

New Jersey Department of Environmental Protection Fish & Wildlife

Dave Golden, Assistant Commissioner
Lisa Barno, Assistant Director
Kathleen Clark, Chief
Endangered and Nongame Species Program

New Jersey Bald Eagle Project, 2023

Prepared by Larissa Smith and Kathleen E. Clark

Project Staff:

Kathleen Clark, Larissa Smith, Erica Miller,
John Heilferty, and Ben Wurst



Celebrating the 50th anniversary of the NJ Endangered and Nongame Species Conservation Act ~ 1973-2023



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Cover photo: Manasquan River, May 3, 2023. Photo by John Heilferty

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Summary

NJDEP Fish & Wildlife's Endangered and Nongame Species Program (ENSP) biologists, Conserve Wildlife Foundation (CWF) staff, and volunteer observers located and monitored bald eagle nests and territories. Two hundred eighty-six nest sites were monitored during the nesting season, of which 255 were documented to be active (with eggs) and 31 were territorial or housekeeping pairs. Thirty-four new eagle pairs were found this season, 23 in the south, five in central, and six in the north. One hundred-eighty-eight nests (78%) of the 242 known-outcome nests produced 309 young, for a productivity rate of 1.28 young per active/known-outcome nest. Twenty-two percent (54 nests) failed to produce young. The Delaware Bay region remained the state's eagle stronghold, with roughly half of all nests located in Cumberland and Salem counties and the bayside of Cape May County.

The state's eagle population would not be thriving without the efforts of the dedicated eagle project cooperators and volunteers who observe nests, report sightings, and help protect critical habitat.

Introduction

The records to document the abundance and distribution of eagle nests in New Jersey do not exist. In the 1930s-1950s, when local naturalists and birders began documenting bird activity, bald eagles had already been subject to persecution for decades because of their perceived predatory relationship to game and farm animals. One study supported by NJDFW in southern NJ indicated more than 20 pairs of nesting bald eagles in the Delaware Bay region of NJ in the 1950s (Holstrom 1985). As a result of the use of the pesticide dichloro-diphenyl-trichloroethane, commonly known as DDT, the number of nesting pairs of bald eagles in the state declined to only one by 1970 and remained there into the early 1980s. Use of DDT was banned in the United States in 1972. That ban, combined with restoration and management efforts by NJDEP Fish & Wildlife's Endangered and Nongame Species Program (ENSP), resulted in population increases to 23 pairs by 2000, 48 pairs by 2005, 82 pairs by 2010, 150 pairs by 2015, and 220 by 2020. ENSP recovery efforts – implemented since the early 1980's – have resulted in a steady recovery as New Jersey's eagle population has rebounded from the edge of extirpation.

Recovery efforts were multifaceted. In 1982, after New Jersey's only remaining nest (located in Cumberland County's Bear Swamp) had failed at least six consecutive years, ENSP biologists removed the egg for artificial incubation at Patuxent Wildlife Research Center in Maryland, and after hatching, fostered the young nestling back to the nest. As a result of residual DDT contamination, the Bear Swamp eggs were too thin to withstand normal incubation. Artificial incubation and fostering chicks continued with success until 1989, when a new, younger female took over and the pair was able to hatch their own eggs.

Increasing the production from a single nest, however, was not enough to boost the state's population in a reasonable period of time. Mortality rates are high in young eagles (as high as 80%), and eagles do not reproduce until about five years of age. ENSP instituted a hacking project in 1983 that resulted in the release of 60 young eagles from Canada over an eight-year period (Niles et al. 1991). These eagles contributed to the increase in nesting pairs observed after 1990.

Bald eagles face many threats, with disturbance and habitat loss the greatest threats in our state. In addition, contaminants in the food web may negatively affect the eagles nesting in some areas of NJ.

Disturbance is defined as any human activity that causes eagles to change their normal behavior, and takes many forms, including mere presence of people in nesting or foraging areas. In general, people on foot evoke the strongest negative reaction (Buehler 2000). When eagles change their behavior in reaction to people, they cease doing what is best for their survival and the well-being of their eggs and young. Ultimately, that can reduce the survival of individuals and the population. ENSP biologists work to manage and reduce disturbance in eagle nest areas. A team of experienced volunteer observers, as well as education and safe viewing areas, are essential to this effort. Viewing eagles from safe distances, where eagles continue to act normally, is best for eagles and satisfies people's natural desire to see them. Biologists also protect habitat in a variety of ways, including working with landowners, identifying land for acquisition and management, and applying the state's land use regulations. ENSP has a history of investigating the impacts of organochlorines and heavy metals in eagles and other raptors nesting in the Delaware Bay region. Bald eagles, ospreys, and peregrine falcons nesting in the region have exhibited some reproductive impairment relative to other areas (Steidl et al. 1991, Clark et al. 1998), but more recent research indicates problems may be limited to very local areas of contamination (Clark et al. 2001). ENSP biologists collect samples that allow monitoring of contaminants in eagles during the nesting season, and monitoring nest success is an integral part of this research.

ENSP biologists, with NJDEP Fish & Wildlife's Bureau of Law Enforcement staff and project volunteers, work year round to protect bald eagle nest sites. The competition for space in the most densely populated state in the nation makes it clear that critical habitat needs to be identified and, where possible, protected, to support a recovered bald eagle population. Critical habitat for eagles includes areas used for foraging, roosting and nesting, and is included in the program's Landscape Project mapping of critical wildlife habitats. Landscape Project mapping identifies suitable habitat that is associated with nests, foraging areas, and documented communal roosts.

The population of wintering bald eagles has grown along with the nesting population, especially in the last ten years. The NJ Eagle Project discontinued participation in the national Mid-winter eagle survey, but has conducted surveys to document important roosting areas in winter and year-round.

The federal government removed the bald eagle from its list of Endangered Species in August, 2007, in recognition of the national resurgence in the eagle population in the lower 48 states. The U.S. Fish and Wildlife Service oversees a 20-year monitoring period (through 2027) to watch for and investigate any problems that could compromise the eagle recovery. In addition, the Bald and Golden Eagle Protection Act remains in effect to protect nest and roost sites for bald eagles

nationwide. The bald eagle's official New Jersey status currently remains state-endangered for the breeding season and state-threatened for the non-breeding season, and state regulatory protection was unchanged by the federal action.

Objectives of the New Jersey bald eagle program:

- 1) monitor the recovery of the bald eagle in the state by documenting the status, distribution, and productivity of breeding bald eagles in NJ;
- 2) enhance nest success by protecting bald eagles and their nest sites;
- 3) monitor wintering areas and other concentration areas and plan for their protection;
- 4) document location data in the Biotics database and apply it to identify critical habitat using the Landscape Project mapping following mapping protocols;
- 5) provide information and guidance to landowners and managers with regard to bald eagles on their properties;
- 6) increase our understanding of bald eagle natural history in New Jersey as eagles repopulate habitats.

Methods

Nest Survey

All known nest sites are monitored January through July or through fledging. Volunteer nest monitors watch most nests from a distance of 1,000 feet, using binoculars and spotting scopes, for periods of two or more hours each week. Observers record all data including number of birds, courtship or nesting behaviors, incubation, feeding, and other parental care behaviors that provide essential information on nesting status. CWF staff contact volunteers weekly with an update and are available to discuss observer questions and data. Dates are recorded for incubation, hatching, banding, fledging, and, if applicable, nest failure. A nesting territory is considered "occupied" if a pair of eagles is observed in association with the nest and there is some evidence of recent nest maintenance. Nests are considered "active" if a bird is observed in an incubating position or if eggs or young are detected in the nest.

Observers report other bald eagle sightings to ENSP or CWF biologists, who review the information for clues to potential new nest locations. ENSP staff and volunteers investigate territorial bald eagles for possible nests through field observations. When evidence suggests a probable location, biologists may conduct ground or aerial surveys of the region to locate a nest. Following guidance from the US Fish and Wildlife Service's post-delisting monitoring plan (USFWS 2009), we maintain a list of occupied nests and territories for population monitoring. The list approach also supports the NJDEP's Land Resource Protection activities.

When necessary, nests are protected from disturbance with barriers or posted signs. Staff works in partnership with landowners and land managers to cooperatively protect nests. Nest monitors notify ENSP staff immediately if any unusual or threatening activities are seen around the nest site. The NJDEP Fish & Wildlife's Law Enforcement Conservation Police Officers act to enforce protection measures as needed, and provide routine assistance as well.

At select sites, ENSP biologists enter the nest site to band young when nestlings are between five and eight weeks old. A biologist climbs the tree and places nestlings into a large duffel bag and lowers them, one at a time, to the ground. A team records measurements (bill depth and length, eighth primary length, tarsal width, and weight) and bands each eaglet with a federal band and a green state color band with an alpha-numeric code. A veterinarian examines each bird and takes a blood sample for analysis. Blood is collected and stored following techniques in Bowerman et al. (1994). Samples are stored frozen pending analysis by a technical lab. Nest trees are generally not climbed the first season to avoid associating disturbance with the new site.

Roost Surveys

In recent years, we in New Jersey did not participate in the National Mid-Winter Eagle survey held in January, finding that the standardized count no longer covered all important eagle areas. We have increased the efforts to document locations where eagles roost and otherwise concentrate in the winter months of January and February.

Results

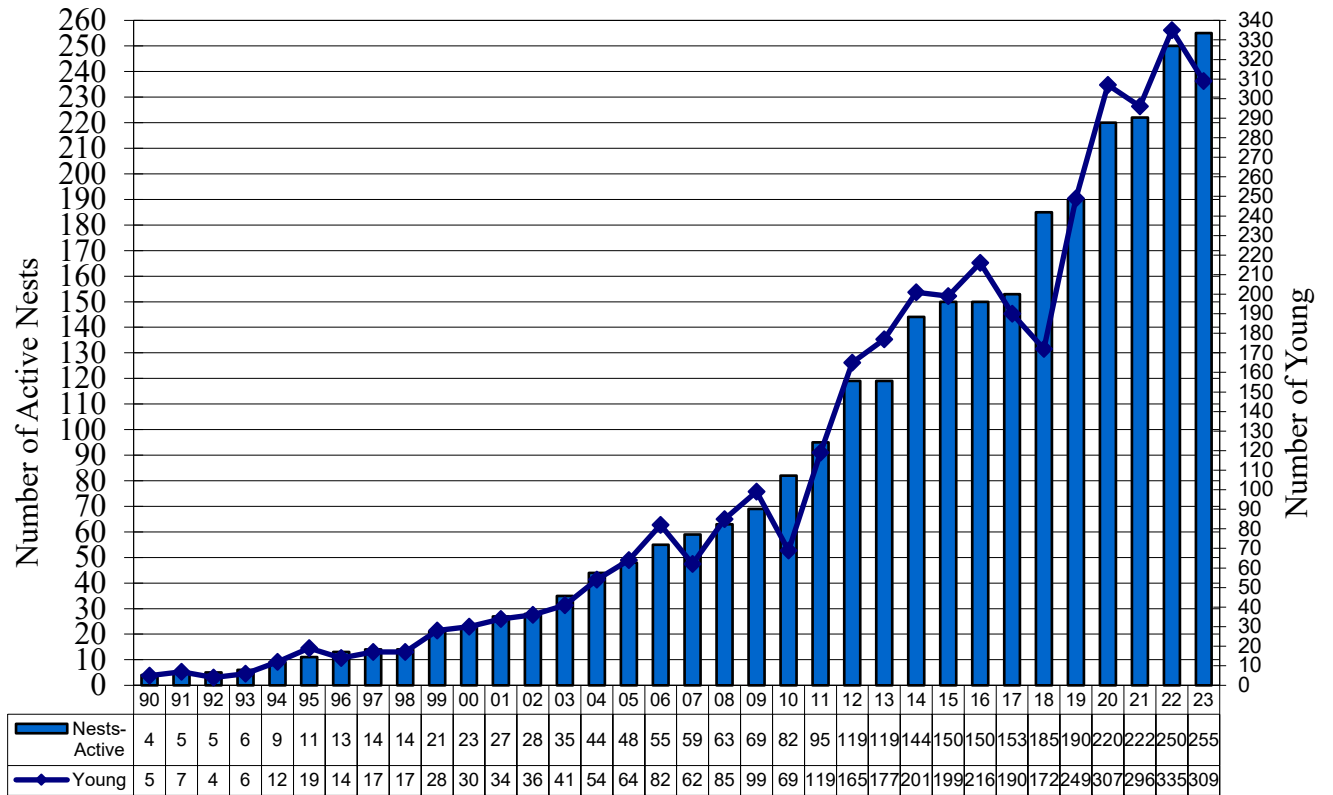
Nest Survey

The statewide population rose to 286 territorial pairs in 2023, an increase of 19 from last year. We documented 255 pairs that were known active (meaning they laid eggs), an increase of 5 nests from 2022 (Figure 1); 31 pairs maintained nest territories but did not lay eggs. Seventy-eight percent of nests, 188, were known to be successful in producing 309 young. The productivity rate for 242 known-outcome nests was 1.28 young per active nest, which is above the roughly 1.0 young per nest for population maintenance. Twenty-two percent of nests (54) nests failed to fledge young, which is somewhat higher than normal. We documented nest failures and brood loss that occurred: 339 chicks were reported in the nestling stage but only 309 were documented at fledging. The number of nestlings lost could be higher as monitors often cannot see the number of chicks in the first weeks after hatching.

Most nests were located in the southern portion of the state, particularly within 20 km of Delaware River and Bay (Figure 2). The majority of nests were located on private land, while the rest were on state, federal, county, and conservation-dedicated lands. Disturbance was an issue at many nests; posting and regular surveillance by staff and nest monitors remained essential to increase the chance of success.

All documented nests and significant dates of the nesting season are listed in Table 1. Excluded from the nest table were 64 previously documented nest sites that were unoccupied and where no new nest could be found, or search effort was lacking (Table 2).

Figure 1. Number of bald eagle nests and young fledged in New Jersey, 1990–2023. Blue bars=number of nests, and blue lines=number of young produced each year. In 2023, 255 pairs were active and 309 young were produced.



Key to nest map in Figure 2.

# Nest Name	# Nest Name	# Nest Name	# Nest Name	# Nest Name
1 Alloway Lake	58 Cohansey (Middle Marsh E)	115 Jacobstown	172 Newport B	229 Sea Breeze Abbot Creek
2 Alloways Creek C	59 Cohansey (Middle Marsh F)	116 Johnson Park	173 Newport C	230 Sea Breeze B2
3 Alloways Creek E	60 Cohansey (Ragged Island)	117 Keansburg	174 Newton Reservoir	231 Seabrook
4 Alloways Creek F	61 Cohansey (Tindells Landing)	118 Kearny	175 Nutley	232 SFE A
5 Ash Brook Reservoir	62 Cohansey CC	119 Keasbeys Creek	176 Oberlin	233 SFE Tower B
6 Atlantic City	63 Columbus tower	120 Kettle Creek	177 Oceanville	234 Shark River
7 Audubon	64 Corbin City	121 Kin-Buc	178 Old Bridge	235 Sheep Pen Creek
8 Ballinger Creek West	65 Cranbury Neck	122 Kirkwood Lake	179 Oldman's Creek	236 Sheepkill Pond
9 Barkers Brook	66 Cross Farm	123 Labar Island	180 Oldwick	237 Shiloh Tower
10 Bassetts Bridge (Wallkill)	67 Crosswicks Creek B	124 Lake Hopatcong B	181 Oradell Reservoir	238 Silver Lake
11 Bay Point Road A	68 Crosswicks Creek	125 Lake Lenape	182 Overpeck Creek	239 South Dennis
12 Bay Point Road B	69 Culvers Gap	126 Lake Mohawk	183 Palisades B	240 South River-Atlantic
13 Bayside A	70 Daretown	127 Linden	184 Paradise	241 Stafford-Beach
14 Bayside B	71 Deepwater 03A	128 Little Swartswood	185 Parkers Creek	242 Stanton Station
15 Beaver Dam-North	72 Delanco	129 Lockatong Creek	186 Parsippany	243 Stillwater (Paulins Kill)
16 Beaver Dam-West	73 Dennis Creek 2	130 Long Bridge	187 Parsonage Run	244 Stow Creek A
17 Beaver Dam (osp.)	74 Denville	131 Lower Patcong	188 Paterson	245 Stow Creek C
18 Beesley's Point	75 Devil's Gut	132 Mad Horse B	189 Pedericktown	246 Stow Creek E
19 Berrys Creek	76 Dias Creek (East)	133 Mad Horse Creek	190 Pemberton	247 Stow Creek F
20 Blairstown	77 Dingman's Ferry	134 Makepeace Lake	191 Pennington	248 Stow Creek G
21 Blews Run	78 Dividing Creek B	135 Manasquan Reservoir	192 Penns Grove	249 Sunset Lake
22 Bogota	79 Dividing Creek	136 Manasquan River	193 Penns Neck A	250 Supawna Meadows A
23 Boonton	80 Duffield Run	137 Mannington Meadows A (Horne Run)	194 Penns Neck B	251 Supawna Meadows B
24 Branchburg	81 Duke (Raritan River)	138 Mannington Meadows C	195 Pennsauken CC	252 Supawna West
25 Bridgeton-Garfield	82 DuPont/Raccoon Creek	139 Mantua A4	196 Pilesgrove	253 Swedesboro (Birch Creek)
26 Bridgeton	83 Eagle Manor A	140 Manville	197 Pine Tavern	254 Sylvan Lake tower
27 Brielle (Tr. Is)	84 Eagle Manor B	141 Marshalltown	198 Pine Tavern B	255 Timber Creek
28 Buckhorn	85 Eagle Point B	142 Mary Elmer	199 Point View Reservoir	256 Tindall Island
29 Bulls Island	86 East Amwell	143 Mason Point	200 Pointers Auburn B	257 Tocks Island
30 Burlington Island	87 Edgewater	144 Matawan Cell	201 Pointers Auburn	258 Toll Bridge
31 Bustleton CR	88 Egg Island	145 Mattison Reservoir	202 Port Norris	259 Trenton
32 Buttermilk	89 Elmer	146 Matts Landing 2	203 Poxono Island	260 TSG
33 Canoe Brook (Reservoir)	90 Elsinboro	147 Mercer County GC	204 Princeton	261 Tuckahoe A
34 Canton Drain	91 Far Hills/Ravine Lake	148 Merchantville	205 Prospertown	262 Turkey Point A
35 Cape May	92 Ferry Road	149 Merrill Creek B	206 Quinton B	263 Turkey Point B
36 Carasaljo	93 Fishing Creek	150 Merrill Creek A	207 Quinton C	264 Turnersville
37 Carmel	94 Five Mile Run	151 Mickleton	208 Quinton	265 Upper Greenwood
38 CCIA (Cumberland)	95 Flat Top	152 Milford	209 Rainbow Lake	266 Upper Millstone
39 Cedar Hill (Cumberland)	96 Foampak	153 Millhurst	210 Ramblewood	267 Upper Oldmans
40 Cedar Run (Ocean)	97 Fort Dix B	154 Mond's Island	211 Rancocas B Tower	268 Upper Ramapo
41 Cedar Swamp Creek	98 Fort Mott	155 Money Island	212 Raritan-Keasbey	269 Wading River
42 Cedarville Cell Tower	99 Fortescue	156 Monkville Reservoir	213 Readington	270 Wanaque A
43 Centerton	100 Fortescue C	157 Morris Goodwin	214 Repauno	271 Wanaque B
44 Chatsworth B	101 Fortescue D	158 Mount Hope Lake	215 River Barge Park	272 Wantage
45 Chatsworth	102 Fresh Creek	159 Mountainview	216 Riverview	273 Waretown
46 Chester Island	103 Gibbstown	160 MR (Milville North)	217 Roadstown	274 Warfle
47 Chesterfield	104 Great Swamp	161 MR (Muddy Run)	218 Robbins Lane	275 Wawayanda
48 Clinton	105 Green CR	162 MR (Peek Preserve)	219 Robbinsville	276 Weatherill
49 Cohansey (Detullio)	106 Grossup	163 MR Bluffs	220 Round Valley	277 Whartonv.Little Meadow
50 Cohansey (Greenwich A)	107 Hack Site	164 MR(Burcham)	221 Sadie Lane	278 Wheaton Island
51 Cohansey (Greenwich B)	108 Hackett (Salem)	165 Mt Airy	222 Salem River	279 WheatonIsland B
52 Cohansey (Hopewell East)	109 Hackettstown	166 Mullica River	223 Sayres Neck B	280 White'sPond
53 Cohansey (Hopewell West)	110 Harmony	167 Nantuxent Creek A	224 Sayres Neck C	281 Whiting
54 Cohansey (Loatman)	111 Hartshorne Woods Park	168 Nantuxent Creek B	225 Sayres Neck	282 Williamstown
55 Cohansey (Middle Marsh A)	112 Heislerville	169 Nantuxent Creek D	226 Sayreville	283 Woodcliff Lake
56 Cohansey (Middle Marsh C)	113 Higbee	170 Navesink B	227 School House	284 Woodschurch
57 Cohansey (Middle Marsh D)	114 HyperHumus	171 New Hampton	228 Sculville	285 Wreck Pond Brook
				286 Yards Creek

Figure 2a. Map of active (circle) and territorial (star) bald eagle nests in NJ in 2023.

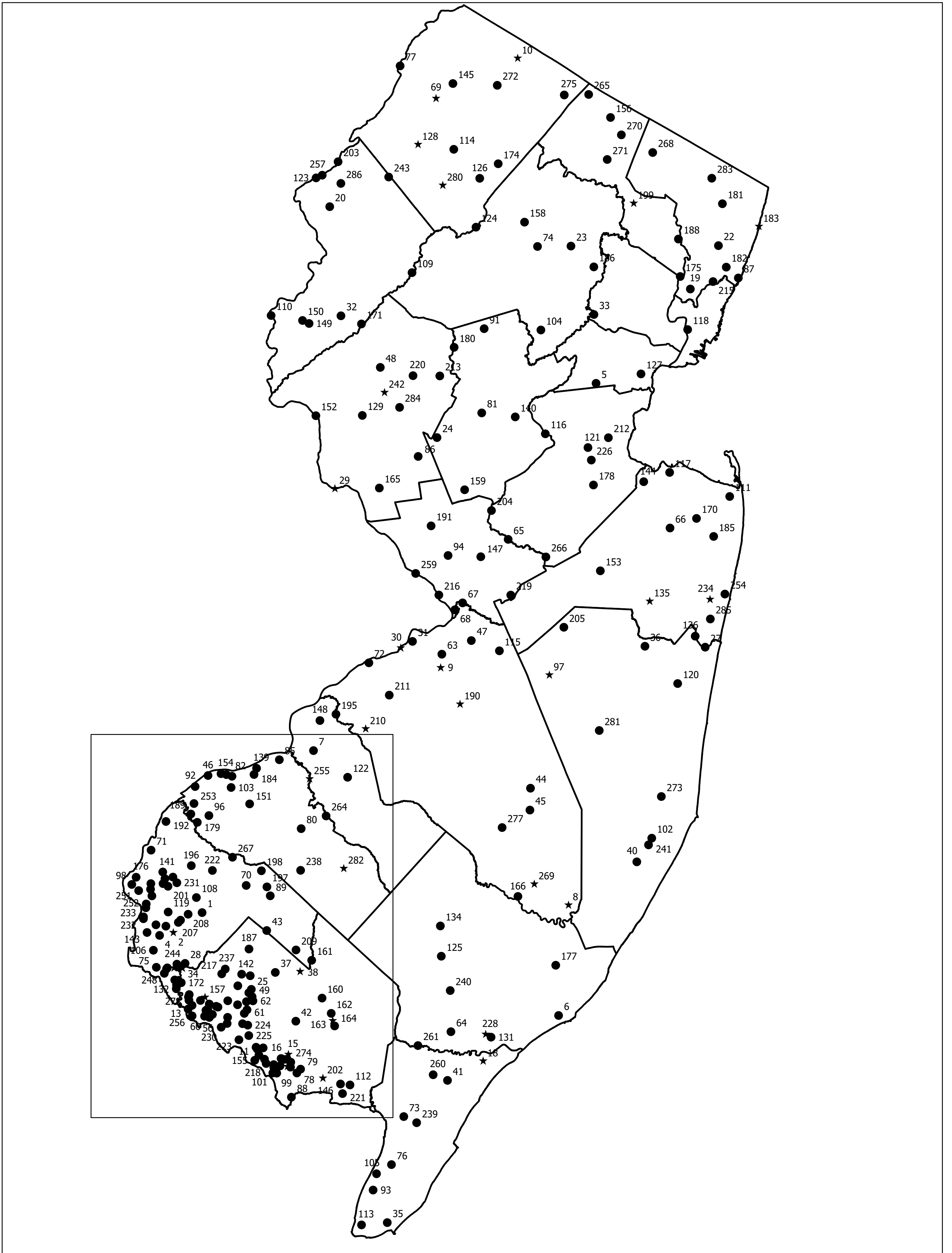


Figure 2b. Inset area of southwestern counties of active (circle) and territorial (star) bald eagle nests

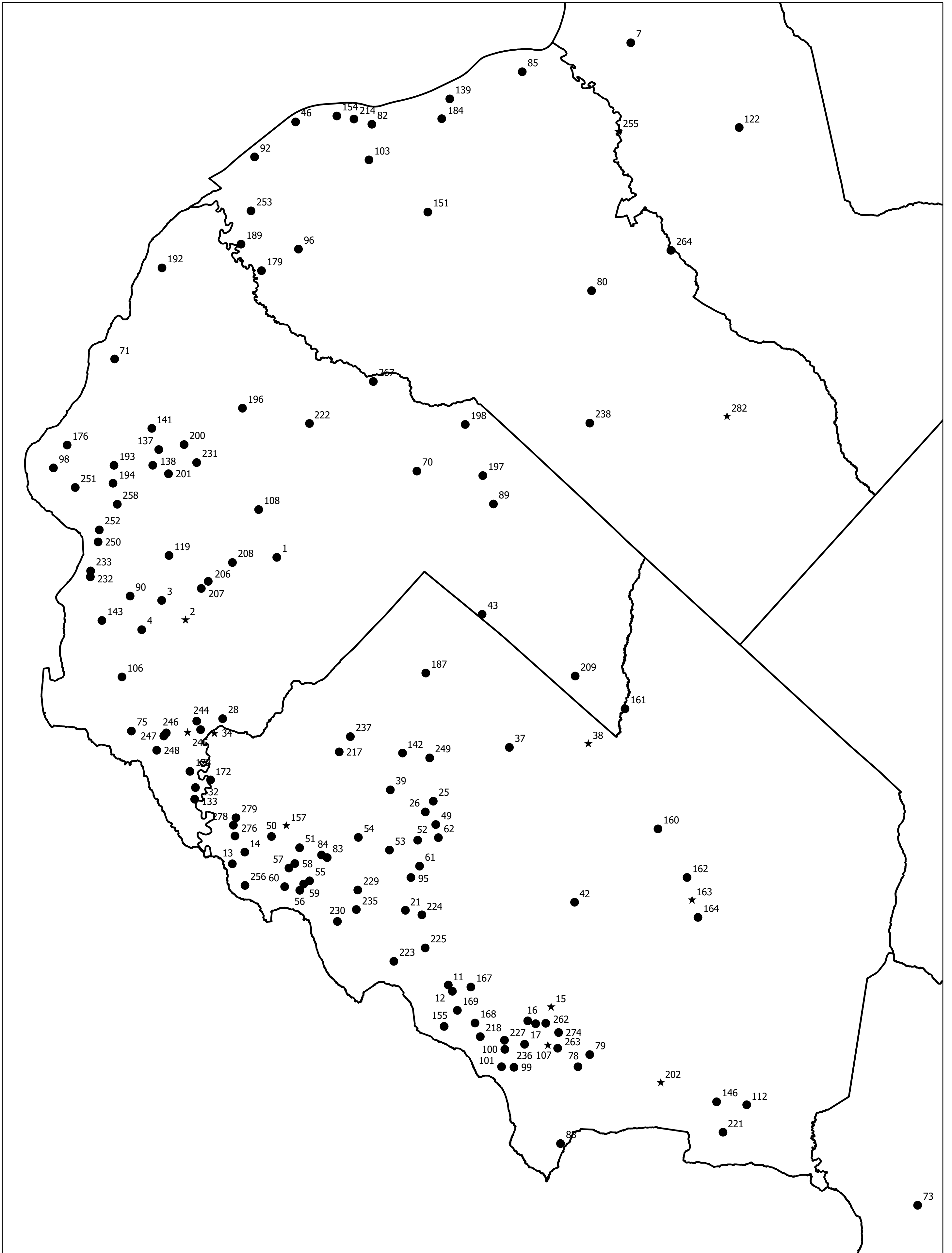


Table 1. Production and estimated dates for bald eagle nests in NJ, 2023. Some dates are unknown and left blank; others may be estimates or first-observed dates. T=Territorial.

NEST SITE	Incubation	Hatching	Banding	Fledging	No. Fledged	Failed date	Notes
Alloway Lake	2/11	3/6		5/21	1		
Alloways Creek C	T						
Alloways Creek E	1/28	3/6		5/21	1		
Alloways Creek F	1/20	2/19			0	3/15	
Ash Brook		<4/21		6/14	2		New pair
Atlantic City	3/6				0	4/4	
Audubon	3/3	4/10		7/2	2		New nest location
Ballanger Creek West	T						
Barkers Brook	T						New pair
Bassett's Bridge (Wallkill)	T						
Bay Point Road A	2/7				0	3/16	
Bay Point Road B	2/13	4/3		6/20	2		
Bayside A	2/28	3/31		6/16	1		
Bayside B	2/15	3/23		6/16	1		
Beaver Dam-North	T						
Beaver Dam (osp)	2/27	4/3		7/5	1		
Beaver Dam-West	2/7	3/16		6/13	2		
Beesleys Point	T						
Berrys Creek	3/6	4/25		7/12	2		
Blairstown	2/17	4/8			0	5/27	
Blews Run	2/27				0	3/16	New nest
Bogota	2/1	3/5			0	4/2	
Boonton	2/11	3/19		6/11	2		
Branchburg	2/19	3/26		7/13	1		
Bridgeton	1/21	2/27		5/23	1		
Bridgeton-Garfield	2/7	3/14		5/23	1		New pair
Brielle (Tr. Is.)	1/26	3/2		6/22	2		
Buckhorn	2/26	4/4		6/16	1		New pair
Bulls Island	T						
Burlington Island	T						
Bustleton CR	2/1	3/10		5/31	2		
Buttermilk	3/6	4/10		7/3	1		New pair
Canoe Brook Reservoir	2/24	4/3		6/26	2		
Canton Drain	T						
Cape May	2/7	3/17		6/1	2		
Carasaljo	3/6	5/1		7/27	2		
Carmel	1/13	2/23			0	3/24	
CCIA (Cumberland)	T						
Cedar Hill (Cumberland)	2/2	3/31		6/16	2		

Cedar Run (Ocean)	2/11	3/18		6/5	1		
Cedar Swamp Creek	3/20				0	3/22	
Cedarville Cell	1/21	2/27		5/23	1		
Centerton	2/6	3/17		6/6	2		
Chatsworth	1/27	3/24		6/17	1		
Chatsworth B	1/27	4/4			0	5/20	
Chesterfield	1/12				0	3/29	New nest
Chester Island	3/8				0	5/19	New nest
Clinton	3/12 (clutch 2)	4/17		6/29	1		1 st clutch failed 2/8
Cohansey (Detullio)		<3/25		6/16	1		New pair
Cohansey (Greenwich A)	1/30	3/5			1		
Cohansey (Greenwich B)	1/30				2		
Cohansey (Hopewell East)	2/18	3/18		5/27	2		
Cohansey (Hopewell West)	2/18	3/18		5/27	1		
Cohansey (Loatman)	2/18	3/25		6/3	1		New nest location
Cohansey (Middle Marsh A)	1/30				2		
Cohansey (Middle Marsh C)	2/26				1		
Cohansey (Middle Marsh D)	2/10				1		
Cohansey (Middle Marsh E)	2/10				1		
Cohansey (Middle Marsh F)	2/26				0		New pair
Cohansey (Ragged Island)	2/10				1		
Cohansey (Tindells Landing)					1		
Cohansey CC A	1/26	3/7		5/23	2		
Columbus Tower	1/15				0	5/6	
Corbin City	2/5	3/20			0	3/31	
Cranbury Neck	2/12	3/26		6/18	1		
Cross Farm	2/4	3/19		6/1	3		
Crosswicks Creek	3/4	4/8			0	6/25	
Crosswicks Creek B	1/22	3/26		6/3	2		New pair
Culvers Gap	T						
Daretown	1/31	3/22		5/27	1		
Deepwater-2	2/10	3/17		5/26	2		
Delanco	3/1	3/29		6/16	2		
Dennis Creek 2	2/6	3/13		6/20	2		New nest location; aerial survey 3/27
Denville	2/20	3/24		7/1	2		
Devil's Gut	2/11	3/18		5/27	2		
Dias Creek (East)		<4/10			U		Aerial survey 4/10
Dingman's Ferry	2/26	4/10		7/7	2		
Dividing Creek A	2/14	3/21		6/13	2		
Dividing Creek B	2/2	3/16		6/6	3		
Duffield Run	?			7/18	2		

Duke (Raritan River)	1/20	2/27		5/22	2		
Dupont/Raccoon Creek	2/13	3/29		7/24	1		
Eagle Manor A	2/21				3		New pair
Eagle Manor B	2/21				2		New pair
Eagle Point B	12/22	1/29		5/1	2		
Edgewater	12/26	1/29			0	3/20	
East Amwell	2/26	4/4			0	5/13	New pair
Egg Island					0	<4/14	
Elmer	2/8				0	3/14	Tree fell in storm: 1 chick found dead
Elsinboro	2/11				0	3/18	
Far Hills/Ravine Lake	3/19				0	4/7	
Ferry Road	3/20	4/17		6/28	2		
Fishing Creek		<4/10			U		Aerial survey 4/10
Five Mile Run	1/15	2/19		6/15	2		
Flat Top	1/30				0		
Foampak	3/1	5/4		7/17	2		
Fort Dix B	T						New pair
Fort Mott					2		
Fortescue	2/14	3/21		6/13	2		
Fortescue C	1/10	2/20		5/30	2		
Fortescue D	2/27	4/3		7/5	2		
Fresh Creek	2/18	4/8		6/3	1		
Gibbstown	1/27	3/2		6/12	2		
Great Swamp	2/15	3/17		6/9	2		
Green Creek	2/20	3/27		6/15	1		
Grossup	3/18	4/22		7/10	2		
Hack Site	T						
Hackett (Salem)	2/18	3/25		6/17	1		
Hackettstown	2/26	4/9		8/13	3		
Harmony	2/8	3/15		6/11	1		
Hartshorne Woods Park	2/8	3/26			0	4/11	
Heislerville	3/3				0	4/12	
Higbee	2/16	3/28		6/15	2		
Hyper Humus	3/18				0	4/24	Nest tree fell 6/14
Jacobstown	1/10	2/14		5/9	2		
Johnson Park	2/23	3/30			U		
Keansburg	2/19	3/30		6/8	2		
Kearny	3/5	4/2		6/18	1		
Keasbeys Creek	2/19				0	5/31	
Kettle Creek	2/14	3/27		6/27	3		
Kin-Buc	2/10	3/26		6/16	1		
Kirkwood Lake	1/26	3/9		5/25	2		

Labar Island	2/13	3/19		6/29	1		
Lake Hopatcong B	2/14	3/31		6/17	2		
Lake Lenape	<3/17				U		Aerial survey 3/27
Lake Mohawk	<4/28			6/28	1		New nest location
Linden	2/18	3/31		6/20	2		
Little Meadow	<4/4				0	4/15	New pair
Little Swartswood	T						
Lockatong Creek	2/18	4/3			0	5/3	New nest location
Long Bridge	2/2	3/31		6/16	2		
Lower Patcong	2/7	3/14		6/7	2		
Mad Horse Creek	2/15	3/13		6/16	2		
Mad Horse B					0	6/18	New pair; nest fell out of tree 6/18
Makepeace	unk				2		
Manasquan Reservoir	T						
Manasquan River	2/3	3/11	5/3	6/1	3		2 chicks grounded when nest partially collapsed; re-nested 5/3, banded H/35 & H/36, third chick in nest banded H/37
Mannington Meadows A	2/18	3/25		6/17	1		
Mannington Meadows C	2/18	3/25		6/17	3		
Mantua Creek A	3/20	5/8		6/28	1		
Manville	2/13	3/23		6/23	3		
Marshalltown	2/10	3/18		6/17	2		
Mary Elmer	3/14	4/13		7/6	1		New pair
Mason Point	2/11	3/18		6/17	2		
Mattison Reservoir	3/21	4/12		7/5	1		
Matawan Cell	2/22				0	4/21	
Matts Landing 2	2/14	3/13		6/5	1		New nest location
Maurice River- Bluffs	T						
Maurice River- Burcham	1/16				0	4/1	Nest fell in storm
Maurice River- Millville North	2/18	3/14		6/7	1		
Maurice River- Muddy Run	2/10				0	3/16	
Maurice River- Peek Preserve	2/10	4/21		6/9	1		
Mercer Oaks	4/8	5/13		7/22	1		
Merchantville	3/1	4/5			0	4/27	
Merrill Creek A	3/6	5/26		7/27	1		
Merrill Creek B	3/6	5/26		7/27	1		
Mickleton	2/3	3/31		6/20	1		
Milford	2/18	3/26		6/22	3		
Millhurst	2/24	4/17		6/18	2		
Mond's Island	2/1				0	4/20	
Money Island	2/20	4/3		6/20	2		
Monksville Reservoir	2/24	4/6		7/6	1		

Morris Goodwin	T						New pair
Mount Hope Lake	1/31	3/7		5/30	2		
Mountain View	2/17	3/5			0	3/12	New pair
Mt Airy	2/2	3/12		6/7	2		
Mullica	2/8	4/16		6/9	2		
Nantuxent Creek A	2/20				0	3/16	
Nantuxent Creek B	1/26	3/7		5/23	2		
Nantuxent Creek D	2/7				0	3/16	
Navesink B	2/6	3/15		5/29	1		
New Hampton	2/17	3/17		6/7	2		
Newport Meadows B	2/28	5/15		6/16	1		
Newport Meadows C		5/15		6/16	1		
Newton Reservoir	2/6	3/13			U		
Nutley	3/5	4/9		7/2	1		New nest location
Oberlin	2/11	3/30		7/6	1		
Oceanville	2/27	4/7		7/3	3		
Old Bridge	3/15				0	4/21	
Oldmans Creek	2/23	3/20		7/23	2		
Oldwick	2/15	4/4		6/15	1		New pair
Oradell Reservoir	3/8				0	5/1	New nest location
Overpeck Creek	2/25	4/2		6/29	1		
Palisades B	T						F in pair did not return
Paradise	3/15				0	6/1	New pair
Parkers Creek	2/22	3/30	9/15	6/23	3		Fledgling injured; rehabbed & released 9/15; banded H/42
Parsippany	2/11	3/19		6/11	2		
Parsonage Run	2/3	3/9		6/10	2		
Paterson	3/15	4/21		7/8	2		
Pedricktown	2/16	3/30			U		
Pemberton	T						
Pennington	2/27	4/5		7/2	2		
Pennsauken CC	3/1	4/20		6/26	2		
Penns Grove	2/18	3/25		6/25	2		
Penns Neck A	1/22	2/26		5/21	1		
Penns Neck B (Lower)	3/18	4/29		6/9	1		
Pilesgrove		5/3		6/9	2		
Pine Tavern	2/15	4/2		6/18	1		New pair
Pine Tavern B	2/27	3/23		5/27	1		New pair
Pointers Auburn	2/18	3/18		6/10	1		
Pointers Auburn B	2/12	3/18		6/10	1		
Point View Reservoir	T						
Port Norris	T						

Poxono Island	2/24	3/31		7/2	1		
Princeton	3/4	4/8	6/11	6/16	2		Nest fell; chicks renested, banded H/38 & H/39
Prospertown	2/26	3/10		6/18	1		
Quinton	2/11	3/26		6/17	2		
Quinton B	1/28	3/6		6/3	3		
Quinton C	1/28				0	3/27	
Rainbow Lake	2/20	3/29	6/14	6/27	3		6/14 fledgling grounded; banded H/40 and released
Ramblewood	T						
Rancocas B Tower	3/7	4/11			0	5/20	
Raritan-Keasbey	2/26	4/11		6/25	2		
Readington	2/9	3/19		6/10	1		
Repauno	2/20	3/29		6/29	3		
River Barge Park	3/5	4/10		7/14	2		
Riverview	3/4				0	3/11	New pair
Roadstown	2/2				0	4/4	
Robbins Lane	T						
Robbinsville	1/2	2/8			0	2/16	
Round Valley	2/24				0	4/13	
Sadie Lane		<2/4			U		
Salem River	1/18				0	3/29	
Sayres Neck A	1/26	3/7			0	3/16	
Sayres Neck B	2/14	3/27		5/30	1		
Sayres Neck C	2/27	4/3		6/20	2		
Sayreville	<2/24			?	0		New pair
School House	2/14	4/10		6/13	1		
Scullville	T						New pair
Seabrook	2/11	3/18		6/10	2		
Sea Breeze B	2/26				0		New nest location
Sea Breeze Abbot Crk	2/26				U		New pair
SFE A	2/11	3/18		6/10	2		
SFE Tower B	2/11	3/18		6/10	1		
Shark River	T						
Sheepkill Pond	2/7	3/16		6/13	1		
Sheep Pen Creek	1/30				0		
Shiloh Tower	2/28	4/4		6/16	2		
Silver Lake	2/3	4/5		6/28	2		
South Dennis	2/16	3/27		6/19	3		Aerial survey 4/10
South River-Atlantic	3/7	4/17		6/23	2		
Stafford-Beach	2/18	4/8		6/3	1		New pair
Stanton Station	T						

Stillwater (Paulins Kill)	3/26	4/6		6/23	1		
Stow Creek A (North)	2/2	3/31		6/16	2		
Stow Creek C	T						
Stow Creek E	2/28	3/23		6/16	1		
Stow Creek F	3/13	3/23		6/16	1		
Stow Creek G	2/15	4/18		6/16	2		
Sunset Lake	<3/10				U		New nest location
Supawna Meadows A	2/26	4/3		7/6	2		
Supawna Meadows B	2/11	3/18		6/10	2		
Supawna West	2/26	3/30		7/6	1		New pair
Swedesboro-Birch Creek	1/27	3/9		6/12	2		
Sylvan Lake Tower	3/10	4/12		7/6	2		
Timber Creek	T						
Tindall Island	2/28	3/31		6/16	2		
Tocks Island	2/28	4/4		7/4	2		
Toll Bridge		4/8		7/3	1		
Trenton	3/4				0	4/5	
TSG	2/18				0	5/27	
Tuckahoe A	<3/27				U		Aerial survey 3/27; 4/10
Turkey Point A	2/20	4/3		6/20	2		
Turkey Point B	1/26	3/7		5/23	2		
Turnersville	1/29	3/5		6/27	1		
Upper Greenwood	2/26				0	4/15	
Upper Millstone	1/28	3/10		5/26	1		
Upper Oldmans	2/18	3/25		6/11	2		
Upper Ramapo	2/26	4/3		6/26	1		
Wading River A	T						
Wanaque A	2/24	4/20		7/6	1		
Wanaque B	2/24	4/13			U		
Wantage	3/12	5/15		7/23	1		
Waretown	3/6	5/9		7/7	1		
Warfle	2/27	4/3		7/5	2		
Wawayanda	2/20	3/31		6/17	1		
Weatherill	2/28	4/11		6/16	1		New pair
Wheaton Island	2/15	5/15		6/16	1		
Wheaton Island B	3/3	4/7		6/16	2		New pair
White's Pond	T						New pair
Whiting	2/1	3/22		7/3	1		
Williamstown	T						
Woodschurch	2/13	3/22		6/14	2		New pair
Woodcliff Lake	2/26	4/2		6/25	1		
Wreck Creek Pond	1/15	2/19		5/7	2		

Yards Creek	3/12				U		
Total Nests Monitored	286						
Total Nests Active	255						
Total Nests Active & Known Outcome	242						
Territorial Pairs	31						
Successful Nests	188						
Failed Nests	54						
Young Fledged	309						
Nests Active but Unknown Outcome	13						

Table 2. Previously documented eagle nests that were not used, or could not be documented, in 2023.

Alloways D	Forked River	Oceanport Creek
Alloways E	Fort Dix A	Palmyra Cove
Assiscunk Cr	Great Bay Blvd.	Patcong B
Bacon's Neck	Gunning River	Pedricktown Cell
Bayberry Kindle	Hancock A	Pigeon Swamp
Bear Swamp	Hancock B	Rancocas Creek
Belford	Hansey Creek	Riggins Ditch
Belleplain East Creek	Hopewell Central	Rio Grande
Bidwell East	Horicon Lake	River Edge
Blue Anchor	Husteds Landing	Salem Chestnut
Bridgeport	Lake Como	Salem Nuclear
Camden	Lake Hopatcong A	Seabreeze A
Canton Sheep Farm		Stipson Island Area
Cedar Lake	Maca	Stow Creek B
Cheesequake	Mad Horse Island	
Cohansey CC B	Mantua B	Stipson Island Area
Cohansey (Tindells Landing)	Matt's Landing	Stow Creek B
Cold Springs	Medford	Stow Creek D
Davis Mill	MR Dorchester	Three Bridges
Deepwater	MR Mauricetown	Tindall Island B
Dennis Creek A	MR Millville	Tindall Island C
Eagle Point	MR Somes Dr	TSG
East Point	Minisink Island	Tuckahoe B
Eagleswood	Miry Run	Tuckahoe C
Edison Tower	Montague Hollow	Union Lake
Edgewater Park	Navesink River	Winslow
Egg Harbor	Newport Meadows A	Woodbury Creek A
English Creek	Newport D	Woodbury Creek B
Fairgrounds	Newport E	

2023 Season Highlights

Telemetry

Endangered and Nongame Species Program biologists, with the Conserve Wildlife Foundation, have attached satellite transmitters on several eagle fledglings over the past six years. These tagged eagles are helping to identify eagle habitat and overnight roost areas by their activity patterns. Depending on funding, we will continue to use satellite tags on NJ eagles to help us understand habitat use and eagle distribution. In 2023 there were no eagles with active transmitters. However, EagleTrax mapping shows the movements of eagles tracked in the past, found on the Conserve Wildlife Foundation of NJ's [website](http://www.conservewildlifenj.org/protecting/eagle-trax/), <http://www.conservewildlifenj.org/protecting/eagle-trax/>

Notable Efforts

On April 29, an eagle chick, not yet able to fly, was found grounded below the Manasquan River nest after the nest had partially collapsed. The chick was taken to Toms River Avian Care for examination. Two days later, a second chick was found near the nest and was also taken to Toms River. A team assembled on May 3 to renest the eaglets. When the climber reached the nest he was surprised to find a third chick still in the partially collapsed nest. The biologist repaired the nest and all three chicks were returned. All three fledged in early June.

A second nest fell late in the season, this one in Princeton. On June 3 and 4, unfledged nestlings were found near the nest tree and transported to Mercer County Wildlife Center. The nest was rebuilt on June 11 and both chicks were returned to their parents' care; they fledged shortly after.

The staff is grateful for everyone's help in both of the renests. It is a team effort to observe carefully, investigate and rescue when necessary, and take steps in the best interests of the eagles.

Potential Nest Sites

Biologists and observers actively searched for possible nesting eagles in several locations. The searches were in response to reports of eagles engaging in breeding behaviors. Areas that remain promising are Batsto Lake, Oswego Lake, Indian Mills Lake, Evesham, Flemington/Raritan River, White Lake, Musconetcong River and middle Delaware River, all of which have year-round eagle activity. In addition, several inland reservoirs in the north hold promise for eagle nesting.

Resightings of Banded Eagles

Resightings of NJ green-banded eagles have increased over the years, as have eagles seen in NJ that were banded in other states. In Table 3, we list the eagles resighted in recent years in our state and, in some cases, surrounding states. These resightings, accumulated with the help of many photographers and birders, provide insight into eagle movements during the years between fledging and settling into a territory, as well as adult birds at a nest site.

The list of resightings in Table 3 is ordered by the bird's identifier, primarily the color band code. For some individuals, we have multiple resightings that provide some history and a story of that bird's movements.

Table 3. Resightings of marked Bald Eagles in New Jersey and elsewhere, 2022-2023.

* Denotes a band that was resighted in previous years. Band code with a dash (-) has letter-number in line; code with a slash (/) has letter above the number.

Band #	Color Band (green unless noted)	Date Resighted	Reporter	Resight Location	Resight State	Band Origin	Band Date	Comments
629-45895	B/88	9/22/23	Sarah Barrett	Bensalem	PA	Fort Dix	5/13/2005	Found injured
0629-46849	C/41	9/22/23		Pen Argyle	PA	Round Valley	5/11/2007	Found injured
0679-01745	D/10*	4/13/23	C. Alber	Wawayanda	NJ	Little Swartswood	5/5/2010	M in Wawayanda pair
0679-01745	D/10*	8/12/23	S. Byrnes	Highland Lake	NJ	Little Swartswood	5/5/2010	M in Wawayanda pair
0679-01761	D/25*	2/10/2023 & 12/5/2023	R. Nicol	Lake Barnegat	NJ	Manasquan River	4/20/2011	
0709-01562	D/72*	12/24/23	R. Nicol	Waretown	NJ	Navesink	5/1/2013	F in Waretown pair
0709-01616	E/26	12/29/23	J. Kosowsky	Hamilton	NJ	Prospertown	4/8/16	
0709-06501	E/60*	1/11/23	B. Alan	Colt's Neck	NJ	Manasquan River	4/13/18	
0709-06505	E/64	1/8/23	J. Kauterman	Avalon	NJ	Galloway	5/1/18	
0709-06504	E/63	2/8/23	M. Brigman	Peekskill	NY	Galloway	5/1/18	
0709-06515	E/75	5/11/23	J. Caney	Tufts Wildlife Clinic	MA	Manasquan River	5/2/19	Found injured; rehabbed and released
	Purple (left)	6/2/23	M. Ferry	Edgewater	NJ	Virginia	2017	Unsure of code; AD-F
0709-03672	B/60 (blue)	6/7/23	L. Lobbregt	Sandyston, Sussex	NJ	Savannah, NY	10/5/18	M; rehabilitated; banded HY
0709-08073	52/H (blue)	1/11/23	B. Alan	Colts Neck,	NJ	Oswego, NY	3/21/02	3yr-M; rehabbed and released
	W/739(blue)*	2/8/23	K. Patel	Palisades	NJ	Stony Brook, NY	6/30/05	M in Palisades pair for 11 yrs
	Green (left)	4/3/23	J. Garris	Stillwater Twp.	NJ		AD	Trail camera
	Green (right)	1/14/23	J. Davoli	Core Creek Park	PA			In a nesting pair
	Green (right)	2/8/23	G. Ralph	Rock Neck St. Park	CT			Immature
	Green (right)	3/18/23	D. Poolake	Sayers Neck	NJ			Male in Sayers Neck B pair
Silver (left)	Green (right)0	5/17/23	T. Gergorio	Cranford	NJ		AD	Seen with another adult
0709-07014	Silver (right)	3/7/23	A. Cooper-Rounsaville	Frenchtown	NJ	Lancaster Co. PA	2017	
	Silver (right)	5/30/23	P. Birdsall Cadigan	Cape May	NJ			AD; no color band

Photos of some resighted eagles:

B/60 photographed 10/5/23 by Laurie Lobbregt, Sandyston, Sussex Co.; banded as a hatch-year bird in rehabilitation 6/7/23, Savannah, NY



E/63 photographed 2/8/23 in Peekskill, NY; Banded 5/1/18 in Galloway, NJ



E/26 on 12/29/23 in Mercer Co. Banded 2016 in Prospertown.



D/25 photographed 2/10/23 by Rich Nicol; banded 4/20/11 at Manasquan River



E/64 photographed 1/8/23 by John Kauterman; Banded 5/1/18 Galloway

Recoveries of Eagles in New Jersey

During this reporting period, 60 eagles were recovered, and of those, seven were treated and released. The remaining birds were found dead, died while in care, or were euthanized for these reasons: electrocution (14), impacts with vehicles (10), impact with train (1), impact trauma of undetermined source (8); eagle-eagle combat (3); lead toxicosis (2); nest fell (1), shot (1), imprinted (1), and unknown circumstances (12) (Table 4). Electrocution is a significant risk for bald eagles everywhere, because power distribution relies on smaller poles where “hot” wires are often positioned less than six feet distant and where an eagle’s wingspan can result in wire connections. ENSP works with power suppliers (Atlantic Electric, PSE&G, and JCP&L) to retrofit poles and mark lines where they are high risk. Vehicle impacts can occur at any time, but eagles may feed on road carrion during the lean winter months, making them vulnerable. Among the eagles that died from undetermined cause (often due to deteriorated condition), disease (like West Nile Virus) and lead exposure could have been involved.

Table 4. Bald eagles recovered injured or found dead in this project year.

Date Found	Found (town/county)	Facility	Origin	Age-Sex	Details
1/5/23	Dividing Creek, Cumberland	NJFW-Tuckahoe		AHY-M	Electrocution
1/12/23	Mannington, Salem	Tri-State Bird Rescue		AD-M	Vehicular impact; euthanized
1/17/23	Chesterfield, Burlington	Mercer County		AD-F	Euthanized- undetermined
1/21/23	Fairfield- Cumberland	NJFW-Tuckahoe		AD-F	Found near CC nest; undetermined
1/25/23	Hammonton-Atlantic	NJFW-Tuckahoe		4yr-F	Vehicular impact
1/31/23	Old Bridge, Middlesex	NJFW- Assunpink		AD-F	Under power lines; impact trauma
2/8/23	Montclair, Essex	The Raptor Trust		AD-M	Undetermined
2/12/23	Fairfield, Cumberland	NJFW-Tuckahoe		AD-F	Electrocution
2/7/23	Montclair, Essex	The Raptor Trust			Died 2/8; undetermined
2/15/23	Tuckahoe, Atlantic	NJFW-Tuckahoe		4yr-M	Impact Trauma
2/19/23	Cedarville, Cumberland	NJFW-Tuckahoe		AD-F	Eagle combat
3/8/23	Greenwich, Cumberland	NJFW-Tuckahoe		2nd-F	Electrocution
3/13/23	Fairton, Cumberland	Tri-State Bird Rescue	Greenwich, 2006	AD-F	Band C/01; Euth 3/13; vehicular impact
3/15/23	Elmer, Cumberland	NJFW-Tuckahoe	Elmer nest	2 weeks	Nest fell; chick found dead
3/17/23	Galloway, Atlantic	NJFW-Tuckahoe		AD-F	Vehicular impact
3/17/23	Spruce Run, Hunterdon	NJFW-Clinton		AD-F	Suspected eagle attack
4/4/23	Wall, Monmouth	NJFW-Clinton		3yr-F	Electrocution
4/13/23	Sayreville, Middlesex	Toms River Avian		AD	Euthanized; neurological; impact
4/29/23	Manasquan R. Monmouth	Toms River Avian	Manasquan River nest; 2023	8 weeks	2 nestlings renested 5/3 after nest collapse/fix; banded H/35 & H/36
5/7/23	Voorhees, Camden	Tri-State Bird Rescue		AD-M	Euth 5/8; acute impact
5/9/23	Trenton, Mercer	Mercer Wildlife		AD-F	Impact with train
5/26/23	Double Trouble State Park, Ocean	Toms River Avian		2nd-year	Entangled in fishing line; euthanized. Imprinted behavior.
6/11/23	Princeton, Mercer	Mercer Wildlife	Princeton 2023	Pre-fledge	2 nestlings renested after nest collapse. H/38 & H/39.
6/14/23	Pittsgrove, Cumberland	Held overnight	Rainbow Lk '23	Fledge	Released 6/15; banded H/40

7/7/23	Ft Monmouth, Monmouth	Toms River Avian	Parkers Creek-23	Fledge	Wing injury around fledging; banded and released 9/15; H/42
7/11/23	River Rd, Warren	NJFW-Clinton		Fledge-M	Electrocution
7/17/23	Woolwich Twp., Glouc.	NJFW- SRO		HY-F	Electrocution
7/25/23	Paterson, Passaic		Paterson 2023	Fledge	Undetermined
7/29/23	Mercer GC, Mercer	Mercer Wildlife	Mercer Co, 2023	Fledge-F	Released 8/16; banded H/41
8/7/23	Salem City, Salem	NJFW-Tuckahoe		Juv	Electrocution
8/9/23	Bayside Prison, Cumberland	Tri-State Bird Rescue		AD-M	Euth due to injuries from razor wire
8/9/23	Hillsborough, Hunterdon	The Raptor Trust		3yr	Euth; undetermined
9/2/23	Port Norris, Cumberland	NJFW-SRO		HY-F	Electrocution
9/10/23	Shiloh, Cumberland	NJFW-Tuckahoe		AD-M	Impact with vehicle
9/10/23	Vineland, Cumberland	NJFW-Tuckahoe		HY-F	Electrocution
9/11/23	Cumberland	NJFW-SRO		Juv	Undetermined
9/13/23	Lafayette Twp, Sussex	NJFW-Clinton		AD-F	Electrocution
9/14/23	Mansfield, Burlington	Mercer Wildlife		4yr-M	Found in road, released 9/30; banded H/43
9/18/23	Teterboro, Bergen	The Raptor Trust		AD-F	Found injured; died after surgery due to trauma
9/19/23	Lafayette Twp., Sussex	NJFW-Clinton		HY-F	Electrocution
9/21/23	Sea Isle, Cape May	Tri-State Bird Rescue		AD-M	Found on beach injured; euthanized
9/25/23	Lower Township, CM	NJFW-Tuckahoe		4yr	Undetermined
9/29/23	Penns Grove, Salem	Tri-State Bird Rescue		AD-M	Impact with vehicle
10/2/23	Franklin Twp., Gloucester	NJFW-SRO			Undetermined
10/7/23	Bridgeton, Cumberland			HY	Electrocution
10/12/23	Daretown, Cumberland	Tri-State Bird Rescue		AD-F	Found injured, died; vehicle impact
10/14/23	Lafayette Twp., Sussex	Avian Wildlife		AD-F	Electrocution
10/14/23	Phillipsburg, Warren	The Raptor Trust		AD-F	Euthanized due to injuries; eagle combat
10/23/23	Hillsborough, Somerset	The Raptor Trust		AD-M	Treated for lead poisoning; died 10/29
11/4/23	Whitehouse Stn, Hunter.	The Raptor Trust		AD-F	Euthanized due to impact injuries.
11/5/23	Middletown , Monmouth	Mercer Co Wildlife		4yr-F	Impact trauma; found in pool; drowned
11/7/23	West Milford, Sussex	Avian Wildlife Ctr	NY blue E/88		Vehicle impact
11/14/23	Belleplain, Cape May	Tri-State Bird Rescue		AD-M	Lead poisoning leading to impact
11/28/23	Kearny, Hudson	TRT->Clinton	Union Lake 2000	AD-F	A-61; vehicle strike
11/13/23	Southampton, Burlington	Toms River Avian		3 rd yr	Vehicle impact; released
12/7/23	Manahawkin, Ocean	Toms River Avian		AD	TBD (unknown at report time)
12/9/23	Allaire St. Park, Ocean	Toms River Avian		4yr	TBD (unknown at report time)
12/18/23	Cedarville, Cumberland	Tri-State Bird Rescue		AD-F	Euthanized due to vehicle impact
12/25/23	Pilesgrove, Salem	Tri-State Bird Rescue		AD-F	Euthanized due to shot injuries (under investigation)
12/27/23	Upper Pittsgrove, Cumb.	Tri-State Bird Rescue		4yr-M	Electrocution

Our sincere thanks to everyone who pitched in to help rescue, transport, and treat eagles! Those interested in helping, please look for the new Raptor Alliance group! Organization and training will continue in 2024. Follow at www.NJRaptors.org.

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