3.4 BIOLOGICAL RESOURCES

This section addresses common and sensitive biological resources that could be affected by implementation of the Housing Element and Safety Element Update (Project). The data reviewed in preparation for this analysis included:

- results of California Natural Diversity Database (CNDDB) record search of the Sacramento East, Carmichael, Buffalo Creek, Florin, Elk Grove, Sloughhouse, Bruceville, Galt, and Clay U.S. Geological Survey 7.5-minute quadrangles (CNDDB 2020);
- results of California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants record search of the Sacramento East, Carmichael, Buffalo Creek, Florin, Elk Grove, Sloughhouse, Bruceville, Galt, and Clay U.S. Geological Survey 7.5-minute quadrangles (CNPS 2020);
- an official list of federal candidate, proposed, threatened, and endangered species that could be affected by projects in the City of Elk Grove obtained from USFWS Information for Planning and Consultation (IPaC) electronic records search (USFWS 2020);
- *City of Elk Grove General Plan* (City of Elk Grove 2019); and
- aerial photographs of the housing sites.

No comments pertaining to biological resources were received in response to the notice of preparation (NOP).

3.4.1 Regulatory Setting

FEDERAL

Federal Endangered Species Act

Pursuant to the federal Endangered Species Act (ESA) (16 U.S. Code [U.S.C.] Section 1531 et seq.), USFWS regulates the taking of species listed in the ESA as threatened or endangered. In general, persons subject to ESA (including private parties) are prohibited from "taking" endangered or threatened fish and wildlife species on private property, and from "taking" endangered or threatened plants in areas under federal jurisdiction or in violation of State law. Under Section 9 of the ESA, the definition of "take" is to "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." USFWS has also interpreted the definition of "harm" to include significant habitat modification that could result in take.

Section 10 of the ESA applies if a nonfederal agency is the lead agency for an action that would result in take and no other federal agencies are involved in permitting or funding the action. Section 7 of the ESA applies if a federal discretionary action is required (e.g., a federal agency must issue a permit), in which case the involved federal agency must consult with USFWS if the involved federal agency determines that the project may affect a listed species or destroy or adversely modify designated critical habitat.

Clean Water Act

Section 404 of the Clean Water Act (CWA) (33 U.S.C. Section 1344) requires project proponents to obtain a permit from the U.S. Army Corps of Engineers (USACE) before performing any activity that involves any discharge of dredged or fill material into waters of the United States, including wetlands. Many surface waters and wetlands in California meet the criteria for waters of the United States. In accordance with Section 401 of the CWA, projects that apply for a USACE permit for discharge of dredged or fill material must obtain water quality certification from the appropriate regional water quality control board (RWQCB) indicating that the action would uphold State water quality standards.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) (16 U.S.C. Sections 703–712), first enacted in 1918, provides for protection of international migratory birds and authorizes the Secretary of the Interior to regulate the taking of migratory birds. The MBTA provides that it will be unlawful, except as permitted by regulations, to pursue, take, or kill any migratory bird, or any part, nest, or egg of any such bird. Under the MBTA, "take" is defined as "pursue, hunt, shoot, wound, kill, trap, capture, or collect, or any attempt to carry out these activities." A take does not include habitat destruction or alteration, as long as there is not a direct taking of birds, nests, eggs, or parts thereof. The current list of species protected by the MBTA can be found in Title 50 of the Code of Federal Regulations, Section 10.13. The list includes nearly all birds native to the United States.

STATE

California Endangered Species Act

Pursuant to the California Endangered Species Act (CESA) (California Fish and Game Code Sections 2050–2115.5), a permit from CDFW is required for projects that could result in the take of a plant or animal species that is listed by the State as threatened or endangered. Under CESA, "take" is defined as an activity that would directly or indirectly kill an individual of a species but does not include "harm" or "harass," as does the federal definition. As a result, the threshold for take is higher under CESA than under the federal ESA. Authorization for take of State-listed species can be obtained through a California Fish and Game Code Section 2081 incidental take permit. CESA mandates that State agencies should not approve projects that would take threatened or endangered species if that take would jeopardize the continued existence of threatened or endangered species if reasonable and prudent alternatives are available that would avoid jeopardy.

California Fish and Game Code Sections 3503 and 3503.3—Protection of Bird Nests and Raptors

Section 3503 of the California Fish and Game Code states that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird. Section 3503.3 of the code states that it is unlawful to take, possess, or destroy any raptors (i.e., species in the orders *Falconiformes* and *Strigiformes*), including their nests or eggs. Typical violations include destruction of active nests as a result of tree removal or disturbance caused by project construction or other activities that cause the adults to abandon the nest, resulting in loss of eggs and/or young.

Fully Protected Species under the California Fish and Game Code

Protection of fully protected species is described in Sections 3511, 4700, 5050, and 5515 of the California Fish and Game Code. These statutes prohibit take or possession of fully protected species and do not provide for authorization of incidental take.

California Native Plant Protection Act of 1977

The California Native Plant Protection Act (NPPA) (California Fish and Game Code, Sections 1900–1913) prohibits importation of rare and endangered plants into California, take of rare and endangered plants, and sale of rare and endangered plants. CESA defers to the NPPA, which ensures that State-listed plant species are protected when State agencies are involved and projects are subject to CEQA. Plants listed as rare under the NPPA are not protected under CESA but rather may receive protection in response to potentially significant impacts, in accordance with CEQA.

Porter-Cologne Water Quality Control Act

Under the Porter-Cologne Water Quality Control Act (Water Code Section 13000 et seq.), waters of the State fall under the jurisdiction of the appropriate RWQCB. RWQCBs must prepare and periodically update water quality control plans (basin plans). Each basin plan sets forth water quality standards for surface water and groundwater, as well as actions to control point and nonpoint sources of pollution to achieve and maintain these standards. The RWQCB's jurisdiction includes federally protected waters, as well as areas that meet the definition of "waters of the State." "Waters of the State" is defined as any surface water or groundwater, including saline waters, within the

boundaries of the State. RWQCB has the discretion to take jurisdiction over areas not federally protected under Section 401 of the CWA provided they meet the definition of waters of the State. The California Water Code generally regulates more substances contained in discharges and defines discharges to receiving waters more broadly than does the CWA. Actions that affect waters of the State, including wetlands, must meet the RWQCB's waste discharge requirements.

LOCAL

City of Elk Grove General Plan

The *City of Elk Grove General Plan* Community and Resource Protection chapter (City of Elk Grove 2019) includes policies and standards aimed at reducing development impacts on native and nonnative habitats, plants, and animals. The Community and Resource Protection element ensures careful management and protection of the City's natural heritage. The following General Plan policies and standards are relevant to biological resources.

- Policy NR-1-2: Preserve and enhance natural areas that serve, or may potentially serve, as habitat for special-status species. Where preservation is not possible, require that appropriate mitigation be included in the project.
  - Standard NR-1.2a: Require a biological resources evaluation for private and public development projects in areas identified to contain or possibly contain special-status plant and animal species.
  - Standard NR-1.2b: Require development projects to retain movement corridor(s) adequate (both in size and in habitat quality) to allow for the continued wildlife use based on the species anticipated in the corridor.
  - Standard NR-1.2c: Development adjacent to a natural stream(s) shall provide a "stream buffer zone" along the stream. "Natural streams" shall be generally considered to consist of the following, subject to site-specific review by the City: Deer Creek, Elk Grove Creek, Laguna Creek and its tributaries, Morrison Creek, Strawberry Creek, White House Creek.

    The following are examples of desired features for this transition zone; the specific design for each transition zone shall be approved on a case-by-case basis by the City.

    Stream buffer zones shall measure at least 50 (fifty) feet from the stream centerline (total width of 100) feet or more, depending on the characteristics of the stream, and shall include:

    1. Sufficient width for a mowed fire-break (where necessary), access for channel maintenance and flood control, and for planned passive recreation uses.
    2. Sufficient width to provide for:
       a. Quality and quantity of existing and created habitat,
       b. Presence of species as well as species sensitivity to human disturbance,
       c. Areas for regeneration of vegetation,
       d. Vegetative filtration for water quality,
       e. Corridor for wildlife habitat linkage,
       f. Protection from runoff and other impacts of urban uses adjacent to the corridor,
       g. Trails and greenbelts.
    3. The stream buffer zone shall not include above ground water quality treatment structures designed to meet pollutant discharge requirements.
- Policy NR-1-4: Avoid impacts to wetlands, vernal pools, marshland, and riparian (streamside) areas unless shown to be technically infeasible. Ensure that no net loss of wetland areas occurs, which may be accomplished by avoidance, revegetation, restoration on-site or through creation of riparian habitat corridors, or purchase of credits from a qualified mitigation bank.

- Policy NR-1-6: Encourage the retention of natural stream corridors, and the creation of natural stream channels where improvements to drainage capacity are required.
  - Standard NR 1-6a: Stream crossings shall be minimized and be aesthetically compatible with the natural appearance of the stream channel. The use of bridges and other stream crossings with natural (unpaved) bottoms shall be encouraged to minimize impacts to natural habitat.
  - Standard NR 1-6b: Uses in the stream corridors shall be limited to recreation and agricultural uses compatible with resource protection and flood control measures. Roads, parking, and associated fill slopes shall be located outside of the stream corridor, except at stream crossings.
  - Standard NR 1-6c: Open space lands within a stream corridor shall be required to be retained as open space as a condition of development approval for projects that include a stream corridor. Unencumbered maintenance access to the stream shall be provided.
  - Standard NR 1-6d: To the extent possible, retain natural drainage courses in all cases where preservation of natural drainage is physically feasible and consistent with the need to provide flood protection. Where a stream channel is to be created, such man-made channels shall be designed and maintained such that they attain functional and aesthetic attributes comparable to natural channels.
- Policy NR-1-9: Encourage development clustering where it would facilitate on-site protection of woodlands, grasslands, wetlands, stream corridors, scenic areas, or other appropriate features such as active agricultural uses and historic or cultural resources under the following conditions and requirements. Clustering shall not be allowed in the Rural Area.
  - Urban infrastructure capacity is available for urban use.
  - On-site resource protection is appropriate and consistent with other General Plan policies.
  - The architecture and scale of development are appropriate for and consistent with the intended character of the area.
  - Development rights for the open space area are permanently dedicated and appropriate long-term management, with funding in perpetuity, is provided for by a public agency or another appropriate entity.
- Policy NR-2-1: Preserve large native oak and other native tree species as well as large nonnative tree species that are an important part of the City's historic and aesthetic character. When reviewing native or nonnative trees for preservation, consider the following criteria:
  - Health of the tree
  - Safety hazards posed by the tree
  - Suitability for preservation in place
  - Biological value
  - Aesthetic value
  - Shade benefits
  - Water quality benefits
  - Air quality benefits (pollutant reduction)
- Policy NR-2-4: Preserve and plant trees in appropriate densities and locations to maximize energy conservation and air quality benefits.
- Policy NR-2-5: Ensure that trees that function as an important part of the City's or a neighborhood's aesthetic character or as natural habitat on public and private land are retained or replaced to the extent possible during the development of new structures, roadways (public and private, including roadway widening), parks, drainage channels, and other uses and structures.

- Policy NR-2-6: Promote the planting of drought-resistant shade trees with substantial canopies as part of private development projects and require, where feasible, site design that uses trees to shade rooftops, parking facilities, streets, and other facilities.

City of Elk Grove Municipal Code Chapter 16.130: Swainson's Hawk Impact Mitigation Fees

Chapter 16.130 mitigates impacts from typical urban development projects and requires mitigation for the loss of Swainson's hawk (*Buteo swainsoni*) habitat at a 1:1 ratio. Mitigation can be achieved through purchase of City-owned credits for projects 40 acres or less. For projects larger than 40 acres, options for achieving mitigation through the code include the direct transfer to the City or a CDFW-approved conservator of a Swainson's hawk habitat conservation easement along with an easement monitoring endowment; or the purchase of credits at a CDFW-approved conservation bank. The easement must be surveyed to determine whether it is suitable Swainson's hawk foraging habitat.

While purchase of credits or transfer of habitat conservation easements would be required for impacts on Swainson's hawk habitat, Chapter 16.130 does not preclude the City Council's consideration or approval of other means of mitigating significant impact or significant cumulative impact on Swainson's hawk foraging habitat or limit the City Council's authority to override mitigation measures for reasons permitted by CEQA.

City of Elk Grove Municipal Code Chapter 19.12: Tree Preservation and Protection

Chapter 19.12 provides regulations for tree preservation and protection.

The regulations apply to four types of trees as follows:

- landmark trees, which are trees specifically identified for protection by the City Council;
- trees of local importance, which are trees of specific varieties greater than 6 inches in diameter;
- secured trees, which are trees that were protected as part of the development process for residential subdivisions and commercial developments; and
- trees on City property or in the public right-of-way.

Work on or removal of any of these four types of trees requires prior approval in the form of a Tree Permit from the City of Elk Grove. Project Applicants shall contact the City's Current Planning Division to determine whether their tree requires a Tree Permit prior to completing work.

Arborist Review

Prior to the consideration of a request for tree removal by the designated approving authority or grading within the critical root zone of a qualified tree, the Applicant shall retain an International Society of Arboriculture certified arborist to prepare a report. The report shall identify the basis, if any for supporting the removal of the qualified tree(s) and shall be subject to review by the City Arborist. The arborist report shall include an analysis of the following factors:

- the condition of the tree with respect to disease, general health, damage, structural integrity, and whether or not the tree acts as a host for an organism that is parasitic to another species of tree that is in danger of being exterminated by the parasite;
- the number of existing trees on the subject property, on adjacent property, and immediately proximate to the subject tree(s) as deemed relevant by the City Arborist, and the effect of the tree removal upon public health, safety, and prosperity of surrounding trees;
- the number of healthy trees that a given parcel of land will support, with and without the proposed development;
- the effect of tree removal on soil stability/erosion, particularly near water courses, near drainage ditches, or on steep slopes, or the effect on runoff interception;
- present and future shade potential with regard to solar heating and cooling;

- identification of alternatives that would allow for the preservation of the tree(s) proposed for removal; and
- any other information the City Arborist finds pertinent (e.g., site conditions, other vegetation, and utility service).

Mitigation for Tree Loss

As part of the approval of a tree permit for removal of a qualified tree, the designated approving authority shall require mitigation for the loss of the tree consistent with Chapter 19.12, Article IV (Mitigation for Tree Loss). The requirement for mitigation may be waived under those circumstances as provided in Section 19.12.180 (Alternative mitigation requirements). Mitigation for qualified tree loss shall be provided at a ratio of 1 new inch diameter at standard height (i.e., the diameter of a tree measured at four and one-half feet above the natural grade; DSH) of tree for each inch DSH lost (1:1 ratio) unless alternative mitigation is approved by the City.

3.4.2 Environmental Setting

LAND COVER

Land cover types within the City of Elk Grove planning area include urbanized land cover, natural land cover, agricultural land cover, and aquatic land cover types. Land cover types within the planning area have been described in the City of Elk Grove GPU EIR (City of Elk Grove 2018). The existing and candidate housing sites (hereafter, housing sites) are located primarily within urban and rural development areas; however, some of the parcels within the housing sites support annual grassland, cropland, and irrigated pasture land cover. Land cover types that occur within the housing sites are described below.

Urbanized Land Cover Types

Urban

Urban land cover consists of roadways, buildings, structures, routinely disturbed areas, recreation fields, lawns, and landscaped vegetation. Vegetation within urban areas is generally dominated by weedy herbs and ornamental tree and shrub species (e.g., *Eucalyptus* spp., Italian cypress [*Cupressus sempervirens*], sycamore/plane tree [*Platanus* sp.], crape myrtle [*Lagerstroemia* spp.], privet [*Ligustrum* spp.], rosemary [*Rosmarinus officinalis*]); however, native trees are also present (e.g., oaks [*Quercus* spp.]).

Urban areas are characterized by relatively high levels of disturbance (e.g., roads, highways, human activity) and as a result, these areas generally do not provide high quality habitat for wildlife. However, some special-status species are known to use marginal habitat within or adjacent to existing developed areas (e.g., ruderal grassland, large urban trees), including but not limited to burrowing owl (*Athene cunicularia*), Swainson's hawk, and nesting birds protected by the California Fish and Game Code and the federal MBTA.

Rural Development

Rural development consists of rural residences, generally in lower densities than urban housing areas. Annual grassland is common in areas surrounding rural residences, and some of these grasslands may contain vernal pools, seasonal wetlands, irrigation ditches, and other aquatic habitat features.

Natural Land Cover Types

Annual Grassland

Annual grassland in the housing sites is typically dominated by annual nonnative grass and forb species, including Italian ryegrass (*Festuca perennis*), wild oats (*Avena fatua*), soft chess (*Bromus hordeaceus*), rose clover (*Trifolium hirtum*), vetch (*Vicia* spp.), and curly dock (*Rumex crispus*). Oak and Eucalyptus trees may be scattered throughout this habitat, and vernal pools and seasonal wetlands may also be present.

Agricultural Land Cover Types

Cropland

Cropland within the housing sites may include irrigated hayfields or row and field crops. Crop types typically include wheat (*Triticum aestivum*), alfalfa (*Medicago sativa*), sorghum (*Sorghum bicolor*), tomato (*Lycopersicon esculentum*), and various other vegetables.

Irrigated Pasture

Irrigated pasture within the housing sites typically includes a mix or native and nonnative perennial grasses and legumes, including ryegrass (*Festuca* spp.), dallisgrass (*Paspalum* spp.), oat (*Avena* spp.), and clover (*Trifolium* spp.).

SENSITIVE BIOLOGICAL RESOURCES

Special-Status Species

Special-status species are defined as species that are legally protected or that are otherwise considered sensitive by federal, State, or local resource agencies. Special-status species are species, subspecies, or varieties that fall into one or more of the following categories, regardless of their legal or protection status:

- officially listed by California or the federal government as endangered, threatened, or rare;
- a candidate for State or federal listing as endangered, threatened, or rare;
- taxa (i.e., taxonomic category or group) that meet the criteria for listing, even if not currently included on any list, as described in CCR Section 15380 of the State CEQA Guidelines;
- species identified by CDFW as species of special concern;
- species listed as fully protected under the California Fish and Game Code;
- species afforded protection under local planning documents; and
- taxa considered by CDFW to be "rare, threatened, or endangered in California" and assigned a California Rare Plant Rank (CRPR). The CDFW system includes rarity and endangerment ranks for categorizing plant species of concern, summarized as follows:
  - CRPR 1A - plants presumed to be extinct in California;
  - CRPR 1B - plants that are rare, threatened, or endangered in California and elsewhere;
  - CRPR 2A - plants presumed to be extinct in California but that are more common elsewhere;
  - CRPR 2B - plants that are rare, threatened, or endangered in California but more common elsewhere;
  - CRPR 3 - plants about which more information is needed (a review list); and
  - CRPR 4 - plants of limited distribution (a watch list).

All plants with a CRPR are considered "special plants" by CDFW. The term "special plants" is a broad term used by CDFW to refer to all of the plant taxa inventoried in CDFW's CNDDB, regardless of their legal or protection status. Plants ranked as CRPR 1A, 1B, 2A, or 2B may qualify as endangered, rare, or threatened species within the definition of CEQA Guidelines Section 15380. CDFW recommends that potential impacts on CRPR 1 and 2 species be evaluated in CEQA documents. In general, CRPR 3 and 4 species do not meet the definition of endangered, rare, or threatened pursuant to CEQA Guidelines Section 15380. However, these species may be evaluated by the lead agency on a case-by-case basis.

The term "California species of special concern" is applied by CDFW to animals not listed under ESA or CESA but that are considered to be declining at a rate that could result in listing or that historically occurred in low numbers and known threats to their persistence currently exist. CDFW's fully protected status was California's first attempt to identify and protect animals that were rare or facing extinction. Most species listed as fully protected were eventually listed as

threatened or endangered under CESA; however, some species remain listed as fully protected but do not have simultaneous listing under CESA. Fully protected species may not be taken or possessed at any time, and no take permits can be issued for these species except for scientific research purposes or for relocation to protect livestock.

Of the 20 special-status plant species that are known to occur within the nine USGS 7.5-minute quadrangles surrounding the planning area, eight species were determined to have potential to occur in the housing sites based on the presence of habitat suitable for the species (CNDDB 2020, CNPS 2020, Table 3.4-1). Of the 44 special-status wildlife species that are known to occur within the nine USGS quadrangles surrounding the planning area, 14 species were determined to have potential to occur in the housing sites based on the presence of habitat suitable for the species (CNDDB 2020, Table 3.4-2). Tables 3.4-1 and 3.4-2 describe the species' regulatory status, habitat, and potential for occurrence.

Table 3.4-1 Special-Status Plant Species Known to Occur in the Vicinity of the Planning Area and Their Potential for Occurrence in the Housing Sites

Species	Listing Status[1] Federal	Listing Status[1] State	CRPR	Habitat	Potential for Occurrence[2]
Watershield *Brasenia schreberi*	–	–	2B.3	Aquatic from permanent water bodies both natural and artificial in California. 100–7,200 feet in elevation. Blooms June–September.	Not expected to occur. The housing sites do not contain aquatic habitat that is suitable for this species.
Bristly sedge *Carex comosa*	–	–	2B.1	Lake margin marshes; site below sea level is on a Delta island. -16–5,315 feet in elevation. Blooms May–September.	Not expected to occur. The housing sites do not contain marsh habitat that is suitable for this species.
Bolander's water-hemlock *Cicuta maculata* var. *bolanderi*	–	–	2B.1	Marshes and swamps, fresh or brackish water. 0–656 feet in elevation. Blooms July–September.	Not expected to occur. The housing sites do not contain marsh habitat
Peruvian dodder *Cuscuta obtusiflora* var. *glandulosa*	–	–	2B.2	Freshwater marsh. 49–919 feet in elevation. Blooms July–October.	Not expected to occur. The housing sites do not contain marsh habitat
Dwarf downingia *Downingia pusilla*	–	–	2B.2	Vernal lake and pool margins with a variety of associates. In several types of vernal pools. 3–1,608 feet in elevation. Blooms March–May.	May occur. The housing sites may contain seasonal wetland habitat (e.g., vernal pools) suitable for this species.
Boggs Lake hedge-hyssop *Gratiola heterosepala*	–	SE	1B.2	Clay soils; usually in vernal pools, sometimes on lake margins. 33–7,792 feet in elevation. Blooms April–August.	May occur. The housing sites may contain seasonal wetland habitat (e.g., vernal pools) suitable for this species.
Woolly rose-mallow *Hibiscus lasiocarpos* var. *occidentalis*	–	–	1B.2	Moist, freshwater-soaked riverbanks and low peat islands in sloughs; can also occur on riprap and levees. In California, known from the delta watershed. 0–509 feet in elevation. Blooms June–September.	Not expected to occur. The housing sites do not contain aquatic habitat (e.g., streambanks with associated levees) suitable for this species.
Ahart's dwarf rush *Juncus leiospermus* var. *ahartii*	–	–	1B.2	Restricted to the edges of vernal pools in grassland. 98–328 feet in elevation. Blooms March–May.	May occur. The housing sites may contain seasonal wetland habitat (e.g., vernal pools) suitable for this species.
Alkali-sink goldfields *Lasthenia chrysantha*	–	–	1B.1	Vernal pools. Alkaline. 0–656 feet in elevation. Blooms February–June.	May occur. The housing sites may contain aquatic habitat (e.g., vernal pools, wetlands) suitable for this species.
Delta tule pea *Lathyrus jepsonii* var. *jepsonii*	–	–	1B.2	Freshwater and brackish marshes. Usually on marsh and slough edges. 0–16 feet in elevation. Blooms May–July.	Not expected to occur. The housing sites do not contain marsh habitat.

Species	Listing Status[1] Federal	Listing Status[1] State	CRPR	Habitat	Potential for Occurrence[2]
Legenere *Legenere limosa*	–	–	1B.1	In beds of relatively deep and wet vernal pools. 3–2,887 feet in elevation. Blooms April–June.	Not expected to occur. The housing sites do not contain large, deep vernal pools suitable for this species.
Heckard's pepper-grass *Lepidium latipes* var. *heckardii*	–	–	1B.2	Moist, alkaline soils in grasslands and sometimes vernal pool edges. 3–98 feet in elevation. Blooms March–May.	May occur. The housing sites may contain annual grassland habitat and may contain alkaline habitat suitable for this species.
Mason's lilaeopsis *Lilaeopsis masonii*	–	SR	1B.1	Freshwater and brackish marshes, riparian scrub. Tidal zones, in muddy or silty soil formed through river deposition or riverbank erosion. 0–33 feet in elevation. Blooms April–November.	Not expected to occur. The housing sites do not contain marsh habitat.
Delta mudwort *Limosella australis*	–	–	2B.1	Usually on mud banks of the Delta in marshy or scrubby riparian associations; often with *Lilaeopsis masonii*. 0–16 feet in elevation. Blooms May–August.	Not expected to occur. The housing sites are not located in the Delta and do not contain marsh habitat.
Slender Orcutt grass *Orcuttia tenuis*	FT	SE	1B.1	Vernal pools, wetland. Often in gravelly substrate. 82–5,758 feet in elevation. Blooms May–September.	May occur. The housing sites may contain vernal pools suitable for this species.
Sacramento Orcutt grass *Orcuttia viscida*	FE	SE	1B.1	Vernal pools, wetland. 49–279 feet in elevation. Blooms April–July.	May occur. The housing sites may contain vernal pools suitable for this species.
Sanford's arrowhead *Sagittaria sanfordii*	–	–	1B.2	In standing or slow-moving freshwater ponds, marshes, and ditches. 0–2,133 feet in elevation. Blooms May–October.	May occur. The housing sites may contain aquatic habitat (e.g., irrigation ditches) suitable for this species.
Marsh skullcap *Scutellaria galericulata*	–	–	2B.2	Freshwater marshes and swamps, meadows, and seeps. 0–6,398 feet in elevation. Blooms June–September.	Not expected to occur. The housing sites do not contain wetland habitat suitable for this species.
Side-flowering skullcap *Scutellaria lateriflora*	–	–	2B.2	Wet meadows and marshes. In the Delta, often found on logs. 0–1,640 feet in elevation. Blooms July–September.	Not expected to occur. The housing sites are not located in the Delta and do not contain marsh habitat.
Saline clover *Trifolium hydrophilum*	–	–	1B.2	Salt marshes and in alkaline soils in moist valley and foothill grasslands and vernal pools. 0–984 feet in elevation. Blooms April–June.	May occur. The housing sites may contain alkaline wetland habitat (e.g., wetlands) suitable for this species.

Notes: CRPR = California Rare Plant Rank; CESA = California Endangered Species Act; CEQA = California Environmental Quality Act; ESA = Endangered Species Act; NPPA = Native Plant Protection Act

1 Legal Status Definitions

Federal:

FE Federally Listed as Endangered (legally protected by ESA)
FT Federally Listed as Threatened (legally protected by ESA)

State:

SE State Listed as Endangered (legally protected by CESA)
SR State Listed as Rare (legally protected by NPPA)

California Rare Plant Ranks:

1A Plant species that are presumed extirpated or extinct because they have not been seen or collected in the wild in California for many years. A plant is extinct if it no longer occurs anywhere. A plant that is extirpated from California has been eliminated from California but may still occur elsewhere in its range.
1B Plant species considered rare or endangered in California and elsewhere (protected under CEQA, but not legally protected under ESA or CESA).
2B Plant species considered rare or endangered in California but more common elsewhere (protected under CEQA, but not legally protected under ESA or CESA).
3 Plant species for which there is not enough information to assign the species to one of the other ranks or reject them.

Threat Ranks:

0.1 Seriously threatened in California (over 80% of occurrences threatened; high degree and immediacy of threat)
0.2 Moderately threatened in California (20-80% occurrences threatened; moderate degree and immediacy of threat)
0.3 Not very threatened in California (less than 20% of occurrences threatened / low degree and immediacy of threat or no current threats known)

2 Potential for Occurrence Definitions

Not expected to occur: Species is unlikely to be present because of poor habitat quality, lack of suitable habitat features, or restricted current distribution of the species.
May occur: Suitable habitat is available and there have been nearby recorded occurrences of the species.
Sources: CNDDB 2020; CNPS 2020

Table 3.4-2 Special-Status Wildlife Species Known to Occur in the Vicinity of the Planning Area and Their Potential for Occurrence in the Housing Sites

Species	Listing Status[1]		Habitat	Potential for Occurrence[2]
	Federal	State		
Amphibians and Reptiles				
California tiger salamander *Ambystoma californiense*	FT	ST	Need underground refuges, especially ground squirrel burrows, and vernal pools or other seasonal water sources for breeding.	Not expected to occur. California tiger salamander has not been recorded within the Sacramento County Urban Services Boundary or north of the Cosumnes River despite extensive surveys (County of Sacramento et al. 2018).
Giant gartersnake *Thamnophis gigas*	FT	ST	Prefers freshwater marsh and low gradient streams. Has adapted to drainage canals and irrigation ditches. This is the most aquatic of the gartersnakes in California.	May occur. The housing sites may contain aquatic habitat potentially suitable for this species, including irrigation ditches.
Western pond turtle *Actinemys marmorata*	–	SSC	Ponds, marshes, rivers, streams, and irrigation ditches; usually with aquatic vegetation, below 6,000 feet elevation. Need basking sites and suitable (sandy banks or grassy open fields) upland habitat up to 0.5 km from water for egg-laying.	May occur. The housing sites may contain aquatic habitat potentially suitable for this species, including irrigation ditches.
Western spadefoot *Spea hammondii*	–	SSC	Occurs primarily in grassland habitats but can be found in valley-foothill hardwood woodlands. Vernal pools are essential for breeding and egg-laying.	May occur. The housing sites may contain habitat potentially suitable for this species within annual grasslands that may contain vernal pool habitat.
Birds				
Bald eagle *Haliaeetus leucocephalus*	FD	SE FP	Ocean shore, lake margins, and rivers for both nesting and wintering. Most nests within 1 mile of water. Nests in large, old-growth, or dominant live tree with open branches, especially ponderosa pine. Roosts communally in winter.	Not expected to occur. The housing sites do not contain nesting habitat suitable for this species.
Bank swallow *Riparia*	–	ST	Colonial nester; nests primarily in riparian and other lowland habitats west of the desert. Requires vertical banks/cliffs with fine-textured/sandy soils near streams, rivers, lakes, ocean to dig nesting hole.	Not expected to occur. The housing sites do not contain nesting habitat suitable for this species.
Burrowing owl *Athene cunicularia*	–	SSC	Open, dry annual or perennial grasslands, deserts and scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel.	May occur. The housing sites contain habitat potentially suitable for this species within annual grassland, croplands, and ruderal grasslands in developed areas.
California black rail	–	ST FP	Inhabits freshwater marshes, wet meadows and shallow margins of saltwater marshes bordering	Not expected to occur. The housing sites do not contain marsh habitat.

Species	Listing Status[1]		Habitat	Potential for Occurrence[2]
	Federal	State		
Laterallus jamaicensis coturniculus			larger bays. Needs water depths of about 1 inch that do not fluctuate during the year and dense vegetation for nesting habitat.	
California least tern *Sternula antillarum browni*	FE	SE FP	Nests along the coast from San Francisco Bay south to northern Baja California. Colonial breeder on bare or sparsely vegetated, flat substrates: sand beaches, alkali flats, landfills, or paved areas.	Not expected to occur. The housing sites do not contain nesting habitat suitable for this species.
Golden eagle *Aquila chrysaetos*	–	FP	Rolling foothills, mountain areas, sage-juniper flats, and desert. Cliff-walled canyons provide nesting habitat in most parts of range; also, large trees in open areas.	Not expected to occur. The housing sites do not contain nesting habitat suitable for this species.
Grasshopper sparrow *Ammodramus savannarum*	–	SSC	Dense grasslands on rolling hills, lowland plains, in valleys and on hillsides on lower mountain slopes. Favors native grasslands with a mix of grasses, forbs, and scattered shrubs. Loosely colonial when nesting.	Not expected to occur. The annual grassland habitat within the housing sites does not provide habitat suitable for this species, as these areas are small and disturbed.
Greater sandhill crane *Antigone canadensis tabida*	–	ST FP	Nests in wetland habitats in northeastern California; winters in the Central Valley. Prefers grain fields within 4 miles of a shallow body of water used as a communal roost site; irrigated pasture used as loafing sites.	May occur. The housing sites contain foraging or loafing habitat potentially suitable for this species within annual grasslands and irrigated pastures.
Lesser sandhill crane *Antigone canadensis*	–	SSC	Nests in wetland habitats in northeastern California; winters in the Central Valley. Prefers grain fields within 4 miles of a shallow body of water used as a communal roost site; irrigated pasture used as loafing sites.	May occur. The housing sites contain foraging or loafing habitat potentially suitable for this species within annual grasslands and irrigated pastures.
Loggerhead shrike *Lanius ludovicianus*	–	SSC	Broadleaved upland forest, desert wash, Joshua tree woodland, Mojavean desert scrub, pinyon and juniper woodlands, riparian woodland, Sonoran desert scrub. Broken woodlands, savannah, pinyon-juniper, Joshua tree, and riparian woodlands, desert oases, scrub, and washes. Prefers open country for hunting, with perches for scanning, and fairly dense shrubs and brush for nesting.	May occur. The housing sites contain limited trees and shrubs in grassland habitat suitable for this species.
Northern harrier *Circus cyaneus*	–	SSC	Coastal scrub, Great Basin grassland, marsh and swamp, riparian scrub, valley and foothill grassland, and wetlands. Coastal salt and fresh-water marsh. Nest and forage in grasslands, from salt grass in desert sink to mountain cienagas. Nests on ground in shrubby vegetation, usually at marsh edge; nest built of a large mound of sticks in wet areas.	May occur. The annual grassland habitat within the housing sites may provide habitat suitable for this species.
Purple martin *Progne subis*	–	SSC	Broadleaved upland forest, lower montane coniferous forest. Inhabits woodlands, low elevation coniferous forest of Douglas-fir, ponderosa pine, and Monterey pine. Nests in old woodpecker cavities mostly, also in human-made	Not expected to occur. The housing sites do not contain nesting habitat suitable for this species.

Species	Listing Status[1]		Habitat	Potential for Occurrence[2]
	Federal	State		
			structures. Nest often located in tall, isolated tree/snag.	
Song sparrow ("Modesto" population) *Melospiza melodia*	–	SSC	Marsh and swamp, wetlands. Emergent freshwater marshes, riparian willow thickets, riparian forests of valley oak (*Quercus lobata*), and vegetated irrigation canals and levees.	Not expected to occur. The housing sites do not contain marsh or riparian forest habitat suitable for this species.
Swainson's hawk *Buteo swainsoni*	–	ST	Breeds in grasslands with scattered trees, juniper-sage flats, riparian areas, savannahs, and agricultural or ranch lands with groves or lines of trees. Requires adjacent suitable foraging areas such as grasslands, or alfalfa or grain fields supporting rodent populations.	May occur. The housing sites contain nesting habitat potentially suitable for Swainson's hawk in trees adjacent to annual grassland or agricultural areas. Additionally, grassland and agricultural areas in the housing sites may provide foraging habitat suitable for Swainson's hawks.
Tricolored blackbird *Agelaius tricolor*	–	ST SSC	Highly colonial species, most numerous in Central Valley and vicinity. Largely endemic to California. Requires open water, protected nesting substrate, and foraging area with insect prey within a few miles of the colony.	May occur. The housing sites contain nesting habitat potentially suitable for tricolored blackbird within agricultural areas and in vegetated areas (e.g., Himalayan blackberry [*Rubus armeniacus*]) near aquatic habitat (e.g., irrigation ditches).
Vaux's swift *Chaetura vauxi*	–	SSC	Lower montane coniferous forest, north coast coniferous forest, old growth, redwood. Redwood, Douglas-fir, and other coniferous forests. Nests in large hollow trees and snags. Often nests in flocks. Forages over most terrains and habitats but shows a preference for foraging over rivers and lakes.	Not expected to occur. The housing sites do not contain nesting habitat suitable for this species.
Western yellow-billed cuckoo *Coccyzus americanus occidentalis*	FT	SE	Riparian forest nester, along the broad, lower flood-bottoms of larger river systems. Nests in riparian jungles of willow, often mixed with cottonwoods, with lower story of blackberry, nettles, or wild grape.	Not expected to occur. The housing sites do not contain riparian forest habitat suitable for this species.
White-tailed kite *Elanus leucurus*	–	FP	Rolling foothills and valley margins with scattered oaks and river bottomlands or marshes next to deciduous woodland. Open grasslands, meadows, or marshes for foraging close to isolated, dense-topped trees for nesting and perching.	May occur. The housing sites contain nesting habitat potentially suitable for white-tailed kite in trees adjacent to annual grassland or agricultural areas.
Yellow warbler *Setophaga petechia*	–	SSC	Frequently found nesting and foraging in willow shrubs and thickets, and in other riparian plants including cottonwoods, sycamores, ash, and alders.	Not expected to occur. The housing sites do not contain riparian forest habitat suitable for this species.
Yellow-breasted chat *Icteria virens*	–	SSC	Summer resident; inhabits riparian thickets of willow and other brushy tangles near watercourses. Nests in low, dense riparian, consisting of willow, blackberry, wild grape; forages and nests within 10 feet of ground.	Not expected to occur. The housing sites do not contain riparian forest habitat suitable for this species.
Yellow-headed blackbird *Xanthocephalus*	–	SSC	Nests in freshwater emergent wetlands with dense vegetation and deep water. Often along borders of lakes or ponds. Nests only where large insects such as Odonata are abundant,	Not expected to occur. The housing sites do not contain deep freshwater emergent wetlands, lakes, or ponds.

Species	Listing Status[1]		Habitat	Potential for Occurrence[2]
	Federal	State		
			nesting timed with maximum emergence of aquatic insects.	
Fish				
Chinook salmon - Central Valley fall / late fall-run ESU *Oncorhynchus tshawytscha* pop. 13	–	SSC	Populations spawning in the Sacramento and San Joaquin rivers and their tributaries.	Not expected to occur. The housing sites do not contain aquatic habitat suitable for this species.
Chinook salmon - Central Valley spring-run ESU *Oncorhynchus tshawytscha* pop. 6	FT	ST	Adult numbers depend on pool depth and volume, amount of cover, and proximity to gravel. Water temps >27 C are lethal to adults. Federal listing refers to populations spawning in Sacramento River and tributaries.	Not expected to occur. The housing sites do not contain aquatic habitat suitable for this species.
Chinook salmon - Sacramento River winter-run ESU *Oncorhynchus tshawytscha* pop. 7	FE	SE	Sacramento River below Keswick Dam. Spawns in the Sacramento River, but not in tributary streams. Requires clean, cold water over gravel beds with water temperatures between 6 and 14 C for spawning.	Not expected to occur. The housing sites do not contain aquatic habitat suitable for this species.
Delta smelt *Hypomesus transpacificus*	FT	SE	Seasonally in Suisun Bay, Carquinez Strait and San Pablo Bay. Seldom found at salinities > 10 ppt. Most often at salinities less than 2 ppt.	Not expected to occur. The housing sites do not contain aquatic habitat suitable for this species.
Hardhead *Mylopharodon conocephalus*	–	SSC	Low to mid-elevation streams in the Sacramento-San Joaquin drainage. Also present in the Russian River. Clear, deep pools with sand-gravel-boulder bottoms and slow water velocity. Not found where exotic centrarchids predominate.	Not expected to occur. The housing sites do not contain aquatic habitat suitable for this species.
Longfin smelt *Spirinchus thaleichthys*	FC	SSC	Euryhaline, nektonic and anadromous. Found in open waters of estuaries, mostly in middle or bottom of water column. Can be found in completely freshwater to almost pure seawater.	Not expected to occur. The housing sites do not contain aquatic habitat suitable for this species.
Pacific lamprey *Entosphenus tridentatus*	–	SSC	Found in Pacific Coast streams north of San Luis Obispo County, however regular runs in Santa Clara River. Size of runs is declining. Swift-current gravel-bottomed areas for spawning with water temperatures between 12-18 degrees C. Ammocoetes need soft sand or mud.	Not expected to occur. The housing sites do not contain aquatic habitat suitable for this species.
Sacramento hitch *Lavinia exilicauda*	–	SSC	Inhabits warm, lowland, waters including clear streams, turbid sloughs, lakes, and reservoirs.	Not expected to occur. The housing sites do not contain aquatic habitat suitable for this species.
Sacramento splittail *Pogonichthys macrolepidotus*	–	SSC	Endemic to the lakes and rivers of the Central Valley, but now confined to the Delta, Suisun Bay, and associated marshes. Slow moving river sections, dead end sloughs. Requires flooded vegetation for spawning and foraging for young.	Not expected to occur. The housing sites do not contain aquatic habitat suitable for this species.
Steelhead - central California coast DPS *Oncorhynchus mykiss irideus* pop. 8	FT	–	From Russian River, south to Soquel Creek and to, but not including Pajaro River. Also San Francisco and San Pablo Bay basins.	Not expected to occur. The housing sites do not contain aquatic habitat suitable for this species.

Species	Listing Status[1]		Habitat	Potential for Occurrence[2]
	Federal	State		
Steelhead - Central Valley DPS *Oncorhynchus mykiss irideus* pop. 11	FT	–	Populations in the Sacramento and San Joaquin rivers and their tributaries.	Not expected to occur. The housing sites do not contain aquatic habitat suitable for this species.
Western river lamprey *Lampetra ayresii*	–	SSC	May occur in coastal streams north of San Francisco Bay. Require clean, gravelly riffles; sandy backwaters or stream edges; good water quality; and temperatures less than 25 C.	Not expected to occur. The housing sites do not contain aquatic habitat suitable for this species.
Invertebrates				
Crotch bumble bee *Bombus crotchii*	–	SC	Coastal California east to the Sierra-Cascade crest and south into Mexico. Bumble bees have three basic habitat requirements: suitable nesting sites for the colonies, availability of nectar and pollen from floral resources throughout the duration of the colony period (spring, summer, and fall), and suitable overwintering sites for the queens. Food plant genera include *Antirrhinum*, *Phacelia*, *Clarkia*, *Dendromecon*, *Eschscholzia*, and *Eriogonum*.	Not expected to occur. There is one known occurrence of crotch bumble bee approximately 5 miles south of the housing sites within Cosumnes River Preserve (CNDDB 2020). While the housing sites contain some small areas (i.e., less than 10 acres) of annual grassland habitat, this habitat is routinely mowed or disked, is distributed in a patchy manner, and is surrounded by urban development. Although bumble bees can forage and disperse over long distances, isolated patches of habitat do not provide high quality habitat for this species (Xerces Society 2018). While the grassland habitat within the housing sites may contain flora that could be utilized by bumble bees, it is completely surrounded by urban development, and does not have connectivity with other natural grassland habitat in the region. Viable bumble bee populations typically require approximately 750-2,500 acres of suitable habitat, which is much larger than the available habitat in the housing sites (Xerces Society 2018).
Valley elderberry longhorn beetle *Desmocerus californicus dimorphus*	FT	–	Riparian scrub. Occurs only in the Central Valley of California, in association with blue elderberry (*Sambucus nigra* ssp. *caerulea*). Prefers to lay eggs in elderberries 2-8 inches in diameter; some preference shown for "stressed" elderberries.	May occur. The housing sites are within the range of this species and may contain blue elderberry shrubs.
Vernal pool fairy shrimp *Branchinecta lynchi*	FT	–	Endemic to the grasslands of the Central Valley, Central Coast mountains, and South Coast mountains, in astatic rain-filled pools. Inhabit small, clear-water sandstone-depression pools and grassed swale, earth slump, or basalt-flow depression pools.	May occur. Annual grassland habitat is present within the housing sites which may contain vernal pool habitat suitable for this species.
Vernal pool tadpole shrimp *Lepidurus packardi*	FE	–	Inhabits vernal pools and swales in the Sacramento Valley containing clear to highly turbid water. Pools commonly found in grass bottomed swales of unplowed grasslands. Some pools are mud-bottomed and highly turbid.	May occur. Annual grassland habitat is present within the housing sites which may contain vernal pool habitat suitable for this species.

Species	Listing Status[1]		Habitat	Potential for Occurrence[2]
	Federal	State		
Mammals				
American badger *Taxidea taxus*	–	SSC	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. Needs sufficient food, friable soils, and open, uncultivated ground. Preys on burrowing rodents. Digs burrows.	Not expected to occur. While the housing sites contain annual grasslands and agricultural habitats which may be suitable for American badger, these areas are small, disturbed, and fragmented from other grassland habitat in surrounding areas.
Western red bat *Lasiurus blossevillii*	–	SSC	Roosts primarily in trees, 2-40 feet above ground, from sea level up through mixed conifer forests. Prefers habitat edges and mosaics with trees that are protected from above and open below with open areas for foraging.	Not expected to occur. The housing sites do not contain tree roost habitat potentially suitable for western red bat.

[1] Legal Status Definitions

Federal:

FE federally listed as endangered (legally protected)
FT federally listed as threatened (legally protected)
FC federal candidate species
FD federally delisted

State:

FP fully protected (legally protected)
SSC species of special concern (no formal protection other than CEQA consideration)
SE State listed as endangered (legally protected)
ST State listed as threatened (legally protected)
SC State candidate for listing (legally protected)

[2] Potential for Occurrence Definitions

Not expected to occur: Species is unlikely to be present because of poor habitat quality, lack of suitable habitat features, or restricted current distribution of the species.

May occur: Suitable habitat is available; however, there are little to no other indicators that the species might be present.

Notes: DPS = distinct population segment; ESU = evolutionarily significant unit.

Sources: CNDDB 2020; USFWS 2020

Sensitive Natural Communities

Sensitive natural communities are those native plant communities defined by CDFW as having limited distribution statewide or within a county or region and that are often vulnerable to environmental effects of projects (CDFW 2018). These communities may or may not contain special-status plants or their habitat (CDFW 2018). CDFW designates sensitive natural communities based on their State rarity and threat ranking using NatureServe's Heritage Methodology. Natural communities with rarity ranks of S1 to S3, where S1 is critically imperiled, S2 is imperiled, and S3 is vulnerable, are considered sensitive natural communities to be addressed in the environmental review processes of CEQA and its equivalents (CDFW 2018).

Sensitive natural communities are generally identified at the alliance level of vegetation classification hierarchy using the Manual of California Vegetation (Sawyer et al. 2009). Known occurrences of sensitive natural communities are included in the CNDDB; however, no new occurrences have been added to the CNDDB since the mid-1990s when funding was cut for this portion of the CNDDB program. Six sensitive natural communities were identified within the nine USGS quadrangles surrounding the plan area through a query of the CNDDB: coastal and valley freshwater marsh, elderberry savanna, great valley mixed riparian forest, great valley oak riparian forest, northern hardpan vernal pool, and valley oak woodland (CNDDB 2020). These communities were mapped and classified in the CNDDB prior to publication of the Manual of California Vegetation and are classified according to Holland (1986).

Coastal and Valley Freshwater Marsh

Coastal and valley freshwater marsh is characterized by seasonally or permanently flooded areas along streams, lakes, ponds, and springs. These areas provide habitat for the freshwater marsh species which include bulrushes (*Schoenoplectus* spp.), sedges *Carex* spp.), cattails (*Typha* spp.), and rushes (*Juncus* spp.). Coastal and valley freshwater marsh habitat is present in Stone Lakes National Wildlife Refuge south of the housing sites (CNDDB 2020). This sensitive natural community does not occur within the housing sites.

Elderberry Savanna

Elderberry savanna is dominated by blue elderberry (*Sambucus nigra* ssp. *caerulea*) and typically has an understory of various grasses and forbs. This habitat has a patchy distribution throughout the Sacramento valley and is associated with surviving stands of riparian vegetation. Elderberry savanna habitat is present north of the housing sites in the city of Sacramento adjacent to the American River (CNDDB 2020). Blue elderberry shrubs provide habitat for valley elderberry longhorn beetle, which is listed as threatened under the ESA. This sensitive natural community does not occur within the housing sites; however, individual, or small groups of elderberry shrubs may occur.

Great Valley Mixed Riparian Forest

Great valley mixed riparian forest contains several tree species, including Fremont cottonwood, box elder, Oregon ash, willow, California sycamore, and California walnut. This habitat is associated with streams and rivers and is limited to isolated remnants in the Sacramento Valley. Great valley mixed riparian forest habitat is present in the Cosumnes River Preserve south of the housing sites (CNDDB 2020). This sensitive natural community does not occur within the housing sites.

Great Valley Valley Oak Riparian Forest

Great Valley valley oak riparian forest is a medium to tall broadleaved, winter deciduous, closed-canopy riparian forest dominated by valley oak (*Quercus lobata*). Understory species include northern California black walnut (*Juglans hindsii*), California sycamore (*Platanus racemosa*), and young valley oaks. Great Valley valley oak riparian forest is present south of the housing sites near the Cosumnes River and its tributaries. This sensitive natural community does not occur within the housing sites.

Northern Hardpan Vernal Pool

Northern hardpan vernal pools are shallow, ephemeral waterbodies found in depressions among grasslands and open woodlands in the northern Central Valley of California. These vernal pools are formed on alluvial terraces with silicate-cement soil layers. These pool types are on acidic soils and exhibit well-developed mima mound topography found on the eastern margins of the California Central Valley. There are several known occurrences of northern hardpan vernal pool within the planning area, some of which may be present within the housing sites (CNDDB 2020). There may be additional vernal pool habitat that has not been previously identified within annual grassland habitat in the housing sites.

Valley Oak Woodland

Valley oak woodland is typically dominated by valley oak, which is often the only tree species present in the habitat. Valley oak woodland habitat is present in the Cosumnes River Preserve south of the housing sites (CNDDB 2020). This sensitive natural community does not occur within the housing sites.

Wildlife Movement Corridors and Wildlife Nursery Sites

Some of the important areas for habitat connectivity in California were mapped as Essential Connectivity Areas (ECA) for the California Essential Habitat Connectivity Project, which was commissioned by the California Department of Transportation and CDFW with the purpose of making transportation and land-use planning more efficient and less costly, while helping reduce dangerous wildlife-vehicle collisions (Spencer et al. 2010). The ECAs were not developed for the purposes of defining areas subject to specific regulations by CDFW or other agencies.

The majority of the housing sites either contain urban or rural development or are surrounded by development. The housing sites do not contain any portion of an identified ECA or Natural Landscape Block. ECAs and Natural Landscape Blocks have been identified within Stone Lakes National Wildlife Refuge west of the housing sites, and

along the Cosumnes River and the Cosumnes River Preserve south of the housing sites. There are significant existing barriers to terrestrial movement between the housing sites and the core of the ECAs in Stone Lakes National Wildlife Refuge and the Cosumnes River, including I-5, other roads, urban development, and residential development. The housing sites contain only small areas of annual grassland habitat, which do not provide habitat connectivity to the surrounding area. Additionally, the housing sites do not contain wildlife nursery sites (e.g., heron rookery, significant bat roosts, deer fawning sites).

3.4.3 Environmental Impacts and Mitigation Measures

METHODOLOGY

The following impact evaluation is based primarily on review of the information and analysis presented in the General Plan EIR, Specific Plan EIRs in the City of Elk Grove, as well as databases that address biological resources in the Project vicinity, and review of aerial imagery of the housing sites.

THRESHOLDS OF SIGNIFICANCE

An impact on biological resources would be significant if implementation of the Project would:

- have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations or by CDFW or USFWS;
- 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 CDFW or USFWS;
- have a substantial adverse effect on State-protected or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, or similar.) through direct removal, filling, hydrological interruption, or other means;
- interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or
- conflict with the provisions of an adopted habitat conservation plan (HCP); natural community conservation plan; or other approved local, regional, or State HCP.

ISSUES NOT DISCUSSED FURTHER

Riparian Habitat

The housing sites do not contain mixed riparian woodland or valley oak riparian habitats as mapped in the City of Elk Grove General Plan (City of Elk Grove 2019). This issue is not discussed further.

Wildlife Movement Corridors and Wildlife Nursery Sites

The housing sites do not contain any portion of an identified ECA or Natural Landscape Block and does not contain natural habitat except for small areas of annual grassland which do not provide connectivity to surrounding natural habitat areas. Additionally, the housing sites, which are largely developed or surrounded by development, do not contain wildlife nursery sites. Infill development under the Project is not expected to disrupt wildlife movement. This issue is not discussed further.

Consistency with Habitat Conservation Plans

The housing sites are not within the plan area of any adopted HCP or natural community conservation plan. The South Sacramento HCP plan area is located nearby; however, the City is not currently a participant in this plan and infill development under the Project would not interfere with implementation of the HCP. The City is considering becoming a special entity under the HCP for specific projects that involve annexation into the City, None of the housing sites are within an annexation area. Therefore, this issue is not discussed further.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Impact 3.4-1: Result in Disturbance or Loss of Special-Status Plant Species or Habitat

General Plan EIR Impact 5.4.1 identified significant and unavoidable impacts to special status plant species and habitat. Potential land use conversion and development as part of implementation of the Housing Element and Safety Element Update could result in disturbance to or loss of several special-status plant species if they are present. The loss of special-status plants could substantially affect the abundance, distribution, and viability of local and regional populations of these species. Implementation of General Plan standards and policies would address impacts on special-status plants as a result of land conversion, ground disturbance, and construction because they would require a biological resources evaluation to identify special-status plants, avoidance of sensitive habitats where special-status plants are known or may occur, and implementation of appropriate mitigation to preserve and enhance habitat that supports special-status plants, or compensate for loss of occupied habitat if preservation is not possible as required by local, state, and federal law. The Housing Element and Safety Element Update would not result in a new or substantially more severe impact to special-status plant species that was addressed in the General Plan EIR because it would not substantially expand the overall planned development footprint of the City and would be subject to City policy provisions. Project impacts would be **less than significant**.

Table 3.4-1 provides a list of the special-status plant species; including scientific names, listing status, and habitat associations; that may occur within the housing sites. Nine special-status plant species were determined to have potential to occur within the housing sites: dwarf downingia, Boggs Lake hedge-hyssop, Ahart's dwarf rush, alkali-sink goldfields, Heckard's pepper-grass, slender Orcutt grass, Sacramento Orcutt grass, Sanford's arrowhead, and saline clover. All of these species are associated with aquatic habitat, including vernal pools, seasonal wetlands, and irrigation ditches. This habitat may be present within the housing sites in areas mapped as annual grassland, rural development, or agricultural land cover types. Special-status plants are not expected to occur within areas mapped as urban development.

Housing and potential emergency access improvement construction activities associated with the implementation of the Housing Element and Safety Element Update could include ground disturbance, vegetation removal, and conversion of habitat, including annual grassland, rural development, and agricultural land cover types. These activities could result in damage (e.g., trampling, alteration of root structure) or direct loss of special-status plants or their habitat if they are present. The loss of special-status plants could substantially affect the abundance, distribution, and viability of local and regional populations of these species. These impacts were identified in Impact 5.4.1 of the General Plan EIR. Subsequent activities under the Housing Element and Safety Element Update would be subject to General Plan Policy NR-1-2 and General Plan Standard NR-1.2a, which would require a biological resources evaluation for development projects that may contain special-status plants and implementation of appropriate mitigation to preserve and enhance habitat that supports special-status plants, or to compensate for loss of special-status plants if preservation is not possible, as required by various local, state, and federal regulations. Additionally, General Plan Standard NR-1.2c and General Plan Policy NR-1-4 would require stream setbacks and avoidance of sensitive habitats that may support special-status plants (e.g., wetlands, vernal pools, marshland, riparian areas). These policies and standards would reduce or avoid potential impacts on special-status plants. Development in community and specific plan areas (e.g., Laguna Ridge Specific Plan and Southeast Area Strategic Plan) would continue to be subject to mitigation measures identified in those documents to reduce impacts to habitat for special-status plants. Implementation of the Project would occur in areas planned for urban development assumed under the General Plan EIR.

Compliance with the City General Plan policies and adopted mitigation measures would require subsequent projects to submit biological resource technical reports as part of housing site applications or public initiated emergency access improvements that determine whether special-status plant species occur using survey methods from the CDFW Protocols for Surveying and Evaluating Impacts of Special Status Native Plant Populations and Natural Communities (CDFW 2018). Mitigation for identified special-status plant species would be incorporated into the subsequent project design and could consist of avoidance and protection of the onsite or compensation of the plant species that achieves a no net loss in consultation with CDFW and USFWS (e.g., transplantation of plant or creation of offsite plant populations through seed collection). In addition, CDFW would impose mitigation for identified special-status plant species as part of its authority in issuing Streambed Alteration Agreements under Section 1600 of the California Fish and Game Code while USFWS would impose mitigation for projects requesting permits to fill federally regulated wetlands under Section 404 of the CWA.

There is no new significant effect and the impact is not more severe than the impact identified in the General Plan EIR. Thus, this impact would be **less than significant**.

Mitigation Measures

No additional mitigation is required beyond compliance with City General Plan policies NR-1-2, NR-1-4, and standards NR-1.2a and NR-1.2c as well as through permitting by CDFW and USFWS.

Impact 3.4-2: Result in Disturbance or Loss of Special-Status Wildlife Species or Habitat

General Plan EIR Impacts 5.4.1 and 5.4.2 identified significant and unavoidable impacts to special status wildlife species and habitat. Potential land use conversion and development as part of the Housing Element and Safety Element Update implementation may include ground disturbance, tree removal, and construction of new buildings and infrastructure, which may result in disturbance to or of loss of special-status wildlife species and reduced breeding productivity of these species. Implementation of General Plan standards and policies would reduce significant impacts on special-status wildlife as a result of land conversion, ground disturbance, and construction because they would require a biological resources evaluation to identify special-status wildlife, avoidance of sensitive habitats where special-status wildlife may occur, and implementation of appropriate mitigation to preserve and enhance habitat that supports special-status wildlife, or compensate for loss of habitat, as required by local, state, and federal law. The Housing Element and Safety Element Update would not result in a new or substantially more severe impact to special-status wildlife species that than was addressed in the General Plan EIR because it would not substantially expand the overall planned development footprint of the City and would be subject to City policy provisions. Project impacts would be **less than significant**.

Table 3.4-2 provides a list of the special-status wildlife species; including scientific names, listing status, and habitat associations; that may occur within the housing sites and potential emergency access improvements under the Housing Element and Safety Element Update. Fourteen special-status wildlife species were determined to have potential to occur within the housing sites: giant garter snake, western pond turtle, western spadefoot, burrowing owl, greater sandhill crane, lesser sandhill crane, loggerhead shrike, northern harrier, Swainson's hawk, tricolored blackbird, white-tailed kite, valley elderberry longhorn beetle, vernal pool fairy shrimp, and vernal pool tadpole shrimp.

Greater sandhill crane and lesser sandhill crane may occasionally use the irrigated pasture habitat for foraging or loafing. However, due to its patchy nature and relatively high level of disturbance from surrounding urban and rural development, this habitat is considered marginal and likely does not provide high quality or large enough areas of habitat suitable for the species. These species are known to occur in large numbers within Stone Lakes National Wildlife Refuge west of the housing sites and Cosumnes River Preserve south of the housing sites, where large areas of suitable habitat for the species (e.g., marsh, grassland) are present. Construction activities and land conversion within the irrigated pasture within the housing sites are not expected to result in a substantial reduction in high quality suitable habitat for sandhill cranes in the region, thus further mitigation for these species is not required.

Habitat potentially suitable for giant gartersnake and western pond turtle is present within irrigation ditches in the City. The subsequent project sites may contain irrigation ditches or annual grassland habitat adjacent to irrigation ditches, which may provide upland habitat suitable for these species. Previously unidentified vernal pools or seasonal wetlands may be present within annual grasslands, rural development, or agricultural land uses. These aquatic features may provide habitat suitable for special-status vernal pool species: western spadefoot, vernal pool fairy shrimp, and vernal pool tadpole shrimp. Annual grassland habitat, as well as earthen edges of cropland areas, may provide habitat suitable for burrowing owl, which is known to occur in the City. Large trees, including trees within existing urban areas, may provide habitat suitable for nesting Swainson's hawk, white-tailed kite, and other raptor species (e.g., red-tailed hawk [*Buteo jamaicensis*], red-shouldered hawk [*Buteo lineatus*], Cooper's hawk [*Accipiter cooperi*]), and trees and shrubs of any size may provide nesting habitat suitable for common, native birds protected under California Fish and Game Code and the federal MBTA. Habitat potentially suitable for tricolored blackbird may be present within annual grasslands, rural development, and agricultural land covers if these areas contain aquatic habitat (e.g., irrigation ditches), thickets of Himalayan blackberry (*Rubus armeniacus*) or similar vegetation, or active grain fields. Annual grassland and some agricultural habitats (e.g., grain fields) in the City may also provide foraging habitat suitable for Swainson's hawk. Finally, the housing sites may contain blue elderberry shrubs that may provide habitat suitable for valley elderberry longhorn beetle.

Implementation of the Housing Element and Safety Element Update may include ground disturbance, vegetation removal, and conversion of habitat, (i.e., annual grasslands, rural development, agricultural land cover types). These activities could result in injury or mortality of special-status wildlife or adverse effects or loss of occupied habitat if present within the housing sites that could generate larger development footprints than current General Plan land use designations and zoning. Additionally, construction activities (e.g., grading, use of heavy equipment, use of vehicles, presence of construction personnel) could result in disturbance to birds nesting within or adjacent to the housing sites and potential emergency access improvements, potentially result in nest abandonment and loss of eggs or chicks. These impacts were identified in Impact 5.4.1 and 5.4.2 of the General Plan EIR. Subsequent activities under the Housing Element and Safety Element Update would be subject to General Plan Policy NR-1-2 and General Plan standard NR-1.2a, which would require a biological resources evaluation for development projects that may contain special-status wildlife species and implementation of appropriate mitigation to preserve and enhance habitat that supports special-status wildlife, or compensate for loss of habitat, as required by various local, state, and federal regulations. Additionally, General Plan standards NR-1.2b and NR-1.2c and General Plan Policy NR-1-4 would require stream setbacks and avoidance of sensitive habitats that may support special-status wildlife (e.g., wetlands, vernal pools, marshland, riparian areas). Subsequent projects may also be required to comply with Municipal Code Chapter 16.130 that requires mitigation for the loss of Swainson's hawk habitat at a 1:1 ratio. These policies and standards would reduce or avoid potential impacts on special-status wildlife. Development in community and specific plan areas (e.g., Laguna Ridge Specific Plan and Southeast Area Strategic Plan would continue to be subject to mitigation measures identified in those documents to reduce impacts to habitat. Implementation of the Project would occur in areas planned for urban development assumed under the General Plan EIR.

Compliance with the City General Plan policies and adopted mitigation measures would require subsequent projects to submit biological resource technical reports as part of housing site applications or public initiated emergency access improvements that determine whether special-status wildlife species potentially occur. Mitigation for identified special-status wildlife species would be incorporated into the subsequent project design and could consist of avoidance and protection of species in consultation with CDFW and USFWS. Subsequent projects may also be required to comply with Municipal Code Chapter 16.130 that requires mitigation for the loss of Swainson's hawk habitat (preservation of habitat or payment of fees). In addition, CDFW would impose mitigation for identified special-status wildlife species as part of its authority in issuing Streambed Alteration Agreements under Section 1600 of the California Fish and Game Code while USFWS would impose mitigation for projects requesting permits to fill federally regulated wetlands under Section 404 of the CWA.

There is no new significant effect and the impact is not more severe than the impact identified in the General Plan EIR. Thus, this impact would be **less than significant**.

Mitigation Measures

No additional mitigation is required beyond compliance with City General Plan policies NR-1-2, NR-1-4, and standards NR-1.2b and NR-1.2c, City Municipal Code Chapter 16.130, and through permitting by CDFW and USFWS.

Impact 3.4-3: Result in Degradation or Loss of State or Federally Protected Wetlands, Including Vernal Pools

General Plan EIR Impact 5.4.3 identified less than significant impacts to wetlands through compliance with existing federal, state, and local regulations and General Plan policy provisions. Implementation of the Housing Element and Safety Element Update may include ground disturbance, vegetation removal, and habitat conversion, which may result in degradation (e.g., inadvertent fill) or loss of State or federally protected wetlands, including vernal pools. Implementation of existing federal, state, and local regulations and General Plan policy provisions would reduce significant impacts on state and federally protected wetlands as a result of land conversion, ground disturbance, and construction because they would require a biological resources evaluation to identify sensitive habitats, avoidance of wetlands, vernal pools, marshland, and riparian areas, and implementation of appropriate mitigation to preserve and enhance these habitats as required by local, state, and federal law. The Housing Element and Safety Element Update would not result in a new or substantially more severe impact to wetland resources than was addressed in the General Plan EIR because it would not substantially expand the overall planned development footprint of the City and would be subject to City policy provisions. Project impacts would be **less than significant**.

While the housing sites contains primarily developed land cover (e.g., urban, rural), agricultural land cover, and annual grasslands, aquatic habitat including irrigation ditches, seasonal wetlands, swales, and vernal pools may be present within some areas of the housing sites. Some aquatic habitats within the housing sites have been mapped; however, seasonal wetlands and vernal pools in the Sacramento Valley are frequently unmapped, and can occur within annual grasslands, ruderal grasslands in urban development areas, rural development areas, and agricultural land covers. Some of these aquatic features, if present, may be regulated by the USACE under the federal Clean Water Act. Additionally, these features and associated habitat would also likely qualify as waters of the State and/or under the regulatory authority of CDFW pursuant to California Fish and Game Code 1600 et seq. Wetlands and swales would likely be considered State-protected wetland habitat. Vernal pools are also considered sensitive natural communities, which often provide habitat for special-status plant and wildlife species.

Potential emergency access improvement construction activities associated with the implementation of the Housing Element and Safety Element Update may include ground disturbance, vegetation removal, and conversion of habitat, (i.e., annual grasslands, rural development, agricultural land cover types). These activities could result in degradation (e.g., inadvertent fill) or loss of State or federally protected wetlands, including vernal pools. These impacts were identified in Impact 5.4.3 of the General Plan EIR. Subsequent activities under the Housing Element and Safety Element Update would be subject to General Plan policy NR-1-2 and General Plan standard NR-1.2a, which would require a biological resources evaluation for development projects that may contain sensitive habitats and implementation of appropriate mitigation and permitting to preserve and enhance these habitats as required by various local, state, and federal regulations. Additionally, General Plan standards NR-1.2b and NR-1.2c and General Plan Policy NR-1.4 would require stream setbacks and avoidance of sensitive habitats including wetlands, vernal pools, marshland, riparian areas. Where preservation or avoidance of these habitats is not possible, Policy NR 1-4 requires mitigation to ensure that no net loss of wetland or riparian areas occurs, which may be accomplished by avoidance, revegetation, restoration on-site or through creation of riparian habitat corridors, or purchase of credits from a qualified mitigation bank. These policies and standards would reduce or avoid potential impacts on state or federally protected wetlands. Development in community and specific plan areas (e.g., Laguna Ridge Specific Plan and Southeast Area Strategic Plan would continue to be subject to mitigation measures identified in those documents to reduce impacts to habitat. Implementation of the Project would occur in areas planned for urban development assumed under the General Plan EIR.

Compliance with the City General Plan policies and adopted mitigation measures would require subsequent projects to submit biological resource technical reports as part of housing site applications or public initiated emergency access route improvements that would identify habitat conditions. Mitigation for habitat would be incorporated into the subsequent project design and could consist of avoidance or compensation for habitat loss. In addition, CDFW

would impose mitigation for habitat impacts as part of its authority in issuing Streambed Alteration Agreements under Section 1600 of the Fish and Game Code while USFWS would impose mitigation for projects requesting permits to fill federally regulated wetlands under Section 404 of the CWA.

There is no new significant effect and the impact is not more severe than the impact identified in the General Plan EIR. Thus, this impact would be **less than significant**.

Mitigation Measures

No additional mitigation is required beyond compliance with City General Plan policies NR-1-2, NR-1-4, and standards NR-1.2b and NR-1.2c and through permitting by CDFW and USFWS.

Impact 3.4-4: Conflict with Local Policies and Ordinances

Implementation of the Housing Element and Safety Element Update would be required comply with City of Elk Grove Municipal Code Chapter 19.12 Tree Preservation and Protection, which would require preparation of an arborist report if subsequent projects contain trees that would be removed, as well as identification and protection measures for trees of local importance. The Housing Element and Safety Element Update would not result in a new or substantially more severe impacts that was addressed in the General Plan EIR because it would not expand the overall planned development footprint of the City. Project impacts would be **less than significant.**

Implementation of the Housing Element and Safety Element Update would result in subsequent housing projects and emergency access improvements that may require tree removal or pruning. The City has adopted regulations in Chapter 19.12 of the City of Elk Grove Municipal Code (Tree Preservation and Protection) that provide mitigation for potential impacts on trees, including those identified as trees of local importance, which are defined as coast live oak (*Quercus agrifolia*), valley oak, blue oak (*Quercus douglasii*), interior live oak (*Quercus wislizeni*), oracle oak (*Quercus* x *morehus*), California sycamore, and California black walnut with a single trunk 6 inches diameter at breast height (DSH) or greater or multiple trunks with a combined DSH of 6 inches or greater.

Project implementation could result in removal of trees, including trees identified as trees of local importance. Loss or damage to trees of local importance would conflict with tree protection requirements in Chapter 19.12 of the City of Elk Grove Municipal Code (Tree Preservation and Protection). Compliance with City of Elk Grove Municipal Code Chapter 19.12 would require preparation of an arborist report if subsequent projects contain trees that will be removed, as well as identification and protection measures for trees of local importance. Compliance with City of Elk Grove Municipal Code Chapter 19.12 would reduce or avoid potential impacts on trees of local importance and would avoid conflicts with local policies and ordinances. There is no new significant effect and the impact is not more severe than the impact identified in the General Plan EIR. There is no new significant effect and the impact is not more severe than the impact identified in the General Plan EIR. Thus, this impact would be **less than significant**.

Mitigation Measures

No additional mitigation beyond compliance with the General Plan and the City Municipal Code Chapter 19.13.