[***Note to Reviewers:*** *This handout presents draft text for Section 5.6 of Chapter 5, Conservation Strategy. This section describes how implementation of the BRCP conservation measures are also expected to contribute to the conservation of the Stakeholder Committee designated Local Concern Species. This section does not address the local concern fish species and will be updated to include this information when all elements of the conservation strategy for the covered fish species have been completed.*]

5.6 Benefits of Conservation Measures for Local Concern Species

This section describes how implementation of the conservation measures described in Section 5 will benefit the Local Concern Species.

5.6.1 Greater Roadrunner

In California, the greater roadrunner's distribution extends the length of the Central Valley and Sierra foothills, in Coast Ranges and valleys, and throughout Southern California. Few confirmed breeding locations have been reported in California, all of which are in the south (Famolaro 2002). The species is considered rare in northern California and in Butte County (Snowden 2001). There are no recent records of breeding greater roadrunners in Butte County; however, Snowden (2001) considers it a potentially breeding bird. While there are insufficient records to establish a current distribution of the species in the Plan Area, the grassland and chaparral communities and the oak woodland/grassland communities on the east side of the Plan Area are considered potential habitat. Riparian forest patches also have the potential to serve as greater roadrunner habitat.

Greater roadrunner is found in arid, semi-open grassland and scrub habitat, including chaparral and coastal scrub communities. It is also considered a bird of riparian areas and their agricultural edges in parts of the species' distribution including in California (e.g., Warner and Hendrix 1984). In the northern part of the state, the greater roadrunner is associated with a mix of open grasslands and chaparral, and occasionally with oak savannah habitats supporting patches of shrubs and thickets. It is generally found in flat to semi-flat terrain. The grassland and chaparral communities on the east side of the Plan Area provide suitable habitat conditions for the greater roadrunner. While the species could potentially occur further westward onto the valley floor, the intensive agricultural and increasing development-related fragmentation preclude regular use of this area.

The greater roadrunner has no special status in California. Reportedly fairly common during the first half of the 20th century, it is currently considered rare and declining. Overhunting and extensive residential and agricultural development are responsible for population declines and local extirpations in the state. Habitat loss and fragmentation caused by urbanization continue to be the main threat to the species in California (Unitt 1984).

5.6.1.1 Applicable Conservation Measures

- CM1: Protect Natural Communities
- CM4: Restore riparian habitats
- CM9: Enhance and manage protected natural communities

5.6.1.2 Rationale and Conservation Approach

The conservation approach for the greater roadrunner relies on the protection and management of grassland, oak woodland/savannah, chaparral, and riparian forest natural communities, particularly on the eastern side of the Plan Area. Full implementation of the BRCP will protect an additional 3,665 acres of blue oak savannah, 51,020 acres of grassland, and 5,650 acres of riparian natural community (including __ acres of restored riparian habitat) that support habitat for the greater roadrunner, resulting in protection of over 40%, 64%, and 80% percent of these communities in the Plan Area, respectively (Table 5-6). Protected lands will include a mosaic of grassland and savannah with smaller patches of chaparral and stringers of riparian forest. Enhancement and management of these communities to achieve the biological goals and objectives (see Section 5.4.2.6, *CM9: Enhance and Manage Protected Communities*) is compatible with greater roadrunner habitat management. Protection and management of these natural communities under the BRCP will maintain habitat and provide for future occurrences of this species in the Plan Area.

5.6.2 Northern Harrier

In California, the northern harrier is a permanent resident of the northeastern plateau, coastal areas, and the Central Valley. It is also a widespread winter visitor and migrant in suitable habitat. Nesting records of northern harrier are not well documented in the Plan Area, due in part to the difficulty locating nests. The species likely breeds in all suitable habitat areas noted below, but the largest and most secure nesting areas are those with a marsh component and are relatively undisturbed, such as the Gray Lodge and Llano Seco wetland areas.

Throughout its range, northern harriers occur primarily in open wetland, grassland, and agricultural habitats. The northern harrier is a ground-nesting raptor, constructing rudimentary nest sites on the ground in marsh, grassland, and some agricultural habitats, particularly grain fields. They forage in seasonal wetland, grassland, and agricultural habitats for voles and other small mammals, birds, frogs, and small reptiles, crustaceans, and insects. Foraging activity occurs throughout all suitable habitats and is particularly important during the winter season when northern migrants are present in the Plan Area (Snowden 2001). They also roost on the ground, using tall grasses and forbs in wetlands, or along wetland/field borders for cover (MacWhirter and Bildstein. 1996).

The northern harrier is designated by the California Department of Fish and Game (DFG) as a state species of special concern (Remsen 1978). Breeding populations have declined from destruction of wetland habitats, native grasslands, and moist meadows, and in agricultural areas

from burning and plowing of nest sites during early stages of the breeding cycle (MacWhirter and Bildstein. 1996). The species has likely declined in Butte County as a result of agricultural conversion, particularly incompatible crop types such as orchards.

5.6.2.1 Applicable Conservation Measures

- CM1: Protect Natural Communities
- CM6: Restore/create emergent wetland
- CM7: Create managed wetland
- CM9: Enhance and manage protected natural communities

5.6.2.2 Rationale and Conservation Approach

The conservation approach for the northern harrier relies on the protection, restoration, and management of grassland, wetland, and agricultural natural communities throughout the Plan Area. Full implementation of the BRCP will protect an additional 51,020 acres of grasslands, 3,025 acres of emergent and managed wetlands (including __ acres of restored wetlands), and 86,900 acres of compatible (non-orchard/vineyard) agricultural natural communities that provide suitable habitat for the northern harrier, resulting in protection of over 64%, 87%, and 66% of these communities in the Plan Area, respectively (Table 5-6). Protected lands will include large expanses of wetlands and agricultural lands that currently support northern harrier breeding populations. Enhancement and management of these communities to achieve the biological goals and objectives (see Section 5.4.2.6, *CM9: Enhance and Manage Protected Communities*) is compatible with northern harrier habitat management. Protection and management of these natural communities under the BRCP will maintain suitable habitat to support existing northern harrier populations and enhance protected habitats to provide for future increases of breeding and wintering populations in the Plan Area.

5.6.3 Golden Eagle

In North America, golden eagles breed from Alaska to Mexico and from the west coast east to Texas. In California, the species breeds throughout the mid- to higher elevation portions of the state and throughout the southern California deserts (Kochert et al. 2002). There are no recent records of nesting golden eagles from the Plan Area. A south-facing cliff-site nest has been recorded just west of Table Mountain, but there has been no recently recorded activity at this site. Golden eagles are known to nest on the Sutter Buttes, just south of the Plan Area. Golden eagles are occasionally observed in the Plan Area including a recent sighting near Chico (http://chicobirding.com).

In California, golden eagles are generally found in open country, including open woodlands and coniferous forests, grasslands, chaparral habitats, and deserts. They forage primarily on

lagomorphs and ground squirrels (Olendorff 1976). They nest on cliff ledges, large outcrops, and where these habitats are limited they will readily nest in a variety of trees (Bruce et al. 1982). Available nesting habitat is found in the far eastern portion of the Plan Area. Cliff faces associated with steep canyons provide potential nesting substrates. Large oak trees, foothill pine, and other conifers also provide potential nesting habitat. Suitable foraging habitat includes grassland and chaparral areas in the eastern portion of the Plan Area, and cultivated farmland and pasturelands in the interior and western portions of the Plan Area.

Formerly designated by DFG as a species of special concern, the golden eagle is not included on the revised list of California bird species of special concern (Shuford and Gardali 2008). The golden eagle is protected under the federal Bald and Golden Eagle Protection Act. Golden eagle habitat has been reduced throughout its range from urbanization and agricultural conversion. The species is also sensitive to a variety of human disturbances during the breeding season and thus proximity to altered landscapes and human activities influences the distribution of nest sites.

5.6.3.1 Applicable Conservation Measures

- CM1: Protect Natural Communities
- CM9: Enhance and manage protected natural communities

5.6.3.2 Rationale and Conservation Approach

The conservation approach for the golden eagle relies on the protection and management of grassland, oak woodland/savannah (and associated chaparral), and agricultural natural communities throughout the Plan Area. Full implementation of the BRCP will protect an additional 7,230 acres of oak woodland/savannah, 51,010 acres of grassland, and 86,900 acres of compatible (non-orchard/vineyard) agricultural natural communities that provide suitable habitat for the golden eagle, resulting in protection of over 16%, 64%, and 66% of these communities in the Plan Area, respectively (Table 5-6). Protected lands will include large expanses of grasslands and woodlands on the eastern edge of the Plan Area where golden eagles may potentially nest in the future and compatible agricultural foraging habitats throughout the Plan Area to support wintering golden eagles. Enhancement and management of these communities to achieve the biological goals and objectives (see Section 5.4.2.6, *CM9: Enhance and Manage Protected Communities*) is compatible with golden eagle habitat management. Protection and management of these natural communities under the BRCP will maintain suitable habitat to support existing golden eagle populations and enhance protected habitats to provide for future increases of breeding and wintering populations in the Plan Area.

5.6.4 Merlin

The merlin occurs throughout the Northern Hemisphere. In North America, it breeds in Alaska and Canada south of the tree line, south to some of the contiguous U.S., including Washington

and Oregon along the Pacific coast, and Idaho, Montana, and Wyoming in the interior west (Hawk Mountain 2007). The merlin is a partial migrant, with some populations wintering as far south as Central America, Columbia, Ecuador, northern Peru, and Venezuela. The winter range also includes coastal western Canada, Alaska, California and other western states, the Midwest, and the mid-Atlantic and southeastern coasts of the U.S. (Hawk Mountain 2007). In California, the merlin is an uncommon winter migrant from September to May, occurring in most of the western half of the state below 1,500 m (Zeiner et al. 1990). Merlins are occasionally reported in Butte County during the non-breeding season. The species occurs uncommonly throughout the non-orchard agricultural, grassland, vernal pool grassland, and wetland communities.

Merlins occupy a wide variety of vegetation types during the winter including open grasslands, savannas, and woodlands. It frequents coastlines, wetlands, and lake shorelines but can also be found in open ponderosa pine and montane hardwood-conifer habitats (Zeiner et al. 1990). The species is also occasionally found in or along agricultural fields or in urban areas, but require concentrations of small-bird prey (Stahlecker 2010). Within the Plan Area, available habitat includes non-orchard agricultural fields, grasslands and vernal pool grasslands, and seasonal and permanent marshes and wetlands. Merlins may benefit from rice fields because these areas concentrate shorebird and other avian prey (Jones & Stokes 2005).

The merlin is on the California Department of Game and Fish's Watch List (DFG 2009). Otherwise it has no special federal or state status. Once negatively affected by DDT and described as having "markedly" declined over the past several decades in California, the North American merlin population is currently increasing in size and exhibiting a breeding range expansion (Zeiner et al. 1990, Stahlecker 2010).

5.6.4.1 Applicable Conservation Measures

- CM1: Protect Natural Communities
- CM6: Restore/create emergent wetland
- CM7: Create managed wetland
- CM9: Enhance and manage protected natural communities

5.6.4.2 Rationale and Conservation Approach

The conservation approach for the merlin relies on the protection, restoration, and management of grassland, oak savannah, wetland, and agricultural natural communities throughout the Plan Area. Full implementation of the BRCP will protect and additional 51,020 acres of grassland, 3,665 acres of blue oak savannah, 3,025 acres of emergent and managed wetland (including XX acres of restored wetlands), and 86,900 acres of compatible (non-orchard/vineyard) agricultural natural communities that provide suitable habitat for the merlin, resulting in protection of over 64%, 40%, 87%, and 66% of these communities in the Plan Area, respectively (Table 5-6). Protected lands

will include large expanses of savannah, grassland, wetlands, and agricultural lands that currently support wintering merlins. Enhancement and management of these communities to achieve the biological goals and objectives (see Section 5.4.2.6, *CM9: Enhance and Manage Protected Communities*)is compatible with merlin habitat management. Protection and management of these natural communities under the BRCP will maintain suitable habitat to support existing merlin populations and enhance protected habitats to provide for future increases of breeding and wintering populations in the Plan Area.

5.6.5 Prairie Falcon

The prairie falcon is distributed throughout the arid west, ranging from southern Canada to northern Mexico and east to Texas. In California, the species is found primarily in the coastal ranges, Great Basin deserts of northeastern California and east of the Sierra Nevada, and the southern California deserts. Prairie falcons are also found, although rarely, along the western slope of the Sierra Nevada and is considered a rare breeding bird in Butte County (Snowden 2001). There are no recent records of nesting prairie falcons in the Plan Area. Snowden (2001) considers the species a rare breeder along the eastern edge of the Plan Area. The species is more frequently observed during the winter, when it can be found hunting in agricultural, grassland, and scrub habitats throughout the Plan Area.

The Prairie falcon nests almost exclusively on cliff ledges and protected large rock outcrops. They forage in grasslands, prairies, and in cultivated fields and pasture habitats. Available nesting habitat is restricted to the cliff faces associated with steep canyons on the eastern edge of the Plan Area. Available foraging habitat includes the grassland and open chaparral and woodland habitats on the east side and to a lesser extent cultivated habitats in the interior and western portions of the Plan Area.

Formerly designated by DFG as a species of special concern, the prairie falcon is not included on the revised list of California bird species of special concern (Shuford and Gardali 2008) and otherwise has no special status in California. Prairie falcon habitat has been reduced throughout its range from urbanization and agricultural conversion. The species is also sensitive to a variety of human disturbances during the breeding season and thus proximity to altered landscapes and human activities influences the distribution of nest sites.

5.6.5.1 Applicable Conservation Measures

- CM1: Protect Natural Communities
- CM9: Enhance and manage protected natural communities

5.6.5.2 Rationale and Conservation Approach

The conservation approach for the prairie falcon relies on the protection and management of grassland, oak savannah, and agricultural natural communities throughout the Plan Area. Full

implementation of the BRCP will protect an additional 3,665 acres of oak savannah, 51,010 acres of grassland, and 86,900 acres of compatible (non-orchard/vineyard) agricultural natural communities that support suitable habitat for the prairie falcon, resulting in protection of over 40%, 64%, and 66% of these communities in the Plan Area, respectively (Table 5-6). Protected lands will include large expanses of grasslands and savannahs on the eastern edge of the Plan Area where prairie falcons may potentially nest in the future and compatible agricultural foraging habitats throughout the Plan Area to support wintering prairie falcons. Enhancement and management of these communities to achieve the biological goals and objectives (see Section 5.4.2.6, *CM9: Enhance and Manage Protected Communities*) is compatible with prairie falcon habitat management. Protection and management of these natural communities under the BRCP will maintain suitable habitat to support existing prairie falcon populations and enhance protected habitats to provide for future increases of breeding and wintering populations in the Plan Area.

5.6.6 Long-eared Owl

The breeding distribution of the long-eared owl extends throughout most of southern Canada, northern eastern U.S., the Great Lakes region, and throughout much of the northern prairie and western U.S. In California, the species occurs uncommonly throughout much of the state with reported historic concentrations in the Sacramento Valley, San Joaquin Valley, and in the San Diego area, where it is now rare, and more current concentration areas at various locations on the east side of the Sierra Nevada, such as the Susan River, and in desert oases in southern California deserts (Marks et al. 1994). While thought to be extirpated in many locations, including the Sacramento Valley, the species is very secretive and potentially more common than recorded observations would suggest. Considered rare by Snowden (2001) and an uncertain breeder, there are no recent reported breeding occurrences of long-eared owls from the Plan Area. Occurrences reported by Altacal Audubon and others are winter occurrences.

The long-eared owl requires dense wooded areas for daytime roosting and nesting with adjacent open areas where they hunt for small rodents and occasionally small birds. Long-eared owls are often associated with coniferous forest edges or patches of conifers, riparian woodland, and oak woodland habitats where sufficient cover is available. Snowden (2001) reports a preference for riparian vegetation dominated by box elder or willow. They do not construct their own nest, instead, they use stick nests built by other species, including American crows and various hawk species. Adjacent foraging habitats include grasslands, shrublands, open woodlands, cultivated farmland, and other open habitats. Habitat requirements are similar during breeding and wintering seasons (Marks et al. 1994). Available nesting and roosting habitat includes dense riparian woodlands along the Sacramento River, Feather River, Big Chico Creek, and Butte Creek, willow and box elder thickets along smaller drainages, and woodlands along the edges of grassland and chaparral habitats in the eastern portion of the Plan Area.

The long-eared owl is designated by DFG as a state bird species of special concern (Shuford and Gardali 2008). The loss and degradation of riparian and oak woodland habitat from urban

expansion, agricultural conversion, timber management, water storage projects, and other factors are responsible for population declines and extirpations of this species.

5.6.6.1 Applicable Conservation Measures

- CM1: Protect Natural Communities
- CM4: Restore riparian habitats
- CM9: Enhance and manage protected natural communities

5.6.6.2 Rationale and Conservation Approach

The conservation approach for the long-eared owl relies on the protection, restoration, and management of oak woodland, grassland, riparian, and agricultural natural communities throughout the Plan Area. Full implementation of the BRCP will protect an additional 7,230 acres of oak woodland, 51,020 acres of grassland, 6,370 acres of cottonwood/valley oak and willow scrub (including __ acres of restored riparian habitat), and 86,900 acres of compatible (non-orchard/vineyard) agricultural natural communities that provide suitable habitat for the long-eared owl, resulting in protection of over 16%, 64%, 75%, and 66% of these communities in the Plan Area, respectively (Table 5-6). Enhancement and management of these communities to achieve the biological goals and objectives (see Section 5.4.2.6, *CM9: Enhance and Manage Protected Communities*) is compatible with long-eared owl habitat management. Protection and management of these natural communities under the BRCP will maintain suitable habitat to support existing long-eared owl populations and enhance protected habitats to provide for future increases of breeding and wintering populations in the Plan Area.

5.6.7 Short-eared Owl

The short-eared owl breeding range extends from Alaska to Central California in the west and Northern Quebec and Newfoundland to Northern Virginia in the east. The winter range includes all of southern U.S. to southern Mexico (Holt and Leasure 1993). In California, the historic breeding range included most of the lowland portions of the state. The current breeding distribution includes remaining open wetland, marsh, and prairie habitats in the Central Valley and coastal areas. The species winters primarily in the Central Valley, Sierra Nevada foothills, and southern California. Few breeding records for Butte County are available. Snowden (2001) reports the short-eared owl as a rare breeder in Butte County. Breeding records are from the Llano Seco and Butte Creek watershed areas.

Short-eared owls are usually found in open areas with few trees, including annual and perennial grasslands, prairies, meadows, freshwater emergent marshes, dunes, and irrigated pasturelands where it nests and roosts on the ground in dense vegetation and forages on small rodents and birds. Potential nesting habitat for short-eared owls in the Plan Area is similar to the northern harrier. Probably the highest value potential nesting habitat occurs in the wetland habitats of

Llano Seco and the Butte Creek watershed in and around Gray Lodge Wildlife Area. Irrigated cropland and the grassland and grassland/vernal complexes in the eastern portion of the Plan Area also provide suitable wintering habitat.

The short-eared owl is designated by DFG as a state species of special concern (Shuford and Gardali 2008). The loss and degradation of grassland, pastureland, and wetland breeding and foraging habitats from urban expansion, agricultural conversion, incompatible water management, and grazing are considered the primary threat to this species.

5.6.7.1 Applicable Conservation Measures

- CM1: Protect Natural Communities
- CM6: Restore/create emergent wetland
- CM7: Create managed wetland
- CM9: Enhance and manage protected natural communities

5.6.7.2 Rationale and Conservation Approach

The conservation approach for the short-eared owl relies on the protection, restoration, and management of grassland, wetland, and agricultural natural communities throughout the Plan Area. Full implementation of the BRCP will protect an additional 51,020 acres of grasslands (including vernal pool complex), 3,025 acres of emergent and managed wetlands (including __ acres restored wetlands), and 86,900 acres of compatible (non-orchard/vineyard) agricultural natural communities that provide suitable habitat for the short-eared owl, resulting in protection of over 64%, 87%, and 66% of these communities in the Plan Area, respectively (Table 5-6). Protected lands will include large expanses of wetlands, grasslands, and agricultural lands that currently support short-eared owl breeding or wintering populations. Enhancement and management of these communities to achieve the biological goals and objectives (see Section 5.4.2.6, *CM9: Enhance and Manage Protected Communities*) is compatible with short-eared owl habitat management. Protection and management of these natural communities under the BRCP will maintain suitable habitat to support existing prairie falcon populations and enhance protected habitats to provide for future increases of breeding and wintering populations in the Plan Area.

5.6.8 Willow Flycatcher

The breeding range of the willow flycatcher extends across southern Canada and throughout most of the U.S. with the exception of the southeast U.S. It winters in Central and South America (Sedgewick 2000). In California, Grinnell and Miller (1944) reported nesting willow flycatchers throughout the state wherever deciduous shrubs, mainly thickets of willows, occurred. Currently, the species is considered a rare to locally uncommon summer resident in wet meadows and montane riparian habitats from 600 to 2,440 m and a common spring and fall

migrant at lower elevations (Craig and Williams 1998). *E.t. brewsteri* is currently found primarily in isolated Sierra Nevada and Cascade meadows, but has more recently been detected in several new locales such as along the Klamath River (Craig and Williams 1998). There are no recent breeding occurrences of willow flycatcher from the Plan Area. Snowden (2001) reports breeding activity at a few wet meadow riparian areas in northern Butte County, but outside of the Plan Area. Dawn Garcia of California State University, Chico reports several migratory occurrences along Butte Creek in 2006. Other occurrences during the spring and fall migratory periods are periodically reported by local birders.

Breeding habitat is typically moist meadows with perennial streams; lowland riparian woodlands dominated by willows (*Salix* spp.), primarily in tree form, and cottonwoods (*Populus* spp.), or smaller spring-fed or boggy areas with willow or alders (*Alnus* spp.) (Serena 1982, Harris et al. 1988 [in Craig and Williams 1998]). Riparian deciduous shrubs or trees, such as willow or alder, are essential elements on willow flycatcher territories (Sanders and Flett 1989, Harris et al. 1988 in Craig and Williams 1998). During migration, the species can be observed along riparian corridors at lower elevations. There is no extensive wet meadow-riparian breeding habitat within the Plan Area. Riparian habitat along the Sacramento and Feather Rivers, Butte Creek and Big Chico Creek, and other smaller drainages, provide suitable cover and roosting habitat during the fall and spring migratory periods.

The willow flycatcher is listed as State Endangered. Of the three subspecies present in California, *E. t. brewsteri* is the most likely to occur in the Plan Area. The loss and degradation of riparian habitat from urban expansion, agricultural conversion, water projects, and grazing is considered the primary threat to this species.

5.6.8.1 Applicable Conservation Measures

- CM1: Protect Natural Communities
- CM4: Restore riparian habitats
- CM9: Enhance and manage protected natural communities

5.6.8.2 Rationale and Conservation Approach

The conservation approach for the willow flycatcher relies on the protection, restoration, and management of riparian natural community throughout the Plan Area. Full implementation of the BRCP will protect an additional 6,370 acres of cottonwood/valley oak and willow scrub riparian, including __ acres of restored riparian forest, resulting in protection of 75% of this community in the Plan Area (Table 5-6). Enhancement and management of these communities to achieve the biological goals and objectives (see Section 5.4.2.6, *CM9: Enhance and Manage Protected Communities*) is compatible with willow flycatcher habitat management and will maintain suitable habitat and provide for existing and future occurrences of this species in the Plan Area.

5.6.9 Loggerhead Shrike

The breeding range extends from central prairie provinces and the Canadian border southward to Florida, west to California, and southern Mexico (Yosef 1996). In California, the loggerhead shrike is a permanent resident and winter visitor in foothills and lowlands throughout California, where it is considered a fairly common resident (Small 1994). Nests sites are infrequently reported and documented, likely due to the difficulty locating nests; however, occurrences of individual birds are regularly, although infrequently, reported by local birders. Snowden (2001) considers the species uncommon in Butte County and notes that populations may be declining as a result of the loss of potential nest sites (small trees and shrubs).

Shrikes prefer open habitats with scattered trees, shrubs, posts, fences, utility lines, or other perches. It nests in small trees and shrubs and forages for small rodents and insects in pastures and agricultural lands. Most of the Plan Area is considered potential habitat for loggerhead shrike, particularly the lower elevation pasture and non-orchard agricultural lands with small trees and shrubs for nesting. Highest value lands may occur in the open pastures and irrigated croplands in the southwestern portion of the Plan Area, and in the open grassland habitats on the eastern side of the Plan Area.

The loggerhead shrike is designated by DFG as a state species of special concern (Shuford and Gardali 2008). The loss and degradation of open grasslands and shrublands from urban expansion and conversion of agricultural lands to incompatible crops (e.g., orchards/vineyards) are among the threats to this species.

5.6.9.1 Applicable Conservation Measures

- CM1: Protect Natural Communities
- CM9: Enhance and manage protected natural communities

5.6.9.2 Rationale and Conservation Approach

The conservation approach for the loggerhead shrike relies on the protection and management of grassland and agricultural natural communities throughout the Plan Area. Full implementation of the BRCP will protect an additional 51,010 acres of grassland and 86,900 acres of compatible (non-orchard/vineyard) agricultural natural communities that support suitable habitat for the loggerhead shrike, resulting in protection of over 64% and 66% of these communities in the Plan Area, respectively (Table 5-6). Protection and restoration of riparian habitats and protection of oak woodland/savannah habitats will also provide additional protected nesting and roosting habitat for shrikes where these habitats are adjacent to open grassland or agricultural foraging habitats. Protection of some seasonal wetlands may also contribute to overall habitat protection for this species. Protected lands will include large expanses of grasslands on the eastern edge of the Plan Area and compatible agricultural foraging habitats throughout the Plan Area. Enhancement and management of these communities to achieve the biological goals and objectives (see Section

5.4.2.6, *CM9: Enhance and Manage Protected Communities*) is compatible with loggerhead shrike habitat management. Protection and management of these natural communities under the BRCP will maintain suitable habitat to support existing loggerhead shrike populations and enhance protected habitats to provide for future increases of breeding and wintering populations in the Plan Area.

5.6.10 Yellow-billed Magpie

The yellow-billed magpie is endemic to California, west of Sierra Nevada. Its range includes Sacramento and San Joaquin valley floors and foothills, and valleys of the Coast Ranges from San Francisco Bay south to Santa Barbara County (Reynolds 1995). Yellow-billed magpie is widely distributed throughout the mid- and lower-elevation portions of the Plan Area. Populations have reportedly declined during the last two years (Altacal Audubon Society records) presumably as a result of West Nile Virus infestation.

Yellow-billed magpie inhabits open country with tall trees for nesting and roosting. It usually forages on the ground in agricultural fields, grasslands, pastures, and around farmyards and other disturbed sites. It nests high in trees, usually in valley oak, black walnut, and other tall trees. Yellow-billed magpies are highly social, foraging and roosting together often in large numbers. They nest individually or in loose colonies (Reynolds 1995). Suitable habitat is found throughout the lower elevation portions of the Plan Area. All agricultural types are used, including orchards. Pasturelands and grasslands also provide suitable habitat for magpies. Magpie nests are commonly found along all of the major watercourses, including the Sacramento and Feather Rivers, along roadside trees, and in isolated oak trees.

The yellow-billed magpie has no federal or state status and no other special status. The species is included here due to its sensitivity to the effects of the West Nile virus. Recent information regarding the susceptibility of magpies to the virus and the low survivability of infected magpies has led to concern regarding the future status of yellow-billed magpie populations.

5.6.10.1 Applicable Conservation Measures

- CM1: Protect Natural Communities
- CM4: Restore riparian habitats
- CM9: Enhance and manage protected natural communities

5.6.10.2 Rationale and Conservation Approach

The conservation approach for the yellow-billed magpie relies on the protection and management of oak woodland, grassland, riparian, and agricultural natural communities throughout the Plan Area. Full implementation of the BRCP will protect an additional 7,230 acres of oak woodland, 51,010 acres of grassland, 6,370 acres of riparian (including __ acres of riparian restoration), and

86,900 acres of agricultural natural community that provide suitable habitat for the yellow-billed magpie, resulting in protection of over 16%, 64%, 72%, and 44% of these communities in the Plan Area, respectively (Table 5-6). Protected lands will include large expanses of grassland and woodland habitats on the eastern edge of the Plan Area and agricultural and riparian habitats throughout the Plan Area. Enhancement and management of these communities to achieve the biological goals and objectives (see Section 5.4.2.6, *CM9: Enhance and Manage Protected Communities*) is compatible with yellow-billed magpie habitat management. Protection and management of these natural communities under the BRCP will maintain suitable habitat to support existing magpie populations and enhance protected habitats to provide for future increases of breeding and wintering populations in the Plan Area.

5.6.11 Horned Lark

Horned larks breed widely throughout North America, from northern Alaska to southern Mexico. They winter from southern Canada southward across the United States and Mexico (Beason 1995). Of the numerous subspecies of horned lark, California horned lark is the locally breeding race within the Plan Area (Snowden 2001); however, other subspecies likely occur in the Plan Area during the migratory and wintering periods. Snowden (2001) reports horned larks are a common breeding and wintering species in the Plan Area. Distribution includes all foothill grassland and lower elevation grassland and non-orchard irrigated cropland; however, the breeding distribution is limited largely to the non-cultivated grassland habitats in the eastern portion of the Plan Area.

Throughout their range, horned larks are associated with open desert scrub, grasslands, montane meadows, and similar open habitats (Beason 1995). Grinnell and Miller (1944) describe horned lark breeding habitat as level or gently sloping shortgrass prairie, montane meadows, "bald" hills, open coastal plains, fallow grain fields, and alkali flats. More recently in California, they are commonly found in open grasslands and rangelands in the Sierra Nevada foothills, Coast Ranges, and southern California. Breeding habitat in the Plan Area occurs throughout the foothill grassland and valley grassland/vernal pool habitats. Irrigated croplands also provide available foraging habitat; however, Snowden (2001) reports migratory subspecies likely use the valley floor habitats while California horned lark apparently remains within its foothill grassland breeding habitat.

Horned lark has no special status in California. Horned larks are considered an agricultural pest as they increasingly find available foraging habitat in newly planted fields, particularly those near open grassland breeding habitat (Internet Center for Wildlife Damage Management, http://ICWDM.org.handbook/birds/hornedlarks.asp).

5.6.11.1 Applicable Conservation Measures

- CM1: Protect Natural Communities

- CM9: Enhance and manage protected natural communities

5.6.11.2 Rationale and Conservation Approach

The conservation approach for the horned lark relies primarily on the protection and management of the grassland natural community along the eastern edge of the Plan Area. Full implementation of the BRCP will protect an additional 51,010 acres of grassland that provides suitable habitat for the horned lark, resulting in protection of over 64% of this community in the Plan Area (Table 5-6). Enhancement and management of these communities to achieve the biological goals and objectives (see Section 5.4.2.6, *CM9: Enhance and Manage Protected Communities*) is compatible with horned lark habitat management. Protection and management of this natural community under the BRCP will maintain suitable habitat to support existing horned lark populations and enhance protected habitats to provide for future increases of breeding and wintering populations in the Plan Area.

5.6.12 Purple Martin

The purple martin breeding range extends from central Alberta to the Gulf of Mexico east of the dry western section of the Great Plains. Disjunct populations are found in the southern Rocky Mountain region, Baja California, northern and central Mexico, and along the Pacific coast from Vancouver, British Columbia to central California. Smaller populations are found on the Modoc Plateau, Sacramento area, northern Sierra Nevada, and in the mountains of southern California. The winter range is primarily in central South America. (Brown 1997). Snowden (2001) reports the possible extirpation of purple martins from Butte County. Purple martins develop colonial nests in cavities of large trees in oak or riparian woodlands and low-elevation coniferous forests. Nests are in old woodpecker cavities in dead snags and are often in residual snags in burned or logged forests (Brown 1997). With the extensive loss of mature riparian trees throughout much of their range in California, purple martins have begun using man-made structures such as buildings, bridges and highway overpasses for nesting (Airola and Grantham 2003). Potential breeding habitat is available in oak woodland and savannah habitats along the eastern edge of the Plan Area. Currently, potential man-made nesting habitat is unavailable at most freeway overcrossings or bridges where vertical "weep" holes could be present (Airola and Grantham 2003). Future construction, however, could create these nesting opportunities.

The purple martin is designated by DFG as a state species of special concern. The loss and degradation of riparian forests and oak woodland habitats has reduced available habitat for this species throughout its range in California; however, available and otherwise suitable nesting habitat is currently unoccupied likely as a result of nest cavity competition from European starlings (*Sturnus vulgaris*).

5.6.12.1 Applicable Conservation Measures

- CM1: Protect Natural Communities

- CM4: Restore riparian habitats
- CM9: Enhance and manage protected natural communities

5.6.12.2 Rationale and Conservation Approach

Within the Plan Area, there are 10,580 acres of blue oak savanna, 34,705 acres of blue oak woodland, and 47,275 acres of live oak and mixed oak woodland, all serving as potential purple martin habitat. With BRCP implementation, the percentage of protected blue oak savanna would increase from 6% to over 40%. The percentage of protected blue oak woodland would remain stable at about 10%, but the percentage of protected live oak woodland and mixed oak woodland would increase from 8% to over 15% (see Table 5-6).

The conservation approach for the purple martin relies on the protection and management of oak woodland/savannah and riparian natural communities throughout the Plan Area. Full implementation of the BRCP will protect an additional 7,230 acres of oak woodland and 5,650 acres of cottonwood-willow and valley oak riparian forest (including __ acres of riparian restoration) that provide suitable habitat purple martin, resulting in protection of over 16% and 80% of these communities in the Plan Area, respectively (Table 5-6). Protected lands will include large blocks of oak woodland/savannah along the eastern edge of the Plan Area and riparian habitats throughout the Plan Area. Enhancement and management of these communities to achieve the biological goals and objectives (see Section 5.4.2.6, *CM9: Enhance and Manage Protected Communities*) is compatible with purple martin habitat management. Protection and management of these natural communities under the BRCP will maintain suitable habitat to support existing purple martin populations and enhance protected habitats to provide for future increases of breeding and wintering populations in the Plan Area.

5.6.13 California Thrasher

Endemic to California and northern Baja California, the California thrasher is found in chaparral and coastal scrub communities along the coast and Coast Ranges, western Sierra Nevada, and southern California and Baja California deserts (Sibley 2003). There are few nesting records of California thrasher in Butte County; however, it has been regularly (although infrequently) reported during the breeding season. Snowden (2001) reports the species as possibly declining in Butte County as a result of rural urbanization and predation by house cats. The distribution likely is directly associated with the distribution of chaparral vegetation in the Plan Area.

The California thrasher is found primarily in chaparral and other shrub communities from sea level to montane chaparral. It will also breed in adjacent oak woodlands and pine-juniper scrub as well as occasionally in parks and gardens, but only if dense cover is available (Cody 1988). Chaparral habitats on the eastern edge of the Plan Area provide suitable habitat for thrashers.

The California thrasher has no federal or state status and no other special status.

5.6.13.1 Applicable Conservation Measures

- CM1: Protect Natural Communities
- CM9: Enhance and manage protected natural communities

5.6.13.2 Rationale and Conservation Approach

The conservation approach for the California thrasher relies on the protection and management of oak woodland natural communities along the eastern edge of the Plan Area. Full implementation of the BRCP will protect an additional 3,565 acres of live and mixed oak woodland that supports small patches of chaparral habitat that may support California thrasher, resulting in protection of over 15% of this community in the Plan Area (Table 5-6). Enhancement and management of these communities to achieve the biological goals and objectives (see Section 5.4.2.6, *CM9: Enhance and Manage Protected Communities*) is compatible with California thrasher habitat management. Protection and management of this natural community under the BRCP will maintain suitable habitat to support existing thrasher populations and enhance protected habitats to provide for future population increases in the Plan Area.

5.6.14 Yellow Warbler

The Yellow warbler breeding distribution extends from northern Alaska and Canada southward to the middle U.S. and west into Mexico. The species winters in Mexico and Central and South America. Throughout California, yellow warbler is summer resident and transient in suitable riparian habitats (Small 1994, Lowther et al. 1999). Snowden (2001) notes that yellow warblers nest in riparian and chaparral habitats in the montane zone, presumably outside of the Plan Area, and are a rare breeding bird in valley riparian habitats within the Plan Area. Heath (1998) reports breeding occurrences in the Plan Area along the Sacramento River. Dawn Garcia of California State University, Chico, reports several migratory occurrences along Butte Creek and several possible breeding occurrences along Butte Creek and Big Chico Creek from 2006 and 2007.

In California, yellow warblers nest primarily in riparian habitats (Grinnell and Miller 1944), but in some montane areas they also nest in a variety of shrub habitats (e.g., manzanita, ceanothus) far removed from water (Grinnell et al. 1930, Beedy and Granholm 1985). Migrants prefer edges to the interior of forests and broad-leaf trees to conifers. They can be found in a variety of habitats, including riparian, oak woodland, and suburban parks and gardens (Dunn and Garrett 1997). Available breeding habitat includes riparian woodlands association with the Sacramento River, Feather River, Butte Creek, Big Chico Creek, and other small drainages with suitable riparian vegetation.

The yellow warbler is designated by DFG as a species of special concern. The loss and degradation of riparian forests from urbanization, agricultural conversion, water storage projects,

and other factors has reduced available habitat for this species throughout its range in California;

5.6.14.1 Applicable Conservation Measures

- CM1: Protect Natural Communities
- CM4: Restore riparian habitats
- CM9: Enhance and manage protected natural communities

5.6.14.2 Rationale and Conservation Approach

The conservation approach for the yellow warbler relies primarily on the protection, restoration, and management of riparian natural community throughout the Plan Area. Full implementation of the BRCP will protect an additional 5,650 acres of cottonwood/valley oak riparian forest, including __ acres of restored riparian forest, resulting in protection of over 80% of this community in the Plan Area (Table 5-6). Additional conservation will be provided through protection of chaparral habitats associated with the conservation of oak woodland communities along the eastern edge of the Plan Area. Enhancement and management of these communities to achieve the biological goals and objectives (see Section 5.4.2.6, *CM9: Enhance and Manage Protected Communities*) is compatible with yellow warbler habitat management and will maintain suitable habitat and provide for existing and future occurrences of this species in the Plan Area.