

THE 1987 FALL SHOREBIRD SEASON AT JAMAICA BAY WILDLIFE REFUGE

ARTHUR MORRIS

Thirty one species of shorebirds, the lowest total since the survey's inception in 1981, were noted at Jamaica Bay National Wildlife Refuge, Queens, New York, during the 1987 fall migration. The refuge was visited 41 times between 27 June and 27 Nov. Every species present was censused at least once a week. Virtually all visits, which averaged three to five hours in length, overlapped the time of high tide when the greatest number of birds fly into the East Pond to rest, feed, and preen. A majority of these birds disperse to tidal flats throughout Jamaica Bay as the tide recedes.

As in previous years the refuge was divided into seven survey areas, "A" to "G" (Morris 1985). Areas "A" to "F" were covered regularly. Until fall, area "G" was visited only sporadically. Numbers of shorebirds here fluctuated widely, as they had during 1984 and 1985, when I censused this area regularly. From mid September on, I made many late afternoon visits to take advantage of the excellent photographic opportunities available at this site.

The gate valve at the north end of the East Pond was opened ten days late on 1 July. As a result, the water level was unusually high for the fourth consecutive July. Shorebirds arriving during the first half of July utilized the West Pond, as there were no exposed flats on the East pond. The East Pond drained quickly and the gate valve was closed on 22 July. A bloom of filamentous green algae, less substantial than last year's, was noted.

Complete census results are presented in Table 1 and partial census results are in Table 2. Species diversity (Table 3) was slightly below average for much of the season. Four rare, but regularly occurring species were missed: Curlew and Buff-breasted Sandpipers, Ruff, and Red-necked Phalarope. Six species – Semipalmated Plover, Ruddy Turnstone, Sanderling, Western, Least, and White-rumped Sandpipers – which were absent from the East Pond for much or all of October and November were noted at Area "G." They are included in Table 3 but not in Table 1.

Arrival dates of the commoner, non-resident species, separated by age class, for 1987 are listed in Table 4. Adult and juvenile arrival dates for the past seven years are summarized in Table 5. Adult arrival dates averaged about a week late; in spite of this, the adult migration peaked a week early on 6 Aug. Peak numbers were almost 50% higher than

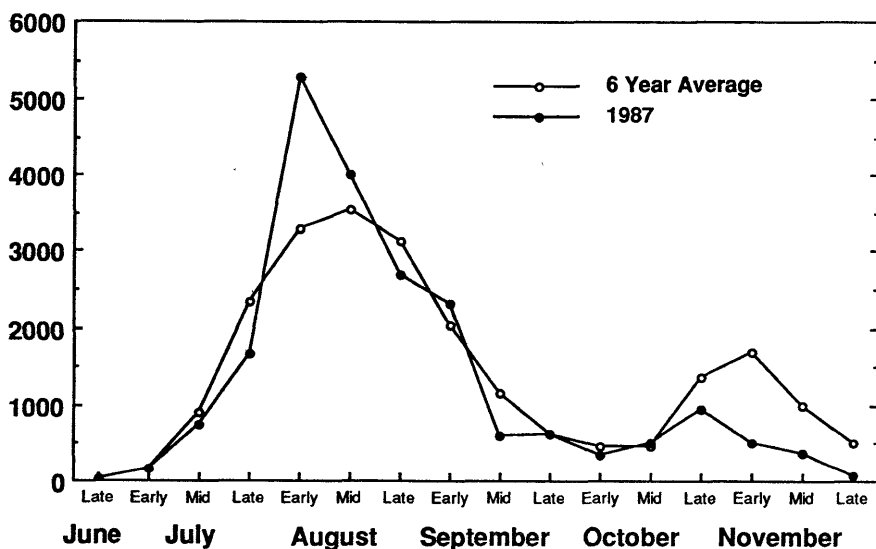


Figure 1. Comparison of 1987 shorebird migration with the 1981-1986 average.

the six-year average (Davis 1982, 1983, 1984; Morris 1985, 1986, 1987; Fig 1). With favorable conditions at the East Pond, from three thousand to more than five thousand shorebirds were present on the high tides of 29 July through 17 Aug. On several dates during this period, more than one thousand birds were found at the West Pond. The season's maximum of 5291 birds was recorded on 6 Aug. Juvenile arrival dates were wildly sporadic; they ranged from 13 days early to 22 days late! Low to fair numbers of juveniles were present after mid August.

Birds that breed in arctic regions, including most of our migrant shorebirds, do not produce great numbers of young in most years. Lopez (1986: 32-33) writes:

The communal alliances of far northern plants and animals we call ecosystems are distinguished from more southerly ecosystems by larger biomasses and lower overall productivity. Instead of many species, each with relatively few individuals in it, we find relatively few species, each with many individuals... But, generally speaking these large populations do not include enough surviving young each year to keep their populations stable. The size of the population often changes dramatically as a matter of course: the violent

weather typical of early and late summer routinely wreaks havoc on some arctic populations... On Wrangel Island in the Siberian Arctic, for example, an unbroken, ten-year series of late spring snowstorms prevented Lesser Snow Geese from ever laying their eggs. Between 1965 and 1975 the population fell from 400,000 to fewer than 50,000 birds... The population of snow geese on Wrangel Island was back to 300,000 by 1982.

Arctic breeding birds are relatively long-lived; thus, the occasional ideal year, with its bumper crop of young, can offset the effects of several disastrous breeding seasons. In 1984, the year when I assumed responsibilities for the count, large numbers of juvenile shorebirds of many species were present from mid August through September. I had believed that this was normal. Instead, the low to fair numbers of juveniles such as present in each of the past three seasons may more accurately reflect the limited breeding success attained in a typical year.

Dr. Frank B. Gill of the Philadelphia Academy of Natural Sciences and noted shorebird biologist Dr. J. Pete Myers (*pers. comm.*) feel that mortality rates on the wintering grounds, where first-year birds are particularly hard hit, have at least as great an effect on population levels as does reproductive success.

Because of heavy rains in the early fall, National Park Service personnel drained the East Pond on two occasions to provide ideal habitat for late season migrants (*vide* Mary Hake). Nonetheless, numbers were far below average after 20 Oct (Fig. 1). Various factors were involved: 1) the dismal Dunlin flight, 2) the virtual absence of Black-bellied Plover and Red Knot, 3) the early departure of several species which usually linger in small flocks, and 4) the cold November rains which quickly refilled the pond.

Table 1. Jamaica Bay National Wildlife Refuge Fall Shorebird Census 1987

Species	June		July				Aug											
	27	28	29	2	3	6	7	12	14	17	23	25	29	6	7	10	17	22
Plover, Black-bellied												1	1	143		198	431	584
Lesser Golden-Semipalmated							1	10	23	69	125	76	391	742	104	878	624	392
Killdeer	6	5	3	5	10	9	11	6	14	6	5	6	14	11	4	3	6	2
American Oystercatcher	5	3	5	5	7	5	11	19	21	11			15	110	68		139	37
American Avocet																		1
Yellowlegs, Greater		4	11			10	10	22	37	6	30	25	34	113	142	106	171	286
Lesser	4	1	1	1	2	3	4	3	5	10	55	46	41	45	8	27	26	51
Willet	11	9	8	4	7	6	27	17	20	9		2	1	32	16		46	20
Sandpiper, Spotted				1	1	4	2	6	1	4	2	1	3	8	4		2	3
Whimbrel						2				5						2	3	
Godwit, Hudsonian													2	4	3	2	6	1
Marbled														1		1	3	1
Turnstone, Ruddy													1	114	31	143	412	66
Knot, Red													53	778	2	1225	236	42
Sanderling													3	17		31	162	4
Sandpiper, Semipalmated			1					44	85	95	170	205	2172	1823	394	2120	1433	1449
Western										1		3						2
Least				7	7	58	110	52	57	55	55	70	36	42	8	28	32	32
White-rumped														1		1	2	8
Baird's												1						
Pectoral							2			1		3	1	9			1	1
Dunlin																		
Sandpiper, Stilt								1		1	8	6	13	8		6	8	3
Dowitcher, Short-billed		2		20	61	41	194	502	805	232	395	404	526	1270	388	452	165	98
Long-billed														20		27	8	2
Woodcock, American					1								1					2
Phalarope, Wilson's							1											1
No. of Species	4	6	6	7	8	9	11	11	10	14	9	15	17	20	13	17	21	24
No. of Individuals	26	24	29	43	96	138	373	682	1068	505	845	850	3307	5291	INC	5250	3916	3088
Areas covered, East Pond						c	c	A,C	A,C	B,C	A-D	A-D	A-D	A-D		A-D	A-C	A-D
West Pond	E	E,F	E,F	E	E,F	E,F	E,F	E,F	E,F	E		E	E	E	E	E	E	E

Table 1 (cont.) Jamaica Bay National Wildlife Refuge Fall Shorebird Census 1987

	Aug	Sep							Oct							Nov				
Species	29	4	7	15	16	20	24	27	1	4	12	12	18	24	31	8	11	26	27	
Plover, Black-bellied	803	1159	737	500	180	85	368	220	216	98	15	14	2	152	12	22	7			
Lesser Golden-Semipalmated	252	346	275	18	1	3	1						6							
Killdeer	2	4	1	1	4	1	3	3		4	2	4	8	9	3	6	2			
American Oystercatcher	76	78	48	80		42	1	110		120		135	47	✓	100	3	30	4	10	
American Avocet										1	1	1	1	1						
Yellowlegs, Greater	80	203	217	90	150	105	206	150	46	192	155	109	295	355	77	40	8			
Lesser	40	57	48	40	13	16	15	15	1	11	13	4	4	1	1					
Willet	28	29	12	7		6	11	5		7				5						
Sandpiper, Spotted		1	1					1												
Whimbrel			1	1																
Godwit, Hudsonian	4	5	6	6	4			1					1		1	1	1			
Marbled	3	3	3	3	3	3	3	2		3		3	3	4	4	3	3		3	
Turnstone, Ruddy	46	41	23	20	10	8	7	8		6										
Knot, Red	40	31	72	50	20	18	21	4	8					1	2					
Sanderling	1	1	3	1																
Sandpiper, Semipalmated	717	681	742	150	5	13	3	2	7	21	7		10	2						
Western	1	5	5	12	1	1														
Least	70	31	14	6	4	3	6													
White-rumped	25	8	5	23		5										1	2			
Baird's																1				
Pectoral	2	1	2		2		3	1		7	2	1	4	1						
Dunlin			1	2	3	1	14	16	24	34		88	226	960	205	420	306	49	49	
Sandpiper, Stilt		3	2	7			4	1		2			9							
Dowitcher, Short-billed	70	48	69	30	15	35	43	10	11	2	8	1	1	1						
Long-billed		3					3	1	1	1	1		34	6		8	5			
Woodcock, American				1		3				1			1							
Phalarope, Wilson's	3	3		1		1							2							
No. of Species	19	23	22	22	17	18	17	17	8	16	9	10	17	13	9	10	9	2	3	
No. of Individuals	2263	2743	2287	1049	417	349	712	550	314	510	204	360	654	1498	405	505	364	53	62	
Areas covered, East Pond	A-D	A-D	A-D	B,C	A-D	B-D	A-D	A-D	A-C	A-D	A-D	A-D	A-D	A-D	A-D	B	A-D	A-D		
West Pond	E	E	E	E	E	E	E	E		E		E	E	E	E	E	E,F	E,F	E,F	

SPECIES ACCOUNTS

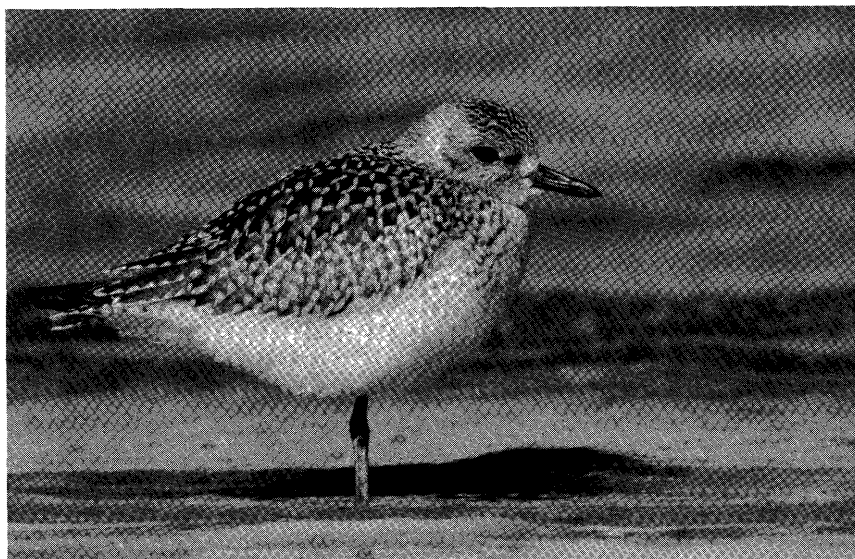
Black-bellied Plover: Average to above average numbers of this species were present through early October, but numbers were far below normal in the late season. Low to fair numbers of juveniles were present after 16 Sep. A new maximum of 1159 was recorded on 4 Sep.

Lesser Golden-Plover: With five birds on four dates, this species had its second straight abysmal season. It is often over reported; many observers misidentify Black-bellied Plovers in fresh juvenal plumage as juvenile Golden-Plovers. Separating the two species when they are not seen in flight can be extremely difficult. Published field marks for juvenile Golden Plover include a dark cap, a prominent whitish supercillium, small size, a small bill, and upperparts spotted pale yellow. Please note that Black-bellied Plovers in fresh juvenal plumage are spotted pale yellow above and often exhibit a golden cast. A useful distinction is as follows: young Golden-Plovers have mottled barring on the breast, the belly, and the flanks (Fig. 2), whereas young Black-bellied Plovers are streaked on the breast and the flanks but not on the belly (Fig. 3). Thus, young Black-bellied Plovers are much whiter below. Additionally, the streaking on the flanks of young Black-bellied Plovers almost never extends past the legs; the rear flanks are starkly white. In contrast, the streaking on the flanks of young Golden-Plovers always extends past the legs and the rear flanks are somewhat mottled. Occasionally a young Black-bellied Plover may show several fine streaks on the rear flanks, just past the legs, but this streaking is always on a white background. In flight, identification is straightforward: Golden-Plovers are all-dark above and have pale axillaries, whereas Black-bellied Plovers have white rumps and black axillaries.

Semipalmated Plover: Above average numbers of adults were followed by a fair showing of juveniles.

Killdeer: 1987 was an average season for this vociferous local nester. Numbers of migrant Killdeer, which pass through the region in September and October, were lower than usual.

American Oystercatcher: The large flocks of Oystercatchers present this season reflect continued increases in both local and regional populations. A pair with three young was observed on territory from late June through mid July. The nest was located on a sandy spit at the western edge of the South Marsh, about one hundred yards south of Bench 4 on the West Pond trail. This species has bred previously at the refuge, but only on inaccessible islands in Jamaica Bay.



*Figure 2. Juvenile Black-bellied Plover
Zach's Bay, Long Island, early Oct 1985.
Photo by A. Morris.*



*Figure 3. Juvenile Lesser Golden-Plover
Mecox Bay, Long Island, 6 Oct 1985.
Photo by A. Morris.*

American Avocet: Two of these elegant waders were noted this season. A female in winter plumage was seen in the shallows at the north end of the East Pond on all seven visits between 4 October and the record late date of 24 October.

Greater and Lesser Yellowlegs: Both *Tringa* were present in average numbers. Of note was an exceedingly early juvenile Lesser on 25 July; the previous record early date was 1 Aug.

Solitary Sandpiper: Single birds present on 13 and 25 July were not included in Table 1.

Willet: Local and regional populations have increased explosively in the past two years. In 1981, the year the late Tom Davis began this survey, the high count was two. In August 1987, flocks of Willets ranging in size from 20 to 46 (a new maximum, 17 Aug) were seen on the West Pond as they gathered for their southbound migration.

Spotted Sandpiper: With the exception of eight present on 6 Aug, it was a poor year for this species.

Upland Sandpiper: On 10 Sep Robert Baines was walking to the refuge from the "A" Train. He was rewarded by finding two of this species at the American Legion baseball field. These birds are not included in Table 1.

Whimbrel: Seventeen birds on seven dates was a good showing. Two on 6 July were the earliest ever noted.

Hudsonian Godwit: It was an average season for this large, showy shorebird. Only a single juvenile was noted. It was seen sporadically on either pond between 10 Oct and 11 Nov.

Marbled Godwit: It was a banner year for this striking cinnamon visitor from the west, with more occurrences than on the six previous falls combined. New maxima, first of 3, and later of 4, were recorded on several dates.

Ruddy Turnstone: The adult flight arrived about 10 days late in numbers far above average. A new maximum of 412, more than half again the old, was established on 17 Aug.

Red Knot: Flocks of this species arrived ten days late, but in great numbers. On the high tides, they settled in the shallows near North Island to rest. Numbers built rapidly to a peak of 1225 on 10 Aug. They disappeared as quickly as they had come. Several color banded Knots were noted, each wearing two or three red and and green bands in various combinations, and a single green leg-flag. (Christmas in August!) The leg-flag is simply a band with a quarter inch tab. Its color denotes the country in which the bird was banded

(green flag=USA). These birds were banded in New Jersey on their flight north by researchers from the Manomet Bird Observatory (Brian Harrington, *pers. comm.*)

Sanderling: After a three year disappearing act, good numbers of the wind-up-toy shorebird stopped briefly at the East Pond in mid August. They frequented their favorite roost, the triangular spit on the west shore just across from North Island. Two color banded Sanderlings wore orange leg-flags which indicated that they had been banded in Argentina by the Pan American Shorebird Program (J. Pete Myers, *pers. comm.*)

Semipalmated Sandpiper: An above average adult migration saw more than 2000 Semipalmated Sandpipers arrive during the last week of July. A fair showing of young birds resulted in good numbers through early September. It was unusual that very few visited the refuge after early September.

Western Sandpiper: A fair year, which halted the downward trend of the past three seasons, was highlighted by 12 juveniles on 15 Sep.

White-rumped Sandpiper: Except for the small flights on 29 August and 15 September there were very few adult White-rumped Sandpipers at the refuge this season; juveniles were scarcer still. The first arrived 22 days behind schedule on the record late date of 16 Oct. Only two others were noted.

Baird's Sandpiper: Three of these long-winged, mid-continental migrants were noted this season. On the hot, hazy morning of 25 July a Baird's Sandpiper was discovered on the South Flats by David Mizrahi. The bird was a worn, molting adult. It had a distinctive white eye ring. The retained scapulars, with dark centers broadly edged silver, were diagnostic. To my knowledge, this was the first adult Baird's ever recorded at JBWR. (The date, of course, was a record early one; all previous birds had been juveniles.) In late August, a juvenile was seen on the edge of the West Pond, where it occurs only rarely. Another juvenile was discovered at the Raunt, among a flock of Dunlin, on the record late date of 8 Nov (Joe DiCostanzo and Tony Leukering.)

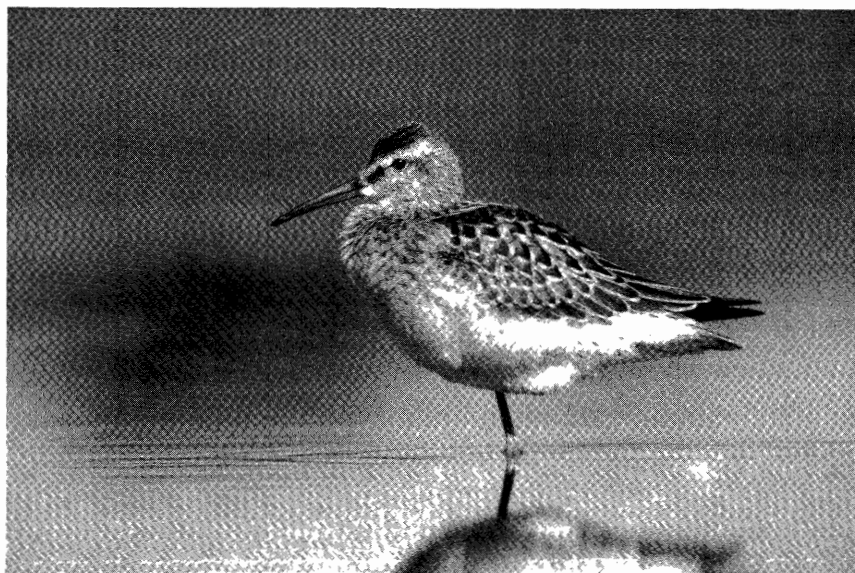
Pectoral Sandpiper: Small numbers of Pectorals were noted throughout the season. This is normal for adults, but not for juveniles.

Dunlin: Despite favorable conditions, this species was down 62 percent.

Stilt Sandpiper: This was a below average year. The season's maximum was 21 on 28 July.



*Figure 4. Worn juvenile Semipalmated Sandpiper
Jamaica Bay National Wildlife Refuge.
Photo by A. Morris.*



*Figure 5. Juvenile Stilt Sandpiper
Jamaica Bay National Wildlife Refuge, 3 Sep 1987.
Photo by A. Morris.*

Short-billed Dowitcher: An above average adult migration, which peaked sharply, was followed by a below average number of juveniles.

Long-billed Dowitcher: It was a good year which began strangely; there were no birds in July. Adults arrived 17 days late but in unprecedented numbers. A new maximum of 34 birds, all juveniles, was established on 18 Oct.

Common Snipe: single birds present on 29 Aug and 29 Sep are not included in Table 1.

American Woodcock: There were very few reports of this secretive local breeder this season.

Wilson's Phalarope: It was a poor year for this frenetic forager. The season's total was only seven birds. They occurred on widely scattered dates.

Acknowledgments

I would like to thank the many observers who helped fill in the gaps in daily counts, especially those who made detailed, legible log entries. Special thanks also to Tom Hook, David Mizrahi, and Arthur Berland who assisted in gathering data for the 1987 count. This survey was done in cooperation with the International Shorebird Surveys, Manomet, Massachusetts.

Literature Cited

- Davis, Thomas H. 1982. The 1981 Fall Shorebird Season at Jamaica Bay Wildlife Refuge. *Kingbird* 32: 85-96.
- _____. 1983. The 1982 Fall Shorebird Season at Jamaica Bay Wildlife Refuge. *Kingbird* 33: 94-102.
- _____. 1984. The 1983 Fall Shorebird Season at Jamaica Bay Wildlife Refuge. *Kingbird* 34: 74-86.
- Lopez, Barry H. 1986. *Arctic Dreams*. Charles Scribner's Sons, an imprint of Macmillan Publishing, New York.
- Morris, Arthur. 1985. The 1984 Fall Shorebird Season at Jamaica Bay Wildlife Refuge. *Kingbird* 35: 74-90.
- _____. 1986. The 1985 Fall Shorebird Season at Jamaica Bay Wildlife Refuge. *Kingbird* 36: 54-72.
- _____. 1987. The 1986 Fall Shorebird Season at Jamaica Bay Wildlife Refuge. *Kingbird* 37: 106-118.
- 80-11 160th Ave. , Howard Beach, Queens, N.Y. 11414

Table 2. Jamaica Bay National Wildlife Refuge Fall Shorebird Partial Censuses 1987

Species	Aug 8—9	Aug 30	Nov 16
Plover, Black-bellied	✓	✓	
Lesser Golden-Semipalmated	✓	1	
Killdeer	✓	✓	
American Oystercatcher	✓	✓	94
American Avocet			
Yellowlegs, Greater	✓	✓	11
Lesser	✓	✓	
Willet	✓	✓	
Sandpiper, Spotted	✓	✓	
Whimbrel		3	
Godwit, Hudsonian	✓	6	
Marbled	1	3	4
Turnstone, Ruddy	✓	✓	
Knot, Red	✓	✓	
Sanderling	✓	✓	
Sandpiper, Semipalmated	✓	✓	
Western		5	
Least	✓	✓	
White-rumped	✓	✓	
Baird's	1	1	
Pectoral	✓	✓	
Dunlin			12
Sandpiper, Stilt	✓	1	
Dowitcher, Short-billed	✓	✓	
Long-billed	✓	2	6
Woodcock, American		1	
Phalarope, Wilson's	1	1	
No. of Species	3	10	5
Areas covered, East Pond	A-D	A-D	
West Pond	E,F	E	E

Table 3. Shorebird Diversity 1981-1987

	Late Jun & E. Jul	Late Jul	Early Aug	Late Aug	Early Sep	Late Sep	Early Oct	Late Oct & Nov
1981	14	25	25	26	26	27	23	21
1982	13	24	25	29	31	30	26	19
1983	12	27	24	26	31	28	22	22
1984	13	25	29	26	28	29	26	21
1985	15	24	25	29	27	30	22	20
1986	14	23	29	29	23	22	16	18
1987	14	22	25	26	27	26	21	24
Average	13.6	24.3	26.0	27.3	27.6	27.4	22.3	20.7

American Woodcock is presumed to be present through early October whether observed in a given period or not.

Table 4. 1987 Arrival Dates

Species	Adults	Immatures
Plover, Black-bellied	25 Jul	16 Sep
Lesser Golden-Semipalmated	30 Aug	4 Sep
Yellowlegs, Greater	7 Jul	12 Aug
Lesser	28 Jun	21 Aug
Turnstone, Ruddy	27 Jun	25 Jul
Knot, Red	29 Jul	12 Aug
Sanderling	1 Jul	29 Aug
Sandpiper, Semipalmated	29 Jul	30 Aug
Western	12 Jul	10 Aug
Least	17 Jul	19 Aug
White-rumped	2 Jul	1 Aug
Pectoral	6 Aug	16 Oct
Dunlin	5 Jul	2 Sep
Sandpiper, Stilt	6 Sep	7 Sep
Dowitcher, Short-billed	12 Jul	31 Aug
Long-billed	28 Jun	10 Aug
	6 Aug	24 Sep

Table 5. Summary of Adult and Immature Arrival Dates

Species	SPAN	Adults		SPAN	Immatures	
		Years	Mean		Years	Mean
Plover, Black-bellied	late July*			26 Aug -27 Sep	7	6 Sep
Lesser Golden-Semipalmated	14 Aug -3 Sep	7	26 Aug	29 Aug -11 Sep	7	4 Sep
Yellowlegs, Greater	30 Jun -15 Jul	7	7 Jul	11 Aug -22 Aug	8	16 Aug
Lesser	22 Jun -30 Jun	7	27 Jun	7 Aug -25 Aug	6	18 Aug
Turnstone, Ruddy	24 Jun -3 Jul	8	29 Jun	25 Jul -11 Aug	9	5 Aug
Knot, Red	19 Jul -29 Jul	7	22 Jul	12 Aug -30 Aug	6	23 Aug
Sanderling	16 Jul -28 Jul	7	19 Jul	15 Aug -29 Aug	7	21 Aug
Sandpiper, Semipalmated	15 Jul -29 Jul	7	19 Jul	23 Aug -30 Aug	5	27 Aug
Western	24 Jun -12 Jul	8	3 Jul	7 Aug -19 Aug	7	13 Aug
Least	12 Jul -24 Jul	7	17 Jul	12 Aug -30 Aug	6	19 Aug
White-rumped	28 Jun -9 Jul	7	2 Jul	26 Jul -10 Aug	7	4 Aug
Pectoral	18 Jul -6 Aug	7	27 Jul	13 Sep -16 Oct	8	27 Sep
Dunlin	5 Jul -20 Jul	7	23 Jul	22 Aug -9 Sep	7	29 Aug
Sandpiper, Stilt	**			5 Sep -20 Sep	8	13 Sep
Dowitcher, Short-billed	9 Jul -20 Jul	7	16 Jul	26 Jul -31 Aug	8	16 Aug
Long-billed	24 Jun -6 Jul	8	30 Jun	8 Aug -15 Aug	9	10 Aug
	17 Jul -6 Aug	8	20 Jul	14 Sep -8 Oct	7	27 Sep

* lingering, non-breeding birds may be present throughout July

** only scattered adults present before mid September