

1 **A.5 WESTERN YELLOW-BILLED CUCKOO**  
 2 **(*COCCYZUS AMERICANUS OCCIDENTALIS*)**

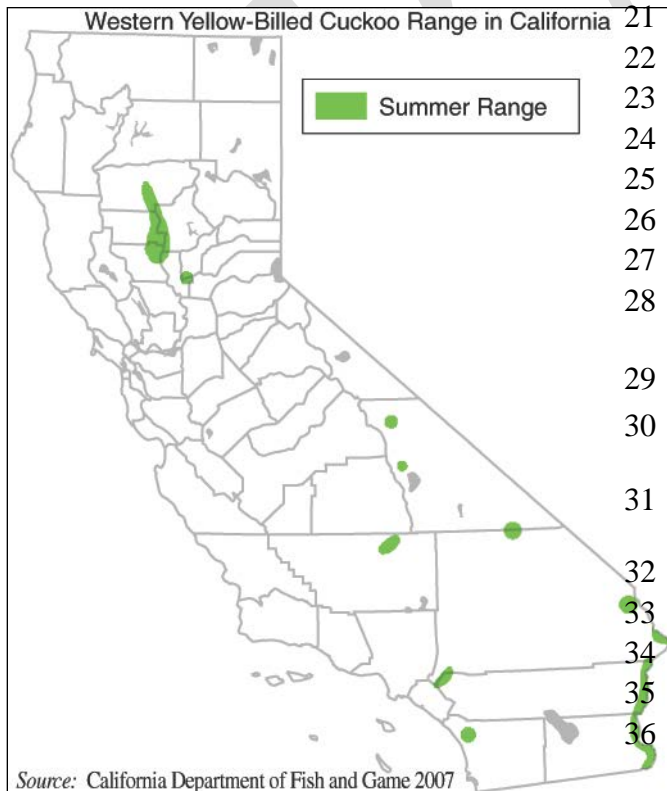
3 **A.5.1 Legal and Other Status**

4 The western yellow-billed cuckoo (*Coccyzus americanus occidentalis*) is  
 5 listed as an endangered species under the California Endangered Species Act.

6 The yellow-billed cuckoo (*C. americanus*) is currently a candidate for federal  
 7 listing. There is evidence of population declines within the range of *C.*  
 8 *americanus occidentalis*; however, there is an ongoing taxonomic debate related  
 9 to whether the yellow-billed cuckoo (*C. americanus*) should be divided into two  
 10 subspecies, *C. americanus occidentalis* and *C. americanus americanus*. This  
 11 debate contributed to the initial USFWS determination that there was insufficient  
 12 evidence to support federal listing. A second petition to list the species was filed  
 13 in 1998. In response to the second petition, the USFWS initially agreed that listing may be  
 14 warranted, and USFWS issued a 90-day Finding for Petition to list as endangered and  
 15 commencement of a status review (65 FR 8104). Information gathered during the status review  
 16 suggested there was insufficient differentiation between the birds to justify division into the two  
 17 subspecies; and based on the status of eastern yellow-billed cuckoo (*C. americanus americanus*)  
 18 populations, there was insufficient information to list the species. In 2001, however, the USFWS  
 19 determined that there was sufficient information to consider the range of *C. americanus occidentalis*  
 20 as a distinct population segment (DPS), and thus found that there was sufficient evidence to list the



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21 western yellow-billed cuckoo DPS (66 FR  
 22 38611). The USFWS also determined,  
 23 however, that the listing was precluded by  
 24 higher priority listing actions and that the  
 25 immediacy of the threat to the species was  
 26 non-imminent. Thus, the species was added  
 27 to the list of candidate species subject to  
 28 future federal listing.

29 **A.5.2 Species Distribution**  
 30 **and Status**

31 **A.5.2.1 Range and Status**

32 Currently, there are two recognized  
 33 subspecies of yellow-billed cuckoo.  
 34 *Coccyzus americanus occidentalis* is  
 35 found west of the Rocky Mountains, and  
 36 *Coccyzus americanus americanus* is found

1 in deciduous forests east of the Rocky Mountains. The ongoing debate over the taxonomic  
2 separation of the two subspecies is based primarily on morphological and plumage differences  
3 (Banks 1988, Franzreb and Laymon 1993), and more recently on genetics studies initiated by the  
4 USFWS during the status review for federal listing.

5 Historically, the range of western yellow-billed cuckoo extended from southern British Columbia  
6 in the north to the Rio Grande River in northern Mexico in the south, and east to the Rocky  
7 Mountains (Bent 1940). Currently, the only known populations of breeding western yellow-  
8 billed cuckoo are located in several disjunct locations in California, Arizona, and western New  
9 Mexico (Halterman 1991). Yellow-billed cuckoos winter in South America from Venezuela to  
10 Argentina after an August to October southern migration period (Laymon and Halterman 1985).  
11 Yellow-billed cuckoos migrate north in late June and early July (DeSchauensee 1970).

12 Studies conducted since the 1970s indicate there may be fewer than 50 breeding pairs in  
13 California (Gaines 1977, Laymon and Halterman 1987, Halterman 1991, Laymon et al. 1997).  
14 The only locations in California known to currently sustain breeding populations include the  
15 Colorado River system in Southern California, the South Fork Kern River east of Bakersfield,  
16 and isolated sites along the Sacramento River in northern California (Laymon and Halterman  
17 1989, Laymon 1998).

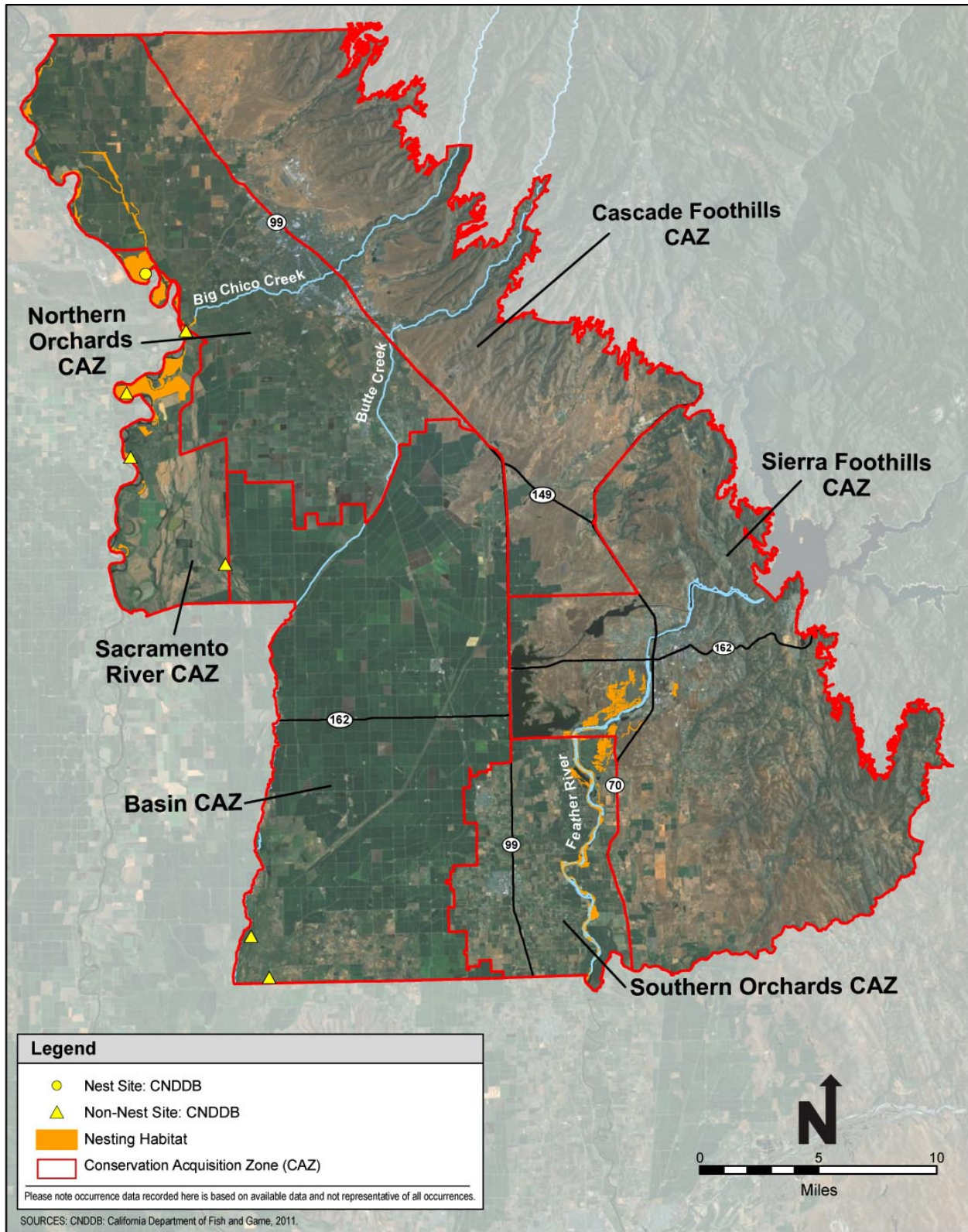
#### 18 **A.5.2.2 Distribution and Status in the Plan Area**

19 As noted above, the current range of the western yellow-billed cuckoo includes a portion of the  
20 Sacramento River in Northern California. The largest portion of this area, as described by the DFG  
21 California Wildlife Habitat Relationships Program, occurs along the western border of the Plan  
22 Area. Thus, the entire western border of the Plan Area is considered within the current range of the  
23 species. At least four confirmed or probable breeding locations occur within this area along with  
24 numerous other detections. Breeding pairs have also been reported from portions of the Feather  
25 River between Oroville and the Butte County border. The California Natural Diversity Database  
26 (CNDDB) also reports occurrences along Butte Creek in the 1970s and 1980s (see Figure A-5).

27 Yellow-billed cuckoos occupy the Plan Area only during their abbreviated breeding season from  
28 approximately late June to August, when they begin their migration to South America (Laymon  
29 and Halterman 1985).

#### 30 **A.5.3 Habitat Requirements and Special Considerations**

31 The western yellow-billed cuckoo is a riparian obligate species with a primary habitat  
32 association of willow-cottonwood riparian forest; however, species such as alder (*Alnus*  
33 *glutinosa*) and box elder (*Acer negundo*) can also be important habitat elements (Laymon 1998).  
34 Nests are found primarily in willow (*Salix* spp.) trees. Other tree species used for nesting include  
35 cottonwood (*Populus fremontii*) and alder. Along the Sacramento River, English walnut trees  
36 have also been reportedly used for nesting (Laymon 1980).



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**Figure A-5. Western Yellow-Billed Cuckoo Modeled Habitat and Recorded Occurrences**

1 The average nest site height in willow trees is 14 feet (4.3 meters [m]), while nests in  
2 cottonwood trees have been reported at 100 feet (30.5 m). The desired canopy cover is typically  
3 dense (averaging 96.8 percent at the nest); and large patch sizes, generally greater than 50 acres  
4 [20.23 hectares (ha)], are typically required (Laymon 1998).

5 Cottonwood trees are important foraging habitat, particularly as a source of insect prey. Studies  
6 of yellow-billed cuckoo indicate a significant association of the cuckoo with large stands of  
7 mature cottonwood-willow forests; however, yellow-billed cuckoos have been observed to  
8 occupy a variety of marginal habitats, particularly at the edges of their range (Laymon 1998).  
9 Habitat succession has been identified as an important factor in sustaining yellow-billed cuckoo  
10 breeding populations (Laymon 1998). Meandering streams allow for constant erosional and  
11 depositional processes. This creates habitat for new rapidly growing young stands of willow, the  
12 preferred nesting sites of the yellow-billed cuckoo. Channelized streams or levied systems that  
13 do not allow for these natural processes become over-mature and, presumably, less optimal.

14 Occupied habitat within the Plan Area is described as great valley cottonwood riparian forest and  
15 great valley mixed riparian forest, including willows, box elder, and white alder (Halterman  
16 1991). Potential habitat also occurs in valley marshland with willow riparian corridors, such as  
17 those found in the Llano Seco area.

## 18 **A.5.4 Life History**

### 19 **A.5.4.1 Seasonal Patterns**

20 In California on the Sacramento River, western yellow-billed cuckoos arrive onto breeding  
21 territories and form pairs from late June to mid-July following their northward migration from  
22 South America; this is followed by nest building and the raising of young (Halterman 1991).  
23 Western yellow-billed cuckoo breeding is restricted to the mid-summer period, presumably due  
24 to a seasonal peak in large insect abundance (Rosenberg et al. 1982). Development of young is  
25 very rapid with a breeding cycle of only 17 days from egg-laying to fledging. Following a  
26 relatively short period of post-fledging juvenile dependency, cuckoos migrate out of California  
27 from about mid-August to early September. The western yellow-billed cuckoo then migrates to  
28 South America during the nonbreeding season; therefore, it is not present in the Plan Area  
29 between October and May.

### 30 **A.5.4.2 Nest Site Selection**

31 Along the Sacramento and Feather rivers, the primary factors influencing nest site selection  
32 include the presence of cottonwood/willow riparian forest, patch size, and the density of  
33 understory vegetation. Little is known about western yellow-billed cuckoo nesting density and  
34 spacing; however, in an area of extensive cottonwood foraging habitat with extremely restricted  
35 willow and English walnut nesting habitat along the Sacramento River, nests were placed as  
36 close as 200 feet apart; indicating that they are capable of nesting in close proximity to one  
37 another (Laymon 1980).

### 1 **A.5.4.3 Reproduction**

2 The western yellow-billed cuckoo pair usually constructs a nest of twigs anywhere from 5 to 40  
3 feet above the ground in dense canopy cover. Clutch size is usually three to four eggs, and rarely  
4 five (Bent 1940). Both males and females incubate the eggs for an incubation period of 10 to 11  
5 days (Hamilton and Hamilton 1965). Both parents also share brooding duties and provide their  
6 young with food. Young yellow-billed cuckoos develop very rapidly and fledge 6 to 8 days after  
7 hatching. Parental care continues for an additional 3 to 4 weeks before the southern migration  
8 begins (Haltermann 1991). If prey is abundant, western yellow-billed cuckoos will increase their  
9 clutch size and lay eggs in nests of other yellow-billed cuckoo pairs and other species (Fleischer  
10 et al. 1985, Laymon 1998, Hughes 1999).

### 11 **A.5.4.4 Foraging Behavior and Diet**

12 Food resources significantly affect western yellow-billed cuckoo reproductive success, and food  
13 availability can vary greatly from year to year (Laymon et al. 1997). Cuckoos forage within the  
14 riparian canopy primarily on slow-moving insects, including green caterpillars (primarily sphinx  
15 moth larvae) (44.9 percent), katydids (21.8 percent), tree frogs (23.8 percent), and grasshoppers  
16 (8.7 percent). The yellow-billed cuckoo diet also includes cicadas, dragonflies, butterflies,  
17 moths, beetles, and spiders (Laymon et al. 1997). Primary yellow-billed cuckoo food items, such  
18 as sphinx moth larvae, are associated with cottonwood trees; hence the high reported use of  
19 cottonwood trees as cuckoo foraging habitat (Laymon and Haltermann 1985).

## 20 **A.5.5 Threats**

### 21 **A.5.5.1 Habitat Loss and Fragmentation**

22 Historical western yellow-billed cuckoo declines are attributed primarily to the removal of  
23 riparian forests in California for the purposes of agricultural and urban expansion. Currently,  
24 habitat loss and degradation continues to be the most significant threat to remaining western  
25 yellow-billed cuckoo populations. Bank stabilization and flood control projects, urbanization  
26 along edges of watercourses, agricultural activities, and river management that alters flow and  
27 sediment regimes contribute to the loss of yellow-billed cuckoo habitat. Nesting cuckoos are  
28 also sensitive to habitat fragmentation that reduces patch size to less than 325 by 1000 feet  
29 (Hughes 1999).

### 30 **A.5.5.2 Pesticides**

31 Agricultural pesticides can pose a long-term threat to the yellow-billed cuckoo, as pesticides may  
32 affect yellow-billed cuckoo behavior and cause death or potentially affect prey populations  
33 (Hughes 1999).

### 1 **A.5.5.3 Predation**

2 Predation is a significant source of nest failures, which have been recorded at 80 percent in some  
3 areas (Hughes 1999). Fragmentation of occupied habitats could make nest sites more accessible  
4 and more vulnerable to predation by red-tailed hawks and Cooper’s hawks.

### 5 **A.5.6 Relevant Conservation Efforts**

6 Few conservation efforts are currently directed toward western yellow-billed cuckoos in  
7 California. The most significant conservation and research efforts involve Audubon California’s  
8 Kern River Preserve and actions associated with the Lower Colorado River Multi-Species  
9 Conservation Program. Protection and restoration of riparian systems can potentially preserve or  
10 create habitat for yellow-billed cuckoos. Western yellow-billed cuckoo is a covered species or a  
11 proposed covered species in several regional conservation plans in the Central Valley region of  
12 California including the San Joaquin County Multi-species Habitat Conservation and Open  
13 Space Plan, the Yolo County Natural Heritage Program Plan, and the Bay Delta Conservation  
14 Plan.

### 15 **A.5.7 Species Habitat Suitability Model**

#### 16 **A.5.7.1 Nesting Habitat**

17 Nesting habitat includes all patches of cottonwood-willow riparian forest and dredger tailings  
18 with riparian land cover types with a patch size of at least 25 acres located along the Sacramento  
19 River and the Feather River downstream of State Highway 70.

#### 20 **A.5.7.2 Assumptions**

21 The western yellow-billed cuckoo is a riparian obligate species. Its primary habitat association is  
22 willow-cottonwood riparian forest, but other species such as alder (*Alnus glutinosa*) and box  
23 elder (*Acer negundo*) may be an important habitat element in some areas, including occupied  
24 sites along the Sacramento River (Laymon 1998). Canopy cover is typically dense (averaging 97  
25 percent at the nest) and large patch sizes (generally greater than 50 acres) are typically required  
26 (Laymon 1998). Cuckoos may also nest in smaller patches of habitat. A patch size of at least 25  
27 acres was selected based on values used for the Lower Colorado River Multi-Species  
28 Conservation Strategy (LCR MSCP 2004). Nesting habitat is considered to be limited to patches  
29 of habitat along the Sacramento and Feather Rivers because these locations are within the known  
30 historical nesting range of the species. Patches of cottonwood-willow riparian forest of at least  
31 25 acres located along the Feather River upstream of State Highway 70 are adjacent to urban  
32 lands and, therefore, are excluded from the model because urban-related disturbances would  
33 render these patches unsuitable for nesting.

## 1 A.5.8 Recovery Plan Goals

2 A recovery plan has not been prepared for the western yellow-billed cuckoo, and recovery goals  
3 have not been established for the species.

## 4 A.5.9 References

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