

**SPOTTED SANDPIPER: WINTER FEEDING ON
SMALLFISHES AND WINTER DISTRIBUTION IN
MISSISSIPPI**

W. Marvin Davis
308 Lewis Lane
Oxford, MS 38655

On 5 February 1999 from 1530 to 1540 I noted the foraging behavior of a lone Spotted Sandpiper (*Actitis macularia*) along a shoreline of Sardis Lake, MS (Panola County) at Engineer's Point, less than 100 m from the south end of Sardis Dam. The sandpiper, although being in basic plumage, was clearly identifiable by its size, shape, coloration (dark gray above and white below), weak superciliary line and its persistent vigorous "tail-pumping," or what some call "teetering," movements. Shortly after being sighted, it began walking along the shoreline, remaining quite near the water, except for two rapid runs into a debris strand-line farther from the water. I was very surprised when it began a series of forays into the water where it stabbed its bill at a potential food item. Thinking it unlikely that aquatic insects would be available, I watched its actions closely. It would walk out into the first 10-20 cm of water, then "freeze" in a staring, leaning-forward posture before a short, quick run and bill-stab at the intended prey. Such feeding behavior was described by Kaufman (1996) as being directed to the capture of water insects or small crabs.

By the fourth such foray I was able to detect the successful capture of a small fish of an estimated 6 cm length. In the course of twelve such efforts observed there were four definite captures, each being of a small, thin or shallow-bodied fish that had a strikingly silver-sided

appearance. The most likely species of this size and description is the Brook Silverside (*Labidesthes sicculus*), which occurs abundantly in near-shore waters of Sardis Lake according to a local fisheries biologist (Keith Meals, personal communication, March 1999). On 13 February I saw probably the same sandpiper at the Engineer's Point boat ramp, but observed no overt feeding behavior, perhaps because of lateness in the day (1700). A Spotted Sandpiper seen at the same site on 9 January 1999 likely also was the same individual (Gene Knight, personal communication, March 1999).

It may be hypothesized that adaptation to include this style of foraging with fish as the target food might be an important basis for an individual Spotted Sandpiper being able to survive winter conditions of this area of north Mississippi. That Sardis Lake is indeed north of the species' regular wintering range in Mississippi is clearly shown by the data analysis following.

The winter status of Spotted Sandpiper even in coastal southern Mississippi was described as uncommon by Toups and Jackson (1987), as it was also in coastal Alabama (Imhof 1977). Indeed, data obtained from Christmas Bird Counts (CBCs) show that the species occurs with considerable regularity, but in small numbers, on the two coastal counts in Hancock and Jackson counties (Table 1). Surprisingly, the Spotted Sandpiper occurs with even greater regularity and definitely higher numbers on one inland CBC, at Hattiesburg. The species also occurs fairly regularly in early winter as far north as Vicksburg and Jackson, but has only rarely been reported on CBCs from the northern third of the state. The rate of occurrence differed with high statistical reliability ($P < 0.001$) between the northern section and all other sections. For the others, the only significant difference

was between the Coastal and Central sections ($P < 0.01$).

Table 1. Spotted Sandpipers on Christmas bird counts in Mississippi

CBC Sites	No. years out of latest 20 (to 1998) ¹	Total years/ continuous past years	Maximum number/year reported
<i>1. Coastal</i>			
Jackson Co.	13/20	18/26	5
S. Hancock Co.	17/20	23/24	3
<i>2. Inland, Southern Third</i>			
[25/40] ¹			
Hattiesburg	18/20	24/26	12
Natchez	7/20	8/33	2 ²
<i>3. Inland, Central Third</i>			
[16/40] ¹			
Jackson	7/20	7/32	2
Vicksburg	9/20	9/20	3
<i>4. Inland, Northern Third</i>			
[2/40] ¹			
Grenada	1/20	1/32	1
Sardis Lake	1/20	1/24	1

¹ Data used for χ^2 analysis between the four regions.

² A published report of 18 individuals on the 1995 CBC could not be confirmed by two Natchez CBC observers (pers. comm., March 1999), who agree that it seems clearly to be an erroneous count.

Details of two CBC dates and several additional winter or near-winter records from the northern third of Mississippi,

all of single birds, have been assembled (Table 2).

Table 2. Winter Spotted Sandpiper observations in North Mississippi.

Date	County	Locality	Ob.(s)	Source
11/5/1986	Grenada	Grenada SL	GK	unpublished
11/16/1988	Panola	Sardis Dam	MD	MK 18:20, 1988
12/2/1990	Grenada	Grenada SL	MD, GK	MK 21:15, 1991
12/3/1994	DeSoto/Tate	Arkabutla Dam	RP	MK 25:40, 1995
12/9/1991	Yalobusha	Enid Lake	TS	MK 22:27, 1992
12/19/1984	Grenada	Grenada SL ¹	EA	MK 15:29, 1985
12/19/1995	Panola	near Sardis Dam ¹	DK, AM	96 th CBC Report
12/15/1985	Grenada	Grenada SL	GK	unpublished
1/9/1999	Panola	near Sardis Dam	GK, SK	unpublished
1/15/1991	Grenada	Grenada Dam	GK	MK 22:27, 1992
1/19 – 3/12/1988	Oktibbeha	MSU N Farm SL	TS	unpublished
1/21/1994	Yalobusha	Grenada L. East ²	GK	MK 25:40, 1995
2/5/1999	Panola	near Sardis Dam	MD	this article
2/9/1992	Bolivar	Cleveland PPP	GK, SK	MK 23:31, 1993
2/13/1999	Panola	near Sardis Dam	MD	this article
3/3/1989	Yalobusha	Water Valley SL	GK	MK 20:16, 1990

¹ Christmas Bird Count records.

² Not at dam as in MK reference.

Abbreviations: Ob.(s) = observer(9s); MK = Mississippi Kite, vol.,page, date; SL = sewage lagoon; PPP = power plant cooling pond; GK = Gene Knight; SK = Shannon Knight; TS = Terence Schiefer; RP = Rob Peeples; EA = Ed Alexander; DK = Dave King; AM = Allan Mueller.

Unfortunately, none but the sighting described above supplied any information on feeding behavior or food items. It may be seen that reports, scattered geographically, range from early November across the three winter months into early March, before migration of the Spotted Sandpiper is to be expected.

It seems likely that a south-to-north gradient of diminishing food availability might sufficiently explain this pattern of Spotted Sandpiper winter distribution. Imhof (1977) described its dietary habits as being "primarily an insect eater, feeding on grasshoppers, beetles, mayflies, cutworms, and many kinds of aquatic insects. It sometimes varies this diet with crawfish." However, small fish comprise a secondary food item (Kaufman 1996, Oring et al. 1997). These may be more significant when insects are less available in winter at the extreme of its range in northern Mississippi.

An important role of man-made wetland habitats--irrigation ditches and sewage lagoons (SLs) at waste water treatment plants--was cited for the Spotted Sandpiper by Kaufman (1996). That SLs (as well as reservoir dams) are important in winter for this species in Mississippi became evident in the course of this analysis. A role of importance for SLs was highly suggested for non-coastal sites by the data of the Hattiesburg CBC. According to organizer/compiler Larry Gates (personal communication, February 1999), the extensive sewage lagoon complex at Hattiesburg is entirely responsible for both the regularity and high numbers of Spotted Sandpipers on CBCs there. Occurrences at other SLs also may be noted in Table 2.

On the Mississippi Coast, Spotted Sandpipers have been found at the Waveland SL as well as on harbor jetties and nearby beaches--e.g., at the Bay St. Louis marina (Jerry Bird,

personal communication February 1999). However, among 16 winter coastal sites of Spotted Sandpiper from 1986 through 1999 (twelve in Jackson County; four from Hancock County) no SL site was included (Charley Delmas, personal communication March 1999). Indeed, all but one, that at a Hancock County catfish farm, were on beaches of Mississippi Sound or adjacent "shores," e.g., four times at transient water pools of the "Pascagoula River Marsh" fill areas.

Despite the numerous winter records at sewage lagoons, Spotted Sandpipers do surely winter both in coastal and inland areas of Mississippi without use of man-made wetlands. David Cimprich reports a January 1998 record of one on the Leaf River near Eastabuchie at a site north of Hattiesburg, about 15 miles from the sewage lagoons, under conditions when the river was high and the bird was using pockets of floating debris accumulated along the banks (personal communication, February 1999).

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