

**PENNSYLVANIA GAME COMMISSION  
BUREAU OF WILDLIFE MANAGEMENT  
PROJECT ANNUAL JOB REPORT**

**PROJECT CODE NO.:** 06750

**TITLE:** Wildlife Diversity Research/Management

**JOB CODE NO.:** 70004

**TITLE:** Colonial Nesting Bird Study

**PERIOD COVERED:** 1 July 2007 to 30 June 2008

**COOPERATING AGENCIES AND ORGANIZATIONS:** DCNR, East Stroudsburg University, U.S. Department of Agriculture, Federation of Sportsman's Clubs in York, Powdermill Avian Research Center, Audubon Pennsylvania and associated chapters, Pennsylvania Society for Ornithology (PSO), York City Parks Dept., York Wildlife Rehabilitation.

**WORK LOCATION(S):** Statewide

**PREPARED BY:** Catherine Haffner, Douglas Gross, and Deb Siefken

**DATE:** 7 July 2008

**ABSTRACT** The objectives of this project are to inventory and monitor colonial waterbird populations in Pennsylvania and report on conservation initiatives. Great egret, black-crowned night-heron, and yellow-crowned night-heron are considered endangered in Pennsylvania. Colonial wading birds are particularly vulnerable because their nests are clustered in colonies, putting a large part of the nesting population at risk from either natural or human disturbances. Active nests were counted during the spring of 2008 at the only 2 known great egret colonies and 10 black-crowned night-heron colonies. The annual survey of colonial birds at Wade Island, completed on 13 May 2008, counted 98 black-crowned night-heron nests, 178 great egret nests, and 112 double-crested cormorant nests. Several black-crowned night-heron colonies declined in size in 2008 including the second largest colony, at Kiwanis Lake, York County. Volunteers found 2 yellow-crowned night-heron nests in Harrisburg. The 5-year statewide survey of all great blue heron colonies was completed in 2008. Cooperators counted 2,208 active great blue heron nests across 52 counties. A full survey of this species was last conducted in 2002. Colonial waterbird surveys were more effective and comprehensive than previous efforts because of the increased network of bird observers that participate in "citizen science" bird monitoring projects. It is recommended that surveys continue in 2008, especially for colonies of the night-herons and great egret, as well as the larger great blue heron colonies. It also is recommended that more conservation initiatives be initiated at the Wade Island and Kiwanis Lake colonies.

## OBJECTIVES

1. Every 5 years, the primary objective of this project is to inventory and monitor all colonial water bird populations and their breeding sites.

2. Annual objectives are to survey all known great egret, black-crowned night-heron, and yellow-crowned night-heron colonies and several of the largest great blue heron colonies.

## METHODS

Active nests were counted during the 2008 nesting season at the 2 known great egret colonies and 10 black-crowned night-heron colonies. In March 2008, a ground-based count of remaining nest structures and active nests was conducted at the Barrows great blue heron colony in Mercer County, however this survey was incomplete due to high water limiting access to part of the colony. A thorough count of active nests was conducted at the multi-species colony at Wade Island, Dauphin County, on 13 May 2008 by Pennsylvania Game Commission staff. This count was not conducted before leaf-out, however, making nest detection difficult, particularly for black-crowned night-heron. Jack Gilbert counted black-crowned night-heron and great egret nests at Kiwanis Lake in York on 25 April 2008. No systematic survey effort occurred for yellow-crowned night-heron. Other anecdotal reports of special concern species colonies were compiled from a variety of sources. Biologist aide Catherine Haffner solicited information on great blue herons from all participants of the previous statewide survey in 2002, requested information from subscribers to PA BIRDS list serve and Pennsylvania Society for Ornithology (PSO) members, and compiled confirmed breeding records from the 2<sup>nd</sup> Pennsylvania Breeding Bird Atlas to assess abundance and distribution of the species statewide.

## RESULTS

### Endangered Bird Species and Other Species of Conservation Interest

*Great egret (Ardea alba; PA Status - Endangered).*--Great egrets were documented nesting at the Kiwanis Lake colony as well as at Wade Island. The Wade Island nest count reached 178 nests in 2008 (Table 1), 9% above the 5-year average of 164 active nests. Long-term data (1985-2008) for this colony indicates a sustained population increase (Figure 1).

Research on the Wade Island colony by East Stroudsburg University (ESU) professor, Dr. Terry Master, and his students has revealed that great egrets forage in shallow water where there is dense growth of water willow (*Justicia americana*), an emergent aquatic plant (Romano et al. 2006). The egrets foraged primarily on small fish, tadpoles (*Ranidae*), and crayfish (*Cambarinae*). They are more successful when foraging in shallower water. Egrets foraged more on crayfish, especially rusty crayfish (*Cercopagis pengoi*) in deeper waters. The Wade Island egrets traveled at great distances from the colony, but most birds foraged in water willow shallows near the island. Egret decoys were deployed on a nearby island with the hope of attracting egrets to that island, thus spreading the population over a larger area. Thus far, no egrets have initiated nesting on the "model island" but egrets often visited the island in large numbers (T. Master, personal communication).

A survey of Kiwanis Lake in late April 2008 identified only 1 great egret nest. This is a decrease from 5-7 nests reported in 2007, however the survey was conducted early and additional nests may have been added in May or June. Several great egrets were observed during a visit by Audubon Pennsylvania in May 2008 further suggesting the initial nest count may have been an underestimation, however nests observed by Audubon Pennsylvania were not counted (K. Van Fleet, personal communication). Great egrets were observed in the nesting trees typically used by black-crowned night-herons (K. Van Fleet, personal communication; see *Black-crowned night-heron*).

The presence of great egret nests at Kiwanis Lake, York (York County), demonstrates the strong attraction of colonial species to each other and the flexibility of these species to locations where human disturbance is limited despite high local human population. Conservation efforts of Wildlife Conservation Officer (WCO) Chad Eyler, the Federation of Sportsman's Clubs in York, Teresa Deckard of York Wildlife Rehabilitation, the York Audubon Chapter, as well as other local conservation organizations have contributed to continued great egret presence at this site. Kiwanis Lake was designated as a Pennsylvania Important Bird Area in 2005 due to its importance to the continued presence of colonial water bird nests (Audubon Pennsylvania website).

*Black-crowned night-heron (Nycticorax nycticorax; PA Status - Endangered).*--The black-crowned night-heron population in Pennsylvania remains at a perilously low level (Table 1). The population is particularly vulnerable because the number of colonies has decreased to the point where 1 colony contains almost 70% of the state's population and 2 colonies comprise approximately one-third of the state's population. So, any human or natural disturbance of these colonies jeopardizes the entire state's population. The range of this species has contracted considerably since the 1980s when there were colonies in many more counties than presently, including several areas in the northern part of the state (R. Schutsky, pp 60-61, in Brauning 2000). As their name implies, black-crowned night-herons forage primarily at dusk and at night. They forage opportunistically on a large diversity of items including small fish, crustaceans, reptiles, amphibians, large insects, birds and their nests, as well as small rodents (Davis 1993). Preliminary data suggest that the Wade Island night-herons feed primarily along the river shorelines on crayfish (Romano et al. 2006). Several juvenile night-herons were captured and banded by a team from ESU and Powdermill Avian Research Center, but the data for that study are incomplete at this time.

The southeastern counties seem to be a stronghold for the Commonwealth's black-crowned night-heron population, so it is alarming that most of the larger, more established colonies are steadily declining in this part of the state. The Wade Island colony survey on 13 May 2008 produced 98 nests, a 58% increase from the 2007 survey. This is 10% above the five-year average of 89 nests, but 8% below the 10-year average of 106 nests. Long-term data (1985 – 2008) from this colony illustrate an overall decline in number of nests, beginning after the peak of 345 nests in 1990 (Figure 1).

Other night-heron colonies also declined in size. The colony at Creek Road, Lancaster County, abandoned in 2005 following several years of decline, did not have any returning birds in 2008. No nests were found at the Speedwell Forge site during a site visit in April of 2008. The

Ephrata Hospital colony increased slightly to 18 nests in 2008. The West Lawn site in Berks County has dispersed, and no new sites have been found in that area (R. Keller, J. Morgan, personal communication). There were 4 active nests at the Kinzer colony (Lancaster County) this year, one less than last year (C. Chalfant, personal communication).

The Kiwanis Lake colony in York was found to have 28 nests on 25 April 2008, which is dramatically lower than the 2007 count of 116. This may not represent a true population decline, but rather a shift of nesting areas. The colony seems to be dispersing into surrounding areas as great egrets colonize former black-crowned night-heron nest trees on the north side of the lake (K. Van Fleet, personal communication). It is believed that they may be moving to Lake Williams and/or Lake Redmond, which should be checked in future surveys (K. Van Fleet, personal communication).

*Yellow-crowned night-heron (Nyctanassa violacea; PA Status - Endangered).*--The yellow-crowned night-heron's population is critically endangered in Pennsylvania with one of the lowest number of sites in the state of any breeding species. Its state population is concentrated in the Southeastern counties. The ecology of the yellow-crowned night-heron helps explain its state distribution. This medium-sized heron is fairly tolerant of some human activities and readily nests in wooded settings close to human habitation, including backyards, near streams. The tendency of this species to nest in urban and suburban areas is not unique to Pennsylvania, but is characteristic of the Chesapeake Bay area including Virginia (Watts 1989). In its diet, this species is a crustacean specialist, and tends to feed on crayfish (*Cambarinae*) in inland areas like Pennsylvania (Watts 1995, Romano et al. 2006). Like the black-crowned night-heron, it tends to forage at dusk and at night.

Yellow-crowned night-herons were found during the nesting season in a variety of suburban and urban sites in southeastern Pennsylvania. Cooperators found 3 yellow-crowned night-heron nests in Harrisburg, continuing occupation of a wooded urban neighborhood occupied since 2004 (S. Lockerman, personal communications). A nest found by an Atlas volunteer along the Conodoquinet Creek near Good Hope Mill in Hamden Township, Cumberland County in 2007 (Earle 2007, PBBA website) is likely still active, however it could not be confirmed because of accessibility issues. In June, an adult was observed foraging near a Fish and Boat Commission boat launch along the creek, just downhill from the private property where the nest was located (D. Hoffman, personal communication). There were two nests in the same area in 2006, but the former location at West Fairview near the confluence of this creek with the Susquehanna River has apparently not been used for years. Deuane Hoffman found 4 nests along the Conodoquinet Creek downstream from Good Hope Mill in April 2008. In 1994, a colony was identified within 500 m of this location (S. Klugman, personal communication). Additional information on this species is expected to be revealed by data collected for 2<sup>nd</sup> Pennsylvania Breeding Bird Atlas (2<sup>nd</sup> PBBA website).

*Double-crested cormorant (Phalacrocorax auritus; PA Status - Secure).*--This colonial waterbird has increased in population and nesting range throughout Northeastern United States, including Pennsylvania, in recent years (Hatch 1995, Hatch and Weseloh 1999, McWilliams and Brauning 2000, Wires and Cuthbert 2006). The first nesting of this species was observed at Wade Island in July 1996 (McConaughy 1996); it was not documented nesting in the first PBBA

(Brauning 1992). In general, cormorants eat larger fish and forage in deeper waters, often mid-channel, than the herons and egrets that nest in the same colony (Romano et al. 2006). They tend to forage on larger fishes including rock bass (*Amploplites rupestris*), bullheads (*Ictalurus spp.*), largemouth bass (*Micropterus salmoides*), smallmouth bass (*M. dolomieu*), and some minnows (Cyprinidae) (stomach analysis by R. Ross, USGS Northern Appalachian Research Laboratory). In 2008, the number of double-crested cormorant nests at Wade Island increased to 112 active nests from 73 in 2007 (Table 1). Master (2001) recommended that control measures be implemented if the population continued to increase at the same rate in the subsequent 2 years following his study, 2002-2004. A total of 64 cormorants were removed (not to exceed more than 75% of the cormorant population) from Wade Island in 2006 by USDA Wildlife Services, yet cormorants increased slightly in 2007. Control measures were not implemented in 2007 or 2008. The double-crested cormorant population has increased, however the great egret population also appears to be increasing (Table 1, Figure 1; see Cuthbert 2002). Black-crowned night-herons began declining before cormorants colonized the island, following the peak of 345 nests in 1990 (Table 1, Figure 1), suggesting need for further study (Cuthbert 2002). Need for cormorant control measures will be assessed on an annual basis in the future. Dr. Terry Master, ESU, is currently revising the 2001 Wade Island management plan to incorporate recent research, to be completed later this year.

### **Great Blue Heron Colonies**

Great blue heron is not listed as a Species of Special Concern but larger colonies are tracked by the Pennsylvania Natural Heritage Program because of their conservation value to that species. Like other colonial nesting waterbirds, the great blue heron is especially vulnerable to disturbance because its nests are clustered. The 5-year statewide survey effort of all great blue heron colonies concluded in 2008. This survey may have been more effective and comprehensive than previous efforts because of the increased network of bird observers that participate in “citizen science” projects, especially the current Pennsylvania Breeding Bird Atlas and the growing participation of Audubon PA and PSO members in PGC projects.

Cooperators counted 2,217 great blue heron nests in 116 active colonies across 52 counties in the 2007-2008 statewide survey (Table 2). This represents a 34% increase from 1,654 nests counted in 2002 across 36 counties. Although distribution and abundance increased during this survey, average colony size decreased slightly since 2002 from 14.1 to 11.4 nests/colony (excluding Barrows due to an incomplete survey in 2008). Small size (<10 nests) of newly identified colonies in the 2007-08 survey likely accounts for this difference. In addition, a greater percentage of surveyed colonies were found to be active during this survey (73%) than in 2002 (66%).

One hundred fifty-nine known great blue heron colony sites were visited during either 2007 or 2008 breeding seasons. Seventeen previously known sites could not be surveyed, however 8 of those were inactive during the 2002 survey. Two sites were known to be active, but count data were not provided (Lenhartsville, Berks Co and Ridge Camp, Clarion County). Seventy-six colonies were newly added to the colonial waterbird database since 2002, primarily due to the 2<sup>nd</sup> Breeding Bird Atlas effort. One was added in 2003, 4 in 2004, 2 in 2005, 18 in 2006, 35 in 2007 and 15 in 2008. Every effort was made to contact the observer to obtain updated nest count information. Most newly recorded colonies had fewer than 10 nests, 11

contained 11-15 nests, 6 had 16-20 nests and 13 were larger than average for the state, with greater than 20 active nests.

Change in colony size for 62 of the colonies was not calculated because previous or current count data were not available. Of those calculated, 35 remained unchanged (including 22 colonies that were defunct in 2002 and 2007-08), 6 colonies decreased by 1 nest, 40 decreased by more than 1 nest, 2 increased by 1 nest, and 26 increased by more than 1 nest. Suspected causes of colony reduction or loss included logging (8 sites), human recreation/habitation (3 sites), flooding or drought (4 sites), wind throw (8 sites), and gas wells (1 site), however most causes remain unknown. The greatest increase in colony size was observed at Murray Hill in Washington County while the greatest decrease was at the Broadway colony (Mercer County) where a bald eagle pair usurped the nesting site in 2008. The herons have dispersed, but a new colony location has not been found. It is possible the birds have joined existing colonies nearby or will establish a new colony.

The Barrows colony continues to be the largest known great blue heron nesting site in Pennsylvania. Personnel changes precluded a Fall 2007 survey. In March 2008, Brian Shema, Western Pennsylvania Audubon, counted 224 nest structures. This was an incomplete survey because access to the entire colony was limited due to high water. Nest building was occurring at the time of this survey and a decision was made to revisit the site in Fall 2008 for a complete count of remaining nest structures to prevent possible abandonment from disturbance during nest building. Therefore, 224 nests represents a minimum number rather than a complete count. Comparison to previous years cannot be made at this time. The peak size of this colony was reached in 1999 when 441 nests were counted.

## **RECOMMENDATIONS**

1. Closely monitor the Wade Island colony and improve protection with additional restricted area signs. Attempt to reduce the annual survey effort to 2 hours. Conduct survey before leaf-out to ensure accuracy of data, particularly for black-crowned night-heron. Continue adaptive management approach for endangered species protection, including putting in action the management recommendations from an anticipated Wade Island heron colony management plan.

2. Survey all colonies of black-crowned night-heron, yellow-crowned night-heron, great egret, and several of the larger great blue heron colonies in 2009, engaging more volunteers in the surveys.

3. Educate private landowners hosting colonial waterbird colonies of the values of the birds and provide them with guidelines for colony protection. Proactively involve the Wildlife Diversity Biologists with these colonies and the landowners when possible.

4. With Audubon PA, continue to work with the York City parks department to provide protection for nesting black-crowned night-herons at Kiwanis Lake and obtain additional counts of the colony to determine the actual size. Survey Lake Williams and Lake Redmond for black-crowned night-herons.

5. Use several techniques to survey the Barrows colonies, possibly including aerial and post-breeding nest counts. Attention should be given to the colony to assure that its numbers stabilize. Assess the possibility of conservation easements with landowners to ensure protection of nesting habitat.

6. Survey islands adjacent to Wade Island for nesting black-crowned night-heron, great egret and double-crested cormorant in 2009.

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Table 2. Number of active nests counted in all known great blue heron colonies within Pennsylvania in 2007-2008 and in year of previous count.

County	Site Name	Number of Active nests	Previous		Observer
			Count	Year	
Adams	Lake Heritage	0	0	2002	Art Kennell
Adams	Highland Ave.	0	0	2002	Art Kennell
Adams	Old Mill Road	1	2	2004	Deb Siefken
Allegheny	Boyce Mayview Park	9	new	2007	Dave Wilton
Allegheny	Deer Creek	17	new	2007	WCO Beth Fife
Allegheny	Pinehurst	41	21	2002	Mark Vass
Allegheny	West Deer Twp.	0	6	2002	
Allegheny	Twelvemile Island	17	new	2008	Amy Henrici
Armstrong	Mahoning	10			Brad Myers
Armstrong	Cosmus	not surveyed	3	1997	
Armstrong	SGL 137	0	5	1997	PGC Southcentral
Armstrong	Crooked Creek	5	new	2007	M. McConaughy
Beaver	Brush Creek	4	12	2002	Tony Marich
Beaver	Hereford Manor	not surveyed	3	2002	
Bedford	SGL 97	5	10	2006	PGC Southcentral
Berks	Sinking Spring	0	5	2002	Rudy Keller
Berks	Sinking Spring II	14	12	2007	Steve Fordyce
Berks	Oley	27	24	2002	Rudy Keller
Berks	Bethel	52	new	2007	Rudy Keller
Berks	Stone Creek	65	58	2002	Dan Mummert
Berks	Lenhartsville	active	8	1997	Rudy Keller
Berks	SGL 274	0	0	2002	Rudy Keller
Berks	Hilltop Rd	12	new	2008	M. & A. Hurst
Blair	Canoe Creek	7	5	2002	Barbara Dunn
Bradford	SGL 12	2	new	2008	Trudy Gerlach
Bradford	SGL 289	20	new	2007	Ronald Young
Bradford	Sugar Creek	7	18	2002	Trudy Gerlach
Bradford	Sugar Run	36	new	2008	Trudy Gerlach
Bradford	Northeast Bradford	36	28	2002	Jeff Holbrook
Bradford	Troy	0	35	2002	Jeff Holbrook
Bradford	Leroy	0	0	2002	Jeff Holbrook
Bradford	Foster Branch	0	0	2002	Allan Keister
Bucks	Quakertown	11	38	2002	John Morgan
Bucks	Van Sciver Lake	8	9	2002	Devich Farbotnik
Bucks	Lake Nockamixon	24	6	2002	Bill Etter
Bucks	Three Mile Run	33	25	2006	August Mirabella
Bucks	Morgan Creek	65	54	2007	John Morgan
Bucks	Prahl's Island	1	1	2006	August Mirabella
Bucks	Cooks Creek	8	new	2007	August Mirabella
Bucks	Makefield Twp	2	new	2007	Devich Farbotnik
Butler	Boydstown	0	2	2002	Chuck Thoma
Butler	Connoquenessing Cr	60	new	2007	Randy Pilarcik

Table 2 (cont.). Number of active nests counted in all known great blue heron colonies within Pennsylvania in 2007-2008 and in year of previous count.

County	Site Name	Number of Active nests	Previous Count	Year	Observer
Butler	Davis Road	not surveyed	0	2002	
Butler	Lake Arthur	not surveyed	0	2002	
Butler	SGL 95	0	0	2002	Paul Hess
Butler	Todd Sanctuary	0	0	2002	Brian Shema
Butler	S. Ragan Road	not surveyed	6	1997	
Cambria	Slickport	2	new	2007	Dave Gobert
Cameron	Sinnemahoning SP	0	2	2004	Bob Martin
Centre	Snow Shoe	0	3(new)	2007	Greg Grove
Centre	Panther	10	new	2004	Greg Grove
Chester	Wyndmere Estates	5	10	2007	Kevin Mixon
Chester	Delchester Rd.	1	new	2007	Doris McGovern
Clarion	Cherry Run Rd.	0	2	2002	C. Willenpart
Clarion	Clarion River	10	26	1997	Deb Freed
Clarion	Clarion Island	5	new	2008	Fran Williams
Clarion	Ridge Camp	active	3	2002	D. Luthringer
Clearfield	Newburg	2	new	2007	Dave Gobert
Clearfield	Treasure Lake	21	new	2007	Nancy Aikens
Clinton	Lebo Run	not surveyed	0	2002	
Clinton	Rosecrans	not surveyed	0	2002	
Crawford	Woodcock Creek	0	2	2002	Chuck Thoma
Crawford	Titusville	22			Chuck Thoma
Crawford	Cussewago Creek	24			
Crawford	Br		13	2002	Chuck Thoma
Crawford	Conneauttee Creek	80	73	2002	Chuck Thoma
Cumberland	Yellow Breeches	7	new	2007	Vern Gauthier
Cumberland	Middle Spring Cr	10	new	2007	Mary Craig
Cumberland	Colonel Denning	5	new	2007	Ramsay Koury
Erie	Edinboro North	0	0	2002	WCO Wojtecki
Erie	Juva	60	105	2002	Chuck Thoma
Erie	New Ireland	64	56	2002	Chuck Thoma
Fayette	Lake Courage	5	new	2007	Mark Bowers
Greene	Ryerson 2	0	1	2002	M. Howard
Greene	Falls Hollow	9	new	2007	M. Howard
Greene	Rogersville	30	20	2002	M. Howard
Greene	Lazear Cemetary	30	new	2003	M. Howard
Greene	Harry Farm	40	37	2002	Ralph Bell
Greene	Delphene	0	3	2002	M. Howard
Greene	Ryerson Station	0	0	2002	M. Howard
Huntingdon	Rothrock	0	10	2002	P.J. Lukish
Huntingdon	Saddler Creek	11	new	2008	J. Vreeland
Indiana	Big Run	0	3	2002	R. & M. Higbee
Indiana	Trusal Bridge	17	2	1998	M. Higbee

Table 2 (cont.). Number of active nests counted in all known great blue heron colonies within Pennsylvania in 2007-2008 and in year of previous count.

County	Site Name	Number of Active nests	Previous		Observer
			Count	Year	
Jefferson	Munderf Area	0	15	2002	R. Montgomery
Jefferson	Clear Creek SP	0	0	2002	John Fedak
Jefferson	Sulger Rd.	0	0	2002	WCO Hartless
Jefferson	Matson Camp	5	new	2008	WCO Hartless
Juniata	Lost Creek	8	new	2007	Troyer/Kauffman
Lackawanna	Hazard Pond	8	0	2002	Glenn Czulada
Lancaster	Chickies Creek	8	new	2007	Herb Myers
Lancaster	Middle Creek	17	13	2006	Dan Mummert
Lancaster	Safe Harbor	8	new	2008	WCO Warfel
Lawrence	Shenango River	19	20	2007	Chuck Thoma
Lawrence	N. Fork Little Beaver Creek	41	58	2002	Tony Marich
Lawrence	Beaverdam Run	57	29	2002	Tony Marich
Lawrence	New Castle S.	43	28	2002	Marcia Brown
Lebanon	SGL 211	5	new	2008	D. Hoffman
Luzerne	E. Fk.Harveys Ck.2	15	new	2007	Rick Koval
Luzerne	E. Fork Harveys Creek	28	12	2002	Alan Keister
Luzerne	Bear Hollow	0	1	2002	Jim Hoyson
Luzerne	Francis Slocum	0	1	2002	Jim Hoyson
Luzerne	Red Rock	8	new	2007	Judy Adamic
Lycoming	Barbours	5	11	2002	Dan Brauning
Lycoming	Lycoming Creek	20	new	2007	Dan Brauning
McKean	Irons Hollow	4	new	2007	John Fedak
McKean	Crosby	5	new	2007	John Fedak
McKean	Stickney	3	new	2006	S. Stoleson
Mercer	Wolf Creek	0	0	2002	WCO Donatelli
Mercer	SGL 130	0	0	2002	WCO Donatelli
Mercer	Sunray	0	0	2002	WCO Donatelli
Mercer	Pine Run	0	0	2002	WCO Donatelli
Mercer	Broadway	0	32	2002	WCO Donatelli
Mercer	Barrows	224 <sup>a</sup>	383	2002	Brian Shema
Mifflin	Jack's Mountain	not surveyed	5	2002	
Monroe	Bushkill North	12	new	2006	Terry Master
Monroe	Bushkill South	12	new	2006	Terry Master
Montgomery	Towamencin Creek	5	new	2007	P. Markley
Montgomery	Swamp Creek	41	43	2006	Jim Leigey
Northampton	Bear Swamp	11	new	2007	Jack Gilbert
Northampton	Hollo Pines	6	6	2006	Dave DeReamus
Northampton	Gall Farm	2	new	2006	K. Sieminski
Pike	Greentown	not surveyed	1	2002	
Pike	Walker Lake	0	8	2002	P. Wulhorst

Table 2 (cont.). Number of active nests counted in all known great blue heron colonies within Pennsylvania in 2007-2008 and in year of previous count.

County	Site Name	Number of Active nests	Previous		Observer
			Count	Year	
Pike	Decker Creek/ BG H&F Club North	not surveyed	40	2002	
Pike	Blooming Grove	not surveyed	0	2002	
Pike	Spring Brook	not surveyed	0	2002	
Pike	Whitakers Pond	3	new new	2006	Terry Master
Pike	Milford Road	0	(12)	2006	Terry Master
Potter	W.Branch Dingman Run	not surveyed	0	2002	
Potter	Genessee	0	0	2002	WCO Bill Ragosta
Schuylkill	Taylorville	16	10	2002	Jack Gilbert
Somerset	S. Gray	1	2	2002	Bob Stewart
Sullivan	Forksville	1	new	2007	Moses Martin
Sullivan	Dutchman Swamp	16	15	2006	Doug Gross
Susquehanna	Thompson	0	0	2002	Don Burchell
Susquehanna	Lenox northeast	7	new	2007	Don Burchell
Susquehanna	Lenox	0	24	2002	Jerry Skinner
Susquehanna	High Bridge	0	29	2002	Jerry Skinner
Susquehanna	Dr. Lutz Woods	55	95	2002	Jerry Skinner
Tioga	Lawrenceville	19	39	2006	Jeff Holbrook
Tioga	Shinglemill	0	7	2002	Jeff Holbrook
Tioga	Rt. 49	15	15	2002	Kathy Riley
Tioga	Hogback	38	35	2002	Bob Ross
Tioga	Pine Creek	3	new	2008	Kathy Riley
Tioga	Calkins 2	0	0	2002	Bob Ross
Tioga	Mill Creek	0	0	2002	Jeff Holbrook
Venango	Sandy Creek	35	new	2007	Chuck Thoma
Venango	Pleasantville	0	0	2002	WCO Len Hribar
Venango	SGL 96	not surveyed	0	2002	
Warren	Akeley Swamp	0	0	2002	
Warren	McGraw Hill	not surveyed	0	2002	
Warren	Youngsville Rd	9	new	2006	E. Nicholson
Warren	Caldwell Creek	1	6	2004	Flo McGuire
Warren	Perry Magee Run	0	15	2005	Flo McGuire
Warren	Hoover	22	new	2008	Don Watts
Washington	Raccoon Creek	35	65	2002	Chuck Tague
Washington	Murry Hill	61	29	2002	Mack Frantz
Wayne	Tamarack Swamp	4	4	2002	Trudy Gerlach
Wayne	Silkman's Swamp	20	19	2002	Roseann Bongey
Wayne	Cramer Creek	0	0	2002	T.Gerlach
Wayne	Pleasant Mt.	0	5	1997	T.Gerlach

Table 2 (cont.). Number of active nests counted in all known great blue heron colonies within Pennsylvania in 2007-2008 and in year of previous count.

<b>County</b>	<b>Site Name</b>	<b>Number of Active nests</b>	<b>Previous Count</b>	<b>Year</b>	<b>Observer</b>
Westmoreland	Camp Run	4	1	2002	Dick Byers
Westmoreland	Latrobe Reservoir	4	4	2002	Ken Byerly
Westmoreland	Little Sewickley Creek	6	11	2002	Gary Sherwin
Westmoreland	Millwood	6	new	2008	Steve Mann
Westmoreland	Brush Creek	2	4 (new) 21(new	2006	Tom Pearson
Westmoreland	Lick Run	21	)	2006	Dick Byers
Westmoreland	Millwood	6	new	2008	Steve Mann
Westmoreland	Brush Creek	2	4 (new) 21(new	2006	Tom Pearson
Westmoreland	Lick Run	21	)	2006	Dick Byers
Westmoreland	Stony Run/Conemaugh River	35	new	2008	Dick Byers
Wyoming	Mehoopany	14	0	2002	S. Goodwin
Wyoming	Cider Run	not surveyed	4	2002	
York	Spring Grove	12	new	2007	Jack Gilbert
York	Kralltown	20	new	2007	P. Robinson

<sup>a</sup> Incomplete survey due to high water and potential for disturbance

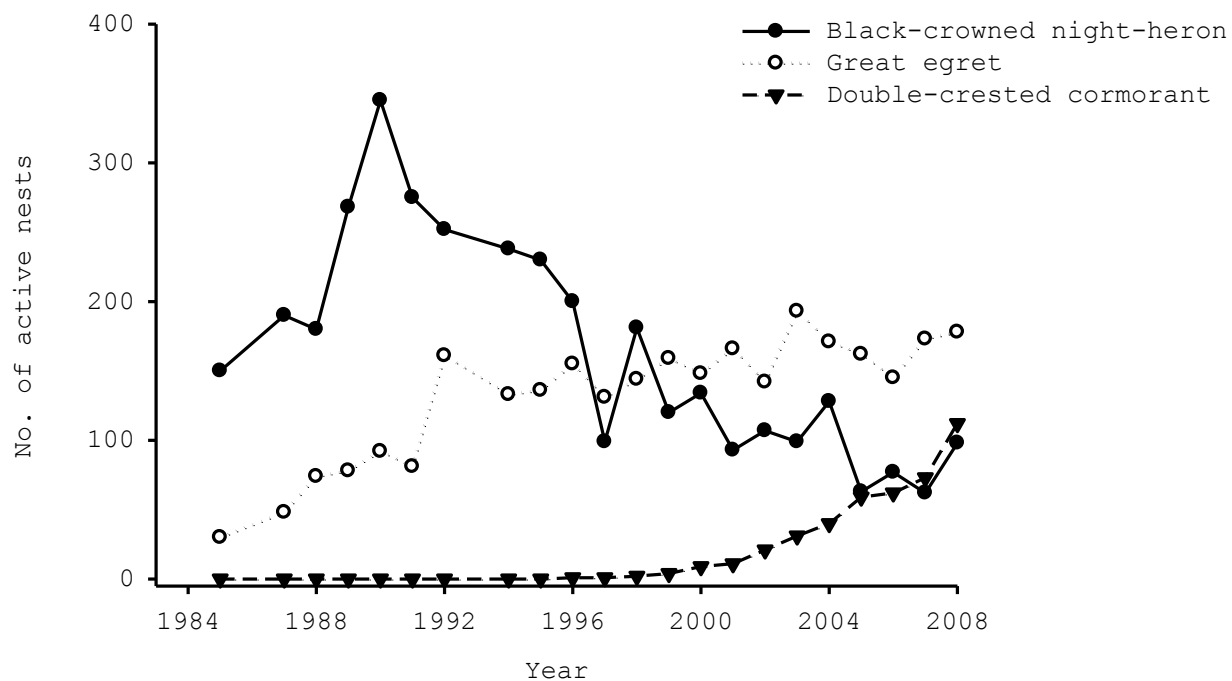


Figure 1. Colony size (number of active nests) of black-crowned night-heron, great egret, and double-crested cormorant on Wade Island, Dauphin County, PA 1985-2008.