

6 BIOLOGICAL RESOURCES

This chapter provides an evaluation of biological resource impacts associated with the proposed Oliveira Dairy Expansion project. As established in the Initial Study (IS) for the proposed project (see Appendix A, *Notice of Preparation and Initial Study*), construction and operation of the Oliveira Dairy Expansion project could result in significant impacts to biological resources. For a discussion of potential water and soil contamination effects at off-site agricultural fields from manure pathogens as a result of project operations, see Chapter 10, *Hydrology, Water Quality, and Soil Erosion*.

The evaluation implements, and is consistent with, mitigation measures and study protocols adopted by Merced County in its certification of the 2030 Merced County General Plan EIR in addition to the EIR for Revisions to the Animal Confinement Ordinance (ACO) and its approval of the ACO. This analysis is based on and summarizes the *Biological Resources Reconnaissance Survey and CEQA Analysis, Oliveira Dairy Expansion Project*, prepared by Padre Associates, Inc. (August 2018), included as Appendix I of this EIR.

6.1 REGULATORY FRAMEWORK

6.1.1 SPECIAL STATUS PLANT AND WILDLIFE SPECIES

In accordance with Section 15380 of the State CEQA Guidelines, rare or endangered species include species listed as such by the California Fish and Wildlife Commission or the United States Fish and Wildlife Service (USFWS) because they meet the following criteria:

- *Endangered*: a species whose survival and reproduction in the wild is in immediate jeopardy from one or more causes, including loss of habitat, change in habitat, over-exploration, predation, competition, disease, or other factors.
- *Rare*: a species that, although not presently threatened with extinction, is existing in such small numbers throughout all or a significant portion of its range that it may become endangered if its environment worsens; or a species that is likely to become endangered within the foreseeable future throughout all or a significant portion of its range and may be considered “threatened” as that term is used in the federal Endangered Species Act.

A special-status species is a plant or animal that is:

- Listed endangered, threatened, or a candidate species under the federal Endangered Species Act (FESA);
- Listed endangered, threatened, or a candidate species under the California Endangered Species Act (CESA);
- Listed as a species of special concern by the California Department of Fish and Wildlife (CDFW) or the Department of Forestry;
- A plant species that is on the California Native Plant Society’s (CNPS) List 1 or 2; and/or
- Considered rare, threatened, or endangered under CEQA Guidelines 15380(d) as the species survival is in jeopardy due to loss or change in habitat.

In addition, species protected by specific federal or state acts or local ordinances are considered special-status species. Project-related adverse impacts on special-status species¹ are considered significant for CEQA purposes.

FEDERAL AUTHORITY

Federal Endangered Species Act. FESA, administered by the USFWS and the National Marine Fisheries Service (NMFS), was passed to protect species threatened with extinction. It provides measures to prevent and alleviate the loss of species and their habitats. FESA provides protection to species listed as Threatened (FT) or Endangered (FE). Federal Species of Concern (FSC) comprise those species that should be given consideration during planning for projects.

Projects that would result in the “take” of a federally listed or proposed species are required to consult the USFWS or NMFS. *Take* is defined as “...to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct” (emphasis added). The objective of consultation is to determine whether the project would jeopardize the continued existence of a listed or proposed species, and to determine what mitigation measures would be required to avoid jeopardy. Consultations are conducted under Sections 7 or 10 of FESA, depending on the involvement by the federal government.

Migratory Bird Treaty Act and Bald Eagle and Golden Eagle Protection Act. The USFWS also administers the federal Migratory Bird Treaty Act of 1918 (16 USC 703-711) (MBTA) and the Bald Eagle and Golden Eagle Protection Act (16 USC 668-688). The focus of the MBTA is to protect migratory birds, including their eggs and nests. The MBTA prevents the removal of trees, shrubs, and other structures containing active nests of migratory bird species that may result in the loss of eggs or nestlings. Adherence to construction windows either before the initiation of breeding activities or after young birds have fledged is an active step to protect migratory birds and comply with the MBTA. All birds expected to nest in the project area are considered migratory birds, with the exception of European starlings and house sparrows. The Bald Eagle and Golden Eagle Protection Act prohibits the taking or possession of bald and golden eagles, their eggs, or their nests without a permit from the USFWS.

Clean Water Act Section 404. The U.S. Army Corps of Engineers (Corps) and the U.S. Environmental Protection Agency (EPA) regulate the discharge of dredge and fill material into jurisdictional waters of the United States (waters) pursuant to Section 404 of the Clean Water Act (33 USC 1344). The term “waters” includes wetlands and non-wetland bodies of water that meet specific criteria as defined in the Code of Federal Regulations (CFR).

Feed Supplementation. Supplementation of feed for livestock is authorized by the U.S. Food and Drug Administration. The legally approved maximum supplementation level of three milligrams per head per day for selenium is also considered the minimum selenium content required to support health and optimal performance of food-producing animals (USFDA 2016). Feed produced in Merced County lacks natural selenium and, therefore, requires supplementation (Merced County 2002).

¹ For the purposes of this EIR, the term “special-status species” includes species that have state or federal status as threatened, endangered, or candidate species; federal and state species of concern; California fully protected; and plant species identified as rare in California or on specific California Native Plant Society lists.

STATE AUTHORITY

The CDFW administers a number of laws and programs designed to protect fish, wildlife, and plant species and resources.

California Endangered Species Act. The California Endangered Species Act of 1984 (CESA - Fish and Wildlife Code Section 2050) regulates the listing and “take” of state endangered and threatened species. CDFW also designates Species of Special Concern, which are species of limited distribution, declining populations, diminishing habitat, or unusual scientific, recreational, or educational value. These species do not have the same legal protection as listed species, but may be added to official lists in the future.

Unlawful Destruction of Nest or Eggs, Fish and Game Code Section 3503. This section of the California Fish and Game Code prohibits the take, possession, or needless destruction of nests or eggs of birds.

Fully Protected Species, Fish and Game Code Sections 3511, 4700, 5050, and 5515. This section of the California Fish and Game Code provides particular and special state protection to a list of 37 wildlife species, and prohibits take or possession “at any time” with few exceptions. The CDFW cannot authorize incidental take of fully protected species.

Migratory Bird Treaty Act, Fish and Game Code Section 3513. This section of the California Fish and Game Code complies with and strengthens state support for the MBTA. The section makes it unlawful to take or possess any nongame migratory bird, or part of any such migratory nongame bird except under the special provisions in the federal MBTA.

Section 1600 Lake/Streambed Alteration Agreement (LSAA). The CDFW also regulates activities that may impact streambeds or other wetland areas. Completion of a Section 1601-03 LSAA with the CDFW is required before any work begins that will affect jurisdictional wetland areas.

LOCAL POLICIES

Merced County Animal Confinement Ordinance (ACO). In order to identify potential special-status species and/or habitat, the Merced County Community and Economic Development Department requires a “preliminary biological assessment” for each Conditional Use Permit application subject to the revised ACO. The revised ACO does not specifically address protection of special status species. Animal confinement facility owners are required to work with CDFW and USFWS biologists during the CEQA review of individual projects to address potential impacts to plant and wildlife resources. In addition, the EIR prepared for the revised ACO contains mitigation measures to be implemented during environmental review of animal confinement facility projects such as the Oliveira Dairy Expansion project (Merced County 2002). Mitigation measures adopted in the EIR for the revised ACO include measures to minimize the following potential impacts:

- Loss and/or degradation of riparian habitat
- Loss of special-status species
- Loss and/or modification to wetlands
- Interference with the activities of night-active wildlife
- Potential interference with animal movement/migration patterns.
- Potential selenium and heavy metals effects to biological resources.

These mitigation measures as contained in the EIR for the ACO are incorporated as study protocols for this EIR, and serve as the basis for mitigation measures identified in this document.

Locational criteria in the ACO regarding setbacks for new animal confinement facilities include the following statements in regard to wildlife and habitat areas:

The new facility shall be located more than one-half mile from the nearest boundary of the following: specific urban development plan, rural residential center, highway interchange center, or agricultural services center; residentially designated property in the general plan or residentially zoned property; sensitive uses such as schools, hospitals, jails, public or private recreational areas, parks, or all wildlife refuges; or concentrations of five or more offsite residences, provided that to qualify as a “concentration,” residences must be legally established, occupied, located within a contiguous area and must equal or exceed a density of one dwelling unit per acre... (Merced County Zoning Code Section 18.48.040 (B)(1)(a))]

The ACO goes on to clarify that for existing facilities, if the separation distances are less for the uses or boundaries described in Merced County Zoning Code Section 18.48.040 (B)(1) above, modification or expansion of the facility must not decrease the existing separation distance (Merced County Zoning Code Section 18.48.040 (B)(2)). For further analysis of the proposed dairy expansion project’s compliance with ACO setback requirements and compatibility with sensitive wildlife areas, see Table 11-3 in Chapter 11, *Land Use Compatibility*.

Merced County General Plan. Goal #1 of the Natural Resources Element of the *2030 Merced County General Plan* states: “Preserve and protect, through coordination with the public and private sectors, the biological resources of the County.” There are several policies in the Natural Resources Element that address protection, preservation, and enhancement of biological resources of the County, and additional policies in the General Plan that also seek to protect natural resources. The policies that are relevant to the proposed project include:

Policy NR-1.7: Agricultural Practices

Encourage agricultural, commercial, and industrial uses and other related activities to consult with environmental groups in order to minimize adverse effects to important or sensitive biological resources.

Policy NR-1.17: Agency Consultation

Consult with private, local, State, and Federal agencies to assist in the protection of biological resources and prevention of degradation, encroachment, or loss of resources managed by these agencies.

Policy LU-1.13: Wetland Habitat Area Separation

Do not allow rural commercial and industrial uses, secondary residences, and ancillary agricultural uses within a half mile of either State or Federal wildlife refuges, or managed wetlands within the Grasslands Ecological Area when it is determined by the County that there could be an unmitigated impact to natural resources or habitat.

Policy LU-4.7: Wildlife Refuge Separation

Do not allow rural commercial and industrial uses, secondary residences, and ancillary agricultural uses within a half mile of either State or Federal wildlife refuges, or managed wetlands within the Grasslands Ecological Area when it is determined by the County that there could be an unmitigated impact to natural resources or habitat.

Policy LU-10.14: Consultation with Grassland Resources Regional Working Group

Consult with the Grasslands Resources Regional Working Group during project review and conservation planning efforts for projects within the boundaries of the Grasslands Focus Area.

These goals and policies were considered in the evaluation of the proposed project and the formulation of appropriate mitigation measures below. A more detailed discussion of the relevance of these goals and policies to the proposed project is located in Table 11-1 of Chapter 11, *Land Use Compatibility*, of this EIR.

The *Merced County 2030 General Plan* also contains an Open Space Action Plan (OSAP). The OSAP includes implementation programs to ensure that areas designated as sensitive or significant resources in the Open Space and Conservation Chapter of the General Plan are protected, managed, or preserved in a manner compatible with the resources of the specified area. One of the primary implementing tools of the County's OSAP is the Open Space Development Review System. The system provides a process for assessing the appropriateness of proposed developments, including their compatibility with surrounding environmental constraints and resources. For further analysis of the proposed dairy expansion project's compliance with the Open Space Development Review System, see Table 11-2 in Chapter 11, *Land Use Compatibility*.

6.2 ENVIRONMENTAL SETTING**6.2.1 METHODOLOGY****IDENTIFICATION OF SPECIAL STATUS SPECIES ON THE PROJECT AREA**

Sensitive biological resources present or potentially present on the project site and within the project area² were identified first through a query of the CDFW Natural Diversity Database (CNDDDB) for the U.S. Geological Survey (USGS) topographic quadrangle including the project area (Atwater) and for the surrounding eight USGS topographic quads (Arena, Cressey, Winton, Merced, Yosemite Lake, Turner Ranch, Sandy Mush, and El Nido). The CNDDDB record search reports list sensitive species and habitat locations, and provide specific information (e.g., state and federal protection status; global and state rank; CDFW listing status; rare plant status; specific location data; existence status; dates last observed; habitat preferences; and other notes) for each recorded occurrence of a biologically sensitive species or habitat. (CDFW 2018)

A query of the CNPS inventory was also conducted for the same quadrangles to provide information on additional plant species of concern that may occur in the project area and surrounding vicinity (CNPS 2018). In addition, a species list was obtained from the USFWS for the Atwater quadrangle on species of concern that have the potential to occur in the vicinity of the proposed project. Finally, a query of the USFWS National Wetland Inventory (NWI) Map for the Atwater quadrangle was conducted for information regarding known wetlands in the project area.

² Definition of the Project Site – For the purposes of this EIR, the “project site” refers to the area of active dairy facilities. The larger project also includes cropland associated with the dairy farm. Throughout this document, “project area” refers to all parcels that are part of the project, including the active dairy facilities and dairy farm cropland.

The results of these database searches and the location analysis were used to determine if any sensitive resources had been previously reported within or in the immediate local vicinity of the Oliveira Dairy Expansion project area, and which sensitive biological resources should be specifically searched for during the biological reconnaissance survey. Only those species with the potential to occur on the project area are given consideration in this EIR.

A reconnaissance-level biological survey of the project site was conducted on August 2, 2018 to assess existing biological conditions. The purpose of the survey was to characterize general biological resources that could be supported by the project site, and to evaluate the potential for sensitive biological resources that could be affected by implementation of the proposed project. The survey included evaluating primary vegetation cover types, assessing habitat suitability for known local wildlife, and recording observed plant and animal species. The reconnaissance survey investigated the entire site, including on-foot evaluations of principal facilities, and visual surveys of cropped fields from the vehicle on perimeter roads. Berms along roadsides and all culverts found by the biologists during the reconnaissance surveys were checked for sign of use by burrowing owl and/or San Joaquin kit fox. Dominant flora and fauna were noted (when present), and identified to the lowest possible taxon. Additional survey conditions and limitations are included in the reconnaissance report (see Appendix I).

6.2.2 PROJECT SETTING

The existing Oliveira Dairy is located on a 22-acre portion of a 290-acre active dairy facility in unincorporated Merced County. Approximately 249 acres are used for the production of crops and the application of manure process water and/or solid manure. The area of existing active dairy facilities is considered developed land. Approximately seven acres of cropland would be converted to active dairy facilities with completion of the project. For additional project area information, see Chapter 3, *Project Description*, of this EIR.

VEGETATION TYPES PRESENT

The proposed sites for the dairy expansion are primarily on disturbed ground in addition to a portion of Home Field. A small portion of the southern limits of the Pump Field is also proposed for expansion. Home field, Pump Field, New Field, and Buhach Field were in agricultural production at the time of surveys (see Appendix I, Figure 2). The surveyed fields were minimally vegetated at the margins in weedy species including turkey-mullein, bindweed, and tumbleweed. The entire site is or was in the recent past managed as an active dairy or cultivated in irrigated forage crops. Drainage ditches occur along the northern, southern, and the eastern side of the project site. Flowing water was present in the northern and eastern ditches. Vegetation along the ditches was sparse with small patches of tall Cyprus, Johnsongrass, barnyard grass, and rush.

WILDLIFE PRESENT

Wildlife species observed on the site included a mixture of terrestrial and wetland bird species. Terrestrial species included Brewer's blackbird, American crow, European starling, house sparrow, rock pigeon, Eurasian Collared-Dove, and mourning dove. Species observed around the treatment ponds that frequent aquatic habitats include spotted sandpiper, great egret, and snowy egret. Birds seen soaring above the project include two Swainson's hawks and several turkey vultures (see Appendix I, Table 1 for a complete listing of wildlife species recorded in the project vicinity). No

trees are within the portion of the project area proposed for construction, and no ground nests were observed during the August 2018 survey.

SPECIAL STATUS SPECIES

To determine what special-status species occurred in the vicinity of the project area, the CNDDDB was queried spatially within a five-mile radius around the project area. Species recorded within 10 miles that may occur in similar habitat were also included in the analyses. The resulting species' occurrences are mapped on Figure 3 in Appendix I. The species identified from these data sources were further assessed for their potential to occur within the project area based upon previously documented occurrences, their habitat requirements, and the quality and extent of any available habitat within the project site and area.

The CNDDDB and CNPS lists for the nine-quadrangle area, and the USFWS Species List for the Atwater quadrangle, identified one sensitive natural community, 25 special-status plant species, and 32 special-status wildlife species. Appendix I includes a complete list of special status wildlife species recorded in the region of the project, and a preliminary analysis of their potential to occur on the project site or area.

Special Status Plant Species

There are 25 special-status plant species that have been recorded in the nine-quad vicinity of the project, but neither special-status plants, nor habitat that would support special-status plants, occur on the project site. The entire project location is composed of managed dairy facilities and structures, residences, and cropland. No special-status plant species were observed on or in the immediate vicinity of the project site during the field survey. For a complete list of sensitive plant species recorded in the region of the project area and a preliminary analysis of their potential to occur at the project location, see Table 2 of Appendix I.

Special Status Wildlife Species

Thirty-two (32) special-status wildlife species have been recorded in the nine-quad vicinity of the project area. Seven of them may occur on the project site or area from time to time. These include: Western burrowing owl, giant garter snake, tricolored blackbird, Swainson's hawk, Northern harrier, American badger, and San Joaquin kit fox (SJKF).

Four Swainson's hawk and three tricolored blackbird occurrences have been reported less than five miles from the project site, and these species could forage on the project site. Two Swainson's hawks were observed soaring above the project site during field surveys, and could nest near the project site. Three reported SJKF occurrences are located within 10 miles of the project site at the Great Valley Grasslands State Park. Many ground squirrel burrows were observed along the berm that bisects the active dairy and the agricultural field to the south. The burrows could provide habitat for American badger, SJKF, or burrowing owls. No sign of SJKF was observed, and the species is widely recognized to be eradicated from its northern range. Agricultural access roads, open or fallow fields, and irrigation ditches and canals provide an important corridor for the movements of mammals such as American badger and SJKF, if present in the region. Although no tricolored blackbirds were observed at the project site, they have been known to nest within silage and/or triticale fields associated with dairy farms. There was no vernal pool habitat that could support listed vernal pool invertebrates observed during the reconnaissance survey of the site.

A brief description of each special-status wildlife species that has potential to occur within the project location is provided below.

Swainson's hawk (*Buteo swainsoni*), a state threatened raptor (the nesting season of the species is the season of concern), is found in riparian areas with suitable nest trees adjacent to prime foraging habitat (large, open grasslands, or croplands). Nesting trees are often oaks, cottonwoods, walnuts, and willows in the Central Valley, and juniper in the Great Basin. Suitable foraging grounds include native grasslands, lightly grazed pastures, and certain grain and row croplands. Some croplands in which prey is scarce or difficult to get at because of the density of vegetative cover are unsuitable hunting grounds for the Swainson's hawk. This species was observed during surveys and has four recorded nesting occurrences within five miles of the project site. Potential nesting habitat occurs within the row of trees located immediately south of the dairy facility.

American badger (*Taxidea taxus*) is a state species of concern that is most abundant in drier, open stages of most shrub, forest, and herbaceous habitats, with friable soils. Badgers need sufficient food, friable soils, and open, uncultivated ground. This species or its sign (burrows, tracks, and scat) were not observed during the field survey; however, burrows located along the southern limits of the project could provide habitat for the species. The closest known records are from approximately 10 miles to the southeast of the site. This species may occur occasionally as a transient, but is not expected to den on site. The proposed project would not significantly impact this species.

San Joaquin kit fox (*Vulpes macrotis mutica*), a federally endangered and state threatened species, is found in arid grasslands, scrublands, and foothills of the San Joaquin Valley. Agricultural lands are increasing in importance for kit fox foraging habitat and travel corridors, as natural lands are converted to alternative uses. The kit fox builds an oblong-shaped den in loose soil, which may have many entrances. Sometimes they den near cities in road culverts, and in abandoned pipelines in oil fields. This species or its sign (burrows, tracks, scat) were not observed during field surveys. The closest known records are from approximately 5 miles south of the site. This species may occur occasionally as a transient, but is not expected to den onsite.

Giant garter snake (*Thamnophis gigas*) is federally and state listed as threatened. It requires habitat of freshwater marshes and streams; it has adapted to drainage canals and irrigation ditches. There are canals located adjacent to the site, but they do not offer the necessary habitat components for giant garter snake occupancy. Further, the nearest known occurrence is located approximately 12 miles west of the project site. Habitat for the giant garter snake would not be affected by the proposed project.

Tricolored blackbird (*Agelaius tricolor*) is state listed as threatened. It is common locally throughout the Central Valley. Based on a statewide survey, the TCBB population has declined by 63 percent from 2008 to 2014 (Meese 2014). It breeds in shrubs or trees near fresh water, or in marshes, and forages for its prey in open environments, often on lake or river shores. TCBB have two specific peaks in breeding activity, one in the first week of June and one in the first two weeks of July. Total nesting duration is approximately 45 days. Although this species was not observed during field survey, and there is no nesting (rookery) habitat on site, they have been known to nest within silage and/or triticale fields associated with dairy farms. Three tricolored blackbird occurrences have been reported less than five miles from the project site.

Western Burrowing owl (*Athene cunicularia*) is a federal and state species of concern (CSC). Burrowing owl can be found nesting in burrow sites in open, dry annual or perennial grasslands, deserts and scrublands characterized by low-growing vegetation. Unlike most owls, burrowing owls are often active during the day. No burrowing owls were observed onsite; however, suitable burrows were observed in the southern corner of the project area. The nearest known occurrence of this species is 2.5 miles east of the project area.

Northern Harrier (*Circus cyaneus*) is a state species of concern (the breeding season of the species is the season of concern). The Northern Harrier frequents meadows, grasslands, open rangelands, desert sinks, and fresh and saltwater emergent wetlands. It is seldom found in wooded areas. This species nests on the ground near a marsh edge or grassland. Northern harriers prey mostly on voles and other small mammals, birds, frogs, small reptiles, crustaceans, and insects, and rarely on fish. This species is likely to forage on the agricultural fields of the project area. However, it was not observed on the project area during the biological reconnaissance. The nearest known occurrence of this species is 12.5 miles southwest of the project area.

Other Sensitive Wildlife Species

The project area may provide occasional foraging opportunities for a number of additional sensitive wildlife species, including various species of raptors and migratory birds that are protected by the Migratory Bird Treaty Act.

For a complete list of special status species recorded in the region of the project site, and a preliminary analysis of their potential to occur on site, see Table 2 of Appendix I.

Sensitive Natural Communities

Sensitive natural communities are those that are considered rare within the region, support sensitive plant and/or wildlife species, or function as corridors for wildlife movement. The sensitive natural community recorded in the area is Northern Claypan Vernal Pool. No sensitive vernal pool communities occur on the project site or in the immediate vicinity of the project site.

PROTECTED HABITAT AREAS

There are no protected habitat areas, such as wildlife refuges or wildlife management areas, located within two miles of the project site. The project site is located 1.25 miles north of the Grasslands Area Focus Boundary, and 2.25 miles north of the Grasslands Ecological Area.

The proposed project is not located within the boundaries of any Natural Community Conservation Plan or other Habitat Conservation Plan.

POTENTIALLY JURISDICTIONAL WATERS/WETLANDS

The NWI map does not depict any wetlands on the project site within areas designated for dairy expansion (USFWS 2018b). There are several agricultural ditches within the project area. A large canal with flowing water referred to as Deane Canal is located immediately adjacent to South Gurr

Road east of the Pump Field. The Deane Canal supported sparse pockets of hydrophytic³ vegetation and does not appear to be directly connected to dairy operations. Another agricultural ditch located north of the dairy facility is referred to as the Thornton Lateral; it supported hydrophytic vegetation and had flowing water at the time of surveys. An unnamed agricultural ditch occurs immediately east of the Pump Field and south of the dairy facility. The ditch supported hydrophytic vegetation but did not contain water at the time of surveys. A tailwater return system is located on the southern perimeter of the project site. It is entirely contained onsite and not connected to any agricultural ditches or jurisdictional Water of the U.S. Although agricultural ditches are located at the perimeter of the project site, they will not be affected by the proposed dairy expansion. The Deane Canal is a relatively permanent waterway that flows to a Traditional Navigable Water of the U.S. (TNW) or tributary of a TNW, and is potentially a Corps jurisdictional Water of the U.S.

FEED SUPPLEMENTATION

As evaluated in the EIR for the Merced County ACO (Merced County 2002), approximately 90 to 95 percent of dairies in Merced County use feed additives for selenium (and other trace metals) because feed in Merced County is lacking in selenium. The form of selenium added to the feed is sodium selenate, at concentrations of up to 0.3 parts per million (as a daily dose not to exceed, the maximum allowed by the U.S. Food and Drug Administration). Confined animal waste (i.e., manure and urine) is stored on site and then may be used as fertilizer. Selenium present in dairy waste may enter the environment through the following routes (exposure pathways): direct application to soil, storage in ponds/retention basins, leaching from soil and/or pond sediment to groundwater and subsequent transport to surface water, dust generation, and limited surface water runoff (surface water is required to be contained on-site, but may run off during extreme storm events). Leaching from soil and/or pond sediment to groundwater and subsequent transport to surface water, direct discharge of tailwater, and discharges from tile drains to surface water would also be complete exposure pathways. For additional discussion of selenium, see the ACO RDEIR, pages 5-141 through 5-145. For information on how to access the ACO RDEIR, see Chapter 1, *Introduction*, of this EIR.

6.3 ENVIRONMENTAL EFFECTS

6.3.1 SIGNIFICANCE CRITERIA

The project was evaluated in terms of findings of significance defined in State CEQA Guidelines Section 15065, and Appendix G of the State CEQA Guidelines Section IV, Biological Resources. A project would normally result in a significant impact if the proposed 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. (*IV.a*)
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by CDFW or USFWS. (*IV.b*)

³ Growing wholly or partially in water.

- Have a substantial effect on state or federally protected wetlands (including, but not limited to marsh, vernal pool, coastal, etc.) through direct filling, hydrological interruption, or other means. (IV.c)
- 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. (IV.d)
- Conflict with any local policies or ordinances protecting biological resources such as a tree preservation policy or ordinance. (IV.e)
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approval local regional or state habitat conservation plans. (IV.f)

As established in the regulatory setting, the project area is not subject to a Habitat Conservation Plan. Further, the project area is not covered by a Natural Community Conservation Plan, nor any other approved local, regional, or state habitat conservation plan. Therefore, there would no conflicts with the provisions of such plans, and this impact will not be evaluated further in this chapter.

6.3.2 ENVIRONMENTAL IMPACTS

The proposed Oliveira Dairy Expansion project would result in the expansion of the existing herd and the construction of new active dairy facilities. The proposed project would convert approximately seven acres of cropland to developed dairy facilities. The remaining 242± acres would continue to be cropped with dairy feed crops.

Impact BIO-1: Nest Disturbance and loss of foraging habitat for Swainson's hawk (Criterion IV.a)

Implementation of the proposed Oliveira Dairy Expansion project would result in the loss of approximately seven acres of potential foraging habitat for Swainson's hawk. Because Swainson's hawk is a state-listed special status species; it may forage on the dairy farm cropland; appropriate foraging habitat would be removed with project implementation; and potential nesting areas could be disrupted during construction, this would be a significant impact.

The state-threatened Swainson's hawk is known to nest and forage in the project vicinity. Two Swainson's hawks were observed soaring above the project site during field surveys. Although no raptor nests were observed, potential nesting habitat is present for tree-nesting raptors, including Swainson's hawk, along the southern limits of the project site. Due to the proximity of the suitable nesting habitat, direct impacts could occur if a Swainson's hawk nests in the trees onsite, or within 0.5-mile of the project site. There have been four Swainson's hawk occurrences recorded within 5 miles, and 14 occurrences within 10 miles of the project site. Swainson's hawks generally forage within 10 miles of their nest tree, and more commonly within 5 miles of their nest tree (see Appendix I).

According to the CDFW Staff Report regarding Mitigation for Impacts to Swainson's Hawks (CDFW 1994), the following vegetation types are considered small mammal and insect foraging habitat for Swainson's hawks: alfalfa; fallow fields; beet, tomato, and other low-growing row or field crops; dry-land and irrigated pasture; rice land (when not flooded); and cereal grain crops (including

corn after harvest). Since the project area cropland and pasture provides foraging habitat for small ground-dwelling mammals that are prey species for raptors, the conversion of approximately seven acres of existing cropland to dairy facilities would contribute to the loss of foraging habitat for the Swainson's hawk.

Swainson's hawk is a state-listed special status species and may be foraging on the dairy farm cropland, and approximately seven acres of appropriate foraging habitat would be removed with project implementation. In addition, due to the proximity of suitable nesting habitat, noise and motion associated with construction activities in the vicinity of Swainson's hawk nesting areas could disrupt breeding activities. Therefore, impacts to Swainson's hawk could occur with implementation of the proposed Oliveira Dairy Expansion project.

Significance of Impact: Significant.

Mitigation Measure BIO-1a:

Protocol Surveys and Nesting Impacts:

1. *Protocol Surveys:* For work that begins between March 1 and August 30, a qualified biologist with expertise in Swainson's hawk shall conduct protocol surveys of potential nesting habitat within 0.5 mile of any earth-moving activities prior to initiation of such activities. The project applicant shall conduct a protocol-level survey in conformance with the "Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley," Swainson's Hawk Technical Advisory Committee (<https://www.wildlife.ca.gov/conservation/survey-protocols#377281284-birds>) (May 31, 2000) hereby incorporated by references. This protocol prescribes minimum standards for survey equipment, mode of survey, angle and distance to tree, speed, visual and audible clues, distractions, notes and observations, and timing of surveys. If construction work begins after August 30 and ends before March 1 (outside of the breeding season), impacts to the Swainson's hawk would be avoided. Surveys would not be required for work conducted during this part of the year.

A written report with the pre-construction survey results must be provided to the Merced County Community and Economic Development Department and CDFW within 30 days prior to commencement of construction-related activities. The report shall include: the date of the report, authors and affiliations, contact information, introduction, methods, study location, including map, results, discussion, and literature cited.

2. *Nest Avoidance:* If the required protocol surveys show there are no active nests within the appropriate radius as defined by the technical advisory referenced above, then no additional mitigation for nest disturbance will be required. If nesting Swainson's hawks are observed within 0.5-mile of the project site, the project applicant must implement CDFW pre-approved mitigation measures to avoid nest impacts during construction. These measures include:
 - a. All project-related activities with the potential to cause nest abandonment or forced fledging of young shall be avoided until the young have fledged.
 - b. If disturbances, habitat conversions, or other project-related activities, that may cause nest abandonment or forced fledging, are necessary, within the nest protection buffer zone (0.5-mile), monitoring of the nest site by a qualified raptor biologist, funded by the project applicant, shall be required, to determine if the nest is abandoned. If the nest is

abandoned, but the nestlings are still alive, the project proponent is required to fund the recovery and hacking, that is the controlled release of captive reared young, of the nestling.

- c. The project applicant shall be required to obtain an Incidental Take Permit under the California Endangered Species Act from the CDFW if project activities with the potential to cause disturbance to nesting Swainson’s hawks are proposed to be conducted within the 0.5 mile buffer.
- d. Routine disturbances such as agricultural activities, commuter traffic, and routine maintenance activities within one-quarter-mile of an active nest are not prohibited.

Mitigation Measure BIO-1b:

Foraging Impacts:

- 1. Prior to issuance of a building permit, the project applicant shall consult with CDFW to determine if mitigation is necessary for the loss of approximately seven acres of potential Swainson’s hawk foraging habitat. The project applicant shall submit documentation of CDFW consultation to Merced County. Should CDFW consider there to be impacts to Swainson’s hawk requiring mitigation under CDFW guidelines, CDFW pre-approved CEQA mitigation measures shall be implemented as outlined in Mitigation Measure BIO-1b(2).
- 2. Generally, CDFW requires mitigation for foraging habitat based on the presence of active nests within 10 miles of the project. If an active nest site is identified within ten miles of the Project Boundary, the project proponent will be required by CDFW to provide off-site foraging habitat management lands at a specified Mitigation Ratio that is based on nest proximity to the project site, as follows:

Distance from Project Boundary	Mitigation Acreage Ratio*
Within 1 mile	1.00:1**
Between 1 and 5 miles	0.75:1
Between 5 and 10 miles	0.50:1

*Ratio means [acres of mitigation land] to [acres of foraging habitat impacted].
 **This ratio shall be 0.5:1 if the acquired lands can be actively managed for prey production.

CDFW provides options for off-site habitat management by fee title acquisition or conservation easement acquisition with CDFW-approved management plan, and by the acquisition of comparable habitat. Mitigation credits may be pursued through a CDFW-approved mitigation bank for Swainson’s hawk impacts in Merced County. Go to: www.dfg.ca.gov/habcon/conplan/mitbank/catalogue

The CDFW pre-approved CEQA mitigation measures are found at: “DFG Staff Report Regarding Mitigation for Impacts to Swainson’s Hawks in the Central Valley of California,” CDFW (November 8, 1994).

The Merced County Community and Economic Development Department may negotiate Management Conditions that differ from the foregoing CDFW pre-approved mitigation measures if such conditions are consistent with California Fish and Wildlife Commission and the state legislative policy, and such conditions are approved by CDFW prior to reaching agreement with the project applicant.

Potential Environmental Effects of Measure: Implementation of this measure could require the creation of a conservation easement over agricultural land elsewhere in the project vicinity, or the

purchase of credits through a mitigation bank. The creation of the easement would ensure continued use as agricultural cropland. Because the measure would result in the protection of existing, cultivated agricultural lands to benefit wildlife, no adverse effects would occur, and no additional mitigation would be necessary.

Significance after Mitigation: Mitigation Measure BIO-1 relies on the CDFW permit process and mitigation requirements to avoid “take” of special status species. Although the mitigation measure is within the jurisdiction of an agency other than Merced County, the required measures must be completed prior to commencement of any activities that would result in these impacts, and compliance with the CDFW permit requirements would fully mitigate impacts to Swainson’s hawk nesting and foraging habitat to reduce this impact to less than significant.

Implementation/Monitoring: Implementation of the mitigation measure would be the responsibility of the project applicant. The Merced County Community and Economic Development Department and CDFW shall monitor for compliance. Implementation of Mitigation Measure BIO-1 shall occur prior to issuance of a building permit, and prior to and during construction.

Impact BIO-2: Loss of foraging and nesting habitat for sensitive and migratory bird species (Criteria IV.a/d)

The proposed Oliveira Dairy Expansion project would be constructed on land that has previously been cultivated in corn, and has provided foraging and nesting habitat for a variety of special-status and migratory bird species. Because seven acres of cropland that provides potential foraging and nesting habitat for these birds would be converted to active dairy facilities with the proposed project, this would be a significant impact.

The agricultural fields found on and around the project area may also provide suitable nesting habitat for ground nesting and migratory birds, including burrowing owls and Northern harrier. Suitable habitat for ground nesting birds such as western meadowlark, killdeer, short-eared owl, and horned lark is limited, and only expected along irrigation canals and ditches.

Construction of the proposed dairy expansion would result in the conversion of approximately seven acres of cropland to dairy facilities, and a loss of potential nesting and foraging habitat for sensitive and migratory bird species. Because potential nesting and foraging habitat for special-status and migratory bird species would be converted to active dairy facilities with the proposed project, this would be a significant impact, and the following mitigation would be required.

Significance of Impact: Significant.

Mitigation Measure BIO-2a:

Implement Mitigation Measure BIO-1a and BIO-1b, if necessary, which includes measures to minimize potential impacts to Swainson’s hawk, and which would benefit other species as well.

Mitigation Measure BIO-2b:

To reduce project-related impacts to active bird nests and to reduce the potential for construction activities to interrupt breeding and rearing behaviors of birds, the following measures shall be implemented prior to and during construction activities:

1. A preconstruction survey shall be conducted to determine the presence / absence of nesting birds if ground clearing or construction activities will be initiated during the breeding season (February 15 through September 15). The project site and potential nesting areas within 100 feet of the site for MBTA protected birds and 500 feet for raptors shall be surveyed within 7 days prior to the initiation of construction. Surveys will be performed by a qualified biologist or ornithologist to verify the presence or absence of nesting birds.
2. Construction shall not occur within a 500-foot buffer surrounding nests of raptors (including burrowing owls) or a 100-foot buffer surrounding nests of migratory birds (including killdeer, house finch, mourning dove, etc.).
3. If construction within these buffer areas is required, or if nests must be removed to allow continuation of construction, prior approval must be obtained from the CDFW.

Potential Environmental Effects of Measure: All physical improvements or activities that could result in changes to the physical environment required by this measure would be located within the project area. The impacts of implementing such measures, if any, would be similar to those identified for the project in Chapters 5-11 of this EIR.

Significance after Mitigation: Dedication of mitigation lands for sensitive bird species foraging habitat (if required), and preconstruction surveys and avoidance measures, would reduce this impact to less than significant. Further, while approximately seven acres of cropland would be converted to a dairy operation, approximately 242 acres of the dairy operation would remain as cropland, and would continue to provide foraging and nesting habitat.

Implementation/Monitoring: Implementation of the mitigation measure would be the responsibility of the project applicant. The Merced County Community and Economic Development Department and CDFW shall monitor for compliance. Implementation of BIO-2a shall occur prior to issuance of a building permit, and prior to and during construction. Implementation of BIO-2b shall occur prior to and during construction.

Impact BIO-3: Loss of nesting habitat for tricolored blackbird (Criteria IV.a/d)

The Oliveira Dairy Farm provides potential nesting habitat for tricolored blackbird, which was recently given threatened species status under CESA. Because seven acres of cropland that provides potential nesting habitat for these birds would be converted to active dairy facilities with the proposed project, this would be a significant impact.

Tricolored blackbird (TCBB) is a California threatened species under CESA as of April 19, 2018. TCBB is a highly colonial species that nests in large flocks near open water with a protected substrate and nearby foraging area. Historically, TCBB nested within emergent wetland in the Central Valley; however, currently 38 percent of TCBB nests occur on triticale, a wheat-rye hybrid grown for forage on dairies. The timing of triticale harvest conflicts with TCBB nesting, putting entire colonies at risk from harvesting activities that occur before fledging. TCBB foraging typically occurs within 3-5 miles of the nesting colony. Lightly grazed fields, irrigated pastures, annual grasslands, and grain fields that provide habitat for a supply of large insects such grasshoppers, dragonflies, and damselflies offer the best foraging habitat. However, dairy and silage edge as well as feed lots maybe used for foraging. Surface water is typically present within a half mile of the nesting colony, a habitat criterion that would be met by the wastewater storage ponds at the project site.

Although TCBB was not observed during the site survey, the croplands onsite could provide suitable nesting habitat for TCBB.

Currently, there are no specific mitigation requirements for the loss of TCBB nesting or foraging habitat. CDFW and the Tricolored Blackbird Working Group (TBWG) are currently developing both nesting and foraging mitigation options. If there is a permanent loss of TCBB breeding habitat, this impact may require compensatory mitigation. Loss of TCBB habitat may be compensated through a combination of: (1) creation of replacement habitat; (2) habitat preservation through Conservation Easement; (3) acquisition of credits at an approved mitigation bank; (4) in-lieu contribution to a regional habitat restoration fund; and/or (5) other compensatory measures that are deemed acceptable by the CDFW. According to TBWG, a disturbance buffer of 100 feet has been given to nesting TCBB at dairy operations in the Central Valley (Airola, et al., 2016). Although not currently required, mitigation for foraging habitat will likely be required in the future. Mitigation for the loss of foraging habitat could have a similar approach to what is currently being required for the Swainson's hawk, where compensatory mitigation is required for the conversion of foraging habitat within a specific buffer from a nest.

Construction of the proposed dairy expansion would result in the conversion of approximately seven acres of cropland to dairy facilities, and a loss of potential nesting habitat for TCBB. Because potential nesting habitat for special-status bird species would be converted to active dairy facilities with the proposed project, this would be a significant impact, and the following mitigation would be required.

Significance of Impact: Significant.

Mitigation Measure BIO-3a:

Implement Mitigation Measure BIO-1a and BIO-1b, if necessary, which includes measures to minimize potential impacts to Swainson's hawk, and which would benefit other species as well.

Mitigation Measure BIO-3b:

Implement Mitigation Measure BIO-2b, which includes a preconstruction survey to determine presence / absence of TCBB or MBTA protected nesting birds if ground clearing or construction activities will be initiated during the breeding season (February 15 through September 15).

Mitigation Measure BIO-3c:

If a TCBB nest colony is discovered during preconstruction surveys, CDFW will be consulted prior to ground disturbing activities to determine the appropriate actions or required mitigation. Avoidance and minimization measures are likely to include the delayed harvest of silage until the TCBB young have fledged. If there is a permanent loss of TCBB breeding habitat, compensatory mitigation may be required. Loss of TCBB habitat may be compensated through a combination of: (1) creation of replacement habitat; (2) habitat preservation through Conservation Easement; (3) acquisition of credits at an approved mitigation bank; (4) in-lieu contribution to a regional habitat restoration fund; and/or (5) other compensatory measures that are deemed acceptable by the CDFW.

Potential Environmental Effects of Measure: All physical improvements or activities that could result in changes to the physical environment required by this measure would be located within the project area. The impacts of implementing such measures, if any, would be similar to those identified for the project in Chapters 5-11 of this EIR.

Significance after Mitigation: Dedication of mitigation lands for sensitive bird species foraging habitat (if required), and preconstruction surveys and avoidance measures would reduce this impact to less than significant. Further, while approximately seven acres of cropland would be converted to a dairy operation, approximately 242 acres of the dairy operation would remain as cropland, and would continue to provide foraging and nesting habitat.

Implementation/Monitoring: Implementation of the mitigation measure would be the responsibility of the project applicant. The Merced County Community and Economic Development Department and CDFW shall monitor for compliance. Implementation of BIO-3a shall occur prior to issuance of a building permit, and prior to and during construction. Implementation of BIO-3b and BIO-3c shall occur prior to and during construction.

Impact BIO-4: *Loss of habitat for the San Joaquin kit fox and/or American badger (Criteria IV.a/d)*

Implementation of the proposed dairy expansion project could impact San Joaquin Kit fox or American badger that may occur on site as transient foragers. This would be a significant impact.

The San Joaquin kit fox is listed as federally listed endangered and State listed threatened, and the American badger is included on the list of California species of concern. The closest known records are approximately 5 and 10 miles away to the south/southeast, respectively. Burrows were observed along the southern limits of the project site; however, neither of these species nor their sign was observed during the field survey.

San Joaquin kit fox and American badger may occasionally pass through the project area while foraging, but based on habitat characteristics and prey availability, these species would not be expected to den on the site. No potential denning habitat is present where construction of expanded dairy facilities is proposed.

The San Joaquin kit fox and the American badger may occur occasionally as transient foragers. Transient animals could be injured during the construction period. Therefore, while the conversion of approximately seven acres of cropland to active dairy facilities would not directly impact den habitat, construction vehicles and lighting could adversely impact potential transient foragers.

Because there is the potential for San Joaquin kit fox and American badgers to occur on site, and potential impacts to these species could occur during construction, the *Standardized Recommendations for Protection of the San Joaquin Kit Fox Prior to or During Ground Disturbance (USFWS 2011)* shall be followed. The measures that are listed below have been excerpted from those guidelines and will protect San Joaquin kit fox and American badgers. These surveys would also detect raptor and migratory songbirds activity in the area.

Significance of Impact: Significant.

Mitigation Measure BIO-4:

1. Project-related vehicles should observe a daytime speed limit of 20-mph throughout the site in all project areas, except on county roads and state and federal highways; this is particularly important at night when kit foxes are most active. Night-time operations should be minimized to the extent possible. However, if it does occur, then the speed limit should be reduced to 10-mph. Off-road traffic outside of designated project areas should be prohibited.
2. To prevent inadvertent entrapment of San Joaquin kit foxes or other animals, all excavated, steep-walled holes or trenches more than two feet deep should be covered at the close of each working day by plywood or similar materials. If the trenches cannot be closed, one or more escape ramps constructed of earthen-fill or wooden planks shall be installed. Before such holes or trenches are filled, they should be thoroughly inspected for trapped animals. If at any time a trapped or injured San Joaquin kit fox is discovered, USFWS and CDFW shall be contacted as noted under Measure 13 referenced below.
3. San Joaquin kit foxes are attracted to den-like structures such as pipes and may enter stored pipes and become trapped or injured. All pipes, culverts, or similar structures with a diameter of four-inches or greater that are stored at the site for one or more overnight periods should be thoroughly inspected for kit foxes before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If a San Joaquin kit fox is discovered inside a pipe, that section of pipe should not be moved until the USFWS has been consulted. If necessary, and under the direct supervision of the biologist, the pipe may be moved only once to remove it from the path of construction activity, until the fox has escaped.
4. All food-related trash items such as wrappers, cans, bottles, and food scraps should be disposed of in securely closed containers and removed at least once a week from the project site.
5. No firearms shall be allowed on the project site.
6. If any San Joaquin kit fox or American badger, or their sign, are detected on site, dogs and cats shall be kept off the project site to prevent harassment, mortality of San Joaquin kit foxes or American badgers, and/or destruction of their dens.
7. Use of rodenticides and herbicides in project areas should be restricted. This is necessary to prevent primary or secondary poisoning of San Joaquin kit foxes and the depletion of prey populations on which they depend. All uses of such compounds should observe label and other restrictions mandated by the U.S. Environmental Protection Agency, California Department of Food and Agriculture, and other state and federal legislation, as well as additional project-related restrictions deemed necessary by the USFWS. If rodent control must be conducted, zinc phosphide should be used because of a proven lower risk to kit fox.
8. A representative shall be appointed by the project proponent who will be the contact source for any employee or contractor who might inadvertently kill or injure a San Joaquin kit fox or who finds a dead, injured or entrapped San Joaquin kit fox. The representative will be identified during the employee education program and their name and telephone number shall be provided to the Service.
9. An employee education program should be conducted for any project that has anticipated impacts to kit fox or other endangered species. The program should consist of a brief presentation by persons knowledgeable in kit fox biology and legislative protection to explain endangered species concerns to contractors, their employees, and military and/or agency personnel involved in the project. The program should include the following: A description of the San Joaquin kit fox and its habitat needs; a report of the occurrence of kit fox in the project area; an explanation of the status of the species and its protection under

the Endangered Species Act; and a list of measures being taken to reduce impacts to the species during project construction and implementation. A fact sheet conveying this information should be prepared for distribution to the previously referenced people and anyone else who may enter the project site.

10. Upon completion of the project, all areas subject to temporary ground disturbance, including storage and staging areas, temporary roads, pipeline corridors, etc. should be recontoured if necessary, and revegetated to promote restoration of the area to pre-project conditions.
11. In the case of trapped animals, escape ramps or structures should be installed immediately to allow the animal(s) to escape, or the USFWS should be contacted for guidance.
12. Any contractor, employee, or military or agency personnel who are responsible for inadvertently killing or injuring a San Joaquin kit fox shall immediately report the incident to their representative. This representative shall contact the CDFW immediately in the case of a dead, injured or entrapped kit fox. The CDFW contact for immediate assistance is State Dispatch at (916) 445-0045. They will contact the local warden or Mr. Paul Hoffman, the wildlife biologist at (530) 934-9309. The USFWS should be contacted at the numbers below.
13. The Sacramento Fish and Wildlife Office and CDFW shall be notified in writing within three working days of the accidental death or injury to a San Joaquin kit fox during project related activities. Notification must include the date, time, and location of the incident or of the finding of a dead or injured animal and any other pertinent information. The USFWS contact is the Chief of the Division of Endangered Species, at the addresses and telephone numbers below. The CDFW contact is Mr. Paul Hoffman at 1701 Nimbus Road, Suite A, Rancho Cordova, California 95670, (530) 934-9309.
14. New sightings of San Joaquin kit fox shall be reported to the CNDDDB. A copy of the reporting form and a topographic map clearly marked with the location of where the kit fox was observed should also be provided to the USFWS at the address below.
15. New sightings of kit fox shall be reported to the California Natural Diversity Database. A copy of the reporting form and a topographic map clearly marked with the location of where the kit fox was observed should also be provided to the Service at the address below.
16. Any project-related information required by the USFWS or questions concerning the above conditions or their implementation may be directed in writing to the U.S. Fish and Wildlife Service at: Endangered Species Division, 2800 Cottage Way, Suite W2605, Sacramento, California, 95825-1846, (916) 414-6620 or (916) 414-6600.

Potential Environmental Effects of Measure: No physical improvements or activities that could result in changes to the physical environment would be required by this measure.

Significance after Mitigation: Implementation of the recommendations provided in the *Standardized Recommendations for Protection of the San Joaquin Kit Fox Prior to or During Ground Disturbance* would reduce the potential impacts to both San Joaquin Kit fox and American badger by requiring preconstruction surveys for the kit fox and badger, preventative measures to avoid potential impacts to these species, and compulsory action should any animal be encountered.

Implementation/Monitoring: Implementation of this measure would be the responsibility of the project applicant. The Merced County Community and Economic Development Department shall monitor for compliance. Mitigation Measure BIO-4 shall be implemented prior to any construction activity and during construction for the expanded dairy operations.

Impact BIO-5: Impacts to additional special-status wildlife species (Criteria IV.a)

Implementation of the proposed Oliveira Dairy Expansion project would not impact additional special-status wildlife species, such as the giant garter snake, since there is no habitat to support this species that would be impacted by the proposed dairy expansion. This would be a less-than-significant impact.

No additional special status wildlife species were either identified during the field surveys, or determined likely to be present on the project area beyond those identified in Table 2 of Appendix I, and in the impact statements above. The agricultural ditches onsite do not contain the habitat components necessary to support giant garter snake, specifically the aquatic habitat with emergent vegetation and prey base. Additionally, adjacent cropland does not offer typical upland (hibernation) habitat, consequently, no impacts to the giant garter snake are expected. Therefore, implementation of the proposed Oliveira Dairy Expansion project would not impact any additional special-status species not previously discussed.

Significance of Impact: Less than significant.

Mitigation Measure BIO-5: None required.

Impact BIO-6: Loss and/or degradation of special-status plant species (Criteria IV.a)

Implementation of the proposed Oliveira Dairy Expansion project would not result in the loss of special-status plant species since the project site does not provide suitable habitat for these species. This would be a less-than-significant impact.

There are 25 special-status plant species that have been recorded in the nine-quad vicinity of the project area. Because of lack of habitat due to recent, past, and current active dairy operations and the cultivation of forage crops, the likelihood of a special-status plant species occurring on the project area is considered extremely low. Further, no special-status plant species were observed during the field survey. Conversion of seven acres of cropland to dairy facilities is not expected to affect special-status plants.

Therefore, there would be no impacts to special-status plant species with implementation of the proposed dairy expansion project.

Significance of Impact: Less than significant.

Mitigation Measure BIO-6: None required.

Impact BIO-7: Loss and/or degradation of riparian and vernal pool habitat or sensitive natural communities; loss or modification of wetlands (Criteria IV.b/c)

Implementation of the proposed Oliveira Dairy Expansion project would not result in the loss of riparian or vernal pool habitat; loss of any sensitive natural community; or loss or modification of

wetlands, since no such resources are located within the area that would be disturbed by construction of the proposed dairy expansion. This would be a less-than-significant impact.

The National Wetland Inventory map did not depict any wetlands on the area designated for dairy expansion. No marshes or vernal pools occur on the project site. Potential jurisdictional Waters of the U.S. (WoUS) or wetlands were observed within agricultural ditches on the project area (Deane Canal east of the Pump Field and west of South Gurr Road, and Thornton Lateral north of the site and south of Oak Avenue). However, the small ditch located on the southern perimeter of the project site is part of a tailwater return system that is entirely contained onsite and not connected to any jurisdictional WoUS. This ditch would not be considered a jurisdictional WoUS. Consequently, the Oliveira Dairy Expansion project would not have a substantial adverse effect on state or federally protected WoUS or wetlands.

There is one sensitive natural community recorded in the area; however, no sensitive vernal pool communities occur on the project site or in the immediate vicinity of the project site.

Therefore, there would be no impacts to wetlands, riparian and vernal pool habitat, jurisdictional waters of the U.S., or other sensitive habitat types or sensitive natural communities with implementation of the proposed dairy expansion project.

Significance of Impact: Less than significant.

Mitigation Measure BIO-7: None required.

Impact BIO-8: Interference with on-site wildlife movement corridor (Criterion IV.d)

Implementation of the proposed Oliveira Dairy Expansion project would not interfere with a wildlife movement corridor, migratory patterns, or wildlife within a nursery site, since there is a considerable amount of open space in the greater vicinity that can continue to be used for wildlife movement. This would be a less-than-significant impact.

There are no creeks, valleys, or other wildlife movement corridors on the project site. Bear Creek, located approximately one-mile north of the project site, could provide potential wildlife movement corridors and potential nursery sites. Habitat along Bear Creek is fragmented, but the creek could still be the preferred movement corridor for wildlife species in the vicinity of the project. Additionally, Merced National Wildlife Refuge (MNWR) is located approximately 6.5 miles southwest of the project. MNWR offers extensive wetland habitat that could be used as a nursery site or a stopover for avian species during migration. The intensively cultivated fields and dairy facilities in the immediate vicinity of the Oliveira Dairy site are not suitable corridors or nursery sites. Due to the distance to Bear Creek and MNWR, development of the Oliveira Dairy Expansion project would not interfere with wildlife movement or impede the use of wildlife nursery sites. This would be a less-than-significant effect. For a discussion of potential impacts to transient foraging San Joaquin kit fox and American badger during the construction period, see Impact BIO-4.

Significance of Impact: Less than significant.

Mitigation Measure BIO-8: None required.

Impact BIO-9: Potential selenium and heavy metals effects to on-site biological resources (Criteria IV.a/b)

The use of supplemented feeds at the proposed Oliveira Dairy Expansion could result in the introduction of heavy metals into the environment by the application of dairy waste to on-site agricultural fields and retention ponds. If concentrations of metals in terrestrial or aquatic media are significantly higher than naturally occurring background levels, adverse effects to terrestrial or aquatic biota within the project area could occur. This would be a significant impact.

Based on studies summarized by the Council for Agricultural Science and Technology and others, concentrations of selenium, the heavy metal of most concern in supplemented feeds, are unlikely to be elevated in terrestrial media following application of dairy waste to fields, even under repeated application (Merced County 2002). Therefore, no impacts to wildlife from direct exposure to terrestrial media within the project area are expected. Ullrey (1992) showed that supplementation of feeds with 0.3 parts per million (ppm) selenium (the amount approved by FDA in 1997) would result in less than 0.5 percent of the total input of selenium to the environment from other sources. Additionally, corn grown with and without the use of selenium-supplemented dairy waste as fertilizer showed no significant increase in selenium content.

Selenium could, however, leach from on-site soil and/or retention pond bottom sediments to groundwater. Depending on the amount and form of selenium present in soil or sediment within the project area, selenium could enter groundwater and be transported to surface water. Tailwater or water from tile drains could be directly discharged to surface water. It is assumed that this could result in the introduction of selenium into aquatic ecosystems. For the Oliveira Dairy, all cropped fields receiving wastewater have tailwater return systems, and excess irrigation water is either retained by berms, or returned to the top of the field or back to the retention pond.

The Merced County ACO, together with the Merced County Well Ordinance, recognizes the importance of protecting water quality from the release of animal pathogens and agricultural chemicals or compounds. (The potential effects of contamination due to the export of manure pathogens to off-site agricultural fields as a result of project operations are evaluated in Chapter 10, *Hydrology, Water Quality, and Soil Erosion*.) As described in Impact HYD-7, in Chapter 10, *Hydrology, Water Quality, and Soil Erosion*, of this EIR, ACO Chapter 18.48.050, Sections E, K, O, T, LL, MM, and NN include requirements to protect water quality. Sections 18.48.055 D, E, F, and G contain provisions requiring testing of selenium in manure, soils, groundwater, and plant tissue. Section 18.48.050 T requires that operators of confined animal facilities prevent further degradation if elevated levels of selenium are detected, and requires remediation of existing contamination. Sections 18.48.050 LL and MM require that potential sources of selenium contamination be treated in the facility waste management system or monitored if discharged to surface waters, including irrigation district facilities. Section 18.48.050 MM requires that any discharges to surface waters, including irrigation district facilities, meet the discharge and receiving water standards of the appropriate irrigation district and/or the CVRWQCB. Currently, the total selenium water quality objective for the San Joaquin River is 0.005 mg/l four-day average (CVRWQCB 2018).

In addition, the CVRWQCB requires that all process water that comes into contact with wastewater be collected and stored in on-site settling basins and retention ponds with low permeability liners, reducing the potential release of pathogens and agricultural compounds in the project area to water supplies. (The text of these ACO provisions can be found in Appendix C.) Additional regulatory

requirements for the Oliveira Dairy Expansion may be included in the Individual WDRs issued by the CVRWQCB. The regulatory requirements of the CVRWQCB and the ACO would minimize selenium exposure pathways within the project area and require the implementation of an on-site system for the monitoring and remediation of selenium in the environment. To ensure project compliance with ACO regulations for waste, soil, and groundwater monitoring and remediation, the following mitigation would be required. Implementation of Mitigation Measures HYD-3 and HYD-7 as set forth in Chapter 10, *Hydrology, Water Quality, and Soil Erosion*, would further minimize this impact.

Significance of Impact: Significant.

Mitigation Measure BIO-9:

Implement Sections 18.48.050 E, K, O, T, LL, MM, NN, and Sections 18.48.055 D, E, F, and G of the Merced County Animal Confinement Ordinance. These measures include: management practices to prevent degradation; requirements for manure, soils, and groundwater testing; and in the event of contamination, remediation to meet receiving water standards by the RWQCB as set forth in the Basin Plan.

Potential Environmental Effects of Measure: No physical improvements or activities that could result in changes to the physical environment would be required by this measure.

Significance after Mitigation: The implementation of Mitigation Measure BIO-9 (Merced County ACO EIR Mitigation Measure BIO-7) related to water quality protection would reduce impacts as a result of selenium exposure to the environment to a less-than-significant level (ACO Program EIR, p. 5-141).

Implementation/Monitoring: Implementation of this measure would be the responsibility of the project applicant. The Merced County Division of Environmental Health shall monitor for compliance. Mitigation Measure BIO-9 shall be implemented through conditions of approval of the Conditional Use Permit, throughout ongoing operations.

Impact BIO-10: Conflict with local policies or ordinances protecting biological resources (Criterion IV.e)

Implementation of the proposed Oliveira Dairy Expansion project would not conflict with local policies or ordinances that protect biological resources because it would be consistent with the Merced County 2030 General Plan, the Open Space Action Plan, and the Animal Confinement Ordinance. This would be a less-than-significant impact.

The Merced County 2030 General Plan contains a goal and several policies in its Natural Resources Element to protect the biological resources of the county. Because there were no wetland habitats or known rare or endangered species observed within the project area during the field reconnaissance survey that would be affected by the proposed dairy expansion, and the proposed project would comply with applicable regulations and implement mitigation measures designed to protect biological resources, the proposed project would not conflict with local policies. Merced County implements an Open Space Action Plan to ensure that areas designated as sensitive or significant resources are protected.

The proposed dairy expansion area is not designated as a sensitive resource. Further, the proposed project would comply with the requirements of the Merced County ACO. Merced County 2030 General Plan Policy LU-1.13 restricts development within a half mile of State or Federal wildlife refuges such as the Merced National Wildlife Refuge, should the County determine that there are unmitigated impacts to natural resources or habitat. No protected habitat areas are located within two miles of the project site. A preliminary biological assessment of the project area was conducted to determine whether potential special-status species or sensitive habitat were located within the proposed project area. The assessment found that no such resources were located within the proposed project expansion area. Consistency with local policies and ordinances were also considered in the evaluation of the proposed project and the formulation of appropriate mitigation measures listed above. As set forth in Chapter 11, *Land Use Compatibility*, of this EIR, the project would be consistent with adopted County policies to protect biological resources.

For the foregoing reasons, the proposed Oliveira Dairy Expansion project would not conflict with local policies or ordinances that protect biological resources.

Significance of Impact: Less than significant.

Mitigation Measure BIO-10: None required.