



Call-Count Surveys May Be Under-Estimating California Ridgway's Rail Populations

The California Ridgway's rail (*Rallus obsoletus obsoletus*) is a secretive marsh bird endemic to tidal marshes in the San Francisco Bay of California. The species has undergone significant range contraction and population declines due to a variety of factors, including predation and the degradation and loss of habitat.

Call-count surveys—which include call playback, based on the standardized North American marsh bird monitoring protocol—have been conducted throughout the San Francisco Bay since 2005 to monitor population size and distribution of the California Ridgway's rail. However, call-count surveys are difficult to evaluate for efficacy or accuracy.

A USGS study assessed the accuracy of call-count surveys, and investigated whether radio-marked California Ridgway's rails moved in response to call-count surveys. Researchers recorded locations of radio-marked rails at 15-minute intervals, and compared them to rail detections recorded during call-count surveys conducted over the same time period. The results are published in the *Journal of Fish and Wildlife Management*.

Radio-marked rails were detected during call-count surveys within 200 meters from surveyors—which is the distance that studies commonly use as the limit at which marsh birds can reliably be detected. Comparing the telemetry and call-count results, 59 percent of radio-marked rails known to be present within 200 m of surveyors remained undetected using the call-count survey method.

The use of playbacks seemed to show no consistent influence on movements of radio-marked California Ridgway's rails during call-count surveys, as rails were neither attracted to nor repelled by playbacks, irrespective of call playbacks of five marsh bird species (including California Ridgway's rail) broadcasted by researchers from listening stations. These findings suggest that playbacks of rail vocalizations do not consistently influence California Ridgway's rail movements during surveys.

This Brief Refers To:

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<http://www.werc.usgs.gov/ProductDetails.aspx?ID=5266>



California Ridgway's rails are difficult to detect, but results from radio-marked birds suggest that standard call-count surveys may be underdetecting birds present in the field. Kevin Buffington/USGS.

MANAGEMENT IMPLICATIONS

- Call-count surveys are commonly used to monitor California Ridgway's rails in tidal salt marshes throughout San Francisco Bay. Yet, this study found that call-count surveys can miss at least 59 percent of rails actually present within a 200 meter radius.
- Playbacks of rail vocalizations also do not consistently influence California Ridgway's rail movements during surveys. California's Ridgway's rails were neither attracted to nor repelled by playbacks
- If call-count surveys have a low probability of detecting rails, the prevalence of data collected using call-count surveys may be contributing to an underestimation of California Ridgway's rail populations in San Francisco Bay wetlands.

RESEARCH CONTACT

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