

3C. Biological Resources

This section describes existing biological resources at Occidental College and examines potential impacts to biological resources as a result of the proposed project.

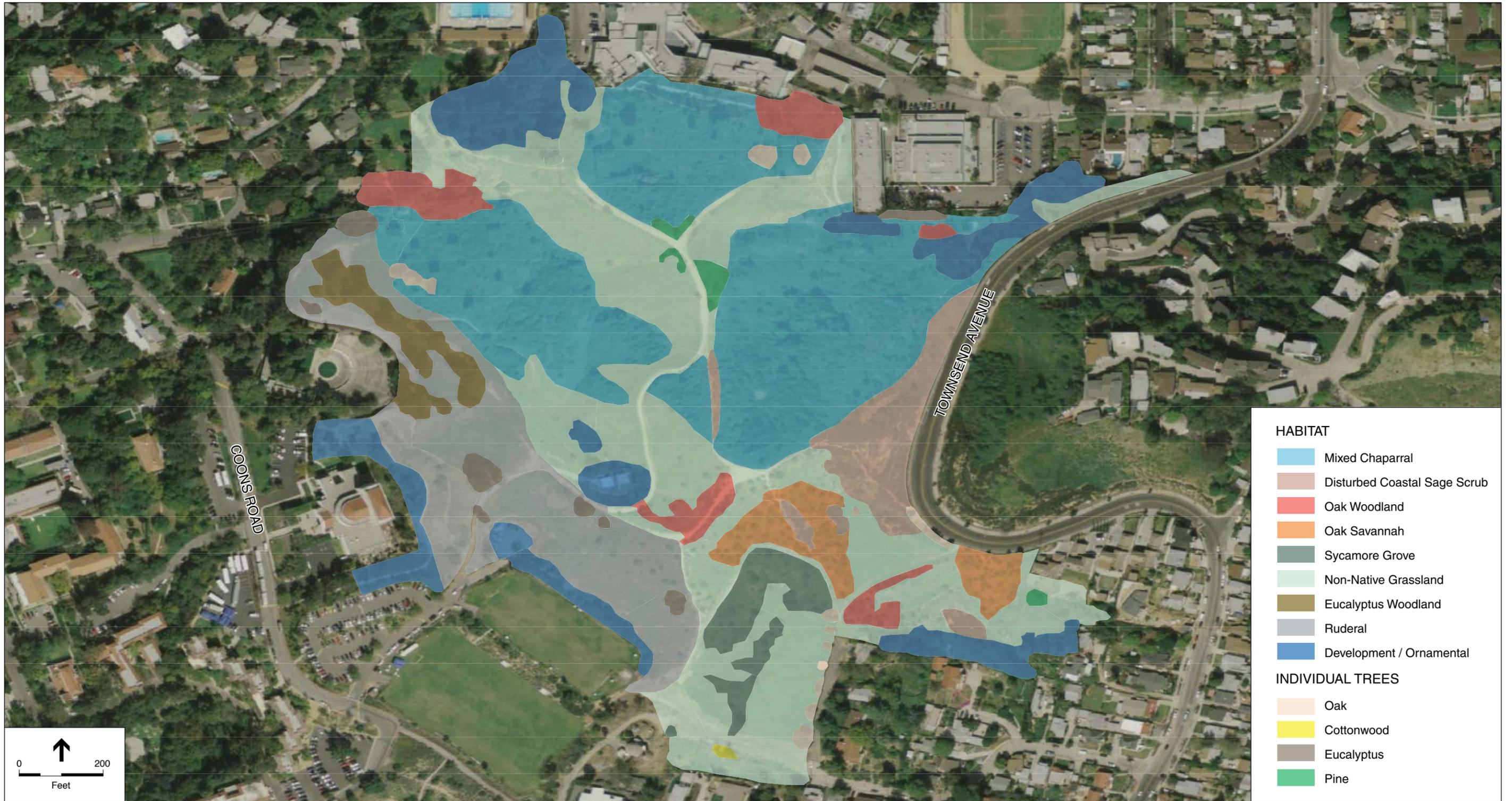
3C.1 Environmental Setting

Development proposed as part of the Specific Plan would occur within the boundaries of the Occidental College campus, which is located in the community of Eagle Rock, Los Angeles, California. The majority of the campus comprises built land uses and associated landscaping. However, the eastern portion of the campus remains undeveloped, and dominated by native, disturbed native, and nonnative habitats including mixed chaparral, disturbed coastal sage scrub, coast live oak woodland, oak savannah, oak woodland, Eucalyptus woodland, ruderal land, and small inclusions of individual tree species. The acreage of the eastern portion of the campus as shown in **Figure 3C-1** are summarized in **Table 3C-1**.

The following is a description of these habitat types in the area as they currently occur at the campus. Figure 3C.1 provides a generalized map of habitats on the campus. Table 3C-1 provides a summary of the acreage of each habitat type in the eastern area. Many of the habitats onsite contain valley oak, live oak, and scrub oak, which according to Jim Tranquada of Occidental College (pers. comm., 2006) were planted by Occidental College in partnership with Northeast Trees. Brief descriptions of these habitat types follow. See **Table 3C-2** for a list of plants and wildlife observed on December 1, 2006, and July 27, 2008. Other common wildlife species may utilize the area in addition to those identified during the survey.

Mixed Chaparral

Mixed chaparral is a structurally homogeneous brushland type dominated by shrubs with thick, stiff, heavily cutinized evergreen leaves. Mixed chaparral generally occurs below 1520 m (5000 ft) throughout California. Mixed chaparral occurs on all aspects, but at lower elevations, it generally is found on north-facing slopes. Generally, it occurs on steep slopes and ridges with relatively thin, well-drained soils. Shrub height, cover, and composition vary considerably with age since last burn, precipitation regime, aspect, and soil type. Canopy height ranges from 1 to 4 m (3.3 to 13.1 ft), occasionally to 6 m (19.6 ft). When mature, mixed chaparral forms a dense, nearly impenetrable thicket with greater than 80 percent absolute shrub cover. Considerable leaf litter and standing dead material may accumulate in stands that have not burned for several decades.



SOURCE: GlobeXplorer; ESA, 2008.

Occidental College . 205278
Figure 3C.1
 Habitat Types on Eastern Portion of Occidental College

**TABLE 3C-1
 SUMMARY OF HABITAT ACREAGE ON THE
 EASTERN PORTION OF OCCIDENTAL COLLEGE
 (As Mapped on Figure 3C-1)**

Habitat	Acres
Mixed Chaparral	11
Disturbed Coastal Sage Scrub	1.66
Oak Woodland	1.41
Oak Savannah	1.11
Sycamore Grove	0.96
Non-Native Grassland	10.36
Eucalyptus Woodland	0.89
Ruderal	4.65
Developed/Ornamental	4.16
Individual Trees	
Oak	0.35
Cottonwood	0.03
Eucalyptus	0.42
Pine	0.23
Total Habitat and Individual Trees	37.23

The species composition of mixed chaparral may include scrub oak, and several species of *Ceanothus* and manzanita (*Arctostaphylos* spp.). Individual patches onsite may support pure stands of these shrubs or diverse mixtures of several species. Commonly associated shrubs include chamise (*Adenostoma fasciculatum*), birchleaf mountain mahogany (*Cercocarpu betuloides* var. *betuloides*), silk tassel (*Garrya elliptica*), toyon (*Heteromeles arbutifolia*), yerba-santa (*Eriodictyon californicum*), California buckeye (*Aesculus californica*), poison oak (*Toxicodendron diversilobum*), laurel sumac (*Malosma laurina*), California coffeeberry (*Rhamnus californica*), hollyleaf cherry (*Prunus illicifolia*), and flannelbush (*Fremontodendron californicum*). Some of these species may be locally dominant.

The mixed chaparral onsite is heavily disturbed and consists of scrub oak, chamise, and poison oak. Component and understory species consist primarily of non-native grasses.

No wildlife species are restricted to mixed chaparral. Most species that utilize mixed chaparral are also found in other shrub-dominated types.

Disturbed Coastal Scrub

Coastal scrub appears to tolerate drier conditions than associated habitats. It is typical of areas with steep, south-facing slopes; sandy, mudstone or shale soils; and average annual rainfall of less than 30 cm (12 inches).

The coastal scrub in Occidental College’s eastern campus is dominated by California buckwheat, with most disturbed coastal scrub areas covered almost exclusively with this species. California buckwheat often comes in after a disturbance, indicating that this habitat was recently disturbed.

Special-status wildlife species that could occur in coastal scrub habitat include the coastal California gnatcatcher (*Poliopotila californica californica*), peregrine falcon (*Falco peregrinus anatum*), and coast (San Diego) horned lizard (*Phrynosoma coronatum* [blainvillii population]). Special-status plants occurring in coastal scrub include Davidson’s saltscale (*Atriplex serenana* var. *davidsonii*), Plummer’s mariposa lily (*Calochortus plummerae*), slender-horned spineflower

(*Dodecahema leptoceras*), and prostrate navarretia. However, due to the site's high disturbance, it is unlikely that any of these species exist in the project area.

Coast Live Oak Woodland

Coast live oak woodland typically occurs on steep, north-facing slopes and shaded ravines, where it forms open to relatively closed canopy stands dominated by coast live oak. In general, the shrub layer is poorly developed and consists of species from adjacent scrub or chaparral habitats. The herbaceous layer ranges from a moderate to sparse cover of herbaceous species or leaf litter. Oak woodlands on steep slopes often occur adjacent to large rock outcrops.

The coast live oak woodland onsite is a result of active planting and irrigation by Occidental College and Northeast Trees. It differs from the oak savannah largely in terms of its higher density of oak trees. The understory was largely dominated by nonnative grasses.

Coast Live Oak Savannah

All or most of the coast live oaks on and in the vicinity of Fuji Hill were planted on the project site as evidenced by the remains of old irrigation tubing. The oaks were planted in settings outside of the natural settings expected for this species. Consequently the growth forms and density of the oaks onsite does not fit standard vegetation community definitions. Areas where the planted oaks are growing in low densities with an open understory of non-native grasses were mapped as oak savannah.

Sycamore Grove

There is a small pocket of approximately ten California sycamores (*Platanus racemosa*), five cottonwoods (*Populus* sp.), and two willows (*Salix* sp.) associated with a relatively flat, gently-sloping swale north of the playing fields at the southeast base of Mt. Fuji in Building Opportunity Site 5. The trees appear to have been planted as evidence by old irrigation tubing at the base and in the vicinity of the trees.

Non-native Grassland

Non-native annual grasslands are distributed throughout much of California's valleys and foothills. On site the non-native grassland is a sparse cover of non-native grasses such as slender oats (*Avena barbata*), ripgut brome (*Bromus diandrus*), and Italian ryegrass (*Lolium multiflorum*), mixed in with ruderal species such as jimson weed (*Datura meteloide*), castor bean (*Ricinus communis*), and mustards (*Brassica* sp.).

Annual grasslands in general support a simple diversity of terrestrial wildlife. Characteristic reptiles that breed in grasslands include the western fence lizard (*Sceloporus occidentalis*), western skink (*Eumeces skiltonianus*), gopher snake (*Pituophis catenifer*), and western rattlesnake (*Crotalus viridis*). Common birds that forage and breed in annual grasslands include the western meadowlark (*Sturnella neglecta*), red-winged blackbird (*Agelaius phoeniceus*), and song sparrow (*Melospiza melodia*). Other species that nest in scattered brush in annual grasslands include the California towhee (*Pipilo crissalis*), lesser goldfinch (*Carduelis psaltria*), and

loggerhead shrike (*Lanius ludovicianus*). Larger mammals that use grassland to some extent include the raccoon (*Procyon lotor*) and striped skunk (*Mephitis mephitis*).

Special-status wildlife that occur in non-native grasslands include the burrowing owl (*Athene cunicularia hypugea*), and California horned lark (*Eremophila alpestris actia*). Special-status plant species that could occur in non-native annual grasslands include Plummer's mariposa lily (*Calochortus plummerae*), and prostrate navarretia (*Navarretia prostrata*). It is unlikely that these species are on the project site, however, due to its history of disturbance.

Eucalyptus Woodland

Eucalyptus woodland is a nonnative woodland habitat consisting of eucalyptus species as the sole or dominant species. Trees are typically over 150 feet in height and canopy cover is continuous. *Eucalyptus* woodland is often used by raptor and owl species for perching and nesting.

Ruderal Land

Ruderal land occurs in areas of disturbance, such as roadsides, trails, fallow lands, and parking lots. These areas have been physically disturbed or invaded by nonnative species and are dominated by non-native species with little to no native vegetation cover. Ruderal lands are often associated with human-related activities such as clearing or grazing. Ruderal lands typically have low habitat values as a result of recent or ongoing disturbances.

Occidental's campus is predominantly developed and surrounded by roads and residential development. Human activity has introduced ruderal species that are now the dominant plants in areas immediately adjacent to the ornamental and developed areas.

Developed/Ornamental Areas

Residential housing, academic buildings, parking lots, walkways, playing fields, and landscaped open spaces are considered developed habitat. Vegetation within developed areas is primarily restricted to ornamental trees and shrubs, lawns, and flowerbeds. Developed areas comprise approximately 75% of the project area, and dominate all but the eastern portion of Occidental's campus.

Developed areas tend to be landscaped with non-native ornamental plant species, thus displacing native plants. Landscaped and built areas provide little habitat for wildlife except for those species adapted to human habitation, such as European starling (*Sturnus vulgaris*), common raven (*Corvus corax*), and house mouse (*Mus musculus*). Large ornamental trees in the program area, such as the olive tree (*Olea europaea*), carob tree (*Ceratonia siliqua*), blue gum eucalyptus (*Eucalyptus globulus*), and coast live oak (*Quercus agrifolia*) may provide roosting and nesting opportunities for raptors such as red-tailed hawk (*Buteo jamaicensis*) and Cooper's hawk (*Accipiter cooperii*).

We observed several common birds nesting on buildings, including rock doves (*Columba livia*) and swallows (*Hirundo* sp.). These buildings could also be suitable roosting structures for special-status bats, including Townsend's big-eared bat (*Corynorhinus townsendii*), pallid bat

(*Antrozous pallidus*), Yuma myotis (*Myotis yumanensis*), western small-footed myotis (*Myotis ciliolabrum*), and long-eared myotis (*Myotis evotis*).

Individual Tree Species (Oaks, Cottonwoods, Eucalyptus, and Pines)

Individual trees are not counted as vegetation communities (i.e., one oak does not constitute oak woodland). Several individual native and non-native trees or small groups of non-native trees can be found interspersed in habitats that typically do not include those species. These individual trees or small group of trees are not entirely contiguous with the areas mapped for the woodland habitats. Because these trees have the potential to provide nesting habitat for raptors and migratory birds these trees were mapped separately.

Jurisdictional Wetland and Non-Wetland Waters

A small area in Subarea 3, in Building Opportunity Site 5, contains approximately ten California sycamores (*Platanus racemosa*), five cottonwoods (*Populus* sp.), and two willows (*Salix* sp.) associated with a relatively flat, gently-sloping swale north of the playing fields at the southeast base of Mt. Fuji. The trees appear to have been planted as evidence by old irrigation tubing at the base and in the vicinity of the trees. The area captures run-off from an estimated one acre watershed consisting of well-drained soils and upland vegetation. The soils adjacent to and within the swale are well-drained sandy loams. The area did not have any evidence of bed or bank and did not contain a streambed or any other evidence of regularly flowing or ponding water. No observations of flowing or standing water were made during either ESA site visit. There is a small drain outlet at the low end of the swale. The drain discharges at the base of the slope onto a private driveway and into a storm drain on Coringa Drive. The area is completely hydraulically isolated from any streams or other waterways.

Based on its isolation and lack of evidence of a streambed or other evidence of wetland or non-wetland waters hydrology, the area was determined to not meet the definition of a state or federal jurisdictional wetland and is therefore not regulated by the U.S. Army Corps of Engineers or the California Department of Fish and Game.

Observed Plant and Wildlife Species

Table 3C-2 lists the plant and wildlife species observed within the project area during the biological survey.

Most of the wildlife observed consisted of common bird species, including several rock doves (*Columba livia*) nesting on buildings and swallows (*Hirundo* sp.) nesting on building ledges.

Special-Status Species

The California Natural Diversity Database (CNDDDB) (CDFG, 2006) and the California Native Plant Society's (CNPS) database (CNPS, 2006) list 23 special-status¹ species that could occur or

¹ "Special-status species" include those that are listed and receive specific protection defined in federal or state endangered species legislation, as well as species not formally listed as Threatened or Endangered, but designated as Rare or Sensitive on the basis of adopted policies and expertise of state resource agencies or organizations, or

at one time occurred within the project area (i.e., within the Los Angeles and Pasadena U.S. Geological Survey (USGS) 7.5-minute quadrangles). **Table 3C-3** lists these species and their potential to occur at Occidental College, as well as several others that were determined to have suitable habitat on campus.

Of the special-status species described in **Table 3C-3**, above, only the following have a moderate or high potential for occurrence on campus: Cooper's hawk (*Accipiter cooperii*), Townsend's big-eared bat (*Corynorhinus townsendii*), pallid bat (*Antrozous pallidus*), and western red bat (*Lasiurus blossevillii*).

During ESA's 2006 biological survey, a Cooper's hawk was observed. Cooper's hawk is a California Watch List species, and not reported on the databases searched for this analysis. They nest in deciduous riparian areas, second-growth conifer stands, and live oak woodlands. No nest was observed, but a nest could be located in any of the hundreds of oak and deciduous trees at the Campus.

Several special-status bat species (also not reported in the CNDDDB) have the potential to occur in any of the buildings that are planned for renovation or demolition, including the Townsend's big-eared bat and pallid bat (*Antrozous pallidus*). Furthermore, any of the trees on campus could be used by the migrating western red bat (*Lasiurus blossevillii*), a California Species of Special Concern.

It is unlikely that coastal California gnatcatcher, a federally-threatened species and California Species of Special Concern, is present in Occidental's disturbed coastal scrub habitat, for several reasons: (1) the CNDDDB database (CDFG, 2008) does not report any occurrences in the Los Angeles or Pasadena quadrangles, where the project is located; (2) CDFG's Wildlife Habitat Relation map (1999) shows that the gnatcatcher's range is not known to extend as far north and east as the Occidental College campus; (3) coastal California gnatcatchers prefer coastal sage scrub habitat that is dominated by California sagebrush (not the highly disturbed, buckwheat-dominated scrub found in the eastern portion of Occidental's campus -- although some California sagebrush is present); (4) coastal California gnatcatchers prefer habitat with slopes less than 40 percent, but the majority of the coastal scrub habitat is on slopes greater than 40 percent. Nevertheless, the gnatcatchers are known to inhabit sub-optimal habitat on occasion.

policies adopted by local agencies such as counties, cities, and special districts to meet local conservation objectives.

**TABLE 3C-2
 SPECIES OBSERVED AT OCCIDENTAL COLLEGE**

Scientific Name	Common Name	Status
Plants		
<i>Brassica sp.</i>	Mustard	Not native: Cal-IPC listing of "high" statewide impact.
<i>Ceibia speciosa</i>	Floss silk tree	Not native
<i>Datura meteloides</i>	Jimson weed	Not native
<i>Eriogonum fasciculatum</i>	California buckwheat	None
<i>Eriodictyon crassifolium</i>	Eriodictyon	None
<i>Eucalyptus globules</i>	Blue gum eucalyptus	Not native
<i>Helianthus annuus</i>	Common sunflower	None
<i>Heteromeles arbutifolia</i>	Toyon	None
<i>Malva neglecta</i>	Common mallow	Not native
<i>Nicotiana glauca</i>	Tree tobacco	Not native
<i>Pennisetum alopecuroides</i>	Fountain grass	Non native: Cal-IPC listing of "moderate" statewide impact.
<i>Platanus racemosa</i>	California sycamore	None
<i>Populus sp.</i>	Cottonwood	None
<i>Quercus berberidifolia</i>	Scrub oak	None
<i>Quercus lobata</i>	Valley oak	None
<i>Rhus integrifolia</i>	Lemonadeberry	None
<i>Ricinus communis</i>	Castor bean	Not native: Cal-IPC listing of "limited" statewide impact.
<i>Salix sp.</i>	Willow	None
Birds		
<i>Accipiter cooperii</i>	Cooper's hawk	Special-Status (CDFG Watch List)*
<i>Aphelocoma californica</i>	Western scrub jay	None*
<i>Buteo jamaicensis</i>	Red-tailed hawk	None*
<i>Carpodacus mexicanus</i>	House finch	None
<i>Columba livia</i>	Rock dove	None*
<i>Dendroica coronata</i>	Yellow-rumped warbler	None*
<i>Falco sparverius</i>	American kestrel	None*
<i>Hirundo sp.</i>	Swallow (nests observed)	None*
<i>Passer domesticus</i>	House sparrow	None
<i>Pipilo crissalis</i>	California towhee	None*
<i>Regulus calendula</i>	Ruby-crowned kinglet	None*
<i>Sayornis nigricans</i>	Black phoebe	None*
<i>Strurnella neglecta</i>	Western meadowlark	None*
<i>Zonotrichia leucophrys</i>	White-crowned sparrow	None*
Mammals		
<i>Sciurus griseus</i>	Western grey squirrel	None

* Nests of these birds are protected by Migratory Bird Treaty Act, and CDFG Fish and Game Code, Section 3503.

SOURCE: ESA, 2006.

**TABLE 3C-3
SPECIAL-STATUS SPECIES POTENTIAL AT OCCIDENTAL COLLEGE**

Species	Status (USFWS/CDFG/CNPS)	Likelihood of Occurrence	Comments
Plants			
Davidson's aster <i>Atriplex serenana</i> var. <i> davidsonii</i>	--/--/1B	None	Found on coastal bluffs at elevations less than 650 feet. Not observed during the survey.
Greata's aster <i>Aster greatae</i>	--/--/1B	None	Found in damp portions of canyons up to 4,500 feet. Not observed during the survey.
Nevin's barberry <i>Berberis nevinii</i>	FE/SE/1B	Low	Typically found in riparian habitat, but can be found in upland habitat such as coastal sage scrub. Not observed during the survey.
Plummer's mariposa lily <i>Calochortus plummerae</i>	--/--/1B	None	Found in dry, rocky chaparral or yellow-pine forests at elevation less than 5,500 feet. Not observed during the survey.
Southern tarplant <i>Centromadia parryi</i> var. <i> australis</i>	--/--/1B	Low	Found in grasslands and freshwater wetlands. Not observed during the survey.
Parry's spineflower <i>Chorizanthe parryi</i> var. <i> parryi</i>	--/--/3	Low	Found in sandy areas of coastal sage scrub. Not observed during the survey.
Slender-horned spineflower <i>Dodecahema leptoceras</i>	FE/SE/1B	None	Found in alluvial fans, floodplains, stream terraces, and washes and associated benches, from 700 to 2,500 feet in elevation. Not observed during the survey.
Los Angeles sunflower <i>Helianthus nuttallii</i> ssp. <i> parishii</i>	--/--/1A	None	Found in freshwater, saltwater, and coastal marshes and wetlands. Presumed to be extinct in California. Not observed during the survey.
Mesa horkelia <i>Horkelia cuneata</i> ssp. <i> puberula</i>	--/--/1B	Low	Can be found in coastal sage scrub. Not observed during the survey.
Orcutt's linanthus <i>Linanthus orcutti</i>	--/--/1B	Low	Can be found in coastal sage scrub. None observed during the survey.
Prostrate navarretia <i>Navarretia prostrate</i>	--/--/1B	Low	Found in vernal pools and moist places up to 2,000 feet. Not observed during the survey.
Parish's gooseberry <i>Ribes divaricatum</i> var. <i> parishii</i>	--/--/1B	None	Found in moist woodlands at elevations around 300 feet. Not observed during the survey.
Wildlife			
Cooper's hawk <i>Accipiter cooperii</i>	--/WL/--	Moderate	Nests in riparian growths of deciduous trees and live oak woodlands. Observed foraging in woodlands on campus.
Southwestern pond turtle <i>Actemyza (=Clemmys)</i> <i> marmorata pallida</i>	--/SSC/--	None	Requires open stands of water. Not observed during the survey.
Pallid bat <i>Antrozous pallidus</i>	--/SSC/--	Moderate	Open, dry habitats with rocky outcrops, cliffs, caverns, and crevices for roosting; most commonly in deserts, grasslands, and shrublands, in addition to woodlands & forests. May roost in trees or buildings on Campus.

**TABLE 3C-3 (cont.)
 SPECIAL-STATUS SPECIES POTENTIAL AT OCCIDENTAL COLLEGE**

Species	Status (USFWS/CDFG/CNPS)	Likelihood of Occurrence	Comments
Wildlife (cont.)			
Burrowing owl <i>Athene cunicularia</i>	--/SSC/--	Low	Found in open, dry grasslands, agricultural and range lands, and desert habitats often associated with burrowing animals, particularly prairie dogs, ground squirrels and badgers. Not observed during the survey.
Townsend's big-eared bat <i>Corynorhinus townsendii</i>	--/SSC/--	Moderate	Forages in a variety of habitats; prefers mesic sites. Roosts in caves, mines, tunnels, buildings, and hollow trees. May roost in buildings or trees on campus.
American peregrine falcon <i>Falco peregrinus anatum</i>	DL/SE/--	None	Range includes most of California, except desert habitats. Nesting sites are typically on ledges of large cliff faces, but some pairs are nesting on city buildings and bridges. Not observed during the survey.
Western red bat <i>Lasiurus blossevilli</i>	--/CSC/--	Moderate	Roosts in tree foliage in edge habitat adjacent to streams or open fields, in orchards, and sometimes in urban areas. May roost in trees present on Campus.
American badger <i>Taxidea taxus</i>	--/SSC/--	Low	Prefer to live in dry, open grasslands, fields, and pastures. They are found from high alpine meadows to sea level. Not observed during the survey.
Southwestern willow flycatcher <i>Empidonax traillii extimus</i>	FE/SE/--	None	Found in dense willow, cottonwood, and tamarisk thickets and woodland along streams and rivers. Not observed during the survey.
Western yellow bat <i>Lasiurus xanthinus</i>	--/--/--	Low	Preferred roosting site is leafy vegetation, especially Washington fan palm trees.
Big free-tailed bat <i>Nyctinomops macrotis</i>	--/SSC/--	Low	Preferred roosting sites are crevices and cracks in high canyon walls, but these bats have also been captured in buildings. Not observed during the survey.
Southern grasshopper mouse <i>Onychomys torridus ramona</i>	--/SSC/--	Low	Can be found in grasslands and coastal sage scrub habitats. Not observed during the survey.
Coast (San Diego) horned lizard <i>Phrynosoma coronatum (blainvillii)</i>	--/SSC/--	Low	Can be found in coastal sage scrub and grasslands. Not observed during the survey.
Coastal California gnatcatcher <i>Poliopitila California californica</i>	FT/SSC/--	Low	Occurs almost exclusively in coastal sage scrub (occasionally also found in chaparral). No nearby CNDDDB records of this species (CDFG, 2006), and the project area's coastal sage scrub is not ideal. Nevertheless, the gnatcatchers are known to inhabit sub-optimal habitat on occasion.
Mountain yellow-legged frog <i>Rana muscosa</i>	FE/SSC/--	None	Found in lakes, meadow streams, isolated pools, and sunny riverbanks and in southern California it inhabits rocky streams. Not observed during survey.
Coast Range newt <i>Taricha torosa torosa</i>	--/SSC/--	None	Found in wet forests, oak forests, chaparral, and rolling grasslands. Not observed during the survey.

**TABLE 3C-3 (cont.)
SPECIAL-STATUS SPECIES POTENTIAL AT OCCIDENTAL COLLEGE**

Status Codes Key

USFWS

FE = federally Endangered
FL – federally Threatened
DL = federally delisted

CDFG

SE = state Endangered
ST = state Threatened
SSC = species of special concern
WL = watch list

CNPS

1A = Presumed to be extinct in California
1B = Rare, threatened, or endangered in California
3 = Restricted distribution

SOURCE: CNDDDB, 2006 and CNPS, 2006.

Wildlife Movement

The campus is surrounded by urban land uses, especially single-family residences, which sever the remaining open spaces at the campus from the nearest open spaces in its vicinity. As a result, wildlife movement to and from the campus is likely limited to bird and bat species that can fly over the adjacent urban surroundings, including migratory birds.

Conservation Plan Areas

The campus is not located within any applicable Habitat Conservation Plan, Natural Community Conservation Plan, or other applicable habitat conservation plan areas at this time.

3C.2 Regulatory Background

Federal

Federal Endangered Species Act

Under the Federal Endangered Species Act (FESA), the Secretary of the Interior and the Secretary of Commerce have joint authority to list a species as Threatened or Endangered (16 United States Code [USC] 1533[c]). FESA prohibits the “take” of any fish or wildlife species listed as Threatened or Endangered, including the destruction of habitat that could hinder species recovery.

Procedures for addressing federal-listed species that are impacted by a project follow two principal pathways, both of which require consultation with the U.S. Fish and Wildlife Service (USFWS), which administers the Act for all terrestrial species, or the National Oceanic and Atmospheric Administration (NOAA Fisheries), which administers the Act for all fish species. The first pathway (FESA, Section 10(a) Incidental Take Permit) is for situations where a non-federal government entity (or where no federal nexus exists) must resolve potential adverse impacts to species protected under the Act. The second pathway (FESA, Section 7 Consultation) involves projects with a federal connection or requirement; typically these are projects where a federal lead agency is sponsoring or permitting the proposed project. For example, a permit from the Corps would be required if a project will result in wetland impacts. In these instances, the federal lead agency (e.g., the Corps) initiates and coordinates the following steps: informal consultation with USFWS and/or NOAA Fisheries to establish a list of target species; preparation of biological assessment assessing potential for the project to adversely affect listed species; coordination between state and federal biological resource agencies to assess impacts/proposed

mitigation; and development of appropriate mitigation for all significant impacts on federally listed species.

The FESA administrating agency (USFWS or NOAA Fisheries) ultimately issues a final Biological Opinion on whether the project will affect a federally listed species. A Section 10(a) Endangered Species Incidental Take Permit would be necessary when the “taking” or harming of a species is incidental to the lawful operation of a project.

Federal Migratory Bird Treaty Act (16 USC 703-712)

The Migratory Bird Treaty Act (MBTA) states that without a permit issued by the U.S. Department of the Interior, it is unlawful to pursue, hunt, take, capture, attempt, possess or kill any migratory bird, part, nest, egg or product. Migratory birds at the campus include but are not limited to the Cooper’s hawk (*Accipiter cooperii*), western scrub jay (*Aphelocoma californica*), yellow-rumped warbler (*Dendroica coronata*), American falcon (*Falco sparverius*), swallows (*Hirundo* spp.), ruby-crowned kinglet (*Regulus calendula*), black phoebe (*sayornis nigricans*), and white-crowned sparrow (*Zonotrichia leucophrys*). “Take” under the MBTA includes harassment of nesting birds by construction-related noise and dust to the point where nesting birds abandon their nest. Thus, the proposed project could result in a potentially significant impact on nesting birds protected under the MBTA.

Sections 401 and 404 of the Clean Water Act

The U.S. Army Corps of Engineers (USACE) and USEPA regulate the discharge of dredged and/or fill material into waters of the United States, including wetlands, under Sections 404 and 401 of CWA. Projects that would result in the placement of dredged or fill material into waters of the United States require a Section 404 permit from USACE.

Section 401 of the Clean Water Act requires an applicant for a USACE permit to obtain state certification that the activity associated with the permit will comply with applicable state effluent limitations and water quality standards. In California, water quality certification, or a waiver, must be obtained from the Regional Water Quality Control Board (RWQCB).

The federal government also supports a policy of minimizing “the destruction, loss, or degradation of wetlands.” Executive Order 11990 (May 24, 1977) requires that each federal agency take action to minimize the destruction, loss, or degradation of wetlands and to preserve and enhance the natural and beneficial values of wetlands.

In January 2001, the U.S. Supreme Court ruled that isolated, non-navigable wetlands and other waters are not necessarily subject to federal regulation [*Solid Waste Agency of Northern Cook County v. U.S. Army Corps. of Engineers* (No. 99-1178) (SWANCC ruling)]. This was followed by another Supreme Court ruling affecting the extent of Corps jurisdiction in *Rapanos v. United States* and *Carabell v. United States* [126 S. Ct. 2208 (2006)].

The U.S. Army Corps of Engineers (Corps) and Environmental Protection Agency (EPA) have subsequently issued a set of guidance documents detailing the process for determining Clean Water Act Jurisdiction following the U.S. Supreme Court’s decision in *Rapanos v. United States*

and *Carabell v. United States* (herein referred to simply as “Rapanos”). The EPA and Corps issued a summary memorandum of the guidance for implementing the Supreme Court’s decision in Rapanos that addresses the jurisdiction over waters of the United States under the Clean Water Act. The complete set of guidance documents, summarized as key points below, were used to collect relevant data for evaluation by the EPA and the Corps to determine Clean Water Act jurisdiction over the project site and to complete the “significant nexus test” as detailed in the guidelines and the Corps Approved Jurisdictional Determination Form.

The significant nexus test includes consideration of hydrologic and ecologic factors. For circumstances in situations (B) below the significant nexus test would take into account physical indicators of flow (evidence of an OHWM), if a hydrologic connection to a traditional navigable water exists, and if the aquatic functions of the water body has a significant effect (more than speculative or insubstantial) on the chemical, physical, and biological integrity of a traditional navigable water. The Corps and EPA will apply the significant nexus standard to assess the flow characteristics and functions of the tributary drainage ditch to determine if it significantly affects the chemical, physical and biological integrity of downstream traditional navigable waters.

The key points of Rapanos as it relates to the jurisdiction of the Corps’ jurisdiction under Section 404 of the Clean Water Act are as follows.

- (A) The Corps and EPA will assert jurisdiction over the following waters:
 - Traditional navigable waters.
 - Wetlands adjacent to traditional navigable waters.
 - Non-navigable tributaries of traditional navigable waters that are relatively permanent. Where the tributaries typically flow year-round or have continuous flow at least seasonally (e.g., typically three months).
 - Wetlands that directly abut such tributaries.
- (B) The Corps and EPA will decide jurisdiction over the following waters based on a fact-specific analysis to determine whether they have a significant nexus with a traditional navigable water:
 - Non-navigable tributaries that are not relatively permanent.
 - Wetlands adjacent to non-navigable tributaries that are not relatively permanent.
 - Wetlands adjacent to but that do not directly abut a relatively permanent non-navigable tributary.
- (C) The Corps and EPA generally will not assert jurisdiction over the following features:
 - Swales or erosional features (e.g., gullies, small washes characterized by low volume, infrequent, or short duration flow).
 - Ditches (including roadside ditches) excavated wholly in and draining only uplands and that do not carry a relatively permanent flow of water.

State

California Endangered Species Act

Under the California Endangered Species Act (CESA), the California Department of Fish and Game (CDFG) is responsible for maintaining a list of Threatened and Endangered species (California Fish and Game Code 2070). Pursuant to the requirements of CESA, an agency reviewing a proposed project within its jurisdiction must determine whether any state-listed

Endangered or Threatened species could be present in the project area and determine whether the proposed project could have a potentially significant impact on such species. The proposed Plan would not likely result in the “take” of state-listed Threatened or Endangered species due to the project site’s history of disturbance and surrounding urban land uses that preclude wildlife movement to the project site from off-site. However, special-status bat species roosting in existing buildings or trees could be affected by the project, as could migratory birds and raptors nesting within ornamental and native trees and shrubs at the project site.

California Fish and Game Code

Under Section 3503 of the California Fish and Game Code, it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto. Section 3503.3 of the California Fish and Game Code prohibits take, possession, or destruction of any birds in the orders *Falconiformes* (hawks) or *Strigiformes* (owls), or of their nests and eggs. “Take” under the California Fish and Game Code includes harassment of nesting birds by construction-related noise and dust to the point at which nesting birds abandon their nest. The proposed project could affect nesting birds protected under Section 3503 of the California Fish and Game Code.

CDFG also regulates activities that would interfere with the natural flow of, or substantially alter, the channel, bed, or bank of a lake, river, or stream. These activities are regulated under the California Fish and Game Code (Section 1601 for public agencies and Section 1603 for private individuals) through a project-specific Streambed Alteration Agreement. Requirements to protect the integrity of biological resources and water quality are often conditions of such Agreements. Requirements may include avoidance or minimization of the use of heavy equipment, limitations on work periods to avoid impacts on wildlife and fisheries resources, and measures to restore degraded sites or compensate for permanent habitat losses. The potential wetland area within the northeastern portion of the campus does not have a definable bed or bank and is not a channel, lake, river, or stream. As a result, this potential wetland area would not likely receive state protection under Section 1601 of the California Fish and Game Code.

Regional Water Quality Boards

Through the nine Regional Water Quality Control Boards (RWQCBs), the State Water Resources Control Board (SWRCB) regulates discharge and/or fill to waters of the state under Section 401 of the CWA and under the California Clean Water Act (Porter-Cologne Water Quality Control Act). Additionally, *CEQA Guidelines* Section 15206 specifies that a project shall be deemed to be of statewide, regional, or area-wide significance if it would substantially affect sensitive wildlife habitats, including but not limited to riparian lands, wetlands, bays, estuaries, marshes, and habitats for rare and endangered species.

A potential isolated wetland area is located within the eastern portions of the campus. LARWQCB may choose to exercise its independent authority over this potential wetland under Section 401 of the CWA and the State Water Code and require a Water Quality Certification for fill activities, if any, within this potential wetland area.

Local

City of Los Angeles Municipal Code

The City of Los Angeles Municipal Code Chapter IV, Article 6, *Protected Tree Regulation* was amended by ordinance number 177,404, and became effective April 23, 2006. Accordingly, a “protected tree” applies to any of the following Southern California native tree species that measures four inches or more in cumulative diameter, four and one-half feet above the ground level at the base of the tree:

- (a) Oak tree including valley oak (*Quercus lobata*) and California live oak (*Quercus agrifolia*), or any other tree of the oak genus indigenous to California but excluding scrub oak (*Quercus dumosa*).
- (b) Southern California black walnut (*Juglans californica* var. *californica*).
- (c) Western sycamore (*Platanus racemosa*).
- (d) California bay (*Umbellularia californica*).

In order to remove any “protected tree,” the project applicant must first apply for and obtain a permit from the Los Angeles Board of Public Works or its designated officer or employee. The application for a permit shall indicate the location of each protected tree, and identify each protected tree proposed to be retained, relocated, or removed. If any grading is proposed that may affect the tree, a copy of the grading permit plan in compliance with Division 70 of Article 1 of Chapter IX of the Municipal Code must be submitted with the application. The proposed project may affect a “protected tree” and could be subject to Protected Tree Regulation. In addition, all mitigation proposed must be approved by the Department of Urban Forestry.

Landscape Ordinance

The Emergency Water Conservation Plan of the City of Los Angeles (Municipal Code, Chapter XII, Article 1, Section 121.08) provides for the reduction in the City’s water use through the regulation of landscape watering practices throughout the City. The ordinance states that no lawn, landscape, or other turf areas shall be watered or irrigated between the hours of 10:00 AM and 5:00 PM from April 1 to September 30, or between the hours of 11:00 AM and 3:00 PM from October 1 to March 31. In addition, Article IV of Chapter XII presently requires a ten percent reduction in the amount of water used for landscape irrigation on large turf areas, and provides for surcharges for water used in violation of the requirements. Lastly LAMC Section 124.03 requires certain water conservation requirements for large turf areas. These mandate that:

- (a) Owners of large turf areas in the City of Los Angeles shall reduce or caused to be reduced by ten percent the amount of water used for landscape irrigation purposes on large turf areas. The ten percent reduction shall be calculated based on the corresponding billing period in the base year.
- (c) Owners of large turf areas who install water conservation devices that are specifically designed or manufactured, as determined by the Department of Water and Power, to reduce water consumption by at least ten percent shall be deemed to have complied with this section.

- (d) The provisions of this section shall not apply to those owners of large turf areas who are determined by the Department of Water and Power to use reclaimed water for landscape irrigation purposes.

3C.3 Impacts and Mitigation Measures

Methodology

Analysis for this section is based on database searches of the CNDDDB and the CNPS database for special-status plant and wildlife species that could potentially occur within the project's vicinity; examination of United States Geological Survey (USGS) 7.5-minute Los Angeles and Pasadena topographic quadrangle maps for topographic and water features that could harbor native, riparian, or wetland habitats; a review of recent color aerial photographs to evaluate landscape features not evident on the USGS maps; and reconnaissance-level biological surveys of the project site performed by ESA biologist's on December 1, 2006 and July 27, 2008 to determine if queried species could occur at the site. The biological surveys concentrated on the eastern, undeveloped portion of the campus, which is dominated by disturbed coastal sage scrub and ruderal, nonnative grassland. In addition a tree survey was undertaken of each of the building opportunity sites; the tree survey is on file and available for review in the offices of the Environmental Review Section, Department of City Planning, City Hall.

Criteria Significance

The following significance criteria for biological resource impacts are based on Appendix G of the *CEQA Guidelines*. The project would have a significant biological resource impact if it would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service;
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service;
- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- Conflict with any local applicable policies protecting biological resources; or
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other applicable habitat conservation plan.

Project Impacts

Nesting Birds

Proposed renovations, demolition, and construction could directly or indirectly affect nesting bird species. Nesting birds and raptors are protected under the MBTA and California Fish and Game Code. If proposed renovations, demolitions, or new construction directly (e.g., the felling of a tree that contains an active bird nest) or indirectly (e.g., if activities sufficiently harassed birds to cause nest abandonment) caused an impact to nesting birds, this would be a violation of the MBTA and the California Fish and Game Code. This is a potentially significant biological resources impact. Implementation of Mitigation Measures 3C.1 and 3C.2 would reduce potential impacts to a less than significant level.

Special-Status Bats

Proposed renovations to and demolition of existing buildings could also affect roosting bat species. A number of special-status bat species could potentially be hibernating or roosting in any of the old buildings on campus that are planned for demolition or remodeling, or within trees near project activities. These bat species could be protected by federal and/or state law. If project activities were to cause the direct mortality of a bat or loss of bat habitat, this could be a violation of federal and/or state law and a potentially significant impact. Implementation of Mitigation Measures 3C.4 through 3C.6 would reduce potential impacts to a less-than-significant level.

Waters of the U.S./Waters of the State

Verification of the non-jurisdictional status of the swale and sycamore grove should be obtained from the U.S. Army Corps of Engineers, California Department of Fish and Game, and the Los Angeles Regional Water Quality Control Board prior to construction in this area.

Protected Trees

The proposed project area also contains mature ornamental and native trees, which could also be impacted by construction and operation of the proposed project. Proposed construction could result in the loss of “protected trees” as defined by the City of Los Angeles Municipal Code. Project activities would result in the felling of trees at the campus. Some of these felled trees could be “protected trees” as defined by the City of Los Angeles Municipal Code. If a “protected tree” is felled as a result of the project prior to obtaining a permit from the Los Angeles Board of Public Works or its designated officer or employee for such felling activities, this would be a violation of City of Los Angeles Municipal Code and a potentially significant impact. Implementation of Mitigation Measures 3C.10 through 3C.21 would reduce potential impacts to a less-than-significant level.

Mitigation Measures

The following shall apply:

Nesting and Breeding Birds

Measure 3C.1: To address the potential presence of nesting birds and raptors, no more than 30 days prior to initiation of any grading or excavation, Occidental College shall have a qualified biologist conduct a pre-construction bird and raptor nesting survey. The biologist must be qualified to determine the status and stage of nesting efforts by all locally breeding raptor and migratory bird species without causing intrusive disturbance. This survey shall cover all reasonably potential nesting locations for the relevant species on or closely adjacent to the project site.

If an active nesting effort is confirmed or considered very likely by the biologist, no construction activities shall occur within at least 500 feet of the nesting site until measures to address the constraint are agreed to by the project applicant, USFWS (if federally protected species are threatened), and CDFG personnel. If there are clear and present human safety risks due to any project delay, it would be important to quickly apprise agency personnel so that they can address the issue expeditiously.

Measures available as options to address this constraint are dependent on the species and any other protections afforded it, details of the nest site, the nest stage, types and levels of ongoing disturbances, the relevant project actions, and distances involved. Potentially appropriate measures to take may include one or more of the following as authorized by the USFWS: (1) delaying work at the nest site location until either the nest has failed (for non-project-related reasons) seven days after the last young leaves the nest, or (2) taking the young nestlings to a qualified wildlife rehabilitation center. Note that in the latter situation, it would normally be necessary for the biologist retrieving the young to be properly experienced and permitted for the specific work required.

In some cases both the USFWS and CDFG would waive the regulatory constraint based on the type of species nesting and the urgency of the project.

California Gnatcatcher

Measure 3C.2: Despite the low probability of occurrence of the federally-threatened coastal California gnatcatcher, this species nevertheless could be present in Occidental's disturbed coastal scrub habitat. If as a result of Measure 3C.1 it is determined that there is the potential for gnatcatcher to be present in the vicinity of any proposed construction activity, focused surveys to prove presence or absence shall be undertaken.

Surveys shall follow the USFWS Coastal California Gnatcatcher (*Polioptila californica californica*) Presence/Absence Survey Guidelines (USFWS, 1997), which require a minimum of six breeding season surveys from March 25 through June 30, or a minimum of nine non-breeding surveys from July 1 through March 14.

Surveys shall be completed by permitted biologists where there is coastal sage scrub, alluvial fan scrub, chaparral, or intermixed or adjacent areas of grassland and riparian habitats, as well as in a 500-foot buffer area around this habitat. No more than 80 acres shall be surveyed per biologist per day. Results of focused surveys will be forwarded to the USFWS. If coastal California gnatcatcher nests are detected near or within 500 feet of proposed construction activity, no disturbance will be allowed until all of the young have fledged or the nest fails.

Special- Status Bats

Measure 3C.3: Occidental College shall have a qualified bat biologist perform a roosting survey for bats species prior to renovations or demolitions to existing buildings.

Measure 3C.4: If bat species are found during the survey, modification or removal of buildings shall occur during the period least likely to impact the bats, as determined by a qualified bat biologist (generally from February 15 through October 15 if there are winter hibernacula, and from August 15 through April 15 if there are active maternity roosts found during the survey). Also, a no-disturbance buffer acceptable in size to CDFG shall be created around any roosts in the area (roosts that will not be destroyed by the project but are within the project vicinity) during the breeding season (April 15 through August 15). Bat roosts initiated during construction are presumed to be unaffected, and no buffer is necessary.

Measure 3C.5: If a bat roosting habitat is destroyed during building demolition or alteration activities, artificial bat roosts shall be constructed in an undisturbed area of the property, at least 200 feet from any project activities. The design and location of the artificial bat roost(s) shall be determined by a qualified bat biologist.

Sensitive Communities

Measure 3C.6: Prior to the commencement of any construction activity in Building Opportunity Site 5, written documentation shall be obtained from the Corps that no permit would be required for construction activities in the area of the swale. Should a permit be required, all the terms and conditions of the Corps permit shall be implemented.

Measure 3C.7: Prior to the commencement of any construction activity in Building Opportunity Site 5, written documentation shall be obtained from the California Department of Fish and Game that no agreement would be required for construction activities in the area of the swale. Should an agreement be required, all the terms and conditions of the CDFG Streambed Alteration Agreement shall be implemented.

Measure 3C.8: Prior to the commencement of any construction activity in Building Opportunity Site 5, written documentation shall be obtained from the Los Angeles Regional Water Quality Control Board that no Waste Discharge Requirement (WDR) permit would be required for construction activities in the area of the swale. Should a permit be required, all the terms and conditions of the WDR permit shall be implemented.

Measure 3C.9: For construction activities that results in temporary impacts of native habitat, these areas will be revegetated to pre-disturbance conditions. Occidental College will provide for annual monitoring of revegetated areas for a period three years, to ensure the viability of the revegetation.

Trees

Measure 3C.10: Development of each Building Opportunity Site shall prioritize tree preservation. "Protected Trees" as defined by the City of Los Angeles shall receive the highest priority for preservation. Healthy trees not directly protected by City of Los Angeles Los Angeles Municipal Code with a diameter of 12 inches at breast height (dbh) should be preserved in place to the maximum extent feasible.

Measure 3C.11: A Tree Report shall be prepared by a Tree Expert (as defined by the City of Los Angeles) and submitted to the Department of City Planning and Urban Forestry Division prior to development on **each** Building Opportunity Site. The Tree Report shall include information on **all** trees on the Building Opportunity Site and any trees off-site within 30 feet of the construction zone (if none a simple letter indicating that no trees would be impacted shall be prepared). If Protected Trees are present see Measure 3C.12.

Measure 3C.12: Construction on a Building Opportunity Site that has the potential to impact (the tree drip-line is within 30 feet of the construction zone) “Protected Trees” as defined by the City of Los Angeles Protected Tree Ordinance shall prepare a Protected Tree Report (PTR) in accordance with City of Los Angeles, Urban Forestry Division Guidelines. Any protected tree removal(s) shall be subject to the approval of the Board of Public Works and an Urban Forestry Division issued protected tree removal permit.

The Urban Forestry Division requires all PTRs be submitted by a “Tree Expert” as defined in Los Angeles Municipal Code (LAMC) Section 17.02:

- A Registered Consulting Arborist as provided by the American Society of Consulting Arborists
- A California licensed Landscape Architect who is also a Certified Arborist (CA) as provided by the International Society of Arboriculture (ISA)
- A California licensed Pest Control Advisor who is also a Certified Arborist (CA) as provided by the International Society of Arboriculture (ISA)

A PTR shall contain the following minimum information: 1) By whom the PTR is prepared; 2) For whom the PTR is prepared; 3) PTR location address with short geographic description; 4) Date PTR is prepared; 5) Date of PTR field inspection; 6) PTR purpose; 7) Table of Contents; 8) Project narrative: a. Project Description and background; b. Field observations; c. Findings; d. Recommendations; e. Mitigation (City of Los Angeles proscribes mitigation for any protected tree removal approval); f. Protected tree construction impact guidelines; 9) Matrix (spreadsheet) summarizing field observations of all protected tree(s) on subject property and any offsite protected trees that may be impacted by project by number (trees to be field tagged) (provide code for offsite trees (e.g. OS#1), tree species, tree height, diameter, spread, physical condition (e.g. declining, drought stressed, twig dieback, etc.), suggested treatment, tree rating, any other related information; 10) Matrix of proposed protected tree removals; 11) Matrix of proposed protected trees to remain; 12) Color photographs of all proposed protected tree removals (multiple trees may be shown on a photo if there is some method to differentiate between individual trees). Additional photos of remaining protected trees preferred; 13) Topographical map with all protected trees plotted (as close to real positions as possible, survey not required). Trees shall be color-coded, either highlighted or CAD as follows: Quercus spp - yellow, Platanus racemosa – blue, Umbellularia californica – green, Juglans californica – orange. All proposed protected tree removals shall be circled in red. Approximate canopy spread should also be included. Included on the plan shall be the footprint of any proposed buildings, walls, patios, pools, etc. Also to be included on plan is lot and proposed building(s) square footage; 14) Verification of current licenses and certifications; 15) Any further information that preparer opines is pertinent to the project.

Protected tree removal mitigation shall be minimum 4:1, 15-gallon tree stock minimum; actual mitigation requirements shall be determined based on the value of the removed trees.

Measure 3C.13: The plot plan for each Building Opportunity Site shall contain measures recommended by the tree expert for the preservation of as many trees as possible (both protected and non-protected trees). Mitigation measures for non-protected trees, such as replacement by a minimum of 24-inch box trees, on a 1:1 basis, shall be required for the unavoidable loss of desirable trees (those with a dbh of 12 inches or greater, and determined to be in good health by a tree expert) to the satisfaction of the City Planning Department and/or the Urban Forestry Division.

Measure 3C.14: As appropriate trees should be treated promptly for insect infestation (such as western sycamore borer) and monitored in the months before construction begins.

Measure 3C.15: A tree expert shall be present during demolition phase of construction to prevent any unnecessary root damage.

Measure 3C.16: Crown and/or root pruning of all protected and desirable trees shall be overseen by a Tree Expert.

Measure 3C.17: All trees with a drip-line within 30 feet of a construction site shall be evaluated for appropriate care and irrigation prior to construction to ensure that they are able to withstand the stresses of construction.

Measure 3C.18: Development of each Building Opportunity Site shall incorporate landscaping and a canopy of trees on the campus roadways in order to help absorb new sources of glare resulting from the introduction of new lighting sources.

Measure 3C.19: If it is determined that “protected trees” require removal as a result of project activities, then, prior to removal, the proposed project shall apply for and obtain a permit from the Board of Public Works or its designated officer or employee.

Measure 3C.20: All trees to be removed shall be processed to provide mulch for open space areas on the campus.

Measure 3C. 21: Construction sites shall be fenced to protect trees.

3C.4 Cumulative Impacts

Impacts to biological resources resulting from construction and operation of the proposed project are not anticipated to result in cumulative impacts if the proper mitigation measures mentioned above are applied to the proposed project.

3C.5 Significance after Mitigation

Less than significant.