## 5.4 BIOLOGICAL RESOURCES

### 5.4.1 INTRODUCTION

This section describes the existing biological resources within Subarea 2 and associated regulatory environment, and provides an assessment of potential impacts to those resources as they relate to proposed future development. The biological resources described are based on: 1) field observations conducted by Michael Brandman Associates (MBA) in February and March 2000, and again in March and April 2002; 2) several site visits by Dr. Tom McGill, MBA Regional Manager/Director of Resources Management, and Dr. Jack Bath of the Biological Services Department, California State Polytechnic University, Pomona, during January and February 2002 to identify potential conservation areas; and 3) review of existing documents and databases. Field surveys were conducted on foot and by vehicle to verify the information taken from aerial photos and maps, delineate vegetation associations (habitat types) and land cover types (associated with various land uses) and identify dominant plant species. *The Biological Resources Baseline Conditions Report for Subarea 2 of the Chino Valley Dairy Preserve* (MBA 2000) can be found in its entirety in the original Appendix B to the Draft EIR. The portion of Subarea 2 proposed for development contains 2,609 acres and is located above the 566-foot Prado Dam inundation area.

### 5.4.2 EXISTING CONDITIONS

The Chino Valley is influenced by the Santa Ana River drainage, which originates in the slopes of the San Bernardino Mountains to the northeast. The Santa Ana River drains through the narrow Santa Ana Canyon between Chino Hills and the Santa Ana Mountains and empties into the Pacific Ocean approximately 30 miles to the southwest. Elevations range from approximately 500 to 600 feet above sea level.

Major facilities either within or adjacent to the planning area include the Co-Composting Facility operated by the Inland Empire Utility Agency (IEUA), the California Institution for Women (CIW-Chino), and Prado Regional Park (including Prado Lake) located in the central and western portions of the site. Chino Airport is located along a portion of the northerly boundary of Subarea 2. Other dominant land use within Subarea 2 and vicinity primarily consists of dairy farming with associated residences and agricultural activities, such as cultivation of feed crops. Previous Exhibit 5.1-1 illustrates current land uses within the project site.

Two major creeks traverse Subarea 2: Chino Creek which drains southerly along the base of the Chino Hills, and the Cucamonga Creek flood channel which becomes Mill Creek before draining into the eastern portion of the Prado Basin and eventually into the Santa Ana River. These creeks reflect the general location of the flood hazard areas affecting Subarea 2 below the 566-foot dam inundation

area, as well as areas of moderate and high biological sensitivity. Previous Exhibit 5.3-1 illustrates the drainage characteristics of the site. Two other smaller drainages extend south from the Chino Airport through the western side of Subarea 2, before joining Prado Lake within Prado Regional Park (Drainage areas "B" and "C" shown on Exhibit 5.3-1). The drainage courses have been extensively altered from their natural conditions and no longer support natural vegetation or follow natural contours.

Sensitive habitat areas within Subarea 2 include riparian woodlands along the major stream channels, various dairy wastewater detention basins and open water areas, and freshwater marshes. Certain types of agricultural fields and eucalyptus windrows provide habitat of varying quality for raptor foraging and nesting, respectively. A variety of sensitive plant and animal species are known to occur in the vicinity of Subarea 2 and the Prado Basin.

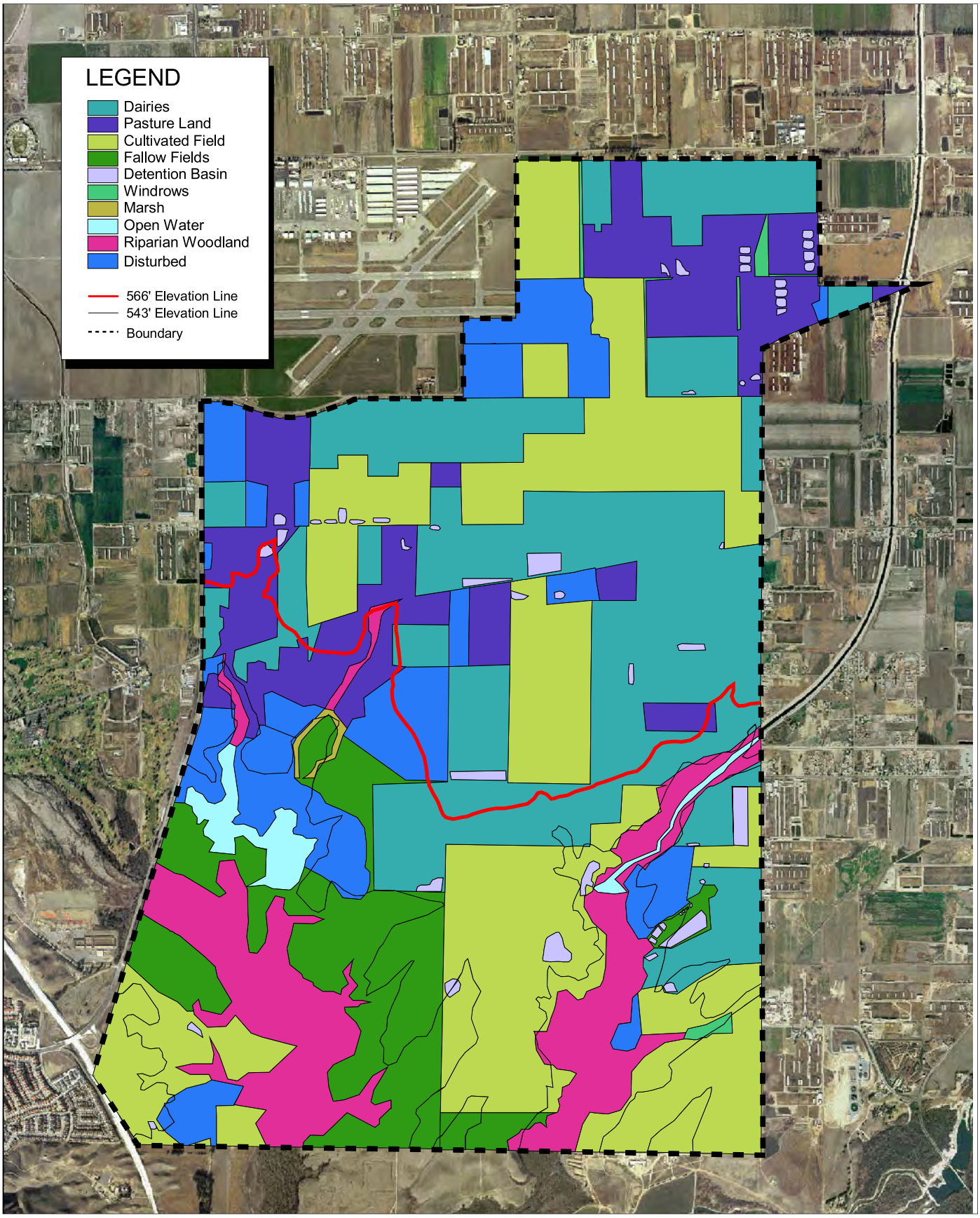
**Vegetation Association and Land Cover Types**

This section describes the vegetation associations that occur within Subarea 2. "vegetation association" is a general term that refers to an assemblage of plant species that form characteristic vegetation types. Vegetation associations vary by species composition, growth form or structure, and distribution that is characteristic of a particular habitat. A total of eight different vegetation associations or habitat types, discussed below, occur in areas with land cover types designated as surface water areas, agricultural land, windrows, riparian, and developed. Exhibit 5.4-1 illustrates the location of the land cover types within the boundaries of Subarea 2. Table 5.4-1 provides a summary of the land cover types, the acreage, and percentages found within Subarea 2.

Vegetation associations form the basis of the wildlife habitats. They provide the primary plant productivity upon which wildlife depends, along with nesting and denning sites, escape cover and protection from adverse weather. Many of the wildlife species that occur in the area use several of the vegetation associations to obtain all their life history needs. In general, more complex associations (with more layers of vegetation and more species) have more niches for wildlife and, thereby, provide higher value wildlife habitat than less complex vegetation communities.

**Surface Water Areas**

There are three types of surface water types within Subarea 2: Agricultural wastewater detention basin/drainages, marsh, and open water. The majority of the agricultural detention basins are created to control dairy activity wastewater run-off. These detention basins accumulate the surface flow from dairies after heavy rains. In some cases, these basins have been placed in what may have historically been drainages and areas potentially regulated by the U.S. Army Corps of Engineers (USACE) and California Department of Fish and Game (CDFG). While it might be possible for these




Source: Michael Brandman Associates and PBS&J

NORTH

Michael Brandman Associates

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Exhibit **5.4-1**

Land Cover Types and Biological Resources Map

THE PRESERVE · CHINO SUBAREA 2

detention basins to provide some marginal habitat for waterfowl and amphibian species, they are often heavily contaminated with manure from the dairy operations. Environmental groups seeking to stop contamination of the Project Area's water resources by the dairies have recently initiated a lawsuit against a number of the dairies in the Project Area.

**TABLE 5.4-1**
**LAND COVER TYPES FOUND WITHIN THE PRESERVE-SUBAREA 2**

| Habitat | Below 566 Line (acres) | Above 566 Line (acres) | Totals (acres) |
|---|---|---|---|
| **Surface Water Areas** | | | |
| Detention Basin | 36.3 | 38.3 | 74.6 |
| Marsh | 9.2 | -- | 9.2 |
| Open Water | 77.1 | -- | 77.1 |
| **Agricultural Land** | | | |
| Dairy | 352.0 | 1,084.4 | 1,436.4 |
| Pasture | 143.6 | 496.6 | 640.2 |
| Active Fields | 836.8 | 702.8 | 1,539.6 |
| Fallow Fields | 544.9 | 0.3 | 545.2 |
| Windrows | 6.8 | 17.2 | 24.0 |
| Riparian | 530.4 | 0.9 | 531.3 |
| **Developed Areas** | | | |
| Developed | 271.6 | 191.4 | 463.0 |
| Disturbed | 9.5 | 33.8 | 43.3 |
| Equestrian | 17.2 | 34.5 | 51.7 |
| **Totals** | **2,835.4** | **2,609.2** | **5,435.6** |

Below the 566-foot inundation line, marsh or riparian habitats occur adjacent to Chino and Mill creeks. These habitats potentially host a variety of special status species including migratory birds and waterfowl.

Open water bodies include Prado Lake and the upper portion of Mill Creek, which are also below the 566-foot inundation line. Open water bodies provide foraging habitat for raptors and other wildlife species and are used by migratory waterfowl.

**Agricultural Land**

Agricultural lands within Subarea 2 are characterized in four types: Active fields (croplands), fallow fields, dairies and pastures. Dairy lands are heavily impacted and provide little or no habitat value to wildlife. Active fields are largely covered with crops but may provide limited value to a few rodent species adapted to disturbance and urbanization. Raptor species may also forage over these fields. Fallow fields and pasture lands support mostly non-native ruderal vegetation but provide habitat for rodent species and foraging habitat for raptors.

The dominant vegetation within the cultivated agricultural fields is planted ornamental landscaping, cultivated crops, and fields of non-native grass and opportunistic weedy species. Bird activity is relatively high within these areas, but bird diversity is quite low. The following is a list of birds observed on the Preserve-Subarea 2.

- Great blue heron;
- Egrets;
- Turkey vulture;
- Red-tailed hawk;
- White-tailed kite;
- California horned lark;
- Killdeer; Mourning dove;
- Black phoebe;
- Western kingbird;
- American crow;
- Northern mockingbird; and
- Western meadowlark.

All but 1 acre of fallow fields occurs below the 566-foot inundation line. Some of these fields appear to undergo mechanical disking activities, most likely for fire prevention. Weedy species found throughout the fallow fields included wild oat (*Avena* sp.), ripgut brome (*Bromus diandrus*), red brome (*Bromus madritensis* ssp. *rubens*), soft chess (*Bromus hordeaceus*), black mustard (*Brassica nigra*), red-stemmed filaree (*Erodium cicutarium*), and cheeseweed (*Malva parviflora*). The majority of these fields follow a cycle of being used as cultivated fields, which are then grazed by dairy cows after harvest, and are then subsequently left fallow.

Fallow fields also develop characteristic ruderal vegetation, composed of a number of weedy species as described above. These habitats are used as foraging habitat by local raptor species. As noted above, less than one acre of fallow fields exists above the 566-foot elevation line, with the remaining 545 acres all being located below it.

There is an aggregate total of 496 acres of pastureland above the 566-foot elevation line. These pasture areas have similar characteristics to some of the cultivated and fallow fields, but are generally smaller areas and more immediately adjacent to the intensive dairy operations. Consequently, the pasture land may have limited biological value as native habitat, but can provide foraging habitat for the various raptor species within the vicinity.

The dairy lands are largely devoid of vegetation and are characterized by numerous fenced areas for holding high concentrations of dairy cows, manure stockpile areas, large buildings devoted to the dairy operations, residences for the dairy operators and farm workers, and associated equipment buildings. As noted above, the dairies also include agricultural detention basins to contain the manure-contaminated wastewater from the dairy operations. Approximately 1,093 acres of dairy lands occur above the 566-foot elevation line. The dairy lands do not provide valuable wildlife habitat.

**Windrows**

Windrows are typically a result of historic agricultural activities. The windrows are dominated by blue gum (*Eucalyptus globoratum*), although other species exist, including olive (*Fraxinus* sp.) pine (*Pinus* spp.), and cypress (*Cypressus* spp.). Eucalyptus windrows are primarily found in the Preserve associated with the pasture areas above the 566-foot inundation line. These windrows also provide nesting and foraging perches for bird species.

**Riparian Woodlands**

The riparian woodlands are found below the 566-foot inundation line in the Project Area and contain dense, broad-leaved, winter-deciduous riparian thickets dominated by several willow species and is associated with seasonally flooded or saturated stream and river corridors. The willow tree species typically forms thickets in riparian zones along creek channels, adjacent sandy or gravelly floodplains, and low stream terraces. The riparian woodland in the Project Area is an early seral phase of southern cottonwood-willow riparian forest and occurs primarily below the 566-foot elevation line along Chino and Mill Creeks. Most stands are too dense to allow much under story development. Characteristic species of this community include the black willow (*Salix gooddingii*), arroyo willow (*Salix lasiolepis*), red willow (*Salix laevigata*), and mule fat (*Bacharis salicifolia*).

**Existing Developed Areas**

Existing developed areas within the Project Area are characterized by ornamental vegetation, barren ground, and asphalt/concrete. These areas include commercial buildings, infrastructure, residential homes, and roads. They support a very limited amount of vegetation, which, if present, typically comprise non-native species planted for their aesthetic and utilitarian values. Within Subarea 2, these uses include the California Institution for Women, portions of Prado Regional Park, Prado Recreational Dog Training Facility, an industrial parcel southeast of Chino Airport, commercial nurseries, the IEUA manure composting facility, and equestrian facilities.

**Wildlife**

The vegetation associations discussed above provide varying degrees of useful wildlife habitat. While a few wildlife species are entirely dependent on a single vegetation association, the entire mosaic of all the vegetation associations within Subarea 2 and adjoining areas constitutes a functional ecosystem for a variety of wildlife species, both within Subarea 2 and as part of the regional ecosystem. Presented below is a discussion of wildlife populations observed or expected to occur within Subarea 2.

Subarea 2 has been greatly altered from natural conditions due to intensive agriculture and dairy operations. Nevertheless, this area continues to support a limited diversity of wildlife, specifically, a variety of bird species. The relatively level topography of Subarea 2 results in the accumulation of standing water that attracts numerous migratory birds. In addition, the absence of dense urbanization has allowed certain native animal and raptor species to persist within the area.

**Surface Water and Riparian Areas**

There are three types of surface water types within the Project Area: agricultural wastewater detention basin/drainages, marsh, and open water. Agricultural detention basins were created to control dairy activity run-off. These basins also serve to accumulate the surface flow from the dairy after heavy rains and are not regulated by USACE as a jurisdictional water of the United States. In a few cases, a wastewater detention basin may have been placed in what could have historically been drainages. Creeks and stream areas are regulated by both the USACE and CDFG.

The Project Area above the 566-foot elevation line contains approximately 38 acres of agricultural detention basins that hold runoff from dairy operations. These contain water with fairly high levels of animal waste and other pollutants from the dairies, and typically support very little vegetation. Some of these detention basins provide some foraging habitat for shorebirds (e.g., stilts, killdeer, etc.) and some wading birds (e.g., herons and egrets), especially during spring and fall migration periods, and to some extent in the winter.

The agricultural drainage courses through the portions of the Project Area above the 566-foot elevation line are quite dry in most locations. In many areas, these courses are essentially narrow roadside drainage ditches that are sparsely vegetated with weeds. One of the larger drainage courses (Drainage Area B, see previous Exhibit 5.3-1) runs from the airport area southwesterly to the lake at Prado Regional Park. Between Kimball Avenue and Bickmore Street, this drainage is primarily confined to an earthen, weedy ditch. Between Bickmore Street and Pine Avenue, this ditch is somewhat wider, and thickly grown with thistles and other weeds in most locations. These watercourses provide little biological value in their present condition. Less than 1 acre of quality riparian habitat exists above the 566-foot elevation line.

The number and diversity of amphibian species are expected to be minimal due to the lack of vegetation around most open water, frequent disturbance, and the often poor quality of surface water contaminated from agricultural practices. Expected amphibian species in wet areas include black-bellied slender salamander (*Batrachoseps nigriventris*), California toad (*Bufo boreas halophilus*), Pacific chorus frog [tree frog] (*Pseudacris regilla*), and introduced bullfrog (*Rana catesbeiana*).

Although the number of reptile species expected to be present is also likely to be low, the southwestern pond turtle (*Clemmys marmorata pallida*) may occur within open water areas below the 566-foot inundation line. The detention basins, stock watering ponds, drainages, and low areas subject to flooding are the focus of migratory bird activity in the area. Many of the species observed and likely to occur are attracted to open water at Prado Lake below the 566-foot elevation line and stock pond shorelines for food, cover from predators, and shelter from the elements.

Other migratory birds also expected to occur at the site are listed in *The Biological Resources Baseline Conditions Report for Subarea 2 of the Chino Valley Dairy Preserve* located in Appendix B. The diversity of these migratory birds includes waterfowl, wading birds, and shorebirds.

None of the mammals observed, or expected to occur, would be considered dependent upon open water areas, although most would occasionally use these resources.

**Agricultural Lands**

This type of habitat includes any open field, whether planted with crops, grazed, fallow or disked. Most of the animal species (other than birds) in Subarea 2 are likely to occur in these areas, especially in the southern parts of the plan, below the 566-foot dam inundation line and away from human disturbance.

There are four types of agricultural lands within the Project Area: dairy land, pastures, cultivated agriculture croplands, and fallow fields. Remnants of native vegetation are typically very minimal or absent within all of these areas.

The dominant vegetation within the agricultural croplands is planted ornamental landscaping, cultivated crops, and fields of non-native grass and opportunistic weedy species. Bird activity is relatively high within these areas, but bird diversity is quite low.

Weedy species found throughout the fields included wild oat, ripgut brome (*Bromus diandrus*), red brome (*Bromus madritensis* ssp. *rubens*), soft chess (*Bromus hordeaceus*), black mustard (*Brassica nigra*), red-stemmed filaree, and cheeseweed (*Malva parviflora*).

Fallow fields occur primarily below the 566-foot inundation line. Some of these fields undergo mechanical disking activities, most likely for fire prevention. The majority of these fields follow a cycle of being used as cultivated fields, which are then grazed by dairy cows after harvest, and subsequently are then left fallow. Fallow fields usually develop characteristic ruderal vegetation, composed of a number of weedy species as described above.

Amphibians are expected to be uncommon in these areas. However, among the reptiles expected to occur, are western fence lizard (*Sceloporus occidentalis*), side-blotched lizard (*Uta stansburiana*), southern alligator lizard (*Elgaria multicarinatusi*), and gopher snake (*Pituophis melanoleucus*). These are ubiquitous reptile species in California, readily seen in most parts of the State under most conditions, due to their tolerance of a wide range of habitat types and human activity.

Portions of agricultural fields are used by burrowing owls and other raptors as foraging habitat, where small rodents or birds are most likely to be visible. Notably, ferruginous hawks (a sensitive species) often roost on the ground in open fields in the area, especially where vegetation is low. Other raptors, including migrants and winter visitors, may perch in trees or on power transmission structures, or soar over fields while searching for prey.

Because drainage patterns of the area allow water to accumulate, the resulting wet fields also attract wading birds that forage on small animals that concentrate in the wet areas. Species known to occur in wet fields include great egret (*Ardea alba*), Canadian goose (*Branta canadensis*), common crow (*Corvus brachyrhynchos*), western meadowlark (*Sturnella neglecta*), red-winged blackbird (*Agelaius phoeniceus*), brown-headed cowbird (*Molothrus ater*), and house sparrow (*Passer domestiucs*).

**Windrows**

The windrows represent the tallest vegetation in the area. The trees comprise primarily blue gum (eucalyptus), although other non-native species are used near residences and structures. Windrows are typically a result of historic agricultural activities. The existing windrows in the Project Area are dominated by blue gum (*Eucalyptus globoratum*), although other species exist, including olive (*Fraxinus* sp.) pine (*Pinus* spp.), and cypress (*Cypressus* spp.). The eucalyptus windrows are primarily found in the Preserve in association with pasturelands and agricultural fields above the 566-foot inundation line. These windrow habitats also provide nesting and foraging perches for bird species.

Among other biological functions, the trees are important as perching and nesting sites for raptors (birds of prey). Subarea 2 attracts numerous raptors, especially when resident species, such as red-tailed hawk (*Buteo jamaicensis*) and American kestrel (*Falco sparverius*) are joined in late summer by migratory or wintering species from breeding grounds outside Subarea 2, with these migrants

remaining until spring. Raptors observed during field surveys and/or known to occur include turkey vulture (*Cathartes aura*), red-tailed hawk, American kestrel, and white-tailed kite (*Elanus leucurus*).

Some mammals may also use the trees in the windrows. Those mammals likely to use the windrows include raccoon (*Procyon lotor*), Virginia opossum (*Didelphis virginianus*) and several common bat species. Mammals known to occur in agricultural fields (wet or otherwise), also include house mouse (*Mus musculus*), California ground squirrel (*Spermophilus beecheyi*), coyote (*Canis latrans*), domestic dog (*Canis familiaris*), striped skunk (*Mephitis mephitis*), desert cottontail (*Sylvilaus audubonii*) and house cat (*Felis catus*).

**Developed Areas**

Currently existing developed areas within the Project Area are characterized by ornamental vegetation, barren or disturbed ground, and asphalt/concrete areas. These urbanized areas include commercial buildings, infrastructure, residential homes, prisons and roads. They support a very limited amount of vegetation, which, if present, typically comprise non-native species planted for their aesthetic and utilitarian values. Within the Project Area, these uses include the California Institution for Women, portions of Prado Regional Park, the Prado Recreational Dog Training Facility, industrial parcels southeast of Chino Airport, commercial nurseries, the IEUA manure composting facility, and equestrian facilities.

The concentration of human and livestock activity around structures in the developed areas displaces many of the wildlife species that are found elsewhere in Subarea 2. The wildlife likely to be observed in such developed areas is usually non-native, or more common native species that are tolerant of human activity. Common species known to occur within developed areas include western fence lizard, Norway rat (*Rattus norvegicus*), and house mouse (*Mus musculus*).

**Sensitive Biological Resources**

This section describes those species of plants and wildlife known to occur, or have the potential to occur, on or within the vicinity of the project site that have been afforded special recognition by federal, state, or local resource conservation agencies and organizations. Recognition is given due to the species' declining or limited population sizes, resulting in most cases from habitat loss. Sources used to determine sensitivity status and occurrence of biological resources include: plants--U.S. Fish and Wildlife Service (USFWS) (1996), the California Department of Fish and Game Natural Diversity Data Base (CNDDB) Version 2.1.2, 2002, *Federal Register* listing package; and California Native Plant Society (CNPS) Electronic Inventory of Rare and Endangered Vascular Plants of California.

The relative sensitivity of vegetation associations within Subarea 2 is mapped on Exhibit 5.4-2.