Yellow Rail Progress Report – Winter 2009/2010

9 April 2010

By Christopher J. Butler, Ph.D

This report covers the period of 1 December 2009 through 28 February 2010.

Summary of Yellow Rail banding

On 11 December 2009, Dr. Butler and four students traveled to Red Slough Wildlife Management Area (in McCurtain County, Oklahoma) to catch and band Yellow Rails. Four Yellow Rails were captured on unit 6. Six additional birds were seen on unit 6, and two additional birds were seen on unit 11. On 12 December, Dr. Butler and his students traveled to Red River NWR in northern Louisiana to search for Yellow Rails. No Yellow Rails were encountered. On 13 December 2009, Dr. Butler and his students traveled to Cameron Prairie NWR and Laccassine NWR in SW Louisiana. A single Yellow Rail was flushed at Laccassine NWR but could not be captured. No Yellow Rails were encountered at Cameron Prairie NWR.

On 15 January 2010, Dr. Butler and four students again traveled to Red Slough WMA to catch and band Yellow Rails. A total of five birds were captured – four new birds and a single recapture (originally banded in Nov 2009). All the birds were encountered at unit 6 – no birds were encountered at unit 11.

On 19-20 February 2010, Dr. Butler and four students traveled to Sabine NWR in southwestern Louisiana to attempt to catch Yellow Rails. Despite approximately 8 hours of sampling, no Yellow Rails were encountered at this location.

On 26 February 2010, Dr. Butler and two students again traveled to Red Slough WMA to catch and band Yellow Rails. A total of nine individuals were caught (six new birds and three recaptures). All the recaptures were from birds first banded earlier in the year. All birds captured were on unit 6, although two Yellow Rails were also flushed at unit 11.

Since the project began in October 2009, a total of 41 Yellow Rails have been banded at Red Slough WMA. Rectrices (tail feathers) have been removed from each bird for use in a stable isotope analysis. Dr. Butler and his students are also attempting to use the DNA at the tip of the feather to determine the sex of the birds. In addition, Jennifer Wilson (a biologist at the Texas mid-Coast NWR) has sent us 80 feather samples from birds captured during December 2009 – February 2010 along the Texas coast for use in our stable isotope analysis.

To date, we have not reencountered any Yellow Rails banded during the 2008-2009 field season, although we have encountered birds banded during November, December and January of the current field season.

Summary of stable isotope analysis

Feathers from 61 individuals been prepared for a sulfur stable isotope analysis and feathers from 48 individuals have been prepared for a deuterium analysis. However, the sulfur isotope analysis is only performed at OU twice per year, so not results are available yet. It is anticipated that the sulfur analysis may not be performed until summer 2010. The deuterium can be processed much more quickly and we expect to get our first results back during spring 2010.

In addition, Dr. Butler and his students have begun working on a method to use DNA extracted from the tip of the feathers to accurately sex these birds. Currently, there is no known method for determining the sex of Yellow Rails in the field. Dr. Butler and his students have successfully used this DNA sexing technique to determine the sexes of passerines but are still working on adapting it for Yellow Rails. So far, they are having difficulty amplifying sufficient quantities of DNA through PCR for use in the analysis. They intend to draw blood (which will have a greater concentration of DNA) from six Yellow Rails in the spring to determine if the DNA sexing approach currently being employed will work with a higher concentration of DNA.

Summary of purchases made through grant

See attached.