

1 **A.7 CALIFORNIA BLACK RAIL**
 2 **(*LATERALLUS JAMAICENSIS***
 3 ***COTURNICULUS*)**



photo courtesy Ed Harper

4 **A.7.1 Legal and Other Status**

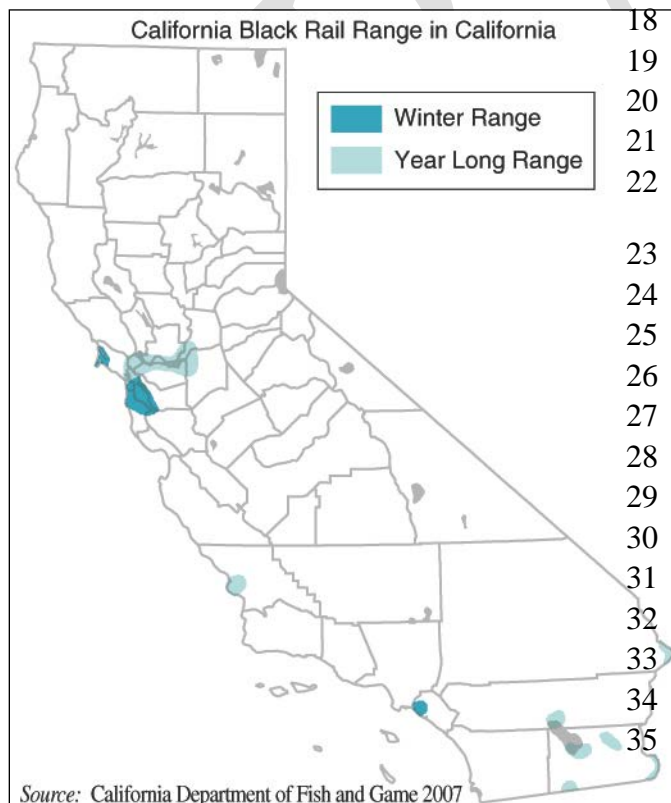
5 The California black rail (*Laterallus jamaicensis*
 6 *coturniculus*) is listed as a threatened species under the
 7 California Endangered Species Act. Prior to its listing as a
 8 state threatened species in 1971, it was designated as a Fully
 9 Protected species in California. It currently retains status as
 10 both a state threatened and state fully protected species.

11 The California black rail has no federal regulatory status; however, it is on the USFWS Region 1 list
 12 of Birds of Conservation Concern (BCC). BCC species are those that the USFWS considers
 13 potential candidates for federal listing.

14 **A.7.2 Species Distribution and Status**

15 **A.7.2.1 Range and Status**

16 The California black rail is one of two subspecies of black rail that inhabit North America. The
 17 range of the California black rail extends throughout portions of California and Arizona. The



18 Eastern black rail (*Laterallus jamaicensis*
 19 *jamaicensis*) is found along the eastern
 20 seaboard, along the Gulf Coast, and rarely
 21 at inland sites in the Midwest (Eddleman
 22 et al. 1994).

23 The historical range of the black rail in
 24 California extended from the San Francisco
 25 Bay, throughout the Sacramento-San
 26 Joaquin Delta, along the coast to northern
 27 Baja California, other Southern California
 28 locales such as the Salton Sea, and along the
 29 lower Colorado River. Loss of tidal marsh
 30 habitat has extirpated populations from
 31 much of its coastal range, particularly in
 32 Southern California and much of the San
 33 Francisco Bay. The species persists in
 34 remaining tidal marshes in the northern San
 35 Francisco Bay estuary, Tomales Bay,

1 Bolinas Lagoon, Sacramento-San Joaquin Delta, Morro Bay, the Salton Sea, and the Lower Colorado
2 River (Manolis 1978, Evens et al. 1991, Eddleman et al. 1994). The species has also been found
3 more recently at several inland freshwater sites in the Sierra Nevada foothills in Butte, Yuba, and
4 Nevada Counties (Techlin 1999, Aigner et al. 1995). Additional detections have been made recently
5 at the Cosumnes River Preserve in South Sacramento County and Bidwell Park in Chico, Butte
6 County (Central Valley Bird Club Site Guides).

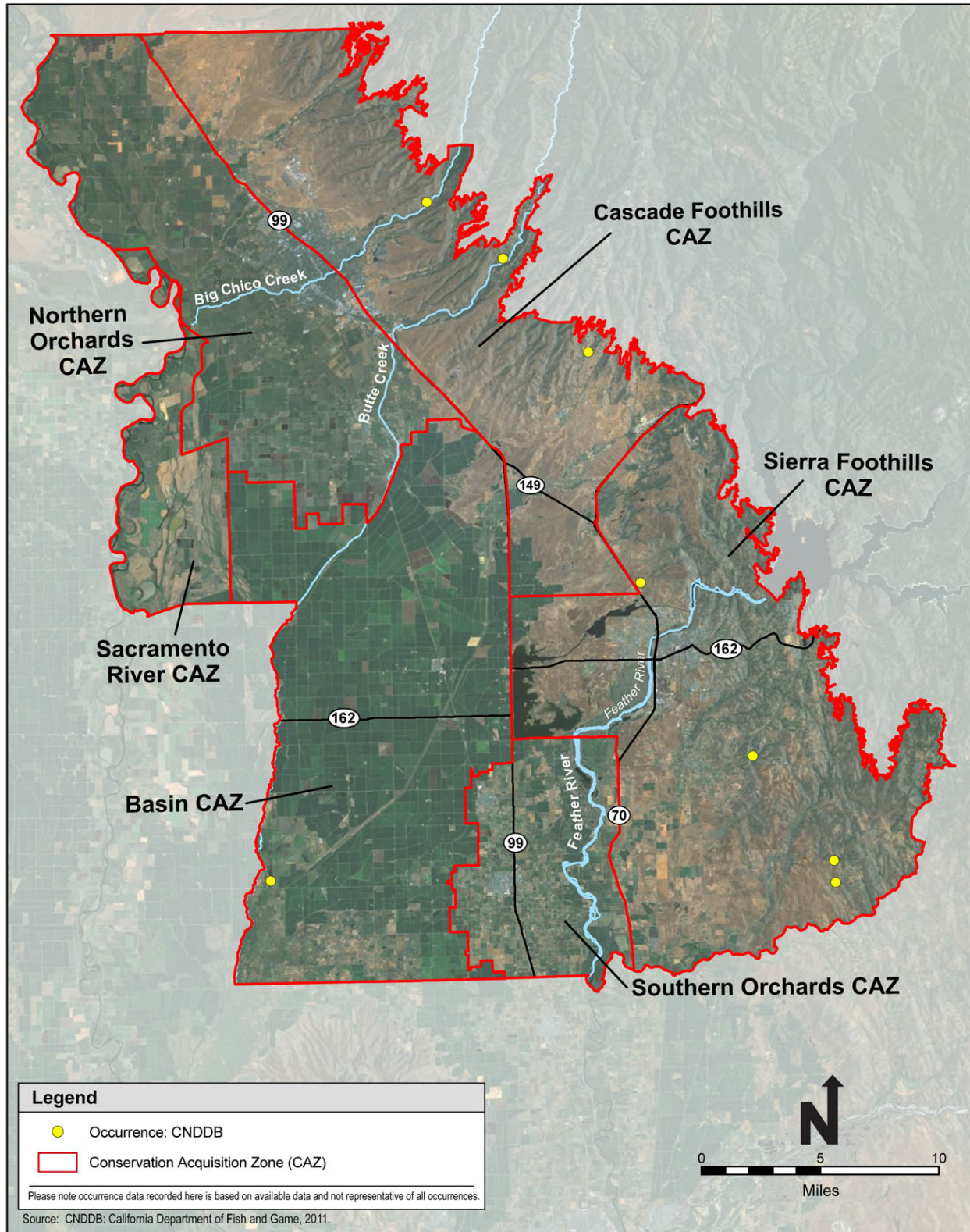
7 Evens et al. (1991) examined relative abundance of rails at various locations within the species'
8 range and determined that more than 80 percent of the remaining population is confined to the
9 northern reaches of the San Francisco Bay estuary. They also determined that the species was
10 subject to continuing and ongoing population decline due to habitat loss and/or degradation.

11 **A.7.2.2 Distribution and Status in the Plan Area**

12 Until 1994, the black rail was unknown from the Sacramento Valley except for a single winter
13 record at the DFG's Gray Lodge Wildlife Area in Butte County. In 1994, a population of the rail
14 was found occupying a freshwater marsh at the University of California's Sierra Field Station in
15 Yuba County (Aigner et al. 1995). Further examination revealed that the species could be breeding
16 at four separate freshwater marsh ponds within approximately 4 miles (6 kilometers [km]) of each
17 other. As a result, DFG provided funding for a more regional survey effort that resulted in
18 observation of additional occurrences in Butte, Yuba, and Nevada Counties (Tecklin 1999). Since
19 then, the University of California has continued with a study, the California Black Rail Study
20 Project, that continues to locate additional subpopulations in their Sierra Nevada foothill study area
21 and that is examining how each of these isolated subpopulations are functioning as a
22 metapopulation.

23 As of 2005, this ongoing study included 168 wetland sites in their sample, with 54 percent of
24 these occupied by black rails (The California Black Rail Project 2005). These populations, and
25 presumably others that remain undetected in the region, are considered to be year-round
26 residents. The California Black Rail Study Project study area currently extends only into the
27 southeast corner of Butte County. Known populations within Butte County are located just north
28 of La Porte Road southeast of Oroville (Figure A-7). Given the geographic extent of this
29 metapopulation and the consistently high occupancy rate detected over the last 5 years, it is
30 likely that additional subpopulations occur further north and possibly west into Butte County.
31 Additional recent occurrences of California black rail are reported from seep spring sites in the
32 eastern foothills of the Plan Area (Phil Johnson and Scott Huber pers. comm.), including sites at
33 Upper Bidwell Park, Butte Creek Canyon, and at the Base of Table Mountain; in emergent marsh
34 at the BCAG/Caltrans mitigation project site at the intersection of Highways 70 and 149; and a
35 possible detection near the picnic grounds of Thermalito Forebay (John Sterling pers. comm.)
36 (Figure A-7).

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Figure A-7. California Black Rail Recorded Occurrences

1 **A.7.3 Habitat Requirements and Special Considerations**

2 California black rails inhabit saltwater, brackish, and freshwater marshes. A highly secretive and
3 rarely observed bird, there appears to be a preference in coastal areas for tidal salt marshes
4 dominated by dense pickleweed (*Salicornia* spp.) with an open structure below. This provides a
5 dense canopy for protective cover while providing nesting habitat and accessibility below the
6 canopy (Evens and Page 1983). Rails are susceptible to predation by herons, egrets, Northern
7 harriers, short-eared owls, and several mammalian species. A dense canopy that provides
8 optimal cover is essential for survival.

9 Freshwater marshes, including occupied sites in the study area, are typically dominated by
10 bulrushes (*Scirpus* spp.) and cattails (*Typha* spp.). These sites are very shallow (usually less than
11 three centimeters [cm]) but require a perennial water source. A relatively narrow range of
12 conditions is required for occupancy and successful breeding. Too much water will prevent
13 nesting and too little water will lead to abandonment of the site until the water source is
14 reestablished. Occupied wetlands identified in the California Black Rail Project ranged from 0.5
15 to 25 acres in size (The California black rail Project 2004).

16 **A.7.4 Life History**

17 **A.7.4.1 Seasonal Patterns**

18 Populations within the study area are thought to be year-round residents. Very little information is
19 available on seasonal patterns, timing of reproduction, dispersal, or other activities. The breeding
20 season begins as early as February with pair formation. Egg laying peaks around May 1, with a
21 17- to 20-day incubation period (Eddleman et al. 1994). Although rails are considered year-round
22 residents in the Sierra Nevada foothills, seasonal movements including juvenile dispersal and adult
23 relocation to other wetland breeding sites occur each year sometime during the nonbreeding season
24 between approximately August and February.

25 **A.7.4.2 Nest Site Selection**

26 Factors influencing nest site selection include size of wetland, cover density, wetland species
27 composition, water levels, and food availability. Nests are concealed in dense vegetation and
28 consist of a small, deep, loose cup of woven reeds or grasses and built at ground level or several
29 inches above the ground.

30 **A.7.4.3 Reproduction**

31 Rails in California usually lay one single brood with an average clutch size of six eggs (range = 3
32 to 8) (Eddleman et al. 1994). Both adults apparently incubate the eggs (Flores and Eddleman
33 1993); however, there is very limited data. No information is available on length of brooding
34 period, timing of fledging, parental care, or reproductive success.

1 **A.7.4.4 Foraging Behavior and Diet**

2 Very little information available on foraging behavior, but the black rail is assumed to be an
3 opportunistic daytime feeder. Black rails forage exclusively within the wetland habitat,
4 presumably on or near substrate at edges of emergent vegetation (Eddleman et al. 1994). Diet
5 consists of insects, small mollusks, amphipods and other invertebrates, and some seeds.

6 **A.7.5 Threats**

7 Throughout its range, the primary threat to the California black rail is the loss and fragmentation
8 of habitat from urbanization, flood control projects, agricultural practices, and hydrologic
9 changes that affect water regimes. The most significant historical threat was the draining of tidal
10 marshes, which may be responsible for over 90 percent the population declines of this species,
11 and which is still occurring in some areas, albeit at a slower rate.

12 Within the Plan Area, agricultural practices, livestock grazing, and urbanization may threaten
13 individual subpopulations. Use of pesticides, including those used for mosquito control programs
14 may also have unintended consequences for black rails. These isolated subpopulations are also
15 susceptible to metapopulation dynamics and stochastic variables (Evens et al. 1991).

16 Other potential threats include increased predation by domestic cats and by native predators as a
17 result of hydrologic and vegetation changes that increase susceptibility of predation; pollution
18 and its affect on freshwater marshes; and collision with automobiles and utility lines.

19 **A.7.6 Relevant Conservation Efforts**

20 Regional conservation efforts have focused on the development and implementation of habitat
21 conservation plans/natural community conservation plans. Such regional conservation
22 approaches can be an effective tool to manage and sustain black rail populations if they protect
23 sufficient suitable and occupied habitat. California black rail is a covered species or a proposed
24 covered species in several regional conservation plans in the Central Valley region of California.
25 These include the Placer County Conservation Plan, the San Joaquin County Multi-species
26 Habitat Conservation and Open Space Plan, the Solano County Multispecies Habitat
27 Conservation Plan, the Yolo County Natural Heritage Program Plan, and the Bay Delta
28 Conservation Plan. Several management plans have outlined threats to California black rails and
29 provided recommendations for conservation (Trulio and Evens 2000). Recommendations focus
30 primarily on protection of high-quality habitats. However, few actual habitat protection or
31 species conservation efforts specific to the California black rail have been undertaken to date.

32 **A.7.7 Species Habitat Suitability Model**

33 A habitat suitability model has not been developed for California black rail because there is
34 insufficient information regarding the distribution of the physical attributes that supports its
35 habitat in the Plan Area (e.g., the location of seeps, water depths in emergent wetlands).

1 A.7.8 Recovery Plan Goals

2 A recovery plan has not been prepared for the California black rail and recovery goals have not
3 been established for the species.

4 A.7.9 References

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