

RAPTORS AND WATERBIRDS
ON THE MAURICE RIVER

CUMBERLAND COUNTY, NJ

*The TWENTY-SECOND FIELD SEASON
of an Ongoing and Long-term Avian Use Study*

WINTER, 2008-2009

and including: A Fall Migration Seasonal Summary, July through November 2008

Research sponsored by

Citizens United to Protect the Maurice River and its Tributaries, Inc.



**By Clay Sutton and James Dowdell
May 15, 2009**

Sponsored by:



PO Box ● 474 Millville, New Jersey 08332
856/327-1161 ● Fax 856/327-4254 ● e-mail forrivers@aol.com

This study was made possible with assistance from the:



United States, Department of the Interior
National Park Service
Wild and Scenic Rivers Program

Prepared by:
Clay and Pat Sutton LLC
129 Bucks Avenue
Cape May Court House, NJ 08210
609-465-3397
claysutton@comcast.net



Above:

A glowing highlight of this season was the discovery of this **Snowy Owl at Bivalve EEP on December 22, 2008**. It remained for several days thereafter. It was the first Snowy Owl found in the twenty-two years of this study, and one of very few modern-day records for Cumberland County.

– Photo by Clay Sutton, December 22, 2008

On the cover:

Many birds “stage” or gather to feed in late winter and during spring migration at the mouth of the Maurice River and in Maurice River Cove. Here are many of an estimated 180 **Bonaparte’s Gulls** (a high count for the Maurice River) as they feed at **East Point on March 31, 2009** – the last day of the core winter study period. Bonaparte’s Gulls are a small and dainty gull, uncommon but welcome in spring on the upper Delaware Bay, as they head towards northern “tiaga” breeding grounds.

– Photo by Pat Sutton, March 31, 2009

WINTER RAPTORS AND WATERBIRDS ON THE MAURICE RIVER

December 2008 through March 2009

The TWENTY-SECOND FIELD SEASON

of an Ongoing and Long-term Avian Use Study

And Including:

A Review of Fall Migration: July through November 2008

INTRODUCTION AND OVERVIEW

Avian use studies carried out on the Maurice River during 2008 and 2009 marked the twenty-second field season of detailed surveys of the status and distribution of the avifauna of the Maurice River. These long-term studies were again carried out under the auspices of Citizens United to Protect the Maurice River and its Tributaries. Bird studies were begun in 1987 and continue to the present, and are ongoing even beyond the current report.

Because an in-depth summary report of the first twenty years of study was very recently submitted (April 30, 2009), this current report will only detail the specific findings of the twenty-second field season of study. Minimal discussion will be offered in this year twenty-two report, deferring most analysis and discussion of status and trends to the now available report that analyzed and reflected on the first twenty years of monitoring effort (see: "Wintering Raptors and Waterfowl on the Maurice River, Cumberland County, New Jersey – A Twenty-Year Summary of Observed Status and Trends, 1987-2007"). (Also see: "Raptors and Waterbirds on the Maurice River, Cumberland County, New Jersey – The Twenty-first Year of an Ongoing and Long-term Avian Use Study – Seasonal Summary, July 2007 through June 2008, Including Winter 2007-2008.")

Also, because all of the first twenty-one years of individual reports are available on-line (archived on the CU website: www.cumauriceriver.org/) no discussion of methodology or techniques will be offered in this short-form year twenty-two report. (The basic methodology has remained the same since 1987: nine sites / point counts are sampled for a period of 45 minutes each.) Visit the website for in-depth review of all methodologies and sampling locations, as well as the goals and objectives of this long-term project. In-depth analysis of findings have been prepared at the five-year, ten-year, fifteen-year, and twenty-year milestones of this long-term study.

FINDINGS

The results of the Maurice River Raptor and Waterbird Survey for the period July 2008 through March 2009 are shown in **Table 1**. Eight full surveys were carried out during the core winter period (December 3, 2008, to March 31, 2009). In addition, five full surveys were conducted during the fall period of the study cycle, July through November 2008. (Studies are ongoing through the spring and summer of 2009 and will conclude for this budget cycle in June 2009). Fall survey results are shown in Table 1, but are not included in the core winter season *average* shown in the table. **Peak winter season daily high counts for key species** are shown in **Bold Face**, although for a number of species, fall totals exceed the peak core winter season count. Because summer and fall survey dates primarily targeted migratory shorebirds, peak counts are bold faced for shorebird species in the fall season in Table 1.

As in the past, comparative studies were conducted on the Cohansey River and on the Salem River as an adjunct to the Maurice River studies. The Cohansey River was sampled five times and the Salem River was sampled three times in winter 2008-2009. Cohansey River and Salem River winter raptor and waterbird surveys are shown in **Table 2**. Data from these adjunct studies of Delaware Bayshore “comparison rivers” will be fully explored and analyzed in the upcoming planned twenty-five year in-depth report.

As in past seasons, Canada Goose numbers on the Bayside State Prison grounds (adjacent to the Maurice River) were again estimated; birds were counted from Route 47. Most if not all “Bayside geese” use the Maurice River for roosting and feeding as well, and these counts offer insight to regional goose populations and the potential for herbivory on Maurice River wild rice marshes. The numbers are shown below (note that these “prison numbers” are not included in the river count totals shown in Table 1):

2008-2009 Canada Geese Populations Bayside State Prison Grounds

Date	Number
07/25/08	100
08/25/08	500
09/23/08	280
10/11/08	175
11/19/08	1180
12/03/08	1415
12/22/08	550
01/13/09	650
01/30/09	650
02/11/09	570
02/26/09	535
03/18/09	480
03/31/09	380

TABLE 1
Maurice River
Raptor and Waterbird Survey
July 2008 through March 2009

DATE	FALL PERIOD					CORE WINTER PERIOD								AVG n = 8
	7/25	8/25	9/23	10/11	11/19	12/3	12/22	1/13	1/30	2/11	2/26	3/18	3/31	
LOONS to CORMORANTS														
Red-throated Loon										2		1	3	
Common Loon					2									
Pied-billed Grebe								1					1	
Northern Gannet												1	12	
Dbl-cr Cormorant	290	265	351	252	5	1		2		2		21	99	
Great Cormorant									1	2	1			
BITTERNs to VULTURES														
Great Blue Heron	19	18	12	22	27	16	12	17	18	14	16	3	5	
Great Egret	101	90	48	77									17	
Snowy Egret	167	402	35	46									5	
Little Blue Heron	1													
Tricolored Heron	1													
Green Heron	5	8	1											
Black-cr Nt-Heron	53	9	1	20	6	3	12	7				12	39	
Glossy Ibis	100	3											7	
Black Vulture	1	2	12	17	17	10	6		4	10	26	18	5	
Turkey Vulture	69	76	85	114	119	110	31	13	55	93	153	131	102	
WATERFOWL														
Snow Goose					20	13	1131	7120	388	3100	2671	3300	38	
Canada Goose	64	21	16	7	157	105	692	86	297	161	365	198	124	
Mute Swan	20	9	3	3		10	5	3	5	5	7	10	10	
Wood Duck							1						3	
Gadwall			2		6		3	3		25	24	67	44	
American Wigeon										16	19	16	12	
Am Black Duck	30	131	151	173	473	233	381	692	443	526	776	462	681	
Mallard	12	2	18	3	69	327	343	445	429	376	373	80	33	
Blue-winged Teal			26	3									1	
Northern Shoveler												3	28	
Northern Pintail			136	45	138	55	47	155	249	753	579	96	141	
Green-winged Teal			499	781	1341	801	4	12	22	1924	1364	2220	3220	
Canvasback									6					
Ring-necked Duck				14		220		17				65	163	
Greater Scaup								14	36	8				
Lesser Scaup									2	42			5	
Scaup (sp.)								64	360	13	59		28	
Black Scoter				2					2					
Scoter (sp.)					3			8						
Long-tailed Duck								1						
Bufflehead					130	100	60	183	277	208	181	182	280	
Com. Goldeneye								82	239	2	23			
Hooded Merganser					8	5	2	20	5	17	16	5	17	
Com. Merganser					1		4	54	96	13	18	9	3	
Red-br Merganser					8	1	2	117	84	35	69	3	129	
Ruddy Duck					28	41							1	
DIURNAL RAPTORS														
Osprey	121	96	2	14								4	72	
Bald Eagle	8	14	17	15	14	13	15	10	19	24	18	24	23	
Northern Harrier	3	3	8	21	31	37	26	26	32	36	27	25	23	
Sharp-sh Hawk			51	14	16	15	2	1	3	5	6	4	1	
Cooper's Hawk	1	2	11	9	2	3	1	10	3	8	1	3	1	
Northern Goshawk					4									
Red-sh Hawk					8		2		2	3				
Red-tailed Hawk	9	6	23	21	118	52	43	29	35	50	51	53	30	
Rough-leg. Hawk									1					
American Kestrel			13	6		1	1		1		1		10	
Merlin	1		4	3	1			1		1		1		

Peak winter counts
shown in **Bold Face**

* Willets observed on 3/18/09
and 3/31/09 were Western Willets

TABLE 1
Maurice River
Raptor and Waterbird Survey
July 2008 through March 2009

DATE	FALL PERIOD					CORE WINTER PERIOD								AVG n = 8
	7/25	8/25	9/23	10/11	11/19	12/3	12/22	1/13	1/30	2/11	2/26	3/18	3/31	
Peregrine Falcon	3	2	2	4	1	1	1	1	2	1	2	1	2	1.38
TOTAL RAPTORS			170	149	267									
HOURS			6	4	7									
586 total raptors in 17 hours = 34.47 hawks / hr														
GROUSE to CRANES														
Ring-neck Pheasant				1		1	3		1					
Wild Turkey			5	9		4			6	51		27	3	
Clapper Rail	17	12	2	3		3		20	1				3	
SHOREBIRDS														
Black-bellied Plover	4	150	73	428	22	16		1		1		1	23	
Semipalmated Plover	76	490	114	53										
Killdeer	3	9	8	36	13	5	6		1	6	21	5	6	
Am Oystercatcher													3	
American Avocet						1								
Greater Yellowlegs	43	76	103	127	15	32	17	10	13	7		10	72	
Lesser Yellowlegs	32	52	54	75		21				1		8	16	
Willet	4											1*	1*	
Spotted Sandpiper		1												
Hudsonian Godwit				1										
Marbled Godwit		3	5		1									
Sanderling		7	49				16	51	17					
Semipalmated Sdp	1686	1496	475	30										
Western Sandpiper			1	4		1	1							
Least Sandpiper	49	44	31	8										
Wh-rump. Sandpiper		1	1											
Pectoral Sandpiper				8										
Dunlin			8	700	2181	527	722	131	81	8		7	1155	
Sh-billed Dowitcher	1077	522	36	35									1	
Lg-billed Dowitcher		2			1									
Wilson's Snipe						1	12	16			3		10	
Am. Woodcock							1							
unid. Shorebird	600		495											
TOTAL SHOREBIRDS	3574	2853	1453	1505	2233									
JAEGERS to ALCIDS														
Laughing Gull	√	√	√	√	1							1	11	
Bonaparte's Gull							44			3			180	
Ring-billed Gull	31	√	√	√	√	√	400	√	√	√	√	√	√	
Herring Gull	√	√	√	√	√	√	250	√	√	√	√	√	√	
Gt Bl-backed Gull	√	√	√	√	√	√	50	√	√	√	√	√	√	
Caspian Tern	4	15	1											
Royal Tern		13	7	2										
Forster's Tern	388	162	306	189	6									
Least Tern	18													
PIGEONS to WOODPECKERS														
E. Screech-Owl				1				1						
Great Horned Owl			1					3						
Snowy Owl							1							
Short-eared Owl									1					
Belted Kingfisher		4	4	10	4	11	3	8	5	5	6		2	

TABLE 2
Cohansey River and Salem River
Winter Raptor and Waterbird Survey
2008 -- 2009

DATE	COHANSEY R.						SALEM R.			
	12/9	12/28	1/24	2/9	3/11	AVG.	12/15	1/26	3/22	AVG.
						n = 5				n = 3
LOONS to CORMORANTS										
Pied-billed Grebe									2	
Double-cr Cormorant									26	
BITTERNS to VULTURES										
Great Blue Heron	5	2	9	4	2		5	3	13	
Great Egret									6	
Black Vulture	10		29	30	14	16.6	34	32	24	30
Turkey Vulture	54	25	103	118	116	83	180	108	142	143
WATERFOWL										
Snow Goose	1906	1250	8468	5173	5655	4490	10000	9450	5060	8170
Ross' Goose				1				1	1	
Cackling Goose			1				2	1		
Canada Goose	2470	750	1341	1958	1171	1538	2912	2891	48	1950
Mute Swan	6	2	12	3	2		67	88	32	
Tundra Swan							35	50		
Wood Duck									70	
Gadwall							135	115	142	
American Wigeon				20			4	30	558	
Am Black Duck	144	50	213	118	63	118	207	237	110	185
Mallard	210	60	191	120	51	126	272	165	19	152
Northern Shoveler									152	
Northern Pintail			20	60	8	18		207	62	90
Green-winged Teal	3			12	336	70			1530	510
Ring-necked Duck					15		1	3		
Scaup (sp.)				4						
Black Scoter	2									
Bufflehead	30	4	1	10	4	10			2	
Com. Goldeneye	7		1							
Hooded Merganser	2		4	1	8					
Com. Merganser			1	12				88	4	
Red-br Merganser		2					45			
Ruddy Duck							14	4	32	
DIURNAL RAPTORS										
Osprey									3	
Bald Eagle	14	8	19	20	33	18.8	15	22	17	18
Northern Harrier	26	3	35	40	12	23	15	30	20	22
Sharp-sh Hawk	1	1	4	2	1	1.8	1	3		1.33
Cooper's Hawk	2	1	2	3	1	1.8	2	2	1	1.66
Red-sh Hawk	1		2			0.6	1	3		1.33
Red-tailed Hawk	24	13	40	44	32	31	35	41	33	36
American Kestrel	2	1	3		1	1.4	1	3	2	2
Merlin		1		1		0.4				
Peregrine Falcon	1					0.2				
GROUSE to CRANES										
Ring-nk Pheasant									1	
Wild Turkey					41		1	14		
American Coot							10	2	76	
Sandhill Crane	13		15							
Common Crane	1		1							

TABLE 2
Cohansey River and Salem River
Winter Raptor and Waterbird Survey
2008 -- 2009

DATE	COHANSEY R.					AVG. n = 5	SALEM R.			AVG. n = 3
	12/9	12/28	1/24	2/9	3/11		12/15	1/26	3/22	
SHOREBIRDS										
Black-bellied Plover			6							
Killdeer	15		10				1	4		
Greater Yellowlegs	2		4		1		6			
Dunlin	95		49		15					
Wilson's Snipe			1		1		3	2		
JAEGERS to ALCIDS										
Ring-billed Gull	√	√	√	√	√		√	√	√	
Herring Gull	√	√	√	√	√		√	√	√	
Gt Bl-backed Gull	√	√	√	√	√		√	√	√	
PIGEONS to WOODPECKERS										
E. Screech-Owl								1	1	
Great Horned Owl			4					1		
Long-eared Owl							3	3		
Short-eared Owl			2							
Belted Kingfisher		3	1	1	1		1			

COMPARISONS TO PREVIOUS SEASONS' WINTER WATERFOWL FINDINGS

Table 3 shows a comparison of winter 2008-2009 waterfowl totals for key species in relation to the five-year average for the Maurice River for the period 2002-2007 (Segment IV of the 20-year study, 1987 to 2007), as well as findings for the immediate previous winter season, 2007-2008.

The twenty-second season of study (2008-2009) produced findings well in line with the previous studies, particularly the most recent five-year segment. In the core winter studies, populations of a number of species of waterfowl, particularly diving ducks, were down in winter 2008-2009, as they also were in winter 2007-2008. This was probably in large part due to the relatively mild winter.

Seasonal phenology was as expected, but except for a few species, expected numbers never materialized. Snow Goose numbers varied widely, achieving a respectable peak of 7,120 on January 13, 2009, although the seasonal average of 2,220 was just that: average. Canada Geese were well below recent peaks and averages (although Bayside Prison numbers remained high).

Black Duck and Mallard numbers were very low, with peak and average counts much lower than in recent years. Likewise, Northern Pintail peaked at 753 on February 11, 2009, at a high of only half of the 2002-2007 segment average. Among dabbling ducks only Green-winged Teak bucked this trend with excellent peak and average counts.

Diving ducks were variable. Peaks of almost all species were good, yet averages were mostly lower than normal due to the relatively mild winter and resultant early departure from the region.

TABLE 3

**Wintering Waterfowl
on the Maurice River, Cumberland County, NJ**

**Comparison of Winter 2008-2009
with Previous Year and Most Recent 5-Year Segment**

	2002-2007 Segment IV			2007-2008		2008-2009	
		Avg. Peak Count	Mean of Means	Peak	Avg.	Peak	Avg.
Species	Best	Count	Means	Peak	Avg.	Peak	Avg.
Snow Goose	7150	5070	1992	5040	2105	7120	2220
Canada Goose	1520	910	412	987	329	692	254
Am. Black Duck	2858	2173	1079	1274	748	776	524
Mallard	994	600	350	649	441	445	301
Northern Pintail	1495	1036	409	928	431	753	259
Green-winged Teal	3779	2060	557	5850	1525	3220	1196

COMPARISON TO PREVIOUS SEASONS' WINTER RAPTOR FINDINGS

Table 4 shows a comparison of winter 2008-2009 raptor totals for key species in relation to the five-year average for the Maurice River for the period 2002-2007 (Segment IV of the 20-year study 1987 to 2007), as well as findings for the immediate previous winter season, 2007-2008.

Unlike waterfowl, raptor totals were excellent, with only vultures below average. Black Vultures, with a peak of 26 and average of 10, were well below recent norms, and Turkey Vulture counts were slightly below average. This may be a factor of the changing locations of regional vulture roosts.

Northern Harrier counts were slightly above average, while Red-tailed Hawk numbers were just slightly below the 2002-2007 segment average. Accipiter numbers were well above average with record counts set. Sharp-shinned Hawk posted a peak of 15 on December 3, 2008 (a figure that no doubt included a few late fall migrants), and a record average of 4.63 per survey. A record winter high count for Cooper's Hawk was achieved on January 13, 2009, when an amazing 10 were counted – a very high number which helped establish a record 3.75 average per day. Cooper's Hawks have accomplished a major comeback in the region at all seasons.

Peregrine and Merlin totals were above average, as was American Kestrel. The kestrel average of 1.75, more than double the 2002-2007 five-year average, is deceiving however; this average was skewed by the "winter record" 10 kestrel counted on the very last day of the period, March 31, 2009. These were all northbound migrants as opposed to true wintering birds. Only one American Kestrel actually wintered on the Maurice River (near Port Norris) during winter 2008-2009. Without the 10 migrants averaged in (as protocol requires . . .), the winter average would have been a dismal 0.5 – continuing the inexorable downward trend for this regionally disappearing falcon.

Bald Eagle easily set a new high seasonal average. Numbers remained high throughout the study period, with daily peaks of 24 individuals carefully counted on February 11, 2009, and again on March 18, 2009. The average daily count of 18.25 easily bested previous seasonal means. Bald Eagles have recovered to a degree few people ever expected, and this signature species today graces the skies and marshes of the Maurice River in regionally significant numbers.

A glowing highlight of this season was the discovery of this Snowy Owl at Bivalve EEP on December 22, 2008. It remained for several days thereafter. It was the first Snowy Owl found in the twenty-two years of this study, and one of very few modern-day records for Cumberland County. It was quite a good year for this irruptive and nomadic visitor from the high arctic, with a number seen in coastal New Jersey and the Mid-Atlantic States. Snowy Owls move south to our region only when their food supplies dwindle in their arctic tundra range.

TABLE 4

**Wintering Raptors
on the Maurice River, Cumberland County, NJ**

**Comparison of Winter 2008-2009
with Previous Year and Most Recent 5-Year Segment**

Species	2002-2007 Segment IV			2007-2008		2008-2009	
	Best	Avg. Peak	Mean of	Peak	Avg.	Peak	Avg.
		Count	Means				
Black Vulture	75	53.4	19	27	13	26	10
Turkey Vulture	155	139.4	94	133	90	153	86
Osprey *	41			50		72	
Bald Eagle	31	27	14.92	25	16.9	24	18.25
Northern Harrier	40	36.6	26.4	40	28	37	29
Sharp-shinned Hawk	11	7	2.62	5	3	15	4.63
Cooper's Hawk	7	5	2.48	6	2.9	10	3.75
Northern Goshawk	1		(1 total)	1	(2 total)		
Red-shouldered Hawk	8		(36 total)	4	(11 total)	3	(7 total)
Red-tailed Hawk	87	66	44.2	59	43	53	43
Rough-legged Hawk	2		(8 total)	1	(1 total)	1	(1 total)
Golden Eagle	1		(7 total)	1	(4 total)		
American Kestrel	4	2.2	0.696	3	1.7	10	1.75
Merlin	2		(10 total)	1	(1 total)	1	(3 total)
Peregrine Falcon	3		(25 total)	2	(6 total)	2	(11 total)
* Osprey is not a wintering species on the Maurice River. Numbers shown represent spring arrivals during the last few days of the winter count period.							

COMPARISONS TO THE COHANSEY AND SALEM RIVERS

As in recent years, comparative winter counts were conducted on the Cohansey River and Salem River in an attempt to gain perspective on Maurice River findings (see Table 2). Five counts were conducted on the Cohansey River and three on the Salem River as an adjunct to the primary Maurice River studies. (All were done by Clay Sutton and others at no cost to Citizens United.) Findings largely confirmed and corroborated previous seasons' results. Due to the extensive agriculture in the region, geese are far more abundant on the Cohansey River than on the Maurice River. And, due to less brackish intertidal habitat (and a lack of impoundments such as Bivalve EEP), duck populations are far lower on the Cohansey River. Raptor populations are remarkably similar on the Maurice and the Cohansey. Of note, the Bald Eagle seasonal average of 18.8 is almost identical to the Maurice River average of 18.25 for the 2008-2009 winter season. Interestingly, the Salem River Bald Eagle average was 18. Because the Salem River comparison studies were only in their fourth year and because the number of counts (3) remained low, comparisons and contrasts to the Maurice River are as yet somewhat unclear, and will continue to be explored in future winter seasons.

FALL MIGRATION ON THE MAURICE RIVER

The use of the Maurice River by fall migrants is significant. Migration (with its attendant issues of flight strategies and stopover requirements) is a particularly perilous and stressful period of a bird's life cycle. Migration is also a major factor in subsequent winter bird populations; for raptors and waterfowl, migration often ends at some point during the migratory timetable and route when quality habitat is encountered. Fall migration following the Delaware Bayshore west is a significant causal factor in the large numbers of birds that remain to overwinter along the Delaware Bayshore and on the Maurice River.

Six counts were conducted during the fall migration period, from late July through November. Significant numbers of herons, egrets, and Glossy Ibis were found along the river, primarily at (but not limited to) the Heislerville WMA and Bivalve EEP site. Excellent fall counts of 473 American Black Ducks, 138 Northern Pintails, and 1,341 Green-winged Teal were counted on November 19, 2008, proving that dabbling duck numbers substantially build well before the core winter counts begin.

On three dates, September 23 to November 19, 2008, autumn hawk migration along the Delaware Bayshore was monitored at East Point, Heislerville WMA, and Bivalve. In 17 hours of "targeted" hawk counting, 586 raptors of 12 species were tallied, for an excellent average of 34.5 hawks per hour. A glowing highlight of the November 19, 2008, survey was the 4 Northern Goshawks counted (all juveniles), a record all-time daily total for the Maurice and an amazing count for anywhere in New Jersey at any season for this rare northern visitor.

Fall 2008 studies also again documented very large numbers of shorebirds using the

lower river during southbound migration. Eighteen species of shorebirds were found during the period July through November. Large numbers of Black-bellied Plover, Semipalmated Plover, and yellowlegs were found. Fall migration counts of Semipalmated Sandpiper, Dunlin, and Short-billed Dowitcher were significant as well. For shorebirds, highlights included up to 5 Marbled Godwits on three dates, and a Hudsonian Godwit on October 11, 2008, – good finds for the Delaware Bayshore. A very late migrant American Avocet was found at Heislerville WMA on the first winter period survey on December 3, 2008.

Although fall numbers in 2008 did not quite rival those counts typically achieved in spring, counts were none-the-less exceptional for the region. Late summer and fall surveys on the Maurice River in 2008 confirmed and corroborated previous seasonal findings, adding additional proof that the Maurice River is a major fall migration staging area for raptors, waterfowl, waterbirds, and shorebirds.

HIGHLIGHTS AND OTHER SIGHTINGS OF NOTE

As in past fall and winter seasons, survey efforts discovered a number of unusual and significant avian species and events along the Maurice River. Also, several significant sightings were reported by others.

August 19, 2008 Black Tern
Bivalve EEP (fide Sandra Keller). One of very few Cumberland County records for this long-distance migrant.

October 11, 2008 Red-tailed Hawk predation on Laughing Gull.
Galletto dock. A Red-tailed Hawk took a Laughing Gull following a rapid stoop, the second time we have witnessed this amazing feat at this location!

December 22, 2008 44 Bonaparte's Gulls
Various locations, Maurice River. Following a late cold front and severe weather to the north of New Jersey, a total of 44 Bonaparte's Gulls were seen in small flocks migrating south down the river, a phenomenon we had never witnessed before.

January 25, 2009 Short-eared Owls
1 at Bivalve (fide Karen Johnson). 2 at East Point (fide Sandra Keller).

February 11, 2009 An estimated 10,000+ American Robins
Along the length of the river survey route. Birds moving north during an early spring migration event.

Evidence of breeding by rare, threatened, and endangered species on the Maurice River during this survey period:

Northern Harrier
A "food pass" or transfer of prey from a male harrier to a female (breeding behavior) confirmed breeding east of East Point (near Thompson's Beach) on July 25, 2008.

Northern Harrier
2 seen (male and female) west of Bivalve EEP, near Hansey Creek on July 20, 2008.

Cooper's Hawk
2 adults seen in aerial courtship display flight north of the Mauricetown Causeway (west bank) on February 11, 2009.

Black-crowned Night-Heron
An active rookery was discovered on the "island" in the northernmost impoundment at Heislerville WMA on July 25, 2008. At least 53 birds were present and successful breeding was highly suspected. This colony appeared to be re-forming on March 31, 2009.

Uncommon butterfly species on the Maurice River during this survey period:

Common Checkered Skipper

Bivalve. October 11, 2008. An uncommon, low-density species in New Jersey.

Long-tailed Skipper

Heislerville WMA. September 23, 2008. A southern stray, and very rare away from Cape May.

Clouded Skipper

Galetto garden. September 23, 2008. This was one of very few reported (only 3) for this southern stray "emigrant species" in all of New Jersey in 2008.

Other sightings of note on the Maurice River during this survey period:

River Otter

Bivalve. January 13, 2009. Otter swam all the way across the mainstem river at Basket Flats

Red Fox

Peek Preserve (on entrance road). March 31, 2009.

DISCUSSION

The twenty-second year of raptor and waterbird studies on the Maurice River and the continuing comparative studies on the Cohansey and Salem Rivers were again successful in elucidating avian status, patterns, distribution, and concentrations on these major South Jersey rivers. Results clearly confirm and corroborate previous findings for both the Maurice and Cohansey Rivers. Both of these coastal rivers continue to support significant regional populations of raptors, waterfowl, and waterbirds in winter and during migration. Yet in part because the system includes Heislerville WMA and Bivalve EEP and their incomparable tidal impoundments, the Maurice River continues as the true gem of the Delaware Bayshore, attracting birders, naturalists, and ecotourists from near and far.

Once again these studies were conducted during an extremely warm fall and winter. Following a hot summer, autumn 2008 was very warm and wet, with September and October warmer than average. Warm autumns impact the migration into the region of many raptor and waterfowl species. There is a clear link between fall migration and subsequent wintering populations, and while it varies greatly among species, in general very warm falls simply don't send as many birds south to our area.

The warm autumn was followed by a mild winter. December was 3.3 degrees F. above normal; January was 2.1 degrees below normal; February was 3.4 degrees above normal, and March 1-18 was 0.5 degrees above the normal average. Total precipitation was well above normal, 26.02 inches compared to a normal average of 11.9 inches for the period December through March 18. (Source for all above weather data: AccuWeather data for Atlantic City, New Jersey.) Only in January were some icy conditions encountered during surveys, when the impoundments and small creeks were largely blocked by ice. It is well known that colder winters send the most waterfowl (and eagles) to the region, and particularly concentrate them in open water areas. The winter of 2008-2009 was again, like 2007-2008, not such a year, and therefore it is somewhat surprising that Bald Eagle numbers were as high as they were.

Because some avian-use patterns appear to be changing, the value of this ongoing long-term avian research on the Maurice River becomes all the more evident and relevant. Twenty-two years of bird study on the Maurice River have given us excellent long-term insight into the expected wildlife phenology of the river (phenology is the relation of climate to periodic wildlife phenomena). On the Maurice River we have historic data dating to 1987 on the patterns that might be expected during colder winter seasons (previously "normal" or "old-fashioned" winters). We therefore have avian data for the Maurice that references how current 21st Century winter bird-use patterns might compare to the colder winters of the late 20th Century. These comparisons could have real value in documenting and investigating known and suspected climate change issues and trends.

Further in-depth discussion and analysis of avian status and trends were offered in the twenty-year summary report, including comparisons of each five-year segment, but suffice it to say that the Maurice River data set, after twenty-two seasons of study, is far greater than for any other area of New Jersey. The systematic record of regular and repeated Maurice River surveys offers a unique opportunity to discover and document changing avian phenology and the

changing status and distribution of New Jersey's birds. Our twenty-second season of systematic study has confirmed and corroborated previous efforts, and has continued to document the Maurice River as an extraordinary place for all birds and a place for all seasons.

SUMMARY AND ACKNOWLEDGMENTS

Winter 2008-2009 marked the twenty-second year of study of wintering raptors and waterfowl on the Maurice River and the sixth year of focused fall counts. Studies will continue through Spring 2009. Studies conducted for Citizens United to Protect the Maurice River and its Tributaries again documented an amazing array of avian use of this key South Jersey river. 2008-2009 efforts augmented and bolstered the findings of the first twenty-one seasons of study and documented and substantiated the Maurice River as a premier avian resource area of not only New Jersey, but of the entire Mid-Atlantic Region.

Greater in-depth discussion, as well as recommendations, were offered in the twenty-year summary report (see: "Wintering Raptors and Waterfowl on the Maurice River, Cumberland County, New Jersey – A Twenty-Year Summary of Observed Status and Trends, 1987-2007"). Subsequently, "year twenty-one" and "year twenty-two" have substantially underpinned and supported the findings of the previous seasons and continued to document the Maurice River as an important bird area by any standard applied.

We thank the members, supporters, and friends of CU for allowing us to be a part of these significant discoveries on this great South Jersey river. We particularly thank Jane Galetto for her vision of what role these long-term studies might mean for the protection of these valuable avian resources.

We thank Brian and Karen Johnson, Janet Crawford, and Sandra Keller for shared sightings and insights, and for their continuing interest in the Maurice River and Delaware Bayshore. Leslie and Tony Ficaglia have been wonderful supporters of this project and all conservation efforts on the Maurice River. We thank Ward Dasey and Pat Sutton for their support and assistance during the Cohansey River and Salem River comparative surveys.

We also heartily thank the U.S. Department of the Interior's National Park Service, Wild and Scenic Rivers Program for their assistance to Citizens United to Protect the Maurice River and its Tributaries. The award of a Wild and Scenic River Partnership Grant enabled these surveys to be carried out. Thank you for all of your important work in Southern New Jersey, and for your ongoing vision of a wild and scenic Maurice River.

Clay Sutton
April 30, 2009