Appendix C:
Biological Resources Supporting Information

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C.1 - Database Search Results

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Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Walnut Creek (3712281) OR Benicia (3812212) OR Vine Hill (3812211) OR Honker Bay (3812118) OR Briones Valley (3712282) OR Clayton (3712188) OR Oakland East (3712272) OR Las Trampas Ridge (3712271) OR Diablo (3712178))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Accipiter cooperii Cooper's hawk	ABNKC12040	None	None	G5	S4	WL
Agelaius tricolor tricolored blackbird	ABPBXB0020	None	Threatened	G1G2	S1S2	SSC
Ambystoma californiense California tiger salamander	AAAAA01180	Threatened	Threatened	G2G3	S2S3	WL
Amsinckia lunaris bent-flowered fiddleneck	PDBOR01070	None	None	G3	S3	1B.2
Anniella pulchra Northern California legless lizard	ARACC01020	None	None	G3	S3	SSC
Anomobryum julaceum slender silver moss	NBMUS80010	None	None	G5?	S2	4.2
Antrozous pallidus pallid bat	AMACC10010	None	None	G4	S3	SSC
Aquila chrysaetos golden eagle	ABNKC22010	None	None	G5	S3	FP
Archoplites interruptus Sacramento perch	AFCQB07010	None	None	G2G3	S1	SSC
Arctostaphylos auriculata Mt. Diablo manzanita	PDERI04040	None	None	G2	S2	1B.3
Arctostaphylos manzanita ssp. laevigata Contra Costa manzanita	PDERI04273	None	None	G5T2	S2	1B.2
Arctostaphylos pallida pallid manzanita	PDERI04110	Threatened	Endangered	G1	S1	1B.1
Ardea herodias great blue heron	ABNGA04010	None	None	G5	S4	
Asio flammeus short-eared owl	ABNSB13040	None	None	G5	S3	SSC
Astragalus tener var. tener alkali milk-vetch	PDFAB0F8R1	None	None	G2T1	S1	1B.2
Athene cunicularia burrowing owl	ABNSB10010	None	None	G4	S3	SSC
Blepharizonia plumosa big tarplant	PDAST1C011	None	None	G1G2	S1S2	1B.1
Bombus caliginosus obscure bumble bee	IIHYM24380	None	None	G4?	S1S2	
Bombus crotchii Crotch bumble bee	IIHYM24480	None	Candidate Endangered	G3G4	S1S2	

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Bombus occidentalis western bumble bee	IIHYM24250	None	Candidate Endangered	G2G3	S1	
Branchinecta conservatio Conservancy fairy shrimp	ICBRA03010	Endangered	None	G2	S2	
Branchinecta lynchi vernal pool fairy shrimp	ICBRA03030	Threatened	None	G3	S3	
Branta hutchinsii leucopareia cackling (=Aleutian Canada) goose	ABNJB05035	Delisted	None	G5T3	S3	WL
Buteo regalis ferruginous hawk	ABNKC19120	None	None	G4	S3S4	WL
Buteo swainsoni Swainson's hawk	ABNKC19070	None	Threatened	G5	S3	
Calochortus pulchellus Mt. Diablo fairy-lantern	PMLIL0D160	None	None	G2	S2	1B.2
Campanula exigua chaparral harebell	PDCAM020A0	None	None	G2	S2	1B.2
Centromadia parryi ssp. congdonii Congdon's tarplant	PDAST4R0P1	None	None	G3T1T2	S1S2	1B.1
Chloropyron maritimum ssp. palustre Point Reyes salty bird's-beak	PDSCR0J0C3	None	None	G4?T2	S2	1B.2
Chloropyron molle ssp. molle soft salty bird's-beak	PDSCR0J0D2	Endangered	Rare	G2T1	S1	1B.2
Chorizanthe robusta var. robusta robust spineflower	PDPGN040Q2	Endangered	None	G2T1	S1	1B.1
Cicuta maculata var. bolanderi Bolander's water-hemlock	PDAPI0M051	None	None	G5T4T5	S2?	2B.1
Circus hudsonius northern harrier	ABNKC11011	None	None	G5	S3	SSC
Cirsium andrewsii Franciscan thistle	PDAST2E050	None	None	G3	S3	1B.2
Clarkia concinna ssp. automixa Santa Clara red ribbons	PDONA050A1	None	None	G5?T3	S3	4.3
Clarkia franciscana Presidio clarkia	PDONA050H0	Endangered	Endangered	G1	S1	1B.1
Coastal Brackish Marsh Coastal Brackish Marsh	CTT52200CA	None	None	G2	S2.1	
Cordylanthus nidularius Mt. Diablo bird's-beak	PDSCR0J0F0	None	Rare	G1	S1	1B.1
Corynorhinus townsendii Townsend's big-eared bat	AMACC08010	None	None	G4	S2	SSC
Coturnicops noveboracensis yellow rail	ABNME01010	None	None	G4	S1S2	SSC

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Danaus plexippus pop. 1 monarch - California overwintering population	IILEPP2012	Candidate	None	G4T2T3	S2S3	
Delphinium californicum ssp. interius Hospital Canyon larkspur	PDRAN0B0A2	None	None	G3T3	S3	1B.2
Dipodomys heermanni berkeleyensis Berkeley kangaroo rat	AMAFD03061	None	None	G4T1	S1	
Dirca occidentalis western leatherwood	PDTHY03010	None	None	G2	S2	1B.2
Efferia antiochi Antioch efferian robberfly	IIDIP07010	None	None	G1G2	S1S2	
Emys marmorata western pond turtle	ARAAD02030	None	None	G3G4	S3	SSC
Eremophila alpestris actia California horned lark	ABPAT02011	None	None	G5T4Q	S4	WL
Eriastrum ertterae Lime Ridge eriastrum	PDPLM030F0	None	None	G1	S1	1B.1
Eriogonum luteolum var. caninum Tiburon buckwheat	PDPGN083S1	None	None	G5T2	S2	1B.2
Eriogonum truncatum Mt. Diablo buckwheat	PDPGN085Z0	None	None	G1	S1	1B.1
Eryngium jepsonii Jepson's coyote-thistle	PDAPI0Z130	None	None	G2	S2	1B.2
Erysimum capitatum var. angustatum Contra Costa wallflower	PDBRA16052	Endangered	Endangered	G5T1	S1	1B.1
Eucyclogobius newberryi tidewater goby	AFCQN04010	Endangered	None	G3	S3	
Euphydryas editha bayensis Bay checkerspot butterfly	IILEPK4055	Threatened	None	G5T1	S1	
Extriplex joaquinana San Joaquin spearscale	PDCHE041F3	None	None	G2	S2	1B.2
Falco mexicanus prairie falcon	ABNKD06090	None	None	G5	S4	WL
Falco peregrinus anatum American peregrine falcon	ABNKD06071	Delisted	Delisted	G4T4	S3S4	FP
Fissidens pauperculus minute pocket moss	NBMUS2W0U0	None	None	G3?	S2	1B.2
Fritillaria liliacea fragrant fritillary	PMLIL0V0C0	None	None	G2	S2	1B.2
Geothlypis trichas sinuosa saltmarsh common yellowthroat	ABPBX1201A	None	None	G5T3	S3	SSC
Gilia millefoliata dark-eyed gilia	PDPLM04130	None	None	G2	S2	1B.2

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Grimmia torenii Toren's grimmia	NBMUS32330	None	None	G2	S2	1B.3
Haliaeetus leucocephalus bald eagle	ABNKC10010	Delisted	Endangered	G5	S3	FP
Helianthella castanea Diablo helianthella	PDAST4M020	None	None	G2	S2	1B.2
Helminthoglypta nickliniana bridgesi Bridges' coast range shoulderband	IMGASC2362	None	None	G3T1	S1S2	
Hesperolinon breweri Brewer's western flax	PDLIN01030	None	None	G2	S2	1B.2
Hoita strobilina Loma Prieta hoita	PDFAB5Z030	None	None	G2?	S2?	1B.1
Holocarpha macradenia Santa Cruz tarplant	PDAST4X020	Threatened	Endangered	G1	S1	1B.1
Horkelia cuneata var. sericea Kellogg's horkelia	PDROS0W043	None	None	G4T1?	S1?	1B.1
Isocoma arguta Carquinez goldenbush	PDAST57050	None	None	G1	S1	1B.1
Lasionycteris noctivagans silver-haired bat	AMACC02010	None	None	G3G4	S3S4	
Lasiurus cinereus hoary bat	AMACC05030	None	None	G3G4	S4	
Lasthenia conjugens Contra Costa goldfields	PDAST5L040	Endangered	None	G1	S1	1B.1
Laterallus jamaicensis coturniculus California black rail	ABNME03041	None	Threatened	G3G4T1	S1	FP
Lathyrus jepsonii var. jepsonii Delta tule pea	PDFAB250D2	None	None	G5T2	S2	1B.2
Lepidurus packardi vernal pool tadpole shrimp	ICBRA10010	Endangered	None	G4	S3S4	
Lilaeopsis masonii Mason's lilaeopsis	PDAPI19030	None	Rare	G2	S2	1B.1
Limosella australis Delta mudwort	PDSCR10030	None	None	G4G5	S2	2B.1
Linderiella occidentalis California linderiella	ICBRA06010	None	None	G2G3	S2S3	
Madia radiata showy golden madia	PDAST650E0	None	None	G3	S3	1B.1
Malacothamnus hallii Hall's bush-mallow	PDMAL0Q0F0	None	None	G2	S2	1B.2
Masticophis lateralis euryxanthus Alameda whipsnake	ARADB21031	Threatened	Threatened	G4T2	S2	

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Meconella oregana Oregon meconella	PDPAP0G030	None	None	G2G3	S2	1B.1
Melospiza melodia maxillaris Suisun song sparrow	ABPBXA301K	None	None	G5T3	S3	SSC
Melospiza melodia pusillula Alameda song sparrow	ABPBXA301S	None	None	G5T2?	S2S3	SSC
Melospiza melodia samuelis San Pablo song sparrow	ABPBXA301W	None	None	G5T2	S2	SSC
Microcina leei Lee's micro-blind harvestman	ILARA47040	None	None	G1	S1	
Monolopia gracilens woodland woollythreads	PDAST6G010	None	None	G3	S3	1B.2
Navarretia gowenii Lime Ridge navarretia	PDPLM0C120	None	None	G1	S1	1B.1
Neotoma fuscipes annectens San Francisco dusky-footed woodrat	AMAFF08082	None	None	G5T2T3	S2S3	SSC
Northern Coastal Salt Marsh Northern Coastal Salt Marsh	CTT52110CA	None	None	G3	S3.2	
Northern Maritime Chaparral Northern Maritime Chaparral	CTT37C10CA	None	None	G1	S1.2	
Nyctinomops macrotis big free-tailed bat	AMACD04020	None	None	G5	S3	SSC
Oenothera deltoides ssp. howellii Antioch Dunes evening-primrose	PDONA0C0B4	Endangered	Endangered	G5T1	S1	1B.1
Oncorhynchus mykiss irideus pop. 11 steelhead - Central Valley DPS	AFCHA0209K	Threatened	None	G5T2Q	S2	
Pandion haliaetus osprey	ABNKC01010	None	None	G5	S4	WL
Perognathus inornatus San Joaquin pocket mouse	AMAFD01060	None	None	G2G3	S2S3	
Phacelia phacelioides Mt. Diablo phacelia	PDHYD0C3Q0	None	None	G2	S2	1B.2
Phrynosoma blainvillii coast horned lizard	ARACF12100	None	None	G3G4	S3S4	SSC
Plagiobothrys diffusus San Francisco popcornflower	PDBOR0V080	None	Endangered	G1Q	S1	1B.1
Pogonichthys macrolepidotus Sacramento splittail	AFCJB34020	None	None	GNR	S3	SSC
Polygonum marinense Marin knotweed	PDPGN0L1C0	None	None	G2Q	S2	3.1
Rallus obsoletus obsoletus California Ridgway's rail	ABNME05011	Endangered	Endangered	G3T1	S1	FP

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Rana boylii foothill yellow-legged frog	AAABH01050	None	Endangered	G3	S3	SSC
Rana draytonii California red-legged frog	AAABH01022	Threatened	None	G2G3	S2S3	SSC
Reithrodontomys raviventris salt-marsh harvest mouse	AMAFF02040	Endangered	Endangered	G1G2	S1S2	FP
Sanicula maritima adobe sanicle	PDAPI1Z0D0	None	Rare	G2	S2	1B.1
Sanicula saxatilis rock sanicle	PDAPI1Z0H0	None	Rare	G2	S2	1B.2
Scapanus latimanus parvus Alameda Island mole	AMABB02031	None	None	G5T1Q	SH	SSC
Senecio aphanactis chaparral ragwort	PDAST8H060	None	None	G3	S2	2B.2
Serpentine Bunchgrass Serpentine Bunchgrass	CTT42130CA	None	None	G2	S2.2	
Sorex ornatus sinuosus Suisun shrew	AMABA01103	None	None	G5T1T2Q	S1S2	SSC
Spergularia macrotheca var. longistyla long-styled sand-spurrey	PDCAR0W062	None	None	G5T2	S2	1B.2
Speyeria callippe callippe callippe silverspot butterfly	IILEPJ6091	Endangered	None	G5T1	S1	
Spirinchus thaleichthys longfin smelt	AFCHB03010	Candidate	Threatened	G5	S1	
Sternula antillarum browni California least tern	ABNNM08103	Endangered	Endangered	G4T2T3Q	S2	FP
Streptanthus albidus ssp. peramoenus most beautiful jewelflower	PDBRA2G012	None	None	G2T2	S2	1B.2
Streptanthus hispidus Mt. Diablo jewelflower	PDBRA2G0M0	None	None	G2	S2	1B.3
Stuckenia filiformis ssp. alpina slender-leaved pondweed	PMPOT03091	None	None	G5T5	S2S3	2B.2
Symphyotrichum lentum Suisun Marsh aster	PDASTE8470	None	None	G2	S2	1B.2
Taxidea taxus American badger	AMAJF04010	None	None	G5	S3	SSC
Thamnophis gigas giant gartersnake	ARADB36150	Threatened	Threatened	G2	S2	
Trifolium hydrophilum saline clover	PDFAB400R5	None	None	G2	S2	1B.2
Triquetrella californica coastal triquetrella	NBMUS7S010	None	None	G2	S2	1B.2

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Tropidocarpum capparideum caper-fruited tropidocarpum	PDBRA2R010	None	None	G1	S1	1B.1
Tryonia imitator mimic tryonia (=California brackishwater snail)	IMGASJ7040	None	None	G2	S2	
Viburnum ellipticum oval-leaved viburnum	PDCPR07080	None	None	G4G5	S3?	2B.3
Vulpes macrotis mutica San Joaquin kit fox	AMAJA03041	Endangered	Threatened	G4T2	S2	

Record Count: 128

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CNPS California Native Plant Society

Inventory of Rare and Endangered Plants

*The database used to provide updates to the Online Inventory is under construction. View updates and changes made since May 2019 here.

Plant List

77 matches found. *Click on scientific name for details*

Search Criteria

Found in Quads 3812212, 3812211, 3812118, 3712282, 3712281, 3712188, 3712272 3712271 and 3712178;

Modify Search Criteria | Export to Excel | Modify Columns | Modify Sort | Remove Photos

Scientific Name	Common Name	Family	Lifeform	Blooming Period	CA Rare Plant Rank	State Rank	Global Rank	Photo
Amsinckia lunaris	bent-flowered fiddleneck	Boraginaceae	annual herb	Mar-Jun	1B.2	S3	G3	 2011 Neal Kramer
Androsace elongata ssp. acuta	California androsace	Primulaceae	annual herb	Mar-Jun	4.2	S3S4	G5?T3T4	 1998 John Game
Anomobryum julaceum	slender silver moss	Bryaceae	moss		4.2	S2	G5?	no photo available
Arabis blepharophylla	coast rockcress	Brassicaceae	perennial herb	Feb-May	4.3	S4	G4	 2005 Doreen L. Smith
Arctostaphylos auriculata	Mt. Diablo manzanita	Ericaceae	perennial evergreen shrub	Jan-Mar	1B.3	S2	G2	

								 2015 John Doyen
Arctostaphylos manzanita ssp. laevigata	Contra Costa manzanita	Ericaceae	perennial evergreen shrub	Jan-Mar(Apr)	1B.2	S2	G5T2	 2016 Neal Kramer
Arctostaphylos pallida	pallid manzanita	Ericaceae	perennial evergreen shrub	Dec-Mar	1B.1	S1	G1	 2014 Neal Kramer
Astragalus tener var. tener	alkali milk-vetch	Fabaceae	annual herb	Mar-Jun	1B.2	S1	G2T1	 1991 Dean Wm. Taylor
Atriplex cordulata var. cordulata	heartscale	Chenopodiaceae	annual herb	Apr-Oct	1B.2	S2	G3T2	no photo available
Atriplex coronata var. coronata	crownscale	Chenopodiaceae	annual herb	Mar-Oct	4.2	S3	G4T3	 2010 Neal Kramer
Balsamorhiza macrolepis	big-scale balsamroot	Asteraceae	perennial herb	Mar-Jun	1B.2	S2	G2	

								 1998 Dean Wm. Taylor
Blepharizonia plumosa	big tarplant	Asteraceae	annual herb	Jul-Oct	1B.1	S1S2	G1G2	 2014 John Doyen
Calandrinia breweri	Brewer's calandrinia	Montiaceae	annual herb	(Jan)Mar-Jun	4.2	S4	G4	 2009 Barry Breckling
Calochortus pulchellus	Mt. Diablo fairy-lantern	Liliaceae	perennial bulbiferous herb	Apr-Jun	1B.2	S2	G2	 1981 Steve Lowens
Calochortus umbellatus	Oakland star-tulip	Liliaceae	perennial bulbiferous herb	Mar-May	4.2	S3?	G3?	 2013 Christopher Gurney
Campanula exigua	chaparral harebell	Campanulaceae	annual herb	May-Jun	1B.2	S2	G2	 2009 Vernon Smith
Castilleja ambigua var. ambigua	johnny-nip	Orobanchaceae	annual herb (hemiparasitic)	Mar-Aug	4.2	S3S4	G4T4	


2010 Toni Corelli

Centromadia parryi ssp. congdonii	Congdon's tarplant	Asteraceae	annual herb	May-Oct(Nov)	1B.1	S1S2	G3T1T2


2011 Neal Kramer

Chloropyron molle ssp. molle	soft bird's-beak	Orobanchaceae	annual herb (hemiparasitic)	Jun-Nov	1B.2	S1	G2T1


1992 Robert E. Preston, Ph.D.

Chorizanthe robusta var. robusta	robust spineflower	Polygonaceae	annual herb	Apr-Sep	1B.1	S1	G2T1


2014 Doreen L. Smith

Cicuta maculata var. bolanderi	Bolander's water-hemlock	Apiaceae	perennial herb	Jul-Sep	2B.1	S2?	G5T4T5

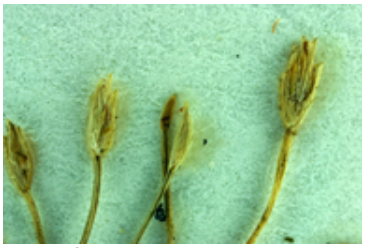
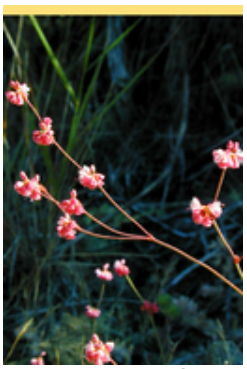

2013 Steve Matson

Cirsium andrewsii	Franciscan thistle	Asteraceae	perennial herb	Mar-Jul	1B.2	S3	G3

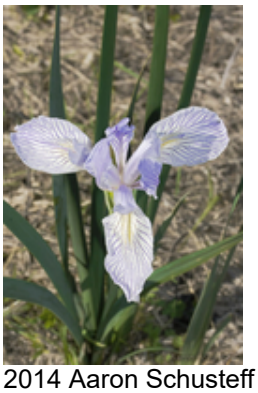
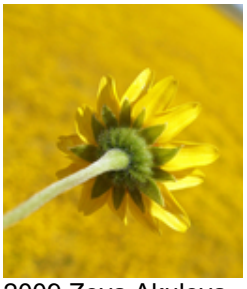

2013 Robert Sikora

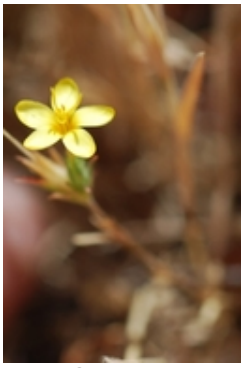
	Santa Clara	Onagraceae	annual herb	(Apr)May-	4.3	S3	G5?T3

Clarkia concinna ssp. automixa	red ribbons			Jun(Jul)				 2004 Janell Hillman
Clarkia franciscana	Presidio clarkia	Onagraceae	annual herb	May-Jul	1B.1	S1	G1	 1999 Margo Bors
Collomia diversifolia	serpentine collomia	Polemoniaceae	annual herb	May-Jun	4.3	S4	G4	 2009 Leigh Johnson
Cordylanthus nidularius	Mt. Diablo bird's-beak	Orobanchaceae	annual herb (hemiparasitic)	Jun-Aug	1B.1	S1	G1	 2009 Aaron Schusteff
Delphinium californicum ssp. interius	Hospital Canyon larkspur	Ranunculaceae	perennial herb	Apr-Jun	1B.2	S3	G3T3	 2004 Keir Morse
Dirca occidentalis	western leatherwood	Thymelaeaceae	perennial deciduous shrub	Jan-Mar(Apr)	1B.2	S2	G2	 2004 David A. Tharp
Eleocharis parvula	small spikerush	Cyperaceae	perennial herb	(Apr)Jun-Aug(Sep)	4.3	S3	G5	

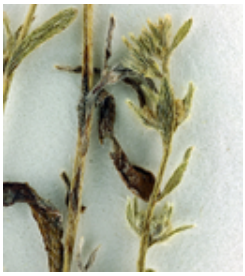
								 2004 Steve Matson
Eriastrum ertterae	Lime Ridge eriastrum	Polemoniaceae	annual herb	Jun-Jul	1B.1	S1	G1	no photo available
Eriogonum luteolum var. caninum	Tiburon buckwheat	Polygonaceae	annual herb	May-Sep	1B.2	S2	G5T2	 2001 Bart and Susan Eisenberg
Eriogonum truncatum	Mt. Diablo buckwheat	Polygonaceae	annual herb	Apr-Sep(Nov-Dec)	1B.1	S1	G1	 2005 John Game
Eriophyllum jepsonii	Jepson's woolly sunflower	Asteraceae	perennial herb	Apr-Jun	4.3	S3	G3	no photo available
Eryngium jepsonii	Jepson's coyote thistle	Apiaceae	perennial herb	Apr-Aug	1B.2	S2?	G2?	no photo available
Erysimum capitatum var. angustatum	Contra Costa wallflower	Brassicaceae	perennial herb	Mar-Jul	1B.1	S1	G5T1	 1995 Saint Mary's College of California
Extriplex joaquinana	San Joaquin spearscale	Chenopodiaceae	annual herb	Apr-Oct	1B.2	S2	G2	no photo available
Fissidens pauperculus	minute pocket moss	Fissidentaceae	moss		1B.2	S2	G3?	no photo available
Fritillaria liliacea	fragrant fritillary	Liliaceae	perennial bulbiferous herb	Feb-Apr	1B.2	S2	G2	

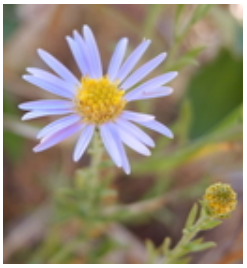
								 2009 Shawn DeCew
Gilia millefoliata	dark-eyed gilia	Polemoniaceae	annual herb	Apr-Jul	1B.2	S2	G2	 2005 Doreen L. Smith
Grimmia torenii	Toren's grimmia	Grimmiaceae	moss		1B.3	S2	G2	no photo available
Helianthella castanea	Diablo helianthella	Asteraceae	perennial herb	Mar-Jun	1B.2	S2	G2	 2007 Erin McDermott
Hesperolinon breweri	Brewer's western flax	Linaceae	annual herb	May-Jul	1B.2	S2	G2	 2007 Aaron Schusteff
Hoita strobilina	Loma Prieta hoita	Fabaceae	perennial herb	May-Jul(Aug-Oct)	1B.1	S2?	G2?	 2005 David A. Tharp
Holocarpha macradenia	Santa Cruz tarplant	Asteraceae	annual herb	Jun-Oct	1B.1	S1	G1	

								 2009 Zoya Akulova
Horkelia cuneata var. sericea	Kellogg's horkelia	Rosaceae	perennial herb	Apr-Sep	1B.1	S1?	G4T1?	 1995 Saint Mary's College of California
Iris longipetala	coast iris	Iridaceae	perennial rhizomatous herb	Mar-May	4.2	S3	G3	 2014 Aaron Schusteff
Isocoma arguta	Carquinez goldenbush	Asteraceae	perennial shrub	Aug-Dec	1B.1	S1	G1	 2010 Doug Wirtz
Juglans hindsii	Northern California black walnut	Juglandaceae	perennial deciduous tree	Apr-May	1B.1	S1	G1	 2012 Neal Kramer
Lasthenia conjugens	Contra Costa goldfields	Asteraceae	annual herb	Mar-Jun	1B.1	S1	G1	 2009 Zoya Akulova

Lathyrus jepsonii var. jepsonii	Delta tule pea	Fabaceae	perennial herb	May-Jul(Aug-Sep)	1B.2	S2	G5T2	 2003 Mark Fogiel
Leptosiphon acicularis	bristly leptosiphon	Polemoniaceae	annual herb	Apr-Jul	4.2	S4?	G4?	 2009 Genevieve K. Walden
Lilaeopsis masonii	Mason's lilaeopsis	Apiaceae	perennial rhizomatous herb	Apr-Nov	1B.1	S2	G2	 2005 Timothy Milliken 2005
Limosella australis	Delta mudwort	Scrophulariaceae	perennial stoloniferous herb	May-Aug	2B.1	S2	G4G5	 2008 Louis-M. Landry
Malacothamnus hallii	Hall's bush-mallow	Malvaceae	perennial evergreen shrub	(Apr)May-Sep(Oct)	1B.2	S2	G2	 2012 Aaron Arthur
Meconella oregana	Oregon meconella	Papaveraceae	annual herb	Mar-Apr	1B.1	S2	G2G3	 2010 Ryan Batten
	Mt. Diablo	Asteraceae	annual herb	Mar-May	3.2	S3S4	G3G4	

Micropus amphibolus	cottonweed							 2008 Aaron Arthur
Monardella antonina ssp. antonina	San Antonio Hills monardella	Lamiaceae	perennial rhizomatous herb	Jun-Aug	3	S1S3	G4T1T3Q	 2007 Neal Kramer
Monolopia gracilens	woodland woolythreads	Asteraceae	annual herb	(Feb)Mar-Jul	1B.2	S3	G3	 2009 Vernon Smith
Navarretia gowenii	Lime Ridge navarretia	Polemoniaceae	annual herb	May-Jun	1B.1	S1	G1	 2008 John Game
Navarretia nigelliformis ssp. radians	shining navarretia	Polemoniaceae	annual herb	(Mar)Apr-Jul	1B.2	S2	G4T2	 2008 Steve Matson
Oenothera deltoides ssp. howellii	Antioch Dunes evening-primrose	Onagraceae	perennial herb	Mar-Sep	1B.1	S1	G5T1	 2011 Zoya Akulova

Phacelia phacelioides	Mt. Diablo phacelia	Hydrophyllaceae	annual herb	Apr-May	1B.2	S2	G2	 2011 Vernon Smith
Plagiobothrys diffusus	San Francisco popcornflower	Boraginaceae	annual herb	Mar-Jun	1B.1	S1	G1Q	 2011 Steve Matson
Polygonum marinense	Marin knotweed	Polygonaceae	annual herb	(Apr)May-Aug(Oct)	3.1	S2	G2Q	 2001 Doreen L. Smith
Ranunculus lobbii	Lobb's aquatic buttercup	Ranunculaceae	annual herb (aquatic)	Feb-May	4.2	S3	G4	 2008 Jorg Fleige
Sanicula maritima	adobe sanicle	Apiaceae	perennial herb	Feb-May	1B.1	S2	G2	 2012 Wendy Fisher
Sanicula saxatilis	rock sanicle	Apiaceae	perennial herb	Apr-May	1B.2	S2	G2	no photo available
Senecio aphanactis	chaparral ragwort	Asteraceae	annual herb	Jan-Apr(May)	2B.2	S2	G3	 2010 Neal Kramer
Spergularia macrotheca var.	long-styled sand-spurrey	Caryophyllaceae	perennial herb	Feb-May(Jun)	1B.2	S2	G5T2	no photo available

longistyla								
Streptanthus albidus ssp. peramoenus	most beautiful jewelflower	Brassicaceae	annual herb	(Mar)Apr-Sep(Oct)	1B.2	S2	G2T2	 1994 Robert E. Preston, Ph.D.
Streptanthus hispidus	Mt. Diablo jewelflower	Brassicaceae	annual herb	Mar-Jun	1B.3	S2	G2	 2010 Rebecca Wenk
Stuckenia filiformis ssp. alpina	slender-leaved pondweed	Potamogetonaceae	perennial rhizomatous herb (aquatic)	May-Jul	2B.2	S2S3	G5T5	no photo available
Symphyotrichum lentum	Suisun Marsh aster	Asteraceae	perennial rhizomatous herb	(Apr)May-Nov	1B.2	S2	G2	 2015 John Doyen
Trifolium hydrophilum	saline clover	Fabaceae	annual herb	Apr-Jun	1B.2	S2	G2	 2005 Aaron Schusteff
Triquetrella californica	coastal triquetrella	Pottiaceae	moss		1B.2	S2	G2	no photo available
Tropidocarpum capparideum	caper-fruited tropidocarpum	Brassicaceae	annual herb	Mar-Apr	1B.1	S1	G1	 2004 Laura Ann Eliassen
Viburnum ellipticum	oval-leaved viburnum	Adoxaceae	perennial deciduous	May-Jun	2B.3	S3?	G4G5	

shrub

2006 Tom Engstrom

Suggested Citation

California Native Plant Society, Rare Plant Program. 2021. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39). Website http://www.rareplants.cnps.org [accessed 26 May 2021].

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IPaC **U.S. Fish & Wildlife Service**

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Contra Costa County, California

Local office

Sacramento Fish And Wildlife Office

(916) 414-6600
(916) 414-6713

Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information. IPaC only shows species that are regulated by USFWS (see FAQ).
2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Birds

NAME	STATUS

California Clapper Rail Rallus longirostris obsoletus — Endangered
Wherever found
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/4240

California Least Tern Sterna antillarum browni — Endangered
Wherever found
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/8104

Reptiles

NAME	STATUS

Alameda Whipsnake (=striped Racer) Masticophis lateralis euryxanthus — Threatened
Wherever found
There is **final** critical habitat for this species. The location of the critical habitat is not available.
https://ecos.fws.gov/ecp/species/5524

Giant Garter Snake Thamnophis gigas — Threatened
Wherever found
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/4482

Amphibians

NAME	STATUS

California Red-legged Frog Rana draytonii — Threatened
Wherever found
There is **final** critical habitat for this species. The location of the critical habitat is not available.
https://ecos.fws.gov/ecp/species/2891

California Tiger Salamander Ambystoma californiense — Threatened
There is **final** critical habitat for this species. The location of the critical habitat is not available.
https://ecos.fws.gov/ecp/species/2076

Fishes

NAME	STATUS

Delta Smelt Hypomesus transpacificus — Threatened
Wherever found
There is **final** critical habitat for this species. The location of the critical habitat is not available.
https://ecos.fws.gov/ecp/species/321

Insects

NAME	STATUS
Callippe Silverspot Butterfly Speyeria callippe callippe Wherever found There is **proposed** critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/3779	Endangered
San Bruno Elfin Butterfly Callophrys mossii bayensis Wherever found There is **proposed** critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/3394	Endangered

Crustaceans

NAME	STATUS
Vernal Pool Fairy Shrimp Branchinecta lynchi Wherever found There is **final** critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/498	Threatened

Flowering Plants

NAME	STATUS
Antioch Dunes Evening-primrose Oenothera deltoides ssp. howellii Wherever found There is **final** critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/5970	Endangered
Contra Costa Goldfields Lasthenia conjugens Wherever found There is **final** critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/7058	Endangered

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php
- Measures for avoiding and minimizing impacts to birds http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php
- Nationwide conservation measures for birds http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS ENTIRE RANGE.

"BREEDS ELSEWHERE" INDICATES THAT THE BIRD DOES NOT LIKELY BREED IN YOUR PROJECT AREA.)

Allen's Hummingbird Selasphorus sasin — Breeds Feb 1 to Jul 15
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9637

Bald Eagle Haliaeetus leucocephalus — Breeds Jan 1 to Aug 31
This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.
https://ecos.fws.gov/ecp/species/1626

Burrowing Owl Athene cunicularia — Breeds Mar 15 to Aug 31
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/9737

Common Yellowthroat Geothlypis trichas sinuosa — Breeds May 20 to Jul 31
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/2084

Golden Eagle Aquila chrysaetos — Breeds Jan 1 to Aug 31
This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.
https://ecos.fws.gov/ecp/species/1680

Lawrence's Goldfinch Carduelis lawrencei — Breeds Mar 20 to Sep 20
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9464

Lewis's Woodpecker Melanerpes lewis — Breeds Apr 20 to Sep 30
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9408

Nuttall's Woodpecker Picoides nuttallii — Breeds Apr 1 to Jul 20
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/9410

Oak Titmouse Baeolophus inornatus — Breeds Mar 15 to Jul 15
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9656

Rufous Hummingbird selasphorus rufus — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/8002

Song Sparrow Melospiza melodia — Breeds Feb 20 to Sep 5
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

Spotted Towhee Pipilo maculatus clementae — Breeds Apr 15 to Jul 20
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/4243

Tricolored Blackbird Agelaius tricolor — Breeds Mar 15 to Aug 10
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/3910

Wrentit Chamaea fasciata — Breeds Mar 15 to Aug 10
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that

week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.

2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

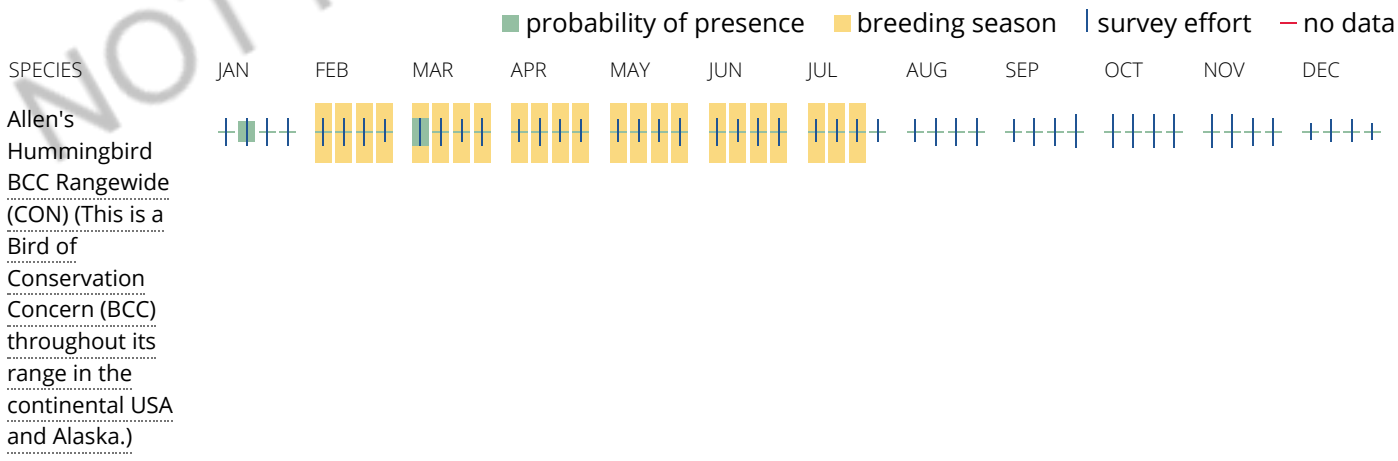
Breeding Season (▬)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

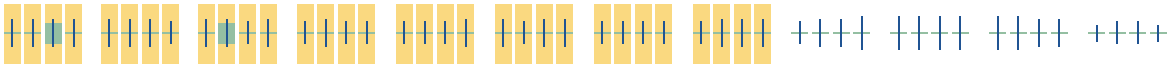
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

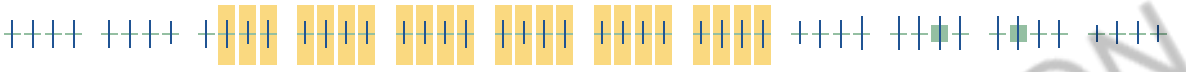
Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



Bald Eagle Non-BCC Vulnerable (This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.)

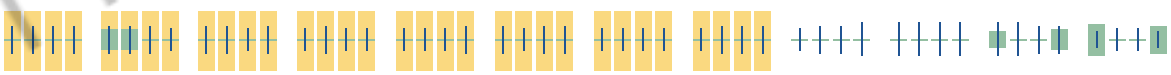


Burrowing Owl BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)

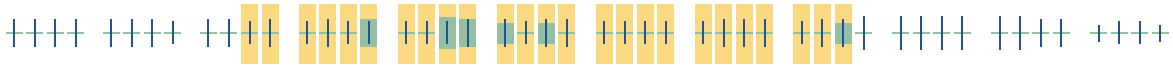


Common Yellowthroat BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)

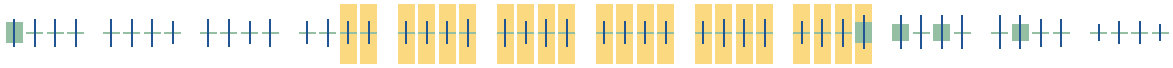
Golden Eagle Non-BCC Vulnerable (This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.)



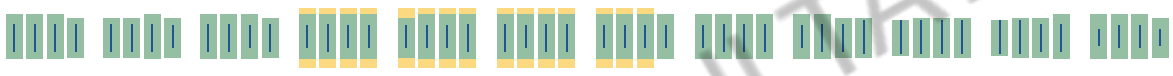
Lawrence's Goldfinch BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



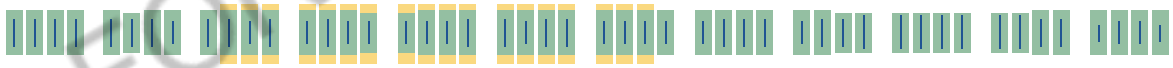
Lewis's Woodpecker BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



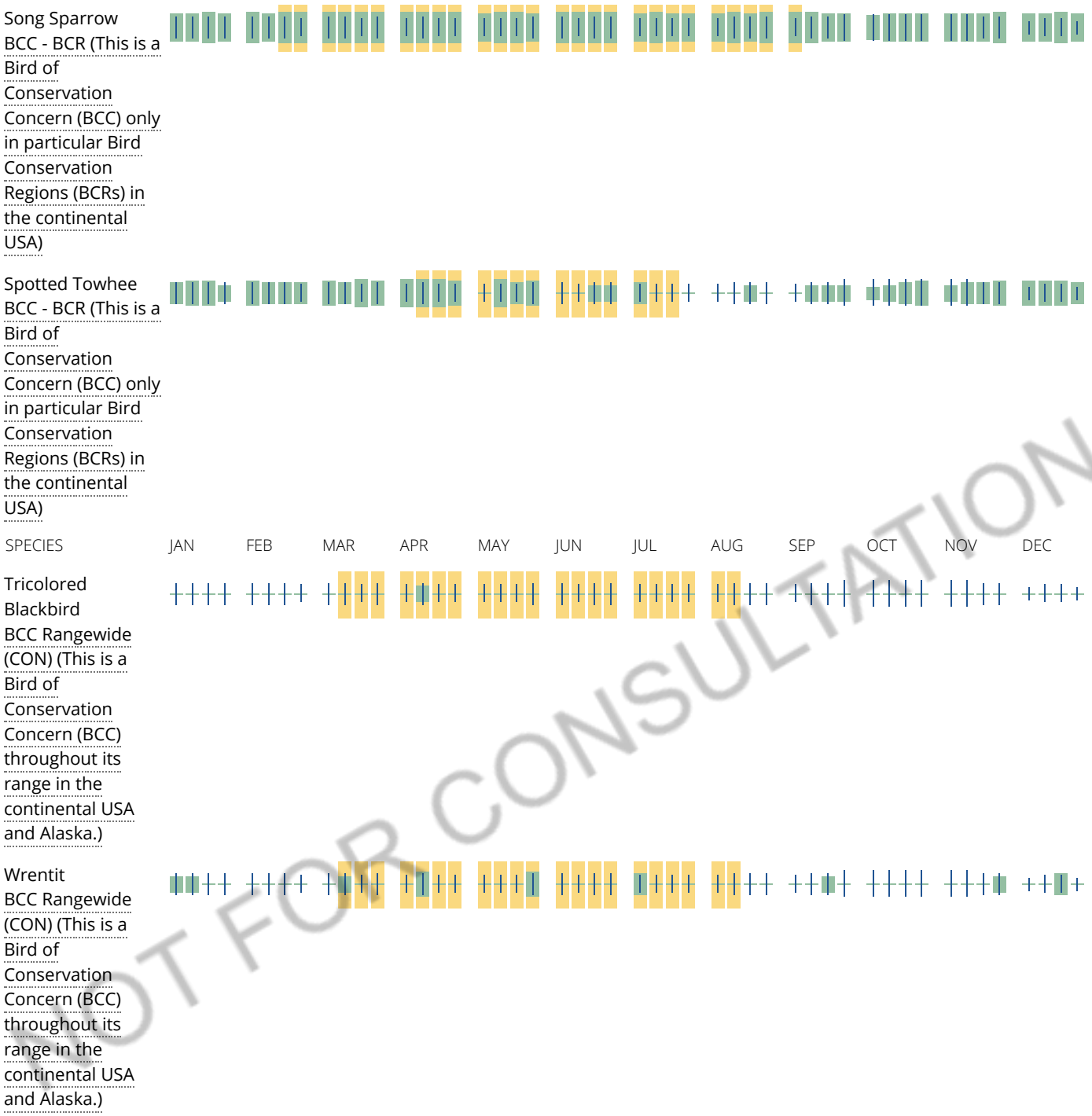
Nuttall's Woodpecker BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)



Oak Titmouse BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



Rufous Hummingbird BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the AKN Phenology Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets .

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: The Cornell Lab of Ornithology All About Birds Bird Guide, or (if you are unsuccessful in locating the bird of interest there), the Cornell Lab of Ornithology Neotropical Birds guide. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

THERE ARE NO KNOWN WETLANDS AT THIS LOCATION.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

C.2 - Species Table–Oak Road

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Table 1: Special-status Plant Species Evaluated

Scientific Name Common Name	Status			Habitat Description[4]	Potential to Occur and Rationale
	USFWS[1]	CDFW[2]	CNPS[3]		
Amsinckia lunaris Bent-flowered fiddlneck	—	—	1B.2	Cismontane woodland, coastal bluff scrub, and grassland. 3-795 m.	**None**: Lack of suitable habitat and high level of disturbance at site preclude presence. Lack of woodland and coastal bluff scrub onsite.
Anomobryum julaceum Slender silver moss	—	—	4.2	Broadleafed upland forest, lower montane coniferous forest, north coast coniferous forest. Moss which grows on damp rocks and soil; acidic substrates. Usually seen on roadcuts. 100-1000 m.	**None**: Lack of suitable habitat and high level of disturbance at site preclude presence. Lack of upland forest and montane forest onsite.
Arctostaphylos auriculata Mt. Diablo manzanita	—	—	1B.3	Chaparral, cismontane woodland. In canyons and slopes on sandstone. 180-565 m.	**None**: Lack of suitable habitat and high level of disturbance at site preclude presence. Lack of chaparral or sandstone onsite.
Arctostaphylos manzanita ssp. laevigata Contra Costa manzanita	—	—	1B.2	Chaparral on rocky slopes. 150-610 m.	**None**: Lack of suitable habitat and high level of disturbance at site preclude presence. Lack of chaparral or rocky slopes onsite.
Blepharizonia plumosa Big tarplant	—	—	1B.1	Valley and foothill grassland. Dry hills & plains in annual grassland. Clay to clay-loam soils; usually on slopes and often in burned areas. 60-505 m.	**None**: Lack of suitable habitat and high level of disturbance at site preclude presence. Lack of clay soil on site
Calochortus pulchellus Mt. Diablo fairy-lantern	—	—	1B.2	Chaparral, cismontane woodland, riparian woodland, valley and foothill grassland. On wooded and brushy slopes. 45-915 m.	**None**: Lack of suitable habitat and high level of disturbance at site preclude presence. Lack of chaparral and cismontane woodland onsite.
Centromadia parryi ssp. congdonii Congdon's tarplant	—	—	1B.1	Valley and foothill grassland. Alkaline soils, sometimes described as heavy white clay. 0-230 m.	**None**: Lack of suitable habitat and high level of disturbance at site preclude presence. Lack of alkaline soils on site.
Delphinium californicum ssp. interius Hospital canyon larkspur	—	—	1B.2	Cismontane woodland, chaparral, coastal scrub. In wet, boggy meadows, openings in chaparral and in canyons. 195-1095.	**None**: Lack of suitable habitat and high level of disturbance at site preclude presence. Lack of alkaline chaparral and coastal scrub on site.
Eriastrum ertterae Lime Ridge eriastrum	—	—	1B.1	Chaparral in openings or edges. Alkaline or semi alkaline sandy substrates. 210-275 m.	**None**: Lack of suitable habitat and high level of disturbance at site preclude presence. Lack of chaparral or alkaline soils on site.
Eriogonum truncatum Mt. Diablo buckwheat	—	—	1B.1	Chaparral, coastal scrub, valley and foothill grassland. In dry, exposed clay or sandy substrates. 105-350 m.	**None**: Lack of suitable habitat and high level of disturbance at site preclude presence. Lack of chaparral, or clay and sandy substrates on site.

Scientific Name Common Name	Status			Habitat Description[4]	Potential to Occur and Rationale
	USFWS[1]	CDFW[2]	CNPS[3]		
Eryngium jepsonii Jepson's coyote-thistle	—	—	1B.2	Vernal pools, valley and foothill grassland. In clay substrate. 3-305 m.	**None**: Lack of suitable habitat and high level of disturbance at site preclude presence. Lack of vernal pools, or clay substrate on site.
Extriplex joaquinana San Joaquin spearscale	—	—	1B.2	Chenopod scrub, Meadows and seeps, Playas, Valley and foothill grassland. In seasonal alkali wetlands or alkali sink scrub with Distichlis spicata, Frankenia, etc. 0-800 m.	**None**: Lack of suitable habitat and high level of disturbance at site preclude presence. Lack of chenopod scrub and alkali soils or sinks on site.
Fritillaria liliacea Fragrant fritillary	—	—	1B.2	Coastal scrub, valley and foothill grassland, coastal prairie, cismontane woodland. Often on serpentine; various soils reported though usually on clay, in grassland. 3-385 m.	**None**: Lack of suitable habitat and high level of disturbance at site preclude presence. Lack of coastal scrub and coastal prairie habitat on site.
Helianthella castanea Diablo helianthella	—	—	1B.2	Broadleafed upland forest, chaparral, cismontane woodland, coastal scrub, riparian woodland, valley and foothill grassland. Usually in chaparral/oak woodland interface in rocky, azonal soils. Often in partial shade. 45-1070 m.	**None**: Lack of suitable habitat and high level of disturbance at site preclude presence. Lack of upland forest and chaparral habitat onsite.
Lasthenia conjugens Contra Costa goldfields	FE	—	1B.1	Valley and foothill grassland, vernal pools, alkaline playas, cismontane woodland, swales, low depressions, in open grassy areas. 1-450 m.	**None**: Lack of suitable habitat and high level of disturbance at site preclude presence. Lack of vernal pools and cismontane woodlands onsite.
Malacothamnus hallii Hall's bush-mallow	—	—	1B.2	Chaparral, coastal scrub. Some populations on serpentine soils. 10-735 m.	**None**: Lack of suitable habitat and high level of disturbance at site preclude presence. Lack of chaparral and coastal scrub onsite.
Navarretia gowenii Lime Ridge navarretia	—	—	1B.1	Chaparral on calcium carbonate rich soils with high clay content. 180-305	**None**: Lack of suitable habitat and high level of disturbance at site preclude presence. Lack of chaparral onsite.
Oenothera deltoides ssp. howellii Antioch Dunes evening primrose	FE	SE	1B.1	Interior dunes in remnant river bluffs and sand dunes east of Antioch. 1-15 m.	**None**: Lack of suitable habitat and high level of disturbance at site preclude presence. Lack dunes or river bluffs onsite.
Stuckenia filiformis ssp. alpine slender-leaved pondweed	—	—	2B.2	Marshes and swamps. Shallow, clear water of lakes and drainage channels. 5-2325 m.	**None**: Lack of suitable habitat and high level of disturbance at site preclude presence. Lack of marshes and swamps onsite.
Viburnum ellipticum Oval-leaved viburnum	—	—	2B.3	Chaparral, coniferous forest on north facing slopes 215-1400 m.	**None**: Lack of suitable habitat and high level of disturbance at site preclude presence. Lack of chaparral or forest habitats onsite.

[1] **Federal Status: 2021 USFWS Listing** [2] **State Status: 2021 CDFW Listing**

Scientific Name Common Name	Status			Habitat Description[4]	Potential to Occur and Rationale
	USFWS[1]	CDFW[2]	CNPS[3]		

ESU = Evolutionary Significant Unit is a distinctive population.
FE = Listed as endangered under the FESA.
FT = Listed as threatened under the FESA.
FC = Candidate for listing (threatened or endangered) under FESA.
FD = Delisted in accordance with the FESA.
FPD = Federally Proposed to be Delisted.
MBTA = protected by the Migratory Bird Treaty Act
— = Not federally listed

SE = Listed as endangered under the CESA.
ST = Listed as threatened under the CESA.
SSC = Species of Special Concern as identified by the CDFW.
FP = Listed as fully protected under FGC.
CFG = FGC =protected by FGC 3503.5
CR = Rare in California.
— = Not state listed

Table 2: Special-status Wildlife Species Evaluated

Scientific Name Common Name	Status		Habitat Description[3]	Potential to Occur and Rationale
	USFWS[1]	CDFW[2]		
Amphibians				
Ambystoma californiense California tiger salamander	FT	ST	Need underground refuges, especially ground squirrel burrows, and vernal pools, ponds or other standing water bodies for breeding.	**None**: Lack of suitable breeding or upland habitat preclude presence. The project site lacks aquatic features and underground refuges within or nearby project site.
Rana boylii foothill yellow-legged frog	—	SE SSC	Found in or near streams with cobble-sized substrate for egg-laying with open sunny banks in forest, chaparral, and woodland habitats.	**None**: Lack of suitable aquatic or upland habitat on site preclude presence. No streams or other aquatic habitat is present onsite.
Rana draytonii California red-legged frog	FT	SSC	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation. Requires 11-20 weeks of permanent water for larval development	**None**: Lack of suitable habitat and high level of disturbance at site preclude presence. No deep pools or aquatic habitat is present onsite.
Birds				
Agelaius tricolor Tricolored blackbird	—	ST SSC	Breeds near fresh water in dense emergent vegetation.	**None:** The site does not contain aquatic resources or emergent vegetation.
Aquila chrysaetos Golden eagle	—	FP	Typically frequents rolling foothills, mountain areas, sage-juniper flats and desert	**None:** The site does not contain suitable foraging habitat.
Asio flammeus Short-eared owl	—	SSC	Occur in wide open spaces including marshes, open shrublands, grassland, prairie, and agricultural field habitats, and need dense ground cover to conceal nests.	**None:** The site does not contain suitable habitat to support this species. The site lacks open habitats and dense ground cover.
Athene cunicularia Burrowing owl	—	SSC	Open, dry annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel.	**None**: The site does not contain open grassland and no burrows were present during Live Oak or FCS' field surveys. High level of disturbance at site further precludes the potential for this species onsite.
Buteo swainsoni Swainson's hawk	—	ST	Breeds in stands with few trees in juniper-sage flats, riparian areas, and in oak savannah. Requires adjacent suitable foraging areas such as grasslands or alfalfa fields supporting rodent populations.	**None:** Suitable nesting habitat is absent from the project site.
Circus cyaneus Northern harrier	—	SSC	Frequents meadows, grasslands, open rangelands, freshwater emergent wetlands; uncommon in wooded habitats.	**None:** The site lacks meadows, wetlands, or open rangelands precludes this species.
Dendroica petechia brewsteri California Yellow Warbler	—	SSC	Migrants move through many habitats of Sierra and its foothills. This species breeds in riparian thickets of alder, willow and cottonwoods.	**None:** The site lacks riparian habitat which precludes this species.
Elanus leucurus White-tailed kite	—	FP	Rolling foothill and valley margins with scattered oaks. Open grasslands, meadows, and agricultural areas.	**Low:** The project site contains large trees that may support nesting for this species.

Scientific Name Common Name	Status		Habitat Description[3]	Potential to Occur and Rationale
	USFWS[1]	CDFW[2]		
Falco mexicanus Praire falcon	—	WL	Open, dry scrub and grassland terrain. Breeding sites located on cliffs.	**None:** The site does not contain scrub or grassland habitat. Additionally, the lack of cliffs onsite further preclude this species.
Falco peregrinus anatum American peregrine falcon	—	FP	Near wetlands, lakes, rivers, or other aquatic features. Nests on cliffs, coastal habitats or tall buildings.	**None:** The site does not contain suitable nesting habitat due to the lack of cliffs or tall buildings.
Haliaeetus leucocephalus Bald eagle	—	SE FP	Breeding habitat is usually within 4 km of a water source in a tall tree or cliffs; roosting in large numbers in winter is common.	**None:** The site does not contain suitable nesting habitat. The site lacks tall trees or cliffs within close proximity to a water source.
Sterna antillarum browni Calfornia least tern	FE	SE FP	Occurs in central to southern California April to November. Found in and near coastal habitat including coasts, beaches, bays, estuaries, lagoons, lakes, and rivers	**None:** The site does not contain suitable nesting habitat due to the lack of coasts, beaches, lakes, or rivers.
Invertebrates				
Bombus caliginosus Obscure bumble bee	—	—	Coastal areas from Santa Barbara to Washington state. Species requires floral resources that include Baccharis, Cirsium, Lupinus, Lotus, Grindelia, and Phacelia.	**None:** The project site does not contain suitable coastal environments, or adequate floral resources to support this species
Bombus occidentalis Western bumble bee	—	CE	Formerly found in large parts of California but has been reduced in abundance and is now mostly restricted to high meadows or coastal environments. Species requires floral resources, and undisturbed nest and overwintering sites	**None:** The project site does not contain suitable high meadows or coastal environments, floral resources and undisturbed nest sites to support this species.
Linderiella occidentalis California linderiella	—	—	Seasonal pools in undisturbed grasslands with alluvial soils underlain by hardpan or in sandstone depressions. Water in pools has very low alkalinity, conductivity, and total dissolved solids.	**None:** The project site does not contain aquatic features, including vernal pools to support this species.
Mammals				
Antrozous pallidus Pallid bat	—	SSC	Found in deserts, grasslands, shrublands, woodlands, and forests. Most common in open, dry habitats with rocky areas for roosting. Roosts must protect bats from high temperatures and include trees and buildings. Species is very sensitive to disturbance of roosting sites.	**Low**: Marginal nesting and roosting habitat is present onsite. The site contains numerous vacant buildings and trees for roosting.
Corynorhinus townsendii Townsend's big-eared bat	—	SSC	Throughout California in a wide variety of habitats. Most common in areas associated with mixed conifer forest, desert scrub, or pine forest habitat. Roosts in caves mines, and buildings. Extremely sensitive to human disturbance.	**Low**: Marginal nesting and roosting habitat is present onsite. The site contains numerous vacant buildings and trees for roosting.
Lasiurus cinereus Hoary bat	—	—	Prefers open habitats with access to trees for cover and open areas for feeding. Roosts in large trees.	**Low**: Marginal nesting and roosting habitat is present onsite. The site contains numerous trees for roosting.

Scientific Name Common Name	Status		Habitat Description[3]	Potential to Occur and Rationale
	USFWS[1]	CDFW[2]		
Neotoma fuscipes annectens San Francisco Dusky-Footed Woodrat	—	SSC	Forest and riparian habitats with moderate canopy coverage and moderate to dense understory. Nests are made of shredded grass, leaves, and other material.	**None:** The project site does not contain forest or riparian habitats to support this species.
Nyctinomops macrotis Big free-tailed bat	—	SSC	Migrant bats using elevations from 0-2600 meters. Roosts in rock crevices cliffs as well as in buildings, caves, and tree cavities	**Low:** Marginal nesting and roosting habitat is present onsite. The site contains numerous vacant buildings and trees for roosting.
Taxidea taxus American badger	—	SSC	Found in drier open stages of most shrub, forest and herbaceous habitats with friable soils, specifically grassland environments. Natal dens occur on slopes.	**None:** The site lacks shrub, forest, or herbacoues habitats. The developed nature of the site precludes this species.
Reptiles				
Anniella pulchra Northern California legless lizard	—	SSC	Sandy or loose loamy soils under sparse vegetation. Soil moisture is essential. They prefer soils with a high moisture content.	**None**: Lack of suitable habitat and high level of disturbance at site preclude presence. Lack of sandy or loose loamy soils onsite.
Emys marmorata western pond turtle	—	SSC	A thoroughly aquatic turtle of ponds, marshes, rivers, streams and irrigation ditches, usually with aquatic vegetation, below 6000 ft elevation.	**None**: Lack of suitable habitat and high level of disturbance at site preclude presence. No aquatic habitat present on site.
Masticophis lateralis euryxanthus Alameda whipsnake	FT	ST	Typically found in chaparral and scrub habitats but will also use adjacent grassland, oak savanna and woodland habitats. Specifically, mostly south-facing slopes and ravines, with rock outcrops, deep crevices or abundant rodent burrows, where shrubs form a vegetative mosaic with oak trees and grasses.	**None**: Lack of suitable habitat and high level of disturbance at site preclude presence. Lack of chaparral and scrub habitat onsite.
Phrynosoma blainvillii Coast horned lizard	—	SSC	Occurs in grasslands, scrublands, oak woodlands, etc. of central California. Common in sandy washes with scattered shrubs	**None:** Lack of suitable habitat and high level of disturbance at site preclude presence. Lack of sandy soils onsite.

Scientific Name Common Name	Status		Habitat Description[3]	Potential to Occur and Rationale
	USFWS[1]	CDFW[2]		
Code Designations				

[1] Federal Status: 2021 USFWS Listing		[2] State Status: 2021 CDFW Listing	
ESU	= Evolutionary Significant Unit is a distinctive population.	**SE**	= Listed as endangered under the CESA.
FE	= Listed as endangered under the FESA.	**ST**	= Listed as threatened under the CESA.
FT	= Listed as threatened under the FESA.	**SSC**	= Species of Special Concern as identified by the CDFW.
FC	= Candidate for listing (threatened or endangered) under FESA.	**FP**	= Listed as fully protected under FGC.
FD	= Delisted in accordance with the FESA.	**CFG**	= FGC =protected by FGC 3503.5
FPD	= Federally Proposed to be Delisted.	**CR**	= Rare in California.
MBTA	= protected by the Migratory Bird Treaty Act	**—**	= Not state listed
—	= Not federally listed		

[3] **Habitat Description**: Habitat description adapted from CNDDB[1] or other specified source*.
[4] **Potential to Occur and Rationale**: Location of recorded species occurrences determined by geospatial information from BIOS 5[2] or other specified source*.

[1] California Department of Fish and Wildlife (CDFW). 2020. CNDDB RareFind 5 California Natural Diversity Database Query for Special-Status Species. Website: https://map.dfg.ca.gov/rarefind/view/RareFind.aspx. Accessed May 26, 2021.
[2] California Department of Fish and Wildlife (CDFW). 2020. Biogeographic Information and Observation System (BIOS 5). Website: https://map.dfg.ca.gov/bios/. Accessed May 26, 2021.

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C.3 - Special-status Species Assessment–Oak Road

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From:	Katrina Krakow
To:	Torre, Marshall; Rick Hopkins
Subject:	Palmer-Walnut Creek
Date:	Wednesday, December 2, 2020 1:52:46 PM
Attachments:	image004.jpg image001.jpg

Hello Marshall,

As you know, I assessed the site for its potential to support special status plant and animal species and wetlands during the site visit on Friday, July 24, 2020. The site is an old school. There does not appear to be any issues related to special status plants and there does not appear to be any special status animal species issues that cannot be resolved by preconstruction surveys and construction-free buffers. Special status animal species are limited to several bird species as well as bat species. Below is a summary of potential constraints to the project.

Bats (potential timing constraint): The buildings onsite are old and most of them have some potential to support roosting bat habitat, as they have access points into the buildings. Part of the brick buildings also have ceiling tiles which may act like an attic for habitat for roosting bats. The large trees of the site may support cavities or dense foliage for bats to roost in as well. As the current budget allowed for only an overview bat habitat assessment, a full bat assessment should be conducted prior to removing trees and buildings onsite to determine which features at the time closer to removal have the potential to support bats. Removal plans for features identified during the assessment should follow directions in the assessment, which may include one or more of the following: 1) preconstruction surveys for areas which can be visually surveyed, 2) night emergence surveys for those features which cannot be visually surveyed outside of the overwintering season (surveys during March 1-October 15), and 3) timing restrictions for removal outside the overwintering and maternity seasons (typically removal can occur with a two-step removal process during March 1-April 15 and August 31-October 15).
As the site is currently developed, loss of this habitat would not result in a significant affect. In addition, preconstruction surveys and other appropriate minimization measures will be in place to reduce impacts to less-than-significant for nesting birds.

Nesting Migratory Birds and Raptors (potential timing constraint): Nesting migratory birds and raptors, including potential special status species, may nest on the site. There are several very large trees, moderately sized trees, shrubs, and ground habitat where nests may occur. Therefore, preconstruction surveys would need to be conducted should construction plan to start in the nesting season (February 1-August 31). No surveys for nesting birds would be required outside of those dates.
As the site is currently developed, loss of this habitat would not result in a significant affect. In addition, preconstruction surveys and other appropriate minimization measures will be in place to reduce impacts to less-than-significant for nesting birds.

Trees (potential design and permit constraint): Contra Costa County has a tree ordinance that covers several trees onsite which will require a permit to remove.

There are several oak trees as well as other species of trees which would be covered under this ordinance. As I know you have an arborist on board already, I will defer to him.

Please also note that:

- The property is not located within wetlands as defined by the United States Fish and Wildlife Service Manual, Part 660 FW2 (June 21, 1993).
- The property is not located with a stream or other resource that may be subject to a streambed alteration agreement pursuant to Chapter 6 (commencing with Section 1600) of Division 2 of the Fish and Game Code.

Thank you,

Katrina Krakow, M.S.
Project Manager/Staff Ecologist
loalogo

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San Jose CA 95119
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C.4 - Oak Road Townhouse Biological Resources Peer Review Memorandum

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Memorandum

Date: May 4, 2021

To: Jennifer Cruz, Senior Planner
Contra Costa County, Department of Conservation and Development

From: Robert Carroll, Biologist, FirstCarbon Solutions

Subject: Oak Road Townhouse Condominiums Peer Review, Biological Resources

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FirstCarbon Solutions (FCS) has reviewed the applicant-provided Special-Status Species Assessment prepared by Live Oak Associates (email summary dated December 2, 2020) and Tree Report prepared by HortScience (January 11, 2021) for the Oak Road Townhouse Condominiums Project (proposed project), located at 2747 Oak Road in unincorporated Contra Costa County.

The proposed project would construct 125 townhome condominium units in 19 three-story buildings. Three buildings along Oak Road would have roof decks. The proposed project would involve additional features such as parking spaces, landscaping, internal streets, courts, and walkways, and drainage improvements. Entry roads would be installed from both Oak Road and Jones Road.

FCS Biologists conducted a site reconnaissance on April 27, 2021, to confirm current conditions. The project site is developed and includes a former school with various associated buildings.

Special-status Species Assessment

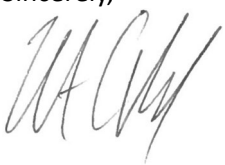
While FCS agrees with the general conclusions articulated in the assessment, the assessment is not supported by an adequate analysis of potential species to occur, and it does not include potential impacts or satisfactory Avoidance, Minimization, and/or Mitigation Measures (AMMs) to satisfy CEQA requirements. To meet CEQA requirements, the following analysis would be required:

- List of special-status species that are known to occur within Walnut Creek and the surrounding eight United States Geological Survey (USGS) quadrangles which have no, low, medium, or high potential to occur on the project site.
- Rationale on how the determination of potential occurrence of special-status wildlife species was made based on existing habitat conditions (perhaps provide a table of species with potential to occur).
- For all species that have been determined to have a potential to occur (low to high), what would be the potential impacts to each species and why, and which AMMs would be necessary to reduce those potential impacts to a less than significant level under CEQA.

Tree Report

FCS finds the Tree Report to be comprehensive and meets CEQA requirements. We recommend depicting the location of the trees to be removed on a revised impact figure that could be included in the CEQA document. All remaining analysis such as species identification, health, structural condition, protection guidelines, etc. appears to be adequate.

Sincerely,



Robert Carroll, Biologist
FirstCarbon Solutions
1350 Treat Boulevard, Suite 380
Walnut Creek, CA 94597

C.5 - Oak Road Townhouse Response to Review

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LIVE OAK ASSOCIATES, INC.
an Ecological Consulting Firm

May 12, 2021

Marshall Torre
Director of Development
SummerHill Homes
3000 Executive Parkway, Suite 450
San Ramon, CA 94583

RE: Response to Review for the Oak Road site in an unincorporated area of Walnut Creek, Contra Costa County, California (PN 2492-03)

Dear Mr. Torre:

We have prepared the below the requested information in the review by FirstCarbon Solutions dated May 4, 2021. Live Oak Associates, Inc. (LOA)'s initial reports to SummerHill Homes were designed as due diligence-level reports. We have included below the special status species occurrence table and relevant mitigations as requested.

Special Status Plants and Animals.
Several species of plants and animals within the state of California have low populations, limited distributions, or both. Such species may be considered "rare" and are vulnerable to extirpation as the state's human population grows and the habitats these species occupy are converted to agricultural and urban uses. State and federal laws have provided the California Department of Fish and Wildlife (CDFW) and the U.S. Fish and Wildlife Service (USFWS) with a mechanism for conserving and protecting the diversity of plant and animal species native to the state. A sizable number of native plants and animals have been formally designated as threatened or endangered under state and federal endangered species legislation. Others have been designated as "candidates" for such listing. Still others have been designated as "species of special concern" by the CDFW. The California Native Plant Society (CNPS) has developed its own set of lists of native plants considered rare, threatened, or endangered (CNPS 2021). Collectively, these plants and animals are referred to as "special status species."

A number of special status plants and animals occur in the vicinity of the project site. These species, and their potential to occur in the project site, are listed in Table 1. Sources of information for this table included *California Natural Diversity Data Base* (CDFW 2020), *Listed Plants* and *Listed Animals* (USFWS 2020), *State and Federally Listed Endangered and Threatened Animals of California* (CDFW 2020), *The California Native Plant Society's*

Inventory of Rare and Endangered Vascular Plants of California (CNPS 2020), *California Bird Species of Special Concern* (Shuford and Gardall 2008), and *California Amphibian and Reptile Species of Special Concern* (Thompson et al. 2016). This information was used to evaluate the potential for special status plant and animal species that occur on the site.

Prior to the site visit, a search of published accounts for all of the relevant special status plant and animal species was conducted for the Walnut Creek USGS 7.5 minute quadrangle in which the project site occurs, and for the eight surrounding quadrangles (Benicia, Vine Hill, Honker Bay, Briones Valley, Clayton, Oakland East, Las Trampas Ridge, and Diablo) using the CNDDB Rarefind5. All species listed as occurring in these quadrangles on CNPS Lists 1A, 1B, 2, or 4 were also reviewed.

As the site is a fully developed and highly impacted site, all special status plants that occur or once occurred within the project vicinity are considered absent from the site.

As the site lacks aquatic habitat such as streams, creeks, ponds, and vernal pools, fairy shrimp and fish are considered absent from the site. We have also excluded from our analysis those species for which the site is not within their home range and for which suitable habitat such as bay lands, marshlands, riparian, and serpentine habitat does not occur onsite. Below is our assessment of the potential of species which may be reasonably expected to occur within the project vicinity to occur on the site.

TABLE 1. LIST OF SPECIAL STATUS SPECIES THAT COULD OCCUR IN THE PROJECT VICINITY

ANIMALS (Continued adapted from CDFW 2020 and USFWS 2020)
Species Listed as Threatened or Endangered under the State and/or Federal Endangered Species Act

Species	Status	Habitat	Occurrence in the Project Site
California Tiger Salamander (CTS) (*Ambystoma californiense*)	FT, CT	Breeds in vernal pools and stock ponds of central California; adults aestivate in grassland habitats adjacent to the breeding sites.	**Absent.** Suitable breeding and upland habitat for this species is absent from the site and the vicinity of the site. The nearest suitable habitat and recorded observation approximately 0.6 miles to the southeast of the site (CDFW 2020) and separated from the site by substantial development that would act as a landscape barrier for the CTS.
Foothill yellow-legged frog (FYLF) (*Rana boylii*)	CE, CSC	Occurs in swiftly flowing streams and rivers with rocky substrate with open, sunny banks in forest, chaparral, and woodland habitats, and can sometimes be found in isolated pools.	**Absent.** Suitable aquatic and upland habitat for the FYLF is absent from the project site and the vicinity of the site.
California Red-legged Frog (CRLF) (*Rana aurora draytonii*)	FT, CSC	Rivers, creeks and stock ponds of the Sierra foothills and Bay Area, preferring pools with overhanging vegetation.	**Absent.** Suitable aquatic and upland habitat for the CRLF is absent from the project site and the vicinity of the site.

TABLE 1. LIST OF SPECIAL STATUS SPECIES THAT COULD OCCUR IN THE PROJECT VICINITY

ANIMALS (Continued adapted from CDFW 2020 and USFWS 2020)
Species Listed as Threatened or Endangered under the State and/or Federal Endangered Species Act

Species	Status	Habitat	Occurrence in the Project Site
Alameda Whipsnake (*Masticophis lateralis euryxanthus*)	FT, CT	Occurs in chaparral foothills, shrublands with scattered grass patches, rocky canyons, and watercourses. Occurs in the San Francisco Bay area including Alameda, Contra Costa, Santa Clara and San Joaquin Counties, CA.	**Absent.** The site is fully developed and suitable habitat for this species is absent from the site.
California least tern (*Sterna antillarum browni*)	FE, CE, CP	Occurs in central to southern California April to November. Found in and near coastal habitat including coasts, beaches, bays, estuaries, lagoons, lakes, and rivers.	**Absent.** Although this species may fly over the site during migration, it is not expected to forage or roost on the site.
Tricolored Blackbird (*Agelaius tricolor*)	CT, CSC	Breeds near fresh water in dense emergent vegetation.	**Absent.** Suitable nesting habitat is absent from the project site.
Swainson's hawk (SWHA) (*Buteo swainsoni*)	CT	Breeds in stands with few trees in juniper-sage flats, riparian areas, and in oak savannah. Requires adjacent suitable foraging areas such as grasslands or alfalfa fields supporting rodent populations.	**Absent.** The SWHA is not known to breed in this area; the nearest record is more than seven miles to the east of the project site and is a record from 1898. Therefore, Swainson's hawks are presumed to be absent from the site.

ANIMALS (adapted from CDFW 2020 and USFWS 2020)
State Species of Special Concern and Protected Species

Species	Status	Habitat	Occurrence in the Project Site
Northern California legless lizard (*Anniella pulchra*)	CSC	The NCLL (previously called black legless lizard) occurs mostly underground in warm moist areas with loose soil and substrate. The NCLL occurs in habitats including sparsely vegetated areas of beach dunes, chaparral, pine-oak woodlands, desert scrub, sandy washes, and stream terraces with sycamores, cottonwoods, or oaks.	**Absent.** Habitats required by northern California legless lizards are absent from the site, as the site lacks sandy soils.
Coast horned lizard (*Phrynosoma blainvillii*)	CSC	Occurs in grasslands, scrublands, oak woodlands, etc. of central California. Common in sandy washes with scattered shrubs.	**Absent.** Habitats required by coast horned lizards are absent from the site as the site lacks sandy soils.

TABLE 1. LIST OF SPECIAL STATUS SPECIES THAT COULD OCCUR IN THE PROJECT VICINITY

ANIMALS (Continued adapted from CDFW 2020 and USFWS 2020)
State Species of Special Concern and Protected Species

Species	Status	Habitat	Occurrence in the Project Site
Western pond turtle (WPT) (*Actinemys marmorata*)	CSC	Intermittent and permanent waterways including streams, marshes, rivers, ponds and lakes. Open slow-moving water of rivers and creeks of central California with rocks and logs for basking.	**Absent.** Water features are absent from the site and the vicinity of the site.
Northern harrier (*Circus cyaneus*)	CSC	Frequents meadows, grasslands, open rangelands, freshwater emergent wetlands; uncommon in wooded habitats.	**Unlikely.** Habitat onsite for the northern harrier is poor and it would be unlikely to forage or nest on the site.
White-tailed Kite (WTK) (*Elanus leucurus*)	CP	Open grasslands and agricultural areas throughout central California.	**Possible.** Several large trees of the site are suitable to support nesting WTK.
American peregrine falcon (*Falco peregrines anatum*)	CP	Individuals breed on cliffs in the Sierra or in coastal habitats; occurs in many habitats of the state during migration and winter.	**Unlikely.** The CNDDB reports the location for this species on the quadrangle scale, however, suitable nesting habitat such as tall buildings is not present on the site.
Golden Eagle (GE) (*Aquila chrysaetos*)	CP	Typically frequents rolling foothills, mountain areas, sage-juniper flats and desert.	**Absent.** Suitable foraging and breeding habitat for the golden eagle is absent from the site.
Bald eagle (*Haliaeetus leucocephalus*)	CE, CP	Breeding habitat is usually within 4 km of a water source in a tall tree or cliffs; roosting in large numbers in winter is common.	**Absent.** Suitable foraging and breeding habitat for the bald eagle is absent from the site.
Burrowing Owl (BUOW) (*Athene cunicularia*)	CSC	Found in open, dry grasslands, deserts and ruderal areas. Requires suitable burrows. This species is often associated with California ground squirrels.	**Unlikely.** Suitable habitat in the form of open land with burrows is absent from the site, therefore, burrowing owls would be unlikely to occur on the site.
Short-eared owl (*Asio flammeus*)	CSC	Occur in wide open spaces including marshes, open shrublands, grassland, prairie, and agricultural field habitats, and need dense ground cover to conceal nests.	**Absent.** Suitable habitat I the form of open land is largely absent from the site and the sports fields provide poor quality habitat for the short-eared owl.
California Yellow Warbler (*Dendroica petechia brewsteri*)	CSC	Migrants move through many habitats of Sierra and its foothills. This species breeds in riparian thickets of alder, willow and cottonwoods.	**Unlikely.** Although suitable breeding habitat is absent from the site, this species may be expected to migrate through the site from time to time.
Townsend's Big-eared bat (*Corynorhinus townsendii*)	CSC	Primarily a cave-dwelling bat that may also roost in buildings. Occurs in a variety of habitats.	**Possible.** Suitable foraging and roosting habitat occurs onsite in the form of buildings and trees of the site (CDFW 2020).

TABLE 1. LIST OF SPECIAL STATUS SPECIES THAT COULD OCCUR IN THE PROJECT VICINITY

ANIMALS (Continued adapted from CDFW 2020 and USFWS 2020)
State Species of Special Concern and Protected Species

Species	Status	Habitat	Occurrence in the Project Site
Pallid Bat (*Antrozous pallidus*)	CSC	Grasslands, chaparral, woodlands, and forests; most common in dry rocky open areas providing roosting opportunities.	**Possible.** Suitable foraging and roosting habitat occurs onsite in the form of buildings and trees of the site (CDFW 2020).
Big free-tailed bat (*Nyctinomops macrotis*)	CSC	Migrant bats using elevations from 0-2600 meters. Roosts in rock crevices cliffs as well as in buildings, caves, and tree cavities.	**Possible.** Suitable foraging and roosting habitat occurs onsite in the form of buildings and trees of the site (CDFW 2020).
San Francisco Dusky-Footed Woodrat (*Neotoma fuscipes annectens*)	CSC	Found in hardwood forests, oak riparian and shrub habitats.	**Unlikely.** Woodrat nests were not observed during the site visit and would have been observable if they occurred on the project site. Therefore, they are not likely to occur onsite.
American Badger (*Taxidea taxus*)	CSC	Found in drier open stages of most shrub, forest and herbaceous habitats with friable soils, specifically grassland environments. Natal dens occur on slopes.	**Absent.** Badgers are known to occur in the foothills, however, as the site is an infill site which is already developed, badgers are not expected to occur on the site.

***Explanation of Occurrence Designations and Status Codes**
Present: Species observed on the site at time of field surveys or during recent past.
Likely: Species not observed on the site, but it may reasonably be expected to occur there on a regular basis.
Possible: Species not observed on the site, but it could occur there from time to time.
Unlikely: Species not observed on the site, and would not be expected to occur there except, perhaps, as a transient.
Absent: Species not observed on the site and precluded from occurring there because habitat requirements not met.

STATUS CODES

FE	Federally Endangered	CE	California Endangered
FT	Federally Threatened	CT	California Threatened
FPE	Federally Endangered (Proposed)	CR	California Rare
FC	Federal Candidate	CP	California Protected
CSC	California Species of Special Concern	CCE	California Candidate Endangered
CNPS	California Native Plant Society Listing		
1A	Plants Presumed Extinct in California	3	Plants about which we need more information – a review list
1B	Plants Rare, Threatened, or Endangered in California and elsewhere	4	Plants of limited distribution – a watch list
2	Plants Rare, Threatened, or Endangered in California, but more common elsewhere		

Potential Impacts and Mitigation Measures.

Of the 23 species which have some potential to occur or to have once occurred on the project site or the vicinity of the project site, all except for four are considered to be absent or unlikely to occur onsite. Of the four species with a higher potential to occur onsite, three are bat species (Townsend's big-eared bat, pallid bat, and big free-tailed bat) which have the potential to forage over the site and roost in the buildings and trees of the site and one is a bird species (white-tailed kite) which has the potential to nest in the large trees of the site and forage throughout the site. Site demolition and redevelopment of the site has will not cause a significant negative effect to these species, however, these activities do have the potential to cause harm or to injure individuals of these species, therefore, appropriate mitigation measures for these species as well as other nesting migratory birds and raptors are below.

Bats (potential timing constraint): The buildings onsite are old and most of them have some potential to support roosting bat habitat, as they have access points into the buildings. Part of the brick buildings also have ceiling tiles which may act like an attic for habitat for roosting bats. The large trees of the site may support cavities or dense foliage for bats to roost in as well. As the current budget allowed for only an overview bat habitat assessment, a full bat assessment should be conducted prior to removing trees and buildings onsite to determine which features at the time closer to removal have the potential to support bats. Removal plans for features identified during the assessment should follow directions in the assessment, which may include one or more of the following: 1) preconstruction surveys for areas which can be visually surveyed, 2) night emergence surveys for those features which cannot be visually surveyed outside of the overwintering season (surveys during March 1-October 15), and 3) timing restrictions for removal outside the overwintering and maternity seasons (typically removal can occur with a two-step removal process during March 1-April 15 and August 31-October 15).

Nesting Migratory Birds and Raptors Including the White-Tailed Kite (potential timing constraint): Nesting migratory birds and raptors, including the white-tailed kite, may nest on the site. There are several very large trees, moderately sided trees, shrubs, and ground habitat where nests may occur. Therefore, preconstruction surveys would need to be conducted should construction plan to start in the nesting season (February 1-August 31). No surveys for nesting birds would be required outside of those dates.

Sincerely,

Katrina Krakow, M.S.
Senior Project Manager
Staff Ecologist

C.6 - Oak Road Townhouse Tree Report

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SummerHill Homes

Tree Report
Oak Road Townhome Condominiums

Prepared for:
SummerHill Homes
3000 Executive Parkway, Suite 450
San Ramon CA 94583

Prepared by:
HortScience | Bartlett Consulting
325 Ray Street
Pleasanton CA 94566

January 11, 2021

HORT SCIENCE
BARTLETT CONSULTING
Divisions of The F.A. Bartlett Tree Expert Company

Tree Report

Oak Road Townhome Condominiums
Contra Costa County CA

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Introduction and Overview

SummerHill Homes is planning to re-develop several parcels located on Oak and Jones Roads in an unincorporated section of Contra Costa County CA. A number of structures are present on the site as well as paved driveway and landscaping. HortScience | Bartlett Consulting, divisions of the F.A. Bartlett Tree Expert Co., was asked to prepare a **Tree Report** for the project. Contra Costa County requires that a **Tree Report** be prepared in situations where development and construction activity will occur near existing trees and/or if numerous trees are involved. This report provides the following information:

1. A survey of trees currently growing on the site.
2. An assessment of the impacts of constructing the proposed project on the trees based on the proposed site plan prepared by RJA (project engineers).
3. Recommendations for action.
4. Guidelines for tree preservation during the design, construction and maintenance phases of development.

Assessment Methods

Trees #76 – 84 were assessed in July 2020; trees #101 – 172 in December 2020. The scope encompassed all trees over 6" in diameter located within the proposed project limits. The assessment procedure consisted of the following steps:

1. Identify the tree as to species.

2. Attach a numerically coded metal tag to the trunk of each tree. Tree tag numbers were not continuous.

3. Record the tree's location on a map.

4. Measure the trunk diameter at a point 54" above grade.

5. Evaluate the health and structural condition using a scale of 0 – 5 where 0 = dead, 1 = poor and 5 = excellent condition.

5. Comment on presence of defects in structure, insects or diseases and other aspects of development.

6. Assess the tree's suitability for preservation as low, moderate or high.

Trees #80, 160, 161, 168, 171 and 172 appeared to be located on adjacent properties. These trees were included in the assessment because tree trunks were within 2 ft. of the presumed property line and/or tree crowns extended into the project area.

Results for individual trees are located in the ***Tree Assessment Form*** (see **Attachments**). Tree locations are noted by tree tag number in the ***Tree Assessment Plan***.

Description of Trees

Eighty-one (81) trees were assessed representing 22 species. Valley oak and Calif. bay are native to Contra Costa County. While the bay trees appeared to be planted, the valley oaks were likely indigenous to the site. The remaining 19 species were typical of those found in landscape plantings in the County with the exception white ash which is somewhat unusual.

Table 1. Tree condition & frequency of occurrence. Oak Road Townhome Condominiums. Contra Costa County CA.

Common name	Scientific name	Condition				Trees
		Poor (1,2)	Fair (3)	Good (4)	Excell. (5)	
Deodar cedar	*Cedrus deodara*	--	--	--	1	1
Persimmon	*Diospyros kaki*	--	1	1	--	2
Silver dollar gum	*Eucalyptus polyanthemos*	2	--	--	--	2
Fig	*Ficus carica*	--	1	--	--	1
White ash	*Fraxinus americana*	--	1	--	--	1
English walnut	*Juglans regia*	2		--	--	2
Glossy privet	*Ligustrum japonicum*	5	3	--	--	8
Southern magnolia	*Magnolia grandiflora*	--	--	3	--	3
Apple	*Malus domestica*	1	--	--	--	1
Mulberry	*Morus alba*	5	--	--	--	5
Olive	*Olea europaea*	--	1	--	--	1
Oriental arborvitae	*Platycladus orientalis*	1	1	--	--	2
Cherry	*Prunus avium*	--	1	--	--	1
Plum	*Prunus domestica*	1	1	--	--	2
Almond	*Prunus dulcis*	1	--	--	--	1
Pomegranate	*Punica granatum*	--	1	--	--	1
Pear	*Pyrus communis*	1	--	--	--	1
Scarlet oak	*Quercus coccinea*	5	--	--	--	5
Valley oak	*Quercus lobata*	--	2	6	1	9
Red oak	*Quercus rubra*	2	--	--	--	2
Coast redwood	*Sequoia sempervirens*	1	2	19	5	27
Calif. bay	*Umbellularia californica*	--	3	--	--	3
Total, all trees assessed		**27**	**18**	**29**	**7**	**81**

Coast redwood was the most frequently occurring species with 27 trees. Most were located in the southern portion of the site including 19 trees that formed a long screen along the south property line (Photo 1). Redwoods #164 to 167 were in the northwest corner of the site, near Jones Rd. Trees were semi-mature in development with trunk diameters between 12 and 31 in. Approximately 50% of redwoods were 22 in. or larger. Tree condition was generally good (19 trees). Redwoods #157, 164, 165, 166, and 167 were in excellent condition. Tree #113 was in poor condition and #114 and 115 were fair.

Photo 1 (left). A row of coast redwoods was present on the south side of the site.

Photo 2 (above). Several mature valley oaks included trees #81 (right) and 82 (left)

Nine valley oaks were present, scattered across the north half of the site (Photo 2). Trees varied from semi-mature to mature in development with trunk diameters ranging from 13 to 73 in. Tree condition was variable. Valley oaks #79 and 84 were fair; trees #76, 77, 78, 80, 81, and 82 were good; tree #83 was excellent. Tree form ranged from rounded to asymmetric in response to growing conditions and crowding.

Tree #77 was 73 in. in diameter (Photo 3). This large tree was near Oak Road. It has a wide-spreading crown. Several large scaffold limbs arose at 12 ft. One of these extended to the southwest. Cavities in the lower trunk had been filled with concrete many years ago.

Photo 3. Looking northwest at valley oak #77.

Valley oak #80 was located off the project site to the north. Its crown, however, extended over the property line by approximately 35 ft. The crown was asymmetric and heavy to the south. Branches on the north had been removed and reduced.

Eight glossy privets were scattered throughout the site. Most were typical small trees with multiple stems that arose low on the trunk. Tree condition was compromised by poor health, likely due to a lack of supplemental irrigation. Trunk diameters ranged from 6 to 10 in.

Five scarlet oaks (#101 to 105) were street trees along Oak Road (Photo 4). Trees had been installed in cutouts in the sidewalk. Unfortunately, overhead electrical conductors were present, and trees had been topped to maintain clearance. As a result, scarlet oaks had poor structure and were in poor condition. Trunk diameters ranged from 10 to 15 in.

Photo 4. Looking north at scarlet oak trees. Note presence of overhead electrical lines.

Five mulberries were present (Photo 5). All had been topped/cut back to 6 to 8 ft. tall stumps. As a result, all were in poor condition. Trunk diameters varied from 12 to 20 in.

Photo 5. Typical mulberry in a pavement cutout.

No other species was represented by more than three trees. Included in that group were:

- Almond #108 had two trunks of 5 in. The tree was in poor condition with poor form and structure.
- Apple #110 was 9 in. and in poor condition due to a history of topping.
- Calif. bays #154, 155, 156 were large shrub-like plants. All were in fair condition with dense canopies of foliage and multiple stems arising at ground level.
- Cherry #111 was 5 in. and in fair condition.
- Deodar cedar #168 was located off-site in the northwest corner of the project. It was approximately 23 in. in diameter and in excellent condition.
- English walnuts #162 and 163 were mature trees in the northwest corner of the site. Both were in poor condition.
- Fig #121 had stems of 13 and 10 in. It was in fair condition and had been topped to 15 ft.

- Olive #130 was 13 in. and in fair condition with a rangy irregular form.
- Oriental arborvitae #158 and 159 were large shrubs with multiple stems. Tree #158 was fair while #159 was poor.
- Pear #106 had trunks of 6 and 5 in. and was in poor condition.
- Persimmons #145 and 152 were located on the south side of the property within the row of coast redwoods. Tree #145 was 12 in. and in good condition while #152 was 8 in. and fair.
- Plums #153 had multiple stems that arose at the base. It was in poor condition with numerous stems having been removed. Plum #169 was 6 in. and fair.
- Pomegranate #170 was a small shrub.
- Red oaks #171 and 172 were located off-site in the southeast corner of the site. Both trees were 19 in. and in poor condition due to a history of topping.
- Silver dollar gums #160 and 161 were large mature trees located off-site near the Jones Road entry (Photo 6). Both trees were in poor condition due to history of topping.

Photo 6. Looking south at silver dollar gums #160 and 161.

- Southern magnolias # 119, 120 and 121 were semi-mature trees in good condition. Trunk diameters were 14, 19 and 20 in. respectively.
- White ash #128 was a large mature tree with a trunk diameter of 32 in. Tree condition was fair.

Description of individual trees is found on the enclosed ***Tree Assessment Form***. Tree locations are found on the ***Tree Assessment Plan***. Both are included as **Attachments**.

Suitability for Preservation

Trees that are preserved on development sites must be carefully selected to make sure that they may survive development impacts, adapt to a new environment and perform well in the landscape. Our goal is to identify trees that have the potential for long-term health, structural stability and longevity. Evaluation of suitability for preservation considers several factors:

- **Tree health**
  Healthy, vigorous trees are better able to tolerate impacts such as root injury, demolition of existing structures, changes in soil grade and moisture, and soil compaction than are non-vigorous trees.

- **Structural integrity**
  Trees with significant amounts of wood decay and other structural defects that cannot be corrected are likely to fail. Such trees should not be preserved in areas where damage to people or property is likely.

- **Species response**
  There is a wide variation in the response of individual species to construction impacts and changes in the environment. In our experience, for example, Monterey pine, Calif. bay, and blue gum are very sensitive to construction impacts; while coast live oak is more tolerant of site disturbance.

- **Tree age and longevity**
  Old trees, while having significant emotional and aesthetic appeal, have limited physiological capacity to adjust to an altered environment. Young trees are better able to generate new tissue and respond to change.

- **Species invasiveness**
  Species which spread across a site and displace desired vegetation are not always appropriate for retention. This is particularly true when indigenous species are displaced. The California Invasive Plant Inventory Database (www.cal-ipc.org) lists species identified as being invasive. Contra Costa County is part of the Central West Floristic Province. Species identified as invasive that were present at Oak Road Townhome Condominiums include tree of heaven and Mexican fan palm.

Tree condition (health and structure) is the starting point for assessing suitability for preservation. In addition, suitability for preservation considers species response to impacts and invasiveness.

Each tree was rated for suitability for preservation based upon its age, health, structural condition and ability to safely coexist within a development environment (Table 2).

Table 2. Tree suitability for preservation. Oak Road Townhome Condominiums. Contra Costa County CA.

High	Trees in good condition that have the potential for longevity at the site. Twenty-eight (28) trees were rated as having high suitability for preservation including 22 coast redwoods; valley oak #76, 80, 82, 83; Deodar cedar #168, and persimmon #145.
Moderate	Trees in fair health and/or possessing structural defects that may be abated with treatment. Trees in this category require more intense management and monitoring, and may have shorter life-spans than those in the "high" category. Eleven (11) trees were rated as having moderate suitability for preservation: valley oak #77, 78, 79, 81, 84; coast redwood #115, 139, 140; and southern magnolia #119, 120, 121.
Low	Trees in poor health or possessing significant defects in structure that cannot be abated with treatment. These trees can be expected to decline regardless of management. The species or individual tree may possess either characteristics that are undesirable in landscape settings or be unsuited for use areas. Forty-two (42) trees were rated as having low suitability for preservation including: 8 glossy privet, 5 mulberry, and 5 scarlet oak.

We consider trees with high suitability for preservation to be the best candidates for preservation. We do not normally recommend retention of trees with low suitability for preservation in areas where people or property will be present. Retention of trees with moderate suitability for preservation depends upon the intensity of proposed site changes.

Evaluation of Impacts and Recommendations for Action

Appropriate tree retention develops a practical match between the location and intensity of construction activities and the quality and health of trees. The tree assessment was the reference points for tree condition and quality. Impacts from the proposed project were assessed using the preliminary site plan prepared by RJA Associates, project engineers, as well as detail of preliminary grading and utility plans near valley oak #77.

The project plans to construct 125 units, up to three stories tall with some roof decks. Entry roads will be installed from both Oak and Jones Roads. Impacts to trees could occur in a variety of ways. First, demolition of existing improvements such as buildings and infrastructure may directly damage tree roots and crowns. As significantly, grading and other construction activities may also damage trees, through both direct mechanical injury and indirectly by altering drainage. Given the density of site development, all on-site trees are located within areas proposed for development.

Contra Costa Code (section 816-6.8010) identifies factors that may be taken into account when making a decision to approve or deny a tree removal permit application. Among the factors are:

(A) Tree is in poor health and cannot be saved.
Twenty-seven (27) of the 81 trees assessed were in poor condition.

(G) Reasonable development of the property would require the alteration or removal of the tree and this development could not be reasonably accommodated on another area of the lot.
The proposed project involves construction of 125 residential units as well as associated infrastructure and parking. The project will impact the site from property line to property. Impacts to all on-site trees will be severe as all trees are within areas proposed for development.

Based on my review of project plans and assessment of existing trees, I recommend removal of 74 on-site trees, relocation of valley oak #83, and preservation of six off-site trees (Table 3).

As an example of the extent of impacts, valley oak #77 is a 73 in. diameter tree in good condition. It is located at a planned street corner near the entry from Oak Road. The street surface would be approximately 1 ft. above existing grade. Curb and gutter would be installed 10 ft. from the trunk on two sides. Both pavement and curb would require excavation. In addition, utilities would be installed under both streets. Utilities would be within 20 ft. from the trunk on two sides of the tree. Building G would be installed approximately 40 ft. from the trunk on the north. The required clearance for project streets is 26 ft., to accommodate fire trucks. A large scaffold limb extends across the proposed street towards Building R. Street clearance of 26 ft. above the roadway could require removal of this scaffold. This would reduce the size of the tree's crown but leave a large pruning wound on the trunk.

To ensure successful retention, the tree would require a **TREE PROTECTION ZONE** of 75 ft. in all directions. Given the design of the project, such a **TREE PROTECTION ZONE** cannot be provided. I therefore recommend removal of tree #77.

I recommend that the project relocate valley oak #83. This is a 13 in. diameter and in excellent condition (Photo 7)

Photo 7. Looking west at valley oak #83.

Table. 3. Proposed action. Oak Road Townhome Condominiums. Contra Costa County CA.

Tree No.	Common name	Trunk Diameter (in.)	Condition 1=poor 5=excell.	Proposed Action	Notes
76	Valley oak	39	4	Remove	Impacts from development
77	Valley oak	73	4	Remove	Impacts from development
78	Valley oak	30	4	Remove	Impacts from development
79	Valley oak	19	3	Remove	Impacts from development
80	Valley oak	48	4	Preserve	Off-site; altered by construction within the dripline. Prune to clearance & to reduce crown over project
81	Valley oak	26	4	Remove	Impacts from development
82	Valley oak	33	4	Remove	Impacts from development
83	Valley oak	13	5	Relocate	
84	Valley oak	30	3	Remove	Impacts from development
101	Scarlet oak	10	2	Remove	Impacts from development
102	Scarlet oak	11	2	Remove	Impacts from development
103	Scarlet oak	14	2	Remove	Impacts from development
104	Scarlet oak	13	2	Remove	Impacts from development
105	Scarlet oak	15	2	Remove	Impacts from development
106	Pear	6,5	2	Remove	Impacts from development
107	Glossy privet	8,8	3	Remove	Impacts from development
108	Almond	5,5	2	Remove	Impacts from development
109	Glossy privet	8,5,4	3	Remove	Impacts from development
110	Apple	9	2	Remove	Impacts from development
111	Cherry	5	3	Remove	Impacts from development
112	Mulberry	20	2	Remove	Impacts from development
113	Coast redwood	22	2	Remove	Impacts from development
114	Coast redwood	21	3	Remove	Impacts from development
115	Coast redwood	31	3	Remove	Impacts from development
116	Mulberry	17	2	Remove	Impacts from development
117	Mulberry	12	2	Remove	Impacts from development
118	Mulberry	12	1	Remove	Impacts from development
119	Southern magnolia	14	4	Remove	Impacts from development
120	Southern magnolia	19	4	Remove	Impacts from development
121	Fig	13,10	3	Remove	Impacts from development
122	Southern magnolia	20	4	Remove	Impacts from development
123	Glossy privet	10,8,7	2	Remove	Impacts from development
124	Glossy privet	6	2	Remove	Impacts from development
125	Glossy privet	7	2	Remove	Impacts from development
126	Glossy privet	10	2	Remove	Impacts from development
127	Glossy privet	9	2	Remove	Impacts from development

Table. 3, continued. Proposed action. Oak Road Townhome Condominiums. Contra Costa County CA.

Tree No.	Common name	Trunk Diameter (in.)	Condition 1=poor 5=excell.	Proposed Action	Notes
128	White ash	32	3	Remove	Impacts from development
129	Glossy privet	9,7,6,6, 6,5,3	3	Remove	Impacts from development
130	Olive	13	3	Remove	Impacts from development
131	Mulberry	13	2	Remove	Impacts from development
132	Coast redwood	26	4	Remove	Impacts from development
133	Coast redwood	23	4	Remove	Impacts from development
134	Coast redwood	22	4	Remove	Impacts from development
135	Coast redwood	24	4	Remove	Impacts from development
136	Coast redwood	21	4	Remove	Impacts from development
137	Coast redwood	24	4	Remove	Impacts from development
138	Coast redwood	25	4	Remove	Impacts from development
139	Coast redwood	19	4	Remove	Impacts from development
140	Coast redwood	16	4	Remove	Impacts from development
141	Coast redwood	16	4	Remove	Impacts from development
142	Coast redwood	20	4	Remove	Impacts from development
143	Coast redwood	16	4	Remove	Impacts from development
144	Coast redwood	24	4	Remove	Impacts from development
145	Persimmon	12	4	Remove	Impacts from development
146	Coast redwood	28	4	Remove	Impacts from development
147	Coast redwood	28	4	Remove	Impacts from development
148	Coast redwood	27	4	Remove	Impacts from development
149	Coast redwood	24	4	Remove	Impacts from development
150	Coast redwood	24	4	Remove	Impacts from development
151	Coast redwood	21	4	Remove	Impacts from development
152	Persimmon	8	3	Remove	Impacts from development
153	Plum	9,7,7, 6,6	2	Remove	Impacts from development
154	Calif. bay	9,8,7,7, 7,6,6,6	3	Remove	Impacts from development
155	Calif. bay	9,8,6, 5,5,5	3	Remove	Impacts from development
156	Calif. bay	8,8,4,3,3, 3	3	Remove	Impacts from development
157	Coast redwood	12	5	Remove	Impacts from development
158	Oriental arborvitae	5,5,5, 4,4,3	3	Remove	Impacts from development
159	Oriental arborvitae	5,4,2,2,2	2	Remove	Impacts from development

Table. 3, continued. Proposed action. Oak Road Townhome Condominiums. Contra Costa County CA.

Tree No.	Common name	Trunk Diameter (in.)	Condition 1=poor 5=excell.	Proposed Action	Notes
160	Silver dollar gum	45	2	Preserve	Off-site; altered by construction within the dripline; clearance pruning may be required
161	Silver dollar gum	37	2	Preserve	Off-site; altered by construction within the dripline; clearance pruning may be required
162	English walnut	15	2	Remove	Impacts from development
163	English walnut	18	2	Remove	Impacts from development
164	Coast redwood	16	5	Remove	Impacts from development
165	Coast redwood	14	5	Remove	Impacts from development
166	Coast redwood	13	5	Remove	Impacts from development
167	Coast redwood	14	5	Remove	Impacts from development
168	Deodar cedar	23	5	Preserve	Off-site; altered by construction within the dripline; clearance pruning may be required
169	Plum	6	3	Remove	Impacts from development
170	Pomegranate	4,3,3	3	Remove	Impacts from development
171	Red oak	19	2	Preserve	Off-site; altered by construction within the dripline; clearance pruning may be required.
172	Red oak	19	2	Preserve	Off-site; altered by construction within the dripline; clearance pruning may be required

There are also six off-site trees to be retained but altered as some construction activity will take place within the dripline:

- Valley oak #80. This large oak on the north side of the site will need to be pruned to provide access for construction and the new buildings.
- Silver dollar gums #160 and 161 may require minor clearance pruning.
- Deodar cedar #168 may require minor clearance pruning.
- Red oaks #171 and 172 may require minor clearance pruning.

Tree Preservation Guidelines

The following are recommendations for design and construction phases that will assist in successful tree preservation.

Design recommendations

1. Locate the trunk of valley oak #83 as well as the six off-site trees recommended for preservation. Include trunk locations and tree tag numbers on all plans.
2. Valley oak #83 will be relocated. A tree relocation company with experience in moving this size of tree should develop a relocation program.
3. Establish a **TREE PROTECTION ZONE** around each tree to be preserved. For off-site trees, the **TREE PROTECTION ZONE** shall be the property line.
4. Use only herbicides safe for use around trees and labeled for that use, even below pavement.

Pre-construction and demolition treatments and recommendations

1. The demolition contractor shall meet with the Consulting Arborist before beginning work to discuss work procedures and tree protection.
2. Trees to be preserved may require pruning to provide adequate clearance from construction activities. All pruning shall be performed by a licensed State of California contractor possessing the C61 classification license and the D49 specification. All pruning shall adhere to the latest editions of the American National Standards Institute Z133 and A300 standards.
3. Install tree protective fencing at the edge of the **TREE PROTECTION ZONE.** For off-site trees, the project's security fence will serve as tree protection fencing.

Tree protection during construction

1. Any grading, construction, demolition or other work that is expected to encounter tree roots should be monitored by the Consulting Arborist.
2. If injury should occur to any tree during construction, it should be evaluated as soon as possible by the Consulting Arborist so that appropriate treatments can be applied.
3. Fences have been erected to protect trees to be preserved. Fences are to remain until all site work has been completed. Fences may not be relocated or removed without permission of the project superintendent.

4. No materials, equipment, spoil, waste or wash-out water may be deposited, stored, or parked within the **TREE PROTECTION ZONE** (fenced area).

5. Any additional tree pruning needed for clearance during construction must be performed by a qualified arborist and not by construction personnel.

6. Any roots damaged during grading or construction shall be exposed to sound tissue and cut cleanly with a saw.

HortScience | Bartlett Consulting

James R. Clark, Ph.D.
Certified Arborist WE-0846

ATTACHMENTS

Tree Assessment Form

Tree Location Map

Tree Assessment

Oak Road Townhome Condominiums
Oak Road & Jones Road
Walnut Creek CA
December 2020

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BARTLETT CONSULTING
Divisions of The F.A. Bartlett Tree Expert Company

TREE No.	SPECIES	TRUNK DIAMETER (in.)	CONDITION (0=dead) (5=excell.)	SUITABILITY for PRESERVATION	COMMENTS
76	Valley oak	39	4	High	Surrounded by roof of house & concrete slab; multiple attachments @ 7'; excellent health & structure; slight gap in canopy.
77	Valley oak	73	4	Moderate	Massive tree; multiple attachments @ 12'; wide spreading crown; cabled; concrete fill @ attachment on E.; minor dieback in upper crown.
78	Valley oak	30	4	Moderate	Codominant trunks @ 10' with wide attachment; could cable stem on N. & reduce weight; E.-facing stem has codominant attachment with included bark.
79	Valley oak	19	3	Moderate	Multiple attachments @ 9'; twig dieback; girdling wound @ 8' surrounds stem; epicormic growth.
80	Valley oak	48	4	High	**Off-site; tag on fence**; approximate diameter; canopy overhangs project by 34'; codominant trunks @ 8'; lateral limb over project; asymmetric form; crown reduced for off-site townhomes; full, dense crown.
81	Valley oak	26	4	Moderate	Codominant trunks @ 10' & 15'; slightly thin canopy.
82	Valley oak	33	4	High	Codominant trunks @ 15'; full, wide spreading crown.
83	Valley oak	13	5	High	Good young tree; full, dense healthy crown; strong central leader; excellent structure.
84	Valley oak	30	3	Moderate	Extensive twig dieback; minor branch dieback; thin crown; multiple attachments @ 18'.
101	Scarlet oak	10	2	Low	Street tree; concrete cutout; below power lines; codominant trunks @ 8'; poor form & structure.
102	Scarlet oak	11	2	Low	Street tree; concrete cutout; below power lines; poor form & structure.
103	Scarlet oak	14	2	Low	Street tree; concrete cutout; below power lines; codominant trunks @ 8'; poor form & structure.

Tree Assessment

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TREE No.	SPECIES	TRUNK DIAMETER (in.)	CONDITION (0=dead) (5=excell.)	SUITABILITY for PRESERVATION	COMMENTS
104	Scarlet oak	13	2	Low	Street tree; concrete cutout; below power lines; poor form & structure.
105	Scarlet oak	15	2	Low	Street tree; concrete cutout; below power lines; multiple attachments @ 8'; poor form & structure.
106	Pear	6,5	2	Low	Codominant trunks @ base with decay in center; topped @ 6'.
107	Glossy privet	8,8	3	Low	Codominant trunks @ 1'; one-sided to E.
108	Almond	5,5	2	Low	Poor form & structure; topped.
109	Glossy privet	8,5,4	3	Low	Codominant trunks @ 1' & 4'.
110	Apple	9	2	Low	Topped.
111	Cherry	5	3	Low	Multiple attachments @ 4'; topped with resprouts.
112	Mulberry	20	2	Low	Topped to 6'.
113	Coast redwood	22	2	Low	Topped; thin canopy.
114	Coast redwood	21	3	Low	Topped; thin canopy.
115	Coast redwood	31	3	Moderate	High crown; large base; lacks vigor.
116	Mulberry	17	2	Low	Planter; topped to 7'.
117	Mulberry	12	2	Low	Pavement cutout; topped to 7'.
118	Mulberry	12	1	Low	Topped to 7'; ext. decay.
119	Southern magnolia	14	4	Moderate	Okay form; lacks vigor.
120	Southern magnolia	19	4	Moderate	Okay form; flat-topped; lacks vigor.
121	Fig	13,10	3	Low	Codominant trunks @ base; topped to 15' tall.
122	Southern magnolia	20	4	Moderate	Okay form; lacks vigor.
123	Glossy privet	10,8,7	2	Low	Codominant trunks @ base & 3'; topped.
124	Glossy privet	6	2	Low	Interior; crowded.
125	Glossy privet	7	2	Low	Codominant trunks @ 7'; narrow.
126	Glossy privet	10	2	Low	Narrow form; topped.
127	Glossy privet	9	2	Low	Narrow form; topped.

Tree Assessment

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TREE No.	SPECIES	TRUNK DIAMETER (in.)	CONDITION (0=dead) (5=excell.)	SUITABILITY for PRESERVATION	COMMENTS
128	White ash	32	3	Low	Multiple attachments @ 15' with included bark; poorly pruned; high crown.
129	Glossy privet	9,7,6,6,6,5,3	3	Low	Series of codominant trunks from base to 5'.
130	Olive	13	3	Low	Rangy form; leans S.
131	Mulberry	13	2	Low	Pavement cutout; topped to 7'.
132	Coast redwood	26	4	High	E. end; typical form & structure.
133	Coast redwood	23	4	High	Typical form & structure; slightly crowded.
134	Coast redwood	22	4	High	Typical form & structure; slightly crowded.
135	Coast redwood	24	4	High	Typical form & structure; slightly crowded.
136	Coast redwood	21	4	High	Typical form & structure; slightly crowded.
137	Coast redwood	24	4	High	W. end; typical form & structure.
138	Coast redwood	25	4	High	E. end; typical form & structure.
139	Coast redwood	19	4	Moderate	Typical form & structure; slightly crowded.
140	Coast redwood	16	4	Moderate	Typical form & structure; slightly crowded.
141	Coast redwood	16	4	High	Typical form & structure; slightly crowded.
142	Coast redwood	20	4	High	Typical form & structure; slightly crowded.
143	Coast redwood	16	4	High	Typical form & structure; slightly crowded.
144	Coast redwood	24	4	High	W. end; typical form & structure.
145	Persimmon	12	4	High	Topped but otherwise good form.
146	Coast redwood	28	4	High	E. end; typical form & structure.
147	Coast redwood	28	4	High	Typical form & structure; slightly crowded.
148	Coast redwood	27	4	High	Typical form & structure; slightly crowded.
149	Coast redwood	24	4	High	W. end; typical form & structure.
150	Coast redwood	24	4	High	Typical form & structure; slightly crowded.
151	Coast redwood	21	4	High	Typical form & structure; slightly crowded.
152	Persimmon	8	3	Low	Topped; just stubs.
153	Plum	9,7,7,6,6	2	Low	Multiple attachments @ base; several stems x'd.

Tree Assessment

Oak Road Townhome Condominiums
Oak Road & Jones Road
Walnut Creek CA
December 2020

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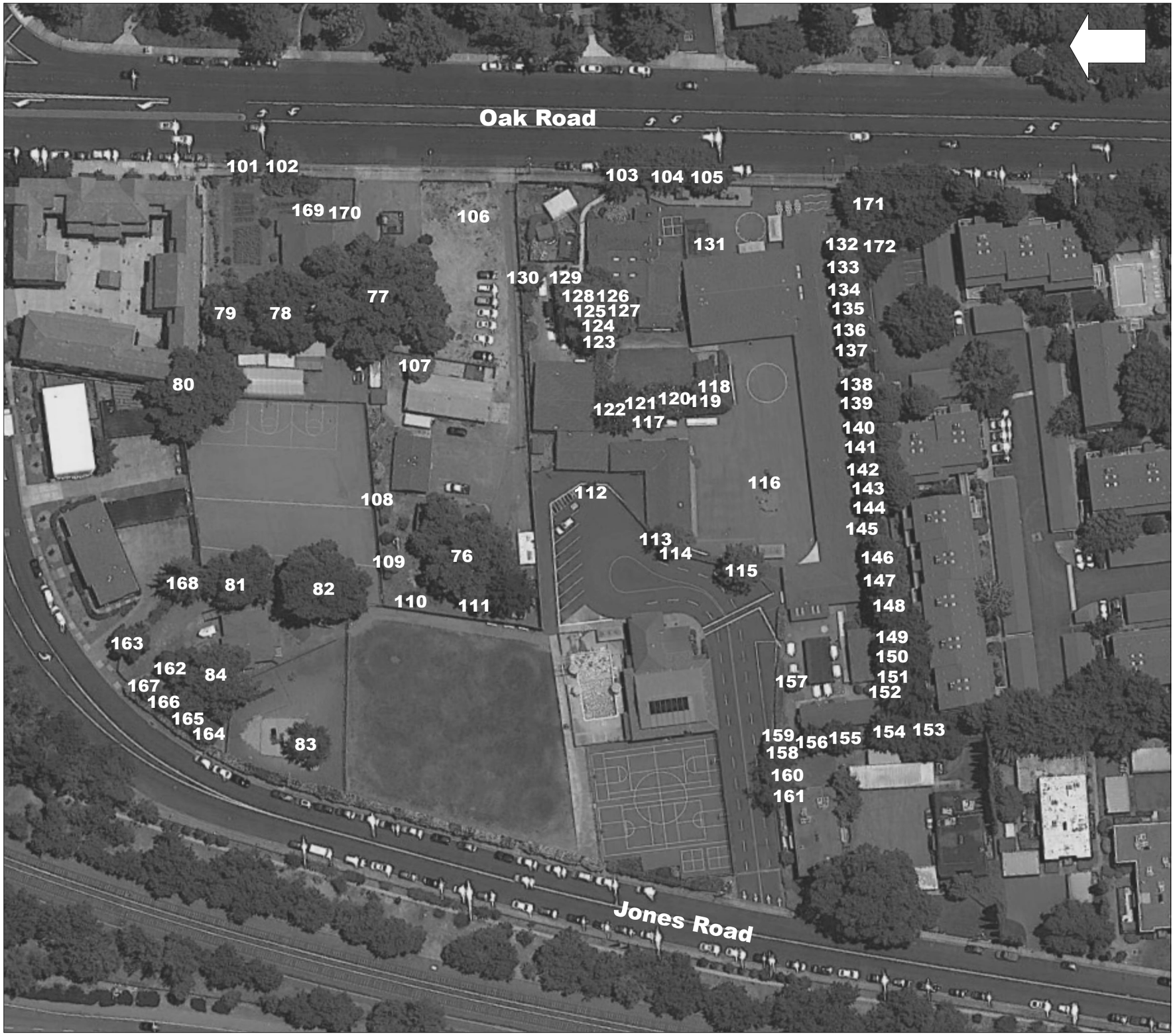
TREE No.	SPECIES	TRUNK DIAMETER (in.)	CONDITION (0=dead) (5=excell.)	SUITABILITY for PRESERVATION	COMMENTS
154	Calif. bay	9,8,7,7,7,6,6,6	3	Low	Multiple attachments @ base; dense canopy.
155	Calif. bay	9,8,6,5,5,5	3	Low	Multiple attachments @ base; dense canopy.
156	Calif. bay	8,8,4,3,3,3	3	Low	Multiple attachments @ base; dense canopy.
157	Coast redwood	12	5	High	Pavement cutout; excellent tree.
158	Oriental arborvitae	5,5,5,4,4,3	3	Low	Multiple attachments @ base; big one-sided shrub.
159	Oriental arborvitae	5,4,2,2,2	2	Low	Multiple attachments @ base; big one-sided shrub; crowded.
160	Silver dollar gum	45	2	Low	**Off-site; tag on fence**; codominant trunks @ 6' & above; topped.
161	Silver dollar gum	37	2	Low	**Off-site; tag on fence**; codominant trunks @ 10' & above; topped.
162	English walnut	15	2	Low	Just poor.
163	English walnut	18	2	Low	NW. corner; 3 stems x'd @ base; very rangy form.
164	Coast redwood	16	5	High	Good tree.
165	Coast redwood	14	5	High	Good tree.
166	Coast redwood	13	5	High	Good tree.
167	Coast redwood	14	5	High	Good tree.
168	Deodar cedar	23	5	High	**Off-site; tag on fence**; 2 to 3' from property line; nice tree.
169	Plum	6	3	Low	Multiple attachments @ 4'; topped.
170	Pomegranate	4,3,3	3	Low	Multiple attachments @ base; 8' shrub.
171	Red oak	19	2	Low	**Off-site**; below power lines; topped; one-sided to S.
172	Red oak	19	2	Low	**Off-site**; below power lines; topped; one-sided to S.



Tree Assessment Map

2740 Jones Road
Walnut Creek, CA

Prepared for:
SummerHill Homes
San Ramon, CA

December 2020

No Scale

Notes

- Base map provided by:
  Google Earth
- Numbered tree locations are approximate.
- Oaks numbered 76-84 were assessed previously and included in a separate report.

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