

PROBABLE BREEDING POPULATION OF THE BLACK RAIL IN YUBA COUNTY, CALIFORNIA

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In central California, most California Black Rails (*Laterallus jamaicensis coturniculus*) are confined to the northern San Francisco Bay estuary, with small isolated populations along the outer coast in Tomales Bay, Bolinas Lagoon, Morro Bay, and Bodega Bay (Manolis 1978, Evens et al. 1991, J. Evens pers. comm.). In the Central Valley there is only one definite record north of the Sacramento–San Joaquin delta, of a bird found dead at Gray Lodge Wildlife Management Area, Butte County, in March 1962 (*Audubon Field Notes* 23:516, 1969). This specimen was preserved in a display case at the management area's headquarters. There are no records for the species in any of the foothills surrounding the valley.

Here we report the discovery of a probable breeding population of Black Rails in two marshes (Figure 1, sites 1 and 2) along tributaries of Dry Creek at the University of California Sierra Foothill Research and Extension Center (SFREC) about 24 km east of Marysville in the foothills of the Sierra Nevada, Yuba County, and subsequent detections of Black Rails on two other tributaries of Dry Creek (Figure 1, sites 3 and 4).

The first marsh, varying in elevation from about 200 to 250 m, extends approximately 700 m up Slick's Canyon along a spring-fed unnamed perennial creek surrounded by annual grassland. Marsh vegetation along the creek occurs in a narrow strip, rarely exceeding 10 m wide, and consists primarily of cattails (*Typha latifolia*), with a few scattered willows (*Salix* spp.), figs (*Ficus carica*), Blue Oaks (*Quercus douglasii*), and Interior Live Oaks (*Q. wislizenii*). Historically, the area surrounding the creek was probably a mixed woodland of Blue Oak, Interior Live Oak, and Foothill Pine (*Pinus sabiniana*), but in 1967 it was treated with herbicide and subsequently burned and converted to annual grassland for cattle. Photographs indicate that cattails did not become established along the creek until sometime between 1977 and 1986. Less disturbed riparian areas nearby have few cattails, so presumably cattails were largely absent from the creek prior to its initial clearing. At the time of this study the slopes surrounding the creek were grazed by cattle, and in places the creek was traversed by cattle.

The second marsh is approximately 1 km downstream of the Slick's Canyon site, along Porter Creek, at an elevation of approximately 175 m. This marsh is about 140 m long and 40 m wide and also consists primarily of dense cattails. Although there may have been some clearing around the Porter Creek marsh, it is still bordered by oak–pine woodland.

We began monthly bird counts along Slick's Canyon in May 1994, as part of a project to restore riparian vegetation along the creek. Beginning within one hour after sunrise, one or two observers spent one hour walking 615 m up the creek, keeping about 30 m from the creek, and recording all birds detected within 15 m of the creek. Counts were conducted on 2 May, 1 June, 5 July, 9 August, 9 September, and 11 October 1994.

Initially, we detected one Black Rail by its spontaneous "kik-kik-kerr" call on 1 June 1994. On 9 August, we detected three more by spontaneous "kik-kik-kerr" calls, and saw one briefly as it crossed a gap in the cattails. These were the only spontaneous calls we heard on the monthly counts.

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Once Black Rails were discovered, we attempted to count them more completely by eliciting responses to recorded calls. We broadcast calls by using a portable cassette player and a tape made from the Peterson Western Bird Songs compact disc (Cornell Laboratory of Ornithology/Interactive Audio 1992). The tape consisted of about 30 seconds of "kik-kik-kerr" calls, followed by a single "grr" call, and was played over a range of volumes. We conducted broadcast counts at Slick's Canyon on 15 August, 9 September, 13 September, 11 October, and 3 November, and at the Porter Creek Marsh on 15 August, 13 September, and 26 September.

Black Rails were detected on all broadcast counts at the Slick's Canyon and Porter Creek sites, with a high minimum count of 10 rails at Slick's Canyon on 13 September and four rails at Porter Creek on 26 September. Eleven was the largest minimum number of rails detected at both sites on a single count day (13 September). In August and early September, Black Rails responded to recorded calls with "kik-kik-kerr," "grr," and, less frequently, with single-note "yip" calls. From late September through November, "grr" responses predominated, and "kik-kik-kerr" responses were rare.

On 18 October 1994, about four Black Rails responded to broadcast calls at a marsh on another unnamed tributary of Dry Creek about 5 km northwest of the Slick's Canyon site (Figure 1, site 3). This marsh, at an elevation of about 115 m, covers about 2.5 ha, and consists primarily of dense *Scirpus acutus*, with some *Typha latifolia* and lesser amounts of *Juncus* spp. The marsh is fed by a spring and by irrigation run-off.

On 20 October 1994, one or two Black Rails responded to broadcast calls at a fourth marsh on another unnamed tributary of Dry Creek about 4 km west of the Slick's Canyon site (Figure 1, site 4). This marsh, at an elevation of about 75 m, is about 25 m wide and 100 m long and is dominated by dense *Typha latifolia* and *Juncus* spp. Water for the marsh appears to be supplied primarily by leakage from an irrigation ditch.

Although all Black Rails seen during this study appeared to be adults, we think that the spontaneous territorial calls heard in June and August and the number of rails along Slick's Canyon indicate that at least at that location the population is probably breeding.

The population we report here is 130 km from the main concentration of the species in central California but is not particularly unusual in its use of habitat. In central California Black Rails breed most regularly in tidal marshes dominated by *Scirpus*, *Juncus*, and *Salicornia*, but a few have been found in freshwater marshes dominated by *Typha* (Manolis 1977). Along the Colorado River and associated canals, Black Rails are regularly found in marshes dominated by *Typha* (Evens et al. 1991, Flores and Eddleman 1993). Several studies have suggested that breeding Black Rails may be confined to shallow marshes with little or no daily or annual fluctuation in water level (Repking and Ohmart 1977, Manolis 1978, Flores and Eddleman 1993). During our study, Slick's Canyon marsh was less than 3 cm deep in most places, although winter flooding is probably common.

Our discovery underscores the need for further studies to better elucidate the distribution and habitat requirements of the Black Rail in California. Despite several distributional studies and a "threatened" listing by the California Department of Fish and Game (California Department of Fish and Game 1992), the status of the Black Rail in California's Central Valley is almost completely unknown (Manolis 1978, Evens et al. 1991). The discovery of this Sierra foothill population suggests that Black Rails may be more widely distributed in the valley than previously thought, and that Black Rails may be able to persist even in small rather disturbed marshes if necessary conditions exist.

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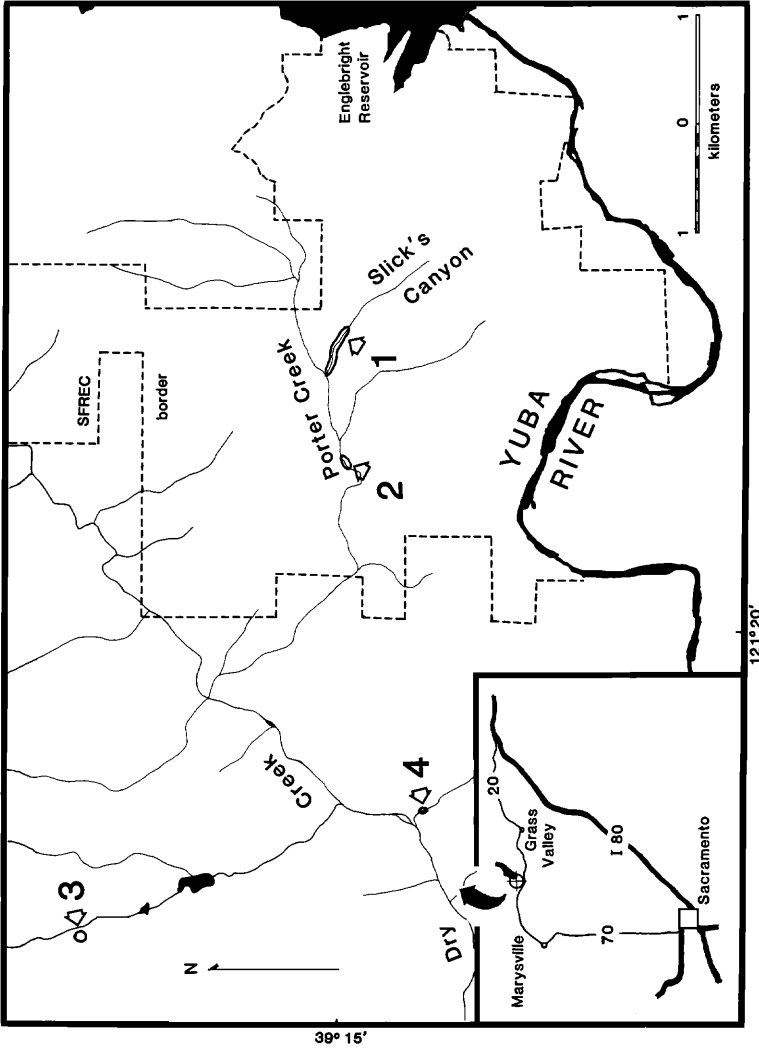


Figure 1. Locations of the four sites where Black Rails were detected in Yuba County, California. The dotted line indicates the boundary of Sierra Foothill Research and Extension Center (SFREC).

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