*Sisyrinchium bellum* – blue-eyed grass

### K6 VP10

*Bromus hordeaceus* – soft chess  
*Bromus madritensis* ssp. *rubens* – foxtail chess  
*Deinandra* [*Hemizonia*] *fasciculata* – fascicled tarweed  
*Deschampsia danthonioides* – hairgrass  
*Gastridium ventricosum* – nitgrass  
*Hypochaeris glabra* – smooth cat's-ear  
*Juncus bufonius* – toad-rush  
*Lythrum hyssopifolia* – Hyssop loosestrife  
*Psilocarphus brevissimus* – woolly-heads  
*Sisyrinchium bellum* – blue-eyed grass

### K6 VP11

*Avena barbata* – slender oat  
*Bromus hordeaceus* – soft chess  
*Chlorogalum parviflorum* – small-flowered amole  
*Deinandra* [*Hemizonia*] *fasciculata* – fascicled tarweed  
*Erodium* sp. – filaree  
*Gastridium ventricosum* – nitgrass  
*Juncus bufonius* – toad-rush  
*Lythrum hyssopifolia* – Hyssop loosestrife  
*Sisyrinchium bellum* – blue-eyed grass  
*Vulpia myuros* – rattle tail fescue

### K6 VP12

*Brodiaea joloensis* – dwarf brodiaea  
*Bromus hordeaceus* – soft chess

## APPENDIX E (Continued)

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*Deinandra* [*Hemizonia*] *fasciculata* – fascicled tarweed  
*Deschampsia danthonioides* – hairgrass  
*Eleocharis macrostachya* – pale spike-rush  
*Juncus bufonius* – toad-rush  
*Lythrum hyssopifolia* – Hyssop loosestrife  
*Myosurus minimus* var. *apus* – mouse-tail (not observed since 1990)  
*Polypogon monspeliensis* – rabbit's-foot grass  
*Psilocarphus brevissimus* – woolly-heads

### K6 VP13

*Brodiaea joloensis* – dwarf brodiaea  
*Bromus hordeaceus* – soft chess  
*Deinandra* [*Hemizonia*] *fasciculata* – fascicled tarweed  
*Deschampsia danthonioides* – hairgrass  
*Hordeum* sp. – barley  
*Juncus bufonius* – toad-rush  
*Psilocarphus brevissimus* – woolly-heads

### K6 VP14

*Avena barbata* – slender oat  
*Bromus hordeaceus* – soft chess  
*Bromus madritensis* ssp. *rubens* – foxtail chess  
*Chlorogalum parviflorum* – small-flowered amole  
*Deinandra* [*Hemizonia*] *fasciculata* – fascicled tarweed  
*Gastridium ventricosum* – nitgrass  
*Hordeum* sp. – barley

### K6 VP15

*Avena barbata* – slender oat  
*Bromus madritensis* ssp. *rubens* – foxtail chess  
*Chlorogalum parviflorum* – small-flowered amole  
*Crassula aquatica* – pygmyweed  
*Deinandra* [*Hemizonia*] *fasciculata* – fascicled tarweed  
*Hypochaeris glabra* – smooth cat's-ear  
*Isocoma menziesii* – coastal goldenbush  
*Nassella pulchra* – purple needlegrass  
*Sisyrinchium bellum* – blue-eyed grass  
*Vulpia myuros* – rattail fescue

## APPENDIX E (Continued)

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### K6 VP16

*Bromus hordeaceus* – soft chess

*Deinandra* [*Hemizonia*] *fasciculata* – fascicled tarweed

*Erodium* sp. – filaree

*Gastridium ventricosum* – nitgrass

*Lepidium* sp. – peppergrass

*Lythrum hyssopifolia* – Hyssop loosestrife

*Sisyrinchium bellum* – blue-eyed grass

## APPENDIX E (Continued)

### EXCEL TABLE FOR K8 MESA

Plant Species Observed		Vernal Pool																
Scientific Name	Common Name	1	2	4	5	6	7	8	10	11	13	14	15	16	A1	A2	A3	A4
<i>Allium</i> sp.	onion												X					
<i>Alopecurus howelli</i>	Howell's foxtail		X	X	X	X	X	X		X	X	X	X	X	X		X	X
<i>Avena barbata</i>	slender oat															X		
<i>Brodiaea jolonensis</i>	dwarf brodiaea	X						X		X	X	X						X
<i>Bromus hordeaceus</i>	soft chess	X	X	X		X	X	X	X	X			X	X	X	X		X
<i>Bromus madriensis</i> ssp. <i>rubens</i>	foxtail chess																	
<i>Calochortus splendens</i>	lilac mariposa																	
<i>Calystegia macrostegia</i>	western birdweed				X					X	X							
<i>Castilleja exserta</i>	common owl's-clover							X							X			
<i>Centaureum venustum</i>	cunchalagua	X						X										
<i>Chlorogalum parviflorum</i>	small-flowered amole							X	X					X				
<i>Cotula australis</i>	Australian brass-butons	X																
<i>Crucula aquaticus</i>	pygmyweed	X														X		
<i>Desmodium</i> [ <i>Hemizonia</i> ] <i>fasciculata</i>	fascicled tarweed	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
<i>Dexhamyza danthonioides</i>	hairgrass	X	X	X	X	X	X	X		X			X	X				
<i>Dodecatheon clevelandii</i>	shooting star														X			
<i>Dudleya variegata</i>	variegated dudleya																	
<i>Eleocharis macrostachya</i>	pale spike-rush	X			X			X		X	X							
<i>Eremocarpus setigerus</i>	dewweed	X						X			X		X	X				
<i>Eriogonum fasciculatum</i>	California buckwheat																	
<i>Erodium botrys</i>	broad-leaved filaree								X									
<i>Erodium</i> sp.	filaree																X	
<i>Filago gallica</i>	narrow-leaf filago	X																
<i>Gastridium ventricosum</i>	nutgrass		X	X		X	X	X	X	X	X		X			X	X	
<i>Hordeum</i> sp.	barley	X	X	X				X							X			
<i>Hypochaeris glabra</i>	smooth cat's-ear																	
<i>Isocoma menziesii</i>	coastal gelderhush																	
<i>Juncus hufotus</i>	toad-rush	X	X	X	X	X	X	X		X	X	X		X	X			
<i>Lepidium</i> sp.	peppergrass	X																
<i>Lolium</i> sp.	ryegrass		X															
<i>Lythrum hyssopifolia</i>	Hyssop loosestrife	X	X	X		X	X	X		X	X	X	X	X	X			X
<i>Microseris douglasii</i>	Douglas's microseris			X		X		X	X								X	
<i>Myosurus minimus</i> var. <i>apua</i>	mouse-tail																	
<i>Nassella pulchra</i>	purple needlegrass												X					
<i>Plagiobothrys</i> sp.	popcorn flower	X														X		
<i>Polygonum monspeliensis</i>	rabbit's-foot grass	X													X			
<i>Ptilocarpus brevistamus</i>	woolly-heads	X	X	X	X	X	X	X		X		X	X	X	X			X
<i>Salvinella cinerascens</i>	ashy spike-moss																	
<i>Sizyrachium bellum</i>	blue-eyed grass							X	X	X	X				X			
<i>Spergularia bocconii</i>	sand spurrey	X																
<i>Tauschia arguta</i>	southern tauschia																	
<i>Trichostema lanceolatum</i>	vinegar weed											X	X	X				
<i>Vulpia myuros</i>	rattail fescue																	

## APPENDIX E (Continued)

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### K8 MESA

#### K8 VP1

*Brodiaea joloensis* – dwarf brodiaea  
*Bromus hordeaceus* – soft chess  
*Centaurium venustum* – canchalagua  
*Cotula australis* – Australian brass-buttons  
*Crassula aquatica* – pygmyweed  
*Deinandra* [*Hemizonia*] *fasciculata* – fascicled tarweed  
*Deschampsia danthonioides* – hairgrass  
*Eleocharis macrostachya* – pale spike-rush  
*Eremocarpus setigerus* – doveweed  
*Filago gallica* – narrow-leaf filago  
*Hordeum* sp. – barley  
*Juncus bufonius* – toad-rush  
*Lepidium* sp. – peppergrass  
*Lythrum hyssopifolia* – Hyssop loosestrife  
*Polypogon monspeliensis* – rabbit's-foot grass  
*Psilocarphus brevissimus* – woolly-heads  
*Spergularia bocconii* – sand spurrey

#### K8 VP2

*Alopecurus howelli* – Howell's foxtail  
*Bromus hordeaceus* – soft chess  
*Deinandra* [*Hemizonia*] *fasciculata* – fascicled tarweed  
*Deschampsia danthonioides* – hairgrass  
*Gastridium ventricosum* – nitgrass  
*Hordeum* sp. – barley  
*Juncus bufonius* – toad-rush  
*Lolium* sp. – ryegrass  
*Lythrum hyssopifolia* – Hyssop loosestrife  
*Psilocarphus brevissimus* – woolly-heads

#### K8 VP4

*Alopecurus howelli* – Howell's foxtail  
*Bromus hordeaceus* – soft chess  
*Deinandra* [*Hemizonia*] *fasciculata* – fascicled tarweed  
*Deschampsia danthonioides* – hairgrass  
*Gastridium ventricosum* – nitgrass  
*Hordeum* sp. – barley

## APPENDIX E (Continued)

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*Juncus bufonius* – toad-rush  
*Lythrum hyssopifolia* – Hyssop loosestrife  
*Microseris douglasii* – Douglas’s microseris  
*Psilocarphus brevissimus* – woolly-heads

### K8 VP5

*Alopecurus howelli* – Howell’s foxtail  
*Calystegia macrostegia* – western bindweed  
*Deinandra [Hemizonia] fasciculata* – fascicled tarweed  
*Deschampsia danthonioides* – hairgrass  
*Eleocharis macrostachya* – pale spike-rush  
*Juncus bufonius* – toad-rush  
*Psilocarphus brevissimus* – woolly-heads

### K8 VP6

*Alopecurus howelli* – Howell’s foxtail  
*Bromus hordeaceus* – soft chess  
*Deinandra [Hemizonia] fasciculata* – fascicled tarweed  
*Deschampsia danthonioides* – hairgrass  
*Gastridium ventricosum* – nitgrass  
*Juncus bufonius* – toad-rush  
*Lythrum hyssopifolia* – Hyssop loosestrife  
*Microseris douglasii* – Douglas’s microseris  
*Psilocarphus brevissimus* – woolly-heads  
*Alopecurus howelli* – Howell’s foxtail  
*Bromus hordeaceus* – soft chess  
*Deinandra [Hemizonia] fasciculata* – fascicled tarweed  
*Deschampsia danthonioides* – hairgrass  
*Eremocarpus setigerus* – doveweed  
*Gastridium ventricosum* – nitgrass  
*Juncus bufonius* – toad-rush  
*Lythrum hyssopifolia* – Hyssop loosestrife  
*Psilocarphus brevissimus* – woolly-heads

### K8 VP8

*Alopecurus howelli* – Howell’s foxtail  
*Brodiaea joloensis* – dwarf brodiaea  
*Bromus hordeaceus* – soft chess  
*Castilleja exserta* – common owl’s-clover  
*Centaurium venustum* – canchalagua

## APPENDIX E (Continued)

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*Chlorogalum parviflorum* – small-flowered amole  
*Deinandra* [*Hemizonia*] *fasciculata* – fascicled tarweed  
*Deschampsia danthonioides* – hairgrass  
*Eleocharis macrostachya* – pale spike-rush  
*Gastridium ventricosum* – nitgrass  
*Hordeum* sp. – barley  
*Juncus bufonius* – toad-rush  
*Lythrum hyssopifolia* – Hyssop loosestrife  
*Microseris douglasii* – Douglas’s microseris  
*Psilocarphus brevissimus* – woolly-heads  
*Sisyrinchium bellum* – blue-eyed grass

### K8 VP10

*Bromus hordeaceus* – soft chess  
*Chlorogalum parviflorum* – small-flowered amole  
*Deinandra* [*Hemizonia*] *fasciculata* – fascicled tarweed  
*Erodium botrys* – broad-leaved filaree  
*Gastridium ventricosum* – nitgrass  
*Microseris douglasii* – Douglas’s microseris  
*Sisyrinchium bellum* – blue-eyed grass

### K8 VP11

*Alopecurus howelli* – Howell’s foxtail  
*Brodiaea joloensis* – dwarf brodiaea  
*Bromus hordeaceus* – soft chess  
*Calystegia macrostegia* – western bindweed  
*Deinandra* [*Hemizonia*] *fasciculata* – fascicled tarweed  
*Deschampsia danthonioides* – hairgrass  
*Eleocharis macrostachya* – pale spike-rush  
*Eremocarpus setigerus* – doveweed  
*Gastridium ventricosum* – nitgrass  
*Juncus bufonius* – toad-rush  
*Lythrum hyssopifolia* – Hyssop loosestrife  
*Psilocarphus brevissimus* – woolly-heads  
*Sisyrinchium bellum* – blue-eyed grass

### K8 VP 13

*Alopecurus howelli* – Howell’s foxtail  
*Brodiaea joloensis* – dwarf brodiaea  
*Deinandra* [*Hemizonia*] *fasciculata* – fascicled tarweed

## APPENDIX E (Continued)

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*Eleocharis macrostachya* – pale spike-rush  
*Gastridium ventricosum* – nitgrass  
*Juncus bufonius* – toad-rush  
*Lythrum hyssopifolia* – Hyssop loosestrife  
*Sisyrinchium bellum* – blue-eyed grass

### K8 VP14

*Alopecurus howelli* – Howell's foxtail  
*Brodiaea joloensis* – dwarf brodiaea  
*Calystegia macrostegia* – western bindweed  
*Deinandra* [*Hemizonia*] *fasciculata* – fascicled tarweed  
*Juncus bufonius* – toad-rush  
*Lythrum hyssopifolia* – Hyssop loosestrife  
*Psilocarphus brevissimus* – woolly-heads  
*Trichostema lanceolatum* – vinegar weed

### K8 VP15

*Allium* sp. – onion  
*Alopecurus howelli* – Howell's foxtail  
*Brodiaea joloensis* – dwarf brodiaea  
*Bromus hordeaceus* – soft chess  
*Deinandra* [*Hemizonia*] *fasciculata* – fascicled tarweed  
*Deschampsia danthonioides* – hairgrass  
*Eremocarpus setigerus* – doveweed  
*Gastridium ventricosum* – nitgrass  
*Lythrum hyssopifolia* – Hyssop loosestrife  
*Nassella pulchra* – purple needlegrass  
*Psilocarphus brevissimus* – woolly-heads  
*Trichostema lanceolatum* – vinegar weed

### K8 VP16

*Alopecurus howelli* – Howell's foxtail  
*Bromus hordeaceus* – soft chess  
*Chlorogalum parviflorum* – small-flowered amole  
*Deinandra* [*Hemizonia*] *fasciculata* – fascicled tarweed  
*Deschampsia danthonioides* – hairgrass  
*Eremocarpus setigerus* – doveweed  
*Juncus bufonius* – toad-rush  
*Lythrum hyssopifolia* – Hyssop loosestrife  
*Polypogon monspeliensis* – rabbit's-foot grass

## APPENDIX E (Continued)

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*Psilocarphus brevissimus* – woolly-heads

*Trichostema lanceolatum* – vinegar weed

### K8 VPA1

*Alopecurus howelli* – Howell's foxtail

*Bromus hordeaceus* – soft chess

*Castilleja exserta* – common owl's-clover

*Crassula aquatica* – pygmyweed

*Deinandra [Hemizonia] fasciculata* – fascicled tarweed

*Dodecatheon clevelandii* – shooting star

*Hordeum* sp. – barley

*Juncus bufonius* – toad-rush

*Lythrum hyssopifolia* – Hyssop loosestrife

*Psilocarphus brevissimus* – woolly-heads

*Sisyrinchium bellum* – blue-eyed grass

### K8 VPA2

*Avena barbata* – slender oat

*Bromus hordeaceus* – soft chess

*Deinandra [Hemizonia] fasciculata* – fascicled tarweed

*Erodium botrys* – broad-leaved filaree

*Gastridium ventricosum* – nitgrass

*Plagiobothrys* sp. – popcorn flower

### K8 VPA3

*Alopecurus howelli* – Howell's foxtail

*Deinandra [Hemizonia] fasciculata* – fascicled tarweed

*Gastridium ventricosum* – nitgrass

*Microseris douglasii* – Douglas's microseris

# **APPENDIX F**

*Sensitive Plant and Animal Species  
Potentially Occurring on Site*



**APPENDIX F**  
**Sensitive Plant and Animal Species Potentially Occuring on Site**

**Sensitive Plant Species Detected or Potentially Occurring in the Project Area**

Scientific Name Common Name	Status Federal/State CRPR, MSCP Coverage County List	Primary Habitat Associations/ Life Form/Blooming Period	Status On Site		
			Previous Studies	Current Surveys	Comments
<i>Acanthomintha ilicifolia</i> San Diego thornmint	FT/SE 1B.1, Covered –NE A	Chaparral, coastal sage scrub, valley and foothill grassland, vernal pools, clays, openings/annual herb/ April–June	MBA 89/90	Observed in all recent surveys	Identified in two disturbed areas with heavy clay soils. Associated vegetation consists of non-native grasses and annuals. Populations cover approximately 0.1 and 3.3 acres each. Because the population is densely distributed in these locations, the actual number of individuals was not quantified. Analysis of this plant is based on the acreage over which it occurs.
<i>Achnatherum diegoense</i> San Diego County needlegrass	None/None None, Not Covered D	Chaparral, coastal sage scrub/perennial herb/ May–June	MBA 89/90	Not observed in 2000 or more recent surveys	Was originally mapped on ridgetops throughout the site and concentrated in eastern half. Not identified/recorded during recent surveys. Based on the focused rare plant surveys conducted in 2000, it is assumed that the previous MBA survey had probably previously misidentified this species; hence, it is concluded to not be present on site.
<i>Adolphia californica</i> California adolphia	None/None 2B.1, Not Covered B	Chaparral, coastal sage scrub, valley and foothill grassland, clays/shrub/ December–April	Not observed	Observed in 1999	Identified in two locations in the western portion of the site within sparse coastal sage scrub (<20 individuals).
<i>Chorizanthe procumbens</i> Prostrate spineflower	None/None Rejected Not Covered None	Chaparral, coastal scrub/annual herb/ May–June	Not observed	Not observed	Surveyed during flowering period. Low potential to occur.

## APPENDIX F (Continued)

### Sensitive Plant Species Detected or Potentially Occurring in the Project Area

Scientific Name Common Name	Status Federal/State CRPR, MSCP Coverage County List	Primary Habitat Associations/ Life Form/Blooming Period	Status On Site		
			Previous Studies	Current Surveys	Comments
<i>Clarkia delicata</i> Campo clarkia	None/None 1B.2, Not Covered A	Chaparral, cismontane woodland/ annual herb/ April–June	Not observed	Not observed	Moderate potential. Not observed during survey during flowering period..
<i>Clinopodium [Satureja] chandleri</i> San Miguel savory	None/None 1B.2 Covered – NE A	Chaparral, cismontane woodland, coastal scrub, riparian woodland/native grassland/herb/March–July	Not observed	Not observed	Moderate potential to occur on site, especially in OS where no focused surveys were conducted.
<i>Comarostaphylis diversifolia</i> ssp. <i>diversifolia</i> Summer-holly	None/None/ 1B.2, Not Covered A	Chaparral, cismontane woodland/shrub/ April–June	Not observed	Not observed	Moderate potential. Conspicuous shrub; would have been observed if present on site.
<i>Convolvulus simulans</i> Small-flowered morning-glory	None/None 4.2, Not Covered D	Coastal sage scrub, valley and foothill grassland, clay, serpentinite seeps/annual herb/March–June	Not observed	Observed in 2000.	Three locations in western part of project site in clay soil grasslands, approximately 120 total individuals.
<i>Corethrogyne filaginifolia</i> var. <i>incana</i> San Diego sand aster	None/None 1B.1, Not Covered A	Chaparral, coastal bluff scrub, coastal scrub/ perennial herb/ June–September	Not observed	Not observed	Low potential; would have been observed.
<i>Cylindropuntia [Opuntia] californica</i> var. <i>californica</i> Snake cholla	None/None 1B.1 Covered – Narrow Endemic A	Chaparral, coastal sage scrub/shrub/April–May	Not observed	Not observed	Moderate potential; perennial cactus would have been observed during surveys.

## APPENDIX F (Continued)

### Sensitive Plant Species Detected or Potentially Occurring in the Project Area

Scientific Name Common Name	Status Federal/State CRPR, MSCP Coverage County List	Primary Habitat Associations/ Life Form/Blooming Period	Status On Site		
			Previous Studies	Current Surveys	Comments
<i>Deinandra</i> [ <i>Hemizonia</i> ] <i>conjugens</i> Otay tarplant	FT/SE 1B.1, Covered/ Narrow Endemic A	Coastal sage scrub, valley and foothill grassland, clays/annual herb/ May–June	Not observed	Not observed	Moderate potential; focused surveys conducted in July 1999 and spring 2000. Not recorded in existing databases.
<i>Deinandra floribunda</i> Tecate tarplant	None/None 1B.2, Not Covered A	Chaparral, coastal scrub/annual herb/ August–October	Not observed	Not observed	Moderate potential. Focused surveys for tarplant detected no sensitive species.
<i>Dichondra occidentalis</i> Western dichondra	None/None 4.2, Not Covered D	Chaparral, cismontane woodland, coastal sage scrub, valley and foothill grassland/perennial herb/ March–May	MBA 89/90	Observed in 1999 and 2000.	Recorded in eight locations on the central ridges of the site. A total of 30 patches were recorded that vary from 1 to 500 square feet. This species was recorded based on patch size due to low- growing dense form of the species. The species covers approximately 0.50 acre total over the 30 patches.
<i>Dudleya variegata</i> Variegated dudleya	None/None 1B.2, Covered – Narrow Endemic A	Chaparral, cismontane woodland, coastal sage scrub, valley and foothill grassland, vernal pools/perennial herb/ May–June	MBA 89/90	Observed in 1999 and 2000.	Forty occurrences throughout the site. Estimated population size on site is approximately 5,833 individuals. Generally in clay soils and west- facing slopes, ridge lines, or margins of mesas.
<i>Ericameria palmeri</i> var. <i>palmeri</i> Palmer's goldenbush	None/None 1B.1, Covered – Narrow Endemic B	Chaparral, coastal scrub/shrub/ July–November	Not observed	Not observed	Low potential; would have been observed.

## APPENDIX F (Continued)

### Sensitive Plant Species Detected or Potentially Occurring in the Project Area

Scientific Name Common Name	Status Federal/State CRPR, MSCP Coverage County List	Primary Habitat Associations/ Life Form/Blooming Period	Status On Site		
			Previous Studies	Current Surveys	Comments
<i>Eryngium aristulatum</i> var. <i>parishii</i> San Diego button- celery	FE/SE 1B.1, Covered A	Coastal sage scrub, valley and foothill grassland, vernal pools, mesic areas/annual- perennial herb/April-June	Not observed	Not observed	Low potential; would have been observed during vernal pool surveys (Dudek 1990, 1991, 2000).
<i>Ferocactus</i> <i>viridescens</i> San Diego barrel cactus	None/None 2B.1, Covered B	Chaparral, coastal sage scrub, valley and foothill grassland, vernal pools/shrub/May-June	MBA 89/90	Observed in all recent surveys	Identified in 50 locations throughout the project area, generally on south-facing slopes. Occurrences usually consist of <5 individuals; large stands contain 10-15 individuals. Approximately 217 individuals were recorded. Habitat association is generally open coastal sage scrub.
<i>Fremontodendron</i> <i>mexicanum</i> Mexican flannelbush	FE/SR 1B.1, Not Covered A	Woodlands, chaparral/ shrub / March-June	Not observed	Not observed	Requisite gabbro/ metavolcanic soils not present. Conspicuous shrub; would have been observed if present on site. Not expected to occur.
<i>Grindelia hallii</i> [ <i>Grindelia hirsutula</i> var. <i>hallii</i> ] San Diego gumplant	None/None 1B.2, Not Covered A	Chaparral, lower montane conifer forest, meadows and seeps, valley and foothill grassland/perennial herb/July-October	Not observed	Not observed	Moderate potential; would have been observed.
<i>Harpagonella palmeri</i> Palmer's grapplinghook	None/None 4.2, Not Covered D	Chaparral, coastal sage scrub, valley and foothill grassland, clays/annual herb/March-April	Not observed	Observed in 1999 and 2000	Identified in three areas in the eastern and western portions of the site within disturbed coastal sage scrub, dirt road margins, and non- native grassland with heavy clay soils. Approximately 114 individuals were recorded.

## APPENDIX F (Continued)

### Sensitive Plant Species Detected or Potentially Occurring in the Project Area

Scientific Name Common Name	Status Federal/State CRPR, MSCP Coverage County List	Primary Habitat Associations/ Life Form/Blooming Period	Status On Site		
			Previous Studies	Current Surveys	Comments
<i>Hesperocyparis</i> [ <i>Cupressus</i> ] <i>forbesii</i> Tecate cypress	None/None 1B.1, Covered A	Closed-cone conifer forest, chaparral/tree/NA	Not observed	Not observed	Moderate potential; would have been observed.
<i>Holocarpha virgata</i> ssp. <i>elongata</i> Graceful tarplant	None/None 4.2, Not Covered D	Coastal sage scrub, cismontane woodland, valley and foothill grassland/annual herb/August–November	Not observed	Not observed	Low potential; would have been observed.
<i>Hordeum intercedens</i> Vernal barley	None/None 3.2, Not Covered C	Valley and foothill grassland (saline flats and depressions), vernal pools/annual herb/ March–June	Not observed	Not observed	Low potential; would have been observed.
<i>Horkelia truncata</i> Ramona horkelia	None/None 1B.3, Not Covered A	Chaparral, cismontane woodland/perennial/ May–June	Not observed	Not observed	Not observed during focused surveys; suboptimal habitat on site. Not expected to occur.
<i>Hosackia</i> [ <i>Lotus</i> ] <i>crassifolius</i> var. <i>otayensis</i> Otay Mountain lotus	None/ None 1B.1 Not Covered A	Chaparral (metavolcanic, often in disturbed areas)/perennial herb/May– August	Not observed	Not observed	Low potential; would have been observed.
<i>Isocoma menziesii</i> var. <i>decumbens</i> Decumbent goldenbush	None/None 1B.2, Not Covered A	Coastal sage scrub (sandy, often disturbed areas)/shrub/ April–November	Not observed	Not observed	Low potential; would have been observed.

## APPENDIX F (Continued)

### Sensitive Plant Species Detected or Potentially Occurring in the Project Area

Scientific Name Common Name	Status Federal/State CRPR, MSCP Coverage County List	Primary Habitat Associations/ Life Form/Blooming Period	Status On Site		
			Previous Studies	Current Surveys	Comments
<i>Iva hayesiana</i> San Diego marsh-elder	None/None 2B.2, Not Covered B	Playas, riparian, floodplain– upland ecotone/perennial herb/April–September	MBA 89/90	Observed in 1999 and 2000	Abundant within narrow drainages throughout the site. Total on-site population in the thousands. Generally associated with cismontane alkali marsh or sparsely vegetated, rocky stream channels. Due to densely occurring populations within these drainages, this plant was recorded by area rather than number of individuals. A total of 5.4 acres of this species was recorded on site.
<i>Juglans californica</i> California black walnut	None/None 4.2, Not Covered D	Chaparral, cismontane woodland, coastal scrub/ tree/ March–May	Not observed	Not observed	Conspicuous tree; would have been observed. Does not occur on site.
<i>Juncus acutus</i> ssp. <i>leopoldii</i> Southwestern spiny rush	None/None 4.2, Not Covered D	Coastal dunes, meadows and seeps (alkaline), saltwater marsh/perennial herb/May–June	MBA 89/90	Observed 1999 and 2000	Identified in 11 locations within cismontane alkali marsh. Occurrences typically contain <10 individuals. Approximately 30 individuals present
<i>Lathyrus splendens</i> Pride-of-California	None/None 4.3, Not Covered D	Chaparral/perennial herb/March–June	Not observed	Not observed	Conspicuous herb; would have been observed during spring surveys. Not expected to occur on site.
<i>Lepechinia ganderi</i> Gander's pitcher sage	None/None 1B.3, Covered – NE A	Conifer forest, chaparral, coastal scrub, native grassland/shrub/June–July	Not observed	Not observed	Requisite gabbro/metavolcanic soils not found on site. Low potential to occur on site.

## APPENDIX F (Continued)

### Sensitive Plant Species Detected or Potentially Occurring in the Project Area

Scientific Name Common Name	Status Federal/State CRPR, MSCP Coverage County List	Primary Habitat Associations/ Life Form/Blooming Period	Status On Site		
			Previous Studies	Current Surveys	Comments
<i>Lepidium virginicum</i> var. <i>robinsonii</i> Robinson's pepper-grass	None/None/ 4.3, Not Covered A	Chaparral, coastal scrub annual herb/January–July	Not observed	Not observed	Small, inconspicuous herb; tends to flower early. Moderate potential.
<i>Microseris douglasii</i> ssp. <i>platycarpha</i> Small-flowered microseris	None/None 4.2, Not Covered D	Cismontane woodland, coastal sage scrub, valley and foothill grassland, clays/annual herb/ March–May	Not observed	Observed in 2000.	Six locations identified in the western part of the site in open non-native grassland/coastal sage scrub. Approximately 1,270 individuals recorded on the site.
<i>Monardella hypoleuca</i> ssp. <i>lanata</i> Felt-leaved monardella	None/None 1B.2, Covered A	Chaparral, cismontane woodland/herb/ June–August	Not observed	Not observed	Moderate potential to occur within chaparral on site.
<i>Monardella viminea</i> [ <i>M. linoides</i> var. <i>viminea</i> ] Willow monardella	FE/SE 1B.1, Covered – Narrow Endemic A	Closed-cone conifer forest, chaparral, riparian forest, woodland, and scrub/perennial herb/ June–August	Not observed	Not observed	Observed from a single location south of Otay Lakes. Focused surveys not conducted; however, numerous incidental surveys negative.
<i>Myosurus minimus</i> ssp. <i>apus</i> Little mousetail	None/None 3.1, Not Covered C	Valley and foothill grassland, Vernal pools (alkaline)/annual herb/ March–June	MBA 89/90	Not observed in recent surveys.	Identified within three vernal pools on K6 mesa, but number of individuals was not recorded. Was not detected in recent focused surveys and is no longer considered to be present in K6 vernal pools.
<i>Navarretia fossalis</i> Spreading navarretia	FT/None 1B.1, Covered A	Chenopod scrub, shallow freshwater marsh and swamps, vernal pools/annual herb/ April–June	Not observed	Not observed	Low potential; not observed during focused surveys.

## APPENDIX F (Continued)

### Sensitive Plant Species Detected or Potentially Occurring in the Project Area

Scientific Name Common Name	Status Federal/State CRPR, MSCP Coverage County List	Primary Habitat Associations/ Life Form/Blooming Period	Status On Site		
			Previous Studies	Current Surveys	Comments
<i>Nolina interrata</i> Dehesa nolina	None/SE 1B.1, Covered – Narrow Endemic A	Chaparral, gabbroic metavolcanic, or serpentinite soils/perennial herb/June– July	Not observed	Not observed	Low potential; not observed during focused surveys.
<i>Ophioglossum californicum</i> California adder's- tongue	None/None 4.2, Not Covered D	Chaparral, valley and foothill grassland, vernal pools (margins)/perennial herb/December–May	MBA 89/90	Not observed	Two locations mapped near Otay Lakes Road in west and south–central portions of the site. Location was not mapped by MBA. Not identified during recent surveys; may no longer be present since it was not recorded during the rare plant surveys conducted in 2000.
<i>Ornithostaphylos oppositifolia</i> Baja California birdbush	None/SE 2B.1, Not Covered B	Chaparral/shrub/ January–April	Not observed	Not observed	Low potential; not observed during focused surveys.
<i>Packera [=Senecio] ganderi</i> Gander's ragwort	None/CR 1B.2 Covered A	Chaparral (burns, gabbroic outcrops)/herb/April–May	Not observed	Not observed	Low potential due to spring survey results, lack of gabbro outcrops, and location of site west of all known occurrences.
<i>Pentachaeta aurea</i> ssp. <i>aurea</i> Golden-rayed pentachaeta	None/None 4.2, Not Covered D	Open sage scrub, grassland, or disturbed areas/ March- July	Not observed	Observed in 2000	Four locations identified in western portion of site. Approximately 91 individuals occurring in coastal sage scrub/grassland.
<i>Piperia cooperi</i> Chaparral rein orchid	None/None 4.2 Not Covered D	Chaparral, cismontane woodland, valley and foothill grassland/perennial herb/March–June	Not observed	Not observed	Suitable habitat present, but not observed during focused surveys during flowering period. Moderate potential.

## APPENDIX F (Continued)

### Sensitive Plant Species Detected or Potentially Occurring in the Project Area

Scientific Name Common Name	Status Federal/State CRPR, MSCP Coverage County List	Primary Habitat Associations/ Life Form/Blooming Period	Status On Site		
			Previous Studies	Current Surveys	Comments
<i>Piperia leptopetala</i> Narrow-petaled rein orchid	None/None 4.3 Not Covered D	Cismontane woodland, lower montane coniferous forest, upper montane coniferous forest/perennial herb/May– July	Not observed	Not observed	No suitable habitat. Low potential.
<i>Pogogyne nudiuscula</i> Otay Mesa mint	FE/SE 1B.1, Covered A	Vernal pools/annual herb/May–June	Not observed	Not observed	Low potential; not observed during focused surveys.
<i>Polygala cornuta</i> var. <i>fishiae</i> Fish's milkwort	None/None 4.3, Not Covered D	Chaparral, cismontane woodland, riparian woodland/shrub/ May–August	Not observed	Not observed	Not observed during spring surveys; low potential to occur on site.
<i>Quercus cedrosensis</i> Cedros Island oak	None/None 2B.2, Not Covered B	Conifer forest, chaparral, coastal scrub/tree/ April–May	Not observed	Not observed	Outside of known range. Conspicuous tree would have been observed. Not expected to occur on site.
<i>Quercus dumosa</i> Nuttall's scrub oak	None/None 1B.1 Not Covered A	Chaparral, coastal sage scrub, sandy and clay loam soils/shrub/February–March	Not observed	Observed in all recent surveys	Occurs as a major component in areas mapped as scrub oak chaparral (approximately 200 individuals per acre). The acreage encompassed by this species is approximately 6.2 acres, including additional small patches within the chaparral in the western portion of the site.
<i>Quercus engelmannii</i> Engelmann oak	None/ None/ 4.2 Not Covered D	Chaparral, cismontane woodland, riparian woodland, valley and foothill grassland/deciduous tree/March–June	Not observed	Not observed	Conspicuous tree; would have been observed. Not expected to occur on site.

## APPENDIX F (Continued)

### Sensitive Plant Species Detected or Potentially Occurring in the Project Area

Scientific Name Common Name	Status Federal/State CRPR, MSCP Coverage County List	Primary Habitat Associations/ Life Form/Blooming Period	Status On Site		
			Previous Studies	Current Surveys	Comments
<i>Ribes canthariforme</i> Moreno currant	None/None 1B.3 Not Covered A	Chaparral/shrub/ February–April	Not observed	Not observed	Moderate potential. Conspicuous shrub would have been observed.
<i>Romneya coulteri</i> Coulter's matilija poppy	None/None 4.2 Not Covered D	Chaparral, coastal scrub; often in burns/rhizomatous herb/March–July	Not observed	Observed on site	Number and location not recorded on maps. Single location was described as being adjacent to a drainage in the eastern part of the site.
<i>Saltugilia</i> [= <i>Gilia</i> ] <i>caruifolia</i> Caraway-leaved gilia	None/None 4.3 Not Covered D	Chaparral, lower conifer forests/annual herb/ May–August	Not observed	Not observed	Site is below elevation range of species. Not expected to occur.
<i>Salvia munzii</i> Munz's sage	None/None 2B.2 Not Covered B	Chaparral, coastal sage scrub/shrub/February–April	MBA 89/90	Observed in 1999 and 2000	Occurs throughout the site but most densely in the northwestern quarter of the site. Also occurs on K9 mesa. Most areas containing dense coastal sage scrub in this area contains approximately 50%–80% vegetation cover of <i>S. munzii</i> . Because the population is densely distributed in these locations, the actual number of individuals was not quantified. Analysis of this plant is based on the acreage over which it occurs, approximately 295 acres.
<i>Scutellaria bolanderi</i> ssp. <i>austromontana</i> Southern mountains skullcap	None/None 1B.2 Not Covered A	Chaparral, cismontane woodland, lower conifer forest/herb/June–August	Not observed	Not observed	Low potential; site is more coastal of all known occurrences.

## APPENDIX F (Continued)

### Sensitive Plant Species Detected or Potentially Occurring in the Project Area

Scientific Name Common Name	Status Federal/State CRPR, MSCP Coverage County List	Primary Habitat Associations/ Life Form/Blooming Period	Status On Site		
			Previous Studies	Current Surveys	Comments
<i>Stemodia durantifolia</i> purple stemodia	None/None 2.1 Not Covered B	Sonoran desert scrub; often mesic, sandy/perennial herb/January–December	Not observed	Not observed	Moderate potential to occur in intermittent streambeds only.
<i>Tetracoccus dioicus</i> Parry's tetracoccus	None/None 1B.2 Covered A	Chaparral, coastal scrub/shrub/April–May	Not observed	Not observed	Moderate potential. Conspicuous shrub would have been observed.
<i>Viguiera laciniata</i> San Diego County viguiera	None/None 4.2 Not Covered D	Chaparral, coastal sage scrub/shrub/February–June	MBA 89/90	Observed in 1999 and 2000	Occurs throughout the site but most densely in the northern portion of the site. Approximately 1,071 acres are present on site. Comprises between 5% and 30% of vegetation cover in coastal sage scrub.
<i>Xanthisma junceum</i> [ <i>Machaeranthera juncea</i> ] Rush-like bristleweed	None/None 4.3, Not Covered D	Chaparral, coastal scrub/perennial herb/ June–January	Not observed	Not observed	Conspicuous shrub; would have been observed. Not expected to occur on site.

**Federal Designations:**

FE Federally listed as Endangered  
FT Federally listed as Threatened

**State Designations:**

SE State listed as Endangered  
ST State listed as Threatened.

**California Rare Plant Rank:**

CRPR 1A: Plants Presumed Extirpated in California and Either Rare or Extinct Elsewhere  
CRPR 1B: Plants Rare, Threatened, or Endangered in California and Elsewhere  
CRPR 2A: Plants Presumed Extirpated in California, But More Common Elsewhere  
CRPR 2B: Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere  
CRPR 3: Plants About Which More Information is Needed - A Review List  
CRPR 4: Plants of Limited Distribution - A Watch List

## APPENDIX F (Continued)

- .1 Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat)
- .2 Moderately threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat)
- .3 Not very threatened in California (<20% of occurrences threatened / low degree and immediacy of threat or no current threats known)

**MSCP:**

Covered                    Listed as Covered Species in Appendix B of Implementing Agreement between CDFW, USFWS, and County of San Diego (March 1998)  
 Not Covered            Not Listed as Covered Species in Appendix B of Implementing Agreement between CDFW, USFWS, and County of San Diego (March 1998).

**County:**

Group A: Rare, threatened, or endangered in California and elsewhere  
 (corresponds to CRPR 1B)  
 Group B: Plants rare, threatened, or endangered in California but more common elsewhere (corresponds to CRPR 2)  
 Group C: Plants which may be quite rare, but need more information to determine their rarity status (corresponds to CRPR 3)  
 Group D: Plants of limited distribution and are uncommon, but not presently rare or endangered (corresponds to CRPR 4)

### Wildlife Species Detected or Potentially Occur in the Project Area

Species Scientific Name	Regulatory Status: Federal; State; MSCP; County Group	General Habitat Association	Status on Site		
			Previous Studies	Current Surveys	Comments
<i>Invertebrates</i>					
San Diego fairy shrimp <i>Branchinecta sandiegonensis</i>	USFWS: FE CDFW: None MSCP: Covered County: 1	Small, shallow vernal pools, occasionally ditches and road ruts	Not observed	Observed in 2000, 2004, and 2008	Dry season surveys positive for <i>Branchinecta</i> sp. cysts in eight pools on K8 mesa and one pool on K6 mesa. Wet season surveys confirm presence of <i>B. sandiegonensis</i> in one additional pool on K8 mesa and absence on K6 pools and all three stock ponds on site. A total of nine basins on K8 and one basin on K6 are confirmed occupied by this species. Within off-site areas, a total of five road rut basins are occupied by this species.
Riverside fairy shrimp <i>Streptocephalus woottoni</i>	USFWS: FE CDFW: None MSCP: Covered County: 1	Deep, long-lived vernal pools, vernal pool-like season ponds, stock ponds; warm-water pools that have low to moderate dissolved solids	Not observed	Not observed	Dry and wet season surveys on K6 and K8 mesas and three stock ponds negative.
Quino checkerspot	USFWS: FE	Sparsely vegetated hilltops, ridgelines, occasionally rocky	Not observed (known from	Observed in 1999, 2000, 2004,	Focused surveys in 1999 resulted in the observation of 10 individuals in central

## APPENDIX F (Continued)

### Wildlife Species Detected or Potentially Occur in the Project Area

Species Scientific Name	Regulatory Status: Federal; State; MSCP; County Group	General Habitat Association	Status on Site		
			Previous Studies	Current Surveys	Comments
<i>Euphydryas editha quino</i>	CDFW: None MSCP: Not Covered County: 1	outcrops; host plant dot seed plantain ( <i>Plantago erecta</i> ) and nectar plants must be present	1970s P. Ehrlich research).	and 2008	and eastern portions of the site. 2000 surveys included observation of 38 individuals in eastern portion of site and 7 additional incidental observations in the central and western portion of the site. 2004 surveys of the open space area resulted in observation of 1 individual in the northwestern corner. Surveys of the entire site were conducted in 2008. A total of 87 individuals were recorded; however, based on removing obvious duplicated observations, the total number observed is 71. Observations were concentrated in the northern portion and along a ridgeline within the central portion of the site and were generally in either coastal sage scrub or disturbed coastal sage scrub habitat. A number of additional observations were scattered throughout the rest of the site.
Harbison's dun skipper <i>Euphyes vestris harbisoni</i>	USFWS: None CDFW: None MSCP: Narrow endemic County: 1	Restricted to wetland, riparian, oak woodlands, and chaparral habitats supporting host plant <i>Carex spissa</i>	Not observed	Not observed	Host plant not identified. Not present.
Hermes copper <i>Lycaena hermes</i>	USFWS: FC CDFW: None MSCP: Not Covered County: 1	Coastal sage scrub, southern mixed chaparral supporting at least 5% cover of host plant <i>Rhamnus crocea</i>	Not observed	Not observed	Host plant not observed. Not present.

## APPENDIX F (Continued)

### Wildlife Species Detected or Potentially Occur in the Project Area

Species Scientific Name	Regulatory Status: Federal; State; MSCP; County Group	General Habitat Association	Status on Site		
			Previous Studies	Current Surveys	Comments
Monarch butterfly <i>Danaus plexippus</i>	USFWS: None CDFW: None MSCP: Not Covered. County: 2	Overwinters in eucalyptus groves	Not observed	Observed	This species occurs on site on occasion; however, there are not sufficient resources available to make this site a significant overwintering site.
<i>Amphibians</i>					
Arroyo toad <i>Anaxyrus californicus</i>	USFWS: FE CDFW: CSC MSCP: Covered County: 1	Stream channels for breeding (typically 3rd order); adjacent stream terraces and uplands for foraging and wintering	Not observed	Not observed	No suitable habitat, very low potential to occur on site.
Large-blotched salamander <i>Ensatina klauberi</i>	USFWS: None CDFW: CSC MSCP: County: 1	Oak woodland, chaparral, coastal sage scrub, coastal dunes, conifer forest	Not observed	Not observed	Very low potential to occur based on the habitats present and available water sources.
California red-legged frog <i>Rana draytoni</i>	USFWS: FT CDFW: CSC MSCP: Covered County: 1	Lowland streams, wetlands, riparian woodlands, livestock ponds; dense, shrubby or emergent vegetation associated with deep, still or slow-moving water; uses adjacent uplands	Not observed	Not observed	No suitable habitat, closest known location in Riverside County, very low potential to occur on site.
Western spadefoot toad <i>Spea hammondi</i>	USFWS: None CDFW: CSC MSCP: Not Covered County: 2	Most common in grasslands, coastal sage scrub near rain pools or vernal pools; riparian habitats	Not observed	Observed in 2000	Tadpoles incidentally observed in a single depression on K8 mesa. Could occur within pools that inundate.
Coast range newt <i>Taricha torosa</i>	USFWS: None CDFW: CSC MSCP: Not	Grassland, woodland, forest, but require ponds, reservoirs or slow-moving streams for reproduction	Not observed	Not observed	Not known from the project vicinity, low potential to occur on site.

## APPENDIX F (Continued)

### Wildlife Species Detected or Potentially Occur in the Project Area

Species Scientific Name	Regulatory Status: Federal; State; MSCP; County Group	General Habitat Association	Status on Site		
			Previous Studies	Current Surveys	Comments
	Covered County: 2				
<i>Reptiles</i>					
Silvery legless lizard <i>Anniella pulchra pulchra</i>	USFWS: None CDFW: CSC MSCP: Not Covered County: 2	Loose soils (sand, loam, humus) in coastal dune, coastal sage scrub, woodlands, and riparian habitats	Not observed	Not observed	Not known from project vicinity, low potential to occur on project site.
Rosy boa <i>Charina trivirgata</i>	USFWS: None CDFW: None MSCP: Not Covered County: 2	Rocky chaparral, coastal sage scrub, oak woodlands, desert and semi-desert scrub	Not observed	Observed in 2008	Observed in northeastern portion of the project site.
Western pond turtle <i>Emys marmorata</i>	USFWS: None CDFW: CSC MSCP: Covered County: 1	Slow-moving permanent or intermittent streams, ponds, small lakes, reservoirs with emergent basking sites; adjacent uplands used during winter	Not observed	Observed in 2000	Incidentally observed laying eggs in a dirt road in northwestern corner of site. Another observation of an individual crossing Otay Lakes Road immediately south of the site.
Orangethroat whiptail <i>Aspidoscelis hyperythra</i>	USFWS: None CDFW: CSC MSCP: Covered County: 2	Coastal sage scrub, chaparral, grassland, juniper and oak woodland	MBA 89	Observed in 2000 and 2008	Observed in coastal sage scrub. Probably occurs elsewhere within open patches of coastal sage scrub and grassland.
Coastal whiptail <i>Aspidoscelis tigris stejnegeri</i>	USFWS: None CDFW: None MSCP: Not Covered County: 2	Coastal sage scrub, chaparral	Not observed	Observed in 2000	Observed in sparse coastal sage scrub on site. Probably resident in open areas and sparse coastal sage scrub and chaparral throughout the site.
San Diego banded gecko	USFWS: None	Cismontane chaparral, coastal sage scrub, desert scrub; granite	Not observed	Not observed	Moderate potential to occur on site based on the availability of rock outcrops and

## APPENDIX F (Continued)

### Wildlife Species Detected or Potentially Occur in the Project Area

Species Scientific Name	Regulatory Status: Federal; State; MSCP; County Group	General Habitat Association	Status on Site		
			Previous Studies	Current Surveys	Comments
<i>Coleonyx variegatus abbotti</i>	CDFW: None MSCP: Not Covered County: 1	outcrops			suitable vegetative components.
San Diego ringneck snake <i>Diadophis punctatus similis</i>	USFWS: None CDFW: None MSCP: Not Covered County: 2	Open, rocky areas in moist habitats near intermittent streams: marsh, riparian woodland, sage scrub	Not observed	Observed on site	Observed in main canyon in eastern portion of the site. Moderate potential to occur within deeper canyons on site and under debris on site.
San Diego [coast; Blainville's] horned lizard <i>Phrynosoma blainvillii</i>	USFWS: None CDFW: CSC MSCP: Covered County: 2	Coastal sage scrub, non-native grassland, chaparral, oak and riparian woodland, coniferous forest	MBA 89	Observed in 1999, 2000, and 2008	Observed within undisturbed coastal sage scrub and chamise chaparral.
Coast patch-nosed snake <i>Salvadora hexalepis virgultea</i>	USFWS: None CDFW: CSC MSCP: Not Covered County: 2	Chaparral, washes, sandy flats, rocky areas	Not observed	Not observed	Probably occurs on site.
Two-striped garter snake <i>Thamnophis hammondi</i>	USFWS: None CDFW: CSC MSCP: Not Covered County: 1	Streams, creeks, pools, streams with rocky beds, ponds, lakes, vernal pools	Not observed	Not observed	Probably occurs on site.
South coast garter snake <i>Thamnophis sirtalis</i> ssp.	USFWS: None CDFW: CSC MSCP: Not Covered County: 2	Primarily in wetland habitats—mostly in the vicinity of permanent ponds or water	Not observed	Not observed	Unlikely to occur on site because of lack of suitable habitat.

## APPENDIX F (Continued)

### Wildlife Species Detected or Potentially Occur in the Project Area

Species Scientific Name	Regulatory Status: Federal; State; MSCP; County Group	General Habitat Association	Status on Site		
			Previous Studies	Current Surveys	Comments
Red-diamond rattlesnake <i>Crotalus ruber</i>	USFWS: None CDFW: CSC MSCP: Not Covered County: 2	Variety of shrub habitats where there is heavy brush, large rocks, or boulders	Not observed	Observed in 1999, 2000, and 2008	Observed throughout the site within dense and sparse coastal sage scrub and chaparral.
<i>Birds</i>					
Cooper's hawk <i>Accipiter cooperii</i>	USFWS: None CDFW: WL MSCP: Covered County: 1	Riparian and oak woodlands, montane canyons	Not observed	Observed in 2000	Observed flying over site; potential for nesting on site is low due to lack of developed forest or woodland habitats.
Sharp-shinned hawk <i>Accipiter striatus</i>	USFWS: None CDFW: WL MSCP: Not Covered County: 1	Nests in coniferous forests, ponderosa pine, black oak, riparian deciduous, mixed conifer, Jeffrey pine; winters in lowland woodlands and other habitats	Not observed	Not observed	None observed on site; does not nest in coastal San Diego, but likely forages on site during winter.
Tricolored blackbird <i>Agelaius tricolor</i>	USFWS: BCC CDFW: CSC MSCP: Covered County: 1	Nests near fresh water, emergent wetland with cattails or tules; forages in grasslands, woodland, agriculture	Not observed	Not observed	Likely to occur directly off site in freshwater marsh associated with Lower Otay Reservoir. Could also occur off site at impoundments along Otay Lakes Road.
Southern California rufous-crowned sparrow <i>Aimophila ruficeps canescens</i>	USFWS: None CDFW: WL MSCP: Covered County: 1	Grass-covered hillsides, coastal sage scrub, chaparral with boulders and outcrops	MBA 89	Observed in 1999, 2000, and 2008	Observed throughout the site and highly likely to nest on site.
Grasshopper sparrow <i>Ammodramus savannarum</i>	USFWS: None CDFW: CSC MSCP: Not Covered County: 1	Open grassland and prairie, especially native grassland with a mix of grasses and forbs	MBA 89	Observed in 2000 and 2008	Observed mainly in southwestern and central portions of the project site.

## APPENDIX F (Continued)

### Wildlife Species Detected or Potentially Occur in the Project Area

Species Scientific Name	Regulatory Status: Federal; State; MSCP; County Group	General Habitat Association	Status on Site		
			Previous Studies	Current Surveys	Comments
Bell's sage sparrow <i>Artemisospiza belli belli</i> (taxonomy was changed to Bell's sparrow <i>Artemisospiza belli</i> )	USFWS: None CDFW: WL MSCP: Not Covered County: 1	Coastal sage scrub and dry chaparral along coastal lowlands and inland valleys	MBA 89	Observed in 1999, 2000, and 2008	Identified in eastern and western portions of site in sparse coastal sage scrub.
Great blue heron <i>Ardea herodias</i>	USFWS: None CDFW: None MSCP: Not Covered County: 2	Variety of habitats, but primarily wetlands; lakes, rivers, marshes, mudflats, estuaries, saltmarsh, riparian habitats	MBA 89	Not observed	Observed off site by western portion of site adjacent to Upper Otay Reservoir.
Golden eagle <i>Aquila chrysaetos</i>	USFWS: BCC CDFW: P, WL, Golden Eagle Protection Act MSCP: Covered County: 1	Open country, especially hilly and mountainous regions; grassland, coastal sage scrub, chaparral, oak savannas, open coniferous forest	Not observed	Observed in 1999, 2000, and 2008	Observed in eastern and north-central portion of the site. Site is in mapped primary foraging area for known golden eagle territory. Nearest known nest site is >3 miles from project site. No nesting observed; could forage.
Red-shouldered hawk <i>Buteo lineatus</i>	USFWS: None CDFW: None MSCP: Not Covered County: 1	Riparian and woodland habitats, eucalyptus	Not observed	Observed on site	Observed foraging in southern portion of the site and within adjacent riparian habitat. Moderate potential to occur on site as a breeder.
Ferruginous hawk <i>Buteo regalis</i>	USFWS: BCC CDFW: WL MSCP: Covered County: 1	Open, dry country, grasslands, open fields, agriculture	Not observed	Not observed	Moderate potential to occur on site occasionally during the winter migration. Would not breed on site.
Turkey vulture <i>Cathartes aura</i>	USFWS: None CDFW: None MSCP: Not	Rangeland, agriculture, grassland; uses cliffs and large trees for roosting, nesting and resting	Not observed	Observed in flight over site	Occasionally flies over the project area as a possible foraging flight. No breeding potential.

## APPENDIX F (Continued)

### Wildlife Species Detected or Potentially Occur in the Project Area

Species Scientific Name	Regulatory Status: Federal; State; MSCP; County Group	General Habitat Association	Status on Site		
			Previous Studies	Current Surveys	Comments
	Covered County: 1				
Coastal cactus wren <i>Campylorhynchus brunneicapillus sandiegensis</i>	USFWS: BCC CDFW: CSC MSCP: Covered County: 1	Southern cactus scrub, maritime succulent scrub, cactus thickets in coastal sage scrub	Not observed	Not observed	No significant cactus thickets present in the project area, low potential to occur.
Northern harrier <i>Circus cyaneus</i>	USFWS: None CDFW: CSC MSCP: Covered County: 1	Open wetlands (nesting), pasture, old fields, dry uplands, grasslands, rangelands, coastal sage scrub	Not observed	Observed in 1999, 2000, and 2008	Observed foraging over grassland areas in the K6 and K8 mesas. Could nest on site but is more likely a winter visitor.
Black swift <i>Cypseloides niger</i>	USFWS: BCC CDFW: CSC MSCP: Not Covered County: 2	Nests in moist crevices or caves on sea cliffs or near waterfalls in deep canyons; forages over many habitats	Not observed	Not observed	Very low potential to occur on site.
Yellow warbler <i>Setophaga petechia</i>	USFWS: BCC CDFW: CSC MSCP: Not Covered County: 2	Nests in lowland and foothill riparian woodlands dominated by cottonwoods, alders and willows; winters in a variety of habitats	Not observed	Not observed	Not likely to occur due to lack of appropriate habitat, with the exception of Jamul Creek.
White-tailed kite <i>Elanus leucurus</i>	USFWS: None CDFW: P MSCP: Not Covered County: 1	Open grasslands, savanna-like habitats, agriculture for foraging; wetlands, oak woodlands, riparian for breeding	Not observed	Observed in 1999 and 2000	Observed foraging in grassland areas; nesting is unlikely due to lack of forest or woodlands although a small amount of riparian is located in the project area.
Southwestern willow flycatcher <i>Empidonax traillii extimus</i>	USFWS: FE CDFW: SE MSCP: Covered	Riparian woodlands along streams and rivers with mature, dense stands of willows or alders; may	Not observed	Not observed	Not likely to occur due to lack of appropriate habitat (i.e., well-developed willow woodland), with the exception of

## APPENDIX F (Continued)

### Wildlife Species Detected or Potentially Occur in the Project Area

Species Scientific Name	Regulatory Status: Federal; State; MSCP; County Group	General Habitat Association	Status on Site		
			Previous Studies	Current Surveys	Comments
	County: 1	nest in thickets dominated by tamarisk			portion of Jamul Creek in southeastern tip of site.
California horned lark <i>Eremophila alpestris actia</i>	USFWS: None CDFW: WL MSCP: Not Covered County: 2	Open habitats, grassland, rangeland, shortgrass prairie, montane meadows, coastal plains, fallow grain fields	Not observed	Observed in 1999, 2000, and 2008	Observed within sparse coastal sage scrub and grasslands in the project area.
Prairie falcon <i>Falco mexicanus</i>	USFWS: BCC CDFW: WL MSCP: Not Covered County: 1	Grassland, savannas, rangeland, agriculture, desert scrub, alpine meadows; nest on cliffs or bluffs	Not observed	Observed in 2000	Observed within coastal sage scrub and grasslands. Likely is a wintering visitor and could forage in the project area.
Bald eagle <i>Haliaeetus leucocephalus</i>	USFWS: FDL, BCC CDFW: SE, P MSCP: Covered County: 1	Seacoasts, rivers, swamps, large lakes; winters at large bodies of water in lowlands and mountains	Not observed	Not observed	Unlikely due to lack of suitable habitat on site and current species range.
Yellow-breasted chat <i>Icteria virens</i>	USFWS: None CDFW: CSC MSCP: Not Covered County: 1	Dense, relatively wide riparian woodlands and thickets of willows, vine tangles, and dense brush	Not observed	Not observed	Not likely to occur due to lack of appropriate habitat, with the exception of Jamul Creek.
Loggerhead shrike <i>Lanius ludovicianus</i>	USFWS: BCC CDFW: CSC MSCP: Not Covered County: 1	Open ground including grassland, coastal sage scrub, broken chaparral, agriculture, riparian, open woodland	MBA 89	Observed in 2000	Likely to nest on site, individuals observed in grassland and sparse coastal sage scrub.
California gull (non-breeding)	USFWS: None CDFW: WL (nesting)	Nests in lakes east of Sierra Nevada. Winters along sandy beaches, mudflats, rocky intertidal,	Not observed	Not observed	Moderate potential to fly over the site while visiting inland sites. No breeding or

## APPENDIX F (Continued)

### Wildlife Species Detected or Potentially Occur in the Project Area

Species Scientific Name	Regulatory Status: Federal; State; MSCP; County Group	General Habitat Association	Status on Site		
			Previous Studies	Current Surveys	Comments
<i>Larus californicus</i>	colony) MSCP: Not Covered County: 2	pelagic areas, fresh and saline wetlands along coast. Visits inland lakes, rivers, cropland, landfills, and lawns.			foraging opportunities on site.
Osprey <i>Pandion haliaetus</i>	USFWS: None CDFW: WL MSCP: Not Covered County: 1	Large waters (lakes, reservoirs, rivers) supporting fish; usually near forest habitats, but widely observed along the coast	Not observed	Observed flying over site	Occasionally observed flying over the site while flying to or from foraging habitat at nearby lake. No breeding or foraging opportunities on site.
Summer tanager (nesting) <i>Piranga rubra</i>	USFWS: None CDFW: CSC MSCP: Not Covered County: 2	Nests in riparian woodland; winter habitats include parks and residential areas	Not observed	Not observed	Moderate potential. Suitable habitat exists near the project site.
Coastal California gnatcatcher <i>Polioptila californica californica</i>	USFWS: BCC CDFW: CSC MSCP: Covered County: 1	Coastal sage scrub, coastal sage scrub–chaparral mix, coastal sage scrub–grassland ecotone, riparian in late summer	MBA 89	Observed in 1999, 2000, and 2008	Observed nesting in coastal sage scrub and chamise chaparral throughout the site. Based on previous and currently mapped locations, approximately 17 locations occur on site and 3 additional locations have been recorded within the Cornerstone Lands and could occur on site (MSCP data).
Western bluebird <i>Sialia mexicana</i>	USFWS: None CDFW: None MSCP: Covered County: 2	Open forests of deciduous, coniferous or mixed trees, savanna, edges of riparian woodland saltmarsh, riparian habitats	Not observed	Observed during winter	This species once did not breed on the coastal plain; however, in recent years it has begun to do so. The only breeding opportunities for this species would be within wooded habitats.
Burrowing owl <i>Athene cunicularia</i>	USFWS: BCC CDFW: CSC	Grassland, lowland scrub, agriculture, coastal dunes and other	MBA 89	Observed in 2000	Previously identified on eastern slope of K6 mesa. Incidental observation of single

## APPENDIX F (Continued)

### Wildlife Species Detected or Potentially Occur in the Project Area

Species Scientific Name	Regulatory Status: Federal; State; MSCP; County Group	General Habitat Association	Status on Site		
			Previous Studies	Current Surveys	Comments
	MSCP: Covered County: 1	artificial open areas			individual in central portion of site.
Barn owl <i>Tyto alba</i>	USFWS: None CDFW: None MSCP: Not Covered County: 2	Open forests of deciduous, coniferous or mixed trees, savanna, riparian habitats , abandoned structures, mines	Not observed	Observed flying over site	This species has abundant foraging opportunities on site but limited nesting opportunities. It is unlikely that there is enough cover on site to support nesting by this species.
Least Bell's vireo <i>Vireo bellii pusillus</i>	USFWS: FE CDFW: SE MSCP: Covered County: 1	Nests in southern willow scrub with dense cover within 1–2 meters of the ground; habitat includes willows, cottonwoods, baccharis, wild blackberry or mesquite on desert areas	MBA 89	Not observed	Limited to Jamul Creek in southeastern corner of site, where they may nest. No other suitable habitat areas on site.
<i>Mammals</i>					
Pallid bat <i>Antrozous pallidus</i>	USFWS: None CDFW: CSC MSCP: Not Covered County: 2	Rocky outcrops, cliffs, and crevices with access to open habitats for foraging	No bat surveys conducted	No bat surveys conducted	Low potential to occur on site.
Ringtail <i>Bassariscus astutus</i>	USFWS: None CDFW: P MSCP: Not Covered County: 2	Woodland, riparian, southern mixed chaparral, chaparral habitats in proximity to rocks and water	Not observed	Not observed	Low probability to occur on site—possible within areas adjacent to creeks and areas with many rocks.
Dulzura California pocket mouse <i>Chaetodipus californicus femoralis</i>	USFWS: None CDFW: CSC MSCP: Not Covered County: 2	Coastal sage scrub, chaparral, riparian–scrub ecotone; more mesic areas	Not observed	Not observed	Very likely to occur on site.

## APPENDIX F (Continued)

### Wildlife Species Detected or Potentially Occur in the Project Area

Species Scientific Name	Regulatory Status: Federal; State; MSCP; County Group	General Habitat Association	Status on Site		
			Previous Studies	Current Surveys	Comments
Northwestern San Diego pocket mouse <i>Chaetodipus fallax fallax</i>	USFWS: None CDFW: CSC MSCP: Not Covered County: 2	Coastal sage scrub, grassland, sage scrub–grassland ecotones, sparse chaparral; rocky substrates, loams and sandy loams	Not observed	Not observed	Likely to occur on site.
Townsend's western big-eared bat <i>Corynorhinus townsendii</i>	USFWS: None CDFW: CSC MSCP: Not Covered County: 2	Mesic habitats, gleans from brush or trees or feeds along habitat	No bat surveys conducted	No bat surveys conducted	Likely to occur on site.
Spotted bat <i>Euderma maculatum</i>	USFWS: None CDFW: CSC MSCP: Not Covered County: 2	Rock crevices, riparian forest, woodland, and scrub, ponds, lakes, grassland	No bat surveys conducted	No bat surveys conducted	Moderate potential to occur on site. Suitable habitat is present nearby.
Western mastiff bat <i>Eumops perotis californicus</i>	USFWS: None CDFW: CSC MSCP: Not Covered County: 2	Roosts in small colonies in cracks and small holes, seeming to prefer manmade structures	No bat surveys conducted	No bat surveys conducted	Low potential to occur on site.
Western red bat <i>Lasiurus blossevillii</i>	USFWS: None CDFW: CSC MSCP: Not Covered County: 2	Prefers edges with trees for roosting and open areas for foraging. Feeds over grasslands, shrublands, woodlands, forests, and croplands.	No bat surveys conducted	No bat surveys conducted	Moderate potential to occur on site.
San Diego black-tailed jackrabbit <i>Lepus californicus bennettii</i>	USFWS: None CDFW: CSC MSCP: Not	Arid habitats with open ground; grasslands, coastal sage scrub, agriculture, disturbed areas, rangelands	Not observed	Incidentally observed.	Observed throughout the site.

## APPENDIX F (Continued)

### Wildlife Species Detected or Potentially Occur in the Project Area

Species Scientific Name	Regulatory Status: Federal; State; MSCP; County Group	General Habitat Association	Status on Site		
			Previous Studies	Current Surveys	Comments
	Covered County: 2				
Long-eared myotis <i>Myotis evotis</i>	USFWS: None CDFW: None MSCP: Not Covered County: 2	Roosts in buildings, crevices, under bark, and snags. Caves used as night roosts. Feeds along habitat edges, in open habitats, and over water.	No bat surveys conducted	No bat surveys conducted	Low potential to occur on site.
Western small-footed myotis <i>Myotis ciliolabrum</i>	USFWS: None CDFW: None MSCP: Not Covered County: 2	Caves, old mines, abandoned buildings	No bat surveys conducted	No bat surveys conducted	Low potential to occur on site.
Fringed myotis <i>Myotis thysanodes</i>	USFWS: None CDFW: None MSCP: Not Covered County: 2	Open habitats, early successional stages, streams, lakes, and ponds are foraging areas	No bat surveys conducted	No bat surveys conducted	Low potential to occur on site.
Long-legged myotis <i>Myotis volans</i>	USFWS: None CDFW: None MSCP: Not Covered County: 2	Feeds over open water and over open habitats, using denser woodlands and forests for cover and reproduction	No bat surveys conducted	No bat surveys conducted	No suitable habitat. Low potential to occur on site.
Yuma myotis <i>Myotis yumanensis</i>	USFWS: None CDFW: None MSCP: Not Covered County: 2	Closely tied to open water which is used for foraging; open forests and woodlands are optimal habitat	No bat surveys conducted	No bat surveys conducted	No suitable habitat. Low potential to occur on site.
San Diego desert woodrat <i>Neotoma lepida intermedia</i>	USFWS: None CDFW: CSC	Coastal sage scrub, chaparral, pinyon-juniper woodland with rock	Not observed	Nests incidentally observed	Middens were observed within chaparral areas on site.

## APPENDIX F (Continued)

### Wildlife Species Detected or Potentially Occur in the Project Area

Species Scientific Name	Regulatory Status: Federal; State; MSCP; County Group	General Habitat Association	Status on Site		
			Previous Studies	Current Surveys	Comments
	MSCP: Not Covered County: 2	outcrops, cactus thickets, dense undergrowth			
Pocketed free-tailed bat <i>Nyctinomops femorosaccus</i>	USFWS: None CDFW: CSC MSCP: Not Covered County: 2	Rocky desert areas with high cliffs or rock outcrops	No bat surveys conducted	No bat surveys conducted	Low potential to occur on site.
Big free-tailed bat <i>Nyctinomops macrotis</i>	USFWS: None CDFW: CSC MSCP: Not Covered County: 2	Rugged, rocky canyons	No bat surveys conducted	No bat surveys conducted	Low potential to occur on site.
Southern grasshopper mouse <i>Onychomys torridus ramona</i>	USFWS: None CDFW: CSC MSCP: Not Covered County: 2	Grasslands, sparse coastal sage scrub	Not observed	Not observed	Low to moderate potential to occur on site.
Los Angeles pocket mouse <i>Perognathus longimembris brevinasus</i>	USFWS: None CDFW: CSC MSCP: Not Covered County: 2	Grassland, coastal sage scrub, disturbed habitats; fine, sandy soils	Not identified	Not identified	Moderate potential to occur on site. Suitable habitat is present, but species has never been described from southern San Diego County,
American badger <i>Taxidea taxus</i>	USFWS: None CDFW: CSC MSCP: Not Covered County: 2	Dry, open treeless areas, grasslands, coastal sage scrub	Not observed	Not observed	Low probability to occur on site; would have detected burrows during surveys.

## APPENDIX F (Continued)

### Wildlife Species Detected or Potentially Occur in the Project Area

Species Scientific Name	Regulatory Status: Federal; State; MSCP; County Group	General Habitat Association	Status on Site		
			Previous Studies	Current Surveys	Comments
Mountain lion <i>Puma concolor</i>	USFWS: None CDFW: None MSCP: Covered County: 2	Coastal sage scrub, chaparral, riparian, woodlands, forest; rests in rocky areas, and on cliffs and ledges that provide cover	MBA 89	Not observed	Signs of movement through eastern portion of site.

**Federal Designations:**

- BCC U.S. Fish and Wildlife Service Bird of Conservation Concern
- FC Federal Candidate
- FDL Federally Delisted
- FE Federally listed as Endangered
- FT Federally listed as Threatened

**State Designations:**

- CSC California Special Concern Species
- P California Department of Fish and Game Protected and Fully Protected Species
- SE State listed as Endangered
- ST State listed as Threatened
- WL Watch List.

**MSCP:**

- Covered Listed as Covered Species in Appendix B of Implementing Agreement between CDFW, USFWS, and County of San Diego (March 1998)
- Not Covered Not Listed as Covered Species in Appendix B of Implementing Agreement between CDFW, USFWS, and County of San Diego (March 1998).

**County:**

- Group 1: High level of sensitivity, either because listed as threatened or endangered or because species has very specific natural history requirements that must be met
- Group 2: Species is becoming less common, but is not yet so rare that extirpation or extinction is imminent without immediate action. These species tend to be prolific within their suitable habitat type

# **APPENDIX G**

## *Resource Management Plan – Biological Resource Requirements*



## APPENDIX G

### Resource Management Plan – Biological Resource Requirements

Mitigation Measure	Applicable to Resort Village?	Implementation by Resort Village Project	Implementation Ranch-wide
<i>Vegetation Communities</i>			
<i>Diegan Coastal Sage Scrub (CSS)</i>			
The project shall be designed to preserve at least 70% of the CSS on site	Yes	66% of CSS is proposed to be preserved on site.	In combination with preservation on third-party acquisitions, preservation will be at least 70% ranch-wide.
1,300 acres of identified high priority CSS areas in the project area shall be restored	No	None of the 1,300 acres for CSS restoration has been identified on site	Ranch-wide, CSS restoration will take place as planned.
CSS restoration activities shall commence prior to or concurrent with approval of the first Specific Plan within Otay Ranch	No	None of the 1,300 acres for CSS restoration has been identified on site	Ranch-wide, CSS restoration will take place as planned.
Potential indirect impacts shall be mitigated by providing a minimum of 100-foot buffer area around all preserved CSS	Yes	Indirect impacts will be avoided by fencing, signage, and management of open space.	Ranch-wide, potential indirect impacts shall be avoided by fencing, signage, and management of open space.
<i>Maritime Succulent Scrub (MSS)</i>			
The project is designed to preserve 80% of the MSS on site.	No	Not present on site; no impacts will occur.	In combination with preservation on third-party acquisitions, preservation will be at least 80% ranch-wide.
Disjunctive stands shall be protected, especially where they support cactus thickets and can logically be tied to a larger open space network	No	Not present on site; no impacts will occur.	Ranch-wide, MSS stands will be protected as planned.
A minimum of 56 acres of MSS shall be restored in conjunction with the CSS restoration of 1,300 acres.	No	Not present on site; not suitable for restoration.	Ranch-wide, MSS restoration will take place as planned.
<i>Floodplain Scrub, Southern Willow Scrub, and Aquatic/Freshwater Marsh (FS, SWS, FWM)</i>			
The project shall be designed to preserve 95% of FS, SWS, and aquatic/FWM.	Yes	85% of SWS and FWM on and off site is preserved	In combination with preservation ranch-wide especially within the Otay River, preservation will be at least 95%.
Restoration/enhancement of disturbed wetland habitat shall occur in the Otay River Valley to mitigate the remaining impacts	No	Does not apply since the Otay River Valley is not located on site.	Ranch-wide, restoration of wetlands will take place as planned especially within the Otay River Valley.

## APPENDIX G (Continued)

Mitigation Measure	Applicable to Resort Village?	Implementation by Resort Village Project	Implementation Ranch-wide
Impacts shall be avoided through placement of design features and application of ratios as defined by the appropriate public agencies.	Yes	Ratios of 3:1 will be used for mitigation	Ranch-wide, impacts will be avoided as much as possible.
<i>Non-native Grassland (NNG)</i>			
<No mitigation measures>			
<i>Valley Needlegrass Grassland/Perennial Grassland (PG)</i>			
The project shall be designed to preserve 25% of native grasslands (Valley needlegrass grassland/perennial grassland)	Yes	30% is preserved on site.	In combination with preservation on third-party acquisitions, preservation will be at least 25% ranch-wide.
High priority areas for preservation and restoration shall include the disturbed perennial grassland contiguous within the K6 vernal pool complex and large San Diego thorn-mint population north of Lower Otay Lake, and in selected areas in the Otay River parcel to be determined by subsequent field transect studies.	Yes	Restoration will be directed towards the preserved vernal pool areas. The K6 complex has been determined to be of lower quality. The K8 vernal pool complex will be preserved. The entire San Diego thorn-mint population on the hill north of Lower Otay Lake will be preserved.	Ranch-wide, restoration will be directed toward suitable areas including the K8 vernal pool mesa. Preservation will include the thornmint population north of Lower Otay lake
Restoration shall be required at a ratio between 1:1 and 3:1 for impacted habitat	Yes	The county requires 3:1 mitigation for native grasslands.	The county requires 3:1 mitigation for native grasslands.
<i>Alkali Meadow (AM)</i>			
The project is designed to preserve 72% of AM	No	Not present on site; no impacts will occur.	In combination with preservation on third-party acquisitions, preservation will be at least 72% ranch-wide.
Impacts shall be substantially lessened through placement of design features and application of a ratio (no less than 1:1)	No	Not present on site; no impacts will occur.	Ranch-wide, mitigation will be provided.
Potential indirect impacts shall be mitigated by providing a minimum of 100-foot wide buffer area for all AM habitat	No	Not present on site; no impacts will occur.	Ranch-wide, a suitable buffer will be provided where the habitat occurs.
<i>Vernal Pools (VP)</i>			
The project is designed to preserve 95% of large or high value VP complexes and 95% of all other VPs	Yes	70% of all vernal pools will be preserved. 100% of high value VP complexes will be preserved.	Ranch-wide, 99% of vernal pools will be preserved.

## APPENDIX G (Continued)

Mitigation Measure	Applicable to Resort Village?	Implementation by Resort Village Project	Implementation Ranch-wide
The project is designed to preserve the portion of VP J29 (including J31+) containing sensitive species, including a minimum 100-foot wide buffer	No	These vernal pools are not located on site.	Ranch-wide, the preservation of J29 will take place.
The allowed 5% impact to any of lower quality VP complexes shall be substantially lessened by restoration/enhancement of damaged VP habitat	Yes	Restoration will take place in the K8 mesa pools.	Ranch-wide, vernal pools will be restored to account for no net loss of vernal pool basin and watershed. Ranch-wide 99% of vernal pools will be preserved.
Potential indirect impacts shall be mitigated by providing a minimum of 100-foot wide buffer area around the vernal pools and their watershed	Yes	100-foot buffer is included for most of the K8 mesa.	Ranch-wide, a 100-foot buffer around the watershed will be provided to prevent indirect impacts
<i>Woodlands (Coast Live Oak Woodland, Southern Live Oak Riparian Forest, Southern Interior Cypress Forest, and Sycamore Alluvial Woodland)</i>			
The project shall be designed to preserve 100% of the Woodlands	No	Not present on site; no impacts will occur.	In combination with preservation on third-party acquisitions, preservation will be 100% ranch-wide.
Potential indirect impacts shall be mitigated by providing a minimum of 100-foot wide buffer area around the sensitive habitat	No	Not present on site; no impacts will occur.	Ranch-wide, mitigation and buffers will be provided.
<i>Plants</i>			
<i>Sensitive Plants</i>			
Updated sensitive plant surveys shall be conducted for each Specific Plan	Yes	Surveys were conducted in 2001.	Ranch-wide, plant surveys will be conducted as appropriate.
The project shall be designed to attain the species-specific preservation standards defined in the RMP	Yes	See as listed below.	See as listed below.
Indirect impacts to preserved populations of all sensitive plant species shall be avoided or minimized	Yes	Indirect impacts will be avoided by fencing, signage, and management of open space.	Ranch-wide, indirect impacts will be avoided by fencing, signage, and management of open space.

## APPENDIX G (Continued)

Mitigation Measure	Applicable to Resort Village?	Implementation by Resort Village Project	Implementation Ranch-wide
<i>San Diego Thorn-mint</i>			
The project shall be designed to preserve the largest San Diego thorn-mint population and 95% of the overall species on site, including watershed, any associated critical habitat and a minimum 100-foot wide buffer zone	Yes	97% of the area occupied by this plant is preserved. There is no watershed associated with the population of San Diego thorn-mint however a 100-foot wide buffer is provided surrounding the population. There is no critical habitat for thorn-mint on site.	Ranch-wide, 95% of San Diego thorn-mint will be preserved. There is no watershed associated with this species because it is not a wetland plant, however, a suitable buffer will be provided for preserved populations that provides protection from indirect impacts. There is no critical habitat for thorn-mint within the ranch boundary.
San Diego thorn-mint shall be introduced on appropriate soils in the project area	No	There are limited appropriate soils on site	Ranch-wide, thorn-mint may be included in restoration areas as appropriate.
A clay soil lens suitable for San Diego thorn-mint that is not presently occupied by this species shall be used for the mitigation area	No	Clay soil lens are occupied by this plant species. No mitigation is needed for this plant	Ranch-wide, thorn-mint may be included in restoration areas as appropriate if suitable soils are present and unoccupied.
<i>San Diego Button-celery</i>			
The project is designed to preserve at least 95% of this species on site and 100% of this species occurring with other vernal pool indicator species	No	Not present on site; no impacts will occur	Ranch-wide, 95% of the species will be preserved and 100% will be preserved where it occurs with other vernal pool indicator species..
Vernal pools shall be restored and the species shall be re-introduced into disturbed or historical vernal pools	No	Restoration of vernal pools is proposed for the K8 mesa. Since San Diego button-celery has never been recorded on this mesa, it may not be appropriate to introduce it into the mesa pools	Ranch-wide, if appropriate, this species will be introduced into other pools that are proposed to be restored.
<i>Otay Tarplant</i>			
The project is designed to preserve 80% of this species	No	Not present on site; no impacts will occur	Ranch-wide 89% of the species will be preserved.
The species shall be introduced in areas with appropriate soils	No	Conditions are not appropriate for this species on site.	Ranch-wide, tarplant may be included in restoration areas as appropriate if suitable soils are present and unoccupied.
<i>Willow Monardella</i>			
The project shall be designed to preserve 100% of this species on site	No	Not present on site; no impacts will occur	Ranch-wide 100% of the species will be preserved.

## APPENDIX G (Continued)

Mitigation Measure	Applicable to Resort Village?	Implementation by Resort Village Project	Implementation Ranch-wide
Water input shall be regulated to prevent significant indirect impacts from decreased or increased water flow from the development	No	Not present on site; no impacts will occur	This measure will be implemented ranch-wide.
The intact population shall be monitored for 5 years	No	Not present on site; no impacts will occur	This measure will be implemented ranch-wide.
<i>Second, third, and fourth priority plant species</i>			
Sensitive plant surveys shall be conducted for each Specific Plan Area (SPA)	Yes	Surveys were conducted in 2001.	Surveys will be conducted in the appropriate timing for the project.
The project is designed to achieve the standards described in the RMP	Yes	See list below for details on how standards are achieved.	See list below for details on how standards are achieved.
Significant impacts to second, third, and fourth priority plant species shall require a mitigation plan at the SPA level	Yes	Mitigation will be accomplished by preservation of habitat.	Mitigation will be accomplished by preservation of habitat.
Indirect impacts shall be prevented through provisions of buffers, manipulation of hydrologic conditions, and a fire management plan	Yes	Appropriate plans will be prepared. The preserve areas also will be fenced and managed.	Appropriate plans will be prepared. The preserve areas also will be fenced and managed.
Indirect impacts to preserved populations of all sensitive plant species shall be avoided or minimized by implementing the measures specified in the RMP	Yes	Appropriate measures will be implemented.	Appropriate measures will be implemented.
<i>Otay Manzanita</i>			
The project is designed to preserve at least 80% of the species on site, including populations in northern Jamul Mountains	No	Not present on site; no impacts will occur	Ranch-wide 80% of the species will be preserved.
Impact plants shall be propagated and re-established to suitable slopes	No	Not present on site; no impacts will occur	This measure will be implemented ranch-wide.
<i>Orcutt's Brodiaea</i>			
The project shall be designed to preserve 75% of the species on site	No	Not present on site; no impacts will occur	Ranch-wide 75% of the species will be preserved.
Water input shall be regulated to prevent significant indirect impacts from increased or decreased water flow from development and shall be subject to buffer requirements	No	Not present on site; no impacts will occur	This measure will be implemented ranch-wide.

## APPENDIX G (Continued)

Mitigation Measure	Applicable to Resort Village?	Implementation by Resort Village Project	Implementation Ranch-wide
A five-year monitoring of intact population shall be required to identify significant impacts of development and implement remedial measures	No	Not present on site; no impacts will occur	This measure will be implemented ranch-wide.
<i>Variegated Hesseanthus</i>			
The project is designed to preserve 75% of the species on site, including representative populations from each of the three parcels	Yes	81% will be preserved within the Village 13 project.	In combination with preservation on third-party acquisitions and ranch-wide preservation, at least 75% will be preserved.
Impacted plants shall be transplanted to appropriate habitat and clay soils within the same parcel	Yes	Mitigation will include transplanting if appropriate.	Mitigation will include transplanting if appropriate
<i>San Diego Coast Barrel Cactus</i>			
The project is designed to preserve 75% of the species on site, including representative populations from each of the three parcels	Yes	19% will be preserved within the Village 13 project.	In combination with preservation on third-party acquisitions and ranch-wide preservation, at least 75% will be preserved.
Impacted plants shall be transplanted to appropriate habitat within the same parcel	Yes	Impacted plants will be moved in accordance with design and as appropriate	Impacted plants will be moved in accordance with design and as appropriate
<i>San Diego Goldenstar</i>			
The project is designed to preserve 54% of known point occurrences of the species on site, including representative populations from each of the three parcels	Yes	None of this species is anticipated to be preserved within the Resort Village	in combination with preservation on third-party acquisitions and ranch-wide preservation at least 54% will be preserved.
Corms and soil shall be salvaged and species shall be introduced in appropriate soils and habitat in protected open space within the same parcel	Yes	Impacted plants will be moved in accordance with design and as appropriate	Impacted plants will be moved in accordance with design and as appropriate
<i>San Diego Navarettia</i>			
The project shall be designed to preserve 100% of the presently known locations of the species and retaining all of the J29 pools complex with <i>Navarettia</i>	No	Not present on site; no impacts will occur	Ranch-wide 100% of the species will be preserved.
<i>Snake Cholla</i>			
The project is designed to preserve 80% of the species on site	No	Not present on site; no impacts will occur	Ranch-wide 80% of the species will be preserved.
Impacted plants shall be transplanted to restored CSS in protected open space	No	Not present on site; no impacts will occur	This measure will be implemented ranch-wide.

## APPENDIX G (Continued)

Mitigation Measure	Applicable to Resort Village?	Implementation by Resort Village Project	Implementation Ranch-wide
<i>Narrow-leaved Nightshade</i>			
The project is designed to preserve 75% of the species on site	No	Not present on site; no impacts will occur	Ranch-wide 75% of the species will be preserved.
The species shall be re-established in disturbed areas with suitable soils or introduced in suitable open space	No	Not present on site; no impacts will occur	This measure will be implemented ranch-wide.
<i>Delicate Clarkia</i>			
The project is designed to preserve 75% of the species on site and to avoid all impacts to the population in the canyon in northeastern Jamul Mountains	No	Not present on site; no impacts will occur	Ranch-wide 75% of the species will be preserved.
<i>Orcutt's Bird-beak</i>			
The project is designed to preserve 75% of the species on site and to avoid all impacts to the population in the canyon south of the San Diego Air Sports Center	No	Not present on site; no impacts will occur	Third party acquisitions have already provided preservation of this area
Avoid indirect impacts in the canyon south of the San Diego Air Sports Center	No	Not present on site; no impacts will occur	Third party acquisitions have already provided preservation of this area
<i>San Diego Marsh-elder</i>			
The project is designed to preserve 75% of the species on site	Yes	47% of the acreage dominated by this species will be preserved within the Village 13 project	In combination with preservation on third-party acquisitions and ranch-wide preservation, at least 75% will be preserved.
The species shall be revegetated at a 2:1 ratio in intermittent drainages that have been disturbed	Yes	This species will be included in mitigation plant palettes.	This species will be included in mitigation plant palettes.
Container plants shall be propagated with seed collected from the project site	Yes	Seed will be collected as part of the mitigation.	Seed will be collected as part of the mitigation.
The species shall be included in restoration of AM habitat	Yes	This species will be included in mitigation plant palettes.	This species will be included in mitigation plant palettes.
<i>Munz's Sage</i>			
The project is designed to preserve 46% of point occurrences on site for this species	Yes	Approximately 64% of the area occupied by this species will be preserved on site.	Ranch-wide additional preservation of the species will be provided
Munz's sage-dominated CSS shall be restored in the project area at a 2:1 ratio using seed and container plants	Yes	This species will be included in mitigation plant palettes.	This species will be included in mitigation plant palettes.

## APPENDIX G (Continued)

Mitigation Measure	Applicable to Resort Village?	Implementation by Resort Village Project	Implementation Ranch-wide
<i>Greene's Ground-cherry</i>			
Additional survey work shall be conducted to verify presence of this species	No	Not present on site; no impacts will occur	Surveys will be conducted on future project areas
If present, the project shall be designed to preserve at least 50% of the species on site	No	Not present on site; no impacts will occur	Ranch-wide 50% of the species will be preserved.
The species shall be re-established or introduced into suitable habitat, using seed salvage and nursery propagation to increase seed source	No	Not present on site; no impacts will occur	This species will be included in mitigation plant palettes.
<i>San Diego County Stipa</i>			
The project is designed to preserve 75% of the species on site	No	Not present on site; no impacts will occur	Ranch-wide 75% of the species will be preserved.
The species is re-established in disturbed areas or introduced in suitable open space	No	Not present on site; no impacts will occur	This species will be included in mitigation plant palettes.
<i>San Diego Sunflower</i>			
The project is designed to preserve 75% of the species on site	Yes	85% of the acreage dominated by this species will be preserved within the Village 13 project.	In combination with preservation on third-party acquisitions and ranch-wide preservation, at least 75% will be preserved.
<i>Viguiera</i> -dominated CSS shall be restored at a 2:1 ratio using seed from the ranch	Yes	This species will be included in mitigation plant palettes.	This species will be included in mitigation plant palettes.
<i>California Adder's tongue Fern</i>			
The project is designed to preserve at least 50% of the species on site	No	Not present on site; no impacts will occur	Ranch-wide 50% of the species will be preserved.
<i>Coulter's Matilija Poppy</i>			
The project is designed to preserve 50% of the species on site	Yes	100% of this species will be preserved on site.	Ranch-wide 50% of the species will be preserved.
<i>Wildlife – Birds</i>			
<i>Least Bell's Vireo and Southwestern Willow Flycatcher</i>			
100% (or approved HCP/San Diego MSCP standards) of occupied habitat for these species shall be preserved	No	Not present on site; no impacts will occur.	Ranch-wide 100% (or approved per MSCP) of habitat will be preserved.

## APPENDIX G (Continued)

Mitigation Measure	Applicable to Resort Village?	Implementation by Resort Village Project	Implementation Ranch-wide
Prior to the first Specific Plan containing least Bell's vireo and/or southwestern willow flycatcher habitat, the Applicant shall conduct a focused study of these species distribution and abundance along Otay River and Dulzura Creek adjacent to the San Ysidro parcel	No	Not present on site; no impacts will occur.	Focused surveys will be conducted in appropriate habitat as projects move forward
A mitigation plan shall be prepared and implemented for any direct impacts from road construction	No	Not present on site; no impacts will occur.	Mitigation measures will be implemented as appropriate
Prior to the approval of the first Specific Plan containing least Bell's vireo, the applicant shall conduct a study of indirect impacts on the Dulzura Creek and Otay River populations	No	Not present on site; no impacts will occur.	Mitigation measures will be implemented as appropriate
Prior to the approval of the first Specific Plan containing southwestern willow flycatcher, the applicant shall conduct a study of indirect impacts on the Dulzura Creek and Otay River populations	No	No southwestern willow flycatchers have been recorded within the ranch.	Mitigation measures will be implemented as appropriate
If it is determined during the environmental review for Specific Plans that indirect impacts from development or roads are significant, a mitigation shall be prepared and implemented at the Specific Plan level	No	Not present on site; no impacts will occur.	Mitigation measures will be implemented as appropriate
Prior to approval of the first Specific Plan, a management plan in conjunction with the RMP shall be prepared and implement for this species	No	Not present on site; no impacts will occur.	Mitigation measures will be implemented as appropriate
<i>Tricolored Blackbird</i>			
The project shall be designed to preserve 100% (or approved HCP/ MSCP standards) of nesting habitat for this species	No	Not present on site; no impacts will occur.	Ranch wide, preservation standards will be met
At the Specific Plan level, the Applicant shall conduct focused breeding surveys for this species in appropriate habitat	No	No suitable breeding habitat is located on site.	Focused surveys will be conducted as appropriate
Direct and indirect impacts shall be assessed to breeding habitat from proposed development and roads	No	Not present on site; no impacts will occur.	Impacts will be evaluated as appropriate

## APPENDIX G (Continued)

Mitigation Measure	Applicable to Resort Village?	Implementation by Resort Village Project	Implementation Ranch-wide
Preserve all occupied and restored breeding habitat, and where feasible, potential breeding habitat in natural open space	No	Not present on site; no impacts will occur.	Preservation will occur ranch wide as appropriate
Include all preserved habitat within the Management Preserve	No	Not present on site; no impacts will occur.	Preservation will occur ranch wide as appropriate
Restore or enhance suitable breeding marsh habitat along the Otay River to mitigate for impacts to potential habitat	No	Not present on site; no impacts will occur.	Mitigation measures will be implemented as appropriate
Avoid construction of roads and other development during the breeding season (March 1 to August 31)	No	Not present on site; no impacts will occur.	Mitigation measures will be implemented as appropriate
Preserve open space buffer zones around occupied, potential, and restored habitats	No	Not present on site; no impacts will occur.	Mitigation measures will be implemented as appropriate
Mitigation for loss of foraging habitat shall be done in conjunction with mitigation for raptor grassland foraging habitat	No	Not present on site; no impacts will occur.	Mitigation measures will be implemented as appropriate
Prepare and implement a management plan for this species	No	Not present on site; no impacts will occur.	This plan will be prepared as appropriate
<i>Coastal Cactus Wren</i>			
The project is designed to achieve no loss of viable coastal cactus wren populations and preserve adequate habitat within the Preserve to maintain no loss of viable coastal cactus wren populations	No	Not present on site; no impacts will occur.	Impacts will be evaluated as projects move forward
At the Specific Plan level, the Applicant shall reassess impacts to this species using detailed development plans, baseline data from the Final Program EIR, and updated distribution and abundance data from the Specific Plan level surveys	No	Not present on site; no impacts will occur.	Impacts will be evaluated as projects move forward
Direct impacts shall be assessed from proposed road construction at the Specific Plan level	No	Not present on site; no impacts will occur.	Impacts will be evaluated as projects move forward
A mitigation plan shall be prepared and implemented for significant direct impacts to the species from road construction	No	Not present on site; no impacts will occur.	This plan will be prepared as appropriate

## APPENDIX G (Continued)

Mitigation Measure	Applicable to Resort Village?	Implementation by Resort Village Project	Implementation Ranch-wide
<i>California Gnatcatcher</i>			
The project is designed to preserve 70% of California Gnatcatcher habitat on site, to restore 15% of California Gnatcatcher habitat and to preserve 52% of documented pairs and individuals.	Yes	66% of occupied habitat will be preserved on site. No restoration is proposed on site except for slopes. 56% of pairs will be preserved.	In combination with preservation on third-party acquisitions and ranch-wide preservation, at least 70% of suitable habitat will be preserved.
Impacts in the following areas shall be assessed and project standards achieved: Otay Lakes Road through the Jamul Mountains, Proctor Valley Road through the disjunct L-shaped parcel.	Yes	Impacts from improvements to Otay Lakes Road are restricted to widening and loss of habitat is low.	Impacts will be evaluated as projects move forward
<i>Wildlife – Invertebrates</i>			
<i>Riverside Fairy Shrimp</i>			
100% (or approved HCP/MSCP standards) of occupied habitat for this species shall be preserved.	No	Not present on site; no impacts will occur.	99% of vernal pools are preserved ranch wide
At the Specific Plan level, the applicant shall conduct a focused study of the distribution and abundance of these species within vernal pool habitat on Otay Ranch.	No	Not present on site; no impacts will occur.	Focused surveys will be conducted as appropriate
The applicant shall assess direct and indirect impacts to occupied and potential habitat (including vernal pools and associated watersheds) from proposed development and roads.	No	Not present on site; no impacts will occur.	Impacts will be evaluated as appropriate
A mitigation plan shall be prepared and implemented for significant direct and indirect impacts from proposed development or roads.	No	Not present on site; no impacts will occur.	This plan will be prepared as appropriate
A management plan shall be prepared and implemented for these species.	No	Not present on site; no impacts will occur.	This plan will be prepared as appropriate
<i>San Diego Fairy Shrimp</i>			
The project is designed to preserve 95% of occupied habitat for the species where co-occurring with vernal pool habitat.	Yes	97% of occupied habitat is preserved	99% of vernal pools are preserved ranch wide
At the specific plan level, the applicant shall conduct a focused study of the distribution and abundance of these species within vernal pool habitat on Otay Ranch.	Yes	Surveys have been conducted	Focused surveys will be conducted as appropriate

## APPENDIX G (Continued)

Mitigation Measure	Applicable to Resort Village?	Implementation by Resort Village Project	Implementation Ranch-wide
The applicant shall assess direct and indirect impacts to occupied and potential habitat (including vernal pools and associated watersheds) from proposed development and roads.	Yes	Buffers for watersheds are included in the design	Impacts will be evaluated as appropriate
A mitigation plan shall be prepared and implemented for significant direct and indirect impacts from proposed development or roads.	Yes	Mitigation will include restoration and enhancement of vernal pools	This plan will be prepared as appropriate
A management plan shall be prepared and implemented for these species.	Yes	Management of preserve areas is proposed.	This plan will be prepared as appropriate
<i>Harbison's Dun Skipper</i>			
100% (or based on approved HCP/MSCP standards) of occupied habitat shall be preserved.	No	Not present on site; no impacts will occur.	This species will be preserved as appropriate dependent on suitable habitat ranch wide.
The applicant shall assess direct and indirect impacts from proposed development and roads.	No	Not present on site; no impacts will occur.	Impacts to this species will be evaluated as appropriate
A mitigation plan shall be prepared and implemented for significant impacts.	No	Not present on site; no impacts will occur.	This plan will be prepared as appropriate
A management plan shall be prepared and implemented for this species.	No	Not present on site; no impacts will occur.	This plan will be prepared as appropriate
<i>Hermes Copper</i>			
100% (or approved HCP/MSCP standards) occupied habitat shall be preserved.	No	Not present on site; no impacts will occur.	This species will be preserved as appropriate dependent on suitable habitat ranch wide.
A management plan shall be developed and implemented for this species.	No	Not present on site; no impacts will occur.	This plan will be prepared as appropriate
<i>Quino Checkerspot</i>			
100% (or approved HCP/MSCP standards) of occupied habitat required for this species shall be preserved.	Yes	Preservation for this species will follow resource agency recommendations per take permit. 84% of individuals are proposed to be preserved.	Preservation for this species will follow resource agency recommendations per take permit
<i>Wildlife – Amphibians</i>			
<i>California Red-legged Frog and Western Pond Turtle</i>			
100% (or approved HCP/MSCP standards) of occupied habitat required for this species shall be preserved.	No	Not present on site; no impacts will occur.	This species will be preserved as appropriate dependent on suitable habitat ranch wide.

## APPENDIX G (Continued)

Mitigation Measure	Applicable to Resort Village?	Implementation by Resort Village Project	Implementation Ranch-wide
A management plan for these species shall be developed and implemented. Provisions shall be made for controlling introduced predators of these species.	No	Not present on site; no impacts will occur.	This plan will be prepared as appropriate
<i>General Measures</i>			
<i>Forty-nine Other Sensitive Wildlife Species (Table 6 from the FPEIR and summarized below with preservation standard)</i>			
Detailed studies shall be required at the Specific Plan level to determine distribution and abundance. Assessment of impacts, preparation and implementation of mitigation for significant impacts shall also be required for those species found to occur on site.	Yes	Such required studies have been conducted.	Required studies will be conducted at the appropriate time
<i>Western spadefoot toad</i> : 80% preservation or MSCP	Yes	100% of occurrences will be preserved	This species will be preserved as appropriate dependent on suitable habitat ranch wide.
<i>Arroyo toad</i> : 80% preservation or MSCP	No	Not present on site; no impacts will occur.	This species will be preserved as appropriate dependent on suitable habitat ranch wide.
<i>San Diego banded gecko</i> : 80% preservation	Yes	60% of suitable habitat is preserved on site.	In combination with preservation on third-party acquisitions and ranch-wide preservation, at least 80% will be preserved.
<i>San Diego horned lizard</i> : 80% preservation or MSCP	Yes	60% of suitable habitat is preserved on site.	In combination with preservation on third-party acquisitions and ranch-wide preservation, at least 80% will be preserved.
<i>Sandstone night lizard</i> : 80% preservation	No	Not present on site; no impacts will occur.	This species will be preserved as appropriate dependent on suitable habitat ranch wide.
<i>Coronado skink</i> : 80% preservation	No	Not present on site; no impacts will occur.	This species will be preserved as appropriate dependent on suitable habitat ranch wide.
<i>Orange-throated whiptail</i> : 80% preservation or MSCP	Yes	60% of suitable habitat is preserved on site.	In combination with preservation on third-party acquisitions and ranch-wide preservation, at least 80% will be preserved.
<i>Coastal whiptail</i> : 80% preservation	Yes	60% of suitable habitat is preserved on site.	In combination with preservation on third-party acquisitions and ranch-wide preservation, at least 80% will be preserved.

## APPENDIX G (Continued)

Mitigation Measure	Applicable to Resort Village?	Implementation by Resort Village Project	Implementation Ranch-wide
<i>Silvery legless lizard</i> : 80% preservation	No	Not present on site; no impacts will occur.	This species will be preserved as appropriate dependent on suitable habitat ranch wide.
<i>Rosy boa</i> : 80% preservation	Yes	60% of suitable habitat is preserved on site.	In combination with preservation on third-party acquisitions and ranch-wide preservation, at least 80% will be preserved.
<i>San Diego ringneck snake</i> : 80% preservation	Yes	97% of suitable habitat is preserved on site.	This species will be preserved as appropriate dependent on suitable habitat ranch wide.
<i>Coast patch-nosed snake</i> : 80% preservation	Yes	27% of suitable habitat is preserved on site	In combination with preservation on third-party acquisitions and ranch-wide preservation, at least 80% will be preserved.
<i>San Diego mountain kingsnake</i> : 100% preservation	No	Not present on site; no impacts will occur.	This species will be preserved as appropriate dependent on suitable habitat ranch wide.
<i>Two-striped garter snake</i> : 80% preservation	Yes	97% of suitable habitat is preserved on site.	This species will be preserved as appropriate dependent on suitable habitat ranch wide.
<i>Red-diamond rattlesnake</i> : 80% preservation	Yes	60% of suitable habitat is preserved on site	In combination with preservation on third-party acquisitions and ranch-wide preservation, at least 80% will be preserved.
<i>Osprey</i> : No mitigation	No	—	—
<i>Northern harrier</i> : 100% of breeding or 80% of non-breeding population preservation or MSCP	No	A total of 1,065 acres of habitat is preserved to provide foraging opportunities for this species; no impacts will occur.	This species will be preserved as appropriate dependent on suitable habitat ranch wide.
<i>Sharp-shinned hawk</i> : no mitigation	No	—	—
<i>Cooper's hawk</i> : 80% preservation or MSCP	Yes	100% of suitable habitat is preserved on site.	This species will be preserved as appropriate dependent on suitable habitat ranch wide.
<i>Ferruginous hawk</i> : no mitigation	No	—	—
<i>Golden eagle</i> : 100% of breeding and associated key foraging habitat or MSCP	Yes	61% of suitable habitat is preserved on site.	In combination with preservation on third-party acquisitions and ranch-wide preservation, 100% of breeding and key foraging will be preserved.
<i>Merlin</i> : no mitigation	No	—	—
<i>Prairie falcon</i> : no mitigation	No	—	—

## APPENDIX G (Continued)

Mitigation Measure	Applicable to Resort Village?	Implementation by Resort Village Project	Implementation Ranch-wide
<i>Mountain plover: no mitigation</i>	No	—	—
<i>Long-billed curlew: no mitigation</i>	No	—	—
<i>Burrowing owl: 100% preservation or MSCP</i>	Yes	27% of suitable habitat is preserved on site. Only one burrowing owl has been recorded on site, hence there maybe be no occupation of the site by this species.	In combination with preservation on third-party acquisitions and ranch-wide preservation, 100% will be preserved.
<i>Long-eared owl: 100% preservation</i>	No	Not present on site; no impacts will occur.	This species will be preserved as appropriate dependent on suitable habitat ranch wide.
<i>Short-eared owl: no mitigation</i>	No	—	—
<i>Southwestern willow flycatcher: 100% preservation or HCP/MSCP</i>	No	Not present on site; no impacts will occur.	This species will be preserved as appropriate dependent on suitable habitat ranch wide.
<i>California horned lark: 80% preservation</i>	Yes	27% of suitable habitat is preserved on site.	In combination with preservation on third-party acquisitions and ranch-wide preservation, at least 80% will be preserved.
<i>Loggerhead shrike: 80% preservation</i>	Yes	60% of suitable habitat is preserved on site.	In combination with preservation on third-party acquisitions and ranch-wide preservation, at least 80% will be preserved.
<i>Yellow warbler: 80% preservation</i>	No	Not present on site; no impacts will occur.	This species will be preserved as appropriate dependent on suitable habitat ranch wide.
<i>Yellow-breasted chat: 80% preservation</i>	No	Not present on site; no impacts will occur.	This species will be preserved as appropriate dependent on suitable habitat ranch wide.
<i>Southern California rufous-crowned sparrow: 80% preservation or MSCP</i>	Yes	60% of suitable habitat is preserved on site.	In combination with preservation on third-party acquisitions and ranch-wide preservation, at least 80% will be preserved.
<i>Bell's sage sparrow: 80% preservation (name has been changed to Bell's sparrow)</i>	Yes	60% of suitable habitat is preserved on site.	In combination with preservation on third-party acquisitions and ranch-wide preservation, at least 80% will be preserved.
<i>California leaf-nosed bat: 100% preservation of roosting habitat</i>	No	Not present on site; no impacts will occur.	Roosting habitat will be preserved as appropriate
<i>Townsend's big-eared bat: 100% preservation of roosting habitat</i>	No	Not present on site; no impacts will occur.	Roosting habitat will be preserved as appropriate

## APPENDIX G (Continued)

Mitigation Measure	Applicable to Resort Village?	Implementation by Resort Village Project	Implementation Ranch-wide
<i>Pallid bat</i> : 100% preservation of roosting habitat	No	Not present on site; no impacts will occur.	Roosting habitat will be preserved as appropriate
<i>Western mastiff bat</i> : 100% preservation of roosting habitat	No	Not present on site; no impacts will occur.	Roosting habitat will be preserved as appropriate
<i>Spotted bat</i> : 100% preservation of roosting habitat	No	Not present on site; no impacts will occur.	Roosting habitat will be preserved as appropriate
<i>Pocketed free-tailed bat</i> : no mitigation	No	—	—
<i>Big free-tailed bat</i> : 100% preservation of roosting habitat	No	Not present on site; no impacts will occur.	Roosting habitat will be preserved as appropriate
<i>San Diego black-tailed jackrabbit</i> : 80% preservation	Yes	60% of suitable habitat is preserved on site.	In combination with preservation on third-party acquisitions and ranch-wide preservation, at least 80% will be preserved.
<i>Pacific little pocket mouse</i> : 100% preservation or MSCP	No	Not present on site; no impacts will occur.	This species is not likely present within the ranch
<i>Northwestern San Diego pocket mouse</i> : 80% preservation	Yes	60% of suitable habitat is preserved on site.	In combination with preservation on third-party acquisitions and ranch-wide preservation, at least 80% will be preserved.
<i>Dulzura California pocket mouse</i> : 80% preservation	Yes	60% of suitable habitat is preserved on site.	In combination with preservation on third-party acquisitions and ranch-wide preservation, at least 80% will be preserved.
<i>Southern Grasshopper mouse</i> : 80% preservation	No	Not present on site; no impacts will occur.	
<i>San Diego desert woodrat</i> : 80% preservation	Yes	60% of suitable habitat is preserved on site	. In combination with preservation on third-party acquisitions and ranch-wide preservation, at least 80% will be preserved.
<i>American badger</i> : no mitigation	No	—	—
<i>Regional Raptor Populations</i>			
Key raptor resource areas in proposed open space shall be preserved in accordance with the Otay Ranch Raptor Management Study (Ogden 1992).	Yes	Key raptor resource areas are preserved within open space in accordance with the SRP design and agency input.	Ranch-wide, raptor foraging and nesting will be addressed.

## APPENDIX G (Continued)

Mitigation Measure	Applicable to Resort Village?	Implementation by Resort Village Project	Implementation Ranch-wide
The restoration/enhancement of nesting and foraging habitat shall be required.	No	Preservation of on site areas will provide habitat for foraging of raptors. There are few suitable nesting locations for tree-nesting raptors. Potential cliff nest locations will be preserved.	Nesting and foraging will be evaluated as each project moves forward.
<i>Regional and Local Wildlife Corridors</i>			
The project is designed to maintain connectivity of the parcels and adjacent blocks of off-site open space.	Yes	Analysis of corridors and movement has been conducted and connectivity will be maintained for medium and large mammals by providing adequate culverts for movement under roads. Movement for Quino checkerspot is provided by including wide corridors with vegetated slopes leading up to local roads within the project.	Ranch-wide, wildlife movement will be analyzed and connectivity with other open will be maintained.
Specific mitigation for all corridors shall follow detailed recommendations from the Otay Ranch Wildlife Corridor Study (Ogden 1992).	Yes	Wildlife movement corridors will be maintained, added, and improved as required in the Corridor study. The corridor will provide for movement from the Village 13 area and Jamul Mountains south to the San Ysidro Mountains.	Ranch-wide, wildlife movement will be addressed in accordance with the Otay Ranch Wildlife corridor Study.
Specific measures shall be implemented for the Otay River Parcel.	No	Otay River is not on site.	This measure applies only to the Otay River Parcel.
Specific measures shall be implemented in the Proctor Valley Parcel.	Yes	Corridors will have continued function by culverts that include connection under Otay Lakes Road; new corridors are proposed to be established. All culverts are designed to be suitable for wildlife use.	Other areas within the Proctor Valley Parcel will address wildlife movement.

## APPENDIX G (Continued)

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# **APPENDIX H**

*Conceptual Upland Restoration Plan for the Otay  
Ranch Resort Village*



## **APPENDIX H**

### **CONCEPTUAL UPLAND RESTORATION PLAN**

*for the*

**OTAY RANCH RESORT VILLAGE  
GPA 04-003; SPA 04-002; R04-009; TM 5361RPL; S08-028;  
ER#04-19-005; KIVA#03-1004387**

*Prepared for:*

**County of San Diego**

*On behalf of:*

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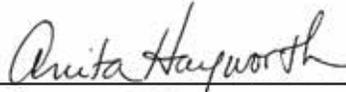
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**NOVEMBER 2014**



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# Conceptual Upland Restoration Plan for the Otay Ranch Resort Village

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# Conceptual Upland Restoration Plan for the Otay Ranch Resort Village

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## EXECUTIVE SUMMARY

The Otay Ranch Resort Village's Specific Plan area is located in southwestern San Diego County (County), approximately 13 miles east of the Pacific Ocean and 6 miles north of the international border with Mexico (Figure 1). The site is located in the Proctor Valley Parcel of the Otay Subregional Plan (SRP), approximately 0.25 mile east of the City of Chula Vista (Figure 2). As part of the planning for the development of Otay Ranch, several villages and planning areas were designated for various types of development, while other areas were reserved for preservation of multiple species and habitats. An effort was undertaken to plan development of the ranch so as to conserve species and habitats in the region. The Otay Ranch Resort Village project area comprises approximately 1,869 acres, is located in an unincorporated portion of the County, and is designated for residential and resort development and for open space by the Otay Ranch *Subregional Plan* (Otay Ranch 1993). Off-site improvements to Otay Lakes Road associated with the project required analysis of an approximately 43-acre area south and west of the project area.

The proposed specific plan includes approximately 525.0 acres designated for 1,881 single-family detached homes. Five single-family neighborhoods are planned with average densities ranging from 3.2 to 4.4 dwelling units per acre.

Implementation of the proposed project would result in the direct impacts to sensitive vegetation communities. Impacts would occur as the result of grading and fuel management. Impacts also include the installation of a water tank within the northern open space area.

The purpose of this *Conceptual Uplands Restoration Plan for Otay Ranch Resort Village* (Restoration Plan) is to provide site-specific instructions for upland habitat restoration as mitigation for on-site impacts associated with the construction of the Otay Ranch Resort Village (Village 13) project area of Otay Ranch. This Restoration Plan provides guidance for on-site restoration of approximately 19 acres of sensitive upland vegetation communities, consisting of areas mapped as coastal sage scrub (13.01 acres), disturbed coastal sage scrub (4.17 acres), chamise chaparral (0.74 acre), scrub oak chaparral (0.01 acre), disturbed Valley needlegrass grassland (0.25 acre), and non-native grassland (0.16 acre), which are shown in Table 6. The restoration areas are depicted in Figure 4.

Additionally, this Restoration Plan provides guidance for revegetation of temporary impacts to sensitive upland vegetation communities that are anticipated to occur to off-site areas at a number of locations along Otay Lakes Road. These temporary impacts will occur as a result of installation of storm drains along the road where it is proposed for widening. Temporary off-site impacts to sensitive vegetation communities total 0.43 acre, consisting of coastal sage scrub

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(0.31 acre), disturbed coastal sage scrub (0.07), and non-native grassland (0.05 acre). These temporary off-site impacts will be immediately restored and are not otherwise a part of the proposed on-site project open space.

In accordance with County guidelines, this Restoration Plan presents information on project impacts and mitigation goals, existing conditions, responsible parties, site preparation methods, proposed mitigation, planting and seeding methods, maintenance requirements, monitoring procedures, success criteria, and contingency measures.

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## 1 DESCRIPTION OF THE DEVELOPMENT PROJECT/IMPACT SITE FOR WHICH COMPENSATORY MITIGATION IS REQUIRED

The purpose of this *Conceptual Uplands Restoration Plan for Otay Ranch Resort Village* (Restoration Plan) is to provide site-specific instructions for upland habitat restoration as mitigation for on-site impacts associated with the construction of the Resort Village (Village 13) project area of Otay Ranch.

### 1.1 Responsible Parties

The project applicants (JPB Development LLC and Baldwin & Sons LLC) are responsible for initiating and funding all maintenance and monitoring requirements during the 5-year program. They shall be responsible for hiring a qualified landscape maintenance contractor to carry out all maintenance work and for hiring a qualified Project Biologist to carry out the monitoring program for the duration of the 5-year period.

### 1.2 Location of the Development Project

The Otay Ranch Resort Village Specific Plan area is located in southwestern San Diego County, approximately 13 miles east of the Pacific Ocean and 6 miles north of the international border with Mexico (Figure 1). The site is located in the Proctor Valley Parcel of the Otay Subregional Plan (SRP) approximately 0.25 mile east of the City of Chula Vista (Figure 2). As part of the planning for the development of Otay Ranch, several villages and planning areas were designated for various types of development while other areas were reserved for preservation of multiple species and habitats. An effort was undertaken to plan development of the ranch so as to conserve species and habitats in the region. The Otay Ranch Resort Village project area comprises approximately 1,869 acres, is located in an unincorporated portion of the County, and is designated for residential and resort development and for open space by the Otay Ranch *Subregional Plan* (SRP; Otay Ranch 1993). Associated with the project, off-site improvements to Otay Lakes Road required analysis of an approximately 43-acre area south and west of the project area.

### 1.3 Summary of Overall Development Project with Proposed Compensatory Mitigation

The Resort Village (Village 13) project area of Otay Ranch comprises approximately 1,869 acres located in the unincorporated portion of San Diego County (County) and is designated for residential and resort development and for open space in the current Otay *Subregional Plan, Volume 2* (Otay SRP; 1993). The proposed land uses for the Otay Ranch Resort Village project consist of single-family neighborhoods, a mixed use residential and commercial use

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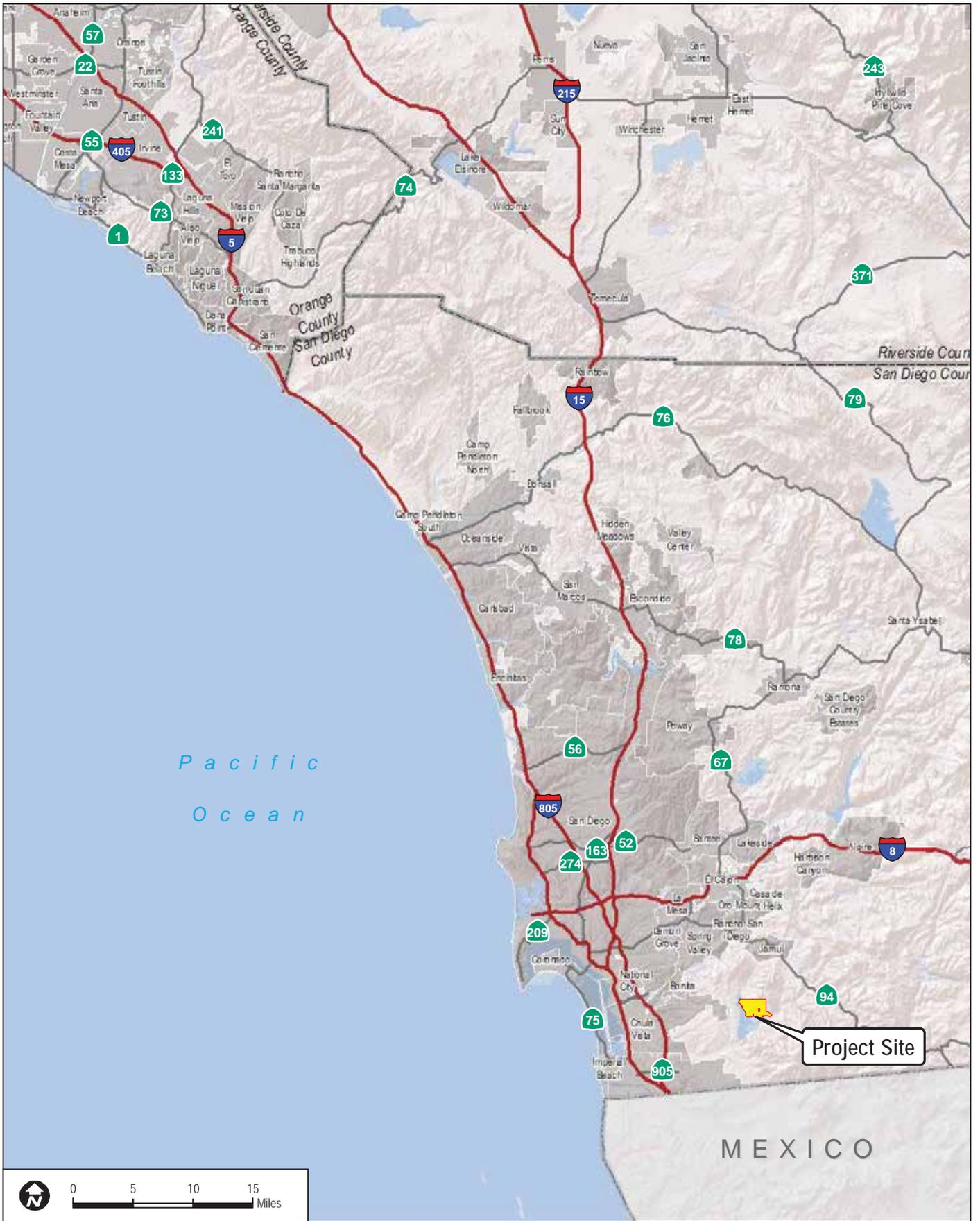
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neighborhood, a resort hotel with associated ancillary facilities, an elementary school site, a site for public safety facilities, open space, Otay Ranch Preserve (Preserve) land, and park and recreational uses. The proposed specific plan includes approximately 540.2 acres designated for 1,881 single-family detached homes. Five single-family neighborhoods are planned with an average density ranging from 3.2 to 4.4 dwelling units per acre.

### 1.3.1 Topography

The Otay Ranch Resort Village consists of a broad mesa sloping to the south, broken by several steep canyons draining from north to south. Portions of the relatively flat mesa extend north into the Jamul Mountains, becoming part of steeper slopes. Site elevations range from approximately 500 feet above mean sea level (AMSL) at the southern end of the property to approximately 1,500 feet AMSL in the northeastern portions. The project area lies within the watershed of the Otay River, a westerly flowing stream which drains an area of approximately 145 square miles. The site is upstream of Savage Dam, which creates Lower Otay Lake.

The southern half of the site contains three large mesas (K6, K8, and K9 from west to east), an expansive and relatively flat area in the west, and increasing elevations with steep canyons in the north. Drainages bisect the mesas and generally run north–south, with the exception of one drainage running east–west from the center to the western edge of the property. Several stock ponds have been intentionally created along the drainages on the property.



Project Site

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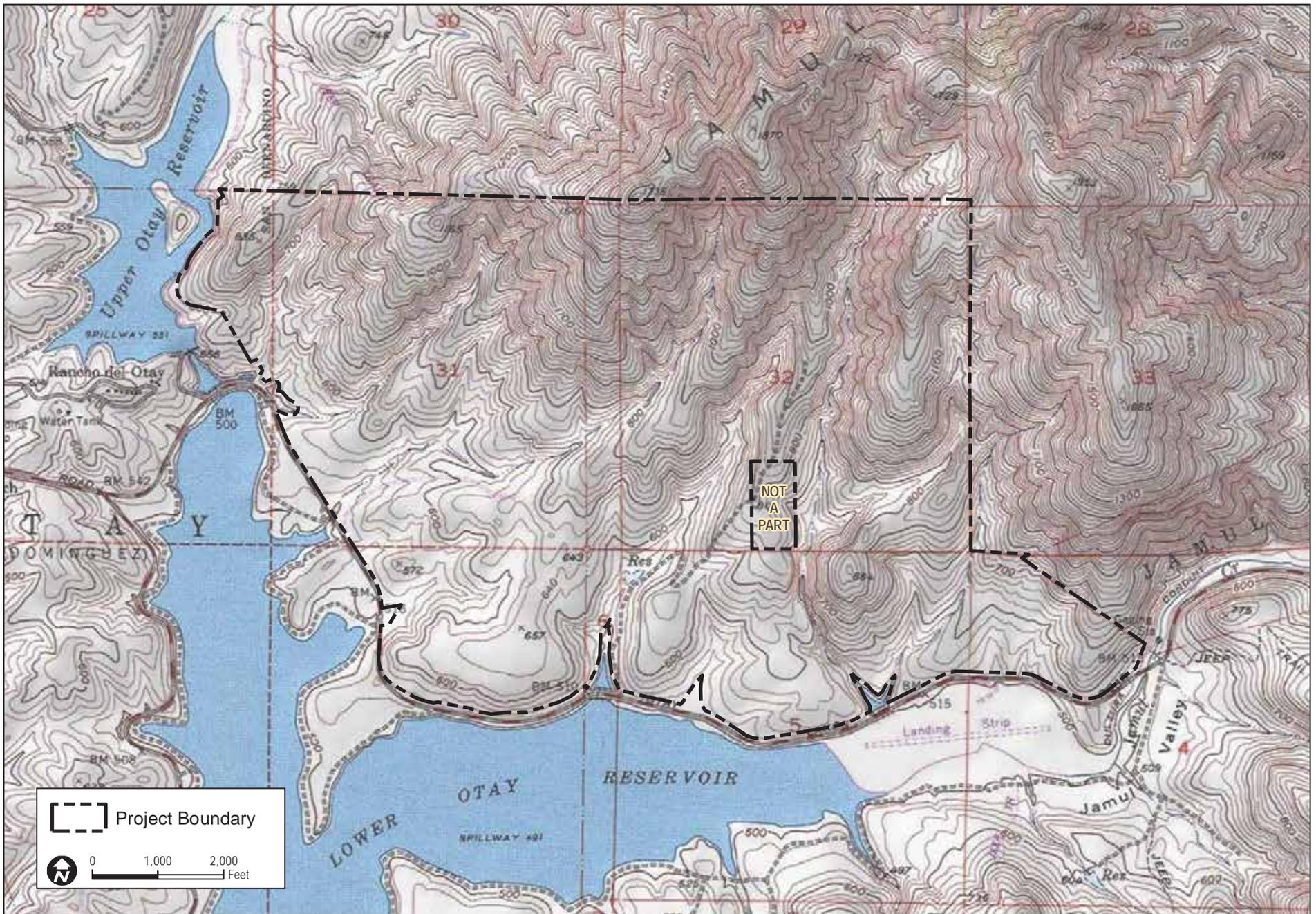
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**FIGURE 1**  
**Regional Map**

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 Project Boundary

 0 1,000 2,000 Feet

**FIGURE 2**  
**Vicinity Map**

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### 1.3.2 Vegetation Types

The project site is dominated by sage scrub, with substantial representation of grassland and chaparral (Table 1). Various wetland plant communities also occur on the site. Portions of the site have been historically mechanically disturbed by farming and grazing activity, reducing the presence of natural vegetation. In total, 16 plant communities and land cover types were mapped within the project area on site and off site, consisting of coastal sage scrub, chamise chaparral, southern mixed chaparral, scrub oak chaparral, valley needlegrass grassland, eucalyptus woodland, non-native grassland, cismontane alkali marsh, freshwater marsh, open water, mulefat scrub, southern willow scrub, stock pond, disturbed habitat, ornamental, and developed land. The coastal sage scrub and chamise chaparral were subdivided as the non-disturbed versus disturbed forms depending on the percent native shrub cover and dominance of non-native species.

**Table 1**  
**Acreages of Plant Communities**

Plant Community Type	Holland Code	On Site	Off Site*	Total
<i>Sensitive Upland Communities</i>				
Coastal Sage Scrub	32500	1,121.52	7.61	1129.14
Disturbed Coastal Sage Scrub	32500	348.62	4.99	353.61
Chamise Chaparral	37210	143.14	—	143.14
Disturbed Chamise Chaparral	37210	15.67	—	15.67
Scrub Oak Chaparral	37900	22.45	—	22.45
Southern Mixed Chaparral	37121	4.95	—	4.95
Disturbed Valley Needlegrass Grassland	42110	110.58	0.03	110.61
Non-Native Grassland	42200	78.96	5.43	84.39
<i>Subtotal</i>		<i>1,845.89</i>	<i>18.07</i>	<i>1,863.96</i>
<i>Sensitive Wetland Communities (ACOE, RWQCB, CDFW, and County unless otherwise noted)</i>				
Cismontane Alkali Marsh	52310	6.39	—	6.39
Disturbed cismontane alkali marsh	11200	0.17	—	0.17
Freshwater Marsh	52410	—	0.17	0.17
Mulefat Scrub, all jurisdictions Mulefat Scrub, CDFW and County only	63310	0.08	—	0.08
Disturbed Mulefat Scrub	63310	—	0.13	0.13
Open Water	64140	0.17	0.49	0.66
Southern Willow Scrub	63320	1.19	0.04	1.23
<i>Subtotal</i>		<i>8.00</i>	<i>18.91</i>	<i>26.91</i>
<i>Non-Sensitive Communities and Land Covers</i>				
Developed Land	12000	0.87	19.22	20.10
Disturbed Habitat	11300	13.46	0.38	13.85
Eucalyptus Woodland	79100	—	0.61	0.61

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**Table 1**  
**Acreages of Plant Communities**

Plant Community Type	Holland Code	On Site	Off Site*	Total
Ornamental	11000	—	0.94	0.94
Stock Pond	18000	0.79	—	0.79
	<i>Subtotal</i>	<i>15.13</i>	<i>21.16</i>	<i>36.29</i>
	<b>Total</b>	<b>1,869.01</b>	<b>40.07</b>	<b>1,909.08</b>

The following provides a description of the vegetation communities that would be temporarily impacted and restored. The condition of the habitats that would be impacted would be restored to the pre-existing condition or better and hence provide the type, function, and value of the habitats that are impacted.

### **1.3.2.1 Coastal Sage Scrub/Disturbed Coastal Sage Scrub (CSS/dCSS)**

Within the project area, coastal sage scrub occurs in relatively distinct subassociations. Shrub cover in disturbed coastal sage scrub may vary from 5% to 50% and typically consists of California sagebrush (*Artemisia californica*), California buckwheat (*Eriogonum fasciculatum*), deerweed (*Lotus scoparius*), rock-rose (*Helianthemum scoparium*), and laurel sumac (*Malosma laurina*). In addition to these native shrub species, a large percentage of the ground cover is taken up by broad-leaved filaree (*Erodium botrys*) and fascicled tarplant (*Deinandra [Hemizonia] fasciculata*). Other non-natives include grasses such as slender wild-oat (*Avena barbata*), soft chess (*Bromus hordeaceus*), black mustard (*Brassica nigra*), and star-thistle (*Centaurea melitensis*).

Another subassociation occurs in many of the northwestern areas, where coastal sage scrub consists of nearly monotypic stands of Munz’s sage (*Salvia munzii*). This subassociation contains a typical shrub cover of 80% to 90%, with Munz’s sage comprising approximately 60% to 70% of the overall cover. Other species present include San Diego County viguiera (*Viguiera laciniata*), California buckwheat, and occasionally laurel sumac and chamise (*Adenostoma fasciculatum*). The typical non-disturbed coastal sage scrub on site, occurring throughout the site but concentrated in the northern portions, consists of 50% to 90% shrub cover with a relative co-dominance of California sagebrush, California buckwheat, and San Diego County viguiera. The density of shrub cover within this sub-type varies with exposure, with denser cover often associated with laurel sumac and white sage (*Salvia apiana*) occurring in more mesic areas and sparser cover often associated with San Diego barrel cactus (*Ferocactus viridescens*) occurring in more xeric conditions. In the eastern portion of the project site shrub cover is relatively low, however, because the percent cover of non-native species is very low it is likely that the low

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shrub cover is a natural condition due to exposure, slope, and/or soil. There are also small occurrences of coastal sage scrub dominated by broom baccharis (*Baccharis sarothroides*). This form often is the result of historic disturbance or occurs in association with a drainage.

### **1.3.2.2 Chamise Chaparral/Disturbed Chamise Chaparral (CC/dCC)**

A predominant chaparral type found in Ventura, Los Angeles, San Bernardino, Riverside and San Diego counties, chamise chaparral is a plant community overwhelmingly dominated by chamise (*Adenostoma fasciculatum*; Holland 1986). Typically between 1 and 4 meters in height, stands of chamise are adapted to repeated fires because the species is capable of stump-sprouting following wildfire. Associated species may include manzanita (*Arctostaphylos* spp.), ceanothus (*Ceanothus* spp.), California buckwheat, deerweed, scrub oak (*Quercus berberidifolia*), lemonadeberry (*Rhus integrifolia*), sages (*Salvia* spp.), ashy spike-moss (*Selaginella cinerascens*), and yucca (*Yucca* spp.). However, associated species do not comprise a significant portion of the overall cover, and mature stands contain very little herbaceous understory or litter.

Chamise chaparral occurs in the north-central portion of the site, often on mesic exposures, and in the southeastern portion on relatively flat topography. Covering relatively large areas, these habitat patches consist of nearly monotypic stands of chamise. In habitat edges, usually adjacent to either coastal sage scrub or scrub oak chaparral, components of those habitats will also be present. For example, California buckwheat, scrub oak, and chaparral broom occur along with chamise in habitat edge areas. Very little understory is present in this community, with the exception of ashy spike-moss and fringed spineflower (*Chorizanthe fimbriata*) occurring in many of the chamise patches in the eastern areas, and non-native grasses that have filled gaps in a few areas where chamise chaparral occurs as a disturbed community.

### **1.3.2.3 Scrub Oak Chaparral (SOC)**

Regionally, scrub oak chaparral is a dense chaparral up to 20 feet tall, dominated by scrub oak. Occurring on more mesic areas than other chaparrals, associated species may include manzanitas, ceanothus, bedstraw (*Galium angustifolium*), toyon (*Heteromeles arbutifolia*), honeysuckle (*Lonicera* spp.), holly-leaf cherry (*Prunus ilicifolia*), redberry (*Rhamnus* spp.), and western poison oak (*Toxicodendron diversilobum*) (Holland 1986).

Scrub oak chaparral occurs on north-facing slopes in the west-central and eastern portions of the project site. In the west-central areas, the main component of this vegetation community is Nuttall's scrub oak (*Quercus dumosa*). In more steeply sloped areas, shrub density reaches 100% with the predominant species being Nuttall's scrub oak, mission manzanita (*Xylococcus bicolor*), chamise, and lemonadeberry. In more gently sloped areas, which appear to have been disturbed

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due to exposure to grazing activity, shrub density is approximately 60%, nearly all of which is composed of Nuttall's scrub oak with the other shrubs occurring only occasionally. This area has an understory of mainly non-native grass species (*Avena barbata*, *Bromus* spp.). The single scrub oak chaparral patch in the eastern portion of the site is dominated by scrub oak, mission manzanita, and chamise.

### **1.3.2.4 Valley Needlegrass Grassland (VGL)**

Valley needlegrass grassland is a native grassland dominated by perennial bunchgrasses such as needlegrass (*Nassella* spp.). This plant community typically occurs as a mosaic with coastal sage scrub on heavy or clay soils, often on more mesic exposures and at the bases of slopes, but also may occur in large patches.

On the project site, Valley needlegrass grassland often occurs on more mesic exposures in the southwestern and central portions of the site. Native and non-native species both are present and include the following species: purple needlegrass (*Nassella pulchra*), foothill needlegrass (*N. lepida*), blue-eyed grass (*Sisyrinchium bellum*), shooting star (*Dodecatheon clevelandii*), checker mallow (*Sidalcea malvaeflora*), Johnny jump-up (*Viola pedunculata*), and California melic (*Melica imperfecta*), as well as non-native grasses (such as *Avena barbata*, *Bromus madritensis*, *Vulpia myuros*, and *B. hordeaceus*) and non-native annual forbs (e.g., *Erodium botrys* and *Filago gallica*). Native shrubs also are present to varying degrees, from approximately 2% to 10% cover, and mainly include California sagebrush, coastal goldenbush (*Ericameria* sp.), and California buckwheat.

All native grasslands on site appear disturbed, presumably due to past grazing and invasion of non-native species in recent years. Disturbance is indicated by the abundance of invasive non-native species and lower percentage of native grass cover. Grasslands in which at least 10% of the cover consisted of *Nassella* and other native species were considered Valley needlegrass grasslands; all others were mapped as non-native grasslands. It should be noted that native grassland species including needlegrasses and native annuals are found throughout the site within coastal sage scrub and non-native grassland communities. Densities of native grasses were generally below 10% with the exception of small patches of high density native grasses usually within disturbed coastal sage scrub. The patches were considered too small for mapping purposes.

### **1.3.2.5 Non-Native Grassland (NNG)**

Where the native habitat has been disturbed frequently or intensively by grazing, fire, agriculture, or other activities, the native community usually is incapable of recovering. These areas often are characterized by weedy, introduced annuals, primarily grasses, including especially slender wild oat, bromes, mustards, filaree, and Russian-thistle (*Salsola tragus*).

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On the project site, non-native grassland occurs in distinct patches where extensive grazing and possibly mechanical disturbance have reduced the cover of native shrub and grass species to below 5%. These areas typically are dominated by soft chess, foxtail chess, fascicled tarplant, and broad-leaved filaree, but also contain star-thistle, black mustard, and shining peppergrass (*Lepidium nitidum*).

### 1.3.3 Sensitive Plant Species

Sensitive plant species locations recorded during these surveys are summarized in Table 2. In addition to these current surveys, historical records of sensitive plant species were reviewed from the following published databases: Ogden (1992b), MSCP maps (Ogden 1999), and CDFG (2003a).

**Table 2**  
**Summary of Sensitive Plant Species Detected on**

Scientific Name Common Name	Status Federal/State CRPR MSCP Coverage County List	Locations and Population Size on Site		
		Previous Studies	Current Surveys	Comments
<i>Acanthomintha ilicifolia</i> San Diego thornmint	FT/SE 1B.1 Covered Narrow Endemic A	MBA 89/91	Observed in all recent surveys	Identified in two disturbed areas with heavy clay soils. Associated vegetation consists of non-native grasses and annuals. Populations cover approximately 0.1 and 3.3 acres each. Because the population is densely distributed in these locations, the actual number of individuals was not quantified. Analysis of this plant is based on the acreage over which it occurs.
<i>Adolphia californica</i> California adolphia	None/None 2B.1 Not Covered B	Not observed	Observed in 1999	Identified in two locations in the western portion of the site within sparse coastal sage scrub (<20 individuals).
<i>Convolvulus simulans</i> Small-flowered morning-glory	None/None 4.2 Not Covered D	Not observed	Observed in 2000	Three locations in western part of project site in clay soil grasslands; approximately 120 total individuals.
<i>Dichondra occidentalis</i> Western dichondra	None/None 4.2 Not Covered D	MBA 89/90	Observed in 1999 and 2000	Recorded in eight locations on the central ridges of the site. A total of 30 patches were recorded that vary from 1 to 500 square feet. This species was recorded based on patch size due to low-growing dense form of the species. The species covers approximately 0.50 acre total over the 30 patches.
<i>Dudleya variegata</i> Variegated dudleya	None/None 1B.2 Covered – Narrow Endemic A	MBA 89/90	Observed in 1999 and 2000	Identified in 40 locations throughout the site. Estimated population size on site is approximately 5,833 individuals. Generally in clay soils and west-facing slopes, ridge lines, or margins of mesas.

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**Table 2  
Summary of Sensitive Plant Species Detected on**

Scientific Name Common Name	Status Federal/State CRPR MSCP Coverage County List	Locations and Population Size on Site		
		Previous Studies	Current Surveys	Comments
<i>Ferocactus viridescens</i> San Diego barrel cactus	None/None 2B.1 Covered B	MBA 89/90	Observed in all recent surveys	Identified in approximately 50 locations throughout the project area, generally on south-facing slopes. Occurrences usually consist of <5 individuals; large stands contain 10–15 individuals. Approximately 217 individuals were recorded. Habitat association is generally open coastal sage scrub.
<i>Harpagonella palmeri</i> Palmer's grapplinghook	None/None 4.2 Not Covered D	Not identified	Observed in 1999 and 2000	Identified in three areas in the eastern and western portions of the site within disturbed coastal sage scrub, dirt road margins, and non-native grassland with heavy clay soils. Approximately 114 individuals were recorded.
<i>Iva hayesiana</i> San Diego marsh-elder	None/None 2B.2 Not Covered B	MBA 89/90	Observed in 1999 and 2000	Abundant within narrow drainages throughout the site. Total on-site population in the thousands. Generally associated with cismontane alkali marsh or sparsely vegetated, rocky stream channels. Due to densely occurring populations within these drainages, this plant was recorded by area rather than number of individuals. A total of 5.4 acres of this species was recorded on site.
<i>Juncus acutus</i> ssp. <i>leopoldii</i> Southwestern spiny rush	None/None 4.2 Not Covered D	MBA 89/90	Observed 1999 and 2000	Identified in 11 locations within cismontane alkali marsh. Occurrences typically contain <10 individuals within each location. Approximately 30 individuals present on site.
<i>Microseris douglasii</i> ssp. <i>platycarpha</i> Small-flowered microseris	None/None 4.2 Not Covered D	Not observed	Observed in 2000	Six locations identified in the western part of the site in open non-native grassland/coastal sage scrub. Approximately 1,270 individuals recorded on the site.
<i>Bloomeria [Muilla] clevelandii</i> San Diego goldenstar	None/None 1B.1 Covered A	MBA 89/90	Observed in 1999 and 2000	Identified in 21 locations in western and eastern portions of the site on mesic slopes containing sparse coastal sage scrub/native grassland. Approximately 1,146 individuals in western part of site and 1,400 individuals in eastern part in 2000. 1999 observations were fewer in number of individuals than 2000 observations presumably due to rainfall differences.
<i>Myosurus minimus</i> ssp. <i>apus</i> Little mousetail	None/None 3.1 Not Covered C	MBA 89/90	Not observed in recent surveys	Number of individuals was not recorded. Was not detected in recent focused surveys and is no longer considered to be present in K6 vernal pools.

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**Table 2**  
**Summary of Sensitive Plant Species Detected on**

Scientific Name Common Name	Status Federal/State CRPR MSCP Coverage County List	Locations and Population Size on Site		
		Previous Studies	Current Surveys	Comments
<i>Ophioglossum californicum</i> California adder's-tongue	None/None 4.2 Not Covered D	MBA 89/90	Not observed	Two locations described near Otay Lakes Road in west and south-central portions of the site. Location was not mapped by MBA. Not identified during recent surveys; may no longer be present since it was not recorded during the rare plant surveys conducted in 2000.
<i>Pentachaeta aurea</i> ssp. <i>aurea</i> Golden-rayed pentachaeta	None/None 4.2 Not Covered D	Not observed	Observed in 2000	Four locations identified in western portion of site; Approximately 91 individuals occur in coastal sage scrub/grassland.
<i>Quercus dumosa</i> Nuttall's scrub oak	None/None 1B.1 Not Covered A	Not observed	Observed in all recent surveys	Occurs as a major component in areas mapped as scrub oak chaparral (approximately 200 individuals per acre). The acreage encompassed by this species is approximately 6.2 acres, including additional small patches within chaparral in the western portion of the site.
<i>Romneya coulteri</i> Coulter's matilija poppy	None/None 4.2 Not Covered D	Not observed	Observed on site	Number, location not mapped. Single location described as being adjacent to a drainage in eastern part of site.
<i>Salvia munzii</i> Munz's sage	None/None 2B.2 Not Covered B	MBA 89/90	Observed in all recent surveys	Occurs throughout the site but most densely in the northwestern quarter. Also occurs on K9 mesa. Most areas containing dense coastal sage scrub in this area contain approximately 50%–80% vegetation cover of <i>S. munzii</i> . Because the population is densely distributed in these locations, the actual number of individuals was not quantified. Analysis of this plant is based on the acreage over which it occurs, approximately 295 acres.
<i>Viguiera laciniata</i> San Diego County viguiera	None/None 4.2 Not Covered D	MBA 89/90	Observed in all recent surveys	Occurs throughout the site but most densely in the northern portion. Encompasses approximately 1,071 acres of the site. Comprises between 5% and 30% of vegetation cover in coastal sage scrub.

**Federal Designations:**

FE Federally listed Endangered  
 FT Federally listed as Threatened  
 FSC Federal Species of Concern

**State Designations:**

P CDFG Protected and Fully Protected Species  
 R California Rare Species  
 SE State-listed as Endangered  
 ST State-listed as Threatened.

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## **CNPS Designations:**

- List 1A Presumed Extinct in California
- List 1B Rare or Endangered in California and Elsewhere
- List 2 Rare or Endangered in California, More Common Elsewhere
- List 3 Need More Information
- List 4 Plants of Limited Distribution
- .1 Seriously endangered in California
- .2 Fairly endangered in California
- .3 Not very endangered in California

## **MSCP Designations:**

- Covered: Listed as Covered Species in Appendix B of Implementing Agreement between CDFG, USFWS, and County of San Diego (March 1998)
- Not Covered: Not Listed as Covered Species in Appendix B of Implementing Agreement between CDFG, USFWS, and County of San Diego (March 1998).

## **County Designations:**

- List A Plants rare, threatened, or endangered in California and elsewhere (corresponds to CNPS List 1B)
- List B Plants rare, threatened, or endangered in California but more common elsewhere (corresponds to CNPS List 2)
- List C Plants which may be quite rare, but need more information to determine their rarity status (corresponds to CNPS List 3)
- List D Plants of limited distribution and are uncommon, but not presently rare or endangered (corresponds to CNPS List 4)

### **1.3.4 Sensitive Wildlife Species**

Knowledge concerning the presence/absence of sensitive wildlife species was ascertained from previous studies of Otay Ranch, as well as from more current focused surveys for fairy shrimp and Quino checkerspot butterfly. Although focused surveys for sensitive nesting bird species, amphibians, reptiles, or mammals have not been conducted, incidental observations of many sensitive wildlife species have been made. Species locations recorded during these surveys are summarized in Table 3. Given the context of the project within the MSCP Subarea Plan and Otay SRP, this level of sensitive wildlife survey information is adequate to assess potentially significant impacts. Evaluation of wildlife use is based on suitable habitat since the species may occur in areas other than where observed.

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**Table 3**  
**Summary of Sensitive Wildlife Species Detected on Site or with Moderate to High Potential to Occur**

Species (Scientific Name)	Regulatory Status: Federal; State; MSCP; County Group	General Habitat Association	Status on Site		
			Previous Studies	Current Surveys	Comments
San Diego fairy shrimp ( <i>Branchinecta sandiegonensis</i> )	USFWS: FE CDFW: None MSCP: Covered County: 1	Small, shallow vernal pools, occasionally ditches and road ruts	Not observed	Observed in 2000, 2004, and 2008	A total of nine basins on K8 and one basin on K6 are confirmed occupied by this species.
Quino checkerspot butterfly ( <i>Euphydryas editha quino</i> )	USFWS: FE CDFW: None MSCP: Not Covered County: 1	Sparsely vegetated hilltops, ridgelines, occasionally rocky outcrops; host plant <i>Plantago erecta</i> and nectar plants must be present	Not observed (known from 1970s P. Ehrlich research)	Observed in 1999, 2000, 2004, and 2008	Focused surveys of the entire site in 1999 and 2000 resulted in the observation of 48 individuals. 2004 surveys of the open space area resulted in observation of 1 individual in the northwestern corner. Focused surveys of the entire site in 2008 resulted in the observation of 71 individuals after duplicates were removed. Observations were concentrated in the northern portion and along a ridgeline within the central portion of the site. A number of additional observations were scattered throughout the rest of the site.
Monarch butterfly ( <i>Danaus plexippus</i> )	USFWS: None CDFW: None MSCP: Not Covered. County: 2	Overwinters in eucalyptus groves	Not observed	Observed	This species occurs on site on occasion as single individuals in flight over the area; however, there are not sufficient resources available to make this a significant overwintering site.
Western spadefoot toad ( <i>Spea hammondi</i> )	USFWS: None CDFW: CSC MSCP: Not Covered County: 2	Most common in grasslands, coastal sage scrub near rain pools or vernal pools; riparian habitats	Not observed	Observed in 2000	Tadpoles incidentally observed in a single depression on K8 mesa. Could occur within pools that inundate.
Rosy boa ( <i>Charina trivirgata</i> )	USFWS: None CDFW: None MSCP: Not Covered County: 2	Rocky chaparral, coastal sage scrub, oak woodlands, desert and semi-desert scrub	Not observed	Observed in 2008	Observed in northeastern portion of the project site.

## Conceptual Upland Restoration Plan for the Otoy Ranch Resort Village

**Table 3**  
**Summary of Sensitive Wildlife Species Detected on Site or with Moderate to High Potential to Occur**

Species (Scientific Name)	Regulatory Status: Federal; State; MSCP; County Group	General Habitat Association	Status on Site		
			Previous Studies	Current Surveys	Comments
Western pond turtle ( <i>Emys marmorata</i> )	USFWS: None CDFW: CSC MSCP: Covered County: 1	Slow-moving permanent or intermittent streams, ponds, small lakes, reservoirs with emergent basking sites; adjacent uplands used during winter	Not observed	Observed in 2000	Incidentally observed laying eggs in a dirt road in northwestern corner of site. Another observation of an individual crossing Otoy Lakes Road immediately south of the site.
Orangethroat whiptail ( <i>Aspidoscelis hyperythra</i> )	USFWS: None CDFW: CSC MSCP: Covered County: 2	Coastal sage scrub, chaparral, grassland, juniper, and oak woodland	MBA 89	Observed in 2000 and 2008	Observed in coastal sage scrub. Probably occurs elsewhere within open patches of coastal sage scrub and grassland.
Coastal whiptail ( <i>Aspidoscelis tigris stejnegeri</i> )	USFWS: None CDFW: None MSCP: Not Covered County: 2	Coastal sage scrub, chaparral	Not observed	Observed in 2000	Observed in sparse coastal sage scrub on site. Probably resident in open areas and sparse coastal sage scrub and chaparral throughout the site.
San Diego ringneck snake ( <i>Diadophis punctatus similis</i> )	USFWS: None CDFW: None MSCP: Not Covered County: 2	Open, rocky areas in moist habitats near intermittent streams: marsh, riparian woodland, sage scrub	Not observed	Observed on site.	Observed in the main eastern drainage. Moderate potential to occur within deeper canyons on site and under debris on site.
San Diego [coast; Blainville's] horned lizard ( <i>Phrynosoma blainvillii</i> )	USFWS: None CDFW: CSC MSCP: Covered County: 2	Coastal sage scrub, non-native grassland, chaparral, oak and riparian woodland, coniferous forest	MBA 89	Observed in 1999, 2000, and 2008	Observed within undisturbed coastal sage scrub and chamise chaparral.
Red-diamond rattlesnake ( <i>Crotalus ruber</i> )	USFWS: None CDFW: CSC MSCP: Not Covered County: 2	Variety of shrub habitats where there is heavy brush, large rocks, or boulders	Not observed	Observed in 1999, 2000, and 2008	Observed throughout the site within dense and sparse coastal sage scrub and chaparral.

## Conceptual Upland Restoration Plan for the Otoy Ranch Resort Village

**Table 3**  
**Summary of Sensitive Wildlife Species Detected on Site or with Moderate to High Potential to Occur**

Species (Scientific Name)	Regulatory Status: Federal; State; MSCP; County Group	General Habitat Association	Status on Site		
			Previous Studies	Current Surveys	Comments
Two-striped garter snake ( <i>Thamnophis hammondi</i> )	USFWS: None CDFW: CSC MSCP: Not Covered County: 1	Streams, creeks, pools, streams with rocky beds, ponds, lakes, vernal pools	Not observed	Not observed	Probably occurs on site.
Cooper's hawk ( <i>Accipiter cooperii</i> )	USFWS: None CDFW: WL MSCP: Covered County: 1	Riparian and oak woodlands, montane canyons	Not observed	Observed in 2000	Observed flying over site; potential for nesting on site is low due to lack of developed forest or woodland habitats.
Southern California rufous- crowned sparrow ( <i>Aimophila ruficeps canescens</i> )	USFWS: None CDFW: WL MSCP: Covered County: 1	Grass-covered hillsides, coastal sage scrub, chaparral with boulders and outcrops	MBA 89	Observed in 1999, 2000, and 2008	Observed throughout the site and highly likely to nest on site.
Grasshopper sparrow ( <i>Ammodramus savannarum</i> )	USFWS: None CDFW: CSC MSCP: Not Covered County: 1	Open grassland and prairie, especially native grassland with a mix of grasses and forbs	MBA 89	Observed in 2000 and 2008	Observed mainly in southwestern and central portions of the project site.
Bell's sage sparrow ( <i>Artemisiospiza belli belli</i> ) (taxonomy was changed to Bell's sparrow <i>Artemisiospiza belli</i> )	USFWS: None CDFW: WL MSCP: Not Covered County: 1	Coastal sage scrub and dry chaparral along coastal lowlands and inland valleys	MBA 89	Observed in 1999, 2000, and 2008	Identified in eastern and western portions of site in sparse coastal sage scrub.
Golden eagle ( <i>Aquila chrysaetos</i> )	USFWS: BCC CDFW: P, WL, Golden Eagle Protection Act MSCP: Covered County: 1	Open country, especially hilly and mountainous regions; grassland, coastal sage scrub, chaparral, oak savannas, open coniferous forest	Not observed	Observed in 1999, 2000, and 2008	Observed in eastern and north-central portion of the site. Site is in mapped primary foraging area for known golden eagle territory. Nearest known nest site is >3 miles from project site. No nesting observed; could forage.

## Conceptual Upland Restoration Plan for the Otay Ranch Resort Village

**Table 3**  
**Summary of Sensitive Wildlife Species Detected on Site or with Moderate to High Potential to Occur**

Species (Scientific Name)	Regulatory Status: Federal; State; MSCP; County Group	General Habitat Association	Status on Site		
			Previous Studies	Current Surveys	Comments
Red-shouldered hawk ( <i>Buteo lineatus</i> )	USFWS: None CDFW: None MSCP: Not Covered County: 1	Riparian and woodland habitats, eucalyptus	Not observed	Observed on site	Observed foraging over the site near the southern portion. Moderate potential to also occur on site as a breeding bird.
Turkey vulture ( <i>Cathartes aura</i> )	USFWS: None CDFW: None MSCP: Not Covered County: 1	Rangeland, agriculture, grassland; uses cliffs and large trees for roosting, nesting, and resting	Not observed	Observed in flight over site	Occasionally forages over the project area. No breeding potential.
Northern harrier ( <i>Circus cyaneus</i> )	USFWS: None CDFW: CSC MSCP: Covered County: 1	Open wetlands (nesting), pasture, old fields, dry uplands, grasslands, rangelands, coastal sage scrub	Not observed	Observed in 1999, 2000, and 2008	Observed foraging over grassland areas in the K6 and K8 mesas. Could nest on site.
White-tailed kite ( <i>Elanus leucurus</i> )	USFWS: None CDFW: P MSCP: Not Covered County: 1	Open grasslands, savanna-like habitats, agriculture, wetlands, oak woodlands, riparian	Not observed	Observed in 1999 and 2000	Observed foraging in grassland areas; nesting is unlikely due to lack of forest or woodlands.
California horned lark ( <i>Eremophila alpestris actia</i> )	USFWS: None CDFW: WL MSCP: Not Covered County: 2	Open habitats, grassland, rangeland, shortgrass prairie, montane meadows, coastal plains, fallow grain fields	Not observed	Observed in 1999, 2000, and 2008	Observed within sparse coastal sage scrub and grasslands on the project site.
Prairie falcon ( <i>Falco mexicanus</i> )	USFWS: BCC CDFW: WL MSCP: Not Covered County: 1	Grassland, savannas, rangeland, agriculture, desert scrub, alpine meadows; nest on cliffs or bluffs	Not observed	Observed in 2000	Observed within coastal sage scrub and grasslands. Rock outcrops on site suggest possible roosting and nesting.

## Conceptual Upland Restoration Plan for the Otoy Ranch Resort Village

**Table 3**  
**Summary of Sensitive Wildlife Species Detected on Site or with Moderate to High Potential to Occur**

Species (Scientific Name)	Regulatory Status: Federal; State; MSCP; County Group	General Habitat Association	Status on Site		
			Previous Studies	Current Surveys	Comments
Loggerhead shrike ( <i>Lanius ludovicianus</i> )	USFWS: BCC CDFW: CSC MSCP: Not Covered County: 1	Open ground including grassland, coastal sage scrub, broken chaparral, agriculture, riparian, open woodland	MBA 89	Observed in 2000	Likely to nest on site, individuals observed in grassland and sparse coastal sage scrub.
Coastal California gnatcatcher ( <i>Polioptila californica californica</i> )	USFWS: FT CDFW: CSC MSCP: Covered County: 1	Coastal sage scrub, coastal sage scrub–chaparral mix, coastal sage scrub–grassland ecotone, riparian in late summer	MBA 89	Observed in 1999, 2000, and 2008	Observed nesting in coastal sage scrub and chamise chaparral throughout the site. Based on previous and currently mapped locations, approximately 17 locations occur on site and 3 additional locations have been recorded within the Cornerstone Lands and could occur onsite (MSCP data).
Western bluebird ( <i>Sialia mexicana</i> )	USFWS: None CDFW: None MSCP: Covered County: 2	Open forests of deciduous, coniferous or mixed trees, savanna, edges of riparian woodland saltmarsh, riparian habitats	Not observed	Observed during winter	This species once did not breed on the coastal plain; however, in recent years it has begun to do so. The only breeding opportunities for this species would be within wooded habitats which are not present on site.
Burrowing owl ( <i>Athene cunicularia</i> )	USFWS: BCC CDFW: CSC MSCP: Covered County: 1	Grassland, lowland scrub, agriculture, coastal dunes and other artificial open areas	MBA 89	Observed in 2000	Previously identified on eastern slope of K6 mesa as an incidental observation of single individual in central portion of site.
Barn owl ( <i>Tyto alba</i> )	USFWS: None CDFW: None MSCP: Not Covered County: 2	Open forests of deciduous, coniferous or mixed trees, savanna, riparian habitats , abandoned structures, mines	Not observed	Observed flying over site	This species has abundant foraging opportunities but limited nesting opportunities on site. It is unlikely that there is enough cover on site to support nesting by this species.

## Conceptual Upland Restoration Plan for the Otoy Ranch Resort Village

**Table 3**  
**Summary of Sensitive Wildlife Species Detected on Site or with Moderate to High Potential to Occur**

Species (Scientific Name)	Regulatory Status: Federal; State; MSCP; County Group	General Habitat Association	Status on Site		
			Previous Studies	Current Surveys	Comments
San Diego black-tailed jackrabbit ( <i>Lepus californicus bennettii</i> )	USFWS: None CDFW: CSC MSCP: Not Covered County: 2	Arid habitats with open ground; grasslands, coastal sage scrub, agriculture, disturbed areas, rangelands	Not observed	Incidentally observed.	Observed throughout the site.
San Diego desert woodrat ( <i>Neotoma lepida intermedia</i> )	USFWS: None CDFW: CSC MSCP: Not Covered County: 2	Coastal sage scrub, chaparral, pinyon-juniper woodland with rock outcrops, cactus thickets, dense undergrowth	Not observed	Nests incidentally observed.	Middens were observed within chaparral areas on site.
Mountain lion ( <i>Puma concolor</i> )	USFWS: None CDFW: None MSCP: Covered County: 2	Coastal sage scrub, chaparral, riparian, woodlands, forest; rests in rocky areas, and on cliffs and ledges that provide cover	MBA 89	Not observed	Signs of movement through eastern portion of site.

**Federal Designations:**

- FE Federally listed Endangered
- FT Federally listed as Threatened
- MNBMC Fish and Wildlife Service Migratory Nongame Birds of Management Concern.

**State Designations:**

- CSC California Special Concern Species
- P CDFG Protected and Fully Protected Species
- R California Rare Species
- SE State-listed as Endangered
- ST State-listed as Threatened
- WL Watch List.

**MSCP Designations:**

- Covered Listed as Covered Species in Appendix B of Implementing Agreement between CDFG, USFWS, and County of San Diego (March 1998)
- Not Covered Not Listed as Covered Species in Appendix B of Implementing Agreement between CDFG, USFWS, and County of San Diego (March 1998).

**County Designations:**

- Group 1: High level of sensitivity, either because listed as threatened or endangered or because species has very specific natural history requirements that must be met
- Group 2: Species is becoming less common, but is not yet so rare that extirpation or extinction is imminent without immediate action. These species tend to be prolific within their suitable habitat types.

## Conceptual Upland Restoration Plan for the Otay Ranch Resort Village

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### 1.3.5 Sensitive Resources Affected by the Project

Implementation of the proposed project would result in the direct impacts to sensitive vegetation communities, including upland habitats. Impacts would occur as the result of grading and fuel management.

This Restoration Plan provides guidance for on-site restoration of approximately 19 acres of sensitive upland vegetation communities, consisting of coastal sage scrub (13.01 acres), disturbed coastal sage scrub (4.17 acres), chamise chaparral (0.74 acre), scrub oak chaparral (0.01 acre), disturbed Valley needlegrass grassland (0.25 acre), and non-native grassland (0.16 acre), which are shown in Table 6. Additionally, this Restoration Plan provides guidance for revegetation of temporary impacts to sensitive upland vegetation communities that are anticipated to occur to off-site areas at a number of locations along Otay Lakes Road. These temporary impacts will occur as a result of installation of storm drains along the road where it is proposed for widening. Temporary off-site impacts to sensitive vegetation communities total 0.32 acre, consisting of coastal sage scrub (0.20 acre), disturbed coastal sage scrub (0.07), and non-native grassland (0.05 acre). These temporary off-site impacts will be immediately restored and are not otherwise a part of the proposed on-site project open space.

Although not discussed in this Restoration Plan, mitigation for the Resort Village also includes the preservation of over 1,000 acres of native habitat in conformance with requirements of the Otay Ranch Resource Management Plan (RMP; Otay Ranch 2011) and the Multiple Species Conservation Program (MSCP) Plan (MSCP Policy Committee and MSCP Working Group 1996). Specifically, this Restoration Plan has been written to comply with this condition as stated in the Otay Ranch Resort Village Biological Resources Technical Report (Dudek 2014):

Graded slopes that are proposed to remain within the [Otay Ranch] Preserve are proposed to be restored to native habitat appropriate for the location and the previous condition of the area. These areas include a total of approximately 19 acres of upland habitat. Restoration areas will incorporate salvaged materials, such as individual cactus, native plant mulching, selective soil salvaging, seed collection, and translocation of plant materials as determined to be appropriate. Prior to grading the project, this revegetation plan is being submitted to and receive approval from the director of the Department of Planning and Land Use. All slopes immediately adjacent to the Preserve, which are either proposed to be revegetated for preserve credit or which will remain in the FMZ, shall be planted with native species that reflect the adjacent native habitat. No invasive and/or non-native plant species shall be introduced.

## Conceptual Upland Restoration Plan for the Otay Ranch Resort Village

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The Revegetation Plan shall include, but not be limited to, the following to ensure the establishment of the vegetation objectives: a 24- by 36-inch map showing the revegetation areas, site preparation information, type of planting materials (species ratios, source, size of container, etc.), planting program, 80% success criteria, 5-year monitoring plan, and detailed cost estimate. The cost estimate shall include planting, plant materials, irrigation, maintenance, monitoring, and report preparation. The report shall be prepared by a County [of San Diego] approved biologist and a state of California licensed landscape architect. The habitat created pursuant to the Revegetation Plan must be placed within an open space easement dedicated to the County prior to or immediately following the approval of the Revegetation Plan.

The upland revegetation will occur on slopes that will be temporarily disturbed during the implementation of the development plan and that are inside the Otay Ranch Preserve (Preserve). The upland restoration areas are included within the Preserve boundaries and will be managed as part of the Preserve once they are reestablished. The revegetation areas are located in several areas surrounding the development footprint.

### **1.3.6 Types, Functions, and Values of Restored Habitat**

Upon successful completion of 5 years of maintenance and monitoring of the revegetation areas, and acceptance of the site by the County of San Diego (County), the revegetation areas will be managed along with the overall Preserve lands in accordance with the RMP and *Subregional Plan* (SRP; Otay Ranch 1993).

Implementation of the proposed project would result in both temporary and permanent losses of the vegetation community acreages presented in Table 4. Losses would occur as the result of grading and fuel management. Impacts also include the installation of a water tank within the northern open space area. Proposed Preserve vegetation community acreage is shown in Table 5 and includes those areas not impacted by grading or fuel modification zones, as well as areas proposed to be restored and areas that are considered to be acceptable as a land use within the Preserve. These land uses include detention basins, the water tank, and the road that provides access to the water tank. A vegetation map with the proposed development footprint is provided in Figure 3.

## Conceptual Upland Restoration Plan for the Otay Ranch Resort Village

**Table 4**  
**Sensitive Upland Communities Project Impacts Acreage**

Plant Community Type	Existing On Site* (Acres)	Total On Site Impacts						Total Impact (not impacted)**
		Outside Preserve			Inside Preserve			
		Permanent		Permanent Impacts		Temporary Impacts		
		Fuel Modification Zone	Development	Water Tank	Detention Basins	Slope	Water Line	
<i>Sensitive Upland Communities</i>								
Coastal sage scrub	1,121.53	20.68	255.84	2.04	1.22	13.01	0.23	828.50
Disturbed coastal sage scrub	348.62	4.41	202.05	—	2.35	4.17	—	135.63
Chamise chaparral	143.14	0.87	112.34	—	0.07	0.74	—	29.12
Disturbed chamise chaparral	15.66	—	11.35	—	—	—	—	4.31
Scrub oak chaparral	22.45	—	22.10	—	—	0.01	—	0.34
Southern mixed chaparral	4.95	0.94	1.93	—	—	—	—	2.09
Disturbed Valley needlegrass grassland	110.59	0.80	76.22	—	0.06	0.25	—	33.26
Non-native grassland	78.96	1.65	58.40	—	0.92	0.16	—	17.83
<i>Totals</i>	<i>1,845.89</i>	<i>29.35</i>	<i>740.23</i>	<i>2.04</i>	<i>4.62</i>	<i>18.34</i>	<i>0.23</i>	<i>1,051.08</i>

\* Includes all project on-site grading, fuel management zones, and limited building zones.

\*\* Mapping within the majority of open space areas is regional scale as opposed to project-level mapping, which is sufficient for purposes of this biological resources analysis since these areas are not proposed to be impacted.

**Table 5**  
**Proposed Preserve Acreage**

Plant community type	Preserve (not impacted)* On Site	Preserve Purchased for Boundary Adjustment	Preserve (impacted)				Total Preserve
			Permanent Impacts	Temporary Impacts			
				Allowable Uses (Water Tank and associated road grading)	Detention Basins	Slopes	
<i>Sensitive Upland Communities</i>							
Coastal sage scrub	828.15	3.18	2.26	1.22	13.02	0.23	848.06
Disturbed coastal sage scrub	133.79	—	0.72	2.35	4.17	—	141.03
Chamise chaparral	29.12	—	<0.01	0.07	0.74	—	29.93
Disturbed chamise chaparral	4.31	—	—	—	—	—	4.31
Scrub oak chaparral	0.34	—	—	—	0.01	—	0.35
Southern mixed chaparral	2.09	4.28	—	—	—	—	6.37

## Conceptual Upland Restoration Plan for the Otay Ranch Resort Village

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**Table 5  
Proposed Preserve Acreage**

Plant community type	Preserve (not impacted)* On Site	Preserve Purchased for Boundary Adjustment	Preserve (impacted)				Total Preserve
			Permanent Impacts	Temporary Impacts			
			Allowable Uses (Water Tank and associated road grading)	Detention Basins	Slopes	Water	
Disturbed Valley needlegrass grassland	33.25	—	0.27	0.06	0.24	—	33.82
Non-native grassland	17.76	2.74	0.08	0.92	0.16	—	21.66
<b>Totals</b>	<b>1,048.81</b>	<b>10.20</b>	<b>3.33</b>	<b>4.62</b>	<b>18.34</b>	<b>0.23</b>	<b>1,075.33</b>

\* Mapping within the majority of open space areas is regional scale as opposed to project-level mapping, which is sufficient for purposes of this biological resources analysis since these areas are not proposed to be impacted.

# Conceptual Upland Restoration Plan for the Otay Ranch Resort Village

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## 2 GOAL OF THE COMPENSATORY MITIGATION PROJECT

The primary goal of the proposed upland slope restoration mitigation for the Otay Ranch Resort Village Project is to compensate for the impacts to the upland habitats located on site within the development footprint through and restoration of slopes that are proposed to remain within the preserve and that will be preserved on site in perpetuity.

### 2.1 Responsibilities

The project applicants (JPB Development LLC and Baldwin & Sons LLC) are responsible for initiating and funding all maintenance and monitoring requirements during the 5-year program. They shall be responsible for hiring a qualified landscape maintenance contractor to carry out all maintenance work and for hiring a qualified biological monitor to carry out the monitoring program for the duration of the 5-year period. The specific identity of the compensatory mitigation project designer, the installation contractor, the revegetation monitor and the revegetation maintenance contractor will be determined at a later date during the permitting process.

#### 2.1.1 Applicant Responsibilities

Dudek submits this Restoration Plan on behalf of the applicant, Baldwin & Sons LLC (contact: Mr. Stephen Haase) and JPB Development LLC (contact: Mr. Rob Cameron).

The applicant shall be financially responsible for all negotiations and costs associated with the implementation, monitoring, maintenance and long-term management and protection of the mitigation area, as defined in this document. The applicant shall select and may replace, at their discretion, the landscape contractor, maintenance contractor, and Project Biologist for this project at any time. The applicant or current owner shall submit a bond to cover the anticipated costs for the implementation, maintenance, and monitoring of the program through the end of a 5-year maintenance and monitoring program outlined herein. The applicant, or current owner, shall place a conservation easement over the new mitigation areas before project installation.

The applicant shall be responsible for directing the project grading contractor to salvage topsoil under the direction of the Project Biologist.

Proposed mitigation areas shall be accessible to the County throughout the project review and permitting phase, as well as during the installation and 5-year maintenance and monitoring period.

## **Conceptual Upland Restoration Plan for the Otay Ranch Resort Village**

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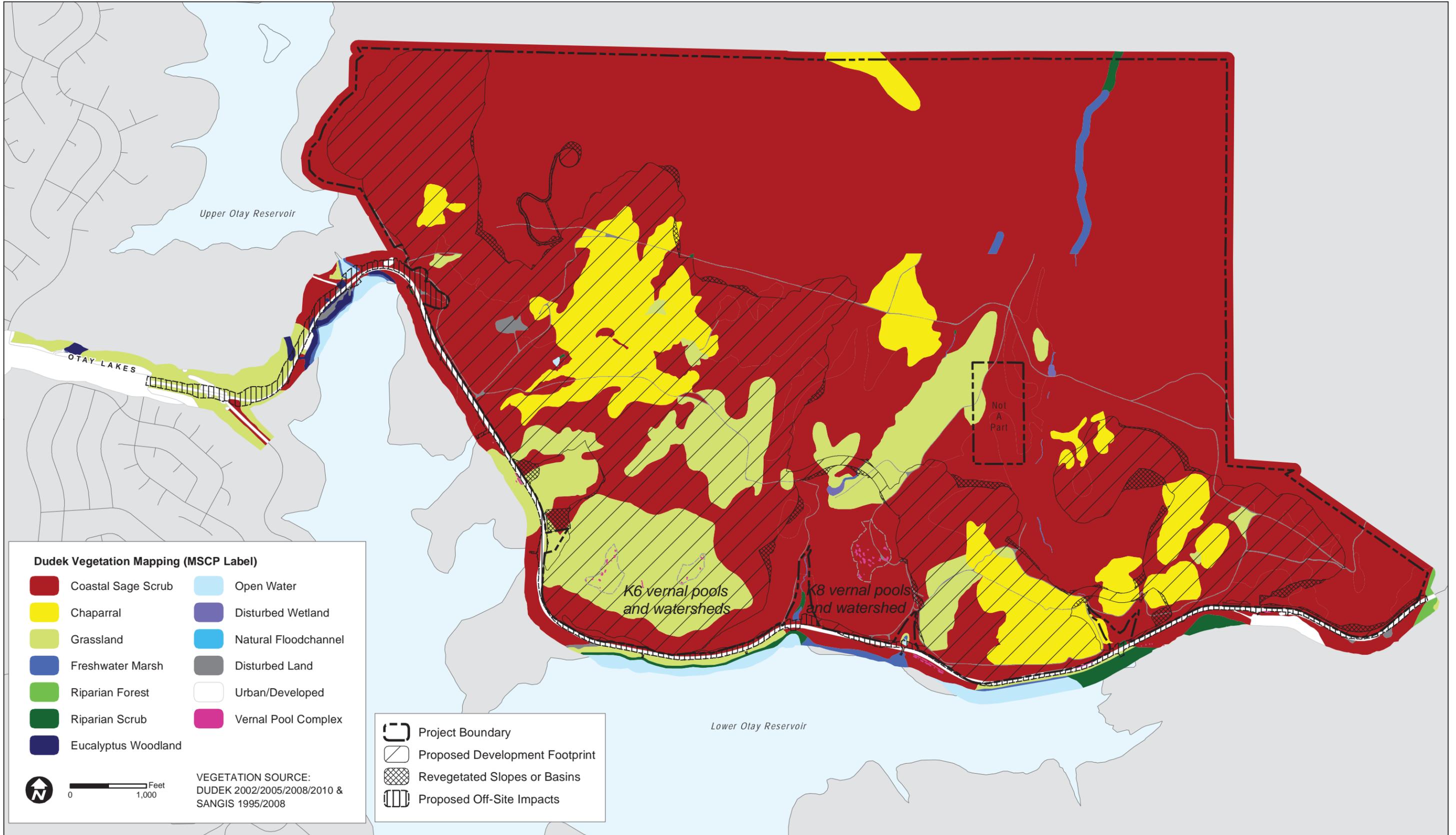
### **2.1.2 Project Biologist Responsibilities**

A qualified Project Biologist shall be retained to monitor the implementation and perform long-term project biological monitoring, as outlined in this Restoration Plan. The Project Biologist may be an individual or a team of individuals and must have demonstrated experience in upland habitat restoration. The Project Biologist must demonstrate an understanding of local plant community ecology and habitat restoration, and have expertise in plant and wildlife identification.

The Project Biologist shall help ensure that the applicant follows the guidelines of this Restoration Plan, County permits, and final detailed revegetation construction documents for the interpretation of such plans, field monitoring of project installation, monitoring through the 120-day maintenance period, and biological monitoring throughout the 5-year monitoring period.

The Project Biologist shall be required to monitor throughout the construction period. Monitoring time may increase or decrease as required by field conditions, construction activities, and resource agency permit requirements. During the construction, the Project Biologist will have the authority to stop work in situations where biological resources, not permitted to be impacted, are in imminent danger of impacts from construction activities. Each site visit will be documented in a monitoring observation report that will note construction activities relating to the mitigation plan and any project deficiencies.

Biological monitoring will be performed following acceptance of mitigation installation and throughout the 5-year, long-term monitoring phase.



**Dudek Vegetation Mapping (MSCP Label)**

- Coastal Sage Scrub
- Chaparral
- Grassland
- Freshwater Marsh
- Riparian Forest
- Riparian Scrub
- Eucalyptus Woodland
- Open Water
- Disturbed Wetland
- Natural Floodchannel
- Disturbed Land
- Urban/Developed
- Vernal Pool Complex



- Project Boundary
- Proposed Development Footprint
- Revegetated Slopes or Basins
- Proposed Off-Site Impacts

**Conceptual Upland Restoration Plan  
for the Otay Ranch Resort Village**

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### 2.1.3 Restoration Contractor Responsibilities

Restoration project installation and associated labor shall be provided by a contractor who has a valid California landscape contractor's license, has previous experience with habitat revegetation in the region, and can demonstrate successful similar revegetation project experience in Southern California. The contractor must demonstrate knowledge of techniques for growing, transplanting, and installing native upland species.

The contractor will be responsible for conformance to this Restoration Plan, resource agency permits, and construction documents. The construction documents will include detailed graphic revegetation construction plans and written specifications that are in substantial conformance with the information and direction contained within this Restoration Plan. The contractor's responsibility will continue until successful revegetation and final acceptance by the project applicant and Project Biologist at the end of the initial 120-day plant establishment period. The contractor will not be released from contractual obligations until written notification is received from the applicant, in consultation with the Project Biologist, certifying satisfactory completion of all required installation tasks as defined in the installation contract, construction documents, this Restoration Plan, and resource agency permits.

After initial installation and completion of the 120-day plant establishment period, the applicant will have 5-year maintenance services performed by an experienced landscape maintenance contractor that specializes in habitat restoration. Maintenance work shall be performed as indicated herein and according to the Project Biologist's recommendations. The applicant may choose to hire a maintenance contractor that is separate from the installation contractor.

### 2.1.4 Landscape Maintenance Contractor Responsibilities

A landscape contractor shall provide 5-year maintenance. The contractor shall possess a valid California landscape contractor's license, have previous experience with habitat revegetation in the region, and be able to demonstrate successful similar revegetation project experience in Southern California. The contractor must demonstrate knowledge of techniques for maintaining native upland species and control of non-native species.

The contractor must possess a Qualified Applicator's License issued by the California Department of Pesticide Regulation, and maintenance laborers must receive appropriate annual herbicide training. Maintenance laborers must be trained to distinguish common native and non-native plants.

Maintenance work shall be performed as indicated herein and according to the Project Biologist's recommendations. The landscape maintenance contractor will be responsible for

# Conceptual Upland Restoration Plan for the Otay Ranch Resort Village

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conformance to this Restoration Plan and any other conditions of County or resource agency permits. The contractor's responsibility will continue until final project approval by the County. The contractor will not be released from contractual obligations until written notification is received from the applicant certifying satisfactory completion of all required maintenance activities.

## **2.1.5 Seed and Plant Collection and Procurement Responsibilities**

Plant material may be purchased from a native plant nursery (such as Tree of Life Nursery in San Juan Capistrano, Las Pilitas Nursery in Escondido, El Nativo Nursery in Azusa, Matilija Nursery in Moorpark, or other sources of local native plant material approved by the Project Biologist). If project timing allows, seed collected from the project area will be provided for propagation to one of the native plant nurseries listed above. The container plant provider is responsible for providing the quantity and sizes of plants specified in this Restoration Plan in disease-free condition.

Seed for inclusion in the hydroseed mixtures may be obtained from S&S Seeds in Carpinteria, California, or an alternative source approved by the Project Biologist. The seed provider will be responsible for meeting the pure live seed and germination percentages standards listed in this Restoration Plan and documenting the provenance of the seed collected. If feasible, seed shall be collected from the project site.

## **2.2 Type and Area of Habitat to be Restored**

The purpose of this Restoration Plan is to provide site-specific instructions for upland habitat restoration as on-site mitigation for project impacts to sensitive habitat areas that will be included within the Preserve. The slope impacts resulting from the disturbance will be restored to native habitat, including coastal sage scrub, grassland, or chaparral, as appropriate, and retained within the designated Preserve.

### **2.2.1 Restoration Areas**

This Restoration Plan provides guidance for on-site restoration of approximately 19 acres of sensitive upland vegetation communities, consisting of coastal sage scrub (13.01 acres), disturbed coastal sage scrub (4.17 acres), chamise chaparral (0.74 acre), scrub oak chaparral (0.01 acre), disturbed Valley needlegrass grassland (0.25 acre), and non-native grassland (0.16 acre), which are shown in Additionally, this Restoration Plan provides guidance for revegetation of temporary off-site impacts to sensitive upland vegetation communities associated with development of Otay Lakes Road, consisting of coastal sage scrub consisting of coastal sage scrub (0.20 acre), disturbed coastal sage scrub (0.07), and non-native grassland (0.05 acre) (Table 6. The restoration areas are depicted in Figure 4.

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**Table 6**  
**Acres of Plant Communities Proposed for Restoration**

Vegetation Type	On-site Restoration	Off-site Restoration	Total
Coastal sage scrub ; 32500	13.01	0.20	13.21
Disturbed coastal sage scrub; 32500	4.17	0.07	4.24
Chamise chaparral; 37210	0.74	--	0.74
Non-native grassland; 42200	0.16	0.05	0.21
Scrub oak chaparral; 37900	0.01	--	0.01
Disturbed Valley needlegrass grassland; 42110	0.25	--	0.25
<b>Total</b>	<b>18.34</b>	<b>0.32</b>	<b>18.66</b>

## 2.2.2 Goals

The primary goal of the Restoration Plan is to restore both on- and off-site upland vegetation communities that are temporarily impacted by the proposed development.

## 2.3 Functions and Values

Secondary goals of the restoration effort include providing for the establishment of special-status plant species that will be impacted by the proposed development, such as San Diego sunflower (*Viguiera laciniata*), Nuttall’s scrub oak (*Quercus dumosa*), and California adolphia (*Adolphia californica*), and providing species-rich and structurally diverse native vegetation communities that will provide for plant and wildlife species diversity in the area. Achievement of the performance criteria described herein would create areas of suitable habitat for special-status plant and wildlife species. However, occupation of the site by these species is not a requirement for successful project completion.

It is anticipated that the restoration areas will become self-sustaining over time, needing little or no maintenance once established. Maintenance activities during the establishment period will focus on ensuring the establishment of self-sustaining habitat. Upon completion of 5 years of maintenance and monitoring of the restoration areas, and acceptance of the site by the County, the restoration area shall enter the long-term management phase along with the overall Preserve.

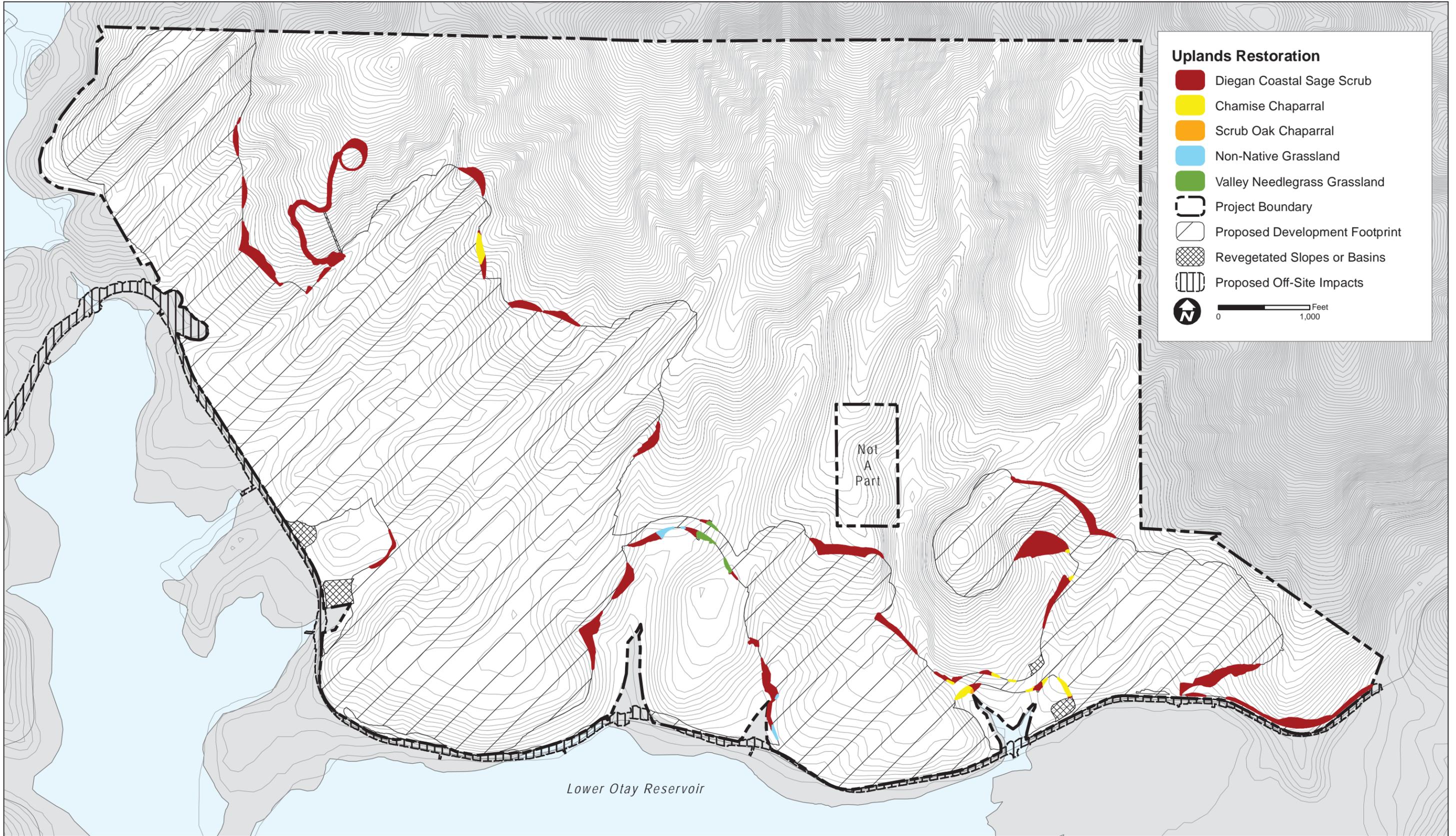
## 2.4 Time Lapse

It is anticipated that the upland mitigation will be installed within the same calendar year that the impact occurs with success criteria being met five years after installation.

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## 2.5 Cost

This cost estimate is based on the project as described in this Restoration Plan and includes estimated costs for construction, installation, and monitoring of the approximately 19-acre area (see items A through E below). The cost estimate does not include costs associated with construction of the development or associated construction monitoring. The total cost estimate is **\$1,450,000**.

### **Item A: Site Work and Construction**

Includes site clearing, collection and chipping of native brush, topsoil salvage and replacement (1,613 cubic yards), incorporation of soil amendments and fertilizer, spreading native mulch, and installing silt fencing. It should be noted that some of these activities (e.g., soil salvage and replacement, installation of silt fencing) may be included with the overall site grading contract rather than the upland restoration work.

*Cost Estimate:* .....\$345,000

### **Item B: Temporary Irrigation System**

Includes the installation of an on-grade temporary irrigation system. Estimate assumes that the system can be tied in to an existing back-flow preventer, pressure regulator, and water meter.

*Cost Estimate*.....\$230,000

### **Item C: Plant and Seed Installation**

Includes installation of 18,690 one-gallon container plants and the hydroseed mix, as specified in this Restoration Plan.

*Cost Estimate:* .....\$315,000

### **Item D: 5-Year Maintenance Period**

Includes maintenance according to the maintenance schedule described in this Restoration Plan, including eight visits in Years 1 and 2, six visits in Year 3, and four visits in Years 4 and 5.

*Cost Estimate:* .....\$475,000

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**Item E:        Biological Monitoring During 5-Year Maintenance Period**

Includes monitoring mitigation installation work, preparing an as-built report, monthly monitoring during the 120-day plant establishment period, bimonthly monitoring during the Year 1, quarterly monitoring during Years 2 through 5, quantitative data collection in Years 2 through 5, and preparation of five annual monitoring reports.

*Cost Estimate:* .....\$85,000

**TOTAL COST ESTIMATE (ITEMS A THROUGH E) .....\$1,450,000**

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## **3 DESCRIPTION OF THE PROPOSED COMPENSATORY MITIGATION SITE**

### **3.1 Site Selection**

The restoration site includes those slopes that are within the proposed preserve. The native soils will be intact. The surrounding area is a mosaic of grassland and scrub habitats hence the slopes are appropriate for having those habitat as goal of the plan. The restoration areas will be provided protection by being separated from development by back yard fencing and by being in the designated preserve. The habitat is historically and currently occupied within the greater preserve area, by sensitive plant and wildlife species and thus the restoration will contribute to the resources for these species.

### **3.2 Location and Size of Compensatory Mitigation Site**

The size of the restoration areas are provided in Table 6. Locations of restoration areas are shown on Figure 4.

### **3.3 Functions and Values**

Section 2.3 outlines the functions and values of the mitigation site.

### **3.4 Present and Proposed Uses**

The present uses of the mitigation area are as undeveloped land. The proposed uses are as preserve land for Otay Ranch. The area proposed for impact is proposed for residential development.

### **3.5 Reference Sites**

Reference site information has not been collected at this time. However, the entire site has been mapped for vegetation communities and descriptions of the existing vegetation communities are provided in Section 1.3.2.

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## **4 IMPLEMENTATION PLAN FOR THE COMPENSATORY MITIGATION SITE**

### **4.1 Rationale for Expecting Implementation success**

Following approval of this Restoration Plan, detailed construction drawings and specifications will be prepared for construction purposes. Construction documents will conform with all aspects of this plan and to any subsequent permit conditions required by resource agencies. These documents may be subject to the review and comment by the County. Construction documents will incorporate the most current site condition information available. The construction document plan package will include a site plan that includes irrigation plans and planting plans, and associated legends, details, and specifications. The construction documents will indicate container plant species, container sizes, general planting locations, and areas to be seeded. All construction documents must conform with all aspects of this plan and to subsequent permit conditions required by the resource agencies. Implementation of the restoration of the temporary impact areas is expected based on the presence of the native soils, the use of the locally available material, and experience with restoration in similar habitat in the past.

### **4.2 Financial Assurances**

The applicant will be required to provide a letter of credit, performance bond, or other special funding to ensure attainment of the approved compensatory mitigation project success criteria, as required by the County. The County will determine the monetary value of the letter of credit or performance bond based on an estimate of the total cost of the proposed compensatory mitigation project provided by the applicant. A revegetation agreement shall be signed and notarized by the property owner following approval of this revegetation plan and accompanied by the required security as agreed upon by the County of San Diego.

### **4.3 Schedule**

To be provided.

### **4.4 Site Preparation**

The landscape contractor shall be responsible for site and soil preparation. Before restoration work begins, the limit of work boundaries shall be delineated and staked to ensure that the contractor stays within the limit of work and/or the proper acreage is restored. Removal of debris is not anticipated to be necessary.

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### 4.4.1 Native Mulch Salvage

Native vegetation removed during the grubbing phase of construction will be stockpiled and mulched. The mulch will be spread in piles for storage until use. The mulch will primarily provide organic matter to the soil, and secondarily may provide a source of native seed. The native mulch will be applied to the restoration areas and incorporated into the top 12 inches before planting container plants and applying seed.

### 4.4.2 Topsoil Salvage

Topsoil shall be salvaged for placement in the graded restoration areas where special-status plant species will be transplanted or where grassland (native and non-native) restoration is planned. Grasslands and the special-status species requiring transplantation occur in clay soil. Therefore, soil shall be salvaged from areas of the project site with clay soil for use in the restoration effort. Salvaged topsoil is anticipated to provide soil physical structure and nutrients that would be lacking on the cut slopes to be revegetated as well as contain additional native seeds and microbes that may augment plant species diversity and enhance nutrient cycling and other ecosystem functions.

Before grading, the Project Biologist shall delimit approximately 1 acre of high-quality (i.e., relatively high proportion of native species) clay soil within the areas to be graded. When the topsoil has dried and before the onset of winter rains, the grading contractor will drive over the vegetation to crush the plant parts and incorporate them into the soil. The upper approximately 1 foot of topsoil will be bladed and moved to soil stockpile storage areas to be determined by the contractor and the Project Biologist.

The topsoil shall be placed in separate, clearly marked, temporary topsoil storage piles. Piles shall be covered with a tarp prior to the onset of winter rains, if necessary.

### 4.4.3 Initial Weed Control

The restoration areas include graded slopes, and therefore the vegetation and resident seed bank will likely have been removed during the grading process. Thus, initial weed control may not be necessary. However, if the restoration area, or area immediately adjacent to the restoration area, supports non-native species, they shall be controlled prior to planting.

Where practical, “grow and kill” weed removal treatments will be conducted by the landscape contractor before the installation of native seed and container plants. The temporary irrigation system (if present) will be operated to encourage seed germination. When weeds have begun to grow, a foliar application of an appropriate systemic herbicide will be applied to kill target

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weeds. If necessary, the cycle shall be repeated. Additional cycles may be required as recommended by the Project Biologist. Any herbicide application shall be conducted in accordance with label instructions under the direction of a state-certified qualified applicator.

### 4.4.4 Mulch Application and Soil Preparation

After completion of grading and before placement of salvaged topsoil and/or salvaged mulch, the soil within the slope restoration areas will be scarified. In areas where salvaged soil is placed, it shall be applied to a depth of approximately 1 foot. Salvaged mulch shall be spread over all restoration areas and incorporated into the top 12 inches. Restoration areas will be track-walked after placement of salvaged soil and salvaged mulch to reduce erosion potential.

Areas where salvaged soil is not placed shall be amended. Soil tests shall be collected and analyzed for the cut slope areas to determine what soil amendments may be necessary for plant growth. Soil amendments shall be applied to the soil surface and incorporated into the top 12 inches.

## 4.5 Planting Plan

### 4.5.1 Seed Sources and Procurement

Container plant material may be purchased from a native plant nursery. If project timing permits, container plants will be grown from plant material collected from the project site and surrounding vicinity.

Seed for inclusion in the hydroseed mixtures may be obtained from S&S Seeds in Carpinteria, California, or an alternative source approved by the Project Biologist. To the maximum extent feasible, seeds shall be collected from southwestern San Diego County. If such seed is not available commercially, and project timing does not permit additional collection, the Project Biologist will consult with County staff to determine whether to use seed from outside of this area or substitute a different species in the seed mix.

### 4.5.2 Coastal Sage Scrub and Disturbed Coastal Sage Scrub Plant Palette

The restoration strategy for revegetation of coastal sage scrub habitat includes reintroducing appropriate on-site native coastal sage scrub species (Table 7). A disturbed coastal sage scrub plant palette has not been generated for this plan, as the areas mapped as disturbed will be treated the same in the restoration process as those not mapped as disturbed. The plant palette has been designed to provide a diverse mix of species, including nurse crop species for quick establishment and erosion control. Some species, particularly dot-seed plantain (*Plantago erecta*)

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and deerweed, are expected to germinate readily in response to adequate weather conditions and provide an initial ground cover layer that will reduce erosion potential. Shrubs and subshrubs, such as coastal goldenbush and California buckwheat, may germinate later and will provide greater structural diversity.

**Table 7  
Coastal Sage Scrub Plant Palette**

Scientific Name	Common Name	Minimum Percent Live Seed	Rate (pounds/acre)
<i>Seed Mix</i>			
<i>Cryptantha intermedia</i>	common forget-me-not	5	2
<i>Deinandra fasciculata</i>	fascicled tarplant	20	1
<i>Eriophyllum confertiflorum</i> var. <i>confertiflorum</i>	long-stem golden yarrow	25	1
<i>Eschscholzia californica</i>	California poppy	85	1
<i>Gnaphalium californicum</i>	California everlasting	2	1
<i>Gutierrezia sarothrae</i>	broom snake-weed, matchweed	2	3
<i>Isocoma menziesii</i> ssp. <i>veneta</i>	Coastal goldenbush	15	1
<i>Lasthenia californica</i>	California goldfields	50	2
<i>Acmispon glaber</i>	deerweed	85	1
<i>Lupinus bicolor</i>	pygmy lupine	90	2
<i>Nassella lepida</i>	foothill stipa	65	4
<i>Phacelia parryi</i>	Parry's phacelia	80	2
<i>Plantago erecta</i>	dot-seed plantain	85	1
<i>Salvia columbariae</i>	chia	65	1
<b>Total Pounds/Acre</b>			<b>23</b>
Scientific Name	Common Name	Size	Spacing (feet on center)
<i>Container Plants</i>			
<i>Adolphia californica</i>	California adolphia	1	5
<i>Artemisia californica</i>	coastal sagebrush	1	4
<i>Cneoridium dumosum</i>	bushrue	1	6
<i>Encelia californica</i>	California sunflower	1	4
<i>Eriogonum fasciculatum</i>	California buckwheat	1	5
<i>Helianthemum scoparium</i> var. <i>aldersonii</i>	Alderson's rockrose	1	3
<i>Isomeris arborea</i>	bladderpod	1	5
<i>Lonicera subspicata</i> var. <i>denudata</i>	southern honeysuckle	1	5
<i>Malacothamnus fasciculatus</i>	chaparral mallow	1	6
<i>Malosma laurina</i>	laurel sumac	1	8
<i>Mimulus aurantiacus</i>	Bush monkeyflower	1	4
<i>Mirabilis californica</i> var. <i>californica</i>	California wishbone bush	1	3

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**Table 7  
Coastal Sage Scrub Plant Palette**

Scientific Name	Common Name	Minimum Percent Live Seed	Rate (pounds/acre)
<i>Seed Mix</i>			
<i>Rhamnus crocea</i>	redberry	1	5
<i>Salvia apiana</i>	white sage	1	5
<i>Salvia munzii</i>	Munz's sage	1	5
<i>Sambucus mexicana</i>	blue elderberry	1	12
<i>Viguiera laciniata</i>	San Diego sunflower	1	5

### 4.5.3 Chamise and Scrub Oak Chaparral Plant Palette

The chamise and scrub oak chaparral planting palette has been combined in this plan because there is only 0.01 acre (435 square feet) of scrub oak chaparral. Chamise chaparral is predominantly composed of chamise, and scrub oak chaparral is predominantly composed of scrub oak, but the associated component species can be similar. Therefore, the planting palette includes the dominant and component species of the vegetation communities, but the proportions of those species planted within the designated areas will differ (i.e., more scrub oak and less chamise will be planted in scrub oak chaparral areas).

The restoration strategy for chaparral restoration is to plant the component species from container plants (chaparral species are difficult to establish from seed), and include some annual species to provide initial cover for erosion control and species diversity (Table 8). Additionally, the plant palette includes coastal sage scrub species because chaparral habitat develops slowly, and coastal sage scrub species will establish more quickly to provide greater structure on the restored slopes.

**Table 8  
Chaparral Plant Palette**

Scientific Name	Common Name	Minimum Percent Live Seed	Rate (Pounds/Acre)
<i>Seed Mix</i>			
<i>Deinandra fasciculata</i>	Fascicled tarplant	20	1
<i>Eriophyllum confertiflorum</i> var. <i>confertiflorum</i>	Long-stem golden yarrow	25	1
<i>Eschscholzia californica</i>	California poppy	85	1
<i>Gnaphalium californicum</i>	California everlasting	2	1

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**Table 8  
Chaparral Plant Palette**

Scientific Name	Common Name	Minimum Percent Live Seed	Rate (Pounds/Acre)
<i>Gutierrezia sarothrae</i>	broom snake-weed, matchweed	2	3
<i>Lasthenia californica</i>	California goldfields	50	2
<i>Lupinus bicolor</i>	pygmy lupine	90	2
<i>Nassella lepida</i>	foothill stipa	65	4
<i>Plantago erecta</i>	dot-seed plantain	85	1
<i>Salvia columbariae</i>	chia	65	1
<b>Total Pounds/Acre</b>			<b>17</b>
Scientific Name	Common Name	Size	Spacing (feet on center)
<i>Container Plants</i>			
<i>Adenostoma fasciculatum</i>	chamise	1	4
<i>Artemisia californica</i>	coastal sagebrush	1	4
<i>Baccharis sarothroides</i>	chaparral broom	1	5
<i>Cneoridium dumosum</i>	bushrue	1	6
<i>Eriogonum fasciculatum</i>	California buckwheat	1	5
<i>Helianthemum scoparium</i> var. <i>aldersonii</i>	Alderson's rockrose	1	3
<i>Isomeris arborea</i>	bladderpod	1	5
<i>Malacothamnus fasciculatus</i>	chaparral mallow	1	6
<i>Malosma laurina</i>	laurel sumac	1	8
<i>Quercus dumosa</i>	Nuttall's scrub oak	1	3
<i>Rhamnus crocea</i>	redberry	1	5
<i>Rhus integrifolia</i>	lemonadeberry	1	8
<i>Xylococcus bicolor</i>	mission manzanita	1	5

### 4.5.4 Valley Needlegrass Grassland and Non-native Grassland Plant Palette

The Valley needlegrass grassland and non-native grassland plant palettes have been combined in this plan because the plant materials recommended for use within the Preserve for restoration are native. The two vegetation communities will essentially be treated the same in the restoration effort.

The restoration strategy for grassland is to plant most of the component species from seed, with some complimentary shrub species from container stock to increase species and structural diversity (Table 9). The shrubs shall be planted in small clusters of 5 to 10 plants within the grassland restoration areas.

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**Table 9  
Grassland Plant Palette**

Scientific Name	Common Name	Minimum Percent Live Seed	Rate (Pounds/Acre)
<i>Seed Mix</i>			
<i>Cryptantha intermedia</i>	common forget-me-not	5	2
<i>Deinandra fasciculata</i>	fascicled tarplant	20	1
<i>Eriophyllum confertiflorum</i> var. <i>confertiflorum</i>	long-stem golden yarrow	25	1
<i>Eschscholzia californica</i>	California poppy	85	1
<i>Lasthenia californica</i>	California goldfields	50	2
<i>Lupinus bicolor</i>	pygmy lupine	90	2
<i>Nassella lepida</i>	foothill stipa	65	4
<i>Nassella pulchra</i>	purple needlegrass	75	8
<i>Phacelia parryi</i>	Parry's phacelia	80	2
<i>Plantago erecta</i>	dot-seed plantain	85	1
<i>Salvia columbariae</i>	chia	65	1
<i>Sisyrinchium bellum</i>	blue-eyed grass	80	2
<b>Total Pounds/Acre</b>			<b>27</b>
Scientific Name	Common Name	Size	Spacing (feet on center)
<i>Container Plants</i>			
<i>Artemisia californica</i>	Coastal sagebrush	1	4
<i>Eriogonum fasciculatum</i>	California buckwheat	1	4
<i>Gnaphalium californicum</i>	California everlasting	1	2
<i>Gutierrezia sarothrae</i>	broom snake-weed, matchweed	1	3
<i>Melica imperfecta</i>	California melic	1	2
<i>Mimulus aurantiacus</i>	Bush monkeyflower	1	3
<i>Mirabilis californica</i> var. <i>californica</i>	California wishbone bush	1	3
<i>Sidalcea malvaeflora</i>	checker mallow	1	2

### 4.6 Planting Design

Plant materials for the restoration areas will include the container stock and seed mixes indicated in the plant palettes provided in Tables 7 through 9. Exceptions include the off-site temporary impact areas and small on-site restoration areas (less than 0.10 acre), which may not be irrigated and may not be planted with container plants due to their isolation and small size. These areas will rely on the application of a native seed mix only.

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Implementation of the mitigation efforts must be coordinated among the revegetation contractor, the Project Biologist, and the nursery/seed supplier providing the plant materials and seed mixes from appropriate nursery stock, native seed stock, or both.

Planting locations will be shown on construction documents (planting plans) or be flagged in the field. Container plant materials will be planted in small clusters or groups to develop natural patchiness.

### 4.6.1 Seed Application Methods

Seed will be mixed uniformly in a slurry composed of water and virgin wood fiber mulch, and which will include:

- ≠ Seed mixture at indicated pounds per acre
- ≠ Virgin wood cellulose fiber mulch at 2,500 pounds per acre
- ≠ ‘Az-tac’ binder at 100 pounds per acre (if seed mix is to be installed between November and February)
- ≠ Amendments based on soil test results

Appropriate timing of application of the hydroseed and container planting will increase the survival of the plants. The best survival rates are achieved when container plants and seed are installed from late fall to early winter. Planting and seeding at the site should be timed to take advantage of seasonal rainfall patterns and should be accomplished no later than late winter of the implementation year.

Seed mixes shall be applied equally to all areas indicated on plans. Seeding shall only occur when environmental conditions are favorable for such activities, based on standard horticultural practices. Seeding shall not take place if temperatures are unreasonably high, or if the site is excessively wet or muddy. Best management practices shall be incorporated as an erosion control measure along all hydroseeded slopes, including silt fencing at the toe of the slope.

### 4.6.2 Container Planting Methods

Container stock shall be installed using industry standard techniques. A hole two times the diameter of the root ball will be excavated to the depth of the root ball. Each hole will be filled with water and allowed to drain prior to plant installation. Each container plant root ball shall be scarified prior to installation. Backfill soil will contain no amendments and fertilizers unless shown in the construction documents, recommended by soil test results and/or by the Project Biologist. After installation, each plant shall be thoroughly irrigated to the depth of the root ball. The location of each container plant shall be pin-flagged to aid in future identification, weeding, and survival monitoring.

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### 4.7 Irrigation

A temporary above-grade irrigation system is proposed to provide supplemental irrigation to facilitate weed control and successful establishment of native container plants and seed installed at the site. The irrigation system will be used only until the plants are established such that they can survive on their own from seasonal rainfall. It is expected that the irrigation system will be removed at the end of Year 3 of the 5-year maintenance and monitoring period, depending upon the level of plant establishment achieved by that time. Watering on site will gradually be decreased prior to the irrigation system being abandoned in order to allow the plants to acclimate to the site's natural conditions.

The irrigation system will be installed as an aboveground system so that irrigation equipment may be removed once the system has been decommissioned, and once the resource agencies and the County have approved and signed off the site. The applicant will be responsible for removal of the irrigation system prior to project completion. The irrigation system will use a water source located as close to the site as possible. All on-site irrigation will consist of polyvinyl chloride pipe staked on grade at approximately 10 feet on center and at all corners, providing 100% coverage of the revegetation areas using spray and/or rotor heads, where appropriate. The landscape contractor will install all irrigation. The system will be abandoned by the end of the Year 3, and all aboveground components will be removed from the site prior to the end of the 5-year period.

The contractor will inspect the irrigation system regularly and make any necessary repairs and adjustments as required. Plants growing near the sprinkler heads may be pruned to maintain adequate sprinkler coverage. Where pruning is not feasible or allowed, irrigation heads may need to be raised up on staked risers to reach above developing plants to avoid head blockage. Once the plants are well established, the irrigation schedule will be reduced and/or terminated on direction of the Project Biologist

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## **5 MAINTENANCE DURING MONITORING**

### **5.1 120-Day Establishment Period**

The installation contractor shall complete a 120-day plant establishment maintenance period following container plant installation and hydroseed application. Maintenance responsibilities include weed control to promote successful establishment of the applied native seed mix and erosion control until the vegetative cover has established on the restored slopes. Weed control methods may include mechanical removal and chemical treatment of non-native weed species.

During the initial 120-day plant establishment period, following the container plant installation and seeding, the Project Biologist will monitor site conditions twice monthly. The Project Biologist will note seedling germination, container plant survival, soil erosion, and weed and exotic species control to determine if the plants are becoming adequately established and to verify that the seed application has been successful. If the seed application has been successful and adequate germination occurs, then rapid seedling emergence should limit the need for erosion control devices. Potential remedial actions if germination is not sufficient include reseeded, installation of additional erosion control devices, and follow-up weed control.

The Project Biologist will inform the installation contractor of concerns regarding successful plant establishment and will coordinate appropriate remedial actions

### **5.2 Five-year Maintenance Plan**

The purpose of the maintenance plan is to provide guidelines for long-term maintenance of the restoration areas during the 5-year establishment period. Maintenance activities shall occur in consultation with the Project Biologist.

The maintenance period shall begin upon successful completion of the 120-day establishment period. The maintenance period is scheduled to last for 5 years and will conclude once the County determines that the project is successful.

Because the goal of this project is to establish a natural system that can support itself with little or no maintenance, the primary focus of the maintenance plan is concentrated in the first few seasons of plant growth following the revegetation effort, when weeds can easily out-compete native plants. The intensity of the maintenance activity is expected to decrease each year as the native plant materials become more established and as local competition from non-native plants for resources on the site is minimized through direct removal and treatment of non-natives. However, long-term maintenance concerns for the site will include non-native, exotic, and invasive plant species adjacent to the site and potential establishment from wind-borne seed.

# Conceptual Upland Restoration Plan for the Otay Ranch Resort Village

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The risk of large-scale reinvasion of non-native plants onto the site can be adequately minimized during the first 5 years by adhering to these specific maintenance and management guidelines.

## 5.2.1 Schedule of Maintenance Inspections

Maintenance activities, including weed control, shall be conducted by the maintenance contractor at least monthly during the winter and spring (January to June) in Years 1 and 2, and at increasing intervals for the remainder of the 5-year maintenance program (Table 10).

**Table 10**  
**Preliminary Project Maintenance Schedule**

Task	Timing/Frequency
<i>Site Preparation and Establishment</i>	
Site clearing, mulch salvage and application, and soil preparation/perimeter exotic removal	Summer or fall, or per Migratory Bird Treaty Act restrictions
Installation of temporary irrigation system	Fall (following site clearing and soil preparation)
Weed/exotic removal and grow-kill cycles	Fall (following site preparation)
Planting container stock	Early winter (following grow-kill cycles)
Hydroseed application	Winter (following planting)
Completion of 120-day establishment period	Spring
<i>Maintenance Program</i>	
Year 1	Eight (8) times (monthly January through June; August; November)
Year 2	Eight (8) times (see Year 1)
Year 3	Six (6) times (bimonthly)
Year 4	Four (4) times (approximately quarterly)
Year 5	Four (4) times (approximately quarterly)
Final Signoff	End of Year 5

## 5.2.2 Site Protection

The restoration areas are located within the Preserve area. It is anticipated that the Preserve area will be fenced. Because of the dispersed distribution of the revegetation areas, no special fencing or signage is proposed to distinguish these areas from the larger Preserve area. However, signage shall be installed to indicate the location of the habitat restoration sites.

## 5.2.3 Weed Control

Weeds (non-native/exotic plant species) are expected to be the primary pest problem, particularly during the first several years of the maintenance period. The maintenance contractor shall control weeds within the mitigation site. The contractor shall control weeds so they do not prevent the

## Conceptual Upland Restoration Plan for the Otay Ranch Resort Village

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establishment of native species or invade adjacent areas. The contractor shall control weeds prior to setting seed. The contractor shall use a combination of herbicide treatment, mechanical treatments (weed whipping), and physical removal to control non-native plant species.

Herbicide application is an efficient method to control non-native plants, particularly during the first year's maintenance when weeds can be abundant. Herbicide application is also favorable because it kills non-native plants without soil disruption, which can invigorate additional weed seeds to germinate. However, herbicide application must be conducted by knowledgeable, experienced staff who can recognize and distinguish native species from non-native species to avoid problems with damage to native species. In general, a broad spectrum, systemic herbicide, such as glyphosate, will be applied as a foliar spray to target plants. Herbicide applicators shall be properly trained in general herbicide safety and in the label requirements of all herbicides used, and shall be able to identify target and non-target plant species. All herbicide applications will be conducted under the supervision of a state-licensed qualified applicator.

Maintenance activities in the coastal sage scrub restoration areas that are conducted during the breeding season of coastal California gnatcatcher (February 15 and August 31) shall be coordinated with the Project Biologist. The Project Biologist may recommend a survey for gnatcatchers within the coastal sage scrub restoration areas prior to maintenance activities.

### **5.2.4 Trash and Debris Removal**

Deadwood and leaf litter of native vegetation shall not be removed, unless extensive growth is causing a maintenance problem outside of the mitigation area. Deadwood and leaf litter provide valuable microhabitats for invertebrates, reptiles, small mammals, and birds. The Project Biologist shall approve pruning or clearing of native vegetation. Deadwood and leaf litter of native vegetation will be left in place to replenish soil nutrients and organic matter.

Trash consists of all man-made materials, equipment, or debris dumped, thrown, washed into, or left within the restoration areas. The maintenance contractor shall remove trash during each maintenance visit and shall dispose trash legally.

### **5.2.5 Erosion Control**

Where needed, erosion control measures (e.g., installation of silt fencing, fiber rolls, etc.) may be required until target vegetation establishes within the restoration areas. The Project Biologist shall determine the need for erosion control in the field. The landscape maintenance contractor shall determine the type and placement of erosion control devices, in consultation with the Project Biologist and following standard best management practices.

## Conceptual Upland Restoration Plan for the Otay Ranch Resort Village

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### 5.2.6 Replacement Plantings and Reseeding

If annual container plant survival performance criteria are not met, the Project Biologist will determine the number of container plants required to meet annual survival requirements and will develop a list of the number of each species to be planted. The Project Biologist will determine the appropriate species and number to be planted based on site conditions, natural recruitment, and survival and growth trends of the target plant species in the replanting locations.

If the seed application fails, resulting in low seed germination, the Project Biologist may recommend re-seeding. Depending on the suspected cause of the failed seed application, modifications to the seeding methods and/or seed mix components may be made.

Either the landscape maintenance contractor or installation contractor may implement hydroseeding or container planting, as determined by the project applicant. Ideally, replacement planting and seeding shall be conducted after the onset of seasonal rains according to the methods described in Section 4.6. Replacement plantings or seeding will not be subject to a 120-day establishment period, but the Project Biologist will inspect these areas to assure adequate establishment.

### 5.2.7 Vandalism

Vandalism is not anticipated to be a problem during the 5-year maintenance period because the restoration areas will be located within a fenced preserve area. However, if vandalism becomes a problem, the applicant will be responsible for repairing any damage.

# Conceptual Upland Restoration Plan for the Otay Ranch Resort Village

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## 6 MONITORING PLAN FOR THE COMPENSATORY MITIGATION SITE

The Project Biologist shall monitor the restoration areas to (1) monitor the progress by assessing native habitat establishment (percent native and non-native coverage via quantitative and qualitative methods), relative to the established performance criteria; and (2) direct and monitor the maintenance activities and determine remedial actions in a manner that ensures that appropriate maintenance occurs in a timely manner. Target acreage and functions and values are provided in Table 6.

### 6.1 Performance Standards

Performance standards have been established for the restoration areas based on expected vegetative development within properly functioning habitat. The performance standards listed herein do not apply to the revegetation of the off-site temporary impact areas because of their small size and because they will not be part of the Preserve.

Native plant cover criteria are based on the assumption that the greatest contribution to native plant cover will be provided initially by hydroseeded and container plants, but that in later years, natural recruitment and/or seeds from adjacent native areas and the growth of individual container plants will contribute more to plant cover. Lower performance standards for chaparral are based on the assumption that container plants used will grow more slowly and contribute less to overall vegetation cover. Maximum non-native plant cover criteria for each vegetation type are identical, as listed under “% Maximum Non-native Plant Cover” in Table 11.

**Table 11  
Performance Standards**

Year	% Native Plant Cover			% Maximum Non-native Plant Cover	% Container Plant Survival
	<i>Coastal Sage Scrub</i>	<i>Chaparral</i>	<i>Grassland</i>	<i>All Restoration Areas</i>	<i>All Restoration Areas</i>
Year 1	20	10	30	10	95
Year 2	40	20	50	10	90
Year 3	55	40	60	10	85
Year 4	70	60	70	5	85
Year 5	80	70	80	5	85

Performance standards consist of the “% Native Plant Cover” and “% Maximum Non-native Plant Cover” standards listed in Table 11. Even if overall success criteria are achieved, if any subarea misses any performance criterion by more than 15% (e.g., native plant cover in a coastal

## Conceptual Upland Restoration Plan for the Otay Ranch Resort Village

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sage scrub area in Year 2 is less than 40% in one subarea), specific remedial measures will be developed for that subarea.

Container plant survival performance criteria will be assessed during the final monitoring visit of the calendar year (November), and native and non-native plant cover criteria will be assessed during the latter portion of the growing season (i.e., late spring or summer) through the 5-year maintenance and monitoring program.

These performance criteria shall be used to assess the annual progress of the restoration areas and are regarded as interim project objectives designed to reach the final goals. The Project Biologist will also provide an annual qualitative assessment of the species composition of each subarea to assure that the vegetation is appropriate for the target plant community; for instance, a site dominated by early-successional native plant species and with small surviving container plants may not be considered to meet performance standards even if the criteria listed above were attained.

Fulfillment of these criteria will indicate that the uplands restoration areas on the project site are progressing toward the habitat types and functions that constitute the long-term goals of the plan. If the restoration efforts fail to meet the performance standards in any one year, the Project Biologist may recommend remedial action to be implemented the following year that will enhance the vegetation to a level of conformance with the original standard. These remedial actions may include re-seeding, applying soil amendments, additional weed control measures, erosion control, or adjustments to the irrigation and maintenance practices.

### **6.2 Monitoring Methods**

The Project Biologist will conduct qualitative monitoring visits throughout the 5-year monitoring period. Qualitative monitoring will include reviewing the health and vigor of container plants and seed plantings, checking for the presence of pests and disease, reviewing soil moisture content and the effectiveness of the irrigation system, erosion problems, invasion of weeds/exotics, and the occurrence of trash and/or vandalism. Contractor maintenance will be reviewed as well. Each monitoring visit will be followed by a written summary of observations, recommendations, and conclusions to be forwarded to the landscape maintenance contractor and applicant within 2 weeks of completion of the visit.

Attainment of percent native and non-native cover success criteria in the first year will be measured by visual estimation coupled with photo-documentation. To document overall site conditions, a minimum of one permanent photo point (for the duration of the 5-year monitoring program) will be established in each restoration area that is at least 0.5 acre in size.

## Conceptual Upland Restoration Plan for the Otay Ranch Resort Village

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Starting in Year 2, quantitative data collection will begin. Quantitative data collection will consist of transect data collection using the point-intercept methodology. Transects will be established in restoration areas that are at least 0.5 acre in size. The transect locations shall be spaced throughout the restoration areas, and their exact locations shall be randomly determined. The transect locations shall be mapped using a global positioning system and shown on a figure in the annual reports. The transects shall be marked with metal t-posts at each end so the same locations can be sampled each year. Transect data shall be collected in late spring or early summer each year to show native cover by species, exotic cover by species, total vegetated cover, and total unvegetated cover. In addition, a comprehensive plant species list shall be compiled for the restoration area.

Quantitative evaluation of container plant survival shall be determined through counts of dead container plants. The fall site visit shall assess plant mortality and recommend container plant replacement, if needed.

### 6.3 Monitoring and Reporting Schedules

The Project Biologist shall be responsible for monitoring activities of the installation contractor and the building contractor during preparation of the restoration areas as described in Table 12, including staking project boundaries, grading, irrigation installation, grow-kill cycles, container plantings, and seed application. During the 120-day plant establishment period, the Project Biologist will qualitatively monitor progress monthly and will conduct a final quantitative inventory of container plant survival during the last visit.

**Table 12**  
**Preliminary Project Monitoring Schedule**

Task	Timing/Frequency
<i>Site Preparation and Establishment</i>	
Staking project perimeter	When scheduled to occur; present during boundary delineation of restoration areas
Grading	When scheduled to occur; present during grading of restoration areas
Installation of temporary irrigation system	Fall; confirm proper installation
Weed/exotic removal and grow-kill cycles	Fall; approximately monthly
Planting container stock	Early winter; present during all planting
Hydroseed application	Winter; present during all hydroseeding
120-day establishment period installation	Monthly (four (4) times)

## Conceptual Upland Restoration Plan for the Otay Ranch Resort Village

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**Table 12**  
**Preliminary Project Monitoring Schedule**

Task	Timing/Frequency
<i>Monitoring Program</i>	
Year 1	Eight (8) times (monthly January through June; August; November)
Year 2	Six (6) times (bimonthly)
Year 3	Four (4) times (approximately quarterly)
Year 4	Four (4) times (approximately quarterly)
Year 5	Four (4) times (approximately quarterly)
Final signoff	End of Year 5

The Project Biologist will communicate and coordinate with the landscape contractor to assure the timely performance of project activities. The schedule discussed below is a recommended minimum monitoring schedule that the Project Biologist may revised in consultation with the applicant and landscape contractor, if site conditions warrant.

During Year 1, the Project Biologist will monitor the site eight times, on the approximate schedule shown in Table 12. Container plant survival will be quantified during the November visit to permit supplemental planting, if needed, to coincide with the onset of winter rains. The Project Biologist will assess native and non-native plant cover performance criteria during the final spring monitoring visit.

During Year 2, the Project Biologist will monitor the site six times, on an approximately bimonthly schedule. Site visits may be more frequent (up to once every 6 weeks) during the winter and spring, and less frequent (at least once every 3 months) during the dry season.

During Years 3 through 5, the Project Biologist will monitor the site four times annually, approximately on a quarterly schedule (visits may be concentrated somewhat during the winter and spring, if appropriate). If container plant survival rates have been achieved during the first 2 years and other native plant cover criteria are being met, continued monitoring of container plant survival will not be required. Otherwise, container plant survival will be quantified during the fall visit until survival criteria have been met successfully for 2 consecutive years and native plant cover criteria are also met.

The Project Biologist shall submit to the applicant/owner and County a letter report within 60 days of completion of the 120-day plant establishment period, and annual reports within 2 months following the anniversary date during the 5-year monitoring period.

## Conceptual Upland Restoration Plan for the Otay Ranch Resort Village

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### 6.4 Annual Monitoring Reports

An annual report outlining the results of each year's monitoring surveys shall be submitted to the applicant and County by June 1 following the anniversary date of each year's monitoring period throughout the 5-year maintenance and monitoring period. The monitoring reports shall describe the existing conditions of the site, compare existing conditions with the performance guidelines, identify any shortcomings of the revegetation program, and recommend remedial measures necessary to help guide the project to a successful completion.

The reports will also include:

- ≠ A list of names, titles, and companies of all persons who prepared the content of the annual report and participated in maintenance and monitoring activities
- ≠ Prints of photo-point locations.
- ≠ Maps identifying the monitoring areas, transect locations, planting zones, etc., as appropriate.

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## **7 COMPLETION OF COMPENSATORY MITIGATION**

### **7.1 Notification of Completion**

If the applicant believes the final success criteria have been met at the end of the 5-year monitoring period, the applicant shall notify the County upon submitting the annual report for the final year and request acceptance of the site. Early release may be possible if success criteria/performance standards are met early and the County agrees with the level of establishment.

Following the receipt of notification of completion, the County may visit the site to confirm completion of the mitigation efforts and issue letters of formal acceptance. Any remaining bond monies would also be granted release at that time.

### **7.2 Long-Term Management**

The primary goal of this plan is the successful establishment of self-sustaining target upland habitats. Long-term management of the mitigation area is necessary to ensure the long-term viability of the restoration effort described in this Restoration Plan. The restoration areas will be included in the proposed Preserve system. After successful completion of the 5-year maintenance and monitoring period, the restoration areas will be managed along with the overall Preserve lands in accordance with the RMP and SRP.

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## **8 CONTINGENCY MEASURES**

### **8.1 Initiating Procedures**

If annual performance criteria are not met within any subarea in any year, or if the final success criteria are not met, the Project Biologist shall prepare an analysis of the cause(s) of failure and, if determined necessary by the County, propose remedial contingency measures. If the mitigation sites have not met the performance criteria, the responsible party's maintenance and monitoring obligations will continue, or alternative contingency measures will be negotiated, until the County or resource agencies gives final project permit compliance/approval.

### **8.2 Funding Mechanism**

The same funding source for the proposed project, as established by the applicant, will provide funding for any additional planning, implementation, and monitoring of any contingency procedures that may be required to achieve the mitigation goals.

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# **APPENDIX I**

## *Conceptual Wetlands Mitigation and Monitoring Plan for the Otay Ranch Resort Village*



# APPENDIX I

## CONCEPTUAL WETLANDS MITIGATION AND MONITORING PLAN

for the

OTAY RANCH RESORT VILLAGE  
GPA 04-003; SPA 04-002; R04-009; TM 5361RPL; S08-028;  
ER#04-19-005; KIVA#03-1004387

Prepared for the County of San Diego

On behalf of:

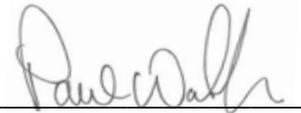
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JANUARY 2015



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# Conceptual Wetlands Mitigation and Monitoring Plan for the Otay Ranch Resort Village

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## EXECUTIVE SUMMARY

This Conceptual Wetland Mitigation and Monitoring Plan (CWMMP) for the Otay Ranch Resort Village (Resort Village) Project addresses the on-site wetlands establishment (i.e., creation), restoration, and enhancement for impacts to jurisdictional waters and riparian vegetation communities resulting from implementation of the Resort Village project located in the southern portion of San Diego County (County). Mitigation management and monitoring activities within the Resort Village project area are required as part of the permitting, planning and environmental review process. In addition, the proposed project will require subsequent federal and state permitting from responsible agencies, including the California Department of Fish and Wildlife (CDFW), for a streambed alteration agreement required by Fish and Game Code section 1600, et seq.; the U.S. Army Corps of Engineers (ACOE), for a section 404 permit; as well as consultation with the Regional Water Quality Control Board (RWQCB). This CWMMP addresses the mitigation requirements of these agencies, as well as the County of San Diego (County), and has been prepared in accordance with agency and County requirements.

The project area comprises approximately 1,869 acres located in the unincorporated portion of the County and is designated for residential and resort development and for open space in the current Otay Ranch *Subregional Plan Volume 2* (SRP; Otay Ranch 1993). This CWMMP addresses the establishment/ creation, restoration, and enhancement of riparian/riverine vegetation communities as mitigation for impacts to jurisdictional waters and wetlands. Sites for mitigation are proposed to be located within the watershed that the impacts are scheduled to occur. Jurisdictional impacts occurring on Cornerstone Lands owned by the City of San Diego Water Utilities Department will be mitigated on Cornerstone Lands by establishment/ creation of at least a 1:1 ratio of wetlands with an overall 3:1 mitigation ratio. Impacts and mitigation requirements to these lands will be addressed and approved by the City of San Diego as well as the appropriate permitting agencies including ACOE, CDFW, and RWQCB. If there is not sufficient mitigation potential found, options will be analyzed for other locations, including the utilization of existing mitigation banks. Jurisdictional impacts occurring on County of San Diego lands not within the Resort Village will be mitigated within the Resort Village site if appropriate and if approved by the County. The mitigation for these impacts is addressed in this document. The mitigation for the Cornerstone Lands impacts will be addressed as required by the City of San Diego with a separate CWMMP, as needed and requested.

To ensure that the establishment/ creation, restoration, and enhancement areas within the project site develop as intended and meet success criteria required by permitting agencies, a 5-year maintenance and monitoring period will be implemented. This plan defines project goals and implementation guidelines and provides monitoring and maintenance information designed to attain the intended mitigation results.

# Conceptual Wetlands Mitigation and Monitoring Plan for the Otay Ranch Resort Village

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# Conceptual Wetlands Mitigation and Monitoring Plan for the Otay Ranch Resort Village

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## 1 DESCRIPTION OF THE DEVELOPMENT PROJECT/IMPACT SITE FOR WHICH COMPENSATORY MITIGATION IS REQUIRED

The purpose of this *Conceptual Wetlands Mitigation and Monitoring Plan for Otay Ranch Resort Village* (CWMMP) is to provide site-specific instructions for wetland habitat creation, enhancement, and restoration as mitigation for on-site impacts associated with the construction of the Resort Village (Village 13) project area of Otay Ranch.

### **1.1 Responsible Parties**

Dudek prepared this CWMMP in support of the permit applications to the U.S. Army Corps of Engineers (ACOE), California Department of Fish and Wildlife (CDFW), and Regional Water Quality Control Board (RWQCB). If the permits are granted by the resource agencies, Baldwin & Sons LLC and JPB Development LLC (The Applicants) will be financially responsible for the costs associated with the implementation, monitoring, maintenance, and protection of mitigation areas as defined in this plan. The Applicants also will be responsible for all costs associated with completion of the mitigation requirements herein. Further, The Applicants will provide access to the mitigation area for the Project Biologist, project contractors, and permitting agency officials.

### **1.2 Location of the Development Project**

Otay Ranch is located in the southwestern portion of San Diego County (County) in the City of Chula Vista, in unincorporated portions of the County (Figures 1 and 2). As part of the planning for the development of Otay Ranch, several villages and planning areas were designated for various types of development while other areas were reserved for preservation of multiple species and habitats. An effort was undertaken to plan development of the ranch so as to conserve species and habitats in the region. The Otay Ranch Resort Village project area comprises approximately 1,869 acres, is located in an unincorporated portion of the County, and is designated for residential and resort development and for open space by the Otay Ranch *Subregional Plan* (SRP; Otay Ranch 1993). Off-site improvements to Otay Lakes Road require analysis of an approximately 40-acre area south and west of the project area.

### **1.3 Summary of Overall Development Project with Proposed Mitigation**

The Resort Village (Village 13) project area of Otay Ranch comprises approximately 1,869 acres located in the unincorporated portion of San Diego County (County) and is designated for residential and resort development and for open space in the current Otay *Subregional Plan, Volume 2* (Otay SRP; 1993). The proposed land uses for the Otay Ranch Resort Village project consist of single-family neighborhoods, a mixed use residential and commercial use neighborhood, a resort hotel with associated ancillary facilities, an elementary school site, a site

# **Conceptual Wetlands Mitigation and Monitoring Plan for the Otay Ranch Resort Village**

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for public safety facilities, open space, Otay Ranch Preserve (Preserve) land, and park and recreational uses. The proposed specific plan includes approximately 539.2 acres designated for 1,938 residential units. Five single-family neighborhoods are planned with an average density ranging from 3.2 to 4.4 dwelling units per acre.

## **1.3.1 Topography**

The Otay Ranch Resort Village consists of a broad mesa sloping to the south, broken by several steep canyons draining from north to south. Portions of the relatively flat mesa extend north into the Jamul Mountains, becoming part of steeper slopes. Site elevations range from approximately 500 feet above mean sea level (AMSL) at the southern end of the property to approximately 1,500 feet AMSL in the northeastern portions. The project area lies within the watershed of the Otay River, a westerly flowing stream which drains an area of approximately 145 square miles. The site is upstream of Savage Dam, which creates Lower Otay Lake.

The southern half of the site contains three large mesas (K6, K8, and K9 from west to east), an expansive and relatively flat area in the west, and increasing elevations with steep canyons in the north. Drainages bisect the mesas and generally run north–south, with the exception of one drainage running east–west from the center to the western edge of the property. Several stock ponds have been intentionally created along the drainages on the property.

## **1.3.2 Vegetation Types**

The project site is dominated by sage scrub, with substantial representation of grassland and chaparral (Table 1). Various wetland plant communities also occur on the site. Portions of the site have been historically mechanically disturbed by farming and grazing activity, reducing the presence of natural vegetation. In total, 16 plant communities and land cover types were mapped within the project area on site and off site, consisting of coastal sage scrub, chamise chaparral, southern mixed chaparral, scrub oak chaparral, disturbed valley needlegrass grassland, non-native grassland, cismontane alkali marsh, freshwater marsh, open water, mulefat scrub, southern willow scrub, stock pond, disturbed habitat, eucalyptus woodland, ornamental, and developed land. The coastal sage scrub, chamise chaparral, cismontane alkali marsh, and mulefat scrub were subdivided as the non-disturbed versus disturbed forms depending on the percent native shrub cover and dominance of non-native species.

## Conceptual Wetlands Mitigation and Monitoring Plan for the Otoy Ranch Resort Village

**Table 1**  
**Acreeages of Plant Communities**

Vegetation Community	County Code	On Site	Off Site*	Total
<i>Sensitive Upland Communities</i>				
Diegan Coastal Sage Scrub	32500	1,121.51	7.61	1129.12
Disturbed Diegan Coastal Sage Scrub	32500	348.62	4.99	353.61
Granitic? Chamise Chaparral	37210/37200?	143.14	—	143.14
Disturbed Chamise Chaparral	37210	15.67	—	15.67
Scrub Oak Chaparral	37900	22.45	—	22.45
Granitic? Southern Mixed Chaparral	37121/37120?	4.95	—	4.95
Disturbed Valley Needlegrass Grassland	42110	110.58	0.03	110.61
Non-Native Grassland	42200	78.96	5.44	84.40
<i>Subtotal</i>		<i>1,845.88</i>	<i>18.07</i>	<i>1,863.95</i>
<i>Sensitive Wetland Communities (ACOE, RWQCB, and CDFW, unless otherwise noted)</i>				
Cismontane Alkali Marsh	52310	6.39	—	6.39
Disturbed cismontane alkali marsh	53210	0.17	—	0.17
Freshwater Marsh	52410	—	0.17	0.17
Mulefat Scrub, all jurisdictions	63310	0.02	—	0.02
Mulefat Scrub, CDFW only		0.06		0.06
Disturbed Mulefat Scrub, all jurisdictions	63310	—	0.10	0.13
Disturbed Mulefat Scrub, CDFW only			0.03	
Open Water	64140	0.17	0.49	0.66
Southern Willow Scrub	63320	1.19	0.04	1.23
<i>Subtotal</i>		<i>8.00</i>	<i>0.83</i>	<i>8.83</i>
<i>Non-Sensitive Communities and Land Covers</i>				
Developed Land	12000	0.88	19.23	20.10
Disturbed Habitat	11300	13.46	0.38	13.85
Eucalyptus Woodland	79100	—	0.61	0.61
Ornamental	12000	—	0.94	0.94
Stock Pond	18000	0.79	—	0.79
<i>Subtotal</i>		<i>15.13</i>	<i>21.16</i>	<i>36.29</i>
<b>Total</b>		<b>1,869.01</b>	<b>40.06</b>	<b>1,909.07</b>

\* Includes proposed off-site improvement to Otoy Lakes Road and any improvements that are required within City of San Diego-owned Cornerstone Lands.

The following provides a description of the wetland vegetation communities that would be temporarily or permanently impacted and require mitigation in the form of restoration. The condition of the habitats that would be impacted would be restored to the pre-existing condition

## **Conceptual Wetlands Mitigation and Monitoring Plan for the Otay Ranch Resort Village**

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or comparable to the original functions and services and hence will provide the type, function, and value of the habitats that are impacted.

### **1.3.2.1 Cismontane Alkali Marsh (CAM/dCAM)**

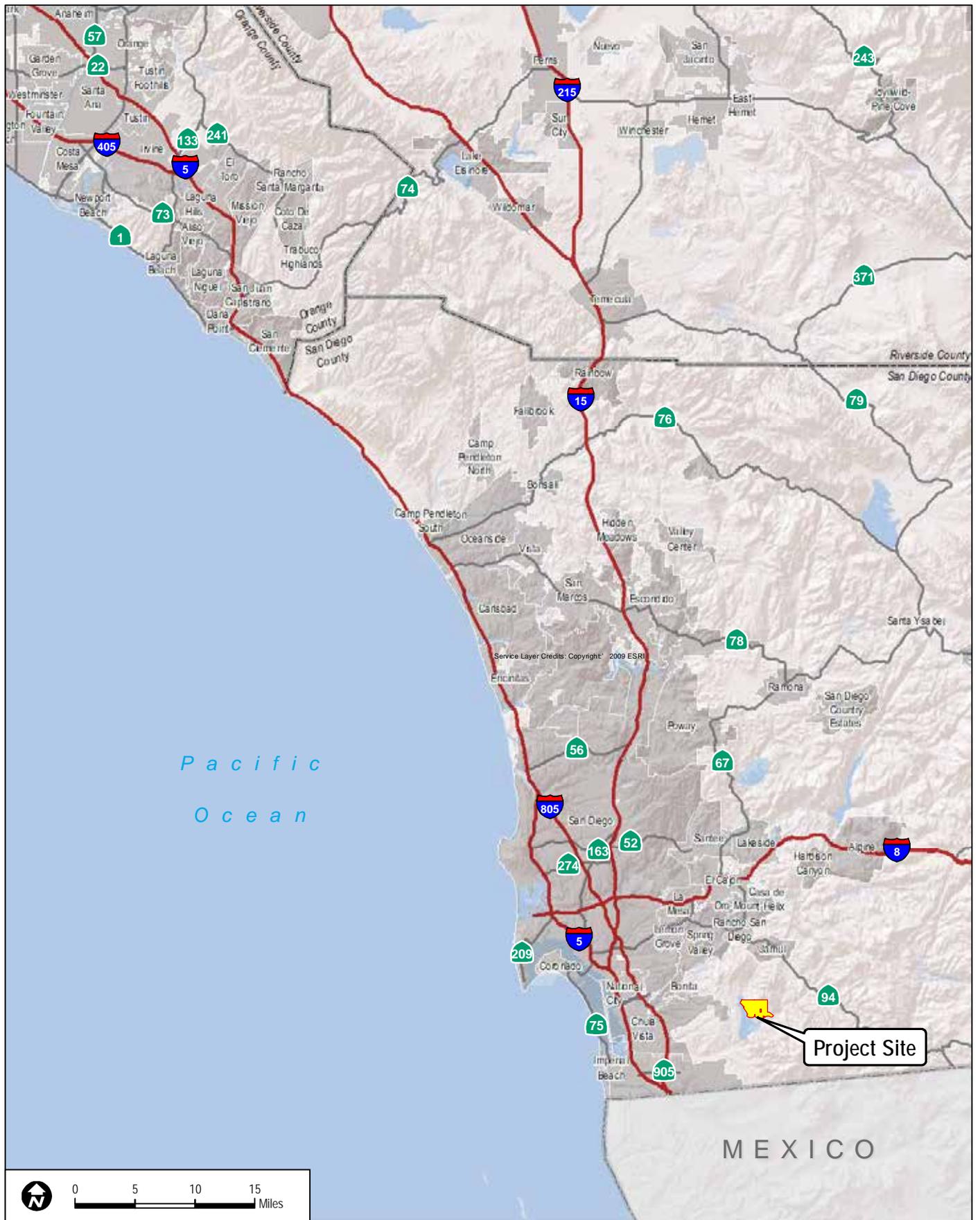
Cismontane alkali marsh and disturbed cismontane alkali marsh is a wetland community dominated by low, perennial, herbaceous plants adapted to places where standing water or saturated soils are present for a considerable portion of the year. High evaporation and low input of fresh water render these marshes somewhat salty, especially during the summer. Plant species composition tends to favor halophytes such as San Diego marsh-elder (*Iva hayesiana*), southwestern spiny rush (*Juncus acutus* ssp. *leopoldii*), native rye grasses (*Leymus* spp.), and certain sedges over the typical cattail-bulrush mix of freshwater marsh.

Cismontane alkali marsh was mapped intermittently in many of the drainages on the project site. The intermittent nature of its occurrence presumably is due to changes in topography, which cause rapid draining in some areas and seasonal inundation in others. Areas supporting cismontane alkali marsh are evidenced by the presence of annual rabbit's-foot grass (*Polypogon monspeliensis*), San Diego marsh-elder, and occasionally mariposa rush (*Juncus dubius*) and southwestern spiny rush. These areas also exhibit hydric soils typically of a chroma two with red- and orange-colored mottles. This combination signifies reducing conditions in the soil, which indicate periodic inundation. Areas mapped as cismontane alkali marsh are under the jurisdiction of the CDFW, pursuant to Section 1600 of the California Fish and Game Code; the ACOE, pursuant to Section 404 of the Clean Water Act; and RWQCB, pursuant to Section 401 of the Clean Water Act.

### **1.3.2.2 Freshwater Marsh (FWM)**

Coastal and valley freshwater marsh (freshwater marsh) typically is dominated by tall, perennial, emergent monocots, such as cattails and bulrushes. Freshwater marsh receives a more constant input of fresh water than cismontane alkali marsh, such as quiet, permanently flooded sites that develop deep, peaty soils (Holland 1986). These wetlands often develop where the water table is at or just above the ground surface, such as the margins of lakes, ponds, slow-moving streams, ditches, and seepages.

The project site supports freshwater marsh off site in association with Otay Lakes Road. Freshwater marsh is either dominated by cattails (*Typha latifolia*) or bulrush (*Scirpus americanus*) with few other associated species. Freshwater marsh is considered a jurisdictional wetland under ACOE, CDFW, and RWQCB.



**FIGURE 1**  
**Regional Map**

**DUDEK**

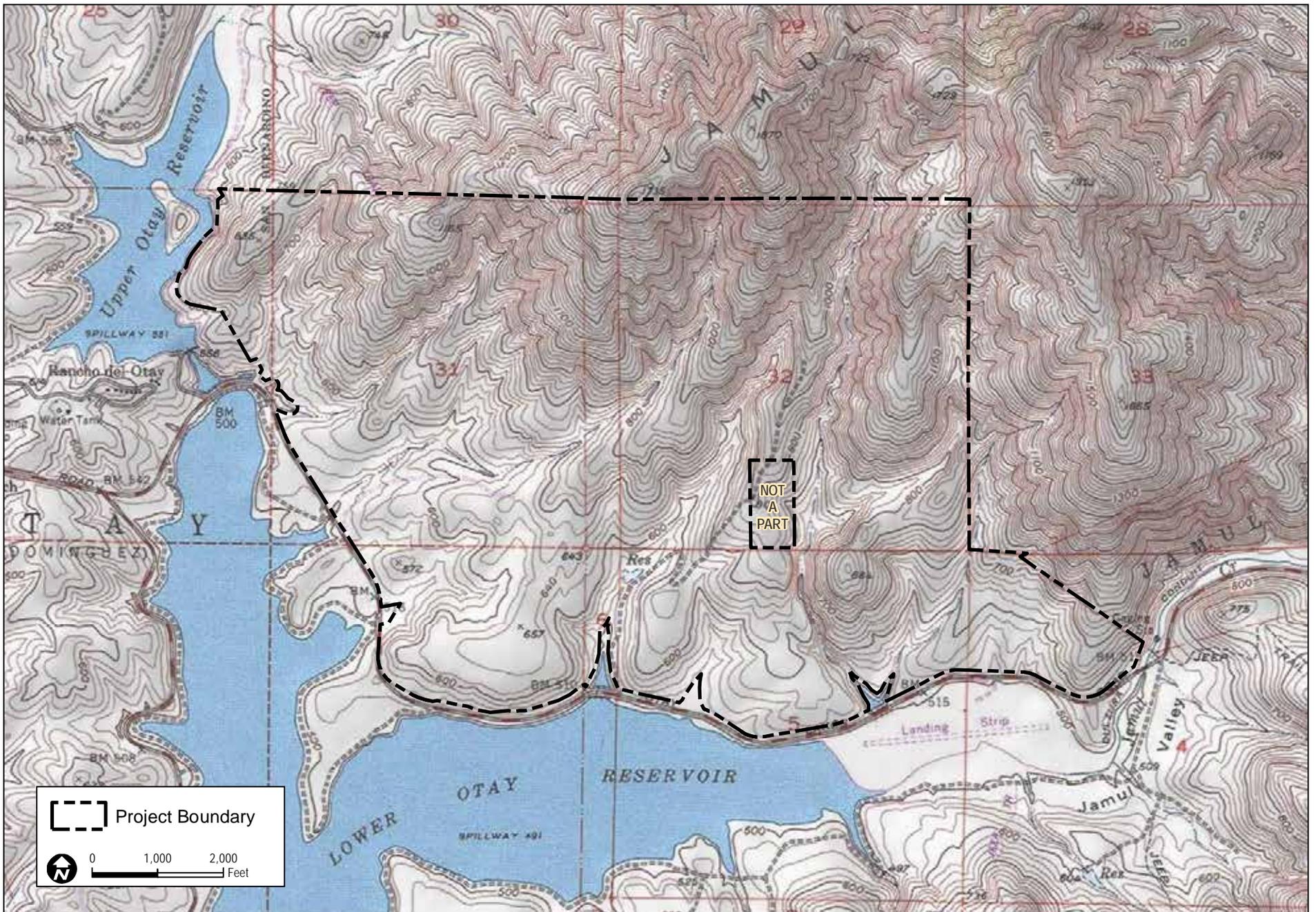
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Otay Ranch Resort Village Site - Biological Resources Technical Report

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### **1.3.2.3 Mulefat Scrub (MFS)**

This relatively tall, depauperate riparian community typically is dominated by mulefat (*Baccharis salicifolia*) and develops along intermittent stream channels. This vegetation type can withstand frequent flooding and frequently occurs as an understory between patches of sycamore stands. Common species include arroyo willow (*Salix lasiolepis*), narrow-leaved willow (*Salix exigua*), hoary nettle (*Urtica dioica* ssp. *holosericea*), and Barbara sedge (*Carex barbarae*) (Holland 1986).

Mulefat scrub on the project site consists of nearly monotypic stands of mulefat. Understory species include curly dock (*Rumex crispus*), San Diego marsh-elder, and annual rabbit's-foot grass. This community forms upstream of two stock ponds and downstream of several dirt road drainage crossings. These conditions evidently supply these areas with sufficient inundation to develop this community. These areas are considered jurisdictional wetlands under ACOE, CDFW, and RWQCB.

The community is also found off site and adjacent to Otay Lakes Road where it occupies areas above the ordinary high water mark of the associated channels. These areas are considered wetlands only under CDFW and County regulations.

### **1.3.2.4 Open Water (OW)**

Open water refers to Lower Otay Lake and the spillway from Upper to Lower Otay Lake, where no emergent vegetation is found. During the late summer these areas may support limited hydrophytic vegetation within cracked clay soils until winter rains fill these basins.

### **1.3.2.5 Southern Willow Scrub (SWS)**

Holland (1986) describes southern willow scrub as a dense, broad-leafed, winter-deciduous riparian thicket dominated by several species of willow (*Salix* spp.), with scattered emergent Fremont's cottonwood (*Populus fremontii*) and western sycamore (*Platanus racemosa*). The closed canopy of this riparian community typically inhibits the development of a diverse understory.

On the project site, southern willow scrub has developed in depressional areas along typically steep stream channels. These small areas contain arroyo willow, mulefat, southwestern spiny rush, San Diego marsh-elder, and annual rabbit's-foot grass. Southern willow scrub is considered jurisdictional wetlands under ACOE, CDFW, and RWQCB.

## Conceptual Wetlands Mitigation and Monitoring Plan for the Otay Ranch Resort Village

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### 1.3.2.6 Stock Pond (SP)

Three stock ponds are located on the project site. Created by berms across existing drainages, these ponds historically (i.e., prior to 2001) provided drinking water for cattle during most of the year. These three ponds do not support emergent vegetation, although they do contain disturbed wetland species when dry. These species include annual rabbit's foot grass, wild heliotrope (*Heliotropium curassavicum*), doveweed (*Eremocarpus setigerus*), and California polycarp (*Polycarpon depressum*). The ponds are not considered to be under the jurisdiction of ACOE, CDFW, or RWQCB as wetlands because they are man-made. The jurisdictional area is the width of the stream channel that would ordinarily flow through the stock pond (*Jurisdictional Wetland Delineation Map – map pocket*).

### 1.3.2.7 Jurisdictional Waters

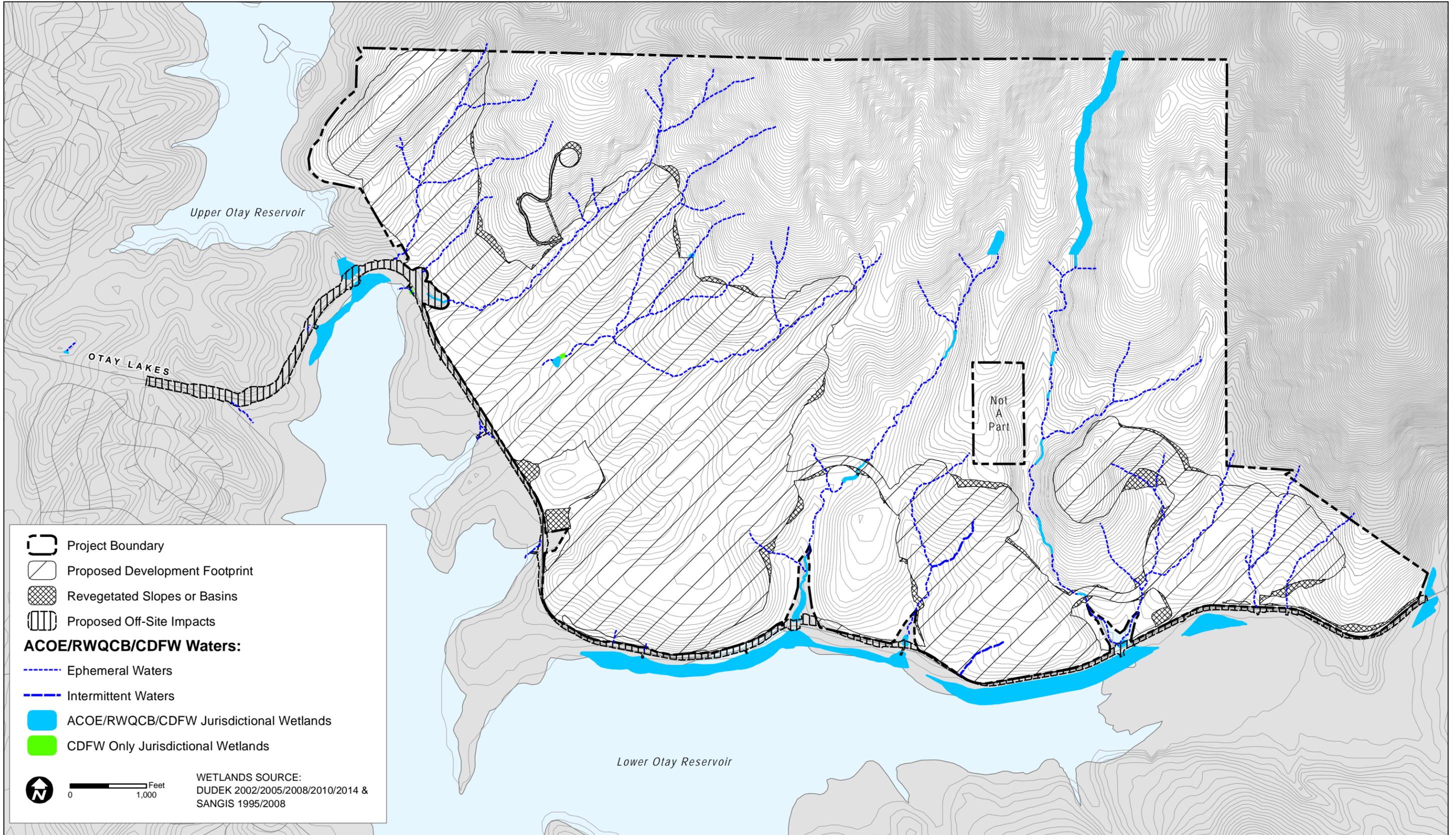
In addition to the wetland habitats described in Sections 1.3.2–1.3.2.7, there are several unvegetated waters under the jurisdiction of the ACOE, CDFW, and RWQCB. The Jurisdictional Waters Delineation Map shows the jurisdictional waters, including wetlands (Figure 3). Table 2 provides a summary of the wetland habitat acreages on the project site, by jurisdiction, and the acreage of unvegetated waters.

**Table 2**  
**Jurisdictional Waters – Acreages and Linear Feet**

	On Site		Off Site		Total	
	<i>Acre</i> s	<i>Linear Feet</i>	<i>Acre</i> s	<i>Linear Feet</i>	<i>Acre</i> s	<i>Linear Feet</i>
Total ACOE/CDFW/RWQCB Wetlands*	7.94	—	0.80	—	8.74	—
Total CDFW Wetlands*	0.06	—	0.03	—	0.09	—
Total ACOE/CDFW/RWQCB Ephemeral Waters	2.90	61,685	0.12	2,679	3.02	64,364
Total ACOE/CDFW/RWQCB/County Intermittent Waters	0.04	1,711	—	—	0.04	1,711
<b>Total</b>	<b>10.94</b>	<b>63,396</b>	<b>0.95</b>	<b>2,679</b>	<b>11.89</b>	<b>66,075</b>

\* See Table 1 for the acreage of specific wetland vegetation communities

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Project Boundary  
 Proposed Development Footprint  
 Revegetated Slopes or Basins  
 Proposed Off-Site Impacts  
**ACOE/RWQCB/CDFW Waters:**  
 Ephemeral Waters  
 Intermittent Waters  
 ACOE/RWQCB/CDFW Jurisdictional Wetlands  
 CDFW Only Jurisdictional Wetlands

Feet  
 0 1,000  
**WETLANDS SOURCE:**  
 DUDEK 2002/2005/2008/2010/2014 &  
 SANGIS 1995/2008

FIGURE 3  
Jurisdictional Delineation Map with Proposed Development Footprint

**Conceptual Wetlands Mitigation and  
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## Conceptual Wetlands Mitigation and Monitoring Plan for the Otay Ranch Resort Village

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In general, stream channels on the project site drain from north to south. Drainages have been dammed artificially in three areas in order to create stock ponds. Dirt roads also have altered the topography of some drainages, causing aberrant inundation in some areas. In general, the drainages are relatively steep and narrow and do not hold water most of the year. A few areas exhibit less rapid flow and have thus developed more extensive hydrophytic vegetation and hydric soils. These areas occur intermittently along the stream channels and are typically represented by cismontane alkali marsh vegetation. Acreage of this community is presented in Table 1.

The drainages on the project site generally flow into 12- to 36-inch culverts that flow under Otay Lakes Road and eventually drain into Lower Otay Lake. Jamul Creek, immediately off site at the eastern boundary, flows through a large box culvert before flowing into Lower Otay Lake. Jurisdictional waters, including wetlands, within the off-site mapping areas generally are extensions of the on-site stream channels. Many of the jurisdictional areas associated with the road support modified hydrology due to the characteristics of each culvert. In the westernmost off-site areas, jurisdictional waters are tributary to Salt Creek and Lower Otay Lake.

### 1.3.3 Sensitive Plant Species

Sensitive plant species locations recorded during these surveys are summarized in Table 3. In addition to these current surveys, historical records of sensitive plant species were reviewed from the following published databases: Ogden (1992), MSCP maps (Ogden 1999), and CDFW (2003).

**Table 3**  
**Summary of Sensitive Plant Species Detected on Site**

Scientific Name Common Name	Status Federal/State CRPR MSCP Coverage County List	Locations and Population Size on Site		
		Previous Studies	Current Surveys	Comments
<i>Acanthomintha ilicifolia</i> San Diego thornmint	FT/SE 1B.1 Covered Narrow Endemic A	MBA 89/91	Observed in all recent surveys	Identified in two disturbed areas with heavy clay soils. Associated vegetation consists of non-native grasses and annuals. Populations cover approximately 0.1 and 3.3 acres each. Because the population is densely distributed in these locations, the actual number of individuals was not quantified. Analysis of this plant is based on the acreage over which it occurs.

## Conceptual Wetlands Mitigation and Monitoring Plan for the Otoy Ranch Resort Village

**Table 3  
Summary of Sensitive Plant Species Detected on Site**

Scientific Name Common Name	Status Federal/State CRPR MSCP Coverage County List	Locations and Population Size on Site		
		Previous Studies	Current Surveys	Comments
<i>Adolphia californica</i> California adolphia	None/None 2B.1 Not Covered B	Not observed	Observed in 1999	Identified in two locations in the western portion of the site within sparse coastal sage scrub (<20 individuals).
<i>Convolvulus simulans</i> Small-flowered morning-glory	None/None 4.2 Not Covered D	Not observed	Observed in 2000	Three locations in western part of project site in clay soil grasslands; approximately 120 total individuals.
<i>Dichondra occidentalis</i> Western dichondra	None/None 4.2 Not Covered D	MBA 89/90	Observed in 1999 and 2000	Recorded in eight locations on the central ridges of the site. A total of 30 patches were recorded that vary from 1 to 500 square feet. This species was recorded based on patch size due to low-growing dense form of the species. The species covers approximately 0.50 acre total over the 30 patches.
<i>Dudleya variegata</i> Variegated dudleya	None/None 1B.2 Covered – Narrow Endemic A	MBA 89/90	Observed in 1999 and 2000	Identified in 40 locations throughout the site. Estimated population size on site is approximately 5,833 individuals. Generally in clay soils and west-facing slopes, ridge lines, or margins of mesas.
<i>Ferocactus viridescens</i> San Diego barrel cactus	None/None 2B.1 Covered B	MBA 89/90	Observed in all recent surveys	Identified in approximately 50 locations throughout the project area, generally on south-facing slopes. Occurrences usually consist of <5 individuals; large stands contain 10–15 individuals. Approximately 217 individuals were recorded. Habitat association is generally open coastal sage scrub.
<i>Harpagonella palmeri</i> Palmer's grapplinghook	None/None 4.2 Not Covered D	Not identified	Observed in 1999 and 2000	Identified in three areas in the eastern and western portions of the site within disturbed coastal sage scrub, dirt road margins, and non-native grassland with heavy clay soils. Approximately 114 individuals were recorded.
<i>Iva hayesiana</i> San Diego marsh- elder	None/None 2B.2 Not Covered B	MBA 89/90	Observed in 1999 and 2000	Abundant within narrow drainages throughout the site. Total on-site population in the thousands. Generally associated with cismontane alkali marsh or sparsely vegetated, rocky stream channels. Due to densely occurring populations within these drainages, this plant was recorded by area rather than number of individuals. A total of 5.4 acres of this species was recorded on site.

## Conceptual Wetlands Mitigation and Monitoring Plan for the Otoy Ranch Resort Village

**Table 3  
Summary of Sensitive Plant Species Detected on Site**

Scientific Name Common Name	Status Federal/State CRPR MSCP Coverage County List	Locations and Population Size on Site		
		Previous Studies	Current Surveys	Comments
<i>Juncus acutus</i> ssp. <i>leopoldii</i> Southwestern spiny rush	None/None 4.2 Not Covered D	MBA 89/90	Observed 1999 and 2000	Identified in 11 locations within cismontane alkali marsh. Occurrences typically contain <10 individuals within each location. Approximately 30 individuals present on site.
<i>Microseris douglasii</i> ssp. <i>platycarpa</i> Small-flowered microseris	None/None 4.2 Not Covered D	Not observed	Observed in 2000	Six locations identified in the western part of the site in open non-native grassland/coastal sage scrub. Approximately 1,270 individuals recorded on the site.
<i>Bloomeria [Muilla] clevelandii</i> San Diego goldenstar	None/None 1B.1 Covered A	MBA 89/90	Observed in 1999 and 2000	Identified in 21 locations in western and eastern portions of the site on mesic slopes containing sparse coastal sage scrub/native grassland. Approximately 1,146 individuals in western part of site and 1,400 individuals in eastern part in 2000. 1999 observations were fewer in number of individuals than 2000 observations presumably due to rainfall differences.
<i>Myosurus minimus</i> ssp. <i>apus</i> Little mousetail	None/None 3.1 Not Covered C	MBA 89/90	Not observed in recent surveys	Number of individuals was not recorded. Was not detected in recent focused surveys and is no longer considered to be present in K6 vernal pools.
<i>Ophioglossum californicum</i> California adder's- tongue	None/None 4.2 Not Covered D	MBA 89/90	Not observed	Two locations described near Otoy Lakes Road in west and south-central portions of the site. Location was not mapped by MBA. Not identified during recent surveys; may no longer be present since it was not recorded during the rare plant surveys conducted in 2000.
<i>Pentachaeta aurea</i> ssp. <i>aurea</i> Golden-rayed pentachaeta	None/None 4.2 Not Covered D	Not observed	Observed in 2000	Four locations identified in western portion of site; Approximately 91 individuals occur in coastal sage scrub/grassland.
<i>Quercus dumosa</i> Nuttall's scrub oak	None/None 1B.1 Not Covered A	Not observed	Observed in all recent surveys	Occurs as a major component in areas mapped as scrub oak chaparral (approximately 200 individuals per acre). The acreage encompassed by this species is approximately 6.2 acres, including additional small patches within chaparral in the western portion of the site.

# Conceptual Wetlands Mitigation and Monitoring Plan for the Otay Ranch Resort Village

**Table 3  
Summary of Sensitive Plant Species Detected on Site**

Scientific Name Common Name	Status Federal/State CRPR MSCP Coverage County List	Locations and Population Size on Site		
		Previous Studies	Current Surveys	Comments
<i>Romneya coulteri</i> Coulter's matilija poppy	None/None 4.2 Not Covered D	Not observed	Observed on site	Number, location not mapped. Single location described as being adjacent to a drainage in eastern part of site.
<i>Salvia munzii</i> Munz's sage	None/None 2B.2 Not Covered B	MBA 89/90	Observed in all recent surveys	Occurs throughout the site but most densely in the northwestern quarter. Also occurs on K9 mesa. Most areas containing dense coastal sage scrub in this area contain approximately 50%–80% vegetation cover of <i>S. munzii</i> . Because the population is densely distributed in these locations, the actual number of individuals was not quantified. Analysis of this plant is based on the acreage over which it occurs, approximately 295 acres.
<i>Viguiera laciniata</i> San Diego County viguiera	None/None 4.2 Not Covered D	MBA 89/90	Observed in all recent surveys	Occurs throughout the site but most densely in the northern portion. Encompasses approximately 1,071 acres of the site. Comprises between 5% and 30% of vegetation cover in coastal sage scrub.

**Federal Designations:**

- FE Federally listed Endangered
- FT Federally listed as Threatened
- FSC Federal Species of Concern

**State Designations:**

- P CDFW Protected and Fully Protected Species
- R California Rare Species
- SE State-listed as Endangered
- ST State-listed as Threatened.

**CNPS Designations:**

- List 1A Presumed Extinct in California
- List 1B Rare or Endangered in California and Elsewhere
- List 2 Rare or Endangered in California, More Common Elsewhere
- List 3 Need More Information
- List 4 Plants of Limited Distribution
  - .1 Seriously endangered in California
  - .2 Fairly endangered in California
  - .3 Not very endangered in California

**MSCP Designations:**

Covered: Listed as Covered Species in Appendix B of Implementing Agreement between CDFW, USFWS, and County of San Diego (March 1998)

Not Covered: Not Listed as Covered Species in Appendix B of Implementing Agreement between CDFW, USFWS, and County of San Diego (March 1998).

**County Designations:**

- List A Plants rare, threatened, or endangered in California and elsewhere (corresponds to CNPS List 1B)
- List B Plants rare, threatened, or endangered in California but more common elsewhere (corresponds to CNPS List 2)
- List C Plants which may be quite rare, but need more information to determine their rarity status (corresponds to CNPS List 3)
- List D Plants of limited distribution and are uncommon, but not presently rare or endangered (corresponds to CNPS List 4)

# Conceptual Wetlands Mitigation and Monitoring Plan for the Otay Ranch Resort Village

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## 1.3.4 Sensitive Wildlife Species

Knowledge concerning the presence/absence of sensitive wildlife species was ascertained from previous studies of Otay Ranch, as well as from more current focused surveys for fairy shrimp and Quino checkerspot butterfly. Although focused surveys for sensitive nesting bird species, amphibians, reptiles, or mammals have not been conducted, incidental observations of many sensitive wildlife species have been made. Species locations recorded during these surveys are summarized in Table 4. Given the context of the project within the MSCP Subarea Plan and Otay SRP, this level of sensitive wildlife survey information is adequate to assess potentially significant impacts. Evaluation of wildlife use is based on suitable habitat since the species may occur in areas other than where observed.

## 1.3.5 Sensitive Resources Affected by the Project

Implementation of the proposed project would result in the direct impacts to sensitive vegetation communities, including wetland habitats and jurisdictional waters. Impacts would occur as the result of grading and fuel management (Tables 5 and 6).

## 1.3.6 Jurisdictional Waters

Permanent impacts to 0.99 acre of ephemeral and 0.04 acre of intermittent jurisdictional waters and temporary impacts to 0.07 acre of ephemeral jurisdictional waters would occur on site as a result of the project implementation (Tables 5 and 6). Permanent and temporary impacts to 0.24 acre of wetlands would occur on site as a result of the project implementation. The vegetation communities of the wetlands are identified in Table 5.

Off-site impacts to jurisdictional waters include permanent impacts to 0.02 acre of ephemeral waters and temporary impacts to 0.09 acre of ephemeral waters within Cornerstone Lands. Off-site impacts to wetlands include 0.82 acre to vegetation communities identified in Table 6 within Cornerstone Lands. These impacts and the resulting required mitigation and mitigation plan will be addressed and provided upon additional discussion with the City of San Diego. The impacts to Cornerstone Lands jurisdictional waters will not be addressed in this CWMMP.

Direct impacts to wetlands within the County of San Diego, Otay Lakes Road Right-of-Way, as a result of the widening of Otay Lakes Road total 0.01 acre. This off-site area is located outside of the Otay Ranch boundary and is subject to the County of San Diego Resource Protection Ordinance. The off-site impact areas are consistent with the requirements for the road improvements per the County and do not conflict with the goals or standards of the County's Subarea Plan; however, compliance with the County's Resource Protection Ordinance will require conformance with several standard measures to address habitat loss.

## **Conceptual Wetlands Mitigation and Monitoring Plan for the Otay Ranch Resort Village**

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Impacts to a total of 1.35 acres of jurisdictional waters including wetlands at both on- and off-site within County jurisdiction and for both temporary and permanent impacts are considered significant. It should be noted that unvegetated jurisdictional waters occur within other mapped upland vegetation types. Impacts to jurisdictional waters are shown in Table 6 below and illustrated in Figures 3A through 3G.

## Conceptual Wetlands Mitigation and Monitoring Plan for the Otay Ranch Resort Village

**Table 4  
Summary of Sensitive Wildlife Species Detected on Site or with Moderate to High Potential to Occur**

Species (Scientific Name)	Regulatory Status: Federal; State; MSCP; County Group	General Habitat Association	Status on Site		
			Previous Studies	Current Surveys	Comments
San Diego fairy shrimp ( <i>Branchinecta sandiegonensis</i> )	USFWS: FE CDFW: None MSCP: Covered County: 1	Small, shallow vernal pools, occasionally ditches and road ruts	Not observed	Observed in 2000, 2004, and 2008	A total of nine basins on K8 and one basin on K6 are confirmed occupied by this species.
Quino checkerspot butterfly ( <i>Euphydryas editha quino</i> )	USFWS: FE CDFW: None MSCP: Not Covered County: 1	Sparsely vegetated hilltops, ridgelines, occasionally rocky outcrops; host plant <i>Plantago erecta</i> and nectar plants must be present	Not observed (known from 1970s P. Ehrlich research)	Observed in 1999, 2000, 2004, and 2008	Focused surveys of the entire site in 1999 and 2000 resulted in the observation of 48 individuals. 2004 surveys of the open space area resulted in observation of 1 individual in the northwestern corner. Focused surveys of the entire site in 2008 resulted in the observation of 71 individuals after duplicates were removed. Observations were concentrated in the northern portion and along a ridgeline within the central portion of the site. A number of additional observations were scattered throughout the rest of the site.
Monarch butterfly ( <i>Danaus plexippus</i> )	USFWS: None CDFW: None MSCP: Not Covered. County: 2	Overwinters in eucalyptus groves	Not observed	Observed	This species occurs on site on occasion as single individuals in flight over the area; however, there are not sufficient resources available to make this a significant overwintering site.
Western spadefoot toad ( <i>Spea hammondi</i> )	USFWS: None CDFW: CSC MSCP: Not Covered County: 2	Most common in grasslands, coastal sage scrub near rain pools or vernal pools; riparian habitats	Not observed	Observed in 2000	Tadpoles incidentally observed in a single depression on K8 mesa. Could occur within pools that inundate.

## Conceptual Wetlands Mitigation and Monitoring Plan for the Otay Ranch Resort Village

**Table 4**  
**Summary of Sensitive Wildlife Species Detected on Site or with Moderate to High Potential to Occur**

Species (Scientific Name)	Regulatory Status: Federal; State; MSCP; County Group	General Habitat Association	Status on Site		
			Previous Studies	Current Surveys	Comments
Rosy boa ( <i>Charina trivirgata</i> )	USFWS: None CDFW: None MSCP: Not Covered County: 2	Rocky chaparral, coastal sage scrub, oak woodlands, desert and semi-desert scrub	Not observed	Observed in 2008	Observed in northeastern portion of the project site.
Western pond turtle ( <i>Emys marmorata</i> )	USFWS: None CDFW: CSC MSCP: Covered County: 1	Slow-moving permanent or intermittent streams, ponds, small lakes, reservoirs with emergent basking sites; adjacent uplands used during winter	Not observed	Observed in 2000	Incidentally observed laying eggs in a dirt road in northwestern corner of site. Another observation of an individual crossing Otay Lakes Road immediately south of the site.
Orangethroat whiptail ( <i>Aspidoscelis hyperythra</i> )	USFWS: None CDFW: CSC MSCP: Covered County: 2	Coastal sage scrub, chaparral, grassland, juniper, and oak woodland	MBA 89	Observed in 2000 and 2008	Observed in coastal sage scrub. Probably occurs elsewhere within open patches of coastal sage scrub and grassland.
Coastal whiptail ( <i>Aspidoscelis tigris stejnegeri</i> )	USFWS: None CDFW: None MSCP: Not Covered County: 2	Coastal sage scrub, chaparral	Not observed	Observed in 2000	Observed in sparse coastal sage scrub on site. Probably resident in open areas and sparse coastal sage scrub and chaparral throughout the site.
San Diego ringneck snake ( <i>Diadophis punctatus similis</i> )	USFWS: None CDFW: None MSCP: Not Covered County: 2	Open, rocky areas in moist habitats near intermittent streams: marsh, riparian woodland, sage scrub	Not observed	Observed on site.	Observed in the main eastern drainage. Moderate potential to occur within deeper canyons on site and under debris on site.
San Diego [coast; Blainville's] horned lizard ( <i>Phrynosoma blainvillii</i> )	USFWS: None CDFW: CSC MSCP: Covered County: 2	Coastal sage scrub, non-native grassland, chaparral, oak and riparian woodland, coniferous forest	MBA 89	Observed in 1999, 2000, and 2008	Observed within undisturbed coastal sage scrub and chamise chaparral.

## Conceptual Wetlands Mitigation and Monitoring Plan for the Otay Ranch Resort Village

**Table 4  
Summary of Sensitive Wildlife Species Detected on Site or with Moderate to High Potential to Occur**

Species (Scientific Name)	Regulatory Status: Federal; State; MSCP; County Group	General Habitat Association	Status on Site		
			Previous Studies	Current Surveys	Comments
Red-diamond rattlesnake ( <i>Crotalus ruber</i> )	USFWS: None CDFW: CSC MSCP: Not Covered County: 2	Variety of shrub habitats where there is heavy brush, large rocks, or boulders	Not observed	Observed in 1999, 2000, and 2008	Observed throughout the site within dense and sparse coastal sage scrub and chaparral.
Two-striped garter snake ( <i>Thamnophis hammondi</i> )	USFWS: None CDFW: CSC MSCP: Not Covered County: 1	Streams, creeks, pools, streams with rocky beds, ponds, lakes, vernal pools	Not observed	Not observed	Probably occurs on site.
Cooper's hawk ( <i>Accipiter cooperii</i> )	USFWS: None CDFW: WL MSCP: Covered County: 1	Riparian and oak woodlands, montane canyons	Not observed	Observed in 2000	Observed flying over site; potential for nesting on site is low due to lack of developed forest or woodland habitats.
Southern California rufous-crowned sparrow ( <i>Aimophila ruficeps canescens</i> )	USFWS: None CDFW: WL MSCP: Covered County: 1	Grass-covered hillsides, coastal sage scrub, chaparral with boulders and outcrops	MBA 89	Observed in 1999, 2000, and 2008	Observed throughout the site and highly likely to nest on site.
Grasshopper sparrow ( <i>Ammodramus savannarum</i> )	USFWS: None CDFW: CSC MSCP: Not Covered County: 1	Open grassland and prairie, especially native grassland with a mix of grasses and forbs	MBA 89	Observed in 2000 and 2008	Observed mainly in southwestern and central portions of the project site.
Bell's sage sparrow ( <i>Artemisiospiza belli belli</i> ) (taxonomy was changed to Bell's sparrow <i>Artemisiospiza belli</i> )	USFWS: None CDFW: WL MSCP: Not Covered County: 1	Coastal sage scrub and dry chaparral along coastal lowlands and inland valleys	MBA 89	Observed in 1999, 2000, and 2008	Identified in eastern and western portions of site in sparse coastal sage scrub.

## Conceptual Wetlands Mitigation and Monitoring Plan for the Otay Ranch Resort Village

**Table 4  
Summary of Sensitive Wildlife Species Detected on Site or with Moderate to High Potential to Occur**

Species (Scientific Name)	Regulatory Status: Federal; State; MSCP; County Group	General Habitat Association	Status on Site		
			Previous Studies	Current Surveys	Comments
Golden eagle ( <i>Aquila chrysaetos</i> )	USFWS: BCC CDFW: P, WL, Golden Eagle Protection Act MSCP: Covered County: 1	Open country, especially hilly and mountainous regions; grassland, coastal sage scrub, chaparral, oak savannas, open coniferous forest	Not observed	Observed in 1999, 2000, and 2008	Observed in eastern and north-central portion of the site. Site is in mapped primary foraging area for known golden eagle territory. Nearest known nest site is >3 miles from project site. No nesting observed; could forage.
Red-shouldered hawk ( <i>Buteo lineatus</i> )	USFWS: None CDFW: None MSCP: Not Covered County: 1	Riparian and woodland habitats, eucalyptus	Not observed	Observed on site	Observed foraging over the site near the southern portion. Moderate potential to also occur on site as a breeding bird.
Turkey vulture ( <i>Cathartes aura</i> )	USFWS: None CDFW: None MSCP: Not Covered County: 1	Rangeland, agriculture, grassland; uses cliffs and large trees for roosting, nesting, and resting	Not observed	Observed in flight over site	Occasionally forages over the project area. No breeding potential.
Northern harrier ( <i>Circus cyaneus</i> )	USFWS: None CDFW: CSC MSCP: Covered County: 1	Open wetlands (nesting), pasture, old fields, dry uplands, grasslands, rangelands, coastal sage scrub	Not observed	Observed in 1999, 2000, and 2008	Observed foraging over grassland areas in the K6 and K8 mesas. Could nest on site.
White-tailed kite ( <i>Elanus leucurus</i> )	USFWS: None CDFW: P MSCP: Not Covered County: 1	Open grasslands, savanna-like habitats, agriculture, wetlands, oak woodlands, riparian	Not observed	Observed in 1999 and 2000	Observed foraging in grassland areas; nesting is unlikely due to lack of forest or woodlands.
California horned lark ( <i>Eremophila alpestris actia</i> )	USFWS: None CDFW: WL MSCP: Not Covered County: 2	Open habitats, grassland, rangeland, shortgrass prairie, montane meadows, coastal plains, fallow grain fields	Not observed	Observed in 1999, 2000, and 2008	Observed within sparse coastal sage scrub and grasslands on the project site.

## Conceptual Wetlands Mitigation and Monitoring Plan for the Otay Ranch Resort Village

**Table 4**  
**Summary of Sensitive Wildlife Species Detected on Site or with Moderate to High Potential to Occur**

Species (Scientific Name)	Regulatory Status: Federal; State; MSCP; County Group	General Habitat Association	Status on Site		
			Previous Studies	Current Surveys	Comments
Prairie falcon ( <i>Falco mexicanus</i> )	USFWS: BCC CDFW: WL MSCP: Not Covered County: 1	Grassland, savannas, rangeland, agriculture, desert scrub, alpine meadows; nest on cliffs or bluffs	Not observed	Observed in 2000	Observed within coastal sage scrub and grasslands. Rock outcrops on site suggest possible roosting and nesting.
Loggerhead shrike ( <i>Lanius ludovicianus</i> )	USFWS: BCC CDFW: CSC MSCP: Not Covered County: 1	Open ground including grassland, coastal sage scrub, broken chaparral, agriculture, riparian, open woodland	MBA 89	Observed in 2000	Likely to nest on site, individuals observed in grassland and sparse coastal sage scrub.
Coastal California gnatcatcher ( <i>Poliophtila californica californica</i> )	USFWS: FT CDFW: CSC MSCP: Covered County: 1	Coastal sage scrub, coastal sage scrub–chaparral mix, coastal sage scrub–grassland ecotone, riparian in late summer	MBA 89	Observed in 1999, 2000, and 2008	Observed nesting in coastal sage scrub and chamise chaparral throughout the site. Based on previous and currently mapped locations, approximately 35 locations occur on site and 3 additional locations have been recorded within the Cornerstone Lands and could occur on site (MSCP data).
Western bluebird ( <i>Sialia mexicana</i> )	USFWS: None CDFW: None MSCP: Covered County: 2	Open forests of deciduous, coniferous or mixed trees, savanna, edges of riparian woodland saltmarsh, riparian habitats	Not observed	Observed during winter	This species once did not breed on the coastal plain; however, in recent years it has begun to do so. The only breeding opportunities for this species would be within wooded habitats which are not present on site.
Burrowing owl ( <i>Athene cunicularia</i> )	USFWS: BCC CDFW: CSC MSCP: Covered County: 1	Grassland, lowland scrub, agriculture, coastal dunes and other artificial open areas	MBA 89	Observed in 2000	Previously identified on eastern slope of K6 mesa as an incidental observation of single individual in central portion of site.

## Conceptual Wetlands Mitigation and Monitoring Plan for the Otay Ranch Resort Village

**Table 4  
Summary of Sensitive Wildlife Species Detected on Site or with Moderate to High Potential to Occur**

Species (Scientific Name)	Regulatory Status: Federal; State; MSCP; County Group	General Habitat Association	Status on Site		
			Previous Studies	Current Surveys	Comments
Barn owl ( <i>Tyto alba</i> )	USFWS: None CDFW: None MSCP: Not Covered County: 2	Open forests of deciduous, coniferous or mixed trees, savanna, riparian habitats, abandoned structures, mines	Not observed	Observed flying over site	This species has abundant foraging opportunities but limited nesting opportunities on site. It is unlikely that there is enough cover on site to support nesting by this species.
San Diego black-tailed jackrabbit ( <i>Lepus californicus bennettii</i> )	USFWS: None CDFW: CSC MSCP: Not Covered County: 2	Arid habitats with open ground; grasslands, coastal sage scrub, agriculture, disturbed areas, rangelands	Not observed	Incidentally observed.	Observed throughout the site.
San Diego desert woodrat ( <i>Neotoma lepida intermedia</i> )	USFWS: None CDFW: CSC MSCP: Not Covered County: 2	Coastal sage scrub, chaparral, pinyon–juniper woodland with rock outcrops, cactus thickets, dense undergrowth	Not observed	Nests incidentally observed.	Middens were observed within chaparral areas on site.
Mountain lion ( <i>Puma concolor</i> )	USFWS: None CDFW: None MSCP: Covered County: 2	Coastal sage scrub, chaparral, riparian, woodlands, forest; rests in rocky areas, and on cliffs and ledges that provide cover	MBA 89	Not observed	Signs of movement through eastern portion of site.

**Federal Designations:**

- FE Federally listed Endangered
- FT Federally listed as Threatened
- MNBMC Fish and Wildlife Service Migratory Nongame Birds of Management Concern.

**State Designations:**

- CSC California Special Concern Species
- P CDFW Protected and Fully Protected Species
- R California Rare Species
- SE State-listed as Endangered
- ST State-listed as Threatened
- WL Watch List.

## Conceptual Wetlands Mitigation and Monitoring Plan for the Otay Ranch Resort Village

**MSCP Designations:**

Covered Listed as Covered Species in Appendix B of Implementing Agreement between CDFW, USFWS, and County of San Diego (March 1998)

Not Covered Not Listed as Covered Species in Appendix B of Implementing Agreement between CDFW, USFWS, and County of San Diego (March 1998).

**County Designations:**

Group 1: High level of sensitivity, either because listed as threatened or endangered or because species has very specific natural history requirements that must be met

Group 2: Species is becoming less common, but is not yet so rare that extirpation or extinction is imminent without immediate action. These species tend to be prolific within their suitable habitat types.

**Table 5  
On-Site Impacts by Vegetation Community**

Plant Community Type	Existing On Site* (Acres)	Total On Site Impacts						Total Preserve (not impacted)**
		Outside Preserve		Inside Preserve				
		Permanent		Permanent Impacts		Temporary Impacts		
		Fuel Modification Zone	Development	Water Tank	Detention Basins	Slope	Water Line	
<i>Sensitive Upland Communities</i>								
Coastal sage scrub	1,121.51	20.68	255.84	2.26	1.22	13.02	0.23	828.21
Disturbed coastal sage scrub	348.62	4.41	202.05	0.73	2.35	4.17	—	133.91
Chamise chaparral	143.14	0.87	112.34	—	0.07	0.74	—	29.12
Disturbed chamise chaparral	15.67	—	11.36	—	—	—	—	4.31
Scrub oak chaparral	22.45	—	22.10	—	—	0.01	—	0.34
Southern mixed chaparral	4.95	0.94	1.92	—	—	—	—	2.09
Disturbed Valley needlegrass grassland	110.58	0.80	76.21	0.27	0.06	0.25	—	32.99
Non-native grassland	78.96	1.65	58.40	0.08	0.92	0.16	—	17.75
<i>Subtotal</i>	<i>1,845.88</i>	<i>29.35</i>	<i>740.23</i>	<i>3.34</i>	<i>4.62</i>	<i>18.35</i>	<i>0.23</i>	<i>1,048.72</i>
<i>Sensitive Wetland Communities</i>								
Cismontane alkali marsh	6.39	—	0.01	—	—	—	—	6.38
Disturbed cismontane alkali marsh	0.17	—	0.01	0.01	—	0.01	—	0.14
Mulefat scrub	0.08	—	0.03	—	—	—	—	0.05
Open water	0.17	—	0.17	—	—	—	—	—

## Conceptual Wetlands Mitigation and Monitoring Plan for the Otay Ranch Resort Village

**Table 5  
On-Site Impacts by Vegetation Community**

Plant Community Type	Existing On Site* (Acres)	Total On Site Impacts						Total Preserve (not impacted)**
		Outside Preserve		Inside Preserve				
		Permanent		Permanent Impacts		Temporary Impacts		
		Fuel Modification Zone	Development	Water Tank	Detention Basins	Slope	Water Line	
Southern willow scrub	1.19	—	—	—	—	—	—	1.19
<i>Subtotal</i>	8.00	—	0.22	0.01	—	0.01	—	7.76
<i>Non-Sensitive Communities and Land Covers</i>								
Developed Land	0.88	—	0.82	0.05	—	—	—	0.01
Disturbed Habitat	13.46	0.22	7.90	0.03	0.06	0.25	—	5.00
Stock pond	0.79	—	—	—	—	—	—	0.79
<i>Subtotal</i>	15.13	0.22	8.75	0.08	0.06	0.25	—	5.80
<b>Total</b>	<b>1,869.01</b>	<b>29.57</b>	<b>749.25</b>	<b>3.43</b>	<b>4.68</b>	<b>18.61</b>	<b>0.23</b>	<b>1,062.28</b>

\* Includes all project on-site grading, fuel management zones, and limited building zones.

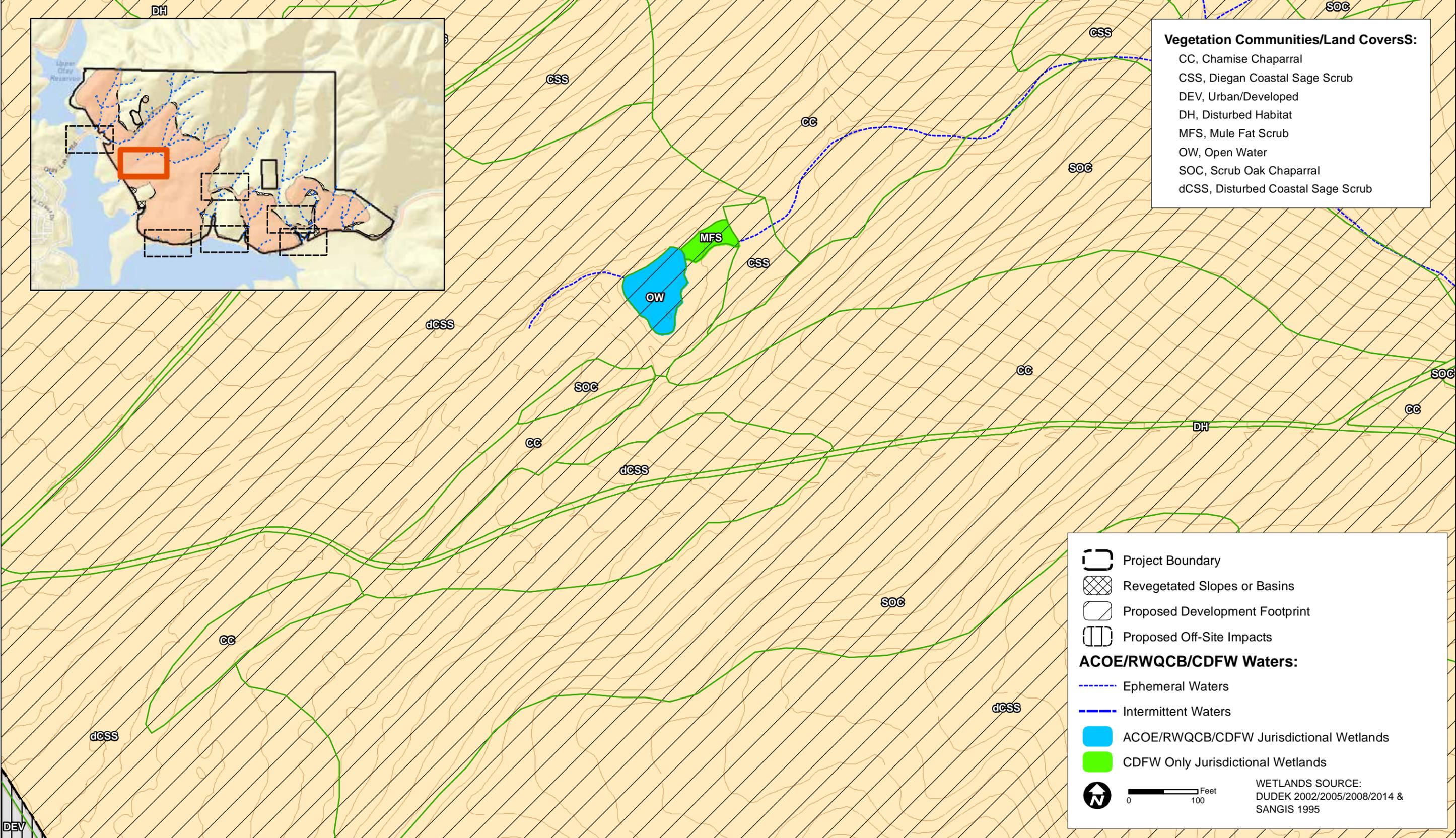
\*\* Mapping within the majority of open space areas is regional scale as opposed to project-level mapping, which is sufficient for purposes of this biological resources analysis since these areas are not proposed to be impacted.

\* City of San Diego lands are the Cornerstone lands.

**Table 6  
Jurisdictional Waters Impacts**

Jurisdictional Water type	Permanent Impacts (acres)				Temporary Impacts (acres)				Total Impacts (acres)
	Fuel Modification		Development		Detention Basin		Slope Revegetation		
	On Site	Off Site	On Site	Off Site	On Site	Off Site	On Site	Off Site	
Total ACOE/CDFW/RWQCB Ephemeral Waters	0.02	—	0.97	0.02	<0.01	—	0.07	—	1.08
Total ACOE/CDFW/RWQCB Intermittent Waters	—	—	0.04	—	—	—	—	—	0.04
<b>Total</b>	<b>0.02</b>	<b>—</b>	<b>1.01</b>	<b>0.02</b>	<b>&lt;0.01</b>	<b>—</b>	<b>0.07</b>	<b>—</b>	<b>1.12</b>

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**Vegetation Communities/Land Covers:**

- CC, Chamise Chaparral
- CSS, Diegan Coastal Sage Scrub
- DEV, Urban/Developed
- DH, Disturbed Habitat
- MFS, Mule Fat Scrub
- OW, Open Water
- SOC, Scrub Oak Chaparral
- dCSS, Disturbed Coastal Sage Scrub

**Project Boundary**

**Revegetated Slopes or Basins**

**Proposed Development Footprint**

**Proposed Off-Site Impacts**

**ACOE/RWQCB/CDFW Waters:**

- Ephemeral Waters
- Intermittent Waters
- ACOE/RWQCB/CDFW Jurisdictional Wetlands
- CDFW Only Jurisdictional Wetlands

**WETLANDS SOURCE:**  
DUDEK 2002/2005/2008/2014 & SANGIS 1995

0 100 Feet



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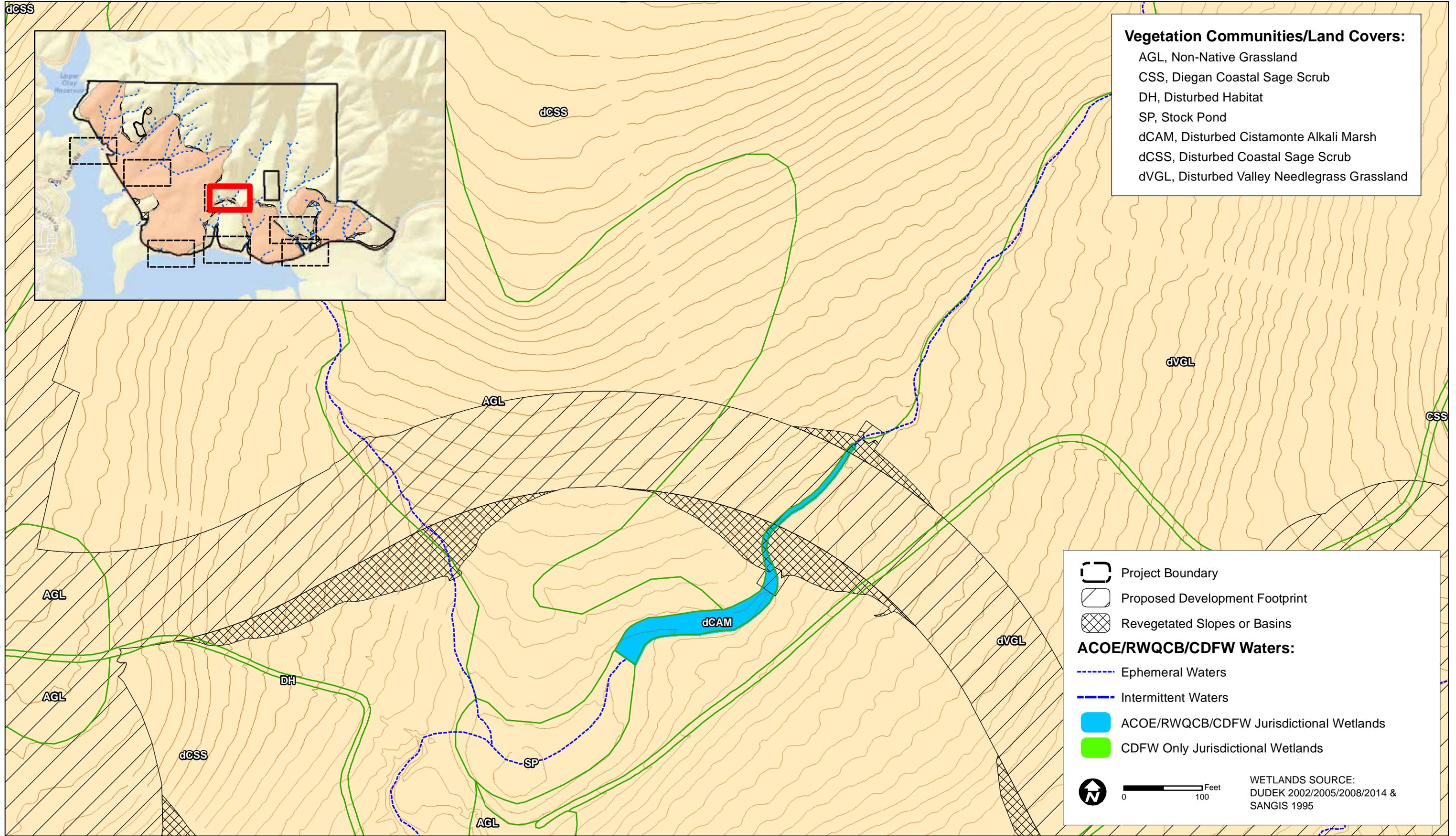
Otay Ranch Resort Village Site - Conceptual Wetlands Mitigation and Monitoring Plan

**FIGURE 3A**  
**On-Site Jurisdictional Delineation Map with Proposed Development Footprint**

**Conceptual Wetlands Mitigation and  
Monitoring Plan for the Otay Ranch Resort Village**

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**FIGURE 3B**  
**On-Site Jurisdictional Delineation Map with Proposed Development Footprint**

**Conceptual Wetlands Mitigation and  
Monitoring Plan for the Otay Ranch Resort Village**

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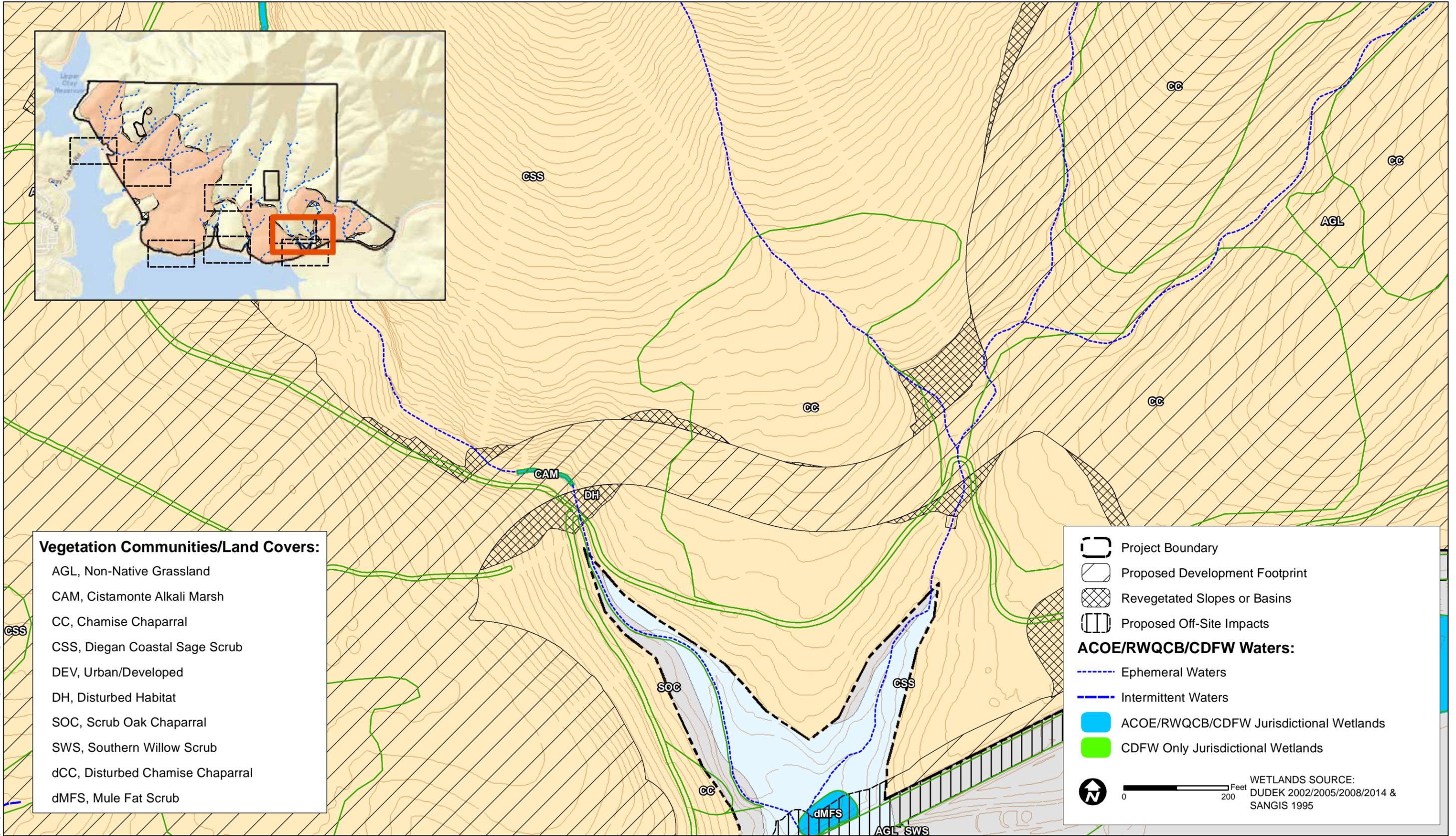
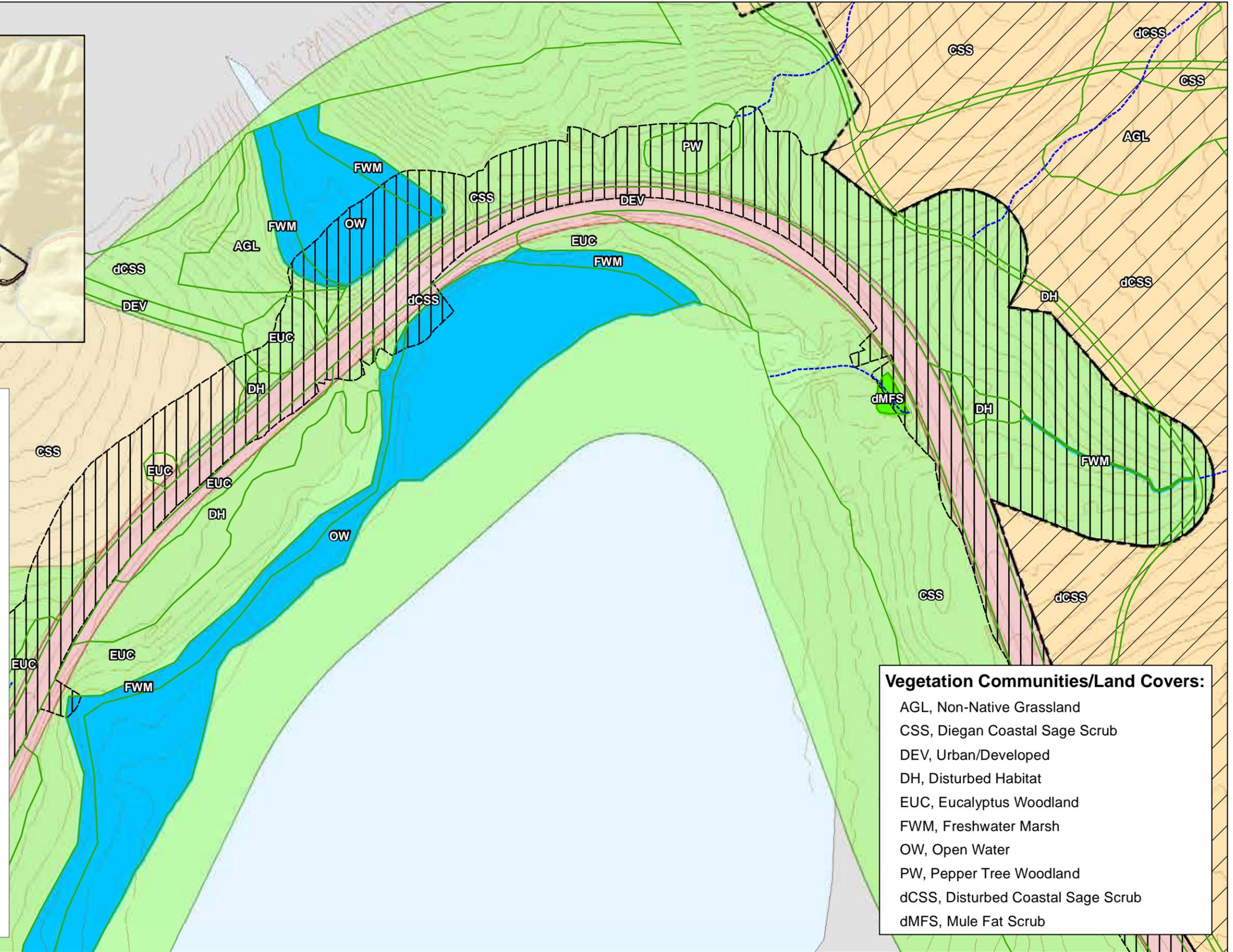
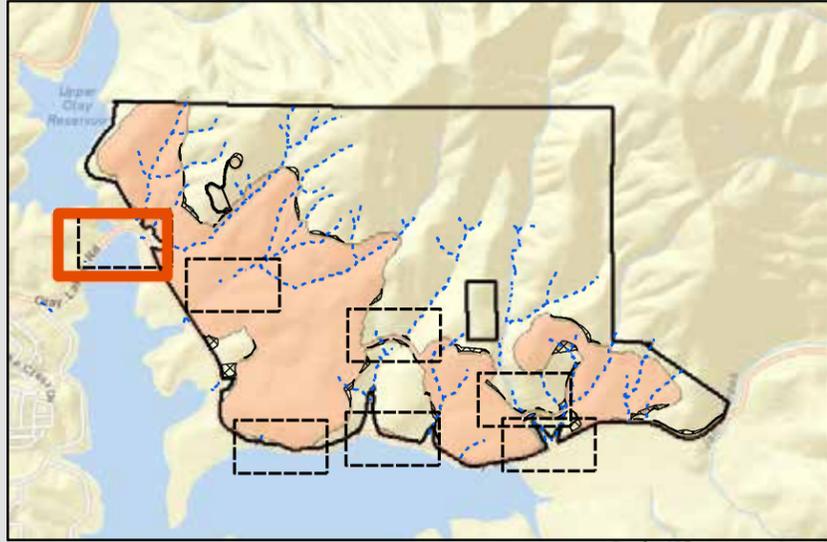


FIGURE 3D  
On-Site Jurisdictional Delineation Map with Proposed Development Footprint

**Conceptual Wetlands Mitigation and  
Monitoring Plan for the Otay Ranch Resort Village**

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**Project Boundary**  
**Proposed Development Footprint**  
**Proposed Off-Site Impacts**

**ACOE/RWQCB/CDFW Waters:**

- Ephemeral Waters
- Intermittent Waters
- ACOE/RWQCB/CDFW Jurisdictional Wetlands
- CDFW Only Jurisdictional Wetlands

**Ownership**

- Cornerstone Lands
- County of San Diego 60-Ft Road Easement
- Eastlake III Community Association
- Otay Ranch Village 13
- Otay Village 3 Investments, LP
- ROWs within City of Chula Vista
- S & D Satteria / Universal Cleaning Services
- S & M Birch Foundation

WETLANDS SOURCE:  
 DUDEK 2002/2005/2008/2014 &  
 SANGIS 1995

0 150 Feet

**Vegetation Communities/Land Covers:**

- AGL, Non-Native Grassland
- CSS, Diegan Coastal Sage Scrub
- DEV, Urban/Developed
- DH, Disturbed Habitat
- EUC, Eucalyptus Woodland
- FWM, Freshwater Marsh
- OW, Open Water
- PW, Pepper Tree Woodland
- dCSS, Disturbed Coastal Sage Scrub
- dMFS, Mule Fat Scrub

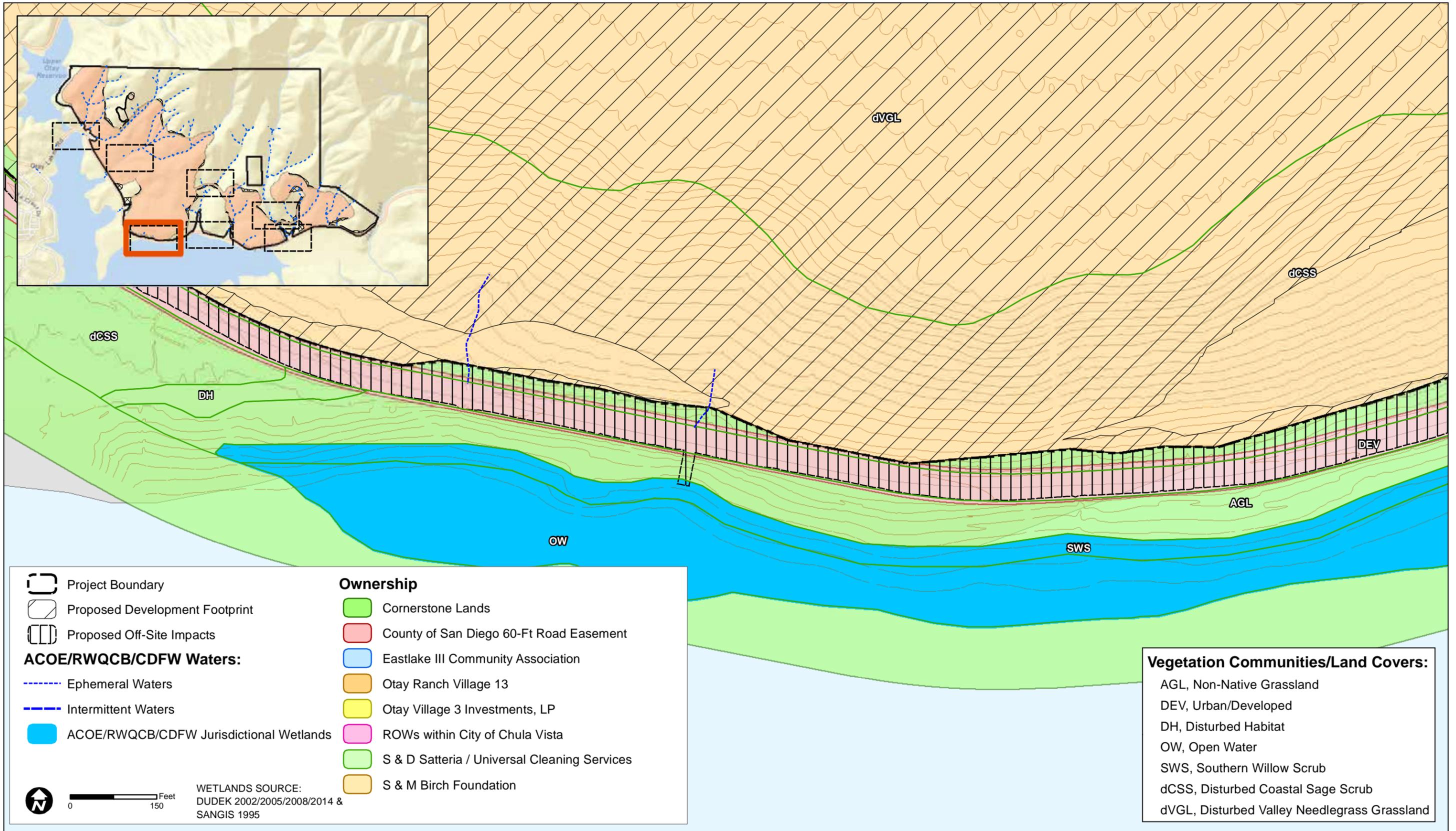
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**Conceptual Wetlands Mitigation and  
Monitoring Plan for the Otay Ranch Resort Village**

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<ul style="list-style-type: none"> <li> Project Boundary</li> <li> Proposed Development Footprint</li> <li> Proposed Off-Site Impacts</li> </ul> <p><b>ACOE/RWQCB/CDFW Waters:</b></p> <ul style="list-style-type: none"> <li> Ephemeral Waters</li> <li> Intermittent Waters</li> <li> ACOE/RWQCB/CDFW Jurisdictional Wetlands</li> </ul>	<p><b>Ownership</b></p> <ul style="list-style-type: none"> <li> Cornerstone Lands</li> <li> County of San Diego 60-Ft Road Easement</li> <li> Eastlake III Community Association</li> <li> Otay Ranch Village 13</li> <li> Otay Village 3 Investments, LP</li> <li> ROWs within City of Chula Vista</li> <li> S &amp; D Satteria / Universal Cleaning Services</li> <li> S &amp; M Birch Foundation</li> </ul>
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WETLANDS SOURCE:  
DUDEK 2002/2005/2008/2014 &  
SANGIS 1995

**Vegetation Communities/Land Covers:**

- AGL, Non-Native Grassland
- DEV, Urban/Developed
- DH, Disturbed Habitat
- OW, Open Water
- SWS, Southern Willow Scrub
- dCSS, Disturbed Coastal Sage Scrub
- dVGL, Disturbed Valley Needlegrass Grassland



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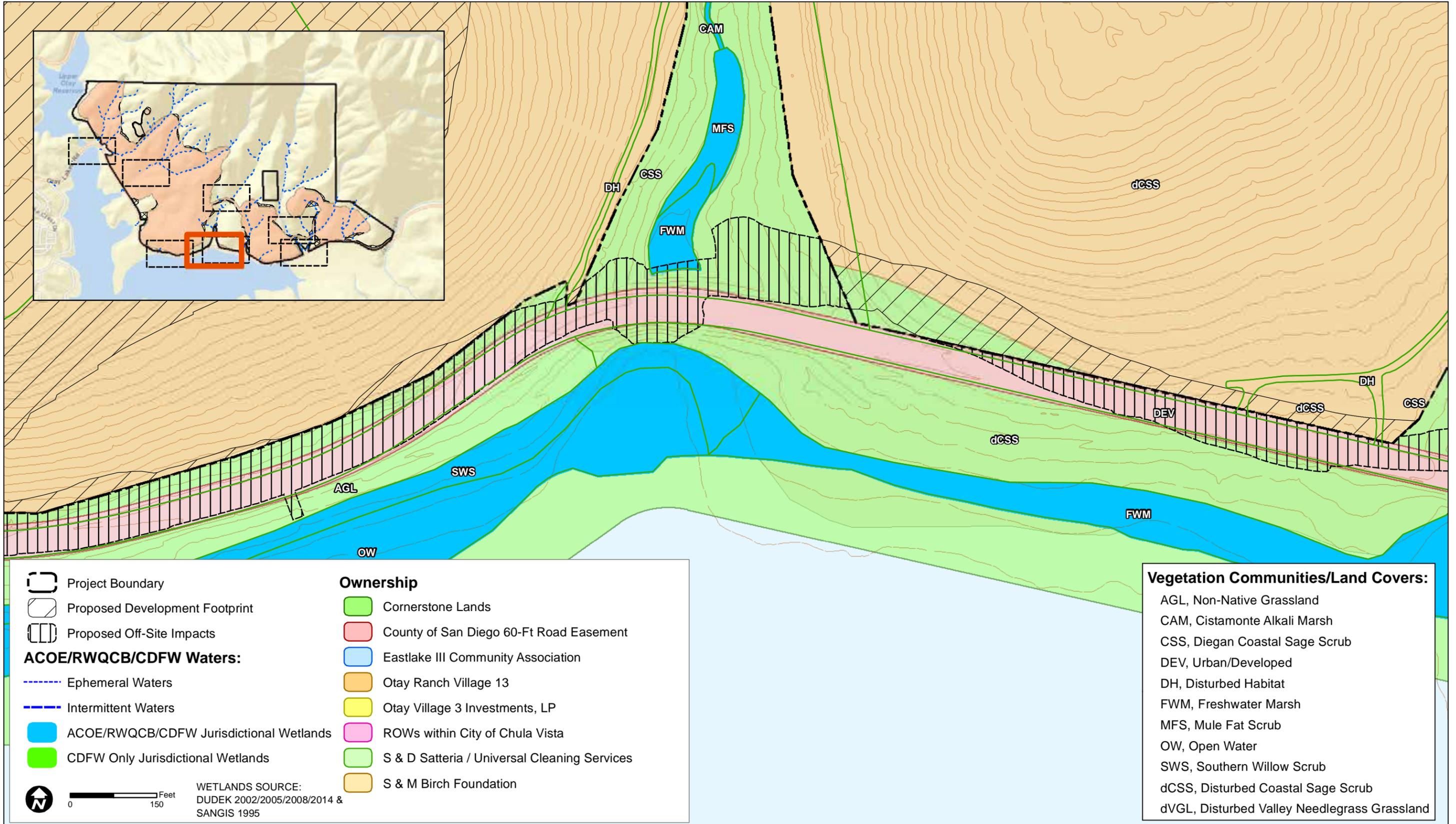
**FIGURE 3E**  
**Off-Site Jurisdictional Delineation Map with Proposed Development Footprint**

**Conceptual Wetlands Mitigation and  
Monitoring Plan for the Otay Ranch Resort Village**

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- Project Boundary
  - Proposed Development Footprint
  - Proposed Off-Site Impacts
- ACOE/RWQCB/CDFW Waters:**
- Ephemeral Waters
  - Intermittent Waters
  - ACOE/RWQCB/CDFW Jurisdictional Wetlands
  - CDFW Only Jurisdictional Wetlands

- Ownership**
- Cornerstone Lands
  - County of San Diego 60-Ft Road Easement
  - Eastlake III Community Association
  - Otay Ranch Village 13
  - Otay Village 3 Investments, LP
  - ROWs within City of Chula Vista
  - S & D Satteria / Universal Cleaning Services
  - S & M Birch Foundation

- Vegetation Communities/Land Covers:**
- AGL, Non-Native Grassland
  - CAM, Cistamonte Alkali Marsh
  - CSS, Diegan Coastal Sage Scrub
  - DEV, Urban/Developed
  - DH, Disturbed Habitat
  - FWM, Freshwater Marsh
  - MFS, Mule Fat Scrub
  - OW, Open Water
  - SWS, Southern Willow Scrub
  - dCSS, Disturbed Coastal Sage Scrub
  - dVGL, Disturbed Valley Needlegrass Grassland



**WETLANDS SOURCE:**  
 DUDEK 2002/2005/2008/2014 &  
 SANGIS 1995



6524

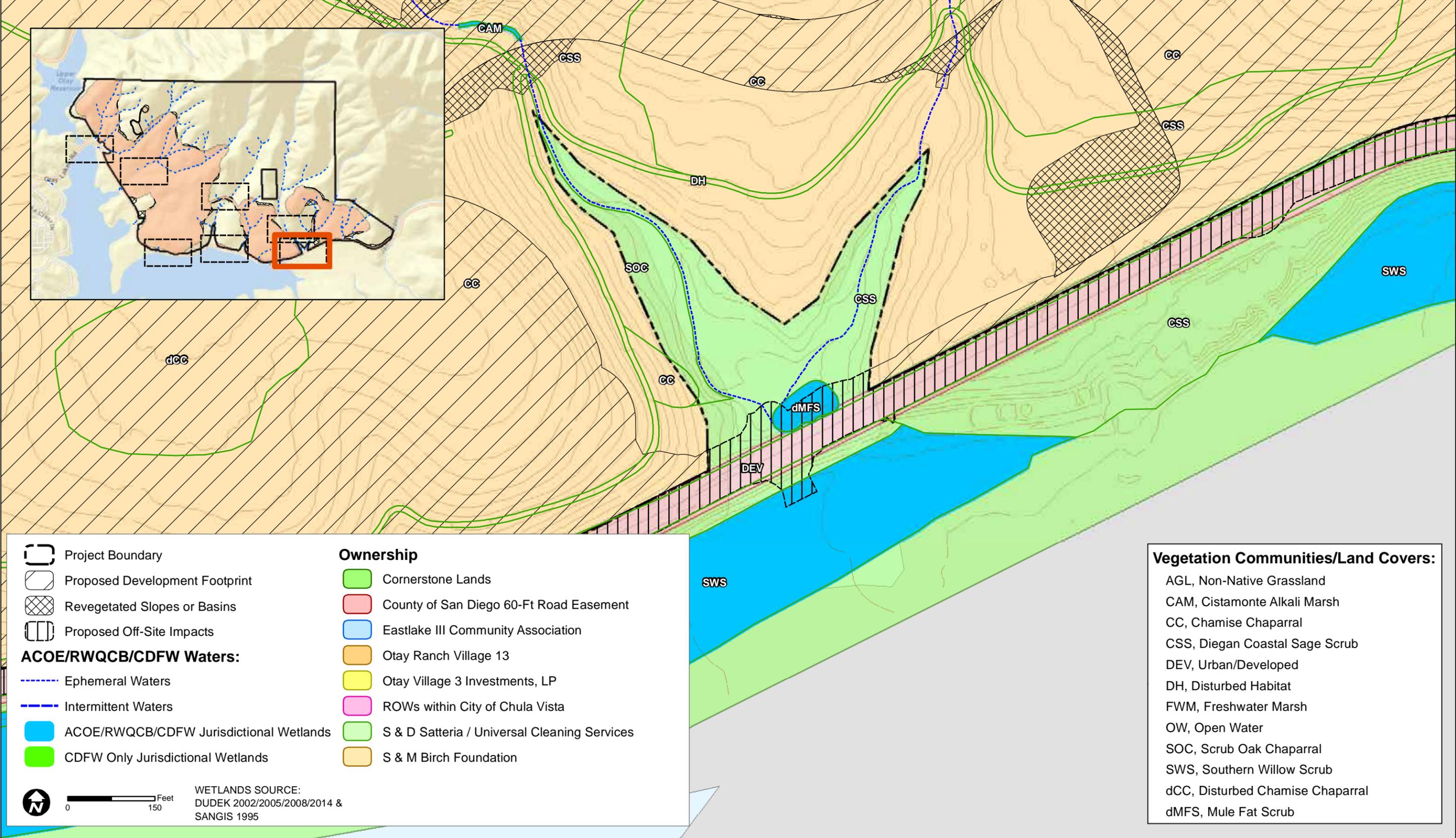
**FIGURE 3F**  
**Off-Site Jurisdictional Delineation Map with Proposed Development Footprint**

**Conceptual Wetlands Mitigation and  
Monitoring Plan for the Otay Ranch Resort Village**

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- Project Boundary
- Proposed Development Footprint
- Revegetated Slopes or Basins
- Proposed Off-Site Impacts

**ACOE/RWQCB/CDFW Waters:**

- Ephemeral Waters
- Intermittent Waters
- ACOE/RWQCB/CDFW Jurisdictional Wetlands
- CDFW Only Jurisdictional Wetlands

**Ownership**

- Cornerstone Lands
- County of San Diego 60-Ft Road Easement
- Eastlake III Community Association
- Otay Ranch Village 13
- Otay Village 3 Investments, LP
- ROWs within City of Chula Vista
- S & D Satteria / Universal Cleaning Services
- S & M Birch Foundation

**Vegetation Communities/Land Covers:**

- AGL, Non-Native Grassland
- CAM, Cistamonte Alkali Marsh
- CC, Chamise Chaparral
- CSS, Diegan Coastal Sage Scrub
- DEV, Urban/Developed
- DH, Disturbed Habitat
- FWM, Freshwater Marsh
- OW, Open Water
- SOC, Scrub Oak Chaparral
- SWS, Southern Willow Scrub
- dCC, Disturbed Chamise Chaparral
- dMFS, Mule Fat Scrub



WETLANDS SOURCE:  
 DUDEK 2002/2005/2008/2014 &  
 SANGIS 1995



**FIGURE 3G**  
**Off-Site Jurisdictional Delineation Map with Proposed Development Footprint**

**Conceptual Wetlands Mitigation and  
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## 1.3.7 Biological Functions and Services of Jurisdictional Areas to be Impacted

### 1.3.7.1 Unvegetated Stream Channels

The unvegetated stream channels that will be impacted by the project are ephemeral and typically convey stormwater flow only during precipitation events and for a short period after (usually less than 24 hours). They are generally composed of a coarse sandy, alluvial bottom, often with steep side banks. These unvegetated stream channels provide storm flow conveyance, surface water storage, subsurface water storage, and moderation of groundwater flow or discharge. However, because the channels are unvegetated, they provide very minimal biotic functions and services for plants and wildlife.

### 1.3.7.2 Vegetated Communities

Vegetated jurisdictional communities that will be impacted by the Resort Village project are shown in Tables 5, 6, and 7. These jurisdictional vegetated communities generally support the functions and services typical of natural vegetated wetland and riparian communities, such as dissipation of energy, cycling of nutrients, uptake of elements and compounds, retention of particulates, export of organic carbon, and maintenance of plant and animal communities (e.g., nesting, feeding, and breeding opportunities for various aquatic, terrestrial, and avian animals).

A total of 1.06 acres of ephemeral waters and 0.04 acre of intermittent waters on site will be permanently or temporarily impacted as a result of the project. An additional 0.24 acres of wetland vegetation communities would be permanently or temporarily impacted on site and 0.01 acre of wetland would be impacted within the County lands off site. This impact is considered significant. In order to mitigate for this impact, the following mitigation measure is required:

This CWMMP provides guidance for the on-site restoration and enhancement of the approximately 1.35 acres that will be created and the additional 2.70 acres that will be enhanced as outlined in the mitigation measures below (As included directly from the Biological Technical Report, Dudek 2015). A summary of impact and mitigation acreages and ratios is shown in Table 7.

**Table 7  
Impacts and Mitigation Acreages**

Impact Acreage	Mitigation Ratio	Mitigation Acreage	Mitigation Type
1.35	1:1	1.35	Establishment/Creation
1.35	2:1	2.70	Enhancement

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### Mitigation Measure for On-Site Impacts (Dudek 2015)

Prior to impacts occurring to waters and wetlands under the jurisdiction of ACOE, CDFW and RWQCB, the Applicant shall obtain the following permits: ACOE 404 permit, RWQCB 401 Water Quality Certification, and a CDFW Code 1600 Streambed Alteration Agreement. Impacts shall be mitigated at a 1:1 ratio by creation or purchase of credits for the creation of jurisdictional habitat of similar functions and values. A suitable mitigation site shall be selected and approved by the resource agencies during the permitting process. The ratio of wetland mitigation should be 3:1 overall. A total of 1.34 acres of wetlands will be created (1:1 creation to impact ratio). An additional 2.68 acres of wetlands will be enhanced (2:1 enhancement to impact ratio). Creation/enhancement will occur within the Dulzura Creek/Otay River watershed in accordance with a Conceptual Wetlands Mitigation and Monitoring Plan (Appendix I) approved by the County and appropriate resource agencies. The wetland creation should include at least a 1:1 ratio of each of the wetland vegetation communities impacted. The remainder of the creation/enhancement obligation may be fulfilled with any wetlands type.

Prior to issuance of land development permits, including clearing, grubbing, and grading permits that impact jurisdictional waters, the Project Applicant shall prepare a Wetlands Mitigation and Monitoring Plan to the satisfaction of the Director of Planning and Development Services (of their designee), ACOE, and CDFW. The Conceptual Wetlands Mitigation and Monitoring Plan shall at a minimum prescribe site preparation, planting, irrigation, and a 5-year maintenance and monitoring program with qualitative and quantitative evaluation of the revegetation effort and specific criteria to determine successful revegetation. The temporary impacts to ephemeral and intermittent waters will be mitigated by restoring to original condition immediately upon completion of the project but will be subject to all of the success criteria and monitoring as the permanent impacted wetlands.

Implementation of this mitigation measure would ensure no net loss of jurisdictional wetlands within the watershed and would therefore reduce direct impacts to jurisdictional waters to a less-than-significant level.

### Mitigation Measure for County Jurisdiction Impacts (Dudek 2015)

Prior to impacts occurring to waters within the County of San Diego under the jurisdiction of ACOE, CDFW and RWQCB, the Applicant shall obtain the following permits: ACOE 404 permit, RWQCB 401 Water Quality Certification, and a CDFW Code 1600 Streambed Alteration Agreement. Impacts shall be mitigated at a 1:1 ratio by creation or purchase of credits for the creation of jurisdictional habitat of similar functions and values. A suitable mitigation site shall be selected and approved by the resource agencies during the permitting process. The ratio of

## **Conceptual Wetlands Mitigation and Monitoring Plan for the Otay Ranch Resort Village**

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wetland mitigation should be 3:1 overall. A total of 0.01 acre of waters of the U.S. will be created (1:1 creation to impact ratio). An additional 0.02 acre of waters of the U.S. will be enhanced (2:1 enhancement to impact ratio). Creation/enhancement will occur within the Dulzura Creek/Otay River watershed in accordance with a Conceptual Wetlands Mitigation and Monitoring Plan (Appendix I) approved by the County and appropriate resource agencies. The wetland creation should include at least a 1:1 ratio of each of the wetland vegetation communities impacted. The remainder of the creation/enhancement obligation may be fulfilled with any wetlands type.

Prior to issuance of land development permits, including clearing, grubbing, and grading permits that impact jurisdictional waters, the Project Applicant shall prepare a Wetlands Mitigation and Monitoring Plan to the satisfaction of the Director of Planning and Development Services (of their designee), ACOE, and CDFW. The Conceptual Wetlands Mitigation and Monitoring Plan shall at a minimum prescribe site preparation, planting, irrigation, and a 5-year maintenance and monitoring program with qualitative and quantitative evaluation of the revegetation effort and specific criteria to determine successful revegetation. The temporary impacts to ephemeral and intermittent waters will be mitigated by restoring to original condition immediately upon completion of the project but will be subject to all of the success criteria and monitoring as the permanent impacted wetlands.

Implementation of this mitigation measure would ensure no net loss of jurisdictional wetlands within the watershed and would therefore reduce direct impacts to jurisdictional waters to a less-than-significant level.

# Conceptual Wetlands Mitigation and Monitoring Plan for the Otay Ranch Resort Village

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## 2 GOALS OF THE MITIGATION PROGRAM

The goals of the mitigation program are to:

- Satisfy the mitigation requirements of local, state, and federal agencies for wetland vegetation communities and WOUS
- Create/ establish, restore, or enhance wetland vegetation communities suitable for nesting, foraging, and breeding by native animal species
- Create/ establish or restore vegetation communities to be compatible with the fluvial morphology and hydrology of the stream channel corridors
- Create/ establish or restore vegetation communities to be consistent with adjacent, existing riparian and wetland vegetation communities
- Create/ establish or restore vegetation communities to be self-sustaining and functional beyond the maintenance and monitoring period.

ACOE guidance states that the compensatory mitigation should be located within the same watershed as the impact site.

### **2.1 Responsibilities**

The project applicants (JPB Development LLC and Baldwin & Sons LLC) are responsible for initiating and funding all maintenance and monitoring requirements during the 5-year program. They shall be responsible for hiring a qualified landscape maintenance contractor to carry out all maintenance work and for hiring a qualified biological monitor to carry out the monitoring program for the duration of the 5-year period. The specific identity of the compensatory mitigation project designer, the installation contractor, the revegetation monitor and the revegetation maintenance contractor will be determined at a later date during the permitting process.

#### **2.1.1 Applicant Responsibilities**

Dudek (Chris Oesch, biologist/author, Anita Hayworth, senior biologist, Paul Walsh, habitat restorationist/plan reviewer), submits this Restoration Plan on behalf of the applicant, Baldwin & Sons LLC (contact: Mr. Scott Molloy) and JPB Development LLC (contact: Mr. Sean Kilkenny).

The applicant shall be financially responsible for all negotiations and costs associated with the implementation, monitoring, maintenance and long-term management and protection of the mitigation area, as defined in this document. The applicant shall select and may replace, at their

## **Conceptual Wetlands Mitigation and Monitoring Plan for the Otay Ranch Resort Village**

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discretion, the landscape contractor, maintenance contractor, and project biologist for this project at any time. The applicant or current owner shall submit a bond to cover the anticipated costs for the implementation, maintenance, and monitoring of the program through the end of a 5-year maintenance and monitoring program. The applicant, or current owner, shall place a conservation easement over the new mitigation areas before project installation.

The applicant shall be responsible for directing the project grading contractor to salvage topsoil under the direction of the project biologist.

Proposed mitigation areas shall be accessible to the County throughout the project review and permitting phase, as well as during the installation and 5-year maintenance and monitoring period.

### **2.1.2 Project Biologist Responsibilities**

A qualified Project Biologist shall be retained to monitor the implementation and perform long-term project biological monitoring, as outlined in this CWMMP. The Project Biologist may be an individual or a team of individuals and must have demonstrated experience in wetland habitat restoration. The Project Biologist must demonstrate an understanding of local plant community ecology and habitat restoration, and have expertise in plant and wildlife identification.

The Project Biologist shall help ensure that the applicant follows the guidelines of this CWMMP, County permits, resource agency permits, and final detailed revegetation construction documents and provide monitoring of project installation, monitoring through the 120-day maintenance period, and biological monitoring throughout the 5-year monitoring period.

The Project Biologist shall be required to monitor throughout the construction period. Monitoring time may increase or decrease as required by field conditions, construction activities, and resource agency permit requirements. During the construction, the Project Biologist will have the authority to stop work in situations where biological resources, not permitted to be impacted, are in imminent danger of impacts from construction activities. Each site visit will be documented in a monitoring observation report that will note construction activities relating to the mitigation plan and any project deficiencies.

Biological monitoring will be performed following acceptance of mitigation installation and throughout the 5-year, long-term monitoring phase.

### **2.1.3 Restoration Contractor Responsibilities**

Restoration project installation and associated labor shall be provided by a contractor who has a valid California landscape contractor's license, has previous experience with habitat restoration

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in the region, and can demonstrate successful similar project experience in Southern California. The contractor must demonstrate knowledge of techniques for growing, transplanting, and installing native plant species.

The contractor will be responsible for conformance to this CWMMP, resource agency permits, and construction documents. The construction documents will include detailed graphic revegetation construction plans and written specifications that are in substantial conformance with the information and direction contained within this CWMMP. The contractor's responsibility will continue until successful revegetation and final acceptance by the project applicant and Project Biologist at the end of the initial 120-day plant establishment period. The contractor will not be released from contractual obligations until written notification is received from the applicant, in consultation with the Project Biologist, certifying satisfactory completion of all required installation tasks as defined in the installation contract, construction documents, this CWMMP, and resource agency permits.

After initial installation and completion of the 120-day plant establishment period, the applicant will have 5-year maintenance services performed by an experienced landscape maintenance contractor that specializes in habitat restoration. Maintenance work shall be performed as indicated herein and according to the Project Biologist's recommendations. The applicant may choose to hire a maintenance contractor that is separate from the installation contractor.

### **2.1.4 Landscape Maintenance Contractor Responsibilities**

A landscape contractor shall provide 5-year maintenance. The contractor shall possess a valid California landscape contractor's license, have previous experience with habitat restoration in the region, and be able to demonstrate successful similar restoration project experience in Southern California. The contractor must demonstrate knowledge of techniques for maintaining native wetland species and control of non-native species.

The contractor must possess a Qualified Applicator's License or certificate issued by the California Department of Pesticide Regulation, and maintenance laborers must receive appropriate annual herbicide training. Maintenance crews must be trained to distinguish common native and non-native plants.

Maintenance work shall be performed as indicated herein and according to the Project Biologist's recommendations. The landscape maintenance contractor will be responsible for conformance to this CWMMP and any other conditions of County or resource agency permits. The contractor's responsibility will continue until final project approval by the County. The contractor will not be

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released from contractual obligations until written notification is received from the applicant certifying satisfactory completion of all required maintenance activities.

### **2.1.5 Seed and Plant Collection and Procurement Responsibilities**

Plant material may be purchased from a native plant nursery (such as Tree of Life Nursery in San Juan Capistrano, Las Pilitas Nursery in Escondido, Moosa Creek Nursery in Valley Center, HRS Nursery in Carlsbad or other sources of local native plant material approved by the Project Biologist). If project timing allows, seed collected from the project area will be provided for propagation to one of the native plant nurseries listed above. The container plant provider is responsible for providing the quantity and sizes of plants specified in this CWMMP in disease-free condition.

Seed for inclusion in the hydroseed mixtures may be obtained from S&S Seeds in Carpinteria, California, or an alternative source approved by the Project Biologist. The seed provider will be responsible for meeting the pure live seed and germination percentages standards listed in this CWMMP and documenting the provenance of the seed collected. If feasible, seed shall be collected from the project site.

## **2.2 Vegetation Communities to be Established and Restored**

For the ACOE, compensatory mitigation can be carried out through four methods: the *restoration* of a previously existing wetland or other aquatic site, the *enhancement* of an existing aquatic site's functions, the *establishment* (i.e., creation) of a new aquatic site, or the *preservation* of an existing aquatic site (ACOE 2008). This CWMMP describes restoration, enhancement, and establishment as compensatory mitigation for impacts to jurisdictional resources.

### **2.2.1 Vegetation Communities to be Enhanced**

Enhancement will involve initial removal of, and subsequent control of non-native vegetation within a native vegetation community. Enhancement sites will be delineated by first determining the proportion of the enhancement area that will require treatment and control of non-native invasive species. Dudek will make the determinations during site assessments. The percent cover of invasive weeds will be estimated for the vegetation communities within the study area. The percentage of invasive weed cover will be applied to the acreage within the enhancement area to calculate the mitigation credit. For example, if a 1-acre patch of red willow/arroyo willow habitat had 10% cover of non-native vegetation, the mitigation credit for enhancement would be 0.1 acre.

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## **2.3 Functions and Services (Values) of the Mitigation Sites**

Functions and services of mitigation sites will seek to replace and/or improve those lost through permanent impacts.

The mitigation plan focuses on increasing biological resources on the project site by expanding jurisdictional WOUS and vegetation communities on site. This proposed plan seeks to expand and enhance wetland functions provided by jurisdictional systems scheduled to be impacted. Expansion of wetland resources will involve surface hydraulic inlet/outlet connections to existing wetland resources to facilitate a localized increase of floodwater storage. Hydrologic functions, including long-term surface water storage and energy dissipation, are projected to improve from the addition of micro- and macro-topographic complexity. Sub-surface water storage functions are projected to have a slight increase due to the expanded floodplain area that will be available for water percolation.

Biogeochemical functions including nutrient cycling, removal of imported elements/compounds, and retention of sediment and organic particulates are all projected to improve due to an increased density of woody plant materials (in applicable vegetation community types), improved on-site micro-topographic complexity, and accelerated primary productivity resulting from installation trees, shrubs, and herbaceous vegetation (in applicable vegetation community types), as well as expansion of the freshwater marsh vegetation component. The retention of particulate function, resulting from substantial increases (over time) of surface vegetation roughness, which tends to slow high-flow velocities and promote sediment deposition, will provide opportunity for an increased amount of nutrient uptake within the project area. Although the retained sediments indicator for this function is expected to decrease initially due to increased area of surface flows, the increasing density of woody vegetation for SWS, MFS, DW, and FWM is projected to offset the initial reduction of the retained sediments indicator. The organic carbon export function is also projected to improve slightly due to increased amounts of available organic matter in the wetlands and the addition of surface hydraulic connections with stream channels, which improves drainage during the descending limb of the hydrograph. The mitigation site will provide additional potential for biofiltration of nutrients and associated constituents on site.

Vegetative functions including maintenance of community type and detrital biomass will be created as species composition increases, as trees and shrubs dominate more of the total vegetative cover and as natural regeneration of woody plants improves (over time, with seed from plantings and upstream propagules). Maintenance of spatial structure, currently a depressed wildlife habitat function on site, is also projected to improve as the above indices are altered through vegetation establishment. Maintenance of interspersion and connectivity is projected to improve with the addition of surface hydraulic connection to the main stream channel, which

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promotes formation and maintenance of a high heterogeneity of wildlife habitats and potentially complex trophic interactions among wildlife species. Maintenance of distribution and abundance of invertebrates and vertebrates are both projected to increase; additional habitat will be created on site for aquatic invertebrates, and additional plant species and resulting leaf-litter biomass will provide enhanced habitats for terrestrial invertebrates. It is also projected that the trophic interactions of vertebrate guilds and species will increase with the additional inputs of biomass, seasonal variation of plant materials, improved vertical stratification of vegetation on site, and increased habitat for invertebrates.

### **2.4      Time Lapse**

It is anticipated that the wetland mitigation will be installed within the same calendar year that the impact occurs with success criteria being met five years after installation.

### **2.5      Cost**

A detailed cost estimate for each year of the mitigation program and for each aspect of the mitigation will be developed upon coordination with the permitting resource agencies.

# Conceptual Wetlands Mitigation and Monitoring Plan for the Otay Ranch Resort Village

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## **3 DESCRIPTION OF THE PROPOSED COMPENSATORY MITIGATION SITE**

### **3.1 Mitigation Site Location Selection**

Dudek will conduct a Mitigation Suitability Assessment (MSA) within the watershed where the impacts are scheduled to occur, to determine potentially suitable locations for implementation of mitigation. Figure 4 shows areas determined to have potential mitigation opportunities, where the assessment will be conducted. Final mitigation will comply with requirements of the RWQCB for the linear impact to ephemeral drainages as determined during the permitting process. Impacts on cornerstone lands are proposed to be mitigated on existing cornerstone lands and will be addressed by the City of San Diego. If results of the MSA indicate that there is insufficient opportunity for on-site mitigation, then alternatives will be analyzed for suitable off-site mitigation options, including the utilization of existing mitigation banks. The suitability of potential mitigation opportunities will be based on several factors, including hydrology and hydrologic connections; soil conditions; existing vegetation communities; habitat connectivity; stream bank stability; construction/maintenance access to the mitigation area; potential grading requirements; planting and irrigation requirements; potential mitigation benefits; and long-term management considerations. Potential sites will be evaluated based on these criteria and ranked, with preference for sites possessing the most ideally suitable conditions.

#### **3.1.1 Hydrology**

Hydrology along each of the reaches will be assessed by Dudek and evaluated based on location in the watershed, presence and/or persistence of surface water, source of water, and the amount of surface water. Based on visual inspection, potential sites that exhibit the presence and/or persistence of surface water, a natural water source, and a greater quantity of surface water would be considered to have greater restoration potential than those without such attributes.

#### **3.1.2 Soil Conditions**

Soil conditions will be evaluated based on the type of soils present at each potential mitigation sites and soil characteristics including erosive potential, permeability, and water holding capacity. Soils with lower erosion potential, greater water-holding capacity, higher presence of organic matter, and less soil disturbance would be considered most suitable for mitigation.

#### **3.1.3 Existing Vegetation**

Existing vegetation will be evaluated based on the vegetation communities present at each potential mitigation site. Factors considered include each community's age and structural heterogeneity, including canopy development; the presence of non-native, invasive plants; and

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riparian corridor connectivity. Potential mitigation sites adjacent to stream channels with intact, native wetland vegetation; diverse age and structural heterogeneity; a well-developed tree canopy; lack of non-native, invasive plants; and the presence of a riparian corridor would rank higher than areas without these attributes.

### **3.1.4 Habitat Connectivity**

Each potential mitigation area will be evaluated to determine the extent of connectivity with adjacent transitional upland habitats. Sites with native vegetated buffers that would be less affected by adjacent disturbed areas, such as roadways or development, would be ranked higher than those with degraded, non-native buffers.

### **3.1.5 Stream Bank Stability**

A general assessment of channel morphology will be conducted in the field to identify areas with the highest stream bank stability. Areas with stream banks that exhibit multiple terraces, gentle angles on the bank cuts and more stable bank soils would be considered more suitable locations for mitigation than those without terraces, with steep bank cuts, and unstable bank soils.

### **3.1.6 Construction/Maintenance Access**

Each of the potential mitigation sites will be evaluated to determine if construction and/or maintenance access would be feasible. Sites that are adjacent to, or that could be easily accessed from, existing roads would be considered to be more suitable mitigation locations than sites that would be less accessible.

### **3.1.7 Grading Requirements**

The amount of grading (depth and surface area) that would be required to establish wetland mitigation sites will be evaluated at each location. Potential sites where the groundwater is elevated and minimal grading would be required would be more highly ranked than those that would require significant grading.

### **3.1.8 Irrigation Availability**

Irrigation availability will be evaluated along each reach assessed in the analysis. Potential sites with access to an irrigation source would be ranked higher than those without comparable irrigation options.