

1 **A.11 BALD EAGLE (*HALIAEETUS***
 2 ***LEUCOCEPHALUS*)**

3 **A.11.1 Legal Status**

4 The bald eagle was listed as endangered under the federal
 5 Endangered Species Act (ESA) in 1978 (43 FR 6230). In
 6 1995, the bald eagle was reclassified as threatened (60 FR
 7 36000); and in 2007, the bald eagle was delisted (72 FR
 8 37346). The bald eagle is listed as endangered under the
 9 California ESA and is a California Fully Protected species.



photo courtesy Tamara Klug

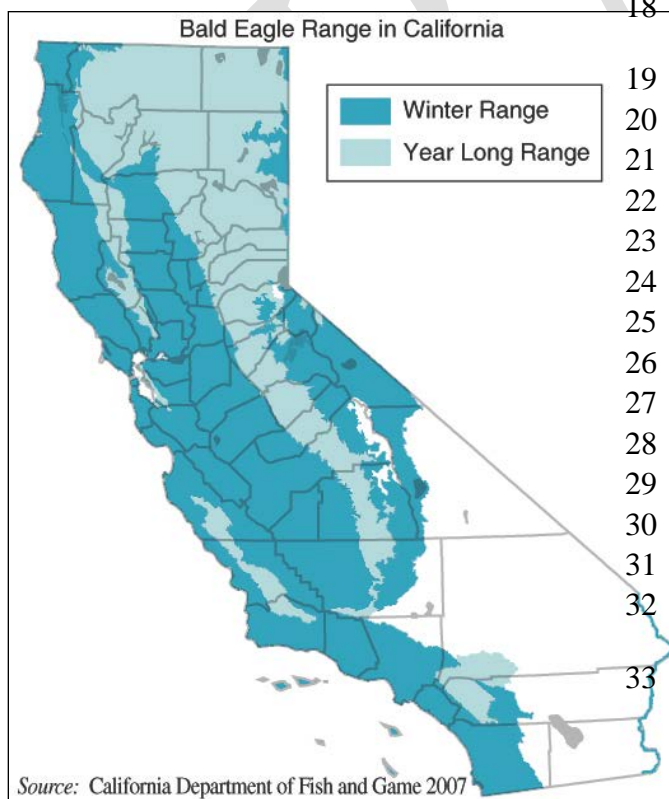
10 Critical habitat has not been designated for the bald eagle.

11 **A.11.2 Species Distribution and Status**

12 **A.11.2.1 Range and Status**

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

(www.dfg.ca.gov).



Source: California Department of Fish and Game 2007

18
 19 Wintering distribution expands farther in
 20 North America than the nesting
 21 distribution (USFWS 1986). The
 22 wintering range of the bald eagle covers
 23 Alaska, southern Canada, and between the
 24 West and East Coasts of the United
 25 States. Bald eagles winter throughout
 26 most of California, usually in association
 27 with lakes, reservoirs, and along rivers
 28 (www.dfg.ca.gov). Since the regional
 29 recovery plans were implemented in the
 30 1980's, the population of bald eagles has
 31 increased steadily and has exceeded most
 32 recovery goals.
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1 **A.11.2.2 Distribution and Status in the Plan Area**

2 In Butte County, bald eagles are considered a permanent resident, an uncommon winter migrant,
3 and a known, but uncommon, breeder in Butte County.

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

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

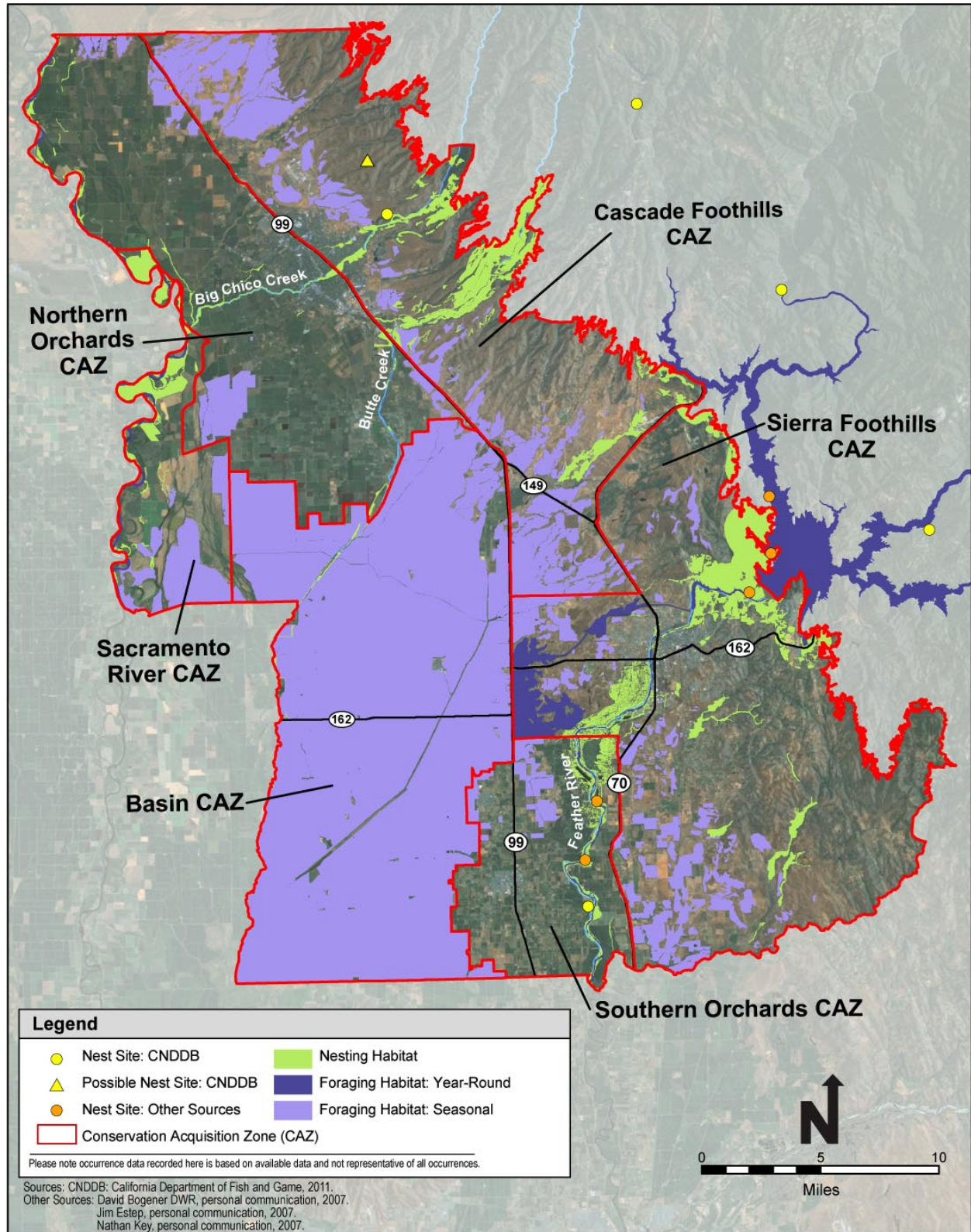
18 DWR also reports a recently discovered winter roost site near Lake Oroville that has been
19 occupied by at least 60 individuals. Bald eagles regularly winter around the Plan Area, including
20 at Lake Oroville, Thermalito Forebay and Afterbay, along the Feather and Sacramento Rivers,
21 and in the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

22 **A.11.3 Habitat Requirements and Special Considerations**

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

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

35 Wintering habitat consists of forested areas with a variety of characteristics, the most important
36 of which is the proximity to a body of water with an adequate source of food (USFWS 1986).



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

1 Wintering bald eagles roost communally at night. Forest stands for communal roosting sites
2 typically include an uneven-aged canopy with remnants of old-growth forest and are located near
3 a rich food source such as runs of anadromous fish or high concentrations of waterfowl (USFWS
4 1986).

5 **A.11.4 Life History**

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

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

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

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

27 **A.11.5 Threats**

28 Historically, the decline of the bald eagle coincided with the introduction of the pesticide DDT in
29 1947. Eagles contaminated with DDT were either unable to lay eggs or produced eggs with thin
30 shells that broke during incubation. Shooting, egg collection, and trapping were other causes of
31 decline.

32 Currently, loss of nesting habitat due to development along the coast and near inland rivers and
33 waterways also has resulted in decreasing numbers. Human development is the greatest cause of
34 habitat loss affecting all life stages of the bald eagle: shoreline nesting, perching, roosting,
35 foraging habitat, and dispersal (Buehler 2000). Bald eagles are sensitive to the presence of
36 human disturbance and influence near nesting and wintering habitat, especially during the

1 breeding season. Bald eagles may abandon or relocate nesting locations because of human
2 disturbance in the area (USFWS 1986). The main threats identified in the Pacific Recovery Plan
3 (USFWS 1986) for the Butte County area include disturbance to nest territories in the Lassen and
4 Plumas area; loss of anadromous fishery, loss of riparian habitat, disturbance of forage areas, and
5 shooting (Sacramento Valley and Foothills); and disturbance of wintering grounds, loss of
6 potential nest habitat to logging, and development (Sierra Nevada Mountains).

7 **A.11.6 Relevant Conservation Efforts**

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

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

13 **A.11.7 Species Habitat Suitability Model**

14 **A.11.7.1 Nesting Habitat**

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

18 *1.11.7.1.1 Assumptions*

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

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

1 **A.11.7.2 Foraging Habitat**

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

6 **1.11.7.2.1 Assumptions**

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

16 **A.11.8 Recovery Plan Goals**

17 The Pacific Recovery Plan (USFWS 1986) stated that the delisting of the bald eagle should occur
18 on a region-wide basis and should be based on the following factors: (1) a minimum of 800
19 nesting pairs in the Pacific recovery area; (2) average reproduction rate of 1.0 fledged young per
20 pair, with an average success rate per occupied site of not less than 65 percent over a 5-year
21 period; (3) attainment of breeding populations recovery goals in at least 80 percent of
22 management zones ; and (4) stable or increasing wintering populations.

23 **A.11.9 References**

24 **Literature Cited**

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19 **Personal Communications**

20 Bogener, David. 2007. California Department of Water Resources. May 17.