

THE 1981 FALL SHOREBIRD SEASON AT JAMAICA BAY WILDLIFE REFUGE

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Thirty-six species of shorebirds were noted at Jamaica Bay Wildlife Refuge (JBWR), Queens County, during the period 28 June-25 October 1981. I visited the Refuge 37 times during this period and endeavored to census every species present nearly every trip, to note the arrival dates of adults and juvenals of 19 migrant species, and to estimate the ratio of adults to juvenals through their peaks of migration. All my visits overlapped the time of the peak high tide when the largest number of birds assemble on the shores of the drawn down East Pond to rest and preen. A majority of the birds present at the East Pond at high tide disperse to tidal flats scattered throughout Jamaica Bay on the ebb tide, at which time observers watch numbers of Semipalmated and Black-bellied Plovers, Red Knots, Sanderlings, Semipalmated Sandpipers, Dunlins, and Short-billed Dowitchers melt before their eyes! My visits averaged three to five hours in length and effort was measured by coverage. I divided the Refuge proper into five survey areas (see Fig. 1). At the West Pond, the water level was kept high until September 20th; a maximum of about 200 shorebirds was noted there in late July, but otherwise a total of less than 40 birds was normal.

The East Pond was first drawn down in the summer of 1976. This annual management policy was instituted to curtail recurrent outbreaks of botulism, and secondarily to provide a feeding and resting area for southbound migrating shorebirds. The West Pond is similarly drawn down during the month of May, at the peak of northbound migration. The ponds are allowed to refill with rainwater, are tested periodically, and botulism has not been reported. The ponds' attraction to shorebirds has been realized beyond anyone's wildest dreams—16 Curlew Sandpipers have been noted these six years (three in late May, 12 adults late July to early September, and a juvenal in early October), and New York State's first Sharp-tailed Sandpiper was present at the East Pond this year. All told, 39 species of shorebirds have been recorded at the Refuge between 1976 and 1981. Additional species reported prior to this season were Black-necked Stilt (June 1980), Piping Plover (formerly bred along the east side of the railroad tracks adjacent to the East Pond; single birds were observed

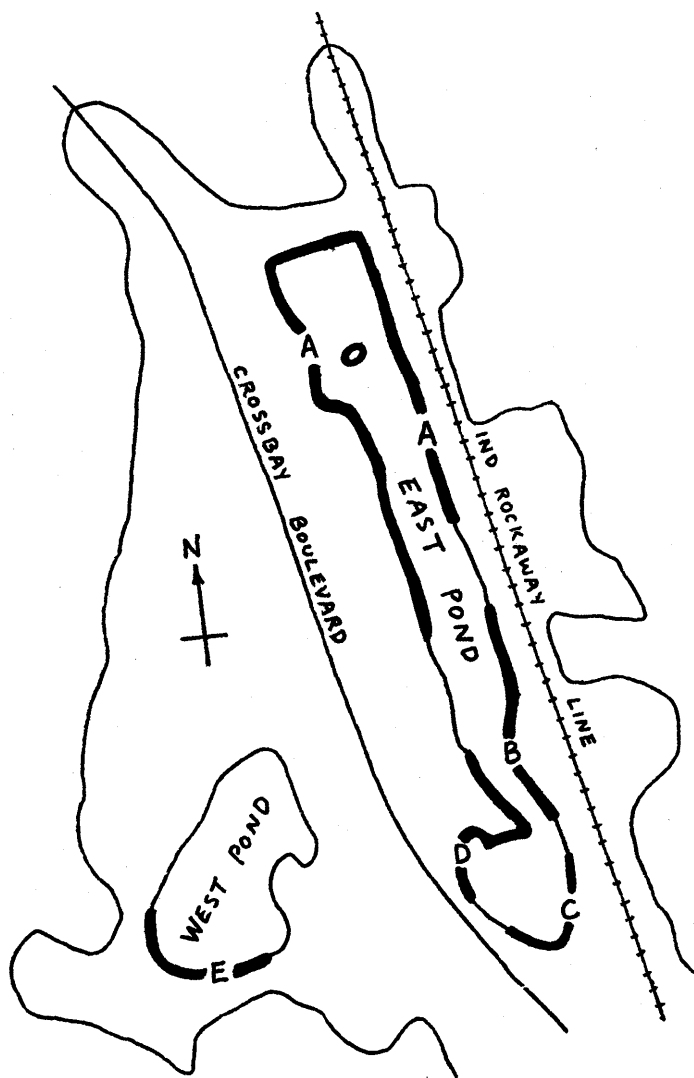


Fig. 1. Jamaica Bay Wildlife Refuge Shorebird survey areas.
Area E includes adjacent salt marsh.

at the pond during August 1976 and 1977), and Red Phalarope (several times, May and August-September).

It is a well established fact that shorebirds exhibit a bimodal migration pattern in the fall, with numbers of adults preceding the juvenals by four to eight weeks. Juvenal shorebirds are regrettably not included in the standard American bird guides, but the publication of *A Guide to the Identification and Ageing of Holarctic Waders*, (Prater, T., J. Marchant, and J. Vourinen, 1977. BTO, Beech Grove, Tring, Herts. England) enables the interested student to recognize plumage differences with practice. I also photograph many shorebirds and it is educational to compare better shots to this book's detailed text.

Table 1 presents the arrival dates of adults and juvenals for this season plus incomplete data for the past two years.

TABLE 1. ARRIVAL DATES OF ADULTS AND JUVENALS,
DATES IN PARENTHESES REPRESENT
OTHER OBSERVERS' REPORTS

	1979		1980		1981	
	Adult	Juv.	Adult	Juv.	Adult	Juv.
Plover, Semipalmated	early July	8/11			7/11	8/15
American Golden			8/23	9/ 1	(8/25)	early Sep
Black-bellied					(7/21)	9/ 5
Red Knot	6/23 & mid July	8/18			7/18	9/ 6
Sanderling					7/18	8/23
Sandpiper, Semipalmated	6/26	8/11			7/ 3	8/15
Western					7/12	8/16
Least	6/26	8/14		7/26	6/28	8/ 8
White-rumped				9/13	7/18 & 8/2	9/19
Pectoral	early July				7/11	8/29
Curlew	8/15		7/20		(7/20)	None
Dunlin	8/18	9/ 9	8/23		(7/23) & 8/8	9/ 5
Stilt Sandpiper	early July	8/19		7/26	7/12	8/15
Dowitcher, Short-billed	6/26	8/11		8/ 9	7/ 3	8/15
Long-billed	mid July				7/18	9/26
Yellowlegs, Greater					6/28	8/15
Lesser	6/26	8/ 5		8/ 9	6/28	8/ 2
Ruddy Turnstone					(7/23)	8/23
Wilson's Phalarope					None	(7/23)

TABLE 2. JAMAICA BAY WILDLIFE REFUGE 198
ESTIMATES OF THE RATIO OF ADULT

	<u>6/28</u>	<u>7/3</u>	<u>7/4</u>	<u>7/5</u>	<u>7/11</u>	<u>7/12</u>	<u>7/18</u>
*American Oystercatcher							
American Avocet							
Semipalmated Plover					1	2	35
*Killdeer	8	10	9	8	12	15	14
Plover, American Golden							
Black-bellied							
Red Knot							1
Sanderling							2
Sandpiper, Semipalmated		6			13	65	210
Western						2	4
Least	4			1	16	18	40
White-rumped							1
Baird's							
Pectoral					3	2	2
Sharp-tailed							1
Curlew							
Dunlin							
Sandpiper, Stilt						6	6
Buff-breasted							
Ruff							
Common Snipe							
Dowitcher, Short-billed		11		32	170	357	695
Long-billed							4
*American Woodcock			1				
Godwit, Hudsonian						1	2
Marbled							
Whimbrel							
*Upland Sandpiper							
Yellowlegs, Greater	4	2		3	6	8	40
Lesser	4	8		2	29	10	25
Sandpiper, Solitary							
*Spotted			1		4	6	4
*Willet	1						
Ruddy Turnstone							
Phalarope, Wilson's							
Northern							
No. Species	5	5	3	5	9	12	18
No. Individuals	21	37	11	46	254	492	1089
Coverage: East Pond (see Fig. 1)	CD	BCD	A	CD	BCD	ABCD	ABC
West Pond (see Fig. 1)	E			E	E	E	
% adults (migrant species only)	100						
% juvenals (migrant species only)	0						

* Breeds locally

(#) Reported by other

FALL SHOREBIRD CENSUSES, COVERAGE, AND
TO JUVENALS OF MIGRANT SPECIES.

<u>7/19</u>	<u>7/25</u>	<u>7/26</u>	<u>7/30</u>	<u>8/2</u>	<u>8/8</u>	<u>8/9</u>	<u>8/15</u>	<u>8/16</u>	<u>8/23</u>	<u>8/29</u>	<u>8/30</u>
5	4		1	5					5	(10)	4
30+	109	✓	190	244	245	563	593	654	735	520	✓
12+	18	12	19	12	7	13	6	4	3	8	✓
	5	13	12	12	40	76	190	116	435	590	✓
5	107	160	59	194	1	40	72	200	230	60	✓
44	83	230	21	162	1	186	70	60	220	1	2
200+	1015	✓	1105	920	1280	1418	951	1190	1220	1150	✓
2	8	4	(1)	2	1	2		1	3	15	✓
35+	113	✓	28	40	93	56	40	41	25	60	✓
				3	8	11	9	6	5	43	✓
8	9	5	3	5	4	1	1	1		4	4
1											
	1	1	1	1		2	2	2	1		
					1		1				
6	13	7	3	10	16	32	14	7	19	19	✓
1											
500+	1140	✓	440	460	233	516	138	127	170	115	✓
8	2	2	9	22	14	21	20	12	3	15	22
2	2	2	2	2	3	3	8	5	2	5	✓
										1	
				2			1				
25+	13	✓	65	33	92	114	90	120	370	360	✓
20+	17	✓	24	30	73	43	39	28	18	16	✓
											1
4	6	3	7	4	3	4	3	4		4	
			2			(1)				1	
	2	7	4	8	1	47	10	9	35	18	✓
	(1)	(1)		1		1	(1)	1		2	(1)
											1
18	20	19	20	22	19	21	21	20	18	22	21
908+	2668		1996	2172	2116	3150	2259	2588	3499	3017	
ABCD	ABCD	ABCD	ABCD	ABCD	ABCD	ABCD	ABCD	ABCD	ABCD	ABCD	ABCD
	E		E	E		E		E		E	E
→				99	99	99	97	97	90	66	
→				1	1	1	3	3	10	33	

✓ Present, numbers not counted

TABLE 2. JAMAICA BAY WILDLIFE REFUGE 198
ESTIMATES OF THE RATIO OF ADULT

	<u>9/5</u>	<u>9/6</u>	<u>9/7</u>	<u>9/10</u>	<u>9/13</u>	<u>9/19</u>	<u>9/20</u>
*American Oystercatcher			1				
American Avocet							
Semipalmated Plover	290	278	360	160	202	80	75
*Killdeer	4	10	8	12	7	1	2
Plover, American Golden			1		2		5
Black-bellied	155	136	130	60	45	2	5
Red Knot	3	15	7	4			
Sanderling	160	136	90	6	5	1	1
Sandpiper, Semipalmated	370	270	590	450	475	275	200
Western	10	8	18	12	2	5	3
Least	20	15	20	60	60	20	28
White-rumped	28	40	58	35	20	3	5
Baird's					(1)		
Pectoral	2	2	7	3	7	2	5
Sharp-tailed							
Curlew							
Dunlin	1	1	1		7	85	95
Sandpiper, Stilt	54	59	35	12	8	4	17
Buff-breasted	(1)						
Ruff							
Common Snipe							
Dowitcher, Short-billed	30	52	112	80	38	45	40
Long-billed	10	18	12	2	5	1	1
*American Woodcock							
Godwit, Hudsonian	3	5	4	2	2	1	1
Marbled	1	1	1	1	1	1	1
Whimbrel							
*Upland Sandpiper							
Yellowlegs, Greater	36	105	175	80	346	50	110
Lesser	20	20	20	20	27	9	15
Sandpiper, Solitary	1					(1)	
*Spotted	1	1	2	1	2	1	
*Willet		1					
Ruddy Turnstone	16	12	10	5		1	
Phalarope, Wilson's						2	
Northern							
No. Species	22	21	22	19	20	21	18
No. Individuals	1216	1185	1662	1005	1262	590	607
Coverage: East Pond (see Fig. 1)	ABCD	ABCD	ABCD	ABCD	ABCD	ABCD	ABCD
West Pond (see Fig. 1)					E		E
% adults (migrant species only)	60	50	40	40	25	10	10
% juvenals (migrant species only)	40	50	60	60	75	90	90
* Breeds locally				(# Reported by others			

ALL SHOREBIRD CENSUSES, COVERAGE, AND
TO JUVENALS OF MIGRANT SPECIES.

<u>2/26</u>	<u>9/27</u>	<u>9/30</u>	<u>10/4</u>	<u>10/10</u>	<u>10/11</u>	<u>10/12</u>	<u>10/17</u>	<u>10/18</u>	<u>10/21</u>	<u>10/25</u>
			1	1	(1)	1				
22	✓	5	3	3	4	1	4	8	7	1
13	✓	20	14	13	19	20	23	4	7	3
5	2			1	1			2		
29	✓	4	1	26	40	60	133	88	26	192
	(1)					5	5	3		6
						3	1	20	1	3
115	✓	100	78	64	78	80	33	18	8	4
1		1	2		(2)	2	2	5	4	2
35	✓	30	22	5	2	2				
3	5	1	3		(4)	6	4	9	7	6
		1	1	1	(1)					
3	7	7	10	1	1	(1)				
22	✓	22	35	42	36	84	175	275	100	920
2	✓	6	16	10	10	14	3	3	3	1
1									1	
10	✓	9								
10	18	6	9	9	8	7	1	9	5	19
							(2)			
1	1	3	2		1	2	2			2
1	1	1	1	1	1	2	2	2		2
1										
70	✓	24	12	120	146	177	193	80	120	130
26	✓	16	14	22	28	27	14	6	15	10
1	1	1			1			(1)	1	1
							1		1	1
				(1)		3		1		1
20	18	18	17	16	19	19	17	17	15	18
371		257	224	320	384	497	598	534	306	1304
BCD	ABCD	ABCD	ABCD	ABCD	ABCD	ABCD	ABCD	BCD	ABCD	ABCD
E	E			E	E	E	E	E	E	E

✓ Present, numbers not counted

Table 2 presents the results of my daily censuses. I regret the lack of comparative data from previous years, yet some statistical trends are evident within this year's tabulation. I was surprised at the low numbers of juvenal birds noted in late August-mid September, their normal peak passage. The ratio of juvenal to adult Black-bellied Plover peak counts was about 1:6, Red Knot 1:46, Sanderling 1:5, Semipalmated Sandpiper 1:2, White-rumped Sandpiper 1:8, Short-billed Dowitcher 1:2, and Ruddy Turnstone 1:3. Peak numbers of juvenal and adult Semipalmated Plovers were about equal and juvenal Stilt Sandpipers outnumbered adults by about 2 or 3 to 1. There are several possible explanations for the comparatively low numbers of juvenal birds this season: 1) it may have been a poor nesting season in the Arctic; 2) meteorological conditions may have favored over-flight; 3) my visits were largely confined to weekends but the peak numbers might have occurred during the week (see the Stilt Sandpiper account below); 4) a pair of Peregrine Falcons present from mid-August to mid-September may have dispersed birds to roosts elsewhere (the Peregrines frequently harassed birds at the East Pond and were seen carrying a dead yellowlegs and a Semiplamated Plover); 5) later arriving juvenals may favor a different habitat (this may be true for Black-bellied Plover, Sanderling, and Ruddy Turnstone); and 6) there may have been some combination of the above factors.

Major influxes of new birds and species did not coincide with cold front passages, clearing skies, and northwest winds. Many shorebirds departed under such traditional fall landbirding conditions, but arrivals accumulated during periods of southerly or easterly winds, especially following rainstorms.

Species diversity was rather constant through the season (see Table 3), rapidly swelling to 25 species by late July, a peak of 27 species in late September, and a gradual decline through October.

TABLE 3. SPECIES DIVERSITY

Period	Late Jun- Early Jul	Late Jul	Early Aug	Late Aug	Early Sep	Late Sep	Early Oct	Late Oct
Number Visits	5	5	4	4	5	5	4	4
Total Species	14	25	25	26	26	27	23	21



*First Winter Long-billed Dowitcher—Jamaica Bay Wildlife Refuge
26 Sept 1980* *Tom Davis*

SPECIES ACCOUNTS

American Oystercatcher: one to two local family groups visited the East Pond 18 Jul-7 Sep.

American Avocet: Winter-plumaged adult male 2-14 Oct.

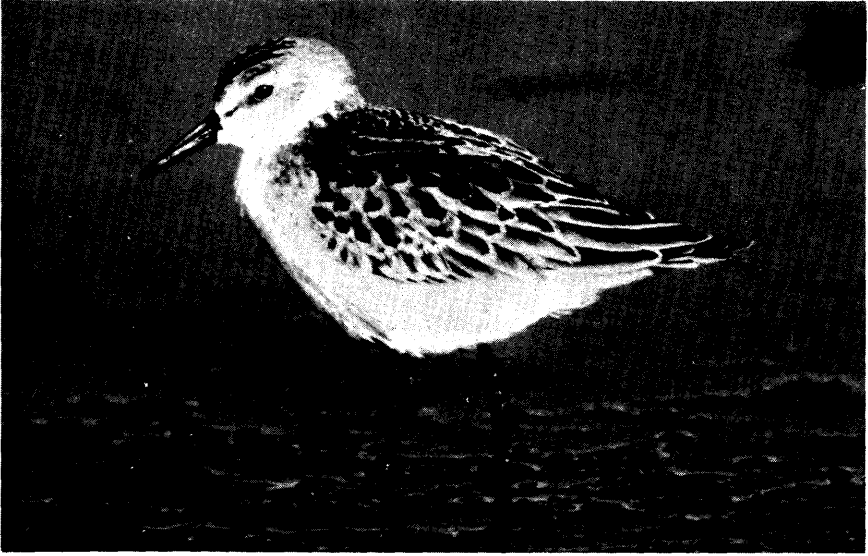
Semipalmated Plover: An average season (see Table 2).

Killdeer: Local birds, including downy young, dominated early counts; migrants swelled the numbers late Sep-mid Oct.

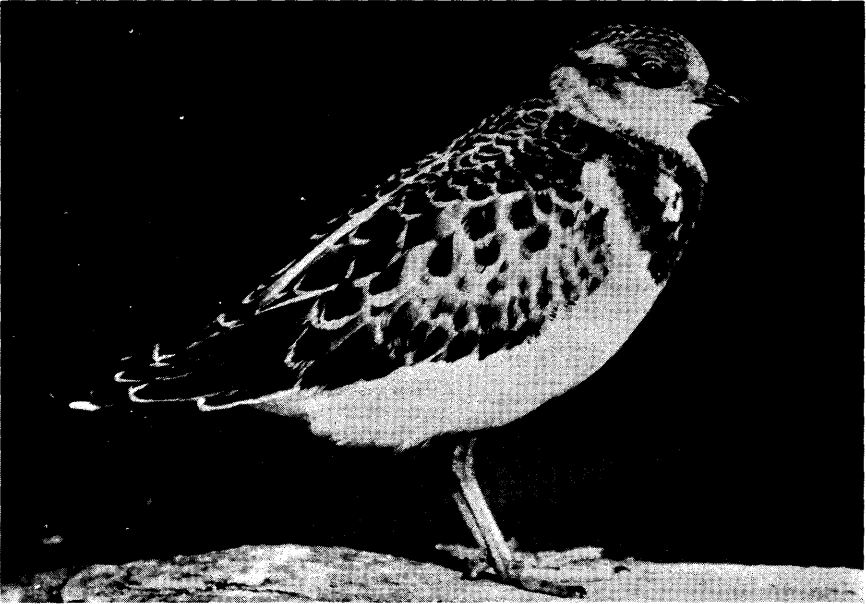
American Golden Plover: Nineteen individuals on eight dates, 7 Sep-18 Oct, slightly less than average.

Black-bellied Plover: See introductory remarks on low numbers of juvenals.

Red Knot: A continuing decline in numbers was noted—a maximum



Juvenal Semipalmated Sandpiper—Jamaica Bay Wildlife Refuge
4 Oct 1980 Tom Davis



Juvenal Ruddy Turnstone—Jamaica Bay Wildlife Refuge
23 Aug 1981 Tom Davis

of 230 adults 23 Aug, and a total of 15-20 juvenals 6-27 Sep. Previous maximum counts were 400 (26 Aug 1980), 700 plus (6 Aug 1977), and 1000-2000 (early Aug 1976). Following a hiatus of a month, small numbers of knots appeared in mid-Oct. Were these birds which would winter locally?

Sanderling: See introductory remarks on low numbers of juvenals.

Semipalmated and Western Sandpipers: See introductory remarks on low numbers of juvenal Semipalmateds. Maximum numbers of juvenal Westerns also appeared lower than in previous years. At their peak, Western numbers were less than 5% of the Semipalmated total. Bill length and shape were found unreliable in distinguishing long-billed eastern Canadian female Semipalmateds from short-billed male Westerns but bill thickness was not examined carefully. The difference in molt schedule was helpful in picking out the less numerous Westerns, especially juvenals. Semipalmateds migrate longer distances and defer their molt (some adults do exhibit partial molt), while Westerns molt enroute. Voice is also helpful in picking out Westerns; it is squeakier and it "sounds like a cross between a White-rumped and a Least" (K. Kaufman). Another Western call sounds like a Dunlin "higher and thinner but very similar in pattern" (W. Russell).

Least Sandpiper: An average season (see Table 2).

White-rumped Sandpiper: An unprecedented season for adults; maximum 58 on 7 Sep; previous maximum about 20-30 birds.

Baird's Sandpiper: Two juvenals 13 Sep (R. Lewis) and 30 Sep-11 Oct.

Pectoral Sandpiper: An average season (see Table 2).

Sharp-tailed Sandpiper: Breeding-plumaged adult 18-24 Jul. For full details see T. H. Davis (1981. Photographs of New York State Rarities. 41. Sharp-tailed Sandpiper. *Kingbird* 31: 198-201).

Curlew Sandpiper: An adult female 20 Jul-16 Aug (28 days) and an adult male 7-23 Aug (17 days).

Dunlin: An average season (see Table 2).

Stilt Sandpiper: An average season; my weekend maximum of 59 on 6 Sep was eclipsed by far by a weekday count of 110-130 birds 3 Sep (T. Stiles).

Buff-breasted Sandpiper: One 5 Sep (D. Riepe) was about normal for the season at JBWR; in this region Buff-breasts prefer the potato fields of eastern Long Island.

Ruff: Two adult females 19-20 Jul and 8-12 Aug (R. Arbib, T. Stiles *et al.*).

Common Snipe: Little appropriate habitat at the East Pond, but the first arrival 26 Sep was late.

Short-billed Dowitcher: See introductory remarks on low numbers of juvenals; my maximum of 1140 adults 25 Jul was apparently exceeded during the week of 20-24 Jul.

Long-billed Dowitcher: Heavily molted adults and juvenals were best identified by voice, but subtleties do exist in helping distinguish this species from Short-billed, including timing of migration with the Short-billed arriving earlier, molt schedule (long-billeds during migration), and differences in juvenal plumage (see Prater *et al.*, *op. cit.*).

American Woodcock: Breeds commonly in upland areas adjacent to the East and West Ponds but is seldom encountered during the day.

Hudsonian Godwit: This species' frequency of occurrence has exhibited a subtle increase since 1976; perhaps as many as 15 individuals visited the East Pond this season.

Marbled Godwit: One bird lingered from 5 Sep to 25 Oct, and a second bird 12-25 Oct.

Whimbrel: Singles 29 Aug and 26 Sep (a flyby); this species is more frequently encountered in the salt marshes farther east along the south shore of Long Island.

Upland Sandpiper: Flybys 2 Aug (two birds) and 15 Aug were probably from the breeding population at nearby JFK Airport, estimated at 12-20 pairs in 1981 (S. Chevalier).

Greater Yellowlegs: My daily counts fluctuated wildly throughout the season with peaks in late Aug, mid-Sep, and mid-Oct.

Lesser Yellowlegs: An average season (see Table 2).

Solitary Sandpiper: Two or three individuals 30 Aug-13 Sep all observed at the small freshwater pond created in September 1980, immediately west of the East Pond garden area.

Willet: Local breeding birds visited the East and West Ponds sporadically to 6 Sep and an individual of the larger western race was noted 17-25 Oct.

Ruddy Turnstone: See introductory remarks on low numbers of juvenals. Turnstones concentrate at the East Pond on the shellbank islands at the north and south ends of the pond.

Wilson's Phalarope: A season total of four to seven juvenals 25 Jul-19 Sep was low in comparison to recent years.

Northern Phalarope: one juvenal 30 Aug.

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