

# **RAPTORS AND WATERBIRDS ON THE MAURICE RIVER**

**CUMBERLAND COUNTY, NJ**

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

**FALL 2011 through SPRING 2012  
and including the Core WINTER Period 2011-2012**

**Research sponsored by**

**CITIZENS UNITED TO PROTECT THE MAURICE RIVER AND ITS TRIBUTARIES, INC.**



**By Clay Sutton and James Dowdell  
June 2012**

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***Prepared for:***

Citizens United  
to Protect the Maurice River  
and its Tributaries, Inc. (CU)  
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***On the cover and above:***

An immature Bald Eagle with a juvenile Black Drum – two signature species of the Delaware Estuary. The eagle had just taken the fish, perhaps temperature shocked, from the surface of the shallow waters of the back impoundment at Heislerville WMA.

– Photo by Clay Sutton, 3 January, 2012

# **RAPTORS AND WATERBIRDS ON THE MAURICE RIVER**

**July 2011 through June 2012**

## ***The TWENTY-FIFTH FIELD SEASON***

***of an Ongoing and Long-term Avian Use Study***

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

### **INTRODUCTION AND OVERVIEW**

The period from July 2011 through June 2012 marked the amazing twenty-fifth field season of long-term avian use studies carried out on the Maurice River under the auspices of Citizens United to Protect the Maurice River and its Tributaries, Inc. Studies included the monitoring of fall migration in 2011, spring migration in 2012, breeding bird studies, and the all important core winter studies carried out from December 2011 through March 2012.

Because an in-depth review of long-term status and trends was presented in 2007 (at the twenty-year milestone) and because a major report/paper is in preparation analyzing all twenty-five years of data, this current report will only offer brief discussion of the 2011-2012 findings in relation to previous years.

Also, because all of the first twenty-four years of individual reports are available on-line (archived on the CU website: [www.cumauriceriver.org](http://www.cumauriceriver.org) ) little discussion of methodology or techniques will be offered in this short-form yearly report. The basic methodology has remained the same since 1987: nine sites (point counts) on the Maurice River between Millville and East Point are sampled by Sutton and Dowdell for a period of 45 minutes each during each survey.

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; see “Literature Cited / For Further Reference” for a complete listing of these reports. These milestone reports will soon be joined by an in-depth twenty-five year look at the considerable avian resources of the Maurice River, and will include an analysis of status and trends in bird populations over the entire study period.

## FINDINGS

The results of the Maurice River Raptor and Waterbird Survey for the period July 2011 through June 2012 are shown in **Table 1**. Nine full surveys were carried out during the core winter period (1 December 2011 to 22 March 2012). Four surveys were conducted during the fall period of the study cycle, July through late October 2011, and five spring surveys were carried out between 12 April and 4 June 2012. Spring and fall survey results are also shown in Table 1, but are not included in the core winter season *averages* for key species shown in the table. **Peak winter season daily high counts for key species are shown in Bold Face**, although note that for a number of migratory species, spring and fall totals exceed the peak core winter season count.

As in the past, comparative studies were conducted on the Cohansey River and on the Salem River as an adjunct to the core winter Maurice River studies. The Cohansey River was sampled three times and the Salem River was surveyed two times in winter 2011-2012. 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. All Cohansey and Salem River surveys were carried out pro bono, at no cost to Citizens United.

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, and these counts offer insight to regional goose populations and the potential for seasonal herbivory on Maurice River wild rice marshes. The numbers are shown below, but note that these “prison numbers” are not included in the river count totals shown in Table 1.

### 2011 - 2012 Canada Geese Populations Bayside State Prison Grounds

Date	Number	Date	Number
08/04/11	270	02/23/12	1015
09/16/11	175	03/08/12	450
10/25/11	890	03/22/12	240
12/01/11	840	04/12/12	90
12/14/11	1210	05/02/12	144
01/03/12	1020	05/22/12	120
01/24/12	1075	06/04/12	25
02/07/12	13		

**TABLE 1**  
**Maurice River**  
**Raptor and Waterbird Survey**  
**July 2011 through June 2012**

DATE	FALL 2011					CORE WINTER PERIOD 2011-2012										SPRING 2012				
	7/20	8/4	9/16	10/25	12/1	12/14	12/26	1/3	1/24	2/7	2/23	3/8	3/22	AVG.	n = 9	4/12	5/2	5/12	5/22	6/4
	*															*	*	WSB	*	*
<b>LOONS to CORMORANTS</b>																				
Red-throated Loon					2	1				8	1	6				1				
Common Loon				1														1		
Pied-billed Grebe									1			2	2							
Northern Gannet											52	18				8				
Dbl-cr Cormorant	207	556	339	183	3	1	2					2	30			158	206	300	136	145
Great Cormorant													1				1			
<b>BITTERNS to VULTURES</b>																				
American Bittern				1																
Least Bittern																		1	1**	
Great Blue Heron	5	11	8	7	10	12	8	7	7	25	5	6	6			3	4	4	3	4
Great Egret	129	127	45	5	1	3	6	5	8	6	8	15	24			81	91	100	121	77
Snowy Egret	419	450	139	4									6			43	277	150	153	196
Little Blue Heron																1	3			
Tricolored Heron																		1		
Cattle Egret		1																		
Green Heron	1	1															2	4	1	2
Black-cr Nt-Heron	74	72	7													123	152	130	203	152
Yellow-cr Nt-Heron																			2	2
Glossy Ibis	5	41															106	25	4	11
White-faced Ibis																	1			
Black Vulture	1	9	4	23	41	49	14	16	22	55	55	34	32	35		4	11	5	3	3
Turkey Vulture	14	49	75	176	147	141	88	87	101	109	104	97	50	103		46	50	75	38	47
<b>WATERFOWL</b>																				
Snow Goose				28	12		250	4400	6100	4700	4300	1100		2318						
Canada Goose	27	53		65	45	140	10	102	275	114	195	182	104	130		28	57	250	8	24
Mute Swan			2	6	9	9	5	7	5	5	8	5	8			6	6	6	4	4

Peak winter counts  
shown in **Bold Face**

\* Lower River Survey only  
\*\* Seen on date other than official  
survey date or by other observers  
WSB = non-standard survey (World Series of Birding)

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**Raptor and Waterbird Survey**  
**July 2011 through June 2012**

		FALL 2011				CORE WINTER PERIOD 2011-2012												SPRING 2012				
DATE		7/20	8/4	9/16	10/25	12/1	12/14	12/26	1/3	1/24	2/7	2/23	3/8	3/22	AVG.	4/12	5/2	5/12	5/22	6/4		
		*													n = 9	*	*	WSB	*	*		
WATERFOWL (continued)																						
Wood Duck																						
Gadwall					5	31	44	9		36	4	14	56	30			5	3				
American Wigeon										3		18	12									
Am Black Duck		26	34	18		102	328	102	229	245	360	311	263	148	231	136	54	15	3	11		
Mallard		8	2	2		18	84	37	83	408	235	26	43	8	105	3	4	3	1			
Blue-winged Teal														2								
Northern Shoveler																2						
Northern Pintail				8	31	219	11	73	307	377	434	550	288	36	255	8						
Green-winged Teal				11	121	160	146	23	14	164	777	1597	1383	1032	588	1202	2					
Common Teal											1	1										
Ring-necked Duck						1	265		114	420	332		1									
Greater Scaup								3														
Lesser Scaup							12	41	52		26	21	39				1					
Scaup (sp.)									180		23	2	5									
Surf Scoter							3											2				
Wh-winged Scoter							1		1	1									2			
Black Scoter										5			10						20			
Scoter (sp.)										10												
Long-tailed Duck								1	2	1	11											
Bufflehead						150	243	94	141	177	97	109	153	46								
Com. Goldeneye						1		1	1	83	2	2	1									
Hooded Merganser							4	1	2	13	43	1	5	55								
Com. Merganser											4			4								
Red-br Merganser							19	4	90	85	24	32	22	3		2	1					
Ruddy Duck																						

Peak winter counts  
shown in Bold Face

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**Raptor and Waterbird Survey**  
**July 2011 through June 2012**

		FALL 2011					CORE WINTER PERIOD 2011-2012										SPRING 2012				
DATE		7/20	8/4	9/16	10/25	12/1	12/14	12/26	1/3	1/24	2/7	2/23	3/8	3/22	AVG.	4/12	5/2	5/12	5/22	6/4	
		*													n = 9	*	*	WSB	*	*	
DIURNAL RAPTORS																					
Osprey		80	136	21	1									6		47	33	75	71	48	
Mississippi Kite																		1			
Bald Eagle		5	16	17	20	36	22	12	35	16	28	23	28	19	24.33	6	10	25	11	12	
Northern Harrier		1	2	6	18	20	31	15	18	25	17	13	16	8	18	12	2	3			
Sharp-sh Hawk				20	77	18	5	1	1	1	1	1	1	1	3.333						
Cooper's Hawk				10	8	6	5	1	3	1	3	3	1	3	2.889	2		3			
Red-sh Hawk					2	26	1		1	1				1	3.333						
Broad-winged Hawk				3																	
Red-tailed Hawk		1	4	17	41	64	30	34	23	25	40	44	29	10	33	10	8	20	8	7	
Golden Eagle							1								0.111						
American Kestrel				12	12										0						
Merlin					2		1								0.111						
Peregrine Falcon				1			1			1				2	0.444						
Total Hawks				186	380	358															
GROUSE to CRANES																					
Ring-neck Pheasant						2							1	3				2			
Wild Turkey			20		20			35	20	10				5		25	13	100	6	1	
Black Rail																		1			
Clapper Rail		30	10	2	5		5	1			1					5	32	250	71	41	
King Rail																		1			
Virginia Rail				2														75			
Sora				2																	
Sandhill Crane																2**					

Peak winter counts  
shown in **Bold Face**

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TABLE 1  
Maurice River  
Raptor and Waterbird Survey  
July 2011 through June 2012

		FALL 2011					CORE WINTER PERIOD 2011-2012										SPRING 2012				
DATE		7/20	8/4	9/16	10/25	12/1	12/14	12/26	1/3	1/24	2/7	2/23	3/8	3/22	AVG.	4/12	5/2	5/12	5/22	6/4	
	*														n = 9	*	*	WSB	*	*	
SHOREBIRDS																					
Black-bellied Plover			8	9	47	8								3		20	164	100	107	6	
Semipalmated Plover			210	1													452	2000	118	18	
Killdeer		2	2	2						6		9	16	7		2	2	10	2	2	
Am Oystercatcher																		2			
Black-necked Stilt																					
Greater Yellowlegs			13	43	16	5	16	24	2	4	45	11	27	57		76	312	175	28		
Lesser Yellowlegs		2	43	1	7			1				3	1	65		60	143	50	2	1	
Solitary Sandpiper			1														3	1			
Willet		2	5													3	25	100	26	38	
Spotted Sandpiper			1														2	3			
Hudsonian Godwit																					
Marbled Godwit															5**						
Ruddy Turnstone																		101	172		
Red Knot																		150	21		
Sanderling																		100	10		
Semipalmated Sdp		690	9054	15													585	5000	11100	3211	
Western Sandpiper		3	3																1**		
Least Sandpiper		14	40	8										6			83	200	11	1	
Wh-rump. Sandpiper																	1	5	1	2	
Pectoral Sandpiper					1																
Dunlin					852	1		80		10			3	1079		200	4400	3000	4208	12	
Curlew Sandpiper																			1		
Stilt Sandpiper																	5				
Sh-billed Dowitcher		150	707	23												3	2450	2500	875	1	
Wilson's Snipe									6	1			3	3				5			
Am. Woodcock																		2			

Peak winter counts  
shown in **Bold Face**

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**TABLE 1**  
**Maurice River**  
**Raptor and Waterbird Survey**  
**July 2011 through June 2012**

		FALL 2011				CORE WINTER PERIOD 2011-2012										SPRING 2012				
DATE		7/20	8/4	9/16	10/25	12/1	12/14	12/26	1/3	1/24	2/7	2/23	3/8	3/22	AVG.	4/12	5/2	5/12	5/22	6/4
		*													n = 9	*	*	WSB	*	*
SHOREBIRDS (continued)																				
Wilson's Phalarope																		1**		
unid. shorebirds																				
TOTAL SHOREBIRDS	863	10087	102	923												364	8627	13504	19283	3292
JAEGERS to ALCIDS																				
Laughing Gull	✓	✓	✓	✓					1					43		✓	✓	2000	✓	✓
Com. Bl-headed Gull																				
Bonaparte's Gull				1	21						1	38		34		4			1	
Ring-billed Gull	4	16	✓	✓	✓	✓	✓	161	✓	✓	✓	✓	✓	✓		✓	✓	500	✓	✓
Herring Gull	✓	✓	✓	✓	✓	✓	✓	52	✓	✓	✓	✓	✓	✓		✓	✓	1000	✓	✓
Iceland Gull									1											
Lesser Bl-backed Gull			1																	
Gt Bl-backed Gull	✓	✓	✓	✓	✓	✓	✓	18	✓	✓	✓	✓	✓	✓		✓	✓	500	✓	✓
Caspian Tern		1	4																	
Royal Tern	1			110																
Common Tern																		2		
Forster's Tern	149	160	115	64	20											116	98	200	111	90
Least Tern		9																12	18	3
Black Skimmer																2	48	160	170	6
PIGEONS to WOODPECKERS																				
E. Screech Owl				2						1									1	
Great Horned Owl								1						1			1	12		
Barred Owl																			1	
Belted Kingfisher	1			3	1	10	3	4	6		1	1	1	1		1		2		
N. Shrike						1**														

\* Lower River Survey only  
 \*\* Seen on date other than official survey date or by other observers  
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**Peak winter counts**  
 shown in **Bold Face**

**TABLE 2**  
**Cohansey River and Salem River**  
**Winter Raptor and Waterbird Survey**  
**2011 -- 2012**

	COHANSEY RIVER					SALEM RIVER		
DATE	12/11/11	1/15/12	2/20/12	AVG.		1/29/12	2/26/12	AVG.
				n = 3			*	n = 2
<b>LOONS to CORMORANTS</b>								
Red-throated Loon	4							
Pied-billed Grebe		1						
Double-cr Cormorant	1							
<b>BITTERNS to VULTURES</b>								
Great Blue Heron	7	5	5			5	6	
Great Egret	2						1	
Black Vulture	3	7	17	9		44	6	25
Turkey Vulture	112	50	111	91		159	99	129
<b>WATERFOWL</b>								
Snow Goose	1751	6700	2748	3733		3075	2001	2538
Ross's Goose						1**		
Cackling Goose						1**		
Canada Goose	1558	1450	936	1315		1670	1828	1749
Mute Swan	2		2			33	35	
Tundra Swan						34	26	
Gadwall			6			220	165	
American Wigeon			15			28	152	
Am Black Duck	58	27	71	52		314	39	177
Mallard	8	26	30	21		87	79	83
Blue-winged Teal						5		
Northern Shoveler							22	
Northern Pintail			35			800	492	
Green-winged Teal						12	850	
Ring-necked Duck			2				4	
Scaup (sp.)	8							
Long-tailed Duck			1					
Bufflehead		12	6					
Common Goldeneye			1				4	
Hooded Merganser		2	13				2	
Common Merganser			10			5	1	
Red-breasted Merganser			4					
<b>DIURNAL RAPTORS</b>								
Bald Eagle	25	25	18	22.67		32	31	31.5
Northern Harrier	13	21	12	15		17	5	11
Sharp-sh Hawk	2	3	1	2			1	0.5
Cooper's Hawk	2	1	2	1.67			1	0.5
Red-sh Hawk	1	2	1	1.33		1	2	1.5
Red-tailed Hawk	28	23	37	29		19	23	21
American Kestrel	2	2	1	1.67		1		0.5
Merlin	1	0	0	0.33				0

\* partial survey only

\*\* Seen either on a date other than official survey date or seen by other observers

**TABLE 2**  
**Cohansey River and Salem River**  
**Winter Raptor and Waterbird Survey**  
**2011 -- 2012**

	COHANSEY RIVER					SALEM RIVER		
DATE	12/11/11	1/15/12	2/20/12	AVG.		1/29/12	2/26/12	AVG.
				n = 3			*	n = 2
<b>GROUSE to CRANES</b>								
Wild Turkey	3	7	3			115		
Am. Coot						50	30	
Sandhill Crane	18					9	5	
<b>SHOREBIRDS</b>								
Killdeer	20						8	
Greater Yellowlegs	1	10						
Dunlin	20	30	50					
Wilson's Snipe			30			21		
<b>JAEGERS to ALCIDS</b>								
Ring-billed Gull	√	√	√			√	√	
Herring Gull	√	√	√			√	√	
Gt Bl-backed Gull	√	√	√			√	√	
<b>PIGEONS to WOODPECKERS</b>								
Belted Kingfisher	4	2					1	

\* partial survey only

\*\* Seen either on a date other than official survey date or seen by other observers

## DISCUSSION: CORE WINTER SURVEYS

Winter raptor and waterfowl surveys, the core effort of CU-sponsored ornithological studies, were conducted for the twenty-fifth consecutive winter season. Nine full river surveys were carried out between 1 December 2011 and 22 March 2012. Based on the findings, once again the Maurice River was shown to host regionally significant numbers of raptors and waterfowl in winter. However, although still significant, waterfowl numbers were down considerably in winter 2011-2012.

Table 1 presented the findings for the core winter studies (as well as for all seasons), and for winter surveys, peak counts for all species are shown in Bold Face. The winter average for key species is shown as well in Table 1. **Table 3** presents 2010-2011 wintering raptor and waterfowl numbers on the Maurice River in comparison to the previous four winter seasons, as well as the previous 5 year segment (2002-2007) peaks and averages. The rather dismal showing of waterfowl in 2011-2012 is readily seen in Table 3.

Canada Goose numbers were below average in 2011-2012 when compared to recent winters, although Snow Goose numbers were slightly above average. American Black Duck, Mallard, Northern Pintail, and Green-winged Teal numbers were well below both recent and long-term averages. These key species of the Maurice River continue their ongoing and ominous decline, probably due to a combination of sea level rise, the continuing loss of brackish and fresh water marsh habitats along the river, the loss of Wild Rice due to both herbivory by Canada Geese as well as Wild Rice being crowded out by a non-native and invasive *Bidens*, and finally the trend towards mild winters (due to climate change). See discussions in previous seasonal reports, and anticipate a full discussion of these issues in the upcoming 25-year summary to be prepared later in 2012.

In contrast to waterfowl numbers, raptors fared somewhat better in winter 2010-2011. Turkey Vulture numbers were again high, and Black Vultures were found in above average numbers as well. Northern Harriers were present in fair numbers, but were well below recent averages. Red-shouldered Hawks showed an interesting pattern; only three true wintering birds were found, well below recent averages, but the average shown in Table 1 was bolstered by the record 26 late migrant Red-shoulders counted on December 1, the first day of the core winter study period. Accipiters – Sharp-shinned Hawks and Cooper’s Hawks – continued their upward trends as wintering birds.

American Kestrel were absent from the Maurice River for only the second time in 25 years. Both of these times occurred in two out of the last three years. We are coming very close to the need to use the word “extirpated” for the American Kestrel as both a wintering bird and breeding bird in Southern New Jersey.

Red-tailed Hawk numbers were comparatively very low during winter 2011-2012. The average of 33 birds per survey tied 1987-1988 and 1988-1989 (the first two winter seasons of this long-term study) as the lowest average in the twenty-five years of study. (And in fact, the average would be even lower if not for the 64 Red-tailed Hawks counted during the late fall migration event of 1 December – technically the first day of the winter study period. By deleting

1 December, and using  $N = 8$  instead of  $N = 9$ , the average for Red-tails would be 29 for the winter of 2011 – 2012 (a number that presents a truer picture of their lack of abundance on the Maurice River this past winter season).

But there is a clear cause and effect to be found in the Red-tailed Hawk low average (and in the numbers of other raptors and waterfowl too). The entire study period was characterized by temperatures that were well above average. November's average temperature of 51.4 degrees F. at Atlantic City International Airport in Egg Harbor Township was the sixth warmest November on record. Warm temperatures continued in December, and January 2012 was 6.2 degrees F. above normal at Atlantic City International Airport, the fifth warmest January on record ever. Finally, March was the warmest in New Jersey since 1895, when record keeping first began. (All data from the US National Weather Service, Mt. Holly, NJ).

Snowfall was negligible, quite unlike the previous two winter seasons. In many ways, it was the winter that never happened, and for many expected winter bird species and numbers, this was most certainly the case. Many "winter birds" simply did not – nor need to – fly south to our region. The warm fall, and winter and the resultant lack of ice cover on waters throughout the northeast was no doubt a very large factor in the low numbers of diving ducks recorded during the winter season. "Puddle duck" averages were way down (because ducks either never arrived, stayed so briefly in the region, and/or departed north quite early).

The lack of snow cover on the ground to our north was a strong factor in low raptor totals in winter 2011-2012, as many birds simply stayed north. Also, the extremely warm fall was a major factor too. At Hawk Mountain, Pennsylvania, the autumn 2011 Red-tailed Hawk count was 45% below average, and the lowest count since 1956. (So too, the Red-shouldered Hawk count was 48% below average, and the lowest since 1971). The Cape May Point Red-tailed Hawk count, although yet unpublished, was extremely low as well, the entire fall total count not reaching what had been recorded in a single day in some years past (those years with cold Novembers and powerful northwest wind cold fronts). Because fall migration is the largest factor in bringing "winter raptors" to our region, it is no surprise that our winter Red-tailed Hawk average tied the lowest average ever recorded in our twenty-five years of study.

**TABLE 3**  
**WINTERING RAPTORS AND WATERFOWL**  
**on the Maurice River, Cumberland County, NJ**  
**Comparison of Winter 2011-2012**

**with Previous Four Seasons and Previous 5-Year Segment**

Species	2002-2007 Segment IV		2007-2008		2008-2009		2009-2010		2010-2011		2011-2012	
	Avg. Peak		Mean of		Peak		Avg.		Peak		Avg.	
	Best	Count	Means	Peak	Avg.	Peak	Avg.	Peak	Avg.	Peak	Avg.	Peak
Snow Goose	7150	5070	1992	5040	2105	7120	2220	12324	3582	2439	1318	6100
Canada Goose	1520	910	412	987	329	692	254	489	249	1538	378	275
Am. Black Duck	2858	2173	1079	1274	748	776	524	1024	458	722	476	350
Mallard	994	600	350	649	441	445	301	408	188	406	243	408
Northern Pintail	1495	1036	409	928	431	753	259	330	127	581	335	550
Green-winged Teal	3779	2060	557	5850	1525	3220	1196	3727	969	1955	664	1597
Species	2002-2007 Segment IV		2007-2008		2008-2009		2009-2010		2010-2011		2011-2012	
	Avg. Peak		Mean of		Peak		Avg.		Peak		Avg.	
	Best	Count	Means	Peak	Avg.	Peak	Avg.	Peak	Avg.	Peak	Avg.	Peak
Black Vulture	75	53.4	19	27	13	26	10	57	38	26	16	55
Turkey Vulture	155	139.4	94	133	90	153	86	120	107	162	109	147
Osprey *	41			50		72		44		28		6
Bald Eagle	31	27	14.92	25	16.9	24	18.25	48	30.5	40	30.75	36
Northern Harrier	40	36.6	26.4	40	28	37	29	39	26	43	28	31
Sharp-shinned Hawk	11	7	2.62	5	3	15	4.63	5	2.25	4	2	18
Cooper's Hawk	7	5	2.48	6	2.9	10	3.75	5	3.5	7	3	6
Northern Goshawk	1	(1 total)		1	(2 total)	0	0	1	(1 total)	0	0	0
Red-sh. Hawk	8	(36 total)		4	(11 total)	3	(7 total)	4	(7 total)	5	(15 total)	26
Red-tailed Hawk	87	66	44.2	59	43	53	43	59	44	62	47	64
Rough-legged Hawk	2	(8 total)		1	(1 total)	1	(1 total)	1	(1 total)	0	0	0
Golden Eagle	1	(7 total)		1	(4 total)	0	0	0	0	2	(2 total)	1
American Kestrel	4	2.2	0.7	3	1.7	10	1.75	0	0	2	0.25	0
Merlin	2	(10 total)		1	(1 total)	1	(3 total)	0	0	2	(2 total)	1
Peregrine Falcon	3	(25 total)		2	(6 total)	2	(11 total)	2	(9 total)	4	(10 total)	2
* 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.												
(_ total) = total number of sightings for the season												

## **DISCUSSION: SPRING, SUMMER, AND FALL SURVEY EFFORTS**

As we have discussed earlier, principal studies both in 2011-2012 and in all previous seasons have focused primarily on winter raptors and waterfowl. In recent years however, a greater emphasis has been placed on spring and fall migration. Also, over time, comparatively little effort has been focused on the breeding birds of the Maurice River watershed. However, because much of spring migration through the region is virtually concurrent with the local breeding season for many species, and because early “fall” (southbound) migration for shorebirds occurs in mid-summer, current survey efforts and protocol have allowed for a significant (if not in-depth) look at the breeding birds of the Maurice River.

During survey efforts, we continually saw ample evidence of the continuing and booming resurgence of Osprey and Bald Eagles on the Maurice River, but these are well documented and reported elsewhere by CU and the ENSP, and will not be elaborated on here. Suffice it to say that Osprey and Bald Eagle have made a truly remarkable recovery in the Bayshore region.

Highly significant on the Delaware Bayshore is the continuing wader rookery at Heislerville WMA. Active in both the 2010 and 2011 breeding seasons, in spring 2012 this roost and rookery contained as many as 200 Black-crowned Night-Herons – possibly up to 100 pairs – and at least one pair of Yellow-crowned Night-Herons (Endangered). At least one pair, if not more, of Great Blue Herons are in the rookery, along with hundreds of Snowy Egrets and Great Egrets. Again in 2012, Double-crested Cormorants nested there in numbers, perhaps as many as 70 pairs. This is only the second known Cormorant nesting colony on the Bayshore to our knowledge, the other being the few pairs that have nested for about a decade on the navigation towers near the mouth of the Cohansey River. Double-crested Cormorant is well-known to be expanding its numbers and range throughout the East.

Shorebird use of the Maurice River was explored in depth in the 2009 – 2010 seasonal report and subsequently, and will not be elaborated upon here. Suffice it to say however, as Table 1 will attest, that the Maurice River in spring and fall continues to host globally significant numbers of migratory shorebirds. The fall 2011 season saw counts of up to 10,087 shorebirds, and spring 2012 produced a count of 19,283 on 22 May, principally at Heislerville WMA and the Bivalve EEP site. Shorebird use and significance will be discussed at greater length in the upcoming twenty-five year summary report currently in preparation.

## SUMMARY AND ACKNOWLEDGMENTS

Winter 2011-2012 marked the twenty-fifth year of study of wintering raptors and waterfowl on the Maurice River and the ninth year of focused spring and fall counts. Studies conducted for Citizens United to Protect the Maurice River and its Tributaries, Inc. again documented an amazing array of avian use of this key South Jersey river. 2011-2012 efforts augmented and supplemented the findings of the first twenty-four 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, five additional years of study have now 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.

After twenty-five years of study, we now firmly know the depth and diversity of the substantial birdlife of the Maurice River. Long-term studies have created a baseline of avian resource data rarely equaled for the Delaware Bayshore and the Mid-Atlantic region, and will allow a better understand of true distribution, status, and trends of the substantial avian resources of the Maurice River.

In conclusion, we thank Brian and Karen Johnson, Janet Crawford, Tom Reed, Bob Fogg, Sam Galick, Steve Glynn, and Sandra Keller for shared sightings and insights, and for their continuing interest in the Maurice River and the Delaware Bayshore. Clay thanks Ward Dasey and Pat Sutton for their support and assistance during the pro bono Cohansey River and Salem River comparative surveys.

We thank the many members, supporters, and friends of Citizens United for allowing us to be a long-term part of the continuing significant work on this great South Jersey river. Thank you for all of your important conservation efforts in Southern New Jersey, and for your ongoing vision of a wild and scenic Maurice River. We particularly thank Jane Galetto for her vision of what role these long-term studies might play in the protection of these valuable avian resources.

Finally, we sincerely thank the U.S. Department of the Interior's National Park Service, Wild and Scenic Rivers Program, for continuing assistance to Citizens United. The award of a Wild and Scenic Rivers Partnership Grant to CU supported this project and enabled these surveys to be conducted. We recognize and thank the NPS for their continuing interest in this study and in the wildlife resources of the Maurice River.

– Clay Sutton

## LITERATURE CITED / FOR FURTHER REFERENCE

All comparative Maurice River ornithological studies discussed and / or referenced in this report have been directed and co-authored by Clay Sutton, either as an independent contractor or formerly as staff ornithologist, Southern Regional Manager and Vice President of Herpetological Associates, Inc., Plant and Wildlife Consultants. (Comparative Cohansey River studies are embedded within the Maurice River annual reports). Principal reports and publications resulting (either wholly or in part) from these studies (and funded or co-funded by Citizens United to Project the Maurice River and its Tributaries, Inc.) are as follows:

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***On the cover and above:***

An immature Bald Eagle with a juvenile Black Drum – two signature species of the Delaware Estuary. The eagle had just taken the fish, perhaps temperature shocked, from the surface of the shallow waters of the back impoundment at Heislerville WMA.

– Photo by Clay Sutton, 3 January, 2012