

2019 New York State Migratory Game Bird Banding Program Update



Department of
Environmental
Conservation



New York State Department of Environmental Conservation
Division of Fish & Wildlife
Bureau of Wildlife

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Executive Summary

As part of the Atlantic Flyway Cooperative Banding Program, the New York State Department of Environmental Conservation (DEC) and partners banded a total of 2,920 ducks (a 19% increase from 2018) and 3,284 Canada geese (a 12.8% decrease from 2018) during the 2019 pre-season banding period. Similar to previous years, DEC and cooperators achieved statewide banding quotas of 1% of the breeding population for Canada geese and wood ducks. For the first time since establishing banding goals in 2013, staff and cooperators were able to successfully meet the statewide mallard goal. Previous banding efforts for mallards had fallen from 300 - 1,100 short.

Valuable bird-banding partnerships in NY included: Montezuma National Wildlife Refuge, Iroquois National Wildlife Refuge, United States Department of Agriculture (USDA), State University of New York (SUNY) at Cobleskill and SUNY College of Environmental Science and Forestry, Friends of the Montezuma Wetlands Complex, and many enthusiastic volunteers.

DEC and cooperators also captured and banded an additional 3,170 ducks and gallinules as part of various special banding projects throughout the state. For example, DEC participated in the 10th year of the Black Duck Joint Venture Two-season Banding Study. Staff and volunteers fell short of the post-season banding goal of 500 by banding 394 American black ducks. They also banded 1150 mallards, 39 mallard x black duck hybrids, 935 lesser scaup, 215 greater scaup, 68 ring-necked ducks, 55 redheads, 9 wood ducks, 2 American wigeon, 2 northern pintails, and 1 American coot. Staff and cooperators were successful in capturing and banding 10 common gallinules.

Staff have been involved in two migratory game bird research projects that involve banding and telemetry. Both projects are multi-agency efforts that lead to larger sample sizes and better data at the population scale. DEC, New Jersey Department of Environmental Protection, Canadian Wildlife Service, and the University of Missouri began year two of a multi-year project aimed to better understand Atlantic brant migration and breeding ecology. DEC also completed the second, and final year of a collaborative American woodcock migration ecology study in the Eastern Management Unit.

In addition to the many successful banding efforts during 2019, DEC hosted a fourth North American Banding Council (NABC) Waterfowl Banding Workshop in New York State. In an effort to improve consistency and quality of statewide banding, DEC staff and cooperators met at the Montezuma Audubon Center to share knowledge and expertise over a two-day workshop.

Background:

New York State Department of Environmental Conservation staff and cooperators annually band waterfowl prior to the start of hunting season as part of the Atlantic Flyway Cooperative Banding Program (AFCBP). States and provinces throughout the Atlantic Flyway have been banding ducks and geese as part of the AFCBP since 1965. During that span, over 3.2 million ducks and geese have been banded between eastern Canada and Atlantic Flyway states. Banding goals are established for black ducks, wood ducks, and mallards based on the North American Duck Banding Needs Document (1% of the breeding population; 1989). In an effort to band a representative sample of birds, DEC and cooperators strive to distribute the 1% sample of each species proportionally across the state based on the 3-year breeding population in each stratum (Figure 1 and Table 1).

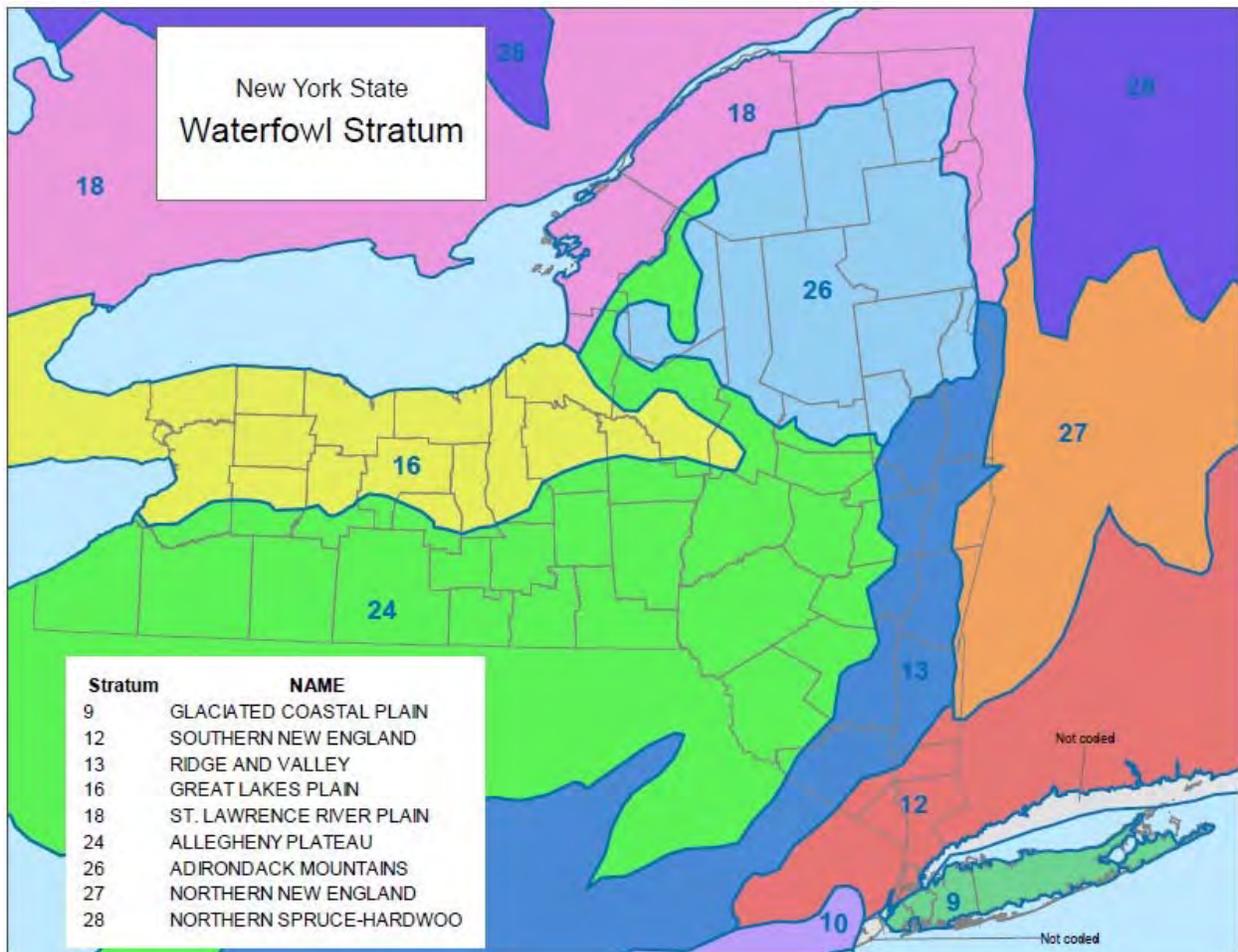


Figure 1 - Map of New York State Breeding Waterfowl Stratum

Table 1. New York State Pre-season Waterfowl Banding Goals, 2017-2019

Stratum	Mallard		Black Duck		Wood Duck		Canada Goose	
	Pop.	Goal	Pop.	Goal	Pop.	Goal	Pop.	Goal
9/99	21,813	218	1,344	13	1,268	12	16,900	169
10/12	5,477	55	0	0	1,860	19	7,017	70
13	6,651	67	369	4	5,542	55	7,759	78
16	44,084	440	248	2	21,928	219	81,351	814
18	33,374	333	3,605	36	26,244	262	55,627	556
24	34,359	344	885	9	39,078	390	74,175	742
26	9,113	91	6,173	62	12,945	129	5,253	52
27	510	5	0	0	0	0	680	7
TOTAL	155,381	1,554	12,624	126	108,865	1,088	248,763	2,488

*Population estimates from the Atlantic Flyway Breeding Waterfowl Plot Survey, 2014-2016. Banding goals are 1% of estimated population.

Data collected from pre-season waterfowl banding is used to: determine distribution of harvest from breeding and wintering areas, to define the breeding area source based on band recovery information, to determine changes in harvest pressure on various populations of waterfowl as measured by recovery and/or harvest rates, and to determine annual and/or long-term survival rates for important breeding and wintering populations of waterfowl (Banding Committee - Atlantic Flyway Technical Section, 2011).

Results and Discussion:

Pre-season Canada goose banding

In late June and early July, DEC and cooperators captured and banded 3,284 normal, healthy Canada geese and released them in the same 10'-block of capture (Table 2). Banding goals were achieved in all but stratum 18. In stratum 18, DEC staff fell short of the goal by only 78 birds. The number of Canada geese banded in 2019 is below the number banded in 2018 (3,284 in 2019 vs. 3,704 in 2018) but exceeded the statewide minimum banding goal of 2,488 birds. The robust, representative banding sample will be used in the coming years to evaluate vital rates and efficacy of management techniques in New York State's 11 Canada goose hunting areas.

Table 2. 2019 Pre-season Canada goose banding results and goals by New York State Breeding Waterfowl Stratum.

		New York State Canada Goose Banding 2019 - Stratum Goals					
Stratum	JUVENILES	ADULTS	UNKNOWN	TOTAL BANDED*	Goal	Difference**	
9	37	144		181	169	12	
12	8	108		116	70	46	
13	137	103		240	78	162	
16	684	224		908	814	94	
18	145	333		478	556	(78)	
24	712	447	1	1160	742	418	
26	115	41		156	52	104	
27	23	20		43	7	36	
Total	1861	1420	1	3282	2488	794	
* Does not include auxiliary marked birds							
** If difference is red, the banding goal was not reached							

Overall, DEC and cooperators handled 3,906 Canada geese, including 2 fitted with auxiliary markers and 622 recaptures (Table 3). The vast majority of recaptured birds (94.5%) were originally banded in New York State under the DEC banding permit.

Table 3. 2019 Pre-season Canada goose banding by DEC Region.

		New York State Canada Goose Banding 2019 By Region								
REGION	JUVENILES	ADULTS	UNKNOWN	LEG BAND	Colored Tarsal Bands**	Neck Collars *	RECAPS	FOREIGN RECAPS	TOTAL CAPTURED	
1	37	144		181			10	1	192	
3	77	140		217			86	0	303	
4	170	112		282			16	17	315	
5	208	69		277			29	4	310	
6	187	387		574			260	9	843	
7	400	203	1	604			32	0	636	
8	208	139		347			93	3	443	
9	234	166		400			62	0	462	
Non-DEC	340	62		402		2*	0	0	402	
Totals	1861	1422	1	3284		2*	588	34	3906	
* Yellow with black lettering										

Pre-season duck banding

DEC and cooperators banded 41 American black ducks, 1,654 mallards and 1195 wood ducks (Table 4). Banding goals were achieved for mallards and wood ducks at the state scale but fell short for black ducks. At the stratum scale, wood duck goals were met in two strata (16 and 24).

Table 4. 2019 Pre-season duck banding and quotas by stratum.

NEW YORK STATE OF OPPORTUNITY		Department of Environmental Conservation		New York State Pre-season Duck Banding 2019 - Stratum Goals						WILDLIFE RESTORATION	
Stratum	American Black Duck			Mallard			Wood Duck				
	Goal	Banded	Difference	Goal	Banded	Difference	Goal	Banded	Difference		
9	13		(13)	218	181	(37)	12	-	(12)		
12	-	-	-	55	-	(55)	19	-	(19)		
13	4		(4)	67	121	54	55	23	(32)		
16	2	8	6	440	635	195	219	477	258		
18	36	5	(31)	333	206	(127)	262	246	(16)		
24	9	2	(7)	344	352	8	390	449	59		
26	62	26	(36)	91	159	68	129	-	(129)		
27	-	-	-	5	-	(5)	-	-	-		
Total	126	41	-85	1553	1654	101	1086	1195	109		
* If difference is red, the banding goal was not reached											
** includes cooperator totals											

Staff and cooperators made a concerted effort to capture more mallards and American black ducks in 2019 to reach banding quotas that have proven elusive. With recent changes in mallard bag limits, it remains vitally important for banders in the flyway to target the capture of a representative sample of mallards.

Beyond species with established banding goals, DEC staff and cooperators banded 16 American green-winged teal, 6 common mergansers, and 1 blue-winged teal (Table 5). These species are banded opportunistically as bi-catch at banding locations.

Table 5. 2019 Pre-season banding results by New York State Breeding Waterfowl Stratum.

NEW YORK STATE OF OPPORTUNITY		Department of Environmental Conservation		New York State Pre-season Duck Banding 2019 - Stratum Totals							WILDLIFE RESTORATION	
Stratum	ABDU	ABDX	AGWT	BWTE	COME	MALL	MALX	MODO	WODU	Grand Total		
9		1				181						
12												
13			3			121			23			
16	8	2				635		2	477			
18	5	1	13	1		206			246			
24	2					352			449			
26	26				6	159	1					
27												
Total	41	4	16	1	6	1654	1	2	1195	2920		

Post-season and Special Banding Projects

During the winter of 2019, DEC, SUNY Cobleskill (under Dr. Losito), SUNY ESF (under Dr. Schummer), and many volunteers participated in the 10th year of the BDJV Two-season Banding Project by capturing mallards and American black ducks. Statewide, DEC has a post-season goal of banding 500 black ducks. Mallards are also banded, opportunistically, as a lower priority. Overall, New York State fell short of the black duck quota, banding 394 American black ducks, 1150 mallards, and 39 mallard x black duck hybrids. SUNY ESF with assistance from several conservation groups and DEC staff and volunteer Chris Pitman also banded 935 lesser scaup, 215 greater scaup, 68 ring-necked ducks, and 55 redheads. (Table 6).

The Atlantic Brant Migration Ecology and Breeding Propensity study is a collaborative effort with the New Jersey Department of Environmental Protection, Canadian Wildlife Service, and the University of Missouri. DEC staff participated in banding over 7,000 geese on Baffin Island during the month of August, including 474 Atlantic brant. On the wintering grounds last February, despite poor banding weather (no snow cover and warm temperatures), region 1 and Central Office staff also marked 254 brant during the post-season banding season of 2019. Overall, nearly 2,000 brant have been marked with auxiliary color markers since the study began in 2018. The study will continue until at least 2023 on both the wintering grounds in New Jersey and New York, and the breeding grounds in Nunavut, Canada. This fall, resightings began as part of the graduate project at the University of Missouri under Dr. Weegman.



Figure 2 - Atlantic brant with color markers

The American Woodcock Migration Ecology in the Eastern Management Unit study began in the fall of 2018. The research project is led by Dr. Erik Blomberg and Ph.D. candidate Alex Fish. It is a multi-year study with many state and provincial wildlife agencies in the Eastern Management Unit, the University of Maine, SUNY Cobleskill, and the Canadian Wildlife Service. During the three-year marking effort, more than 200 American woodcock will be marked with small GPS transmitters that are capable of sending one location per day with an accuracy of within 20 meters of the bird's true location. The marking effort in NY was completed during fall 2019. The overall goal of the project is to describe the migratory ecology of American woodcock in the Eastern Management Region.

In 2019, DEC continued the fourth year of the pilot rail and gallinule banding project at Northern Montezuma Wetlands Complex. Region 8 staff and SUNY ESF experimented with call-based funnel traps designed by John Simpson at Winous Point Marsh Conservancy. Staff captured and banded 10 common gallinules. Four common gallinules were fitted with nano-tags to be tracked under the Motus automated wildlife tracking network.

Table 6. 2019 Post-season and Special Banding Projects.



New York State Special Banding Projects 2019



	Winter - Skaneateles Lake	Winter - Black Duck Study	SUNY Cobleskill Post-season Banding	ESF Post-season Banding	American Woodcock Banding Project	Atlantic Brant Banding Project	Montezuma Rail and Gallinule Banding	TOTALS
American Black Duck	17	132		245				394
American Coot	1							1
American Wigeon		2						2
American Woodcock					36			36
Atlantic Brant						254		254
Common Gallinule							10	10
Greater Scaup	1			214				215
Lesser Scaup				935				935
Mallard	35	1064	4	47				1150
Mallard X Black Hybrid		33		6				39
Northern Pintail		2						2
Redhead	53	1		1				55
Ring-necked Duck	33			35				68
Wood Duck			9					9
GRAND TOTAL	140	1234	13	1483	36	254	10	3170

North American Banding Council / NYSDEC Banding Workshop

DEC, North American Banding Council, Cornell, and Montezuma National Wildlife Refuge hosted the fourth NABC Waterfowl Banding Certification Workshop in New York State. Thirty-five biologists and technicians from DEC, Pennsylvania Game Commission, USFWS, and Maryland Department of Natural Resources attended the three-day workshop in mid-September at the Montezuma Audubon Center, Savannah, New York and the Montezuma National Wildlife Refuge.



Figure 3 – Biologist John O'Connor explains the uses of banding data, Montezuma Audubon Center.

The goals of the workshop were to ensure new staff are adequately trained, to create a collaborative learning network between statewide banders, and to improve the overall efficiency and quality of DEC's banding program. Topics covered during the training included: safe handling and animal care, wildlife health, uses of banding data, permit certification, Atlantic flyway banding programs, capture techniques, rocket-net usage and safety, species identification, aging and sexing techniques, data

management, public relations and ethics, biological sampling, and numerous field exercises to handle and band live birds. The workshop culminated with all attendees taking the NABC certification exam. The migratory game bird team hopes to continue offering annual or biennial banding workshops in the future.

DEC would like to thank Dr. Krysten Schuler (Cornell), Dr. Beth Bunting (Cornell), Linda Ziemba (USFWS), Nick Vermeulen (USFWS), Jake Chronister (SUNY ESF) and DEC staff John O'Connor, Steve Heerkens, Frank Morlock, Gaye Somogie, and Josh Stiller for their help preparing workshop materials, leading lectures and field exercises.



Figure 4 – FWS and DEC instructors and workshop participants banding ducks at Montezuma National Wildlife Refuge.

All banding efforts were funded by the Federal Aid in Wildlife Restoration Grant (W-173-G).

Literature cited:

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- Devers, P., G. Zimmerman, and S. Boomer. 2009. Pilot effort to develop 2-season banding protocols to monitor black duck vital rates. Research proposal to the Atlantic and Mississippi Flyways. Black Duck Joint Venture, Department of Interior
- U.S. Fish and Wildlife Service. 1989. The North American duck banding program - A revised approach. Technical report, U.S. Department of Interior, Washington, D.C., USA

Appendix 1. 2019 Pre-season duck banding by species, age, sex, and strata.

NEW YORK STATE OF ENVIRONMENTAL CONSERVATION		Department of Environmental Conservation		New York State Pre-season Duck Banding in 2019					WILDLIFE RESTORATION
Species	Sex	Age	Stratum					TOTAL	
		Stratum ->	9	13	16	18	24	26	TOTAL
ABDU	Female	AHY			3			9	12
		HY			1				1
		L						6	6
	Male	AHY			1	4	1	4	10
		HY			3	1	1		5
		L						7	7
ABDX	Female	AHY	1		1				2
		HY				1			1
	Male	AHY							0
		HY			1				1
AGWT	Female	AHY				4			4
		HY		1		1			2
	Male	AHY		1		5			6
		HY		1		3			4
BWTE	Female	AHY				1			1
		HY							0
	Male	AHY							0
		HY							0
COME	Female	AHY						2	2
		HY							0
		L						1	1
	Male	AHY							0
		HY							0
		L						3	3
MALL	Female	AHY	20	19	74	33	55	37	238
		HY	44	17	164	64	107	2	398
		L		4	3		6	42	55
	Male	AHY	68	47	166	45	61	31	418
		HY	49	34	182	64	110	8	447
		L			4		11	39	54
	Unknown	HY			42				42
	Unknown	UNK					2		2
MALX	Female	AHY						1	1
		HY							0
	Male	AHY							0
		HY							0
MODO	Female	AHY							0
		HY							0
	Male	AHY			1				1
		HY							0
Unknown	HY			1				1	
WODU	Female	AHY			72	16	50		138
		HY		9	120	73	142		344
		L			15		4		19
	Male	AHY		3	120	77	94		294
		HY		11	140	80	155		386
		L			10		3		13
		HY					1		1
Grand	Total		182	147	1124	472	803	192	2920

Cooperators:





And our many volunteers!