
4.3 BIOLOGICAL RESOURCES

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Introduction

This section describes the existing biological resources present on the project site, identifies special-status species that could be affected by project implementation, and evaluates the potential effects on biological resources associated with development of the Proposed Project. Information contained in this section is based on two reconnaissance level site visits in May and June 2004 and a review of existing documentation including the City of Dixon General Plan and the Northeast Quadrant Specific Plan (NQSP).

No comments were received in response to the Notice of Preparation (see Appendix B) that expressed concern regarding potential impacts to biological resources.

Environmental Setting

The project site supports typical central valley agricultural fields with small linear areas of ruderal non-native annual grassland species, with a few intermittent perennial species, bordering the agricultural fields. Currently the project site is under agricultural production with irrigated row/grain crops consisting of corn, wheat, and tomatoes. The topography of the site is flat, with an elevation of 55 to 60 feet above mean sea level. There are several maintained agricultural drainage ditches, with very low quality wildlife habitat, that dissect the site, bringing water onto and draining water from the site. On some reaches of the ditches routine maintenance has been conducted, evidenced by dead vegetation matter piled up on top of ditch banks, or dead brown vegetation along the banks (result of application of herbicides). There were no other wetlands observed that exhibited seasonal wetland characteristics such as wetland hydrology (i.e., swales, topographic depressions, vernal pools), or plant communities that support a predominance of hydrophytic plant species.

Habitat Types

The project site only supports irrigated grain/row crops. The description below is based on the California Wildlife Habitat Relationship System (CWHR) as published by the Department of Fish and Game.

Irrigated Grain/Row Crops

Irrigated grain and seed crops are located on flat to gently rolling terrain. When flat terrain is put into crop production, it usually is leveled to facilitate irrigation. Vegetation in this habitat includes a variety of sizes, shapes and growing patterns. Most irrigated grain and seed crops are grown in rows. Some may form 100 percent canopy while others have significant bare areas between rows. All seed and grain crops are annuals. They are usually planted in spring and harvested in summer or fall. However, they could be planted in

rotation with other irrigated crops such as winter wheat, which is dry farmed during the wet winter and early spring months, or they may be irrigated, and then harvested in the late spring.

Grain crops are actively cultivated and therefore support few natural species. The edges of these fields harbor the greatest plant diversity because they are not as frequently plowed. Although the repeated manipulation of the land is not conducive to most plant and animal species, there are certain opportunistic plants and animals that can survive under such disturbed conditions. During field surveys, many weedy plant species such as field bindweed (*Convolvulus arvensis*), Johnson grass (*Sorghum halepense*), Common wild geranium (*Geranium dissectum*), wild oat (*Avena fatua*), and red-stemmed filaree (*Erodium cicutarium*) were observed growing in and around the cultivated fields. These species are not particularly desirable but they do provide variety, forage, and cover for common wildlife species in agricultural settings. Most of these weedy type plant species are naturalized annuals (non-native, but common components of the Sacramento Valley) and can reproduce over a short period of time.¹

Crops on the project site are used for shelter and foraging by several species of small mammals such as raccoon (*Procyon lotor*), striped skunk (*Mephitis mephitis*), California ground squirrel (*Spermophilus beecheyi*), deer mice (*Peromyscus maniculatis*), and black-tailed jack rabbit (*Lepus californicus*). Also, there are several bird species that commonly forage and/or nest in irrigated grain crops such as American crow (*Corvus brachyrhynchos*), pheasant (*Phasianus colchicus*), Brewer's blackbird (*Euphagus cyanocephalus*), yellow-billed magpie (*Pica nuttalli*), mourning dove (*Zenaidura macroura*), and house sparrow (*Passer domesticus*). In addition, raptor species such as Swainson's hawk (*Buteo swainsoni*), red-tailed hawk (*Buteo jamaicensis*), American kestrel (*Falco sparverius*), Coopers hawk (*Accipiter cooperii*), northern harrier (*Circus cyaneus*), white-tailed kite (*Elanus leucurus*), and barn owl (*Tyto alba*), are commonly observed in irrigated crop fields foraging on small mammals and insects. In addition, the site has the potential to support winter migrant raptors such as ferruginous hawk (*Buteo regalis*), and merlin (*Falco columbarius*).

During field surveys many common wildlife species were observed such as black phoebe (*Sayornis nigricans*), Botta's pocket gopher (*Thomomys bottae*), red-tailed hawk, American crow (*Corvus brachyrhynchos*), western scrub jay (*Aphelocoma californica*), northern harrier, and northern mockingbird (*Mimus polyglottos*).

Table 4.3-1 lists the all of the plants and wildlife species that were observed during field surveys in May and June 2004.

Special-status Species

The potential occurrence of special-status plant and animal species within and in the vicinity of the project site has been determined through habitat information collected during field surveys of the area conducted in May and June 2004, and a review of the California Natural Diversity Data Base (CNDDB) and the U.S. Fish and Wildlife Service (USFWS) plant and animal list.² For the purposes of this section, special-status species include:

- species listed, proposed, or candidate species for listing as Threatened or Endangered by the USFWS pursuant to the Federal Endangered Species Act (FESA) of 1973, as amended;

1 Northeast Quadrant Specific Plan Draft EIR, City of Dixon, 1994, pages 4-52.

2 The site is located in sections 10 and 12 (north central portion) of the California 7.5 minute series topographic map Dixon, California, Township 7 north, Range 1 east.

Table 4.3-1
List of Plant and Wildlife Species Observed during Field surveys

Scientific Name	Common Name
Plant Species	
<i>Ailanthus altissima</i>	Tree of Heaven
<i>Avena fatua</i>	Wild oat
<i>Brassica nigra</i>	Black mustard
<i>Bromus diandris</i>	Ripgut brome
<i>Capsella bursa-pastoris</i>	Shepards purse
<i>Chamomilla suaveolens</i>	Pineapple weed
<i>Convolvulus arvensis</i>	Field bindweed
<i>Cynodon dactylon</i>	Bermuda grass
<i>Centaurea solstitialis</i>	Yellow star thistle
<i>Erodium botrys</i>	Long-beaked filaree
<i>Erodium cicutarium</i>	Red-stemmed filaree
<i>Geranium dissectum</i>	Common wild geranium
<i>Juglans californica</i> var. <i>hindsii</i>	Walnut
<i>Lolium perenne</i>	Perennial rye grass
<i>Malva neglecta</i>	Common mallow
<i>Phalaris paradoxa</i>	Paradox canary grass
<i>Plantago lanceolata</i>	English plantain
<i>Prunus dulcis</i>	Almond
<i>Sonchus asper</i>	Prickly sow thistle
<i>Sorghum halapense</i>	Johnson grass
<i>Vicia sativa</i>	Common vetch
<i>Vitis vinifera</i>	Cultivated grape
Wildlife Species	
<i>Agelaius phoeniceus</i>	Red-winged blackbird
<i>Apelocoma californica</i>	Western scrub jay
<i>Buteo swainsoni</i>	Swainson's hawk
<i>Buteo jamaicensis</i>	Red-tailed hawk
<i>Carpodacus mexicanus</i>	House finch
<i>Circus cyaneus</i>	Northern harrier
<i>Corvus brachyrhynchos</i>	American crow
<i>Elanus leucurus</i>	White-tailed kite
<i>Falco sparverius</i>	American kestrel
<i>Lanius ludovicianus</i>	Loggerhead shrike
<i>Mimus polyglottos</i>	Northern mockingbird
<i>Pavo cristatus</i>	Indian peafowl
<i>Pica nuttalli</i>	Yellow billed magpie
<i>Sayornis nigricans</i>	Black phoebe
<i>Sturnella neglecta</i>	Western meadowlark
<i>Spermophilus beecheyi</i>	California ground squirrel
<i>Thomomys bottae</i>	Botta's pocket gopher
<i>Tyrannus verticalis</i>	Western kingbird

Source: EIP Associates, 2004.

- species designated as Species of Concern by the USFWS (note: although this status designation does not itself trigger any FESA requirements, many of the species that have this designation meet the definition of rare, threatened or endangered under CEQA);
- species listed as Rare, Threatened, or Endangered by the California Fish and Game Commission pursuant to the California Endangered Species Act (CESA) of 1984, as amended;
- species designated as Fully Protected under Sections 3511 (birds), 4700 (mammals), and 5050 (reptiles and amphibians) of the California Fish and Game Code;
- species designated by the CDFG as California Species of Concern;
- plant species listed as Category 1B and 2 by the California Native Plant Society (CNPS); and
- species not currently protected by statute or regulation, but considered rare, threatened or endangered under CEQA (CEQA Guidelines, Section 15380).

According to the CNDDDB, a total of eight special-status species have the potential or are known to occur in the vicinity of the project site. This includes two invertebrates, one reptile, three birds, and two plants. Reconnaissance-level biological surveys performed on May 24 and June 1, 2004 by EIP Associates assessed the suitability for native plant and wildlife species to exist on the project site. Field surveys consisted of walking transects through the project site to assess the habitat for its suitability to support those species that were identified through the earlier literature review. Particular attention was given to areas that appeared to provide the most suitable habitat for the special-status species that are expected to occur in the region (e.g., agricultural ditches and fields). Using the information gathered during these site visits, the species list derived from the background research was refined to determine which species were in fact likely to occur within and around the project site.

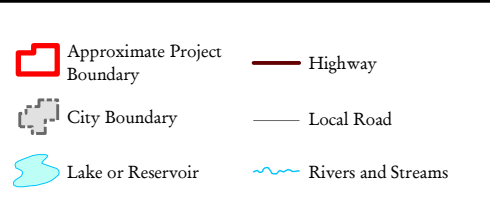
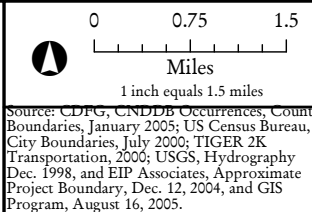
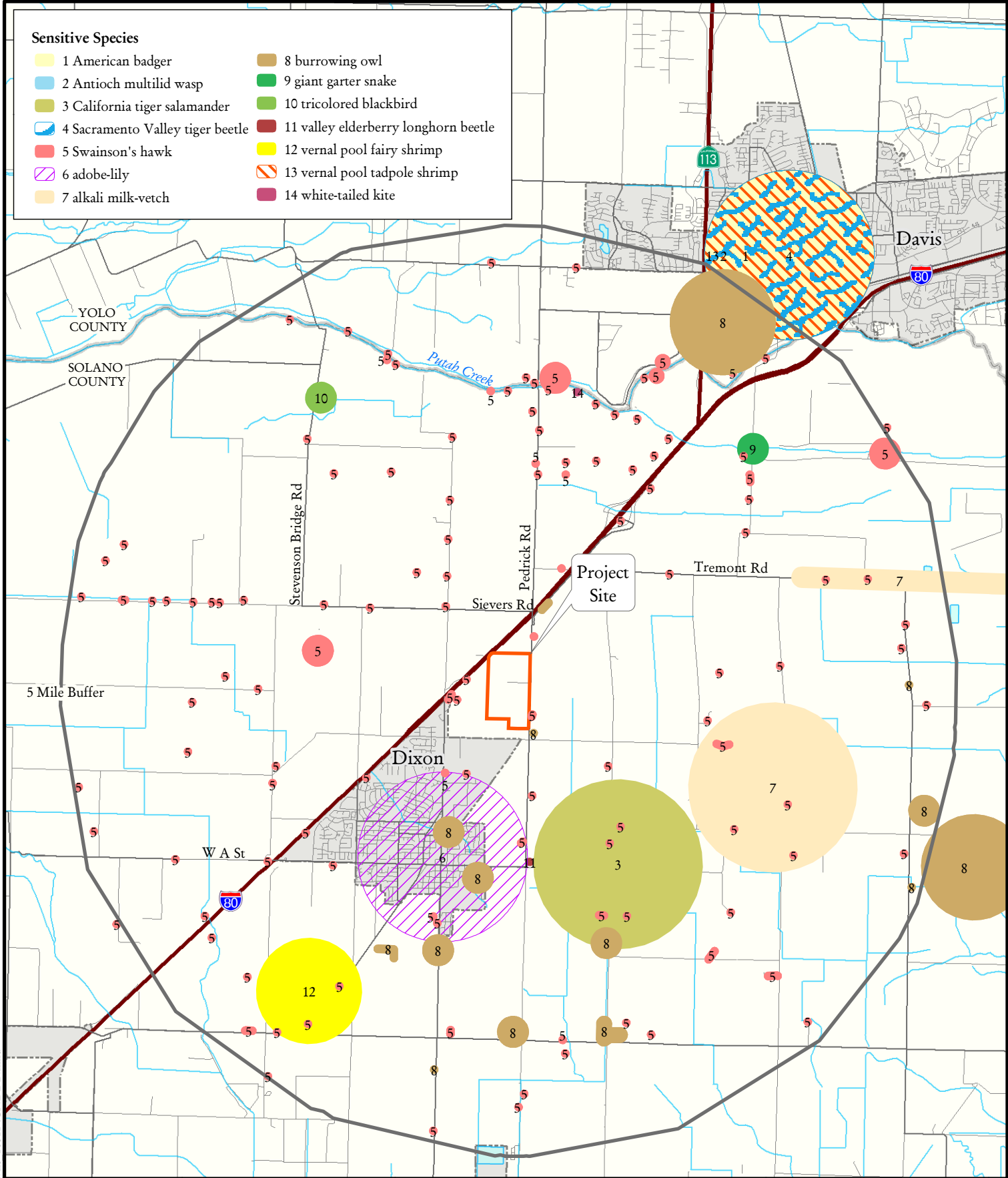
Table 4.3-2 lists the special-status species known or with the potential to occur in the project vicinity and indicates the species' current regulatory status, habitat association, and potential for occurrence within the project area. Species that have been observed in the project area were given a rating of "known" under probability of occurrence. A "high" probability of occurrence was assigned to species not observed, but where sufficient information is available to indicate suitable habitat and conditions to warrant a high probability of occurrence. A "low" probability of occurrence indicates that the species was not found during biological surveys and should not be expected to occur, given the species' known regional distribution or the quality of habitats located. A "none" probability of occurrence indicates that there is no habitat present to support the species and it is highly unlikely that it would occur.

Table 4.3-2 also lists special-status species that appeared on the CNDDDB list for a five-mile radius around the project site (see Figure 4.3-1). All species that have no potential to occur within the vicinity of the project site have been removed from further consideration and will not be analyzed in this EIR.

Life histories of species determined to have a "known or high" or better potential to occur in the project vicinity are discussed below.

Sensitive Species

- | | |
|----------------------------------|--------------------------------------|
| 1 American badger | 8 burrowing owl |
| 2 Antioch multilid wasp | 9 giant garter snake |
| 3 California tiger salamander | 10 tricolored blackbird |
| 4 Sacramento Valley tiger beetle | 11 valley elderberry longhorn beetle |
| 5 Swainson's hawk | 12 vernal pool fairy shrimp |
| 6 adobe-lily | 13 vernal pool tadpole shrimp |
| 7 alkali milk-vetch | 14 white-tailed kite |



**FIGURE 4.3-1
CNDDDB
OCCURRENCES**

**Dixon Downs
Solano County, CA**

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Table 4.3-2
Special-Status Species Potentially Occurring In The Dixon Downs Project Vicinity

Scientific Name	Common Name	Status			Habitat	Potential to Occur within Proposed Project site/Comments
		Federal	State	Other		
Invertebrates						
<i>Branchinecta lynchi</i>	Vernal pool fairy shrimp	FT	None	None	<p>General: Endemic to the grasslands of the Central Valley, central Coast Mountains, and south Coast Mountains, in astatic rain-filled pools.</p> <p>Micro: Inhabit small, clear-water sandstone-depression pools and grassed swale, earth slump, or basalt-flow depression pools.</p>	None: The project site does not support habitat for vernal pool crustaceans. There are no vernal pools on the site.
<i>Desmocerus californicus dimorphus</i>	Valley elderberry longhorn beetle	FT	None	None	<p>General: Occurs only in the Central Valley of California, in association with blue elderberry (<i>Sambucus mexicana</i>). Micro: Prefers to lay eggs in elderberries 2-8 inches in diameter; some preference shown for “stressed” elderberries.</p> <p>Elderberry shrubs (<i>Sambucus mexicana</i>) typically associated with riparian forests, riparian woodlands, elderberry savannas, and other Central Valley habitats. Occurs only in the Central Valley of California. Prefers to lay eggs in elderberries 2-8 inches in diameter; some preference shown for “stressed” elderberries.</p>	None: The project site does not support elderberry shrubs, the host plant for valley elderberry longhorn beetle.
<i>Elaphrus viridis</i>	Delta green ground beetle	FT	None	None	Restricted to the margins of vernal pools in the grassland area between Jepson Prairie and Travis AFB, prefers the sandy mud substrate where it slopes gently into the water, with low-growing vegetation, 25-100% cover.	None: The project site does not support vernal pools or undisturbed grassland areas.

Table 4.3-2

Special-Status Species Potentially Occurring In The Dixon Downs Project Vicinity

Scientific Name	Common Name	Status			Habitat	Potential to Occur within Proposed Project site/Comments
		Federal	State	Other		
<i>Lepidurus packardii</i>	Vernal pool tadpole shrimp	FE	None	None	<p>General: Inhabits vernal pools and swales in the Sacramento Valley containing clear to highly turbid water.</p> <p>Micro: Pools commonly found in grass bottomed swales of unplowed grasslands. Some pools are mud-bottomed and highly turbid.</p>	None. The project site does not support habitat for vernal pool crustaceans. There are no vernal pools on the site.
Reptiles						
<i>Thamnophis gigas</i>	Giant garter snake	FT	FT	None	Prefers freshwater marsh and low gradient streams, has adapted to drainage canals and irrigation ditches, truly an aquatic snake.	None: Three recorded localities for this species, the closest is approximately 3.75 miles northeast along the south fork of Putah Creek. The Solano County Water Agency does not recognize the project site as a conservation area in their Habitat Conservation Plan and the on-site agricultural ditches do not support a perennial or semi perennial water source that would represent potential giant garter snake habitat
Birds						
<i>Athene cunicularia</i>	Burrowing owl	FSC*	CSC	None	Burrow sites, generally open, dry annual or perennial grasslands, deserts and scrublands characterized by low-growing vegetation, dependent upon burrowing animals, most notably, the California ground squirrel.	None. Very few burrows, very active agricultural site. No owls observed during the appropriate survey time of the year..

Table 4.3-2

Special-Status Species Potentially Occurring In The Dixon Downs Project Vicinity

Scientific Name	Common Name	Status			Habitat	Potential to Occur within Proposed Project site/Comments
		Federal	State	Other		
<i>Buteo swainsoni</i>	Swainson's hawk	FSC*	CT	None	Nests in stands with few trees in riparian areas and in oak savannah. Requires adjacent suitable foraging areas such as grasslands, or alfalfa or grain fields supporting rodent populations. Also require extensive tracts of open grassland or agricultural land for foraging.	Known for foraging. Swainson's hawks have been observed foraging on the project site. Four years ago the project site supported a nesting pair, the nest tree has since been removed. There are approximately 60-recorded occurrences for Swainson's hawk within a five-mile radius of the project site.
<i>Elanus leucurus</i>	White-tailed kite	FSC*	CFP	None	Nests in rolling foothills/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.	Low for nesting, High for foraging. White tailed kites have been observed foraging on the site.
Plants						
<i>Astragalus tener</i> var. <i>tener</i>	Alkali milk vetch	None	None	1B	Plant occurs on alkali playas, valley and foothill grassland, and vernal pools. Usually on low ground, alkali flats, and flooded lands in annual grassland or in playas.	None. The project site does not support vernal; pools, alkali playas or flats, or annual grassland.
<i>Fritillaria pluriflora</i>	Adobe lily	None	None	1B	Plant occurs in chaparral, cismontane woodland, and foothill grassland, usually on clay soils, sometimes serpentine.	None. One nearby recorded occurrence is 1910 and it is questionable. Nonetheless, the project site does not support the habitat where this plant occurs. Plant usually occurs at an elevation of 192 - 2256 feet mean sea level (msl), higher than the project site's elevation of 55-60 feet msl.

Table 4.3-2

Special-Status Species Potentially Occurring In The Dixon Downs Project Vicinity

Scientific Name	Common Name	Status			Habitat	Potential to Occur within Proposed Project site/Comments
		Federal	State	Other		

Federal status:

FE = Listed as endangered under the federal Endangered Species Act. FC = Candidate for listing under the federal Endangered Species Act.
 FT = Listed as threatened under the federal Endangered Species Act. FSC = Federal species of concern.
 D = Delisted. Status to be monitored for 5 years. SLC = Species of local or regional concern or conservation significance.
 * = Although this status does not trigger any FESA requirements, species with this designation qualify as rare, threatened or endangered under CEQA.

State status:

CE = Listed as endangered under the state Endangered Species Act.
 CSC = Designated by CDFG as California species of special concern.
 CT = Listed as threatened under the state Endangered Species Act.

CNPS status:

1B = Rare or Endangered in California and elsewhere.
 2 = Rare or Endangered in California, more common elsewhere.

Likelihood of occurrence evaluations

A rating of “known” indicates that the species has been observed on the site.
 A rating of “high” indicates that the species has not been observed, but sufficient information is available to indicate suitable habitat and conditions are present on-site and the species is expected to occur on-site.
 A rating of “moderate” indicates that it is not known if the species is present, but suitable habitat exists on-site.
 A rating of “low” indicates that species was not found during biological surveys conducted to date on the site and may not be expected given the species’ known regional distribution or the quality of habitats located on the site.
 A rating of “not likely” indicates that the taxa would not be expected to occur on the project site because the site does not include the known range or does not support suitable habitat.

Source: California Department of Fish and Game, *California Natural Diversity Database*, 2004

Special-status Plants

Review of the CNDDDB revealed two special-status plant species with the potential to occur in the project vicinity, adobe lily (*Fritillaria pluriflora*) and alkali milk-vetch (*Astragalus tener* var. *tener*). However, neither of these special-status plant species were determined to have the potential to occur within the project site and would not be affected by development of the Proposed Project (see Table 4.3-2). Information on range, habitat requirements, and specific occurrences of these species in Solano County was also evaluated to determine the likelihood of occurrence of each within the project area. No special-status plant species were observed during the biological surveys performed by EIP Associates in May and June 2004.

Special-status Wildlife

Special-status wildlife species identified by the CNDDDB and USFWS as historically occurring, or with the potential to occur in the vicinity of the project site, were initially evaluated to determine if the project site is within the species' known range and distribution and if suitable habitat exists on-site. Species not expected to occur, or their habitat is not present on the site, were eliminated from further evaluation. Additional information on range, habitat requirements, seasonal distribution, and recorded occurrences of the remaining special-status species, was evaluated to determine the likelihood of their occurrence within the project site.

From this analysis and field surveys performed in May and June 2004 by EIP Associates, only Swainson's hawk foraging habitat and potential burrowing owl nesting habitat were identified as occurring on the project site which could be adversely affected by development of the project resulting in the loss of habitat for these species (see Table 4.3-2).

Swainson's Hawk

The Swainson's hawk (*Buteo swainsoni*) is found throughout the Central Valley where suitable nesting and foraging habitat is available. Swainson's hawks often nest within or peripheral to riparian areas adjacent to suitable foraging habitat as well as in single or stands of trees in agricultural fields. They are open country birds that forage in large, open grasslands and agricultural fields, especially after the fields have been disked or harvested. Alfalfa or other low growing row crops provide foraging habitat. Swainson's hawks can forage as much as 10 miles from the nest, and species observations in the project vicinity are common.

The Swainson's hawk is listed as Threatened by the State of California and is a USFWS Federal Species of Concern. The CNDDDB includes approximately 57 recorded occurrences for Swainson's hawk within a five-mile radius of the project site, including one occurrence approximately 0.7 miles south of the site. The project site falls within the Solano County core Swainson's hawk foraging area, and Swainson's hawks were regularly observed foraging over the project site during a field survey on June 1, 2004. The project site does not represent suitable nesting habitat for nesting Swainson' hawk (lack of trees); however, it does represent suitable foraging habitat.

Other Special-Status Species of Concern

Burrowing owl is not listed as threatened or endangered by the federal or State government, but requires analysis because of perceived low population numbers, population declines (in certain areas of California), and the loss of breeding habitat; therefore, burrowing owls could potentially meet the definition of “rare” defined in Section 15380 of the CEQA Guidelines. This species is also included because it could be elevated to State or federal endangered or threatened status prior to completion of development of the project.

Burrowing Owl

The burrowing owl is a Federal and California Species of Concern. Additionally, a petition has been submitted to the State of California listing the burrowing owl as threatened. This petition was rejected by the California Fish and Game Commission. However, there still remains a substantial effort to list the burrowing owl under the California Endangered Species Act.

Burrowing owls (*Athene cunicularia*) are year-long residents in generally flat, open dry grasslands, pastures, deserts, and shrub lands. They use communal ground squirrel and other small mammal burrow colonies for nesting and cover, as well as artificial structures such as roadside embankments, levees, and berms. They prefer open, dry, nearly level grassland, agricultural, or prairie habitat and can exhibit high site fidelity, often reusing burrows year after year.

Occupancy of suitable burrowing owl habitat can be verified at a site by observation of a pair of burrowing owls during their breeding season (March to August) or, alternatively, by the presence of molted feathers, cast pellets, prey remains (rodents, small reptiles, and large insects), eggshell fragments, or excrement (guano), near or at a burrow.

The CNDDB includes eight recorded occurrences for burrowing owl within a five mile radius of the project area. Only a few ground squirrel burrows, which represent potential nesting habitat for this species, were observed in the open areas around the agricultural fields. Although protocol level surveys for burrowing owls were not conducted, the field surveys were conducted during an optimum time to observe nesting burrowing owls or recently fledged young. The field surveys did not reveal the presence of burrowing owls or their sign (i.e., feathers, castings, bones, whitewash).

Regulatory Framework

Federal Regulations

Endangered Species Act (ESA)

Projects that would result in “take” of federally listed threatened or endangered species are required to comply with the federal Endangered Species Act, which is administered by the USFWS with respect to terrestrial species and freshwater aquatic species. Mitigation for project related impacts to federally listed species can be accomplished through either a Section 7 consultation initiated by a federal agency from whom a federal approval is required (e.g., a permit to fill a federally protected wetland), or a Section 10 “Incidental Take Permit” initiated by a private party or a non-federal agency. The objective of Section 7 consultation is to determine whether the project would impact a protected species or designated critical habitat, and to identify mitigation measures that would be required to avoid or reduce impacts to the

species. Section 7 consultation is required when a federal agency is involved in project approval, funding, or permitting. Section 10 permit is required when no federal agencies are involved with the project. Different standards apply in the two different contexts. For example, under Section 7, the participating federal agencies must consider whether a proposed action could destroy or adversely modify critical habitat. This inquiry is not specifically required under Section 10.

The FESA of 1973 provides legal protection for plant and animal species in danger of extinction, and requires definitions of critical habitat and development of recovery plans for specific species. Section 7 of the FESA requires federal agencies to make a finding on the potential to jeopardize the continued existence of any listed species potentially impacted by proposed federal action, including the approval of a public or private action, such as the issuance of a permit pursuant to Sections 10 and 404 of the Clean Water Act (CWA). Section 9 of the FESA prohibits the take of any member of an endangered species. Take is defined by the FESA as “...to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.” USFWS has further defined the terms harass and harm. Harass is defined as an act that:

“...creates the likelihood of injury to a listed species by annoying it to such an extent as to significantly disrupt normal behavior patterns that include, but are not limited to, breeding, feeding, or sheltering.”

Harm is defined to include the following:

“...significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns such as breeding, feeding, or sheltering.”

Section 10(a) of the FESA (HCP's) permits the incidental take of listed species if the take is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity.

Section 3 of the FESA defines an endangered species as “any species, including subspecies, in danger of extinction throughout all or a significant portion of its range.” This section defines threatened species as any species “likely to become endangered within the foreseeable future throughout all or a significant portion of its range.” Federally listed or “listed” indicates that a species has been designated as endangered or threatened through publication of a final rule in the *Federal Register*. Designated endangered and threatened species, listed under Section 4 of the FESA, receive the full protection of the FESA. Proposed endangered and threatened species are those for which a proposed regulation, but not a final rule, has been published in the *Federal Register*.

Federal Clean Water Act

Section 404

The objective of the CWA is to restore and maintain the chemical, physical, and biological integrity of the Nation's waters. Section 301 prohibits the discharge of any pollutant into the Nation's waters without a permit, and Section 402 establishes the permit program. Section 404 of the CWA regulates activities that result in discharge of dredged or fill material into waters of the United States. The United States Army Corps of Engineers (Corps) is responsible for permitting certain types of activities affecting wetlands and “other” waters of the United States. Under Section 404 of the CWA, the Corps has the authority to regulate activity that discharge fill or dredge material into wetlands or other waters of the U.S. The Corps implements the federal policy embodied in Executive Order 11990, which is intended to result in no net loss of wetland values or acres.

Section 401

The State Water Resources Control Board (SWRCB) has authority over wetlands through Section 401 of the CWA, as well as the Porter-Cologne Act, California Code of Regulations Section 3831(k), and California Wetlands Conservation Policy.

The CWA requires that an applicant for a Section 404 permit (to discharge dredged or fill material into waters of the United States) first obtain a certificate from the appropriate state agency stating that the fill is consistent with the State's water quality standards and criteria. In California, the authority to either grant certification or waive the requirement for permits is delegated by the SWRCB to the nine regional boards. The Central Valley Regional Water Quality Control Board (CVRWQCB) is the appointed authority for Section 401 compliance in the Specific Plan area. A request for certification or waiver is submitted to the regional board at the same time that an application is filed with the Corps. The regional board has 60 days to review the application and act on it. Because no Corps permit is valid under the CWA unless "certified" by the state, these boards may effectively veto or add conditions to any Corps permit.

Migratory Bird Treaty Act

The federal Migratory Bird Treaty Act (16 USC, Sec. 703, Supp. I, 1989) regulates or prohibits taking, killing, possession of, or harm to migratory bird species listed in Title 50 Code of Federal Regulations (CFR) Section 10.13. This international treaty for the conservation and management of bird species that migrate through more than one country is enforced in the United States by the USFWS. Hunting of specific migratory game birds is permitted under the regulations listed in Title 50 CFR 20. The MBTA was amended in 1972 to include protection for migratory birds of prey (raptors).

State Regulations

California Endangered Species Act (CESA)

The CDFG administers a number of laws and programs designed to protect fish and wildlife resources. Principal of these is the California Endangered Species Act of 1984 (CESA - Fish and Game Code Section 2050), which regulates the listing and take of state-endangered and state-threatened species. CESA declares that deserving species will be given protection by the state because they are of ecological, educational, historical, recreational, aesthetic, economic, and scientific value to the people of the state. CESA established that it is state policy to conserve, protect, restore, and enhance endangered species and their habitats.

Species listed under CESA cannot be taken without adequate mitigation and compensation. Take under CESA does not include indirect harm by way of habitat modification. Typically, the CDFG implements endangered species protection and take determinations by entering into management agreements (Section 2081 Management Agreements), Incidental Take Permits or Natural Community Conservation Plans (NCCP) with project applicants.

CDFG maintains lists for Candidate-Endangered Species and Candidate-Threatened Species. California candidate species are given equal protection of the law as listed species have. CDFG also lists Species of Special Concern based on limited distribution, declining populations, diminishing habitat, or unusual scientific, recreational, or educational value. Species of special concern do not receive protection under

the CESA or any section of the California Fish and Game Code, and do not necessarily meet CEQA Guidelines Section 15380 criteria as rare, threatened, endangered, or of other public concern. Like federal species of concern, the determination of significance for California species of special concern must be made on a case-by-case basis. Designation of Species of Special Concern is intended by CDFG to be used as a management tool for consideration in future land use decisions.

Fish and Game Code - Sections 3503, 3503.5, 3513

Fish and Game Code Section 3503 states that it is unlawful to take, possess, or needlessly destroy the nests or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto. Fish and Game Code Section 3503.5 protects all birds-of-prey (raptors) and their eggs and nests. Section 3513 states that it is unlawful to take or possess any migratory non-game bird as designated in the Migratory Bird Treaty Act. These regulations could require that elements of the Proposed Project (particularly vegetation removal or construction near nest trees) be reduced or eliminated during the nesting cycle, unless surveys by a qualified biologist demonstrate that nests, eggs, or nesting birds will not be disturbed, subject to approval by CDFG and/or USFWS.

Fish and Game Code B Sections 3511, 4700, 5050, and 5515

Sections 3511 (birds), 4700 (mammals), 5050 (reptiles and amphibians), and 5515 (fish) of the California Fish and Game Code designate certain species as “fully protected.” Fully protected species, or parts thereof, may not be taken or possessed at any time, and no provision of the California Fish and Game Code or any other law may be construed to authorize the issuance of permits or licenses to take any fully protected species. No such permits or licenses heretofore issued may have any force or effect for any such purpose, except that the California Fish and Game Commission may authorize the collecting of such species for necessary scientific research. Legally imported and fully protected species or parts thereof may be possessed under a permit issued by CDFG.

California Environmental Quality Act (CEQA)

Although threatened and endangered species are protected by specific federal and State statutes, CEQA Guidelines Section 15380(b) provides that a species not listed on the federal or State list of protected species may be considered rare or endangered if the species can be shown to meet certain specified criteria. These criteria have been modeled after definitions in the FESA and the section of the California Fish and Game Code dealing with rare or endangered plants and animals.

Porter-Cologne Act

In addition to the CWA, waters of the State (defined in Section 13050(e) of the California Water Code as “any surface water or groundwater, including saline waters within the boundary of the State”) are protected under the Porter Cologne Water Quality Control Act (Porter-Cologne, Sections 13000 – 14958 of the California Water Code). Waste discharge requirements under Porter-Cologne were typically waived for projects that required certification under CWA Section 401. However, in light of the recent SWANCC ruling, which limited federal jurisdiction of isolated waters, the State Water Resources Control Board (SWRCB) is re-examining its jurisdiction under Porter Cologne.

Section 13260(a) of the California Water Code (Water Code) requires that any person discharging waste or proposing to discharge waste, including the discharge of dredged or fill material, which could affect

the quality of the waters of the State file a report of waste discharge (ROWD). Further, Water Code section 13263(a) requires that waste discharge requirements (WDRs) be prescribed as to the nature of any proposed discharge, existing discharge, or material change in an existing discharge. The WDRs must implement any relevant water quality control plans, taking into consideration beneficial uses to be protected, the water quality objectives reasonably required for those purposes, other waste discharges, the need to prevent nuisance, and the provisions of section 13241 of the Water Code.

In addition, Water Code section 13263(i) authorizes the SWRCB to prescribe general WDRs for a category of discharges if the discharges are produced by the same or similar operations; the discharges involve the same or similar types of waste; the discharges require the same or similar treatment standards; and the discharges are more appropriately regulated under general discharge requirements than individual discharge requirements. Partially in response to the SWANCC ruling, the SWRCB issued Water Quality Order No. 2004-0004-DWQ (Isolated Waters WDR), which provides a general WDR for dredged or fill discharges of not more than 0.2 acres and 400 linear feet for fill and excavation discharges, and of not more than 50 cubic yards for dredging discharges. It is the intent of these Isolated Waters WDRs to regulate a subset of the discharges that have been determined not to fall within federal jurisdiction, particularly those projects involving impacts to small acreage or linear feet and those involving a small volume of dredged material. Although a discharge may be eligible for coverage under these General WDRs, the RWQCB may elect to regulate the discharge under other WDRs or waivers thereof.

Discharges that are not covered under the Isolated Waters WDRs, but deemed “isolated” by the Corps, are still covered under Porter-Cologne and require individual WDRs. On June 25, 2004, the SWRCB issued guidance for regulation of discharges to “isolated” waters.³ This guidance letter to the RWQCBs directs the RWQCBs to request a ROWD from all recipients of Corps jurisdictional disclaimers using a form letter supplied with the guidance letter. In addition, the guidance letter informed the RWQCBs to take appropriate regulatory action on the Isolated Waters WDRs, other individual, or general WDRs. These other individual and general WDRs could cover those “isolated” waters that do not meet the size requirements of the Isolated Waters WDRs (i.e., are larger than 0.2 acres and 400 feet long).

Local Regulations

Solano County

Solano County and other participating agencies are in the process of preparing a Habitat Conservation Plan (HCP) with the goal of protecting special-status plants and wildlife and their habitats, while allowing for planned growth in the County. This protection would be accomplished through identification of important habitats and habitat features to aid in the development of protection areas, establishing funding mechanisms through which developers can provide replacement habitat while enabling them to meet their no net loss of habitat value goals. However, until the County-wide HCP is completed, the project applicant shall be required to determine if potential habitat for special status species is in fact present on the site, and if so, consult with the CDFG or USFWS to determine the significance of potential impacts on special-status wildlife, and to develop appropriate mitigation measures.

3 State Water Resources Control Board, “Guidance for Regulation of Discharges to ‘Isolated’ Waters,” June 25, 2004.

City of Dixon General Plan

The Dixon General Plan contains goals and policies related to the protection and maintenance of wildlife habitat. Applicable goals and policies are listed below.

NATURAL ENVIRONMENT

Goals

- To conserve natural resources
- To protect the environment within the Dixon Planning Area

Policies

Wildlife Habitat

13. The City shall require the proponents of new development projects to submit a study identifying the presence or absence of special-status species at proposed development sites. If special-status species are determined by the City to utilize a development site, appropriate mitigation measures must be incorporated as part of the proposed development prior to final approval.

Northeast Quadrant Specific Plan (NQSP)

The NQSP policies add detail to the City of Dixon General Plan policies or establish policies applicable only to the plan area.⁴ The following NQSP Resource Management Policies are applicable to wetlands, sensitive species and trees.

5.9.1 Wetlands

1. Any wetlands determined to be subject to state or federal regulation will be subject to review by the appropriate responsible federal and state agencies. Requirements of any permit issued by state and federal agencies will be fully implemented.
2. Any enhancement/compensation program required pursuant to state or federal permits will be the responsibility of the property owner(s). Where excavation is utilized to create or enhance wetlands, excavated soils should be reshaped to form gentle contours and then seeded with appropriate native species.
4. Implementation of both a short-term and long-term monitoring program to ensure the success of the required appropriate permits and EIR mitigation measures is required. The property owner(s) will be responsible for required monitoring.

5.9.2 Sensitive Species

1. Proponents of development applications within the specific plan area shall consult with DFG regarding the take of an endangered species or its habitat pursuant to the California Endangered Species Act (CESA) and DFG codes.
2. A breeding season survey should be conducted between April and July, prior to construction, to determine if the species nest on-site, if further impacts are a possibility, and to develop appropriate mitigation strategies.

4 City of Dixon, *Northeast Quadrant Specific Plan*, April 3, 1995, pages 1-4.

3. The Dixon Community Development Director in consultation with DFG shall define a set of conditions for approval on any development within the plan area consistency with the Regional Habitat Management Plan in effect at that time. Such conditions shall be applied by the Planning Commission and the City Council, in the City review and entitlement process. Such conditions shall be enforced by the Planning Department and the Public Works Department, during the review and approval of any land use or improvement plans pursuant to the land use entitlement

5.9.3 Trees and Orchards

1. Development plans shall identify the location, species, size and general condition of all existing trees on site, except trees within an orchard. Existing trees should be incorporated in the development plan where feasible.

The NQSP EIR included mitigation measures to reduce impacts to biological resources. Mitigation Measures B-D and B-E are listed below:

- B-D A breeding season survey shall be conducted between April and July in order to:
- Determine if the species nests on the project site
 - To develop appropriated mitigation measures, which may include a 1:1 replacement ratio of impacted foraging habitat. This replacement habitat should include alfalfa and row crops such as tomatoes, oats, wheat, barley and sugar beets.
- B-E Future development shall participate in a County-wide Habitat Management Plan.

Standards of Significance

Subsequent to Appendix G of the CEQA Guidelines and thresholds of significance derived from CEQA Guidelines section 15065, which sets forth several biology-related “mandatory findings of significance” that apply to analyses in EIRs, impacts to biological resources are considered significant if the Proposed Project would:

- Substantially reduce the habitat of a fish or wildlife species;
- Cause a fish or wildlife population to drop below self-sustaining levels;
- Threaten to eliminate a plant or animal community;
- Substantially reduce the number or restrict the range of an endangered, threatened, or rare species;
- Have a substantial, adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service;
- Have a substantial adverse impact on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Services.

- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
- Interfere substantially with the movement of any resident or migratory fish or wildlife species or with established resident or migratory wildlife corridors, or impede the use of 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, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan.

Methods of Analysis

Analysis of potential project impacts to biological resources is based on a combination of background and historic record searches and a reconnaissance level visit to the site. Background research included use of the California Department of Fish and Game’s Natural Diversity Database (CNDDDB), a species list from the USFWS *Quad Species Lists* website, a review of environmental documents prepared for this and related projects, reconnaissance-level field surveys and a review of the California Native Plant Society’s Electronic Inventory to determine what special-status plant or wildlife species are expected to occur in the vicinity of the project site.

Two reconnaissance level site visits were conducted on May 24 and June 1, 2004, to determine the habitat types that are present on the project site. Using that information, the list of species that was derived from the background research was analyzed to determine which of those species were likely to occur on the project site.

Impacts and Mitigation Measures

Impact 4.3-1	Construction of the Proposed Project could result in the loss of foraging habitat for Swainson’s hawk and other raptors (birds-of-prey).
Applicable Policies and Regulations	CEQA Guidelines 15380; General Plan Natural Environment Policy 13; NQSP Policies 5.9.2 1-3
Significance before Mitigation	Phase 1: Significant Phases 1 and 2: Significant
Applicable NQSP Mitigation Measures	None
Mitigation Measures	Phase 1: 4.3-1 Phases 1 and 2: 4.3-1
Significance after Mitigation	Phase 1: Less than Significant Phases 1 and 2: Less than Significant

Phase 1

The project site, with its abundance of row-crop agricultural fields provides suitable foraging habitat for the state-listed threatened Swainson's hawk, other common raptor species such as Cooper's hawk, white-tailed kite, northern harrier and potential winter migrants such as ferruginous hawk, and merlin, or other raptors protected under the California Fish & Game Code and Migratory Bird Treaty Act. There are approximately 57 recorded occurrences for Swainson's hawk within five miles of the project site, including one occurrence approximately 0.7 miles south of the project site (shown on Figure 4.3-1). In addition, there is one recorded occurrence for white-tailed kite within five miles of the project site. The loss of approximately 260 acres of potential foraging habitat which would be graded as part of Phase 1 would be considered a **significant impact**.

Phases 1 and 2

As part of Phase 1 the entire project site would be graded resulting in the loss of foraging habitat. Because there would be no additional loss of habitat associated with Phase 2, this is considered a less-than-significant impact. However, with Phase 1 and 2 combined, this would be considered a **significant impact**.

Mitigation Measures

Implementation of the following mitigation measures would reduce this impact a *less-than-significant level* through the acquisition and preservation of suitable foraging habitat, off-site at a ratio acceptable to CDFG. The measure could result in the avoidance of a substantial reduction in breeding pairs. Also, the preservation of suitable foraging habitat will not restrict the current range of Swainson's hawk.

4.3-1 (Phases 1 and 2)

The project applicant shall preserve an equal amount of suitable raptor foraging habitat based upon Phase 1 project impacts (at a 1:1 ratio). To the extent possible, mitigation lands that provide suitable habitat to mitigate impacts to multiple species could be considered as well as land that includes Prime Farmland to also comply with Mitigation Measure 4.7-1. Suitable foraging habitat includes alfalfa or other low growing row crops. Preservation may occur through either:

- 1) *Payment of a mitigation fee to an established mitigation bank, or similar habitat development and management company, or the City of Dixon through a negotiated agreement between the City and the project applicant. The monies will be held in a trust fund, and used to purchase mitigation credits to offset the loss of suitable foraging habitat for Swainson's hawk, and other raptors. The credits would become incorporated into the mitigation bank, owned and operated by the habitat development and management company, and protected in perpetuity (consistent with CDFG guidelines); or*
- 2) *Purchase of conservation easements or fee title of lands with suitable foraging habitat (consistent with CDFG guidelines).*

If mitigation lands (or a conservation easement covering the same) have not been acquired by the time of the first building permit, the City shall hold the project applicant's contribution in a separate, interest-bearing account until the appropriate lands are identified through the consultation with CDFG and City

and acquired by the City or preserved through other methods such as a suitable mitigation bank. This amount may also be paid by the City into the Solano County HCP effort if and when it becomes approved.

Impact 4.3-2	Construction of the Proposed Project (grading and vegetation clearing) could result in the loss of nesting birds that are protected by the CDFG or the MBTA.
Applicable Policies and Regulations	Migratory Bird Treaty Act; Fish and Game Code Sections 3503, 3503.5, 3511, 3513; CEQA Guidelines 15380; General Plan Natural Environment Policy 13; NQSP Policies 5.9.2 1-3
Significance before Mitigation	Phase 1: Potentially Significant Phases 1 and 2: Potentially Significant
Applicable NQSP Mitigation Measures	None
Mitigation Measures	Phase 1: 4.3-2(a) and (b) Phases 1 and 2: 4.3-2(a) and (b)
Significance after Mitigation	Phase 1: Less than Significant Phases 1 and 2: Less than Significant

Phase 1

In agricultural areas, the lack of natural nesting habitat sometimes results in the location of resident and migratory birds nests occurring within agricultural fields, especially fields that are planted in grain and/or alfalfa. Phase 1 would result in the removal of 200 acres of agricultural vegetation that could result in disturbances to nesting birds throughout the project area. Nesting birds, their nests, and eggs are fully protected by Fish and Game Code (Sections 3503, 3503.5) and the Migratory Bird Treaty Act. Destruction of such a nest would be a violation of these regulations and is considered a *potentially significant impact*.

Phases 1 and 2

All suitable nesting habitats on the project site would be removed under Phase 1 and development of Phase 2 would not alter the severity of this impact. This would be considered a *potentially significant impact*.

Mitigation Measures

Implementation of the following mitigation measures would reduce this impact to a *less-than-significant level*. If any nesting birds are identified, compliance with this mitigation measure would ensure that the birds would not be disturbed during the nesting season and a qualified biologist would monitor the site to verify that the area is not disturbed.

4.3-2(a) (Phases 1 and 2)

The project applicant, in consultation with the City of Dixon and CDFG, shall conduct a pre-construction breeding-season survey (approximately March 15 through August 30) of the project site

during the same calendar year that construction is planned to begin. The survey shall be conducted by a qualified biologist to determine if any protected or listed birds are nesting on or within 0.5 miles of the project site.

If phased construction procedures are planned for the Proposed Project, the results of the above survey shall be valid only for the season when it is conducted.

A report shall be submitted to the City of Dixon, following the completion of the bird nesting survey that includes, at a minimum, the following information:

- *A description of methodology including dates of field visits, the names of survey personnel with resumes, and a list of references cited and persons contacted.*
- *A map showing the location(s) of any bird nests observed on the project site.*

If the above survey does not identify any protected or listed nesting bird species on the project site, no further mitigation would be required. However, should any active protected or listed bird nests be located on the project site, the following mitigation measure shall be implemented.

4.3-2(b) (Phases 1 and 2)

The project applicant shall conduct pre-construction surveys for protected or listed nesting birds and implement protective measures if identified. The removal of vegetation in which nesting is occurring shall be avoided during the March 15 through August 30 bird nesting period to the extent possible. If no vegetation removal is proposed during the nesting period, no surveys shall be required. If it is not feasible to avoid the nesting period, a survey for protected or listed nesting birds shall be conducted by a qualified biologist no sooner than 21 days prior to the start of removal of vegetation, grading, or other construction activity. Survey results shall be valid for 21 days following the survey; therefore, if vegetation removal or grading is not started within 21 days of the survey, another survey shall be required. The area surveyed shall include all construction sites, access roads, and staging areas, as well as areas within 150 feet outside the boundaries of the areas to be cleared or as otherwise to be determined by the biologist.

In the event that an active nest is discovered in areas to be cleared, or in other habitats within 150 feet of construction boundaries, clearing and construction shall be postponed until a biologist has determined that the young have fledged (left the nest) or the nest is vacated and there is no evidence of a second nesting attempt. If construction cannot be delayed, avoidance shall include the establishment of a non-disturbance buffer zone around the nest site. The size of the buffer zone shall be determined in consultation with the City and CDFG. The buffer zone shall be delineated by highly visible temporary construction fencing.

Impact 4.3-3	Development of the Proposed Project would fill irrigation ditches that could be wetlands under State or federal jurisdiction.	
Applicable Policies and Regulations	Clean Water Act, Sections 401 and 404; Porter-Cologne Act; NQSP Policies 5.9.1 - 1, 2, 4	
Significance before Mitigation	Phase 1:	Significant
	Phases 1 and 2:	Significant
Applicable NQSP Mitigation Measures	None	
Mitigation Measures	Phase 1:	4.3-3
	Phases 1 and 2:	4.3-3
Significance after Mitigation	Phase 1:	Less than Significant
	Phases 1 and 2:	Less than Significant

Phase 1

Several agricultural irrigation ditches would be filled during construction of the Proposed Project. However, the only drainage ditch that may be considered under federal jurisdiction is the major east/west drainage ditch that crosses the site. Federal jurisdiction over irrigation ditches has recently been under scrutiny, but following the Ninth Circuit Court of Appeals ruling on *Headwaters Inc. v Talent Irrigation District*, irrigation ditches are considered under the jurisdiction of the Clean Water Act (CWA) if they are tributary to and exchange water with another water of the U.S. In addition, the ditch could fall under the regulatory authority of the Porter-Cologne Act (any surface or groundwater within the boundaries of the State). The major east/west drainage ditch on the site is likely to be considered jurisdictional, based on the fact that it conveys water that eventually ends up in Cache Slough or Lindsey Slough, both of which drain into the Sacramento River. However, there are other ditches present on the site that may fall under the State’s jurisdiction. Placing more than one tenth of an acre of fill material in the ditch would be considered a *significant impact*.

Phases 1 and 2

Construction of Phase 2 would not impact any additional potential wetlands, and therefore would not change the severity of the impact identified for Phase 1. The impact would remain *significant*.

Mitigation Measures

Implementation of the following mitigation measure would reduce this impact to a *less-than-significant level* by requiring that loss of any wetlands be compensated for at a 1:1 ratio.

4.3-3 (Phases 1 and 2)

- 1) *A formal wetland delineation shall be conducted and submitted to the U.S. Army Corps of Engineers to determine federal jurisdiction of the major east/west drainage ditch.*
- 2) *If the ditch is determined to be under the regulatory authority of the U.S. Army Corps of Engineers federal jurisdictional, then the project applicant shall prepare a CWA Section 404 permit, which would include compensation for the loss of habitat at a 1:1 ratio. Compensating*

for this loss on site is preferable and could be possible in the construction of the storm water conveyance/detention basin.

- 3) *If any of the other agricultural ditches on the site are not under federal jurisdiction, the project applicant shall consult with the Central Valley RWQCB for a permit to fill a water of the state. If the total acreage of the ditches is less than 0.2 acres, then the project applicant can apply under the State's Isolated Waters WDRs (Water Quality Order No. 2004-0004-DWQ). If the total acreage is greater than 0.2 acres, then the project applicant shall apply for an individual waste discharge requirement (WDR) by filing a Report of Waste Discharge (Form 200). The project applicant shall comply with any measures required by the Central Valley RWQCB as conditions of their permit. The loss of the ditches will be compensated at a 1:1 ratio.*

Cumulative Impacts and Mitigation Measures

For the purposes of this EIR analysis, the cumulative impacts analysis assumes build out of the adopted City of Dixon General Plan.

Impact 4.3-4	Cumulative development within the Solano, Yolo, and San Joaquin County portion of the Central Valley, including the Proposed Project, would contribute to the cumulative loss of foraging habitat for Swainson's hawk and other raptors.
Applicable Policies and Regulations	CEQA Guidelines 15380; General Plan Natural Environment Policy 13; NQSP Policies 5.9.2 1-3
Significance before Mitigation	Phase 1: Significant Phases 1 and 2: Significant
Applicable NQSP Mitigation Measures	B-D
Mitigation Measures	Phase 1: 4.3-4(a) and (b) Phases 1 and 2: 4.3-4(a) and (b)
Significance after Mitigation	Phase 1: Less than Significant Phases 1 and 2: Less than Significant

Phases 1 and 2

Solano County represents a portion of the core Swainson's hawk foraging area. The total acreage of Solano County is 530,188 acres; agricultural activities take place on 64%, or 344,107 acres, of the county's land.⁵ The open undeveloped farming and ranching (excluding vineyards and orchards) land within Solano could be considered marginal to high value Swainson's hawk foraging habitat. The project site represents a 0.07 percent of farming and ranching land in Solano County, a small increment of habitat available for Swainson's hawk foraging.

The project site is similar to thousands of acres of agricultural lands that are situated in the Central Valley of California. It is a contiguous habitat type from the east side of the coastal range to the foothills of the Sierra Nevada Mountains. In general, the agricultural lands of the Central Valley are low in plant and

⁵ University of California, Agricultural and Natural Resources, Cooperative Extension Solano County, December 2002.

wildlife diversity (the low diversity can be attributed to the planting of monocultures and the use of pesticides and herbicides); however, the site does support common local wildlife plant and wildlife species and plays an important role in the reproductive cycle of Swainson's hawk. In recent decades agricultural land has replaced some of the natural open annual grassland habitat that served as the primary foraging habitat for Swainson's hawk. Recently, the Swainson's hawks of the Central Valley have relied more and more on agricultural lands to provide suitable foraging habitat. The agricultural lands of Solano, Yolo, and San Joaquin County support the core breeding population of Swainson's hawks in California (Swainson's hawk is a migratory raptor and its breeding/reproductive cycle occurs here in California). The cumulative loss of foraging habitat as a result of urbanization of natural area agricultural foraging habitat throughout Solano, Yolo, and San Joaquin Counties would substantially reduce forage area necessary to support breeding nest sites for Swainson's hawks. As development continues, through the incremental development of tracts of land similar in size and character to the Proposed Project site, agricultural habitat becomes more and more progressively fragmented, reducing their value to Swainson's hawk and local common wildlife species.

As development in the vicinity of the project site continues, more mobile species may be able to survive by moving to new areas, while less mobile species would be eliminated (extirpated). However, with continued conversion of agricultural lands to human use, the availability and accessibility of remaining agricultural habitats in the Central Valley ecosystem would dwindle and those remaining agricultural lands would not be able to support additional plant or animal populations above their current carrying capacities because of increased competition for resources, displacement, and development induced introduction of non-native species. Construction of the Proposed Project would contribute to fragmentation of Swainson's hawk foraging habitat through the incremental conversion of agricultural lands to human use, and thus limit the availability and accessibility of remaining agricultural lands to common regional wildlife and Swainson's hawk. Therefore, because the Proposed Project would involve the conversion of agricultural foraging habitat to urban use in an area that is already subject to development from a number of other projects, the contribution to that loss from the Proposed Project would be considerable. Therefore, the loss of wildlife and wildlife habitat on agricultural lands on a regional level would be a ***significant cumulative impact***. Although the contribution of the Proposed Project to the cumulative loss of foraging habitat is relatively small, it is similar in size and scale to many of the other cumulative actions that would result in the cumulative impact. Therefore, the contribution of the Proposed Project to the significant cumulative impact is considerable.

Mitigation Measures

Although construction of the Proposed Project would result in a considerable contribution to the cumulative loss of Swainson's hawk foraging habitat, this contribution could be reduced through mitigation. Implementation of Mitigation Measure 4.3-1 would reduce the Proposed Project's contribution to the cumulative loss of Swainson's hawk foraging habitat to a less-than-considerable level. Thus, this impact would be reduced to a *less-than-significant level*.

4.3-4(a) *(Phases 1 and 2)*

Implement Mitigation Measure 4.3-1.

4.3-4(b) *(Phases 1 and 2)*

Implement Mitigation Measure B-D or B-E from the NQSP EIR:

The following mitigation measure from the NQSP EIR, including the proposed revision, would ensure adequate mitigation is provided to offset impacts to loss of foraging habitat.

B-D *A breeding season survey shall be conducted between April and July in order to:*

- *Determine if the species nests on the project site.*
- *Develop appropriate mitigation measures, subject to City approval, which may include a 1:1 replacement ratio of impacted foraging habitat. This replacement habitat should include alfalfa and row crops such as tomatoes, oats, wheat, barley and sugar beets or other similar preferred foraging crop. The acquisition of foraging habitat does not include restoration, enhancement, or modification of acquired lands.*

OR

B-E *Future development shall participate in a county-wide Habitat Management Plan.*

Impact 4.3-5	Cumulative development within the City of Dixon, including the Proposed Project, could contribute to the cumulative loss of jurisdictional wetlands or waters of the State.
Applicable Policies and Regulations	Clean Water Act, Sections 401 and 404; Porter-Cologne Act; NQSP Policies 5.9.1 - 1, 2, 4
Significance before Mitigation	Phase 1: Less than Significant Phases 1 and 2: Less than Significant
Applicable NQSP Mitigation Measures	None
Mitigation Measures	Phase 1: None required Phases 1 and 2: None required
Significance after Mitigation	Phase 1: Less than Significant Phases 1 and 2: Less than Significant

Phases 1 and 2

Over the last century or more, the vast majority of wetlands in the Solano County region have been filled or drained through the incremental effects of expanding agricultural activities, urbanization, and the construction of infrastructure for flood control and circulation. Natural wetland areas provide a variety of functions and values, including: serving as habitat for a variety of fish, water fowl, wetland invertebrates, and aquatic-dependent vegetation; providing capacity to convey stormwater; and absorbing and filtering sediment and other pollutants from the water. The combined effect of the historic loss of wetlands with the projected future effects of ongoing agricultural activities and increased urbanization in the region represents a significant cumulative impact.

In considering the magnitude of the Proposed Project’s contribution to this significant cumulative impact, it is important to recognize both the amount of wetlands that could be affected by the Proposed Project, as well as the quality (i.e., functions and values) of these affected wetlands.

Although the main east/west agricultural ditch could represent federal jurisdictional wetland habitat (upon verification from U.S. Army Corps of Engineers) it does not represent high quality wetland habitat with high functions and values. High quality wetlands can support fish and wildlife habitats, provide natural water quality improvement, flood storage, and opportunities for recreation and aesthetic appreciation. All of the agricultural ditches on the site are minimal in size (three to four feet wide and approximately 3,200 feet long), and do not support perennial or semi-perennial water. They are maintained in such a fashion as to preclude the growth of vegetation, thereby optimizing water movement or agricultural use and drainage. This maintenance process occurs either by direct removal of the vegetation or the application of herbicides. This process hinders the establishment of vegetation that could support native plant and wildlife species and provide natural water quality improvement. In addition, removal of the ditches would terminate the use of herbicides being sprayed in this particular locale, this could be considered a beneficial impact to the overall surface and groundwater quality in Solano County. The irrigation ditches are minimal in size (approximately 0.3 acres), and they do not support moderate or high wetland value, accordingly the contribution of the Proposed Project to the cumulative loss of wetlands is considered to be less than considerable thus, this impact is considered a *less-than-significant cumulative impact*.

Mitigation Measures

None required.

Impact 4.3-6	Cumulative development within the City of Dixon, including the Proposed Project, could adversely contribute to the cumulative loss of non-sensitive nesting birds that are protected by the CDFG or the MBTA.
Applicable Policies and Regulations	Migratory Bird Treaty Act; Fish and Game Code Sections 3503, 3503.5, 3511, 3513; CEQA Guidelines 15380; General Plan Natural Environment Policy 13; NQSP Policies 5.9.2 1-3
Significance before Mitigation	Phase 1: Less than Significant Phases 1 and 2: Less than Significant
Applicable NQSP Mitigation Measures	None
Mitigation Measures	Phase 1: None required Phases 1 and 2: None required
Significance after Mitigation	Phase 1: Less than Significant Phases 1 and 2: Less than Significant

Phases 1 and 2

The Proposed Project site consists of agricultural land (row and grain crops), the amount of habitat for non-sensitive wildlife that would be affected by implementation of the proposed project is quite small. Although the site does not act as a wildlife corridor, some of the wildlife species that do occur on site are highly mobile and will be able to relocate from the sites 260 acres to the adjoining larger areas of agricultural lands to the north, south, east and west. Other, resident nesting birds such as western meadowlark or house finch could be lost during project implementation. However, the project impacts to non-sensitive wildlife species would be less than significant, as the loss of these species would not

cause a substantial reduction of the habitat of a wildlife species, produce a drop in a wildlife population below self-sustaining levels, eliminate a plant or animal community, or substantially interfere with the movement of any resident or migratory wildlife species. In regards to non-sensitive avian species, the proposed project will not contribute to habitat fragmentation in this area. For these reasons, cumulative impact to non-sensitive wildlife species would be considered *less than significant*.

Mitigation Measures

None required.