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Yellow Rails Wintering in Oklahoma

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ABSTRACT.—Yellow Rails (*Coturnicops noveboracensis*) were recently discovered to migrate through southeastern Oklahoma in small numbers during fall with a few records into December and a single record in January. We made seven trips (3 in Nov 2008 and 1/month from Dec 2008 through Mar 2009) to Red Slough Wildlife Management Area in McCurtain County (Oklahoma) to catch and band Yellow Rails. Twenty-five Yellow Rails were banded and birds were observed during each month. Rails were encountered in areas dominated by *Sporobolus* spp. averaging 44 cm in height in areas with 4 cm or less of standing water. Yellow Rails appear to overwinter in small numbers in McCurtain County, Oklahoma ~300 km north of the Gulf Coast. *Received 22 June 2009. Accepted 15 October 2009.*

Yellow Rails (*Coturnicops noveboracensis*) are secretive, nocturnal birds that breed in the northern United States and Canada with a disjunct population in southcentral Oregon (Bookhout 1995). The total population of Yellow Rails is estimated to be only 17,500 individuals (Butcher et al. 2007). The species is on the Audubon's Society's Red WatchList (Butcher et al. 2007) and is a species of special concern in Canada (Environment Canada 2006) and most of the states where breeding occurs (Grace et al. 2005). Yellow Rails generally leave breeding areas between mid-August and November (Stenzel 1982, Bookhout 1995, Popper and Stern 2000, Goldade et al. 2002) and winter along the coast, from Texas to North Carolina (Bookhout 1995). Several studies of Yellow Rails have been conducted on breeding areas but little is known about their migratory or wintering ecology (Bookhout 1995).

The first Yellow Rail recorded in Oklahoma was collected on 7 March 1842 in what is now Delaware County (Tomer 1959). More than a century passed before Yellow Rails were again reported in Oklahoma. In 1954, one was reported killed by a mowing machine (Heck and Arbour 2008). These authors summarized published dates of occurrence for the 20th century and reported one record from the 1960s, three records from the 1970s, no records during the 1980s, and four records from the 1990s. W. D. Arbour began conducting regular rope drags to flush Yellow Rails beginning in 2001 at Red Slough Wildlife Management Area (WMA) in McCurtain County, Oklahoma. Yellow Rails were observed annually at this location from 2001 to 2008 (Heck and Arbour 2008). They are now considered to be regular autumn migrants from 15 October through 26 November in southeastern Oklahoma (OBRC 2004).

Yellow Rails were also recorded during December in 2 years (2004 and 2005) at Red Slough WMA and a single record exists from January (2004) at this location (Heck and Arbour 2008). We hypothesized that Yellow Rails may overwinter in small numbers in southeastern Oklahoma given the species has been recorded as late as mid-January in McCurtain County.

METHODS

Red Slough Wildlife Management Area (33° 44′ 05″ N, 94° 38 13″ W; Fig. 1) is in McCurtain County, Oklahoma, and consists of ~1,000 ha of moist soil management areas, 1,160 ha of (reforesting) bottomland hardwoods, and 165.6 ha of reservoirs for a total of 2325.6 ha (USDA 2009). Red Slough WMA is cooperatively managed by the U. S. Forest Service, Natural Resources Conservation Service, Oklahoma Department of Wildlife Conservation, and Ducks Unlimited (USDA 2009).

We traveled to Red Slough WMA seven times between November 2008 and March 2009 to capture and band Yellow Rails (3 times in Nov and once monthly from Dec through Mar). Vegetation was sampled at nine locations where birds were flushed during November 2008. A 1 × 1 m^2 frame was placed at each location where we flushed Yellow Rails and vegetation height of

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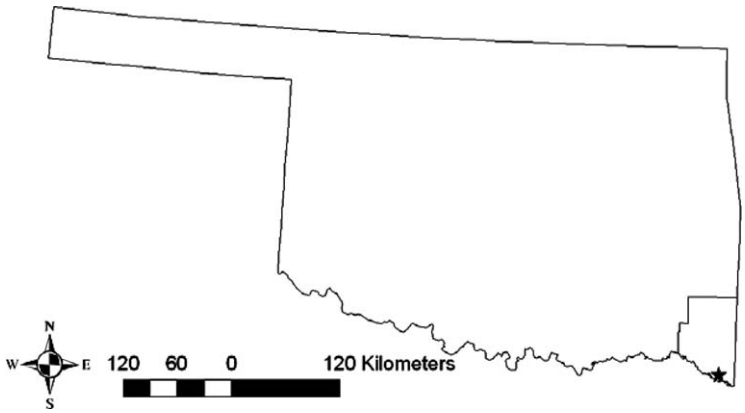

FIG. 1. Red Slough Wildlife Management Area (black star) in McCurtain County, Oklahoma.

each species was measured as well as percent cover following Daubenmire (1959). Yellow Rails may have run before flushing (which could potentially bias the results), but the habitat appeared to be homogeneous and any bias was expected to be minimal.

We began capturing Yellow Rails ~30 min after sunset and continued our efforts for 3 hrs each night. We used a 12 m nylon rope weighted with bottles (filled with rocks) which two people dragged through damp, grassy areas where rails had previously been encountered. Rope-dragging caused rails to flush and we were able to shine a handheld spotlight on the area where the bird landed and catch them in a small handheld net. Each bird was banded with a USGS aluminum band, classified to age following Pyle (2008), and released.

RESULTS

Twenty-five Yellow Rails were banded from November 2008 through March 2009 (Table 1). One bird banded in November 2008 was recaptured in December 2008 and one bird banded in December 2008 was recaptured in January 2009. A single Yellow Rail was flushed in February 2009 but we were unable to catch it. During November, most birds captured (9 of 13) were classified as adults (i.e., AHY) following Pyle (2008). In contrast, from December 2008 through March 2009, most birds captured (8 of 12) were classified as young (i.e., HY/SY).

TABLE 1. Trapping effort and captures of Yellow Rails, McCurtain County, Oklahoma, 2008–2009.

Month	# hours of sampling	New birds	Recaptures
November 2008	18	13	2 (both banded earlier in Nov)
December 2008	6	9	1 (banded in Nov)
January 2009	6	1	1 (banded in Dec)
February 2009	6	0	0
March 2009	6	2	0

Fourteen genera in eight plant families were identified in the nine vegetation plots. Seven plots were dominated by grasses (60–100% cover), mainly *Sporobolus* spp. (dropseed), some identified as *Sporobolus compositus*. Other grasses on these seven plots included *Steinchisma hians* (gaping grass) and *Panicum* spp. (panicgrass). One plot was dominated by flatsedge (*Cyperus* spp.) with 85% cover, and another by an unidentified Polygonaceae with 97.5% cover. Other plants encountered included *Ambrosia* spp. (ragweed), *Ammannia* spp. (toothcup), *Andropogon virginicus* (broomsedge bluestem), *Boltonia asteroides* (white doll's daisy), *Eleocharis* spp. (spike-rush), *Hypericum drummondii* (St. John's wort), *Juncus* spp. (rush), *Oxalis* spp. (wood sorrel), and *Tridens strictus* (long-spike tridens).

The dominant vegetation averaged (± SE) 44.1 ± 4.6 cm in height in areas where rails were captured. Ten Yellow Rails were captured in areas with no standing water and fifteen were captured in shallow water ≤4 cm deep.

DISCUSSION

Yellow Rails appear to winter in small numbers at Red Slough WMA in McCurtain County, Oklahoma. This is considerably farther north than previously reported wintering areas, because Red

Slough WMA is ~ 300 km north of the Gulf Coast. It is unknown whether this is a recent wintering range expansion or whether Yellow Rails have wintered here but not been previously detected. Most birds banded during winter (Dec-Mar) were HY/SYs, which suggests this species may undergo differential migration and young winter farther north than adults.

Yellow Rails are reported to use the drier areas of *Spartina* spp. marshes along the coast (Bookhout 1995). Radiotelemetry in coastal Texas suggested that Yellow Rails prefer areas dominated by saltgrass (*Distichlis spicata*) and gulf cordgrass (*Spartina spartinae*) (Grace et al. 2005). Wayne (1905: 396–397) collected wintering Yellow Rails near Charleston, South Carolina away from the immediate coast, in a ''low, wet piece of open land with a dense growth of short, dead grass''. He collected 58 Yellow Rails between 1903 and 1918 at this freshwater locality (Post 2008). Heck and Arbour (2008) suggested Yellow Rails in Oklahoma occur primarily in fall panicum (*Panicum dichotomiflorum*) and longleafed rushgrass (*Sporobolus asper*) during fall migration. We generally found Yellow Rails in areas dominated by *Sporobolus* spp. rather than *Panicum* spp., although the number of higher taxa (families and genera) at our sites was fairly high. It is possible that Yellow Rails choose wintering habitat based on structural components (e.g., areas dominated by grassy vegetation <50 cm in height with little or no standing water) rather than by dominant plant genera, as suggested for other rail species (Conway 1995, Melvin and Gibbs 1996).

Yellow Rails are difficult to detect and may winter farther inland than previously reported. Given that they overwinter in small numbers in southeastern Oklahoma, observers elsewhere in the southeastern United States should be alert for the possibility of Yellow Rails overwintering in damp grassy areas.

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