

A.11 BALD EAGLE (*HALIAEETUS LEUCOCEPHALUS*)

A.11.1 Legal Status

The bald eagle was listed as endangered under the federal Endangered Species Act (ESA) in 1978 (43 FR 6230). In 1995, the bald eagle was reclassified as threatened (60 FR 36000); and in 2007, the bald eagle was delisted (72 FR 37346). The bald eagle is listed as endangered under the California ESA and is a California Fully Protected species. Critical habitat has not been designated for the bald eagle.

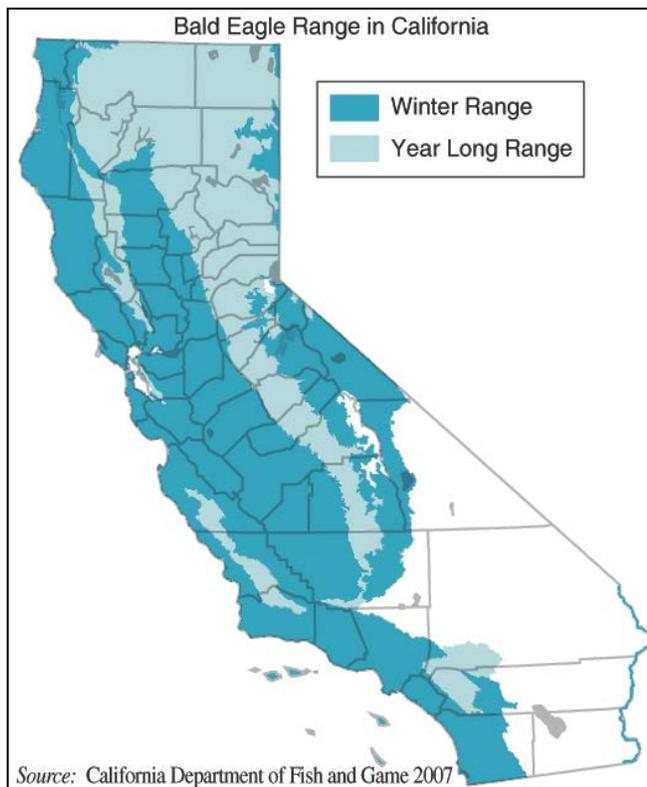


photo courtesy Tamara Klug

A.11.2 Species Distribution and Status

A.11.2.1 Range and Status

The bald eagle is found throughout North America. It nests on both coasts from Baja California to Florida in the south and from the Aleutian Islands in Alaska to Labrador in the Northwest Territories (64 FR 36454). In California, bald eagle nesting locations are located primarily in the northern two-thirds of the state, the Central Coast Range, and on Santa Catalina Island. A total of 180 nesting territories are known to have been occupied in California during the 1990s (www.dfg.ca.gov).



Wintering distribution expands farther in North America than the nesting distribution (USFWS 1986). The wintering range of the bald eagle covers Alaska, southern Canada, and between the West and East Coasts of the United States. Bald eagles winter throughout most of California, usually in association with lakes, reservoirs, and along rivers (www.dfg.ca.gov). Since the regional recovery plans were implemented in the 1980s, the population of bald eagles has increased steadily and has exceeded most recovery goals.

A.11.2.2 Distribution and Status in the Plan Area

In Butte County, bald eagles are considered a permanent resident, an uncommon winter migrant, and a known, but uncommon,

breeder in Butte County. From the early 1970s through the early 1980s, only one bald eagle nest was documented in the far eastern side of the county (Thelander 1973, Lehman 1983). By 1990, two nesting territories were documented (Jurek 1990), and by 1997 three nesting territories were documented (www.dfg.ca.gov/hcpb/species/r_e_spp/tebird/bald_eagle.shtml).

Currently, there are at least five documented breeding sites in Butte County that are outside the Plan Area, including the north fork of the Feather River in the Big Bend area, on Fall River in Feather Falls Territory, south of the middle form of the Feather River Arm of Lake Oroville in the Spring Hollow Territory, near the Bloomer Campground on Lake Oroville, and Little Butte Creek between Paradise Lake and Magalia Reservoir. California Department of Water Resources also reports two nesting territories within the Plan Area, one along the edge of the Diversion Pool approximately 1 mile downstream of the Oroville Dam and the other along the Feather River near the southeast end of the California Department of Fish and Game (DFG) Oroville Wildlife Area (Figure A.11-1, *Bald Eagle Modeled Habitat and Recorded Occurrences*) (David Bogener pers. comm.). All Pacific Recovery Plan goals (number of breeding pairs and production/active nests) have been met in Recovery Zone 27 (which includes Butte County) during the last two nesting seasons.

California Department of Water Resources also reports a recently discovered winter roost site near Lake Oroville that has been occupied by at least 60 individuals. Bald eagles regularly winter around the Plan Area, including at Lake Oroville, Thermalito Forebay and Afterbay, along the Feather and Sacramento Rivers, and in the wetlands associated with Llano Seco and the Gray Lodge Wildlife Area (Figure A.11-1).

A.11.3 Habitat Requirements and Special Considerations

This species is found at lakes, reservoirs, rivers, offshore islands, and some rangelands and coastal wetlands in California. Bald eagles generally require large bodies of water or free-flowing rivers with abundant fish and adjacent snags or other perches. This species swoops from hunting perches, or soaring flight, to capture its prey. Individual eagles perch high in large, stoutly limbed trees, on snags or broken-topped trees, or on rocks near water (USFWS 1986).

Bald eagles nest in large, old-growth, or dominant live trees with open branches, especially ponderosa pine. Nests are commonly located in the highest branches of tall trees near water and occasionally on cliffs. Nests are most frequently found in stands with less than 40 percent canopy, but usually with some foliage shading the nest. Nests are usually located near a permanent water source; 87 percent of nest sites in California were located within 1 mile (1.6 kilometers) of water (DFG 2005). Adult bald eagles typically return to the same nesting areas and often to the same nest year after year.

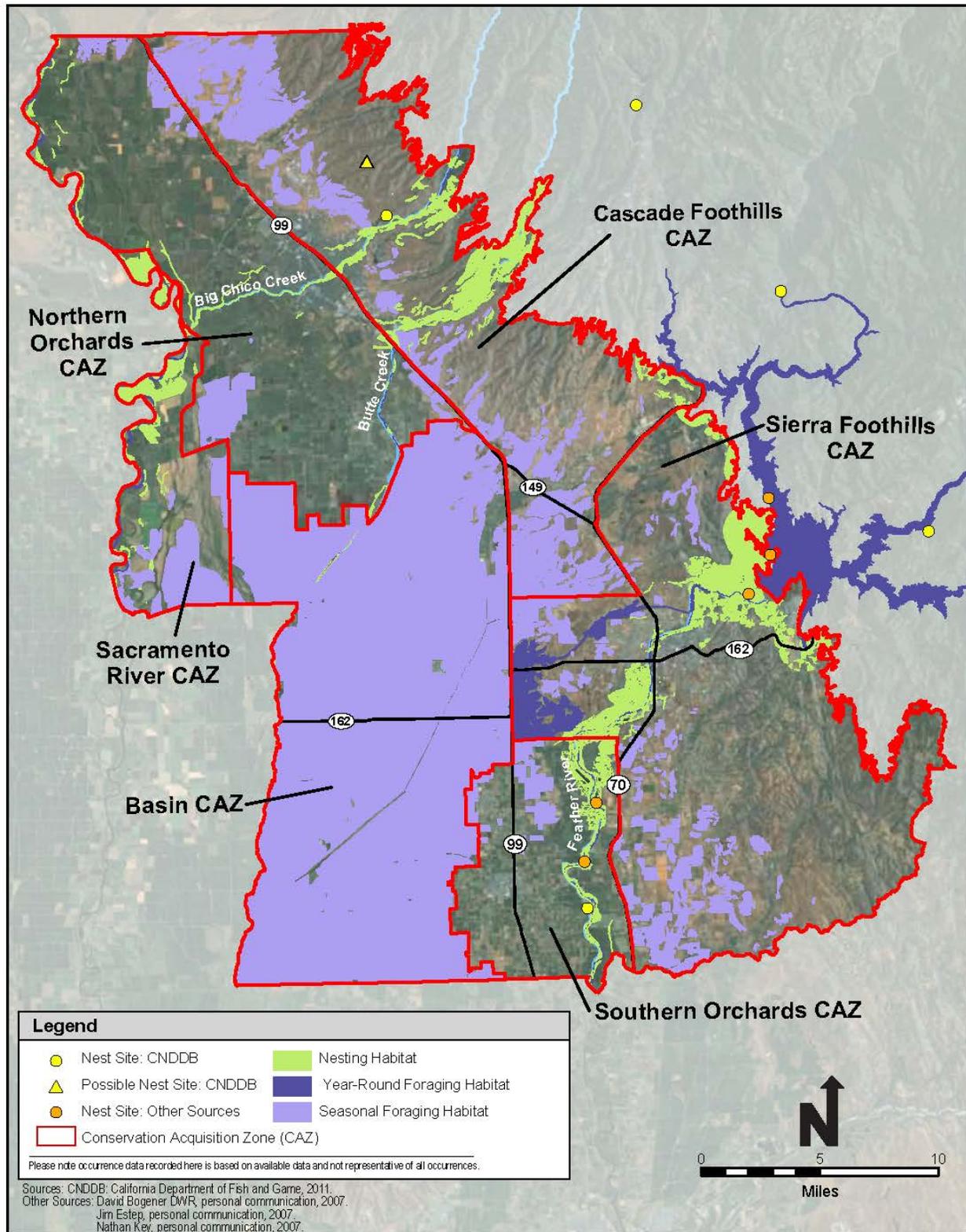


Figure A.11-1. Bald Eagle Modeled Habitat and Recorded Occurrences

Wintering habitat consists of forested areas with a variety of characteristics, the most important of which is the proximity to a body of water with an adequate source of food (USFWS 1986). Wintering bald eagles roost communally at night. Forest stands for communal roosting sites typically include an uneven-aged canopy with remnants of old-growth forest and are located near a rich food source such as runs of anadromous fish or high concentrations of waterfowl (USFWS 1986).

A.11.4 Life History

A.11.4.1 Seasonal Patterns

California's resident breeding pairs typically spend the winter in the vicinity their nesting areas, unless weather conditions become too extreme and they are forced to move to lower elevations (DFG 2006). Many bald eagles will migrate from nesting in northwestern states to California for the winter and arrive in fall or early winter and stay until February or March.

A.11.4.2 Reproduction

Bald eagles are long-lived; birds in the wild have been known to live as long as 28 years, and some have lived up to 40 years in captivity. Bald eagles tend to form long-term mating pairs. If one member of the pair dies or disappears, the other will find a new mate (64 FR 36454).

Typically, bald eagles construct their nests using large sticks and branches. Adults may repair and add to existing nests or build new ones within their territory (DFG 2006). In addition to the nest they use most frequently, a pair of bald eagles may have several nests within their territory. In California, the breeding season generally occurs from January to August. Bald eagles can lay one to three eggs, most commonly two eggs per nest, in early spring. The incubation period is about 35 days and chicks fledge after 11 to 12 weeks (64 FR 36454). After fledging, the young birds may remain with the parents for additional care or immediately migrate north to the northwestern United States and Canada to join others near abundant food sources. These young birds will return to California after a few months.

A.11.4.3 Foraging Behavior and Diet

Bald eagles hunt on the wing or from perches in tall trees or artificial perches. Their prey consist of a variety of small animals, usually fish or waterfowl, and they also eat carrion, including salmon, deer, and cattle. Fish compose the majority of their diet in the spring and summer. Birds, small mammals, and carrion augment the main food source during the winter months (USFWS 1986).

A.11.5 Threats

Historically, the decline of the bald eagle coincided with the introduction of the pesticide DDT in 1947. Eagles contaminated with DDT were either unable to lay eggs or produced eggs with thin

shells that broke during incubation. Shooting, egg collection, and trapping were other causes of decline.

Currently, loss of nesting habitat due to development along the coast and near inland rivers and waterways also has resulted in decreasing numbers. Human development is the greatest cause of habitat loss affecting all life stages of the bald eagle: shoreline nesting, perching, roosting, foraging habitat, and dispersal (Buehler 2000). Bald eagles are sensitive to the presence of human disturbance and influence near nesting and wintering habitat, especially during the breeding season. Bald eagles may abandon or relocate nesting locations because of human disturbance in the area (USFWS 1986). The main threats identified in the Pacific Recovery Plan (USFWS 1986) for the Butte County area include disturbance to nest territories in the Lassen and Plumas area; loss of anadromous fishery, loss of riparian habitat, disturbance of forage areas, and shooting (Sacramento Valley and Foothills); and disturbance of wintering grounds, loss of potential nest habitat to logging, and development (Sierra Nevada Mountains).

A.11.6 Relevant Conservation Efforts

The bald eagle was historically threatened by habitat loss, use of DDT and other organochlorine pesticides, and illegal shootings and egg collection. These threats have been reduced to a point where the species has recovered (64 FR 36454). However, the species are occasionally shot and DDT still causes egg failure for eagles occurring on Santa Catalina Island (Sharpe 2004).

The bald eagle is a proposed covered species in the Placer County Conservation Plan.

A.11.7 Species Habitat Suitability Model

A.11.7.1 Nesting Habitat

Bald eagle nesting habitat includes cottonwood-willow riparian forest, valley oak riparian forest, mixed oak woodland, interior live oak woodland and dredger tailings with riparian within 1 mile of the Sacramento and Feather Rivers, Big Chico and Butte Creeks, and Lake Oroville.

A.11.7.1.1 Assumptions

Bald eagles require relatively tall and robust trees for nesting which are located near (usually within 1 mile of) a source of aquatic foraging habitat (e.g., large river or stream, lake, reservoir) (Lehman 1979). Therefore, it is assumed that potential nesting habitat for bald eagles in the Plan Area is restricted to large and protected trees within riparian forest and other woodland habitats within 1 mile of the Sacramento and Feather Rivers, Big Chico and Butte Creeks, and Lake Oroville. While the Thermalito Forebay/Afterbay and seasonal wetland and rice land cover types represent potential foraging habitat for bald eagles, there are no suitable nest trees associated with these areas other than those along the Sacramento and Feather Rivers, Big Chico and Butte Creeks, and Lake Oroville. Nesting habitat along Big Chico Creek and Butte Creek,

however, is considered less optimal nesting habitat than other areas in the model because habitat along these creeks is in close proximity to developed areas.

Based on available data of recorded nest site occurrences, four bald eagle nests within the Plan Area are shown. Three are along the Feather River, two of which are in cottonwood-willow riparian forest near the southern end of the Plan Area, and one of which is in mixed oak woodland just below the Oroville Dam. Another nest is approximately 150 meters from Lake Oroville in mixed oak woodland.

A.11.7.2 Foraging Habitat

Foraging habitat for bald eagles includes open water (Thermalito Forebay and Afterbay), open water associated with cottonwood-willow riparian forest and valley oak riparian forest along the Sacramento and Feather Rivers (foraging habitat–year-round), managed wetland, grassland with vernal swale complex, vernal pool, altered vernal pool contained by grasslands with vernal swale complex, and flooded rice (foraging habitat–seasonal).

A.11.7.2.1 Assumptions

The bald eagle diet consists primarily of fish and waterfowl. During the breeding season (February through August), eagles that nest along the Feather River likely hunt primarily for fish along the Feather River and in the Thermalito Forebay and Afterbay. However, given that bald eagles initiate breeding relatively early (February), wintering or migratory waterfowl populations may still be present and some use of managed wetlands and flooded rice fields may occur. During the winter nonbreeding season, eagles likely expand their hunting efforts into managed wetlands and flooded rice fields when waterfowl populations are at their peak. Vernal pool habitats may also be used during periods of inundation (November through April) when they attract waterfowl. Winter occurrences of bald eagles are not included on the map for this model.

A.11.8 Recovery Plan Goals

The Pacific Recovery Plan (USFWS 1986) stated that the delisting of the bald eagle should occur on a region-wide basis and should be based on the following factors: (1) a minimum of 800 nesting pairs in the Pacific recovery area; (2) average reproduction rate of 1.0 fledged young per pair, with an average success rate per occupied site of not less than 65 percent over a five-year period; (3) attainment of breeding populations recovery goals in at least 80 percent of management zones ; and (4) stable or increasing wintering populations.

A.11.9 References

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