

MIGRATORY AND OVER-WINTER SITE SELECTION OF PALM WARBLERS IN THE WEKIVA RIVER BASIN IN CENTRAL FLORIDA

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There are two subspecies of Palm Warbler: *Dendroica palmarum hypochrysea* known as the Yellow Palm Warbler, and *Dendroica p. palmarum* known as the Western Palm Warbler. The Yellow Palm Warbler, with yellow underparts, breeds in boreal forest bogs of eastern North America and winters primarily along the Gulf Coast. The Western Palm Warbler, with a white belly, breeds in similar habitats from roughly west of Ottawa, Canada, to west-central Canada and winters along the SE coast of the United States and the West Indies (Wilson 1996). Curson et al. (1994) report the Western Palm Warbler winters in south Florida and the West Indies and the Yellow Palm Warbler winters on the Gulf of Mexico from west Florida to northeast Mexico.

Both subspecies are winter residents in Florida and are found in a variety of habitats: open hardwood, pine forest, marsh, prairie, and roadsides (Kale and Maehr 1990, Stevenson and Anderson 1994). In December 2004 while conducting a bird census for the Saint John's River Water Management District in the Hal Scott Preserve, southeast of Orlando, Florida, Alex Vinokur (pers. comm.) reported that only Yellow Palm Warblers (about 40) were seen in pine flatwoods, and Western Palm Warblers (about 25) were seen in a hardwood swamp.

Between 1997 and 2003 we banded Palm Warblers in two areas of the Wekiva River basin in Central Florida: Rock Springs Run State Reserve (Rock Springs) and the Sand Lake area of Wekiwa Springs State Park (Wekiwa Springs). We opened nets approximately 30 minutes before sunrise and kept nets open until approximately 1030 depending upon weather and captures. Our netting activities occurred between 1 September 1997 and 10 April 2002 in Rock Springs. During September and October 1997-2000 nets were open daily, weather permitting. At other times nets were open approximately five to seven days monthly throughout the year. Nets were open for a total of 369 days in Rock Springs. In Wekiwa Springs nets were also open approximately four to seven days monthly throughout the year from 15 September 2002 to 31 December 2003 for a total of 82 days.

Vegetation around the nets at Rock Springs included longleaf pine (*Pinus palustris*), saw palmetto (*Serenoa repens*), blackberry (*Rubus* sp.),

Table 1. Mist net captures of Palm Warbler subspecies in the Wekiwa River basin at Wekiwa Springs State Park (WSSP, 82 days of banding), and Rock Springs Run State Reserve (RSRS, 369 days of banding), in central Florida, 1997-2003

	New Captures		Recaptures		Total Captures	
	WSSP	RSRS	WSSP	RSRS	WSSP	RSRS
WPWA ^a	23	77	1	3	24	80
YPWA ^b	67	26	29	0	96	26

^aWPWA-Western Palm Warbler.

^bYPWA-Yellow Palm Warbler.

and wax myrtle (*Myrica cerifera*). The area is poorly drained and is frequently boggy for several days after rain.

In 2001-2002, dramatic changes were made in the Sand Lake area of Wekiwa Springs. Park staff capitalized on the presence of logging crews for southern pine beetle (*Dendroctonus frontalis*) control to remove large mature sand pines (*Pinus clausa*) for the restoration of scrub habitat. Fire had been restricted in this area, as a burn could not be conducted safely within mature sand pines. Once the pines were removed, a prescribed fire was conducted in the winter of 2002. In less than two years, the area was transformed from a habitat dominated by sand pines as tall as 15 m to an area where most vegetation scarcely reached 2 m in height. The vegetation now consists of scrub oaks, sand pines, and palmetto. This area drains quickly.

We found through our netting that the two Palm Warbler subspecies showed distinct habitat differences (Table 1), thus agreeing with Vinokur's observations. Western Palm was more common in Rock Springs and its mesic habitats; Yellow Palm was more common in Wekiwa Springs and its xeric habitat. Western Palm were captured from October to March while Yellow Palm were captured October to April. When considering the site-specific intensity of our effort (number of days banding), 82 for Wekiwa Springs and 369 for Rock Springs, the new capture rates of Western Palm (23 for Wekiwa Springs and 77 for Rock Springs) are similar. However there is a large difference in capture rate for Yellow Palm with 67 new captures in 82 days for Wekiwa Springs and 26 captures in 369 days for Rock Springs.

A lack of recaptures of Western Palm suggests they do not remain in the area, whereas more than a third of Yellow Palms banded in Wekiwa Springs were recaptured at least once (Table 1).

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