THE CALIFORNIA BLACK RAIL REPORT

A NEWSLETTER FOR LANDOWNERS COOPERATING WITH THE CALIFORNIA BLACK RAIL STUDY PROJECT http://nature.berkeley.edu/~beis/rail/

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How do you go about studying a bird you almost never see? This is the problem the California Black Rail Project has struggled with for the last three years, and for several years before that. Since the discovery of the rare **California Black Rail** in several lower foothill counties in 1994, we have been tracking this bird by playing tapes of its calls and listening for responses. It's the only way to document its presence in its wetland habitat because it is extremely secretive, tiny (robin-sized). These rails live only in very dense vegetation and seldom scurry out into the open. But when we play a tape and hear it calling back to us with its peculiar **kee-kee-doo** call or giving a disturbed growl, we know it is present.



It's possible to make a computerized picture of the sound of its **kee-kee-doo**, as shown here to the left. The length of the call is shown on the bottom line, and the call's frequency or pitch is shown by a measurement ("kHz" for "kilohertz") on the left. The loudest sounds are the darkest color; the lighter colors represent the sound's complex of tones that give it

richness. So you can see that **kee-kee-doo** is three sounds, two of about equally high pitch and one that is lower and slurs off to the right. We are exploring if we might use a picture like this to make a **sound fingerprint** of an individual bird and perhaps be able to follow him around by this sound signature. This is only one thing we are exploring to learn more about these secretive birds, and we may not be successful but it's worth a try.

Our main effort continues to be annual visits to the places we know the Black Rail has been found in previous years and determining if it is still present there. The majority of these places are small (often less than 1 acre), barely wet areas, with cattails, "tules", and other wetland vegetation. Black Rails are mainly found on private lands in Butte, Nevada, and Yuba Counties.

That's where you come in. Without your permission to come onto your property to do our annual search, we would be restricted to working only on the small amount of public land in this region. Our study aims to track this bird as it exists in the "real world", and that means where it co-exists with the way we humans live. It's what makes our study interesting and important, because in the modern world **wildlife must co-exist with human use of the land**. It is wonderfully ironic that this tiny bird - invisible to even experts - is starting to show us how creatures live in a human landscape.

Each year since 2002 (for many of you at least) we have been asking your permission to do our sound surveys, which take only about 15 minutes to complete. After three surveys without any responses, we conclude with 97% certainty that there are no rails present. We come back year after year because we are trying to describe the entire population of birds as they exist in their patchwork of little fragments of marshland. **It's only by noticing the changes from year to year that we analyze what is happening**. We are doing what is known as a **metapopulation**

study. A "metapopulation" is a population of populations, and the Black Rail in its fragmented distribution in the foothills is a classic example of such a metapopulation. The map below shows you how the metapopulation exists in our study area. The dots represent the locations of most of our small marshes where we search for rails.



Each marsh in the metapopulation has a chance of losing or gaining rails from year to year. An empty site in one year may be occupied by rails the following year; we call this a local colonization. Likewise, an occupied site in one year may lose its rails and be un-occupied the following year; we call this a local extinction. Local colonization and extinction may be common events and are not necessarily good or bad. What we want to find out is if the rates of colonization and extinction are pretty much equal over a long period of time. That in a nutshell is what our surveys in the field are all about.

So here is a brief account of some of our findings. We now visit more than 125 marshes; the number grows constantly and we need to add many more to our list of sites. Last year 52% were occupied by Black Rails. We found that the rates of colonization and extinction were pretty much in balance from 2002 to 2003 and from 2003 to 2004. **So far it seems that this**

metapopulation may be in a healthy condition. But we need more years of surveys to have confidence in this conclusion and many more years to be sure.

A **Big Unknown** (among all the Little Unknowns) in our study is how many potential sites there are in our region, and how many of these are occupied by Black Rails. Our biggest challenge is to expand our survey area using aerial maps, satellite imagery, and hints we get from landowners. Only then will we be able to make some firmer judgments.

Last year we included a postcard with our newsletter so you could send us any updated contact information. Your prompt responses saved us much time and effort. Once again we're including a card for you to return before we start our field season on June 1, 2005. To encourage your responses we are going to have the **Big Black Rail Raffle**. All landowners who send back their postcard by 1 June are eligible. We will randomly pick a **Big winner** from the returned postcards. The winner will receive a **\$20 gift certificate to Amazon.com** and a color photograph of the California Black Rail with its actual voice, either on tape or CD. So please **return the enclosed card**, and good luck in the **Rail Raffle**.

Also on the card is a spot to let you know what's happening with rails on your land. If you would like to know if we find rails on your land this year, check off the box on the postcard and we'll send you an email. (If we happen to meet in the field, we'll happily let you know also.)

 H_{F} The picture below is of Julie Jones at the edge of the marsh just behind her house on Sicard Flat Road, Yuba County. She has just released a Black Rail back into the marsh from whence it



came. On October 16 her cat did what cats will do; he wandered into the marsh, looking for something to play with. The cat caught a Black Rail somehow and brought it out to bat around, giving it a couple good bites. Then Julie's dog, a trained pointer, got into the act. He got the rail away from the cat and starting doing a dog thing of looking around for some human to retrieve it to. Luckily Julie's husband Tom was there to get it away from the dog. Knowing that cat bites are nasty wounds and highly infectious, Julie got in touch with the International Bird **Rescue Research Center in Fairfield**. Tom drove over 100 miles to Fairfield to deliver the bird to the intensive care unit at the Center. For ten days it was in the ICU, had a 5 day treatment of antibiotics, received blood tests, and was fed and weighed several times a day. We hope we get this quality treatment if we ever come out of a marsh in bad shape. So anyway, by October 27 the rail's weight had stabilized and it was declared

recovered, healthy, and ready for release. We picked the bird up in the pet box shown in the picture and delivered it back to Julie's marsh for release. We were all set to take the dramatic picture of Julie releasing the bird back to the wild, when it unexpectedly flew up out of the box and into the marsh, quickly disappearing into the vegetation. So this is a typical picture of a **Black Rail;** that is, the bird is nowhere to be seen. Thanks Julie and Tom for your extraordinary effort!! This rail was banded prior to release, so we'll know it if we encounter it again, hopefully under more pleasant circumstances.

WHO WE ARE. This research was begun in the late 1990's by **Jerry Tecklin**, a Research Associate at the University of California Field Station where he has been stationed for the last fifteen years. For several years the California Department of Fish and Game contracted him to look for Black Rails in the foothills. He knows Yuba, Nevada, and Butte Counties as if they were his own backyard, which in a way they are!. Over the years, many of you have been contacted by Jerry for permission to enter your property.

Three years ago **Dr. Steve Beissinger** began to work with Jerry to found **the Black Rail Study Project**, the current long-term study we are now doing. He is distinguished professor in the Department of Environmental Science, Policy, and Management at the University of California Berkeley, and a nationally recognized leader in studying rare birds and their conservation. **Orien Richmond**, a Ph.D. student working with Steve on this project, will join us in this year's field work and he will be taking major responsibility for the conduct of the research over the next few years. Doing the 2005 field season, you are most likely to run into **Jora Rehm-Lorber**, an experienced wetland biologist who will be working with us to survey rails and has probably seen more Black Rails than most people alive!

You can always contact us by calling Jerry, Orien, or Jora at the Field Station, 530-639-8800; or emailing us at jetecklin@ucdavis.edu, or Dr. Beissinger at beis@nature.berkeley.edu. Consider visiting our website: <u>http://nature.berkeley.edu/~beis/rail/</u>. There you will find pictures as well as sound recordings of these birds (look under "Links"), and lots of other information.

So, here's the June-October 2005 Team







Steve



Orien



Jerry