

INCURSION OF POST-BREEDING PINE SISKINS IN THE DUNE-RIDGE FOREST, DELTA MARSH, MANITOBA, 1985

Spencer G. Sealy

Department of Biological Sciences
University of Manitoba
Winnipeg, MB R3T 2N2
Spencer.Sealy@umanitoba.ca

The Pine Siskin (*Carduelis pinus*) is among several irruptive North American species that may be abundant at one locality in one year and absent the next.^{1,2} Such an episode occurred when large numbers of Pine Siskins appeared suddenly in the forested dune ridge, Delta Marsh³ (50°11'N, 98°19'W), Manitoba, in early July through mid-August 1985. I had not recorded this species while conducting research on songbird ecology in the ridge forest since 1973, nor in the years that followed through 1993.

I first observed a flock of ~30 Pine Siskins on July 1, 1985 feeding on seeds of the Eastern Cottonwood (*Populus deltoides*) that accumulated at the edge of a driveway and parking lot at the Delta Marsh Field Station. This provided an opportunity to determine whether the original flock members remained at the site or whether individuals arrived and departed over the ensuing days. Individuals were mist-netted and uniquely colour-marked so that they could be identified if captured again or subsequently observed on the study site.

Methods and Results

Two 12-m mist nests were erected end-to-end at the edge of the driveway on July 2, 1985. After being operated on most days, when weather permitted, by August 19, the last day of netting, 132 individuals had been

colour-marked – 25.7% in the year of hatching (HY) and 74.2% after the year of hatching (AHY). Each bird was fitted with an aluminum U.S. Fish & Wildlife Service band plus a unique combination of coloured celluloid bands. I aged each bird on the basis of plumage, as HY, with buffy or yellowish wash to the underparts and pointed rectrices (which occurs prior to the preformative molt), or as AHY, with dark streaks on gray undersides. Specimens deposited in the University of Manitoba Zoology Museum (UMZM) confirm the age designations: HY (UMZM 2541, ♂, July 5, 1985; UMZM 2542, ♀, July 3, 1985) and AHY (UMZM 1612, ♀, May 7, 1981; UMZM 1613, ♂, May 4, 1981). The age of these specimens



Pine Siskin. Photo credit: Christian Artuso

was subsequently confirmed based on Pyle's *Identification Guide to North American Birds*.⁴

The number of Pine Siskins banded dropped off rapidly after mid-July, as revealed by the number of captures recorded at weekly intervals: July 2-7 ($n = 85$ individuals), July 8-13 (34),

and July 14-19 (13). Although nets were operated through August 19, and a few siskins were observed during this period, no additional individuals were banded. None of these birds was recaptured at the banding site through 1988, or by banders at stations at localities

beyond the ridge forest.

From July 3 through late August 1985, I opportunistically searched for flocks of Pine Siskins feeding on the ground or flying over the banding site. I recorded the size of each flock and whether at least some juveniles were still being fed by adults. With binoculars and spotting scope, I read band combinations of marked individuals within these flocks. I did not observe adults feeding young. Twenty different flocks contained marked individuals (Table 1), which ranged from 2 to 60 individuals and spanned the period July 3 to 20. None of the 11 additional flocks (1 to 16 individuals) scanned between July 7 and August 15 contained marked individuals. Twenty-one flocks of 2 to 40+ individuals were recorded in flight between July 7 and August 16, but marked birds could not be observed.

One siskin was recaptured three days following banding (Table 1). In addition, 23 colour-marked individuals (17.4%) were sighted in the study area (only the last observation of six individuals observed more than once were included in Table 1): four individuals later on the day of banding (not given in Table 1), two days (6) after banding, three days (7), four days (3), five days (1), and seven days (2).

Discussion

The sudden appearance of Pine Siskins at Delta Marsh in July 1985, but not previously or in subsequent summers, supports observations from other localities across North America and at various times of the year that this species is highly irruptive.^{2,5} The lack of recaptures and records of marked individuals suggest that individuals generally left the area within a day or two. Two individuals from among 22 banded on the first day were present for at

TABLE 1. Dates of banding and recaptures/sightings of individual Pine Siskins in the dune-ridge forest, Delta Marsh, July 1985.

BAND NUMBER ¹ (AGE)	DATE BANDED	DATE OF RECAPTURE	DATE OF SIGHTING (TIME OF DAY, FLOCK SIZE)
-48003 (HY)	2 July	–	3 July (10:03 hr, ?)
		–	4 July (60) ²
-48005 (HY)	2 July	–	9 July (08:30 hr, 6)
-48013 (AHY)	2 July	–	4 July (50)
-48018 (AHY)	2 July	–	4 July (60) ²
-48019 (HY)	2 July	–	9 July (08:30 hr, 6)
-48020 (AHY)	2 July	–	4 July (17:52 hr, 3)
		–	4 July (19:20 hr, 1)
-48021 (AHY)	2 July	–	4 July (60) ²
-48045 (AHY)	2 July	–	5 July (11:45 hr, 1)
-48029 (AHY)	3 July	–	4 July (60) ²
		–	6 July (07:15 hr, 25) ³
-48035 (AHY)	3 July	–	4 July (60) ²
	5 July	–	6 July (07:15 hr, 25) ^{3,4}
	5 July	–	6 July (07:15 hr, 25) ^{3,4}
-48029 (AHY)	3 July	–	6 July (08:20 hr, 31)
-48071 (AHY)	5 July	6 July	–
-48081 (AHY)	6 July	–	9 July (08:30 hr, 6)
-48087 (AHY)	8 July	–	13 July (10:01 hr, 3)
-46804 (AHY)	9 July	–	10 July (16:15 hr, 6)
		–	13 July (10:01 hr, 3)
-48089 (AHY)	9 July	–	9 July (08:30 hr, 6)
		–	11 July (09:15 hr)
		–	12 July (?, 10)
-48090 (AHY)	9 July	–	9 July (08:30 hr, 6)
-48091 (AHY)	9 July	–	10 July (?, 7)
		–	12 July (08:32 hr, 10)
-48093 (HY)	9 July	–	12 July (07:05 hr, 14)
-48097 (AHY)	9 July	–	13 July (10:01 hr, 3)
-48099 (AHY)	9 July	–	13 July (11:00 hr, 3)
-46801 (AHY)	10 July	–	10 July (15:16 hr, 4)
-46809 (HY)	10 July	–	10 July (15:16 hr, 4)
-46023 (HY)	18 July	–	20 July (?, 2)

¹ The prefix for the numbers of all aluminum bands was 1790-.

² Observed between 07:45 hr and again at 11:15 hr, with the last 5 individuals recorded in the same flock.

³ Observed in the same flock at the same time.

⁴ Individuals -48061 through -48069 were colour-marked with the same combination when coloured bands temporarily ran out. It was therefore impossible to distinguish individuals except, as in this case, when two were observed together.

least seven days, unless they had left the site and returned a few days later. Nevertheless, observations of uniquely marked individuals confirmed that most individuals likely stopped for short bouts of feeding, which is behaviour typical of post-breeding dispersal.

The occurrence of hatch-year birds among the individuals captured suggests reproduction was successful that year, but nesting probably was not local. Fledgling Pine Siskins are known to accompany adults on extended flights on which they are still fed by their putative parents.^{1,5-7} By the time of their arrival at Delta

Marsh, however, juveniles were apparently independent and not observed being fed by adults. Although recorded as occasional summer visitors to Delta Marsh in other years^{8,9}, nesting has not been confirmed and the numbers reported did not approach those recorded in 1985.

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