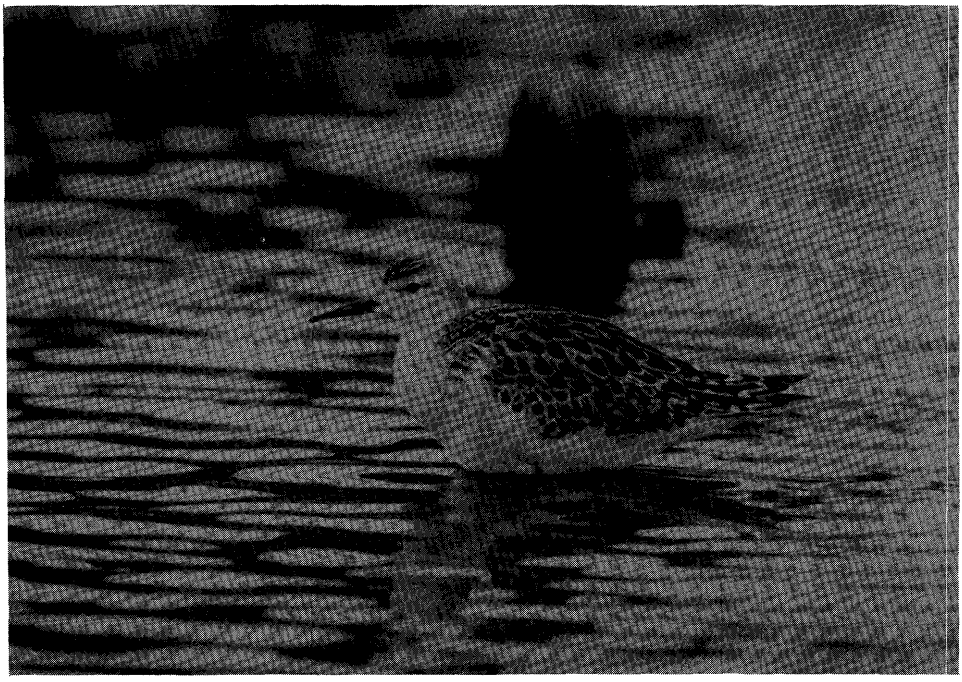

Figure 1. Ruff. Juvenile male, Jamaica Bay National Wildlife Refuge 28-29 Sep 1986 *photo by Robert Villani*

THE 1986 FALL SHOREBIRD SEASON AT JAMAICA BAY WILDLIFE REFUGE

ARTHUR MORRIS

Thirty-three species of shorebirds, the lowest total since the inception of this survey in 1981, were noted at Jamaica Bay National Wildlife Refuge during the 1986 fall migration. The refuge was visited 45 times between 24 June and 14 December. Every species present was censused at least once a week (Tables 1, 2). Visits averaged four to six hours. Virtually all visits overlapped the time of high tide when the greatest number of birds fly into the East Pond to rest, feed and preen. Although the refuge has been divided into seven survey areas, "A" to "G," (Morris 1986), only six areas were covered this year. Area "G" was not censused this year because the entry gate to the subway yard was kept locked all summer.

Because I was out of state from late June until 21 Aug, the help of numerous volunteers was enlisted to maintain continuity of this study. A detailed description of my censusing techniques was given to each volunteer to lessen observer bias. The bulk of the field work was done by Tom Hook and Kevin and Dale Karlson. Others who contributed data were Stephen B. Dempsey, Arthur Berland, Rob Villani, Steve Walters, R. J. Kurtz and Tony Leukering. I thank them all.

A substantial bloom of filamentous green algae was noted again at the East Pond. The 1986 "crop" was only fractionally comparable to the massive bloom of 1985. The East Pond is drawn down each year by National Park Service personnel as part of their Wildlife Management Policy. The outlet gate at the north end of the East Pond was opened on schedule in late June. The system is designed so that thousands of gallons of fresh water drain from the pond into the adjacent bay on each low tide. The flap-valve, which is designed to close at high tide to prevent a return flow of salt water, did not function this year (Clive Pinnock *pers. comm.*). As a result, water levels were far higher than normal in July and August. To lower the water level at all, refuge personnel had to open the outlet gate as the tide dropped, then return several hours later to close it and prevent the pond from refilling with salt water — a difficult, time-consuming job. Mid-summer rains, which were well above average, also contributed to the high water levels.

On my first visit to the pond on 22 Aug, I found the South Flats awash and the Raunt flooded. Because of the high water level I was quite surprised to note the presence of more than four thousand

shorebirds. Almost all of the birds were roosting on the submerged triangular flat which juts into the pond just north of the Raunt. I learned that this had been the preferred roost since July because the Raunt, usually the favored roost, was underwater. It was strange to see flocks of plovers, knots, dowitchers and peep roosting in an inch or two of water; these species usually prefer drier environs when resting or sleeping. In late August refuge personnel renewed their efforts to lower the water level so as to provide suitable habitat for southbound migrants later in the season. By early September several acres of flats were exposed, though the water level was still well above average. Autumn rains quickly refilled the pond so that very little habitat was available for late season migrants.

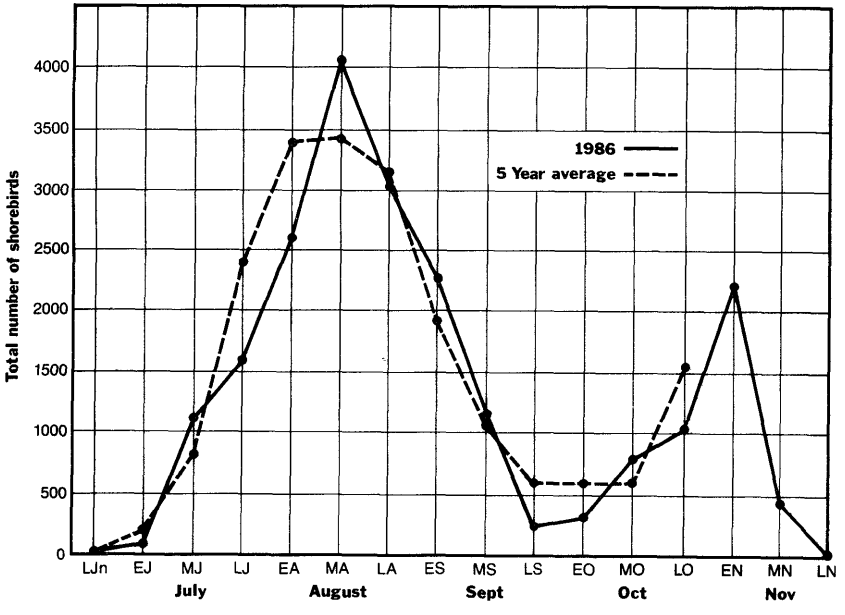

Figure 2. Comparison of 1986 shorebird migration to 1981-1985 average.

At the West Pond the outlet valve was stuck in the open position from mid-August until it was temporarily repaired in October. The unprecedented low water levels which resulted exposed numerous flats and bars — ideal shorebird habitat.

With unattractive conditions at the East Pond and favorable ones at the West Pond, far more birds than normal visited the West Pond, which often accounted for twenty-five to one hundred (in the late-season) percent of the daily totals. From 1981-84 no more than ten percent of the birds censused were present at the West Pond.

Species diversity (Table 3) was average through August, but six species were below normal from September on, due to the absence of many species which occurred regularly in prior years: Lesser Golden-Plover, Spotted Sandpiper, Marbled Godwit and Sanderling, among others.

Southbound adult migrants appeared in above average numbers but were several days to a week behind schedule on average (Fig. 2). Juveniles of most species arrived several days to several weeks late and in numbers far, far below normal. The most dramatic example was Black-bellied Plover; the first juvenile arrived almost a month late on 27 Sep and was one of only three juveniles noted by this observer for the entire season! Normally a few dozen to more than a hundred juvenile Black-bellied Plovers can be found at the Raunt after early September.

Typically in late August more than one third of the shorebirds are juveniles. This year they accounted for less than a tenth of the daily totals. Extremely low numbers of juveniles combined with a protracted adult migration saw adult migrants in September accounting for 50 to 80 percent of the daily totals, whereas 75% juveniles in mid-month and 90% juveniles in late September is the norm.

For most species the late, protracted adult migration combined with the very late arrival of very few juveniles suggests a rather poor breeding season in many sections of the Far North. Of the very common migrant species, the three which enjoyed an above average season with fair numbers of juveniles are the three southernmost breeders, Greater Yellowlegs, Lesser Yellowlegs and Short-billed Dowitcher, which all breed at least as far south as the northern halves of the "prairie provinces."

SELECTED SPECIES ACCOUNTS

Black-bellied Plover: a below average season with numbers severely reduced from late September on due to high levels and the virtual absence of juveniles.

Lesser Golden-Plover: this species was virtually absent from the refuge in 1986. Seven birds on only two dates were all that were noted. Their scarcity undoubtedly was due to unfavorable local conditions, as an estimated 1,500 were reported this fall on 14 Sep at sod farms between Cutchogue and Mattituck (Julius Hastings *fide* Jim Clinton) on eastern Long Island, where they are always far more numerous than at the refuge.

Semipalmated Plover: a below average season for our most abundant migrant plover.

Killdeer: a well below average season for this bird which occurs in our area both as a local breeder and a migrant; a few winter regularly.

American Oystercatcher: greater numbers of birds at the refuge in July, large flocks roosting near the Tern Nesting Area in mid- to late August and a good late season showing reflect continued explosive increases in both local and regional breeding populations. A new maximum of 140 was noted on 12 Aug (Max and Nellie Larsen.)

Greater Yellowlegs: a slightly above average season. In late October and early November most birds were found roosting on the West Pond with its low water levels rather than at their preferred roosts on the East Pond with its high water levels. This species usually roosts in flocks of 50 to 400 birds in an inch or two of water in an area sheltered by dense stands of phragmites.

Lesser Yellowlegs: an aobve average season highlighted by a new maximum of 177 recorded on 8 Aug (Stephen B. Dempsey).

Solitary Sandpiper: the only bird noted was found 30 Aug, but others undoubtedly were present at various times on Big John's Pond which is located just west of the East Garden.

Willet: an above average season for this local breeder was evidenced by a new maximum of twenty birds on 12 Aug (Tom Hook) and nineteen, all in fresh juvenal plumage, seen by myself on the beach at the Tern Nesting Area on 28 Aug. Strangely, not a single Willet was seen after 20 Sep.

Spotted Sandpiper: a poor season for this local breeder although a new maximum of nine was noted 3 Aug (Kevin and Dale Karlson). The last was seen on 31 Aug; in most years they routinely are reported through early October.

Whimbrel: at least nine birds, usually fly-bys, on 6 dates was a good showing for this species.

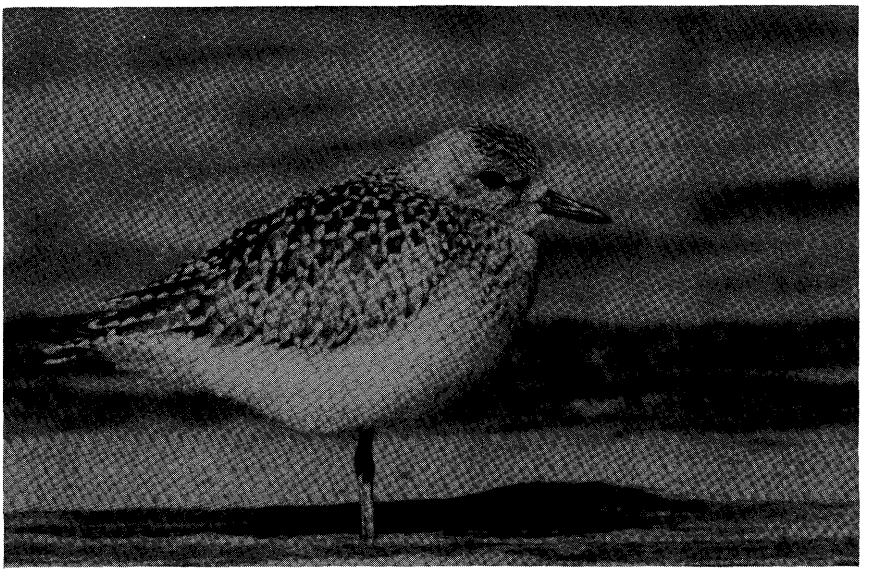

Figure 3. Black-bellied Plover. Juvenile, Zach's Bay, Long Island
photo by Arthur Morris

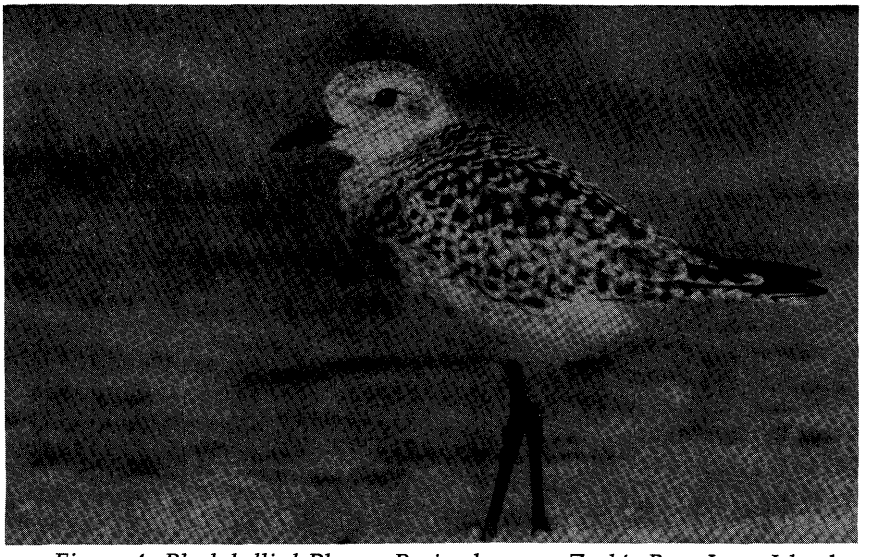

Figure 4. Black-bellied Plover. Basic plumage, Zach's Bay, Long Island
5 Oct 1986 *photo by Arthur Morris*

Hudsonian Godwit: six to eight birds present in September and October was a good showing for this species. As many as ten thousand have been reported reliably at a staging area on the west James Bay coast in Ontario. This species is not seen commonly anywhere on fall migration until they reach the Argentine pampas. Shorebird biologist Brian Harrington wonders whether they fly the 6,500 miles nonstop (Harrington 1986).

Marbled Godwit: two or possibly three birds in the latter half of August were unusually early. None were reported thereafter, which also is unusual!

Ruddy Turnstone and **Red Knot:** average numbers of both species during their August "peaks" was somewhat surprising, especially for Ruddy Turnstone, in view of the high water levels which covered their preferred roosting habitat at the Raunt. However, both species were virtually absent during September and October when small numbers of Turnstones and flocks of 40-60 Knots have appeared regularly in prior years.

Sanderling: in the early 1980's flocks of one or two hundred birds could be found regularly from late July through mid-August roosting on the sandy-mud beach opposite North Island on the west shore of East Pond. This beach, which dried to a light grey as water levels dropped, offered perfect camouflage for the fading adult Sanderlings. Higher water levels in recent years have deposited a layer of silt upon which a carpet of grass grows, if the spit is exposed at all! Finding their former roost either underwater or "too green", this species has almost completely abandoned the East Pond. By 1986 a Sanderling was a rare sight at the East Pond.

Semipalmated Sandpiper: an above average adult migration was protracted with flocks of more than a thousand birds, mostly adults, persisting through early September. Juveniles in late August and September were counted in tens rather in the customary hundreds.

Western Sandpiper: aside from five adults noted on 27 July very few Westerns were noted at the refuge this year. This species breeds on the northern and western coasts of Alaska. A small portion of the population migrates southeastwards across North America to the east coast of the United States. They occur regularly as far north as Massachusetts, with increasing numbers as one moves southward. At Chincoteague National Wildlife Refuge, for example, the average maxima 1980-86 is 585 (Claudia P. Wilds), yet numbers have decreased steadily for the past three years just as they have at Jamaica Bay.

Least Sandpiper: flocks of 20-100 adults were found through mid-August in their usual haunts — grassy pools and wet areas set back from the pond's edge. Numbers thereafter were well down again due to low numbers of juveniles.

Figure 5. White-rumped Sandpiper. Worn, fading adult in preBasic molt, Jamaica Bay National Wildlife Refuge.
photo by Arthur Morris

White-rumped Sandpiper: a good showing of fading adults was highlighted by a new maximum of 67 on 6 Sep. Less than a handful of juveniles were noted, with the first arriving on the record late date of 12 October.

Baird's Sandpiper: two juveniles, including one exceptionally early on 8 Aug (Stephen B. Dempsey), was a good showing for this mid-continental migrant.

Pectoral and **Stilt Sandpipers:** a well below average season for both species with only a smattering of first year birds. Part of the Stilt Sandpiper population winters in North America along both coasts of Mexico. Consequently both adult and juveniles usually are seen molting into or in Basic plumage. Pectoral Sandpiper winters only in South America. Molting requires energy, so Pectoral Sandpipers defer molting until they reach their wintering grounds. These two species illustrate the general principle that shorebirds which winter in North America molt *en route* while those which winter in South America do not molt until they arrive there.

Dunlin: a slightly above average season.

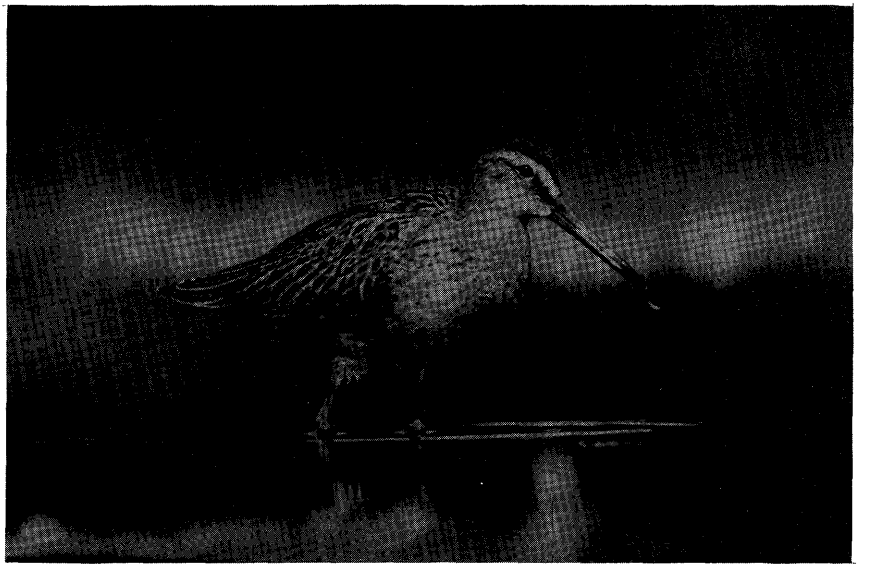

Figure 6. Short-billed Dowitcher. Juvenile, Jamaica Bay National Wildlife Refuge
photo by Arthur Morris

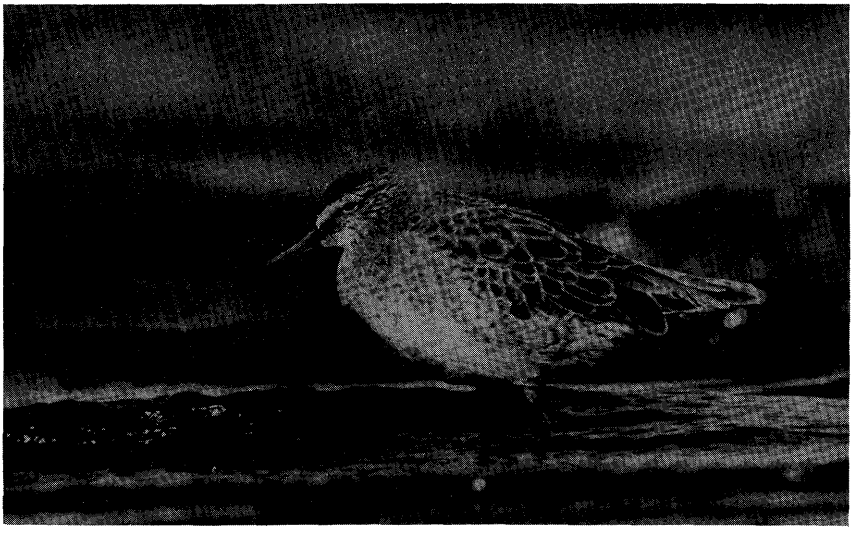

Figure 7. Short-billed Dowitcher. Basic plumage, Zach's Bay, Long Island
1 Sep 1986 *photo by Arthur Morris*

Curlew Sandpiper: a disappointing year for this rare but regular migrant. The only bird noted was a worn, molting adult at the West Pond on 25 October (Starr Saphir).

Ruff: a juvenile male (Fig. 1), somewhat smaller but more stockily built than a Greater Yellowlegs, was present at the Raunt on 28 Sep. I now am sure that last year's juvenile, which was slightly smaller than a Lesser Yellowlegs, was a female.

Short-billed Dowitcher: an above average adult migration peaked in mid-August rather than the traditional late July. More adults than usual and fair numbers of first year birds were present through early September. Surprisingly, the first juvenile was noted right on schedule on 10 Aug (Drew Panko).

Long-billed Dowitcher: by far the worst season on record. This species, like Western Sandpiper, breeds in the northwestern Nearctic and has been declining at Jamaica Bay in recent years.

American Woodcock: an average season for this local breeder.

Wilson's and **Red-necked Phalarope:** an average season for both species, which are found most often during the last few days of August and the first week of September.

This survey was done in cooperation with the International Shorebird Survey, Manomet, Massachusetts, and is dedicated to the memory of the late Tom Davis.

Literature Cited

Harrington, B. 1986. The International Shorebird Surveys Newsletter - March 1986:4.

Morris, A. 1986. The 1985 Fall Shorebird Season at Jamaica Bay Wildlife Refuge. *Kingbird* 36 (2): 54-72.

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APPENDIX - THE RAUNT

The remains of a ramshackle fishing community, the Raunt, inhabited by squatters as late as the early fifties, form several small islands just off the southeast shore of the East Pond. Two acres of debris — wooden pilings, boards and beams, gravel, bricks and concrete chunks, ceramic shards and milk and whiskey bottles, both shattered and intact — are all reminders of the lives of baymen past. Protected by a deep, mucky, channel, the Raunt provides a perfect roost for thousands of southbound migrants each "shorebird fall."

Table 1. Jamaica Bay National Wildlife Refuge Fall Shorebird Census 1986

	June	July									Aug								
Species	**24**	**26**	**28**	**29**	**1**	**6**	**9**	**11**	**13**	**17**	**20**	**26/27**	**30/31**	**3**	**5**	**8/9**	**12/13**	**16**	**22**
Plover, Black-bellied											2	3	15	72	65	703	568	175	600
Lesser Golden-																			
Semipalmated							8	8		93	224	204	360	389	198	480	771	405	850
Killdeer	3	3	5	12	6	8	9	8	3	12	21	12	4	3	7	5	3	2	2
American Oystercatcher	22		20	4		7			16	6	41	48	4	16	52	85	140	8	130
Yellowlegs, Greater	2		2		2	1	23	3	22	123	77	105	82	198	88	122	221	205	300
Lesser	7	6	7	16	2	5	18	11	67	41	72	132	14	167	26	177	43	93	30
Willet	3	1	6	6	4		4		1		1	12	7	5	15	2	20	6	2
Sandpiper, Spotted		1		2			1		1	5	1	1	1	9	6	1	2	1	
Whimbrel									2			1		1			2	1	
Godwit, Hudsonian								1	1		2	2	2	4	5		3	1	2
Marbled																	1		2
Turnstone, Ruddy												4	27	66	17	39	80	153	50
Knot, Red											42	15	55	331	102	242	163	492	600
Sanderling										1		8			2	2	1		
Sandpiper, Semipalmated							1	21	41	662	588	505	438	743	809	519	1391	1505	1250
Western										2	2	5		1	1			1	
Sandpiper, Least				2			8	47	68	33	94	63	29	86	46	18	60	77	20
White-rumped												1	1	1		6	13	2	
Baird's																1			
Pectoral							2			1	1	1		1		4	3	2	1
Dunlin																	1		
Sandpiper, Curlew																			
Stilt											4	4	4	3	2	5	9	6	6
Buff-breasted																			
Dowitcher, Short-billed						15	118	102	154	1031	852	606	402	801	534	539	795	620	450
Long-billed										2				1	1	1			
Snipe, Common																			
Woodcock, American	1	1									4	1		1	1	1	1		
Phalarope, Wilson's											2			2		1	1		1
Northern																			
No. of Species	*6*	5	5	6	4	5	10	8	11	13	18	21	16	22	19	21	23	19	17
No. of Individuals	38	12	40	42	14	36	192	201	376	2012	2030	1733	1445	2901	1977	2953	4292	3755	4296
Areas covered, East Pond		B				B-D	A-D	B-D		A-D	A-D	A-D	B-D	A-D	A-D	A-D	A-D	A-D	B,C
West Pond	E,F	E,F	E,F	E,F	E,F	E	E	E,F	E,F		E,F	E,F		E	E	E	E	E	E

Table 1 (cont.) Jamaica Bay National Wildlife Refuge Fall Shorebird Census 1986

	Aug		Sep						Oct						Nov				Dec
Species	**25**	**28**	**2**	**6**	**7**	**13**	**20**	**27**	**4**	**11**	**12**	**18**	**25**	**26**	**4**	**16**	**20**	**22**	**14**
Plover, Black-bellied	250	382	466	296	80	503	221	36	3	39	10	84	35	4	36	6			
Lesser Golden-					6														
Semipalmated	250	165	204	98	40	2	2			14	3	1	7	4					
Killdeer	1		5	3	2	5			3	9	2	9	2	2	6				
American Oystercatcher	120	126	37	25	2	68	67	35		45	24		68			65		33	
Yellowlegs, Greater	120	402	332	208	30	141	55	18	64	27	2	131	168	263	214	4			
Lesser	20	62	25	67	10	48	26	23	43	8		7	2						
Willet	3	19	3	1		10	7												
Sandpiper, Spotted																			
Whimbrel	3	3		2															
Godwit, Hudsonian	1	3	1	2	5	5	6	4	8	5		6			1				
Marbled	2																		
Turnstone, Ruddy	10	51	17	15	2	16	1	5							3				
Knot, Red	20	412	28	18	4	44	3	2					1						2
Sanderling																1			
Sandpiper, Semipalmated	400	1363	1205	996	160	621	394	56	67	139	20	158	85	7	7				
Western			1			1		1											
Sandpiper, Least	30	23	16	24	10	13	17	2	2			1							
White-rumped	2	16	11	67	10	22	9	1	1	8	1	4	15	1	5			1	
Baird's	1	1	1	1	1														
Pectoral	1	2	2	1		1	2	2	4	2		1							
Dunlin				1			14	59	98	248	12	659	642	378	2023	887		55	42
Sandpiper, Curlew													1						
Stilt	3	6	1	13	6	5	5		11	7		1	1						
Buff-breasted																			
Dowitcher, Short-billed	200	316	241	199	40	51	8	17	3	1									
Long-billed		5								7		1			5				
Snipe, Common														1		1			
Woodcock, American		1						1											
Phalarope, Wilson's	1	1	1	1	1	2	1												
Northern			3	1															
No. of Species	20	20	20	21	17	18	17	15	12	14	8	13	12	8	9	6	0	3	2
No. of Individuals	1438	3359	2600	2039	409	1558	838	262	307	559	74	1063	1027	660	2300	964	0	89	44
Areas covered, East Pond	B,C	A-D	A-D	A-D	B,C	A-D	A-D	A-D	A-D	A-D		A-D	A-D		A-D	A-D	A-D		
West Pond	E	E	E			E	E	E	E	E	E	E	E	E	E	E		E	E

Table 2. JBNWR Fall Shorebird Partial Census 1986

Species	Aug 30/31	Sep 28/29	Species	Aug 30/31	Sep 28/29
Plover, Black-bellied	√	√	Sandpiper, Least	√	√
Lesser Golden-	1		White-rumped	√	√
Semipalmated	√	1	Baird's	1	
Killdeer	√	√	Pectoral	√	8
American Oystercatcher	√	√	Dunlin		√
Yellowlegs, Greater	√	√	Sandpiper, Stilt	√	2
Lesser	√	√	Buff-breasted	1	
Sandpiper, Solitary	1		Ruff		1
Willet	√		Dowitcher, Short-billed	√	√
Sandpiper, Spotted	1		Long-billed		1
Whimbrel	3		Snipe, Common		
Godwit, Hudsonian	√	7	Woodcock, American	1	
Turnstone, Ruddy	√	√	Phalarope, Wilson's	1	
Knot, Red	√	√	Northern	3	
Sanderling	1		**No. of Species**	27	18
Sandpiper, Semipalmated		√	**Areas covered, East Pond**	A-D	A-D
Western	1		**West Pond**	E	E

√ = observed but not counted

Table 3. Shorebird Diversity 1981-1986

	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
Average	13.5	24.7	26.2	27.5	27.7	27.7	22.5	20.2

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