4.4 BIOLOGICAL RESOURCES

This section describes existing biological resources, identifies associated regulatory requirements, evaluates potential project and cumulative impacts, and identifies mitigation measures for any significant or potentially significant impacts related to implementation of the Sustainability Policy and Regulatory Update of the County of Santa Cruz (County) General Plan and Local Coastal Program (LCP) and County Code (Sustainability Update or project). It provides a programmatic overview of biological resources in unincorporated areas of the county potentially affected by the proposed project, with a focus on sensitive biological resources addressed by the environmental checklist questions in Appendix G to the CEQA Guidelines: special-status species, sensitive communities (including riparian areas), jurisdictional aquatic resources (including wetlands), and wildlife corridors. The section is based on review of existing documents and studies, including supporting documents for the Sustainable Santa Cruz County (SSCC) Plan.

Online sources used in the above documents to identify regional special-status plant and wildlife species were also reviewed for up-to-date information and included the California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDB) (CDFW 2021a); U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) online tool (USFWS 2021a); and California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants of California (CNPS 2021). All three queries were conducted at the county level.

4.4.1 Environmental Setting

Santa Cruz County supports a wealth of biological resources due to its diverse topography and associated ecosystems, from the rugged and remote Santa Cruz Mountains in the north and northeast to the coastal terraces in the mid-county and alluvial plains of South County near the Pajaro River (Land Trust of Santa Cruz County 2011). The county includes more than 39 miles of rugged, mountainous, often forested, watersheds and Pacific coastline that includes sandy beaches, coastal lagoons, and areas of steep coastal bluffs (County of Santa Cruz 2017). Vegetation and habitat types (also known as land cover types) are the most widely used units in analyzing ecosystem function, habitat diversity, natural communities, aquatic resources, and species habitat, and provide the foundation for analyzing impacts on the resources described in the following subsections.

4.4.1.1 Terrestrial Vegetation and Habitat Types

There are approximately 19 vegetation communities throughout the unincorporated county that have been grouped into five general categories: forest/woodland, riparian, shrub-dominated habitats, herbaceous-dominated habitats, and aquatic as summarized on Table 4.4-1.

The north coast area generally consists of grassland and scrub/shrub lands along the coastal prairies and bluffs, transitioning into forest/woodland dominated communities inland with increasing slope and elevation, while the county's mountainous area predominantly supports forest/woodland communities. The largely developed urban area of the unincorporated county supports fewer natural communities and

consists primarily of urban habitat with riparian corridors and wetland/lagoons, and forest/woodland and grassland communities in the foothills. Within the predominantly agricultural alluvial and mountainous areas of the south county, habitats typically consist of developed communities to the south, such as croplands and pastures, and forest/woodland and scrub/shrubland toward the north and east (County of Santa Cruz 2017).

Table 4.4-1. Santa Cruz County Habitat/Vegetation Types

Habitat Type	Vegetation Type
Tree-Dominated Forest/Woodland	• Douglas Fir • Ponderosa Pine • Redwood • Closed-Cone Pine-Cypress • Montane Hardwood Conifer • Montane Hardwood • Coastal Oak Woodland • Eucalyptus
Riparian	• Montane Riparian • Valley Foothill Riparian
Shrub-Dominated Habitats	• Mixed Chaparral • Chamise-Redshank Chaparral • Coastal Scrub
Herbaceous-Dominated Habitats	• Annual Grassland • Perennial Grassland • Wet Meadow • Fresh Emergent Wetland
Aquatic	• Riverine • Lacustrine

Source: County of Santa Cruz 2017.

County-level vegetation and habitat terminology in this subsection follows CDFW's Wildlife Habitat Relationship (CWHR) System classification scheme for wildlife habitat types in California (Mayer and Laudenslayer 1988), consistent with other recent program-level Environmental Impact Reports (EIRs) (County Cannabis EIR 2017, AMBAG 2018, AMBAG 2021). General descriptions of each habitat type from Mayer and Laudenslayer (1988) are provided below. Because this analysis is at the county level and programmatic, vegetation mapping at the alliance and association level (i.e., in accordance with the Manual of California Vegetation [MCV] [Sawyer et al. 2009]) was not conducted; such mapping would need to be conducted at a project-specific level for future development activities.

Forest/Woodland-Tree-Dominated Habitats

Douglas Fir

Douglas fir habitat occurs at low to moderate elevations and is juxtaposed with several other habitat types. Typical stands of this community include a lower overstory of dense, broad-leaved evergreen trees (e.g., tanoak [*Notholithocarpus densiflorus*], Pacific madrone [*Arbutus menziesii*]) with an irregular, often open, higher overstory of tall Douglas-fir (*Pseudotsuga menziesii*) up to 295 feet.

Ponderosa Pine

Ponderosa pine habitat includes pure stands of ponderosa pine (*Pinus ponderosa*) as well as mixed species stands in which at least 50% of the canopy is composed of ponderosa pine. The shrub layer varies from open to continuous cover and the herbaceous understory is sparse, abundant, or grassy. This vegetation community can occur in all upland topography, floodplains, low-gradient depositions along streams, and raised benches. Typical associate tree species include California black oak (*Quercus kelloggii*), canyon live oak (*Q. chrysolepis*), interior live oak (*Q. wislizeni*), and Douglas-fir.

Redwood

Redwood habitat is characterized by even-aged structure with an open parklike appearance. Redwood (*Sequoia sempervirens*) and associated conifers reproduce well by seed. Redwood habitat is a composite name for a variety or mix of conifer species that grow within the coastal influence zone (i.e., from the coast to approximately 31 miles inland). It occurs along raised stream terraces, benches, all slopes and aspects, and ridges. Redwood is the dominant species in the coastal zone, while further inland Douglas-fir becomes dominant with tanoak and madrone as the major associates. Common species may include Bishop pine (*Pinus muricata*), big-leaf maple, California bay (*Umbellularia californica*), California huckleberry (*Vaccinium ovatum*), California red huckleberry (*Vaccinium parvifolium*), coast rhododendron (*Rhododendron macrophyllum*), oceanspray (*Holodiscus discolor*), Oregon ash (*Fraxinus latifolia*), poison oak (*Toxicodendron diversilobum*), salmonberry (*Rubus spectabilis*), thimbleberry (*Rubus parviflorus*), western chain fern (*Woodwardia fimbriata*), and western sword fern (*Polystichum munitum*) (Mayer and Laudenslayer 1988).

Closed-Cone Pine-Cypress

Closed-cone pine-cypress habitat is typically dominated by a single species of closed-cone pine (*Pinus* spp.) or western cypress (*Hesperocyparis* spp.). The height and canopy closure of this vegetation community is variable and depends upon site characteristics, soil type, the age of the stand, and the overall floristic composition. Generally, the understory is a well-developed shrub layer of chaparral species that are on open, well-drained sites; and a low, dense cover of shrubs and herbs on the poorly drained soils. After fire, particularly on good sites, both cypress and pine species can form dense, even-aged stands. As the stand matures, the stocking density decreases, but single species site dominance is common. Closed-cone pine-cypress vegetation communities that are present along the weathered coastline, or on very shallow infertile soils, often contain stunted and wind-pruned individuals. In general, associated species change as the

dominant species changes in this vegetation community. Along the Central Coast region, Santa Cruz cypress stands are present and often include knobcone pine (*Pinus attenuata*), Santa Cruz cypress (*Hesperocyparis abramsiana*), ponderosa pine, and silverleaf manzanita (*Arctostaphylos silvicola*). Other tree species that are found in this vegetation community may include Bishop pine (*Pinus muricata*), Monterey pine (*Pinus radiata*), and Torrey pine (*Pinus torreyana*) (Mayer and Laudenslayer 1988).

Montane Hardwood Conifer

Montane hardwood conifer habitat includes both conifers and hardwoods, often as a closed forest. This habitat often occurs in a mosaic-like pattern with small pure stands of conifers interspersed with small stands of broad-leaved trees. Species diversity consists of a broad spectrum of mixed, vigorously growing conifer and hardwood species. Most of the broad-leaved trees are evergreen, but winter-deciduous species also occur. Relatively little understory occurs under the dense, layered canopy of this vegetation community. However, considerable ground and shrub cover can occur in ecotones or following disturbance such as fire or logging. Steeper slopes are normally devoid of litter; however, gentle slopes often contain considerable accumulations of leaf and branch litter. Common species may include black oak, big leaf maple, canyon live oak, redwood, Douglas-fir, Pacific madrone, ponderosa pine, and tanoak (Mayer and Laudenslayer 1988).

Montane Hardwood

Montane hardwood habitat is composed of a pronounced hardwood tree layer, with an infrequent and poorly developed shrub stratum, and a sparse herbaceous layer. Individual trees or clumps of trees may be spaced close together, but on poorer-quality sites, spacing between individual trees or clumps of trees increases. Where trees are closely spaced, crowns may close but seldom overlap. Snags and downed woody material generally are sparse throughout the montane hardwood habitat. Typical species in the study area include California bay (*Umbellularia californica*), Douglas fir, tanoak, Pacific madrone, and California black oak. Understory vegetation is mostly scattered woody shrubs (manzanita, poison oak) and a few forbs (Mayer and Laudenslayer 1988).

Coastal Oak Woodland

Coastal oak woodland is extremely variable. The overstory of this community consists of deciduous and evergreen hardwoods. On mesic[1] sites, the trees are dense and form a closed canopy. In drier sites, the trees are widely spaced, forming an open woodland or savannah. The understory is equally variable. In some instances, it is composed of shrubs from adjacent chaparral or coastal scrub vegetation communities, which form a dense and impenetrable understory. More commonly, shrubs are scattered under and between trees. Where trees form a closed canopy, the understory varies from a lush cover of shade-tolerant shrubs, ferns, and herbs to sparse cover with a thick carpet of litter. When trees are scattered and form an open woodland, the understory is grassland, sometimes with scattered shrubs. The interrelationships of slope, soil, precipitation, moisture availability, and air temperature cause variations in structure of coastal oak woodlands. These factors vary along the latitudinal, longitudinal and elevation gradients over which

[1] Mesic refers to areas characterized by, relating to, or requiring a moderate amount of moisture.

coastal oak woodlands are found. Common species may include Arroyo willow (*Salix lasiolepis*), big leaf maple (*Acer macrophyllum*), black oak (*Quercus kelloggii*), boxelder (*Acer negundo*), and California bay laurel (*Umbellularia californica*), California sycamore (*Platanus racemosa*), coast live oak (*Quercus agrifolia*), Fremont's cottonwood (*Populus fremontii*), Pacific madrone (*Arbutus menziesii*), and valley oak (*Quercus lobata*) (Mayer and Laudenslayer 1988).

Eucalyptus

Eucalyptus habitats range from single-species thickets with little or no shrubby understory to scattered trees over a well-developed herbaceous and shrubby understory. In most cases, eucalyptus forms a dense stand with a closed canopy. Stand structure for this vegetation community may vary considerably because most eucalyptus tree species have been planted into either rows for wind protection or dense groves for hardwood production and harvesting. Overstory composition is typically limited to one species of the genus, or mixed stands composed of other species of the same genus; few native overstory species are present within eucalyptus planted areas, except in small cleared pockets. The most common species may include blue gum (*Eucalyptus globulus*) and red gum (*Eucalyptus camaldulensis*) (Mayer and Laudenslayer 1988).

Montane Riparian

The vegetation of montane riparian habitats is quite variable and often structurally diverse. Usually, montane riparian habitats occur as a narrow, often dense grove of broad-leaved, winter deciduous trees with a sparse understory. It can also occur as alder or willow stringers along streams of seeps. Big leaf maple and California bay laurel are typical dominant species within the southern Coast Range where the study area is located. Other common species may include arroyo willow, Fremont cottonwood (*Populus fremontii*), black cottonwood (*Populus trichocarpa*), and white alder (*Alnus rhombifolia*) (Mayer and Laudenslayer 1988).

Valley Foothill Riparian

The valley foothill riparian vegetation community is typically a mature riparian forest with a canopy cover of 20% to 80%. Most trees are winter deciduous. There is a sub canopy tree layer and an understory shrub layer. Herbaceous vegetation constitutes about 1% of the cover, except in openings where tall forbs and shade-tolerant grasses occur. Generally, the understory is impenetrable and includes fallen limbs and other debris. Common species may include boxelder, California blackberry (*Rubus ursinus*), California sycamore, California wild grape (*Vitus californica*), California wild rose (*Rosa californica*), cottonwood, elderberry (*Sambucus* spp.), miner's lettuce (*Claytonia parviflora*), Oregon ash, poison hemlock (*Conium maculatum*), poison oak, rushes (*Juncus* spp.), sedges (*Carex* spp.), stinging nettle (*Urtica dioica*), willows (*Salix* spp.), valley oak, and white alder (Mayer and Laudenslayer 1988).

Shrub-Dominated Habitats

Mixed Chaparral

Mixed chaparral is a structurally homogeneous habitat type dominated by shrubs with thick, stiff, heavily cutinized evergreen leaves. At maturity, cismontane mixed chaparral typically is a dense, nearly impenetrable thicket. On poor sites, serpentine soils or transmontane slopes, shrub cover may be reduced and shrubs may be shorter in size. Considerable leaf litter and standing dead material may accumulate in stands that have not burned for several decades. Common species may include chamise (*Adenostoma* spp.), chaparral pea (*Pickeringia montana*), manzanita (*Arctostaphylos* spp.), poison oak, scrub oak, silk tassel (*Garrya* spp.), toyon, and yerba santa (Mayer and Laudenslayer 1988).

Chamise-Redshank Chaparral

Chamise-redshank chaparral is a single layered vegetation community that is generally lacking well-developed herbaceous ground cover and overstory trees. Fire occurs regularly in chamise-redshank chaparral and influences habitat structure. Shrub canopies frequently overlap, producing a nearly impenetrable canopy of interwoven branches. Mature redshank frequently is more open than chamise and can have sparse herbaceous cover between shrubs. Chamise-redshank chaparral may consist of nearly pure stands of chamise or redshank, a mixture of both, or with other shrubs. This vegetation community can occur in varied topographies, on soils that commonly shallow over colluvium and many kinds of bedrock. The purest stands of chamise occur on xeric,[2] south-facing slopes. Common species may include California buckwheat (*Eriogonum fasciculatum*), chamise (*Adenostoma fasciculatum*), chaparral yucca (*Hesperoyucca whipplei*), buck brush (*Ceanothus* spp.), common manzanita (*Arctostaphylos manzanita*), Eastwood manzanita (*Arctostaphylos glandulosa*), interior live oak (*Quercus wislizeni*), monkeyflower (*Diplacus* spp.), poison oak (*Toxicodendron diversilobum*), Santa Cruz manzanita (*Arctostaphylos andersonii*), scrub oak (*Quercus berberidifolia*), sage (*Salvia* spp.), toyon (*Heteromeles arbutifolia*), and yerba santa (*Eriodictyon californicum*) (Mayer and Laudenslayer 1988).

Coastal Scrub

Coastal scrub habitat occurs at river mouths, stream sides, terraces, stabilized dunes of coastal bars, spits along the coastline, coastal bluffs, open slopes, ridges. No single species is typical of all the coastal scrub vegetation communities in the Central Coast region. Structure of the plant species that comprise coastal scrub vegetation communities is typified by low to moderate-sized shrubs with mesophytic leaves, flexible branches, semi-woody stems growing from a woody base, and a shallow root system. Structure differs among stands, mostly along a gradient that parallels the coastline. Specifically, species composition changes most markedly with progressively more xeric conditions from north to south along the coastline. With the change from mesic to xeric sites, dominance appears to shift from evergreen species in the north to drought-deciduous species in the south. Variation in coastal influence at a given latitude produces less pronounced composition changes. Common species may include blue blossom (*Ceanothus thyrsiflorus* var. *thyrsiflorus*), California coffeeberry (*Frangula californica*), common cowparsnip (*Heracleum maximum*),

[2] Xeric refers to areas characterized by, relating to, or requiring only a small amount of moisture.

coyote brush (*Baccharis pilularis*), Himalayan blackberry (*Rubus armeniacus*), Indian paintbrush (*Castilleja affinis* spp. *affinis*), monkeyflower (*Diplacus* spp.), oat grasses, poison oak, salal (*Gaultheria shallon*), wooly sunflower (*Eriophyllum lanatum*), silver bush lupine (*Lupinus albifrons*), and yerba buena (*Clinopodium douglasii*) (Mayer and Laudenslayer 1988).

Herbaceous-Dominated Habitats

Annual Grassland

Annual grassland is composed primarily of annual herbaceous plant species. Vegetation composition and structure in annual grasslands depend largely on weather patterns and livestock grazing, where present. Fall rains cause germination of annual plant seeds. Plants grow slowly during the cool winter months, remaining low in stature until spring, when temperatures increase and stimulate more rapid growth. Large amounts of standing dead plant material can be found during summer in years of abundant rainfall and light to moderate grazing pressure. Introduced annual grasses are the dominant plant species in this habitat. Common grass species may include canary grass (*Phalaris* spp.) barley (*Hordeum* spp.), fescue (*Festuca* spp.), medusa head (*Elymus caput-medusae*), soft chess (*Bromus hordeaceus*), red brome (*Bromus madritensis*), ripgut brome (*Bromus diandrus*), wild oats (*Avena* spp.). Common forb species may include bur clover (*Medicago polymorpha*), clovers (*Trifolium* spp.), filaree (*Erodium* spp.), turkey mullein (*Croton setiger*), and many others (Mayer and Laudenslayer 1988).

Perennial Grassland

Perennial grasslands typically occur on ridges and south-facing slopes, alternating with forest and scrub in the valleys and on north-facing slopes and occurs in two forms in California: coastal prairie, found in areas of northern California under maritime influence, and relics in habitats now dominated by annual grasses and forbs. The coastal prairie form is found within the biological study area. Perennial grasslands of the coastal prairie form occur along the California coast northward of Monterey County at lower elevations and seldom more than 100 km (62 mi) from the coast. Common species include perennial grass species such as California oatgrass (*Danthonia californica*), Pacific hairgrass (*Deschampsia cespitosa* ssp. *holciformis*), and sweet vernal grass (*Anthoxanthum odoratum*) (Mayer and Laudenslayer 1988).

Wet Meadow

Wet meadows generally have a simple structure consisting of a layer of herbaceous plants. Shrub or tree layers are usually absent or very sparse; however, they may be present as an important feature of a meadow sedge. Within the herbaceous plant community, a microstructure is frequently present. The wet meadow vegetation communities occur with a great variety of plant species; therefore, it is not possible to generalize species composition. Fewer species occur as surface water depth increases during spring runoff. Species may differ, but several genera are common to wet meadows throughout the State. Common genera that may occur include bent grasses (*Agrostis* spp.), bulrushes (*Schoenoplectus* spp.), oat grasses (*Danthonia* spp.), sedges (*Carex* spp.), rushes (*Juncus* spp.), and willows (*Salix* spp.) (Mayer and Laudenslayer 1988).

Fresh Emergent Wetland

Fresh emergent wetlands are characterized by erect, rooted hydrophytes (i.e., plants adapted to grow in water) varying in size from small clumps to vast areas covering several kilometers. They occur in any topography containing a basin or depression that is saturated or at least periodically flooded but are most common on level to gently rolling topography. Plant species common to such wetlands predominately consist of cattails (*Typha* spp.), bulrushes, sedges, and rushes.

Aquatic Habitats

Riverine

Riverine habitat is distinguished by intermittent or continually running water and is functionally equivalent to rivers and streams (Mayer and Laudenslayer 1988). These aquatic systems typically include 98% total cover of open water and less than 2% total cover of by vegetation in the continually exposed bank or shore zone. Aquatic zones within riverine systems include open water greater than 6 feet in depth and/or beyond the reach of floating rooted plants, the submerged zone between open water and the shore, and the shore that is seldom flooded. Small rivers and streams may not have an open water zone. A stream originates at an elevated source, such as a spring or lake, and flows downward at a rate relative to slope or gradient and the volume of surface runoff or discharge. At lower elevations, water velocity declines and the volume of water increases until the stream becomes sluggish and transitions into a river. Riverine habitats are associated with many terrestrial habitats (e.g., riparian forest and woodland) and may also be contiguous with lacustrine and freshwater wetland habitats.

For the purposes of this EIR, riverine habitat in the biological study area is represented by the County's "Streams" GIS dataset (County of Santa Cruz 2015a). Major streams include the San Lorenzo River and its tributaries, Soquel Creek, Aptos Creek, Watsonville Slough, and the Pajaro River. Several other unnamed intermittent and ephemeral tributaries also occur within the biological study area.

Lacustrine

Lacustrine habitat is an inland depression or dammed riverine channel containing standing water (Cowardin 1979). Lacustrine areas may vary from small ponds less than one hectare, to large areas covering several square kilometers. Depth can vary from a few centimeters to hundreds of meters. Typical lacustrine systems include permanently flooded lakes and reservoirs, intermittent lakes (e.g., playa lakes), and large ponds. However, the CDFW's coarse mapping of this habitat type also includes coastal bodies of water that may be influenced by the tides and contain salinity gradients, which more closely align with estuarine systems. The plants and wildlife species found in the littoral zone (i.e., nearshore) vary with water depth, and a distant zonation of life exists from deeper water to shore. Most permanent lacustrine systems support fish life; intermittent types usually do not. A blanket of duckweed may cover the surface of shallow water. Submerged plants such as algae and pondweeds serve as supports for smaller algae and as cover for swarms of minute aquatic animals. As sedimentation and accumulation of organic matter increases toward the shore, floating rooted aquatics such as water lilies and

smartweeds often appear. Floating plants offer food and support for numerous herbivorous animals that feed both on phytoplankton and the floating plants.

For the purposes of this EIR, lacustrine habitat in the biological study area is represented by the County's "Lakes" GIS dataset (County of Santa Cruz 2015b). Major lakes or open waterbodies within the USL include Neary Lagoon, Arana Marsh, Woods Lagoon, and Schwann Lake.

Developed Habitats

Cropland

Cropland does not conform to normal habitat stages. Instead, it is a highly managed habitat type and is regulated by the crop cycle in California. Most croplands support annuals planted in spring and harvested during summer or fall. In many areas, second crops are commonly planted after harvesting the first. This land cover type can either be annual or perennial, vary according to location in the California, or germinate at various times of the year. Specifically, the crop vegetation in this land cover types includes a variety of sizes, shapes, and growing patterns. For instance, although most crops are planted in rows, such as alfalfa, hay, and small grains (e.g., rice, barley, and wheat), these crops can form dense stands with up to 100% canopy closure (Mayer and Laudenslayer 1988).

Urban

The urban land cover type includes areas that have been constructed on or otherwise physically altered to the point where natural vegetation is no longer present. Urban areas are characterized by permanent or semi-permanent structures, hardscapes, and landscaped areas that require irrigation. According to CWHR System classification scheme, the urban mapping unit can have five types of vegetative structure: tree grove, street strip, shade tree/lawn, lawn, and shrub cover (CDFW 2014). Tree groves are common to city parks, green belts, and cemeteries. Tree grove species vary in height, tree spacing, crown shape, and understory conditions, depending upon the species planted and the planting design. Ground cover in tree groves can range from full to absent. Street tree strips show variation in spacing of trees, depending upon species and design considerations. Both continuous and discontinuous canopies are observed. Street tree strips are typically planted with drought tolerant ground covers in this area. Shade trees and lawns are typical of residential areas and reminiscent of natural savannas. Structural variation in the shade tree/lawn type is typical when many species are incorporated in the landscape. Lawns are structurally the most uniform vegetative units of the California urban land cover type. A variety of grass species are employed, which are maintained at a uniform height and continuous ground cover. Shrub cover is more limited in distribution than the other structural types. Hedges represent a variation of the urban shrub cover type. Species, planting design, and maintenance control the structural characteristics of this types. Species composition in urban habitats varies with planting design and climate. Monoculture is commonly observed in tree groves and street tree strips. The juxtaposition of urban vegetation types within cities produces a rich mosaic with considerable edge areas. The overall mosaic may be more valuable as wildlife habitat than the individual units in that mosaic. A distinguishing feature of the urban wildlife habitat is the mixture of native and exotic species. Both native and exotic species are valuable,

with exotic species providing a good source of additional food in the form of fruits and berries (Mayer and Laudenslayer 1988).

Non-vegetated Habitats

Barren

The barren habitat is defined by the absence of vegetation. Any land cover with less 2% total vegetation cover of herbaceous, desert, or non-wildland species, and less than 10% cover of tree or shrub species, is typically defined as a barren land cover. Structure and composition of the substrate is largely determined by the region of the state and surrounding environment. In the marine and estuarine environment, barren land cover includes rocky outcroppings in the intertidal and subtidal zones, open sandy beaches, and mudflats. Along rivers, it includes vertical riverbanks and canyon walls. Urban settings covered in pavement and buildings may be classified as barren if vegetation, including non-native landscaping, does not reach the coverage percentage thresholds for vegetated habitats as described above (Mayer and Laudenslayer 1988). However, within the infrastructure study area, areas covered in pavement and buildings were classified as urban (see below).

4.4.1.2 Marine Habitats

Monterey Bay is part of the Monterey Bay National Marine Sanctuary (MBNMS), which was established and designated in 1992 for the purpose of resource protection, research, education and public use. The MBNMS is the largest of thirteen marine sanctuaries administered by the United States Department of Commerce National Oceanic and Atmospheric Administration (NOAA) and it extends from Marin County to Cambria, encompassing nearly 300 miles of shoreline and 5,322 square miles of ocean, extending an average distance of twenty-five miles from shore. The Sanctuary's natural resources include the nation's largest kelp forests, one of North America's largest underwater canyons, and the closest to shore deep ocean environment in the continental United States. At its deepest point the MBNMS reaches down 10,663 feet (more than two miles) (U.S. Department of Commerce 2008).

Monterey Bay is home to numerous mammals, seabirds, fishes, invertebrates, and algae in a remarkably productive coastal environment. Its natural resources include the nation's largest contiguous kelp forests, one of North America's largest underwater canyons and the closest-to-shore, deep ocean environment off the continental United States. It is home to some of the most diverse and productive marine ecosystems in the world, including a vast diversity of marine life, with 33 species of marine mammals, 94 species of seabirds, 345 species of fish, four species of sea turtles, 31 phyla of invertebrates, and more than 450 species of marine algae. During early spring to late summer, upwelling causes nutrient-rich water to rise to the surface. These nutrients in turn are consumed by planktonic organisms which support the entire food chain, giving rise to the incredible diversity at this site (U.S. Department of Commerce 2008).

MBNMS partially updated its 2009 Condition Report and released A New Assessment of the State of Sanctuary Resources in 2015. The 2009 Report The 2009 Report provided an assessment of ecosystem health, status and trends within the Sanctuary. Both the 2009 Report and 2015 Condition

Report Update assessed four areas of the sanctuary: estuarine (Elkhorn Slough), nearshore (<30 meters in depth), offshore (>30 meters) and the Davidson Seamount (70 miles offshore, southwest of Monterey). Sanctuary habitats and living resources were reported to be in excellent condition. Overall, the nearshore biogenic habitat (which extends from the shoreline boundary out to approximately 30 meters depth), including kelp, algae, and invertebrates are abundant and stable. There has been no introduction of new invasive species; key species are stable or slightly increasing; and water quality risks to human health decreased due to improved sewer infrastructure and non-point source controls. However, the 2015 Report downgraded the eutrophic conditions of sanctuary waters to "fair" due to the increasing nutrient enrichment and proliferation of harmful algal blooms (HABs). Concerns in the nearshore environment include ambient toxicity due to pesticides and pharmaceuticals; sea star declines; and effects of the following activities: sand mining, coastal armoring, inputs of contaminants, and marine debris. In the offshore environment the main concerns are impacts that have been detected due to the Oxygen Minimum Zone caused by acidification, warming and shoaling; pollutants, marine debris, and toxins from HABs found in some key species; impacts to sensitive species from human-caused noise and vessel traffic; long-term impacts of warmer water conditions; and trawling impacts on the benthic habitat (U.S. Department of Commerce 2015).

4.4.1.3 Special-Status Species

For the purposes of this EIR, special-status species are defined as follows:

- Plants, fish, or wildlife listed, proposed for listing, or candidates for listing as threatened or endangered under the federal Endangered Species Act (FESA)
- Plants, fish, or wildlife listed as threatened or endangered, or proposed for listing, under the California Endangered Species Act (CESA)
- Fish or wildlife designated by the CDFW as a California Species of Special Concern (SSC)
- Wildlife designated as fully protected species under sections 3511, 4700, 5050, and 5515 the California Fish and Game Code (CFGC)
- Plants designated as rare under the California Native Plant Protection Act of 1977
- Plants with the following California Rare Plant Ranks (CRPR):
    - CRPR 1B – Plants rare, threatened or endangered in California and elsewhere.
    - CRPR 2B – Plants rare, threatened, or endangered in California but more common elsewhere.
    - CRPR 3 – Plants about which more information is needed
    - CRPR 4 – Plants of limited distribution; a watch list
- Meet the definition of rare, threatened, or endangered as described in the CEQA Guidelines, section 15380

A total of 87 special-status plant and 46 special-status wildlife species have been documented from the county. The status and habitat requirements of these species are presented in Appendix E. Species included in the IPaC resource list (USFWS 2021a) with geographic ranges outside the county (e.g., California

Ridgway's rail [*Rallus obsoletus obsoletus*] in tidal salt marshes fringing the San Francisco Estuary) or only occurring in the Pacific Ocean (e.g., southern sea otter [*Enhydra lutris nereis*] and green sea turtle [*Chelonia mydas*] are not expected to occur in the project area and are therefore not included in Appendix E.

Federally designated critical habitat are present in a number locations, including designated critical habitat for the following species:

- California red-legged frog (*Rana draytonii*)
- Coho salmon-Central California coast ESU (*Oncorhynchus kisutch*)
- Marbled murrelet (*Brachyramphus marmoratus*)
- Monterey spineflower (*Chorizanthe pungens* var. *pungens*)
- Robust spineflower (*Chorizanthe robusta* var. *robusta*)
- Scotts Valley polygonum (*Polygonum hickmanii*)
- Scotts Valley spineflower (*Chorizanthe robusta* var. *hartwegii*)
- Steelhead- -Central California Coast DPS (*Oncorhynchus mykiss irideus*)
- Steelhead-South-Central California Coast DPS (*Oncorhynchus mykiss*)
- Tidewater goby (*Eucyclogogius newberryi*)
- Western snowy plover (*Charadrius alexandrines nivosus*)
- Zayante band-winged grasshopper (*Trimerotropis infantillis*) (AMBAG 2021).

4.4.1.4 Sensitive Habitats

Santa Cruz County has a wide variety of natural habitats supporting rich biological diversity, including listed plant and animal species that are locally unique or rare or are identified as rare, threatened, or endangered under state and federal law. The natural habitats of listed plant and animal species and communities (sensitive habitats) include stream corridors, lakes, ponds and wetlands; beaches, reefs, and marine habitats; the Monterey Bay National Marine Sanctuary; the unique Sandhills habitat in the San Lorenzo Valley and North Coast; the salamander habitat around Aptos and Watsonville; the native grass lands of the coastal terraces; and the San Andreas oak woodland.

For the purposes of this EIR, sensitive habitats include the following: (1) vegetation communities designated as sensitive by CDFW (2021) (CDFW sensitive natural communities); (2) riparian communities and aquatic resources, including wetlands; and (3) County-designated sensitive habitats, many of which overlap with the other two categories. Each of these are briefly discussed below.

CDFW Sensitive Natural Communities

CDFW sensitive natural communities are "natural communities" (of vegetation) or "vegetation types" that have been evaluated by CDFW, using NatureServe's Heritage Methodology (Master et al. 2012) and vegetation community classifications from MCV (Sawyer et al. 2009), and are ranked by rarity and threat. Evaluation is done at both the global (i.e., full natural range within and outside of California), and State (i.e.,

within California) levels resulting in a single 'G' (global) and 'S' (state) rank ranging from 1 (i.e., very rare and threatened) to 5 (i.e., demonstrably secure). The five levels of S-ranks are defined as follows:

- **S1 = Critically Imperiled.** Critically imperiled in California because of extreme rarity (often 5 or fewer populations) or because of factor(s) such as very steep declines making it especially vulnerable to extirpation.
- **S2 = Imperiled.** Imperiled in California because of rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation.
- **S3 = Vulnerable.** Vulnerable in California due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation.
- **S4 = Apparently Secure.** Uncommon but not rare in California; some cause for long-term concern due to declines or other factors.
- **S5 = Secure.** Common, widespread, and abundant in the state.

Additional threat ranks are defined as follows:

- 0.1 = Very threatened
- 0.2 = Threatened
- 0.3 = No current threat known

Natural communities with an S rank of S1, S2, or S3 are considered "sensitive" by CDFW (2021) and typically addressed in the CEQA environmental review process. Because the CWHR habitat classification scheme (Mayer and Laudenslayer 1988) is based on a different vegetation classification standard and larger mapping scale than the CDFW sensitive natural communities (MCV alliances and associations), a translation between the systems that allowed for a "crosswalk" (side-by-side comparison) was compiled. The crosswalk was used to extrapolate potential sensitive natural communities that could occur within the biological study area (Table 4.4-2).

Riparian Communities and Aquatic Resources

Riparian vegetation communities occur along streams, ponds, rivers, and lakes and are considered sensitive because of their high habitat value for native wildlife. Riparian vegetation in the biological study area is associated with the montane riparian, valley foothill riparian, and riverine habitat types described above but may overlap with other habitat types where adequate water is available. Vegetation mapping at the project level would be needed to identify riparian communities in or adjacent to specific development sites.

Table 4.4-2. Sensitive Natural Communities Potentially Occurring Santa Cruz County

CDFW Sensitive Natural Community (MCV Alliance or Association)	CWHR Habitat Type	State Rarity
Tree-dominated		
Redwood forest and woodland	Redwood	S3.2
Bishop pine - Monterey pine forest and woodland	Closed-cone pine-cypress	S3.2
Monterey pygmy cypress stands		S1
Santa Cruz cypress groves		S1
Bigleaf maple forest and woodland	Montane hardwood-conifer	S3
California bay forest and woodland	Coastal oak woodland	S3
Madrone forest		S3.2
Shreve oak forests		S2
Black cottonwood forest and woodland	Valley foothill riparian	S3
California sycamore woodlands		S3
Fremont cottonwood forest and woodland		S3.2
Goodding's willow - red willow riparian woodland and forest		S3
Shining willow groves		S3.2
Shrub-dominated		
Brittle leaf - woolly leaf manzanita chaparral	Mixed chaparral	S3
Canyon live oak - Interior live oak chaparral		S3
Glossy leaf manzanita chaparral		S2
Golden chinquapin thickets		S2
Hairy leaf - woolly leaf ceanothus chaparral		S3
Hoary, common, and Stanford manzanita chaparral		S3
Hooker's manzanita chaparral		S2
Monterey manzanita chaparral		S1
Pajaro manzanita chaparral		S1
Silverleaf manzanita chaparral		S1.2
Hazelnut scrub	Coastal scrub	S2?
Silver dune lupine - mock heather scrub		S3
Wax myrtle scrub		S3
California coffee berry - western azalea scrub - Brewer's willow	Valley foothill riparian	S3
Herbaceous-dominated		
Ashy ryegrass - creeping ryegrass turfs	Perennial grassland	S3
Gum plant patches		S2
Idaho fescue - California oatgrass grassland		S3
Needle grass - Melic grass grassland		S3
Pacific reed grass meadows		S2
Sea lyme grass patches		S2
Coastal tufted hair grass - Meadow barley - California oatgrass wet meadow	Perennial grassland, Wet meadow	S3
Dune mat	Coastal scrub	S3
Salt rush swales		S2?
Seaside woolly-sunflower - seaside daisy - buckwheat patches		S3
Sand dune sedge swaths	Coastal scrub, Wet meadow	S3?
Fountain thistle seeps	Wet meadow	S1
Iris-leaf rush seeps		S2?
Torrent sedge patches	Valley foothill riparian	S3

Sources: CDFW 2021b; Mayer and Laudenslayer 1988.
Note: "?" indicates CDFW's best estimate of the rank when they have insufficient samples over the full expected range of the vegetation community, but existing information points to this rank.

Aquatic resources include waters of the United States regulated under the federal Clean Water Act; waters of the State regulated under the Porter-Cologne Water Quality Act; and rivers, streams, and lakes regulated under section 1602 of the CFGC (see Section 4.4.2, Regulatory Framework, for additional information about the related laws and regulations). Because this analysis is at the county level and programmatic, no jurisdictional delineations were conducted; formal delineations of potentially jurisdictional aquatic resources would need to be conducted at a project-specific level for future development activities. Most riverine and lastrine habitats (including County-mapped lakes and streams) are regulated as "non-wetland waters" of the United States and State and "rivers, streams, and lakes" regulated under section 1602 of the CFGC. Wet meadow and fresh emergent wetland habitats would be regulated as wetlands of the United States and State. In addition, riparian vegetation communities are generally regulated under section 1602 of the CFGC and portions of these communities may also be regulated as wetlands (e.g., scrub-shrub wetland, palustrine forested wetland) under the federal Clean Water Act.

County of Santa Cruz Sensitive Habitats

The General Plan/LCP (existing and proposed update) and Chapter 16.32 of the Santa Cruz County Code (SCCC) define a "sensitive habitat" as any area that meets one or more of the following criteria:

a) Areas of special biological significance as identified by the State Water Resources Control Board (SWRCB).

b) Areas that provide habitat for locally unique biotic species/communities, including coastal scrub, maritime chaparral, native rhododendrons and associated Elkgrass, mapped grasslands in the coastal zone and sand parkland; and Special Forests including San Andreas Live Oak Woodlands, Valley Oak, Santa Cruz Cypress, indigenous Ponderosa Pine, indigenous Monterey Pine and ancient forests.

c) Areas adjacent to essential habitats of rare, endangered or threatened species as defined in (e) and (f) below.

d) Areas that provide habitat for Species of Special Concern as listed by the CDFW in the Special Animals list, California Natural Diversity Database.

e) Areas that provide habitat for rare or endangered species that meet the definition of section 15380 of the CEQA guidelines.

f) Areas that provide habitat for rare, endangered or threatened species as designated by the California Fish and Game Commission, USFWS or California Native Plant Society.

g) Nearshore reefs, rocky intertidal areas, seacaves, islets, offshore rocks, kelp beds, marine mammal hauling grounds, sandy beaches, shorebird roosting, resting and nesting areas, cliff nesting areas and marine, wildlife or educational/research reserves.

h) Dune plant habitats.

i) All lakes, wetlands, estuaries, lagoons, streams and rivers.

j) Riparian corridors.

Some habitat areas are also considered to be Environmentally Sensitive Habitat Areas (ESHAs), which is a term that applies only within the coastal zone. Coastal Act section 30107.5 defines ESHA as "any

area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments." ESHA policies and limitations may affect use and development of all or portions of properties within the coastal zone containing an ESHA.

4.4.1.5 Wildlife Corridors and Habitat Linkages

The term "corridor" is used by ecologists and conservation biologists in a variety of ways. For the purposes of this EIR, a wildlife corridor is defined as "any space, usually linear in shape, that improves the ability of organisms to move among patches of their habitat" (Hilty et al. 2006). Wildlife corridors contribute to population viability in several ways: they allow the continual exchange of genes between populations, which helps maintain genetic diversity; they provide access to adjacent habitat areas, representing additional territory for foraging and mating; they allow for a greater carrying capacity of wildlife populations by including "live-in" habitat; and they provide routes for recolonization of habitat lands following local population extinctions or habitat recovery from ecological catastrophes (e.g., fires). Corridors can be viewed over broad spatial scales, from those connecting continents (e.g., Isthmus of Panama) to structures crossing canals or roads. The term "habitat linkage" (or simply "linkage") is frequently used synonymously with "corridor" but technically it refers to broader landscape-level connections that facilitate movement between large, core habitat areas for multiple organisms and processes (Penrod et al. 2013, NatureServe 2021).

Most wildlife corridors analyzed within the context of land use planning, including those in this document, are moderate in scale and facilitate regional wildlife movement among habitat patches and through human-dominated landscapes. For the purposes of this analysis, "*established* [emphasis added] native resident or migratory wildlife movement corridors" refer to "critical linkages" delineated by the *Critical Linkages: Bay Area and Beyond* project (Penrod et al. 2013).

Two Bay Area critical linkages (Penrod et al. 2013) overlap with the northern and northeastern edges of the county. To the north, Castle Rock State Park is within both the "Santa Cruz Mountains–Diablo Range" and "Santa Cruz Mountains–Gabilan Range" critical linkages, and the southeastern edge of the county overlaps with the western edge of the Santa Cruz Mountains–Gabilan Range linkage. The Santa Cruz Mountains-Diablo Range linkage extends from the Stevens Creek Watershed on the north slope of the Santa Cruz Mountains to the Diablo Range and facilitates wildlife movement between these two mountain ranges. The Santa Cruz Mountains–Gabilan Range linkage stretches over 87 miles between the western Santa Cruz Mountains to Pinnacles National Park in the Gabilan Range.

All streams and associated riparian vegetation in the county are also considered wildlife corridors for native fish and wildlife and most were mapped as "key riparian corridors" by Penrod et al. (2013) based on their supporting steelhead, Coho salmon, California roach (*Hesperoleucus symmetricus*), and/or riffle sculpin (*Cottus gulosus*), which were selected as focal fish species because their habitat needs are similar to many other species that depend on riparian or wetland habitat for all or a portion of their life cycle. All ocean-connected streams in the study area (e.g., San Lorenzo River, Soquel Creek, Aptos Creek) were delineated as "Tier 1" key riparian corridors based on their supporting definite runs of either Coho salmon or steelhead.

Riparian corridors are known movement corridors and provide key resources for many other terrestrial wildlife species, as well (Penrod et al. 2013).

Generally, mountainous watersheds, creeks, streams, and other riparian areas serve as the primary wildlife corridors within the county and are generally more present or natural in the north coast and mountain areas of the county. In the urbanized and southern portions of the county, wildlife corridors are typically limited to rural areas towards the north and east, away from developed areas of the county (County of Santa Cruz 2017).

4.4.1.6 Parcels with Proposed Land Use and/or Zoning Map Amendments

As indicated in Section 3.5.5 of the Project Description, the proposed project includes General Plan/LCP Land Use Map and Zoning Map amendments on 23 parcels. The parcels include key opportunity sites and key parcels along transportation corridors, including opportunity sites along the Portola Drive corridor and the property located at the northeast corner of Thurber Lane and Soquel Drive. The proposed project also includes General Plan redesignation and/or rezoning of some parcels to eliminate inconsistencies between General Plan/LCP land use designations and zone districts associated with mapping errors in the 1994 General Plan (or before). Table 3-11 in Section 3.5.5 identifies specific properties and proposed changes that are further described below.

Three of the parcels proposed for redesignation and/or rezoning are identified as having potential biological resources in the County's GIS data base (County of Santa Cruz 2021); see Appendix D, which presents a summary table of potential resources for each parcel based on the County's GIS data base. The properties are located in the Live Oak, Soquel and Summit planning areas. One additional parcel in the Live Oak planning area has an ephemeral stream as determined by County staff and consultants as discussed below, two parcels in the Soquel planning area are identified as having riparian and fishery resources, and one parcel in the Summit area also is identified as having fishery resources.

Thurber Lane/Soquel Drive Property

The vacant, approximately 6-acre parcel at the northeastern corner of Soquel Drive and Thurber Lane is not designated as potentially having biological resources or riparian habitat in the County GIS data base. However, an approximate 1,000-foot long, unnamed ephemeral stream runs through the eastern portion of the site, which is connected to an existing piped drainage system immediately north and south of the site. This drainage is not identified as a stream or mapped as riparian habitat in the County's GIS data base (County of Santa Cruz 2021), nor is it identified as a perennial or intermittent stream on U.S. Geological Survey (USGS) topographical maps. However, the County considers this drainage to be an ephemeral stream based on reviews conducted for the County Planning Department in 2010 (EcoSystems West Consulting Group. 2010). Section 16.30.030 of the SCCC defines an ephemeral stream as "a natural watercourse or portion thereof which flows only in direct response to precipitation, as identified through field investigations." See Section 4.10, Hydrology and Water Quality, for further discussion of this water course.

In 2010, County of Santa Cruz Planning Department staff determined that the site is traversed by a "riparian corridor" as defined by section 16.30.030 (1) and (5) of the SCCC. Subsection (1) states: Lands within a stream channel, including a stream and the area between the mean rainy season (bank full) flowlines; and (5) states: Lands within an arroyo located within the Urban Services Line (USL), or the Rural Services Line (RSL). Following a site visit and the review of aerial photographs of the parcel, the stream channel on this property has been documented as far back as 1943 and earlier to 1865 (County of Santa Cruz 2016). The 2010 review also noted hydrophytic vegetation and the potential for the stream to be a jurisdictional feature (EcoSystems West Consulting Group 2010).

A site visit by County Planning Department staff in 2016 found that approximately 90% of all woody vegetation along the drainage channel consists of non-native invasive species. These species primarily include blue gum (*Eucalyptus globules*), silver wattle (*Acacia dealbata*), French broom (*Genista monspessulana*), velvet grass (*Holcus lanatus*), and Himalayan blackberry (*Rubus discolor*). Other non-native species occurring onsite include jubata grass (*Cortaderia jubata*), and pear (*Pyrus* sp.), and plum (*Prunus* sp.). The native species observed within the corridor included arroyo willow (*Salix lasiolepis*), black cottonwood (*Populus trichocarpa*), box elder (*Acer negundo*), coast live oak (*Quercus agrifolia*), coyote bush (*Baccharis pilularis*), and poison oak (*Toxicodendron diversilobum*). The annotated Checklist of the Vascular Plants of Santa Cruz County, California (D. Neubauer 2013 as cited in County of Santa Cruz 2016) lists the most invasive non-native taxa in Santa Cruz County, which include silver wattle, blue gum eucalyptus, French broom, and Himalayan blackberry, all of which were found on this property. In addition, buildup of allelopathic chemicals in the soil and high volumes of debris in the understory of blue gum eucalyptus likely are inhibiting the establishment of understory (County of Santa Cruz 2016). County staff characterized the stream as an arroyo with a riparian corridor that is "otherwise disturbed" per SCCC Title 16 and determined a 10-foot riparian setback (buffer) from the top of the arroyo (edge of the break in slope) is required.

A site visit by a biologist was conducted at this property on October 18, 2021 as part of the preparation of this EIR to identify and assess biological conditions (i.e., vegetation types and wildlife habitat). Water had pooled in the stream channel approximately 30 feet from the northern culvert following the October 17, 2021 rain event, but no surface water flow was observed. Similar to conditions reported by the County in 2016, the existing riparian corridor is primarily dominated by non-native woody vegetation and grass species such as blue gum eucalyptus, silver wattle acacia, wild oat (*Avena fatua*), rattlesnake grass (*Briza maxima*), and common velvet grass. Other non-native vegetation observed included wild carrot (*Daucus carota*), common periwinkle (*Vinca minor*), English ivy (*Hedera helix*), pear, purple-leaf plum (*Prunus cerasifera*), evergreen ash (*Fraxinus uhdei*), and silverleaf cotoneaster (*Cotoneaster pannosus*). The 2016 memo documented the presence of non-native Himalayan blackberry and French broom, but it appears that most had been recently removed from the site. Native species observed in 2021 included coast live oak, coyote brush, arroyo willow, black cottonwood, Fremont cottonwood (*Populus fremontii*), box elder, poison oak, Pacific blackberry (*Rubus ursinus*), California bay (*Umbellularia californica*), coast redwood (*Sequoia sempervirens*), and Monterey cypress (*Hesperocyparis macrocarpa*).

Several wildlife species were observed using the riparian corridor. Observed bird species included great blue heron (*Ardea herodias*), California towhee (*Melozone crissalis*), American crow (*Corcus corax*),

California scrub-jay (*Aphelocoma californica*), red-shouldered hawk (*Buteo lineatus*), and Say's phoebe (*Sayornis saya*). Several nest structures were found during the survey but there was no evidence of a heron rookery and many of the nests were either old or inhabited by Eastern grey squirrels. In addition, active dusky-footed woodrat (*Neotoma fuscipes*) middens, presumably of the San Francisco subspecies (*N. f. annectens*) designated a California Species of Special Concern by CDFW, were detected along the northern portion of the creek by evidence of scat at the base of some of the blue gum eucalyptus.

4.4.2 Regulatory Framework

Federal, state, regional, and local regulations that pertain to biological resources in the county are discussed below.

4.4.2.1 Federal Regulations

Federal Endangered Species Act

The federal Endangered Species Act (ESA) of 1973 (16 U.S.C. 1531 et seq.), as amended, is administered by the USFWS for most plant and animal species and by the National Oceanic and Atmospheric Administration (NOAA), NOAA Fisheries for certain marine species. This legislation is intended to provide a means to conserve the ecosystems upon which endangered and threatened species depend and to provide programs for the conservation of those species, thus preventing the extinction of plants and wildlife. FESA defines an endangered species as "any species that is in danger of extinction throughout all or a significant portion of its range." A threatened species is defined as "any species that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range."

Under FESA, it is unlawful to "take" any listed species; "take" is defined as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." As part of this regulatory act, FESA provides for designation of critical habitat, defined in FESA section 3(5)(A) as specific areas within the geographical range occupied by a species where physical or biological features "essential to the conservation of the species" are found and that "may require special management considerations or protection." Critical habitat may also include areas outside the current geographical area occupied by the species that are nonetheless "essential for the conservation of the species." Critical habitat designations identify, with the best available knowledge, those biological and physical features (primary constituent elements) that provide for the life history processes essential to the conservation of the species.

Clean Water Act

The Federal Water Pollution Control Act Amendments of 1972 (Clean Water Act) (33 USC 1251 et seq.), as amended by the Water Quality Act of 1987 (PL 100-4), is the major federal legislation governing water quality. The purpose of the Clean Water Act is to "restore and maintain the chemical, physical, and biological integrity of the nation's waters." Discharges into waters of the United States are regulated

under section 404. The "Navigable Waters Protection Rule," issued by the EPA and USACE in January 2020, defines "waters of the United States" to include the following four categories: (1) the territorial seas and traditional navigable waters; (2) tributaries of such waters; (3) certain lakes, ponds, and impoundments of jurisdictional waters; and (4) wetlands adjacent to other jurisdictional waters (other than waters that are themselves wetlands). The term "wetlands" (a subset of waters) is defined in 33 CFR section 328.3(b) as "those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas."

In California, the SWRCB and the Regional Water Quality Control Boards (RWQCBs) are responsible for implementing the Clean Water Act and related elements of the California Water Code (see Section 4.4.4.3 [Porter-Cologne Water Quality Act]).

Important applicable sections of the Clean Water Act are as follows:

- Section 401 requires an applicant for any federal permit for an activity that may result in a discharge to waters of the United States to obtain certification from the state that the discharge will comply with other provisions of the Clean Water Act. Certification is provided by the RWQCB.
- Section 402 establishes the National Pollutant Discharge Elimination System, a permitting system for the discharge of any pollutant (except for dredge or fill material) into waters of the United States. The National Pollutant Discharge Elimination System program is administered by the RWQCB. Conformance with section 402 is typically addressed in conjunction with water quality certification under section 401.
- Section 404 provides for issuance of dredge/fill permits by USACE. Permits typically include conditions to minimize impacts on water quality. Common conditions include (1) USACE review and approval of sediment quality analysis before dredging, (2) a detailed pre- and post-construction monitoring plan that includes disposal site monitoring, and (3) required compensation for loss of waters of the United States.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) was originally passed in 1918 as four bilateral treaties, or conventions, for the protection of a shared migratory bird resource. The primary motivation for the international negotiations was to stop the "indiscriminate slaughter" of migratory birds by market hunters and others. The MBTA protects over 800 species of birds (including their parts, eggs, and nests) from killing, hunting, pursuing, capturing, selling, and shipping unless expressly authorized or permitted.

Magnuson-Stevens Fishery Conservation and Management Act

The Magnuson-Stevens Fishery Conservation and Management Act (16 U.S.C. sections 1801–1884) of 1976, as amended in 1996 and reauthorized in 2007, is intended to protect fisheries resources and fishing activities within 200 miles of shore. The amended law, also known as the Sustainable Fisheries Act (Public

Law 104-297), requires all federal agencies to consult with the Secretary of Commerce on proposed projects authorized, funded, or undertaken by that agency that may adversely affect Essential Fish Habitat (EFH). The main purpose of the EFH provisions is to avoid loss of fisheries due to disturbance and degradation of the fisheries habitat.

4.4.2.2 State Regulations

California Endangered Species Act

The California Endangered Species Act (CESA) (CFGC section 2050 et seq.) prohibits the "take" of any plant, fish, or wildlife species listed as endangered or threatened, or designated as candidates for listing, under CESA. Take under CESA is defined as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." It does not include "the taking of habitat alone or the impacts of the taking." Like FESA, CESA allows exceptions to the prohibition for take that occurs during lawful activities. sections 2081(b) and (c) of the CFGC authorize take of endangered, threatened, or candidate species if take is incidental to otherwise lawful activity and the applicants submits an approved plan that "fully mitigates" the impact of the take.

California Fish and Game Code

Section 1602 of the CFGC requires notifying the CDFW prior to any project activity that might 1) substantially divert or obstruct the natural flow of any river, stream, or lake; 2) substantially change or use any material from the bed, channel, or bank of any river, stream, or lake; or 3) deposit or dispose of debris, water, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake. If after this notification CDFW determines that the activity may substantially adversely affect fish and wildlife resources, a Lake or Streambed Alteration Agreement would need to be obtained. CDFW jurisdiction includes ephemeral, intermittent, and perennial watercourses (including dry washes) and lakes characterized by the presence of (1) definable bed and banks and (2) existing fish or wildlife resources.

In the 1960s, before CESA was enacted, the California legislature identified "fully protected" species for protection under the CFGC. This was the state's initial effort to identify and provide additional protection to those animals that were rare or faced possible extinction. Fully protected species are described in CFGC sections 3511 (birds), 4700 (mammals), 5050 (reptiles and amphibians), and 5515 (fish). These protections state that "…no provision of this code or any other law shall be construed to authorize the issuance of permits or licenses to take any fully protected [bird], [mammal], [reptile or amphibian], [fish]."

Section 3503 of the CFGC states that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by code or any regulation made pursuant thereto. Section 3503.5 prohibits the take, possession, or needless destruction of any nests, eggs, or birds in the orders Falconiformes (New World vultures, hawks, eagles, ospreys, and falcons, among others) or Strigiformes (owls). Section 3513 prohibits the take or possession of any migratory nongame bird or part thereof, as designated in the MBTA. To avoid violation of the take provisions, project-related disturbance at active nesting territories generally are required to be reduced or eliminated during the nesting cycle.

California Native Plant Protection Act

The Native Plant Protection Act of 1977 directed CDFW to carry out the Legislature's intent to "preserve, protect and enhance rare and endangered plants in this State." The Native Plant Protection Act gave the California Fish and Game Commission the power to designate native plants as "endangered" or "rare" and protect endangered and rare plants from take. CESA expanded on the original Native Plant Protection Act and enhanced legal protection for plants, but the Native Plant Protection Act remains part of the CFGC. To align with federal regulations, CESA created the categories of "threatened" and "endangered" species. It converted all "rare" animals into the act as threatened species but did not do so for rare plants. Thus, there are three listing categories for plants in California: rare, threatened, and endangered. Because rare plants are not included in CESA, appropriate compensatory mitigation measures for significant impacts to rare plants are typically negotiated with the CDFW.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act (California Water Code Division 7, section 13000 et seq.) established the SWRCB and RWQCBs as the principal state agencies responsible for the protection of water quality in California. The Central Coast Regional Water Quality Control Board (CCRWQCB) has regulatory authority over the biological study area. The Porter-Cologne Water Quality Control Act provides that "All discharges of waste into the waters of the State are privileges, not rights." Waters of the State are defined in section 13050(e) of the Porter-Cologne Water Quality Control Act as "…any surface water or groundwater, including saline waters, within the boundaries of the state." All dischargers are subject to regulation under the Porter-Cologne Water Quality Control Act, including both point and nonpoint source dischargers. The CCRWQCB has the authority to implement water quality protection standards through the issuance of permits for discharges to waters at locations within its jurisdiction. On April 2, 2019, the SWRCB adopted by Resolution 2019-0015 the "State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State" ("Procedures") for inclusion in the Water Quality Control Plans for Inland Surface Waters, Enclosed Bays, and Estuaries of California. The Procedures became effective on May 28, 2020; however, the Procedures have been the subject of a legal judgment by the California Superior Court.

In adopting the Procedures, the SWRCB noted that under the Porter-Cologne Water Quality Control Act discharges of dredged or fill material to waters of the state are subject to waste discharge requirements or waivers. The SWRCB further explained that "although the state has historically relied primarily on requirements in the Clean Water Act to protect wetlands, U.S. Supreme Court rulings reducing the jurisdiction of the Clean Water Act over wetland areas by limiting the definition of 'waters of the United States' have necessitated the use of California's independent authorities under the Porter-Cologne Act to protect these vital resources."

By adopting the Procedures, the SWRCB mandated and standardized the evaluation of impacts and protection of waters of the state from impacts due to dredge and fill activities. The Procedures include: (1) a wetland definition; (2) a jurisdictional framework for determining if a feature that meets the wetland definition is a water of the state; (3) wetland delineation procedures; and 4) procedures for application submittal, and the review and approval of dredge or fill activities.

The Procedures define an area as a wetland if it meets three criteria: wetland hydrology, wetland soils, and (if vegetated) wetland plants. An area is a wetland if: (1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both; (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and (3) the area's vegetation is dominated by hydrophytes or the area lacks vegetation. This modified three-parameter definition is similar to the federal definition in that it identifies three wetland characteristics that determine the presence of a wetland: wetland hydrology, hydric soils, and hydrophytic vegetation. However, unlike the federal definition, the Procedures' wetland definition allows for the presence of hydric substrates as a criterion for wetland identification (not just wetland soils) and wetland hydrology for an area devoid of vegetation (less than 5% cover) to be considered a wetland.

Waters of the State includes more aquatic features than Waters of the U.S. In addition, the federal definition of a wetland requires a prevalence of wetland vegetation under normal circumstances. To account for wetlands in arid portions of the state, the SWRCB's definition differs from the federal definition in that an area may be a wetland even if it does not support vegetation. If vegetation is present, however, the SWRCB's definition requires that the vegetation be wetland vegetation. The SWRCB's definition clarifies that vegetated and unvegetated wetlands will be regulated in the same manner.

The Procedures also include a jurisdictional framework that applies to aquatic features that meet the wetland definition. The jurisdictional framework will guide applicants and staff in determining whether an aquatic feature that meets the wetland definition will be regulated as a water of the state. The jurisdictional framework is intended to exclude from regulation any artificially created, temporary features, such as tire ruts or other transient depressions caused by human activity, while still capturing small, naturally-occurring features, such as seasonal wetlands and small vernal pools that may be outside of federal jurisdiction. The Procedures do not expand the SWRCB's jurisdiction beyond areas already under SWRCB's jurisdiction.

Natural Community Conservation Planning Act of 1991

The Natural Community Conservation Planning (NCCP) Act is designed to conserve natural communities at the ecosystem scale while accommodating compatible land use. CDFW is the principal state agency implementing the NCCP program. Natural community conservation plans developed in accordance with the NCCP Act provide for comprehensive management and conservation of multiple wildlife species, and identify and provide for the regional or area-wide protection and perpetuation of natural wildlife diversity while allowing compatible and appropriate development and growth.

California Public Resources Code

California Public Resources Code (PRC) section 21083.4 requires that, as part of determining whether an environmental impact report, a negative declaration, or a mitigated negative declaration shall be required for any project (section 21081.1 PRC), a county shall determine whether a project within its jurisdiction may result in a conversion of oak woodlands that will have a significant effect on the environment. If a significance finding is made, the county shall require oak woodland mitigation that may include one or more of the following measures: (1) conserve oak woodlands through the use of conservation easements, (2)

plant an appropriate number of trees, (3) contribute funds to the Oak Woodlands Conservation Fund, and (4) other measures as approved by the county that reduce the impact to a less than significant level. Several types of projects are exempt from these provisions including those undertaken pursuant to an approved NCCP, affordable housing projects, conversion of oak woodlands on agricultural land, and when the regulatory program of a state agency requires a plan or other written documentation containing environmental information (section 21080.5 PRC). For purposes of this section, the term "oak" is defined as a native tree species in the genus *Quercus* with a diameter at breast height of greater than 5 inches and is not a species designated as use for commercial purposes (section 4526 of the PRC).

4.4.2.3 Local Regulations

County of Santa Cruz General Plan/Local Coastal Program

The County of Santa Cruz General Plan/LCP is a comprehensive, long-term planning document for the unincorporated areas of the county and includes the County's LCP, which was certified by the California Coastal Commission in 1994. The County General Plan and LCP provides policies and programs to establish guidelines for future growth and all types of physical developments. The Conservation and Open Space Element of the County's General Plan/LCP includes objectives and policies that pertain to biological resources. However, the proposed project includes a new Agriculture, Natural Resources + Conservation (ARC) Element to replace the existing Conservation and Open Space Element, with amendments to existing goals, policies, and implementation strategies as described in Chapter 3 of this EIR and further reviewed in Section 4.4.3.3 below.

Santa Cruz County Code

Title 13 of the SCCC includes a Santa Cruz long-toed salamander combining district, and Title 16,, Environmental and Resource Protection, codifies General Plan/LCP policies related to environmental protection. The SCCC includes the following chapters pertinent to the protection of biological resources.

Chapter 13.10, Zoning Regulations

Section 13.10.481 establishes a Salamander Protection (SP) Combining District to designate those lands that are located in the Santa Cruz long-toed salamander's breeding ponds and terrestrial habitats to ensure the survival of this state- and federally designated endangered species, and to regulate the use of such lands in accordance with the provisions of the sensitive habitat protection ordinance, Chapter 16.32, of the SCCC. Use and development standards for the SP combining district are set forth in SCCC section 16.32.090(C)(2)(a); see discussion on Chapter 16.32 below.

Chapter 16.30 – Riparian Corridor and Wetlands Protection

The purpose of this chapter is to minimize or eliminate any development activities in the riparian corridor, and preserve, protect, and restore riparian corridors for: protection of wildlife habitat; protection of water quality; protection of aquatic habitat; protection of open space, cultural, historical, archaeological, paleontological, and aesthetic values; transportation and storage of floodwaters; prevention of erosion; and

to implement the policies of the General Plan/LCP. The riparian corridor and wetlands protection code limits development activities in riparian corridors and establishes development buffers (setbacks) based on physical characteristics of the stream course. Development activities in riparian corridors or their buffer zones cannot be undertaken, other than those allowed through exemptions and exceptions as defined in Chapter 16.30.

Chapter 16.32 – Sensitive Habitat Protection

The purpose of this chapter is to minimize the disturbance of biotic communities that are rare or especially valuable because of their special nature or role in an ecosystem, and which could be easily disturbed or degraded by human activity; to protect and preserve these biotic resources for their genetic, scientific, and educational values; and to implement policies of the General Plan/LCP. In addition, no toxic chemical substance shall be used in a sensitive habitat. No one can begin development activity within an "area of biotic concern" until a biotic approval has been issued unless such activity has been reviewed for biotic concerns concurrently with the review of a development or land division application pursuant to SCCC Chapter 18.10.. "Area of biotic concern" means any area in which development may affect a sensitive habitat, as identified on LCP sensitive habitats maps, the General Plan/LCP resources and constraints maps and other biotic resources maps on file in the Planning Department, or as identified during inspection of a site by Planning Department staff (SCCC section 16.32.040). In practice, this includes special-status species habitat and sensitive habitats described in Section 4.4.1, Environmental Setting.

Per section 16.32.090, conditions of approval are determined through this biotic approval process and become conditions of any subsequent approval issued for the property. The following conditions shall be applied to all development within any sensitive habitat area:

1) All development shall mitigate significant environmental impacts, as determined by the Environmental Coordinator.

2) Dedication of an open space or conservation easement or an equivalent measure shall be required as necessary to protect the portion of a sensitive habitat which is undisturbed by the proposed development activity or to protect a sensitive habitat on an adjacent parcel.

3) Restoration of any area which is a degraded sensitive habitat or has caused or is causing the degradation of a sensitive habitat shall be required; provided, that any restoration required shall be commensurate with the scale of the proposed development.

The regulations further specify permitted uses and conditions for specific sensitive habitat types, including: all essential habitats; specified marine, beach, and coastal habitats; cliff nesting areas; coastal scrub; wetlands, rivers, and streams; Santa Cruz long-toed salamander habitat; special forests; grasslands in the coastal zone. Special forests include San Andreas live oak woodland, maritime chaparral, indigenous ponderosa pine forest, and indigenous Monterey pine forest. On parcels with mapped special forests or grasslands in the coastal zone, the regulations required development at the lowest density of the land use designation and that development be clustered and located outside the habitat areas. This chapter does provide for exceptions to the provisions of the regulations under specified conditions

Chapter 16.34 –Significant Trees Protection

The purpose of this chapter is to preserve significant trees and forest communities on private and public property to protect and enhance the county's natural beauty, property values, and tourist industry. This code regulates the removal of trees in the coastal zone. This chapter establishes the type of trees to be protected, the circumstances under which they may be removed, and the procedures for obtaining a permit for their removal. No one may cause, permit, aid, abet, suffer, or furnish equipment or labor to remove, cut down, or trim more than one-third of the green foliage of, poison, or otherwise kill or destroy any significant tree, as defined in this chapter within the coastal zone until a significant tree removal approval for the project has been obtained.

Locally Adopted Habitat Conservation Plans

Interim-Programmatic Habitat Conservation Plan for Mount Hermon June Beetle and Ben Lomond Spineflower

In June 2011, the USFWS, County, and City of Scotts Valley developed the Interim-Programmatic Habitat Conservation Plan (IPHCP) for the Endangered Mount Hermon June beetle and Ben Lomond Spineflower (IPHCP) to cover eligible small development projects in densely developed residential neighborhoods that support habitat for the federally endangered Mount Hermon June beetle (*Polyphylla barbata*) and Ben Lomond spineflower (*Chorizanthe pungens* var. *hartwegiana*). This IPHCP is intended to support issuance of two incidental take permits (ITPs) under section 10(a)(1)(B) of FESA that would authorize the County and the City to take Mount Hermon June beetle resulting from such activities. The County and the City of Scotts Valley would then extend their take coverage through Certificates of Inclusion to eligible landowners within their jurisdiction needing incidental take authorization associated with their small development projects.

The 10 Project Units within the IPHCP boundary were identified within the communities of Ben Lomond, Felton, Mount Hermon, and Scotts Valley. These Project Units range in size from 3.2 to 373 acres. Project Units include parcels in the vicinity of the Rolling Woods neighborhood, the Whispering Pines neighborhood, east and west Scotts Valley, Green Valley, Mount Hermon, Zayante Road, and Ben Lomond.

4.4.3 Impacts and Mitigation Measures

4.4.3.1 Thresholds of Significance

The thresholds of significance used to evaluate the impacts of the proposed project related to biological resources are based on Appendix G of the CEQA Guidelines and, if applicable, other agency standards, as listed below. A significant impact would occur if the project would:

BIO-1 Have a substantial adverse effect, either directly or through habitat modification, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS.

BIO-2 Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the CDFW or USFWS.

BIO-3 Have a substantial adverse effect on state or federally protected wetlands, (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.

BIO-4 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.

BIO-5 Conflict with any local policies or ordinances protecting biological resources, such as tree preservation policy or ordinance.

BIO-6 Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

4.4.3.2 Analytical Approach

Potential Growth Assumptions

Adoption and implementation of the proposed Sustainability Update would not directly result in impacts to biological resources. However, the proposed General Plan/LCP amendments could lead to future development, indirectly resulting in potential impacts to biological resources. The proposed project includes the following components that could indirectly lead to future development; the proposed County Design Guidelines component of the proposed project does not include guidelines related to biological resources. The other components of the proposed project include:

- Amendments to the General Plan/LCP, including policies that support new development, mixed-use development, and potential intensified redevelopment, primarily focused along corridors within the Urban Services Line (USL), as noted in Section 4.0.2.3 of this EIR.
- Amendments to the SCCC include changes to permitted/allowed uses in some zone districts and a new Residential Flexible (RF) zone district to allow for increased residential density in urban areas near transit and services in order to provide a range of housing options, as well as increased density and residential square footage in mixed-use projects, as noted in Section 3.5.2 of this EIR.
- Amendments to General Plan/LCP land use designations and/or zone districts for 23 specified parcels, as described in Section 3.5.4 of this EIR.

As described in Section 4.0, Introduction to Analyses, this EIR estimates the potential to accommodate approximately 4,500 housing units throughout the county over existing conditions as shown on Table 4.0-2, with approximately 75% projected to occur within urban areas. This EIR estimates that the project has the potential to accommodate approximately 6,210,000 square feet of non-residential uses as shown on Table 4.0-3, with approximately 60% expected to occur within urban areas. These forecasts provide an estimate of potential growth that could occur as a result of adoption and implementation of the proposed Sustainability Update for the purpose of evaluation in this EIR. This

estimate of growth may or may not occur, and this estimate does not establish a limit to development. Annual limits for residential units are set annually by the County pursuant to Measure J and SCCC provisions as explained in Section 4.13 of this EIR, Population and Housing. Additionally, some of this projected development and growth would occur under the existing General Plan/LCP without the proposed project.

The impact analyses assumes that future development potentially arising from the proposed project would be constructed and operated in compliance with the policies and regulations applicable to biological resources, as described above in Section 4.4.2, Regulatory Framework, as well as the updated General Plan/LCP policies designed to avoid or reduce biological resource impacts, as listed in Tables 4.4-3, 4.4-4, and 4.4-5.

In summary, the following analysis focuses on potential impacts arising from future development within the unincorporated county due to proposed amendments to General Plan/LCP policies and land use and zoning map amendments for 23 specified parcels. None of the Countywide Design Guidelines pertain to biological resources, and therefore, this project component is not discussed. Similarly, no changes are proposed to the SCCC chapters pertaining to riparian and sensitive habitat protection.

EIR Notice of Preparation Comments

Public and agency comments were received during the public scoping period in response to the Notice of Preparation (NOP), which is included in Appendix A. A summary of the comments received during the scoping period for this EIR, as well as written comments received, are included in Appendix B. Comments related to biological resources include the following:

- The project could impact special-status species and their habitat.
- The project could result in the take of Santa Cruz long-toed salamander (*Ambystoma macrodactylum croceum*), a fully protected species under the California Fish and Game Code for which the California Department of Fish and Wildlife cannot issue an incidental take permit.
- The project could increase impervious surfaces that impact fish and wildlife resources by altering runoff hydrograph and natural streamflow patterns.
- The project could result in disturbance to nesting birds protected under the CFGC.
- The glass used for exterior building windows could result in bird collisions, which can cause bird injury and mortality.
- The project could result in artificial lighting, which often results in light pollution that could have significant impacts on biological resources.

To the extent that issues identified in public comments involve potentially significant effects on the environment according to CEQA and/or are raised by responsible agencies, they are identified and addressed within this EIR. See also Section 4.10, Hydrology and Water Quality, for discussion of issues related to alteration of stormwater drainage.

4.4.3.3 Project Impact Analysis

Impact BIO-1: Special Status Species (Significance Threshold BIO-1). Adoption and implementation of the proposed Sustainability Update could indirectly result in future development that could impact special-status species and their habitat. However, with adherence to federal, state and local regulations and implementation of existing and proposed General Plan/LCP policies and actions, future development would not have a substantial adverse effect on special-status species. (***Less than Significant***)

The proposed project would not directly result in new development but could indirectly lead to future development and redevelopment throughout the county, primarily within urban areas within the County's USL. Development on previously developed/underutilized properties within urban areas could be redeveloped at higher densities and/or land use intensities than what is currently allowed particularly along transportation corridors, such as Soquel Drive and Portola Drive. Special status plant and wildlife species are known to occur or could occur throughout the county, and there is the potential for future development to result in significant impacts, either directly, or through modifications to habitat that supports special status plant and/or wildlife species. The majority of the future development is expected to occur within the USL and community enclaves within the RSL where natural vegetation communities undisturbed by human activity are very limited or do not occur at all. In areas where parcels contain or are adjacent to sensitive habitats (e.g., riparian communities, streams, wetlands), future development of these parcels would be subject to local, state, and federal regulations protecting sensitive species and their habitats.

Construction activities associated with future development could also affect nesting birds, if any are present during construction activities, including tree removal, which could disrupt nesting activities. This could lead to injury to individuals and/or abandonment of nests. Disturbance during the breeding season could result in direct mortality to birds as well as incidental loss of fertile eggs or nestlings, or otherwise lead to nest abandonment. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered "taking" by the CDFW.

Compliance with existing regulations would ensure that future development and redevelopment accommodated by the proposed project would not result in significant impacts to special-status plant or wildlife species. Required compliance with the federal, state, and local regulations described in Section 4.4.2 would protect special-status species, and compliance with these regulations would ensure avoidance or minimization of potential impacts. FESA and CESA, CFGC, SCCC Chapter 16.32, and California Native Plant Protection Act all serve to protect state, federally, or CNPS (1B) listed species.

Nesting birds, including raptors, are protected by CFGC section 3503, which reads "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." In addition, under CFGC section 3503.5, "it is unlawful to take, possess, or destroy any birds in the orders Falconiformes or Strigiformes (birds-of-prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto." Passerines and non-passerine land birds are further

protected under the federal MBTA (see discussion in Section 4.4.2.1, Federal Regulations). The County typically requires as a standard condition of project approval that pre-construction nesting surveys be conducted for projects with tree removal, ground disturbance where ground nesting may occur, and/or where nesting birds may be indirectly impacted, for example, through noise disturbance, during construction.

Chapter 16.32 of the SCCC requires preparation of biotic assessments and biotic reports where potential rare, endangered or threatened species may occur, and requires development proposals to mitigate potentially significant impacts. In addition, future development projects that would involve disturbance in areas where special status species may occur would be subject to separate project-level environmental review pursuant to CEQA in order to identify and mitigate impacts to special-status species. Thus, state (CEQA) and County regulations would ensure that future development adequately addresses and mitigates potential impacts to special status species.

Additionally, the proposed Sustainability Update retains policies to protect special status species as currently exist in the 1994 (as amended) General Plan/LCP. These policies are summarized in Table 4.4-3, and Policy ARC-3.1.10 specifically requires protection of rare, endangered, and threatened species. Other policies address specific species, including Santa Cruz long-toed salamander (ARC-3.1.11 and 3.1l), steelhead and coho salmon (ARC-3.1. 12), and cliff and shore nesting birds (ARC-3.4.2 and ARC-3.4d). Other retained policies call for continued efforts and coordination with other agencies to protect special status species, including the Santa Cruz long-toed salamander. A new policy provides for implementation of the policies and programs in the Steelhead and Coho Salmon Conservation Strategy.

NOP comments were received regarding potential bird collisions and bird injury or mortality due to windows and glass on the exterior of new buildings. Glass windows and reflective building exteriors on buildings are a known hazard to birds and can cause deaths. The hazard of buildings to birds can vary depending on several aspects of building design, including the amount of glass used, the type of glass used, and the proportion of windows reflecting surrounding vegetation (American Bird Conservancy 2015). The two primary hazards of glass for birds are reflectivity and transparency. Viewed from outside buildings, transparent glass often appears highly reflective. Reflective glass presents birds with the appearance of safe routes, shelter, and food. Buildings surrounded by lush landscaping may attract more birds, and reflections of vegetation in windows adjacent to these habitats may lure birds. Green spaces inside buildings, too, may entice birds to inaccessible habitat. However, surrounding high-quality habitats, such as wooded areas, ornamental trees, and other habitats favored by birds, are also important contributors. However, Policy BE-4.2.4 limits reflectivity and glare associated with buildings, and most future development would be within urban areas that are not typically characterized by large areas of habitat, and buildings are typically low-rise (one to three stories in height), which would not result in conditions that would create significant hazards. In addition, required riparian setbacks (see Impact BIO-2 discussion below) would help buffer new buildings from riparian areas, as well.

Table 4.4-3. Proposed and Retained General Plan/LCP Policies that Avoid/Minimize Potential Impacts Related to Special Status Species

Potential Impact	Policies and Implementation Strategies
Special Status Species	• Require protection of rare, endangered, and threatened species. (ARC-3.1.10) • Support state and federal preservation of the Santa Cruz long-toed salamander habitat. (ARC-3.1.11) • Implement Steelhead and Coho Salmon Conservation Strategy policies and programs. (ARC-3.1.12) • Develop a program to enforce performance standards protecting rare, endangered, threatened, and unique species. (ARC-3.1h) • Continue to ensure survival of the endangered Santa Cruz long-toed salamander through County programs. (ARC-3.1l) • Discourage all activities within 100 feet of shorebird nesting sites during mating season (March-July). (ARC-3.4.2) • Support efforts to prevent disturbance ~~of~~ to shorebird resting and roosting sites. (ARC-3.4d) • Require new water diversions, dams and reservoirs on anadromous fish streams to be designed to protect fish populations. (ARC-3.4.5) • Discourage access to areas used as marine mammal hauling grounds. (ARC-3.4.6) • Limit reflectivity, glare, and artificial light to reduce impacts to wildlife. (BE-4.2-4) See also Table 4.4-4 for policies related to the protection of sensitive habitats.

Adoption and implementation of the proposed Sustainability Update would not directly result in new development, but new development accommodated by the proposed project could result in adverse impacts to special status species if present at a particular development site. However, with compliance with federal, state and local regulations in addition to implementation of the proposed Sustainability Update policies and implementation strategies summarized on Table 4.4-3, as well as required future environmental review of specific development projects, the proposed Sustainability Update's potential indirect impact on special status species would be considered *less than significant*.

Mitigation Measures

No mitigation measures are required as a significant impact has not been identified.

Impact BIO-2A: Sensitive Habitats (Significance Thresholds BIO-2 and BIO-3). Adoption and implementation of the proposed Sustainability Update could indirectly result in future development that could impact sensitive habitats, including riparian and wetland habitats. However, with implementation of existing and proposed General Plan/LCP policies and actions and adherence to federal, state and local regulations, future development would not have a substantial adverse effect on sensitive habitats. (***Less than Significant***)

The proposed project would not directly result in new development but could indirectly lead to future development and redevelopment throughout the county, primarily within urban areas and within the USL, which are already largely developed as discussed in Impact BIO-1 above. (Impacts resulting from potential development of the Thurber Lane/Soquel Drive property are addressed in Impact BIO-2B below.)

There may be some future developments within or adjacent to riparian, wetland, and/or other sensitive habitats. In areas where parcels contain or are adjacent to sensitive habitats (e.g., riparian communities, streams, wetlands), future development of these parcels would be subject to federal and state regulations protecting sensitive habitats (e.g., Clean Water Act, Porter-Cologne Water Quality Control Act, CFGC section 1602). Furthermore, future development would be subject to County regulations in Chapters 16.30 and 16.32, which require protection of sensitive habitats. Chapter 16.30 establishes required riparian setbacks for new development based on stream characteristics. Chapter 16.32 requires preparation of biotic assessments and biotic reports where impacts to sensitive habitats may occur. This chapter identifies all the sensitive habitat types identified in the existing General Plan/LCP, as well as the proposed project, and requires development proposals to mitigate potentially significant impacts. Retained General Plan/LCP policies and regulations in Chapter 16.32 require 100-foot wetland buffers to protect these sensitive habitat areas. In addition, future development projects proposed that would involve development within or adjacent to sensitive habitat areas would be subject to separate project-level environmental review pursuant to CEQA in order to identify and mitigate impacts to riparian, wetland, and other sensitive habitats. Thus, state (CEQA) and County regulations would ensure that future development adequately addresses and mitigates potential impacts to sensitive habitats.

Additionally, the proposed Sustainability Update includes policies to protect sensitive habitats as currently exists in the 1994 (as amended) General Plan/LCP. These policies are summarized in Table 4.4-4. In particular, Policy ARC-3.1.4 indicates that sensitive habitats are protected through implementation of SCCC Chapters 16.32, Sensitive Habitat Protection, and 16.30, Riparian Corridor and Wetlands Protection, and proposed implementation strategies require retention of these regulations (ARC-3.1f [Sensitive Habitat] and ARC-3-3a [Riparian and Wetland]). Policies ARC-3-1.6 and 3.1.7 protect sensitive habitats against disruption of habitat values through development siting and conditions.

Future development could result in exterior lighting that could affect wildlife inhabiting sensitive habitat areas if not properly designed and sited to avoid offsite light and glare. However, section 13.11.074(D) of the SCCC requires that all site, building, security and landscape lighting be directed

onto the site and away from adjacent properties and that light sources shall not be visible from adjacent properties. Light sources can be shielded by landscaping, structure, fixture design or other physical means. Building and security lighting shall be integrated into the building design. Furthermore, this section of the SCCC also requires all lighted parking and circulation areas to utilize low-rise light standards or light fixtures attached to the building. Light standards to a maximum height of 15 feet are allowed. Therefore, compliance with these lighting requirements would prevent offsite lighting into sensitive habitat areas. Furthermore, a policy in the proposed Built Environment (BE) Element supports wildlife-compatible development and limits reflectivity, glare, and artificial light pollution from buildings and sites as practicable in order to preserve dark skies and reduce impacts to wildlife, especially in rural areas and over marine waters (BE-4.2.4). This policy also encourages landscapes that provide habitat for birds and wildlife as appropriate, as well as the use of native plants.

Policy ARC-3.1.9 requires biotic assessments in areas of mapped and unmapped sensitive habitats, and Policy ARC-3.3.9 requires environmental review of all proposed development projects affecting riparian corridors or wetlands and preparation of a biotic report for projects that could have a significant effect on the corridors or wetlands. Therefore, potential sensitive habitat areas that may be impacted by future development would be subject to preparation of a biotic resource assessment and would be required to implement recommended measures to avoid or minimize impacts to sensitive habitats.

Policy ARC-3.3.9 further acknowledges that compliance with County regulations is generally considered to prevent the possibility of significant environmental impacts, and any biotic and/or riparian exception permit process may involve project specifications and/or conditions that would also prevent the possibility of significant environmental impacts. Similarly, as noted in the proposed ARC Element, since 1978, County land use policies have directed development to urbanized areas where services are available, and limited land divisions, development density and allowable land uses outside these areas and in areas with natural resources. Guided by the principle to preserve the county's unique natural resources and habitats by carefully managing new development outside the USL and the RSL, the proposed ARC Element would continue to protect and restore natural resources including sensitive habitats.

With adherence to local and state regulations, as well as implementation of General Plan/LCP policies, the proposed project's indirect impact related to sensitive habitats would be considered a *less-than-significant impact*. This includes potential impacts on the several parcels potential identified biological resources identified in the County GIS data base, except for the Thurber Lane/Soquel Drive property, which is addressed in Impact BIO-2B.

Table 4.4-4. Proposed and Retained General Plan/LCP Policies that Avoid/Minimize Potential Impacts Related to Riparian, Wetland, and Sensitive Habitats

Potential Impact	Policies and Implementation Strategies
Sensitive Habitat Areas	• Designate sensitive habitats mapped in the County GIS and unmapped sensitive habitats identified through biotic reports. (ARC-3.1.1) • Define sensitive habitats meeting specific criteria (ARC-3.1.2) • Protect ESHAs as defined by the California Coastal Act (ARC-3.1.3) • Protect sensitive habitats and ESHA through SCCC Chapters 16.32 (Sensitive Habitat Protection), 16.30 (Riparian Corridor and Wetlands Protection), and 13.20 (Coastal Regulations). (ARC-3.1.4) • Allow land divisions in sensitive habitats only when density and design are compatible with protection of these resources, including native grassland in coastal zone and special forests. (ARC-3.1.5) • Protect sensitive habitats against disruption of habitat values; utilize siting and conditions for new development. (ARC-3.1.6; ARC-3.1.7) • Require biotic assessments as part of project review in areas of mapped biotic concerns, sensitive habitats (mapped and unmapped), and ESHA sites in coastal zone. (ARC-3.1.9) • Maintain Sensitive Habitat Protection ordinance. (ARC-3.1f) • Require aquaculture facilities to be sited to prevent adverse impacts on sensitive habitats (ARC-2.2.4) • Require restoration of identified degraded sensitive habitat as mitigation and/or condition of approval for new development and as result of code violations. (ARC-3.2.1, ARC-3.2.2) • Support the mission of the MBNMS. (ARC-3.4.1) • Prohibit off-road vehicle use in coastal dunes. (ARC-3.4.4)
Riparian and Wetland Habitats	• Require a natural vegetation buffer between an aquaculture facility and riparian habitats. (ARC-2.2.5) • Implement Riparian Corridor and Wetland Protection ordinance to ensure no net loss of riparian corridors and wetlands. (ARC-3.3.2) • Prohibit development, land alteration, and vegetation disturbance in riparian corridors and wetlands and required buffers unless an exception permit is granted. (ARC-3.3.3) • Require 10-foot construction buffer setback from riparian arroyo corridors. (ARC-3.3.4) • Prohibit development within the 100-foot for wetlands. (ARC-3.3.5) • Allow compatible uses in and adjacent to riparian corridors that do not impair or degrade riparian systems, with approval of a riparian exception permit. Where the riparian corridor is already developed, support enhancement of riparian corridors with native plantings. (ARC-3.3.7) • Promote retention of large woody material in streams to benefit riparian and aquatic habitats. (ARC-3.3.8) • Require environmental review of all proposed development projects affecting riparian corridors or wetlands. (ARC-3.3.9)

Table 4.4-4. Proposed and Retained General Plan/LCP Policies that Avoid/Minimize Potential Impacts Related to Riparian, Wetland, and Sensitive Habitats

Potential Impact	Policies and Implementation Strategies
	• Require implementation of management plan for development in or adjacent to wetlands. (ARC-3.3.10) • Maintain Riparian and Wetland Protection ordinance. (ARC-3.3a) • New major water supply projects must protect beneficial in-stream uses and riparian habitat. (ARC-4.3.3) • Limit reflectivity, glare, and artificial light to reduce impacts to wildlife. (BE-4.2-4) • Prohibit any facility to be located within a floodplain or area which could adversely impact any sensitive habitat. (Public Safety Policy 6.7.5)

Mitigation Measures

No mitigation measures are required as a significant impact has not been identified.

Impact BIO-2B: Sensitive Habitats (Significance Thresholds BIO-2 and BIO-3). Adoption and implementation of the proposed Sustainability Update could indirectly result in future development at the Thurber Lane/Soquel Drive property, which could impact sensitive habitats, including riparian and wetland habitats, and associated potential special status species. (***Potentially Significant***)

The approximate 6-acre parcel located at the northeast intersection of Soquel Drive and Thurber Lane is traversed by an approximately 1,000-foot-long unnamed ephemeral stream channel and riparian corridor as defined by section 16.30.030 (1) and (5) of the SCCC. This stream channel and associated riparian corridor bisect the eastern portion of the property running from the north end to the south end of the site and is connected to existing drain pipes at the northern and southern boundaries of the property. The riparian corridor is dominated by non-native, invasive vegetation. A previously conducted assessment of the stream by County staff characterized the stream as an arroyo with a riparian corridor that is "otherwise disturbed" per SCCC section 16.30.040 and determined a 10-foot riparian buffer from the top of the arroyo would be required as part of a development project on the site. The existing stream is not immediately connected to an upstream or downstream open channel or riparian corridor.

Riparian corridors, as defined by SCCC section 16.30.030, are granted special protections under the County's Sensitive Habitat Protection and Riparian Corridor and Wetlands Protection ordinances. Riparian corridors associated with arroyos within the urban services line are subject to additional protective buffers and setbacks for development as defined in SCCC 16.30.040. Development activities are prohibited within riparian corridors unless an Exception is granted. Riparian Exception Findings (SCCC 16.30.060) must be met for a Riparian Exception to be authorized. Development activities within sensitive habitats, as defined by SCCC 16.32.040, require biotic review and approval by the Planning Department and are subject to project specific conditions to ensure protection of the sensitive habitat consistent with General Plan/LCP policies.

The unnamed drainage along the eastern portion of the project site may also be regulated under the Clean Water Act section 404 by U. S. Army Corps of Engineers (USACE), and section 401 by the RWQCB. The associated riparian habitat is subject to regulation under the Porter-Cologne Water Quality Act as "Waters of the State," and under CFGC section 1602.

Potential future development of this site as a result of land use redesignation and rezoning could result in a mix of residential and commercial development. As indicated in Section 3.5.5.2, potential impacts resulting from land use and zoning map amendments and future development are being reviewed under two sets of development assumptions (scenarios) for this property: one with the stream and related buffer remaining intact and the other with the stream channel filled and undergrounded into a piped system.

Under the first scenario, the stream would remain as it currently exists and the riparian corridor would be retained. Future development would avoid the channel and riparian setback area as required by SCCC. Under this scenario, no direct impacts to the riparian corridor would occur. Potential impacts could occur to protected species if any are present during future construction activities. Protected species with potential to occur on the site include western pond turtle, pallid bat, Townsend's big-eared bat, Santa Cruz black salamander, white-tailed kite, San Francisco dusky-footed woodrat, and migratory nesting birds. Project-specific development review on the parcel would require a biotic assessment and may require biotic review and approval, which would result in Conditions of Approval to avoid and minimize impacts to these species. Under this scenario the impacts would be less than significant.

Under the second scenario, the existing stream would be filled in and replaced with an underground pipe that would connect to the existing drainage pipes at the northern and southern ends of the property. This would result in removal of the stream, riparian corridor, and habitat for protected species. Project-specific development review would require biotic review and approval by the County Planning Department, authorization of a County Riparian Exception, and project-specific environmental review.

Permits and approvals also may be required from state and federal regulatory agencies if the stream and potential seasonal wetlands were found to be under the jurisdiction of the USACE, CDFW, and/or RWQCB. It appears that filling this feature would fall within state and possibly federal regulatory requirements. If so, permit approvals from state and federal agencies would require compensatory mitigation to ensure no net loss of riparian and wetland habitat. This would require re-establishing the loss of habitat at a 2-to-1 or greater ratio either on the site, i.e., along the eastern edge of the property or at a suitable offsite location, typically within the same watershed. Under this scenario, which results in permanent loss of riparian and wetland habitat, impacts would be *potentially significant*.

Mitigation Measures

Implementation of Mitigation Measure BIO-2B would reduce impacts to riparian and sensitive habitats and associated special status species. However, under the second project scenario, permanent loss of the stream, riparian corridor, and habitat for protected species due to underground piping of the stream would

remain significant and unavoidable even with implementation of Mitigation Measure BIO-2B if the mitigation were determined to be infeasible at a development project level or mitigation measure was not successful.

MM BIO-2B: **Riparian-Sensitive Habitat Restoration at Thurber Lane/Soquel Drive Parcel.** Areas of riparian habitat permanently impacted by project development shall be replaced at a 2-to-1 ratio by re-creating habitat in designated restoration areas on site or off-site in accordance with the required project-specific Mitigation Plan. The project-specific Mitigation Plan shall be prepared by a qualified biologist or restoration professional for future development on the Thurber Lane/Soquel Drive parcel. This plan shall be based on a site-specific biological resources assessment and a project-specific impact analysis conducted in accordance with County requirements that identifies the extent of riparian, wetland, and other sensitive habitats on this property. The restoration activities shall be located on the project site or at an off-site location within the same watershed and shall include replacement/re-creation of impacted habitats at a minimum 2-to-1 replacement ratio with the purpose of creating native plant structure and species composition of the habitat loss. Replacement of habitat on-site through channel re-alignment to the east shall be considered during biotic review. The Mitigation Plan shall identify: a restoration site and evidence of suitability for restoration; locations for re-establishment of the impacted habitat; species, size, and locations of all restoration plantings; methods of installation, irrigation, maintenance, and monitoring for a minimum of 5 years; performance criteria to determine success and specifications for replacement plantings if success is not achieved; and provision of annual reports to the County to document status and success of the restoration in accordance with performance standards established in the plan. Establishment and planting of all restoration areas as outlined in the final approved "Mitigation Plan" shall be inspected and approved by Environmental Planning staff prior to final building inspection.

Impact BIO-3: Wildlife Movement and Breeding/Nesting (Significance Threshold BIO-4). Adoption and implementation of the proposed Sustainability Update could indirectly result in future development that could adversely impact wildlife movement or nesting/breeding species. However, with implementation of existing and proposed General Plan/LCP policies and implementation strategies and adherence to federal, state and local regulations, future development would not have a substantial adverse effect. (***Less than Significant***)

The proposed project would not directly result in new development, but could indirectly lead to future development and redevelopment throughout the county, primarily within urban areas and within the USL The proposed project would accommodate future development that would primarily occur on vacant infill sites or underutilized properties within the USL. The primary wildlife movement corridors are located along major watercourses and within undeveloped, open space lands in the Santa Cruz Mountains, where little of any new development other than potential single-family homes on large lots would be constructed. Projects adjacent to watercourses would be subject to setback requirements set forth in SCCC Chapter 16.30. Future development of parcels adjacent to streams also would be subject

to federal and state regulations protecting streams and riparian habitat (e.g., Clean Water Act, Porter-Cologne Water Quality Control Act, CFGC section 1602) and thus protecting wildlife movement habitat by proxy. In addition, proposed General Plan/LCP amendments include several policies intended to protect wildlife movement (Table 4.1-5). With adherence to local and state regulations, as well as implementation of General Plan/LCP policies, the proposed project's indirect impact related to future development impacts on riparian corridors important for wildlife movement would be considered less-than-significant.

Table 4.4-5. Proposed and Retained General Plan/LCP Policies that Avoid/Minimize Impacts Related to Wildlife Movement or Breeding/Nesting

Potential Impact	Policies
Interfere with wildlife movement or nesting	• Protect areas that contain valuable wildlife resources, such as migration corridors or areas of exceptional species diversity. (ARC-1.1.13) • Any improvements to Harkins Slough Road shall provide enhanced habitat connectivity. (ARC-1.1.14) • Discourage all activities within 100 feet of shorebird nesting sites during mating season. (ARC-3.4.2) • Support projects that protect and enhance dry-season minimum stream flows for anadromous fish runs. (ARC-4.3.1) See also sensitive habitat and riparian protection policies listed in Table 4.4-4.

The threshold of significance, as set forth in Appendix G of the State CEQA Guidelines, also includes potential impacts to native wildlife nursery sites, which generally would include locations where fish and wildlife concentrate for hatching and/or raising young, such as nesting rookeries for birds, spawning areas for native fish, fawning areas for deer, monarch overwintering sites, and maternal roosts for bats. Nursery sites are considered for native wildlife, but are not defined and otherwise considered under CEQA as special-status species. The county could contain a variety of wildlife nursery sites, and thus, are addressed in Impact BIO-1. Additionally, impacts to nesting birds and special status species would be avoided/minimized with compliance with regulations and implementation of policies as discussed in Impact BIO-1, including compliance with local regulations, the CFGC, and the federal MBTA. Therefore, the project would result in a *less-than-significant impact* related to potential indirect impacts to wildlife corridors and nursery sites.

Mitigation Measures

No mitigation measures are required as a significant impact has not been identified.

Impact BIO-4: Conflicts with Local Regulations (Significance Threshold BIO-5). Adoption and implementation of the proposed Sustainability Update could indirectly result in future development that has the potential to conflict with Santa Cruz County Code ordinances related to the protection and conservation of biological resources. However, with implementation of existing and proposed General Plan/LCP policies and implementation strategies, implementation of adopted County Code sections, and mitigation required under the code, such conflicts would be avoided. (***No Impact***)

The proposed project would not directly result in new development, but could indirectly lead to future development and redevelopment throughout the county, primarily within urban areas and within the USL The project area contains undeveloped or underdeveloped parcels within unincorporated areas of Live Oak, Aptos, Soquel, and Freedom that are also in the coastal zone. Some of these parcels may contain trees protected under SCCC Chapter 16.34, Significant Trees Protection. Any future development proposing the removal of such trees would need to apply for a tree removal permit and required to mitigate for loss of trees by replacing them with trees acceptable to the County Planning Department.

The project area contains undeveloped or underdeveloped parcels that contain or abut "areas of biotic concern" as defined by SCCC Chapter 16.32, Sensitive Habitat Protection, including unincorporated areas of Aptos within the S-P zone for Santa Cruz long-toed salamander. Any future development activity within an area of biotic concern would be subject to biotic approval from the County and be required to mitigate for project-level impacts. Any projects adjacent to riparian areas also would be required to provide riparian corridor setbacks at a distance specified in Chapter 16.30 of the SCCC.

In summary, future development potentially resulting from the proposed project would be required to comply with local ordinances related to the protection and conservation of biological resources and would therefore not conflict with these ordinances. The proposed project would have *no impact* on local ordinances.

Mitigation Measures

No mitigation measures are required as a significant impact has not been identified.

Impact BIO-5: Conflicts with Plans (Significance Threshold BIO-6). Adoption and implementation of the proposed Sustainability Update could indirectly result in future development that may conflict with an approved habitat conservation plan. (***No Impact***)

Approximately 20 approved HCPs have been issued within Santa Cruz County in the last 15± years under the FESA to entities undertaking projects that might result in take of an endangered or threatened species, of which two are currently active in unincorporated county areas (USFWS 2022). These include the previously described IHCP in which the County of Santa Cruz is a partner and an HCP under a private entity in the Seascape Uplands area of the county. Undeveloped parcels within the RSL in areas within approved HCPs, including the IPHCP permit area, would be required to comply with provisions of the applicable HCP. These areas would be considered an "area of biotic concern" under

SCCC Chapter 16.32, and any future development would therefore be subject to its provisions. The County would not issue a permit for development on a site with an approved HCP until a biological assessment is performed by an applicant-funded and County-approved biologist. The County would typically not allow development of a site with an approved HCP if it would conflict with the HCP. The proposed project would not directly result in new development, but could indirectly lead to future development and redevelopment throughout the county, primarily within urban areas and within the USL With implementation of General Plan/LCP policies and code sections in the SCCC, the proposed project's indirect impact related to future development would therefore not conflict with the provisions of an approved HCP and there would be *no impact*.

Mitigation Measures

No mitigation measures are required as a significant impact has not been identified.

4.4.3.4 Cumulative Impact Analysis

The geographic scope of the cumulative analysis for biological resources considers the area within Santa Cruz County, including the unincorporated area of the county that is covered in this EIR and the four incorporated cities within the county. Cumulative development includes specific projects and growth in cities within the county as outlined in Table 4.0-1 in Section 4.0, Introduction to Analyses. Generally, cumulative impacts include those associated with specific identified major projects, as well as continued growth and development pursuant to adopted General Plans in the cities of Capitola, Santa Cruz, Scotts Valley, and Watsonville, and growth and development at the University of California Santa Cruz. Potential impacts on biological resources are generally project- and site-specific, and can be avoided with required compliance with federal, state, and local laws and regulations as discussed in the preceding impact analyses. Project-specific development would also be subject to CEQA review and implementation of mitigation measures if significant impacts to special status species or sensitive habitats are identified. Cumulative development projects would be required to comply with applicable local, state and federal regulations regarding the protection and conservation of biological resources, which would avoid the aggregation of individual effects into a significant cumulative impact. Thus, cumulative growth and development would not result in a significant cumulative impact related to biological resources.

4.4.4 References

Association of Monterey Bay Area Governments (AMBAG). 2018. 2040 Metropolitan Transportation Plan/Sustainable Communities Strategy and Regional Transportation Plans for Monterey, San Benito and Santa Cruz Counties Final Environmental Impact Report. SCH#2015121080. June 2018. Prepared with assistance of Rincon Consultants, Inc.

AMBAG. 2021 2045 Metropolitan Transportation Plan/Sustainable Communities Strategy and Regional Transportation Plans for Monterey, San Benito and Santa Cruz Counties Draft Environmental Impact Report. SCH#2020010204. November 2021. Prepared with assistance of Rincon Consultants, Inc.

American Bird Conservancy. 2015. Bird-Friendly Building Design. 2nd Edition. Christine Sheppard and Glenn Phillips. Accessed March 8, 2022 at https://abcbirds.org/wp-content/uploads/2015/05/Bird-friendly-Building-Guide_LINKS.pdf.

California Department of Fish and Wildlife (CDFW). 2021a. California Natural Diversity Database (CNDDB). Rarefind, Version 5.2.14 commercial subscription. Sacramento, California: CDFW, Biogeographic Data Branch. Accessed October 21, 2021 at https://apps.wildlife.ca.gov/rarefind/view/RareFind.aspx.

CDFW. 2021b. "California Sensitive Natural Communities." August 18, 2021. Accessed October 21, 2021 at https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=153609&inline.

California Native Plant Society (CNPS). 2021. "Inventory of Rare and Endangered Plants." Online ed. Version 9-01 1.0. Sacramento, California: CNPS. Accessed October 21, 2021 at https://www.rareplants.org.

County of Santa Cruz. 2015a. "Streams" [digital GIS data]. Geographic Information Services web portal. Accessed October 21, 2021 at https://opendata-sccgis.opendata.arcgis.com/.

County of Santa Cruz. 2012. Transit Corridors Plan for Sustainable Communities: Existing Conditions Report. April 9, 2012. Prepared by The Planning Center | DC&E, BAE, Fehr & Peers.

County of Santa Cruz. 2015b. "Lakes" [digital GIS data]. Geographic Information Services web portal. Accessed October 21, 2021 at https://opendata-sccgis.opendata.arcgis.com/

County of Santa Cruz Planning Department. 2016. Memorandum to File regarding Manson-Rittenhouse Property (APN 025-351-19) Riparian Corridor Undergrounding (Application Number 101026). July 13, 2016.

County of Santa Cruz. 2017. Commercial Cannabis Cultivation and Manufacturing Regulations and Licensing Program Draft Environmental Impact Report. SCH# 2017022052. Prepared with assistance from Amec Foster Wheeler, Environment & Infrastructure, Inc. August 2017. Accessed September 8, 2021 at https://www.sccoplanning.com/PlanningHome/Environmental/CEQAInitialStudiesEIRs/CannabisRegulationsEnvironmentalReview/CannabisEnvironmentalImpactReport(EIR).aspx.

County of Santa Cruz. 2021. Geographic Information Services. Accessed November 18, 2021 at https://gis.santacruzcounty.us/gisweb/.

Lewis M. Cowardin, U.S . Fish and Wildlife Service; Virginia Carter, U.S . Geological Survey; Francis C. Golet, Department of Natural Resources Science University of Rhode Island; and Edward T. LaRoe, U.S . National Oceanographic and Atmospheric Administration. 1979. Classification of Wetlands and Deepwater Habitats of the United States. Prepared for U.S . Department of the Interior Fish and Wildlife Service. December 1979. FWS/OBS-79/31. Accessed March 8, 2022 at https://www.nrc.gov/docs/ML1801/ML18019A904.pdf.

EcoSystems West Consulting Group. 2010. Letter to Matt Johnson, Planning Department, County of Santa Cruz, RE: Biological Review of the Biotic Reports Prepared for the Manson-Rittenhouse Property Located at Thurber Lane and Soquel Drive, Santa Cruz, California (APN 025-351-19). November 16, 2010.

Hilty, J. A., W. Z. Lidicker, and A. M. Merenlender. 2006. *Corridor Ecology: The Science and Practice of Linking Landscapes for Biodiversity Conservation*. Washington, D.C.: Island Press.

Land Trust of Santa Cruz County. 2011. A conservation blueprint: An Assessment and Recommendations from the Land Trust of Santa Cruz County. May 2011.

Master, L.L., D. Faber-Langendoen, R. Bittman, G.A. Hammerson, B. Heidel, L. Ramsay, K. Snow, A. Teucher, and A. Tomaino. 2012. NatureServe Conservation Status Assessments: Factors for Evaluating Species and Ecosystem Risk. Arlington, VA: NatureServe. April 2012.

Mayer, K.E. and W.F. Laudenslayer, editors. 1988. A Guide to Wildlife Habitats of California. Online edition with updates. Accessed October 21, 2021 at https://wildlife.ca.gov/Data/CWHR/Wildlife-Habitats.

Nature Serve. 2021. Clarifying the Terminology. Accessed November 22, 2021 at http://www.landscope.org/explore/natural_geographies/wildlife_connections/terminology/

Penrod, K., P. E. Garding, C. Paulman, P. Beier, S. Weiss, N. Schaefer, R. Branciforte and K. Gaffney. 2013. Critical Linkages: Bay Area & Beyond. Produced by Science & Collaboration for Connected Wildlands, Fair Oaks, CA www.scwildlands.org in collaboration with the Bay Area Open Space Council's Conservation Lands Network.

Sawyer, J.O., T. Keeler-Wolf, and J.M. Evens. 2009. A Manual of California Vegetation, Second Edition. California Native Plant Society Sacramento, CA.

U.S. Department of Commerce, Office of Marine Sanctuaries, National Ocean Service, National Marine Sanctuary Program. 2008. Cordell Bank, Gulf of the Farallones, and Monterey Bay National Marine Sanctuaries Final Environmental Impact Statement. September 2008. Accessed November 22, 2021 at https://montereybay.noaa.gov/intro/mp/feis.html.

U.S. Department of Commerce, Office of Marine Sanctuaries, National Ocean Service, National Marine Sanctuary Program. 2015. Monterey Bay National Marine Sanctuary Updated Condition Report Summary. Accessed March 8, 2022 at https://sanctuaries.noaa.gov/science/condition/monterey-bay-2015/.

U.S. Fish and Wildlife Service (USFWS). 2021a. "Information for Planning and Consultation (IPaC) resource list: Santa Cruz County, California." Accessed October 21, 2021 at https://ecos.fws.gov/ipac.

USFWS. 2021b. "National Wetlands Inventory." U.S. Department of the Interior, USFWS. Accessed October 21, 2021 at http://www.fws.gov/wetlands/.

USFWS. 2022. Conservation Plans Region Summary HCP. ECOS-Environmental Conservation Online System. Accessed March 9, 2022 at Conservation Plans Region Summary HCP (fws.gov).

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