

2018 New Jersey Beach Nesting Bird Project Report

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The New Jersey Division of Fish and Wildlife – Endangered and Nongame Species Program (NJDFW-ENSP) is responsible for the monitoring and management of beach nesting birds on all state, county and municipal sites and the collation of statewide data (including federal and private properties). This report offers a summary of nesting in NJ in 2018 for the four primary species that comprise this group – Piping Plover (federally threatened, state endangered), Black Skimmer (state endangered), Least Tern (state endangered) and American Oystercatcher (species of special concern).



Due to a constraint on resources, not all potential sites in the state were surveyed for all species. All known nesting sites for Piping Plover and Least Tern were monitored. All known beach strand and some marsh island colonies nesting sites for Black Skimmer were monitored. All known beach strand nesting sites for American Oystercatcher were monitored but only a small number of marsh island/Delaware Bayshore sites were monitored.

Each species has slightly different nesting phenology and habitat requirements. Some species are solitary nesters (plovers and oystercatchers) while others are colonial (terns and skimmers). These differences can lead to not only distinctive management strategies but also to vastly disparate reproductive outcomes (at a given site, one species may be successful while another may fail). It is therefore difficult to formulate conclusions for the group so results are presented by species.

However, there were some across species commonalities. Depredation continued to be the major limiting factor for all species. Although some species had high reproductive output (notably, the Piping Plover productivity goal was met for the first time in over 30 years), others had a poor showing due to predators and all species were impacted by this issue. The distribution of beach nesting birds across the state continues to shift from historic norms. The movement of Piping Plovers to federal sites in the central and northern portion of the state has been apparent for a few years, but 2018 was the first time in recent history there was no tern or skimmer colonies south of Hereford Inlet. This is of note because the Cape May peninsula is an area that has previously held multiple nesting areas for these species and is heralded for its importance to birds across the continent.

Despite the strong reproductive success observed for Piping Plovers and Black Skimmers, larger issues remain that undermine the security of these population in the state. There were just 96 pairs of Piping Plovers in 2018 and Black Skimmers produced fledges at just five sites. Most Least Tern were unable to succeed due to intense predator pressure. The issues that plague these species (human disturbance, flooding, predators, man-initiated stabilization of habitat) are only likely to increase in coming years such that managers must work harder to ensure that these species will not only persist but recover.

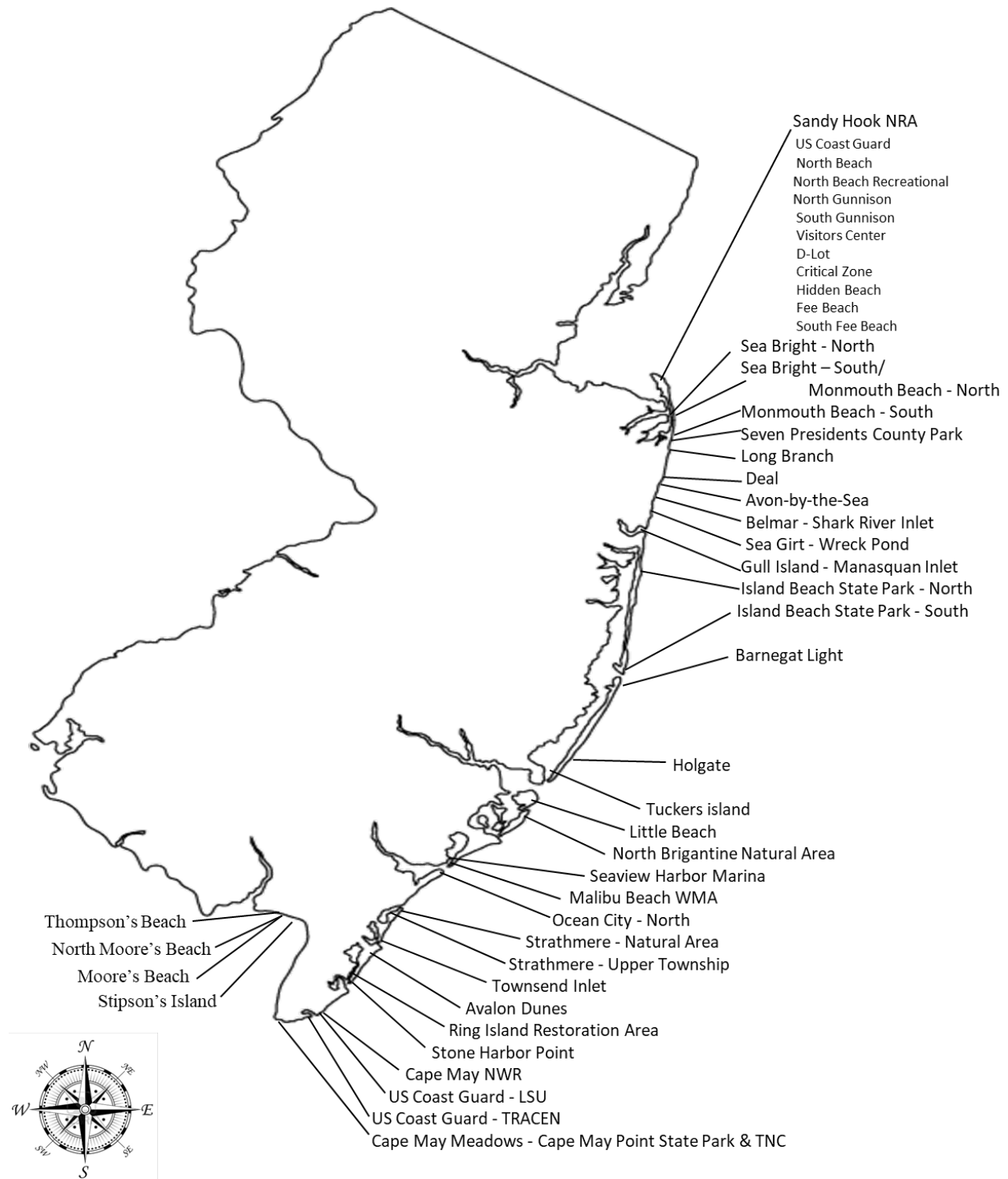
The NJDFW-ENSP does not own any of the property that it manages for these species so relationships with landowners and interested parties is paramount to a successful season. Staff continued to work hard to create and/or strengthen relationships this year with all partners. Volunteers played an increasingly important role in 2018, as staff relied on them to help with monitoring efforts and engaging with the public. We were deeply appreciative of the cooperation and support from all entities that resulted in the successes that were had.

Special thanks to Alfred Breed for his help in compiling data in this report.

Data from partners was provided by USNPS -Gateway National Recreation Area – Sandy Hook Unit, USFWS – Edwin B. Forsythe National Wildlife Refuge & Cape May National Wildlife Refuge, USCG - TRACEN, The Nature Conservancy, The Wetlands Institute, & New Jersey Audubon Society.

A more detailed report for Piping Plover is available through the Conserve Wildlife Foundation of NJ website or can be requested through NJDFW-ENSP.

New Jersey Beach Nesting Bird Sites: 2018



** This map represents all the Atlantic Coast and Delaware Bay sites where confirmed nesting was documented. It does not show sites that were monitored but no active nesting detected or sites that nesting did/may have occurred but where there was no monitoring, as is largely (but not exclusively) the case for the marsh islands of the Atlantic Coast.*

Piping Plover Nesting Summary

- Piping Plover breeding bird surveys were conducted, depending on the site, 5-7x/week at all active nesting sites.
- Ninety-six (96) pairs of Piping Plovers nested in New Jersey in 2018, a 9% decrease from 2017 (105) and a 17% decrease from 2016 (115). This continued decrease, despite excellent reproductive success, is now a cause for full alarm.
- The total number of adults recorded for the entire nesting season (195) was somewhat higher than during the date-restricted survey conducted June 1-9 (184). The number of pairs tallied during the entire nesting season (96) was similar to the pairs recorded during the date-restricted census (87). There were 10 unpaired adults observed during the census, compared to 3 that remain unpaired by season's end. This figure was more in line with previous year's totals and much lower than in 2017 (end of season unpaired tally was 17). However, this difference makes the decline of adults more apparent (195 vs 227 in 2017 and 232 in 2016).
- Pairs nested at 19 sites statewide, one less than 2017 and well below the peak count of 30 sites recorded in both 2004 and 2005. Much of this loss has been sustained at Cape May County sites, which is now down to one active site (Stone Harbor Point).
- Statewide pair-nest success (the percentage of pairs that successfully hatch at least one nest) increased in 2018 compared to 2017 (91% vs. 78%, respectively), and well above-average for the period since federal listing (69%). Looking at just NJDFW-ENSP-monitored sites, 2018 pair-nest success (96%) was slightly higher than the state-wide tally and higher when compared to the period since federal listing (67%) and in 2017 (86%).
- The statewide productivity rate was 1.51 fledglings/pair, an increase from 2017 (1.29 fledglings/pair). Productivity at NJDFW - ENSP-monitored sites (1.59 fledglings/pair for 27 pairs) was below the 2017 metric (1.79 fledglings/pair) but slightly above the 2017 statewide tally, an unusual occurrence.
- The statewide productivity rate marked, for the first time in over 30 years, that the USFWS recovery goal of 1.5 fledglings/pair was met and exceeded. This makes it even more alarming that for the second year a dip in breeding pairs was recorded. The same pattern was observed in 2017, but it appears more serious this year because there weren't as many unpaired adults to make up some of the difference in the pair tally. Surrounding states do not seem to be experiencing this issue and there are now critical questions about the fitness of NJ birds and their survivorship rates versus those in other regions as well as about habitat suitability in the state.
- NJDFW - ENSP continued to use predator exclosures in 2018 with 71% of nesting attempts exclosed (statewide was 75%). The exclosed hatch rate for NJDFW - ENSP nests was 92% (statewide was 85%). The NJDFW - ENSP unexclosed hatch rate was 40% (statewide was 32%) and of the NJDFW - ENSP nests not exclosed, 50% were lost to depredation (statewide was 48%). The abandonment rate for NJDFW - ENSP exclosed nests was 0%, compared to 5% statewide.
- NJDFW-ENSP purchased GPS data loggers in support of the State University of New York (SUNY)–Syracuse's Piping Plover research project. In 2018, three adults returned to the NJ breeding grounds with loggers that were attached in 2017 (2 others were observed on wintering grounds but not seen after). In 2018, 6 adult females were outfitted with GPS data loggers for the short-term (they wore them for ~2-3 weeks) and 15 adults (13 females, 2 males) were outfitted for the long-term (to be retrieved next year) using a leg harness attachment technique. No problems were detected with this method, but the data retrieved from the 2017 units is not yet available to share.
- The majority of plovers (72%) are still nesting at two federal sites (Gateway NRA – Sandy Hook and EB Forsythe NWR) and the severe decline of nesting plovers in Cape May County continues to be of dire concern (3 pairs at 1 site in 2018, compared to 43 pairs at 12 sites in 2002).

New Jersey Piping Plover nesting summary by site: 2018

2018						
SITE	Pairs	Pairs Hatched	Chicks Fledged	Pair Success	Fledge Rate	SP Fledge Rate
Sandy Hook NRA	38	36	59	0.95	1.55	1.64
<i>Coast Guard</i>	3	3	7	1.00	2.33	2.33
<i>North Beach</i>	11	10	13	0.91	1.18	1.30
<i>North Beach Recreational</i>	1	1	1	1.00	1.00	1.00
<i>North Gunnison</i>	6	6	9	1.00	1.50	1.50
<i>South Gunnison</i>	3	3	8	1.00	2.67	2.67
<i>Critical Zone</i>	6	6	6	1.00	1.00	1.00
<i>Hidden Beach</i>	3	3	8	1.00	2.67	2.67
<i>Fee Beach</i>	3	3	5	1.00	1.67	1.67
<i>South Fee Beach</i>	2	1	2	0.50	1.00	2.00
Sea Bright - North	10	10	21	1.00	2.10	2.10
Monmouth Beach – North ¹	3	3	4	1.00	1.33	1.33
Monmouth Beach - South	1	1	1	1.00	1.00	1.00
Region 2 Subtotal	52	50	85	0.96	1.63	1.70
Belmar - Shark River Inlet	1	1	2	1.00	2.00	2.00
Island Beach SP NNA	4	4	4	1.00	1.00	1.00
Barnegat Light	3	3	5	1.00	1.67	1.67
Region 3 Subtotal	8	8	11	1.00	1.38	1.38
EB Forsythe NWR	31	25	43	0.81	1.39	1.72
<i>Holgate</i>	18	13	26	0.72	1.44	2.00
<i>Little Beach</i>	13	12	17	0.92	1.31	1.42
North Brigantine NA	2	2	4	1.00	2.00	2.00
Region 4 Subtotal	33	27	47	0.82	1.42	1.74
Stone Harbor Point	3	2	2	0.67	0.67	1.00
Region 7 Subtotal	3	2	2	0.67	0.67	1.00
NJDFW sites TOTAL	27	26	43	0.96	1.59	1.65
All NJ sites TOTAL	96	87	145	0.91	1.51	1.67
# Active Sites	19					

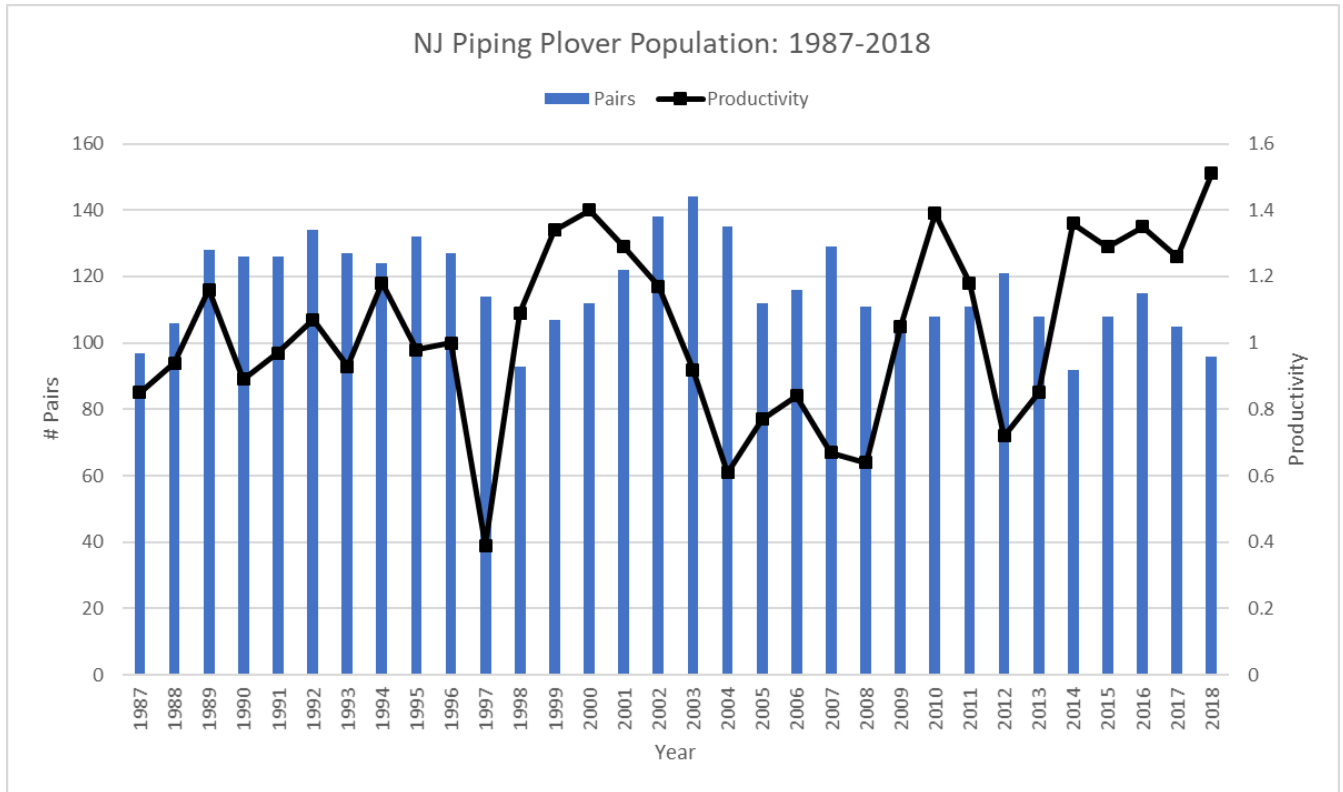
¹This site includes Sea Bright – South

Pair Success equals the percentage of pairs that hatched young (at least one chick observed).

Fledge Rate equals the number of chicks fledged per pair.

Successful Pair (SP) Fledge Rate equals the number of chicks fledged per pair that successfully hatched young.

New Jersey Piping Plover population: 1987-2018



**Note that in year's past, generally speaking, an increase in productivity would result in an increase in pair numbers and vice versa. In 2017 and 2018, a decrease in pairs was observed despite high (for NJ) productivity. This pattern is not yet understood but is of grave concern.*

Black Skimmer Nesting Summary

- Black Skimmer breeding bird counts were conducted approximately every week at active sites from arrival (generally mid-May) until nesting ceased (mid-September, in 2018) on beaches along the entire Atlantic coast and some marsh islands from Barnegat Bay south (other marsh islands were surveyed as resources allowed). Ground surveys took place at eight sites and active nesting (at least one nest with eggs) was observed at five sites (an aerial survey took place once in late May and once in July and there were very few skimmers noted, an unusual outcome). These five sites were also visited 3-7x/week for management and outreach for the duration of the nesting season.
- A total of 2,330 adults were present at the active sites. This figure is the cumulative total of site counts that occurred in the peak survey period, which took place 30 July – August 5. The sum of the peak adult number from each site was 2,676. A large difference between these two numbers can suggest failure at any given colony and then relocation/renesting to another colony. As has now been the case since 2010, the majority (80%) of the state's known population was present at just one site, which continued to be Seaview Harbor Marina in Longport (2,123 peak adult count). Skimmers were documented continuing to use the sandy restored areas of marsh islands (Ring Island <no nest hatched> and Mordecai Island <no confirmed nesting documented>), although with less success than last year.
- A peak count of 827 incubating adult Black Skimmers was tallied in the 9-15 July survey period. The incubation number was lower than might be expected given the number of adults present and was likely lower than what actually nested. As is generally the case, the vegetation at the largest colony blocked observers from garnering an accurate count of these ground nesters but walk through colony counts have not shown to be effective in NJ.
- Black Skimmer statewide productivity appeared to be relatively high, with 941 fledglings produced statewide. This translates to 1.14 fledglings/pair if use peak incubating adult count. If we simply halve the peak period total adult number and use that as pair count, the productivity is 0.81. The true rate is likely somewhere in the middle. Three sites (the two mentioned below and Holgate) fledged young and the majority were produced at one site, Seaview Harbor Marina (82%). Notably, Stone Harbor Point produced a strong number of the state's fledges (17%) which was a true success at one of the most variable sites in the state for productivity consistency. Depredation was the primary factor responsible for nest and chick loss on beach strand sites. For the marsh nesting birds, the lower number of observations at these sites meant it was difficult to ascertain reasons for failures but it was likely a combination of flooding and depredation. Two-thousand eighteen also saw a stark lack of nesting in the marsh islands, continuing a downward trend that started years ago but was especially obvious this year.
- NJDFW-ENSP, The Wetlands Institute (TWI) and the Conserve Wildlife Foundation of NJ worked cooperatively to band 47 Black Skimmer near fledglings on Stone Harbor Point (TWI also banded one adult on Ring Island) This effort was the most fruitful yet, since banding began in 2016, owing largely to the success of the colony at Stone Harbor Point. It was determined that nocturnal efforts for banding yielded better results in terms of reduced colony and chick stress. Long-term goals of banding include better understanding of site fidelity, recruitment, and inter-state movements (particularly with New York breeding birds).
- Over the course of fall 2017-summer 2018, seven of the 35 chicks banded in Belmar in 2016 (note: this is the same number as appears in the 2017 report but comprises different individuals) and one adult from 2017 were observed either on migration or wintering grounds. Multiple NY-banded birds were observed in NJ as migrants.
- Although NJDFW-ENSP continues to be concerned that the majority of Black Skimmers are at just one site and that the overall colony number was quite low, in 2018 a significant colony (at Stone Harbor Point) was successful, which was a heartening change from previous years. However, other nesting areas that would have contributed to a diversity of successful nesting sites failed to produce fledglings, due in large part to predators.

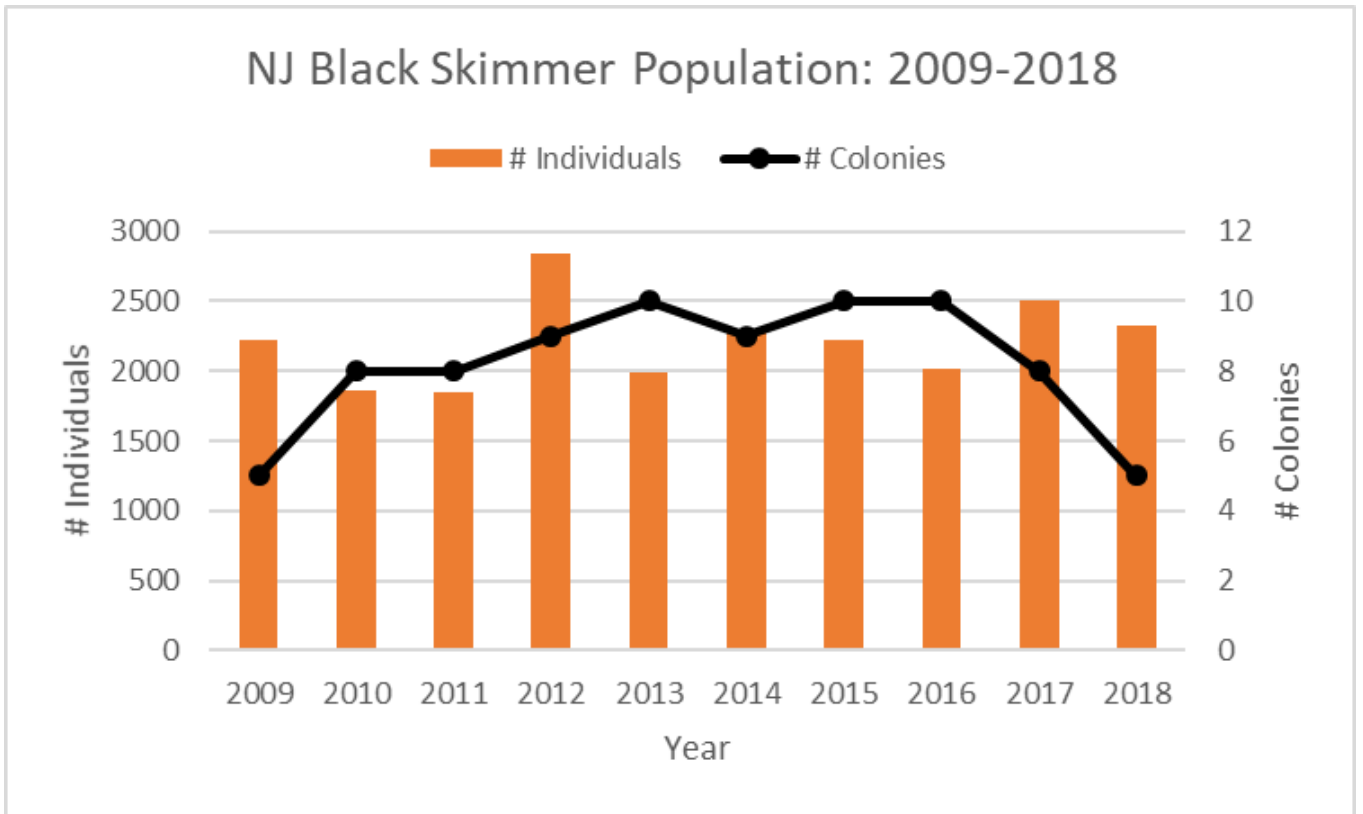
- The impact of sea-level rise in the marsh islands may be affecting occupied nesting areas. The largest colonies continue to be located either on the beach strand or on large, relatively stable marsh islands with sandy substrate. There was almost no activity in the traditional marsh colony areas (smaller islands that are more susceptible to flooding) as two aerial surveys and follow-up ground surveys failed to detect any successful nesting colonies and very little activity overall. This appears to represent a true move away from nesting on wrack in marsh colonies. NJDFW-ENSP will be closely tracking this emerging pattern in future years to better understand shifting distribution. The sandy restoration areas did not have as much success as last year, but given the apparent lack of other options in the marshes, NJDFW-ENSP remains committed to continuing to experiment with restoring habitat in this fashion.
- Please note that the data in the following table is presented both in terms of peak tallies of each site *and* the peak counts statewide in a given survey window. It is presented by site so that the use of any given location can be understood. However, simply tallying these peaks can lead to double counting individuals since this species is known to use multiple sites in one year (e.g. a colony fails at one site and they re-nest at another site.) so the statewide peak window count is an effort to reduce that issue and add context to the site total figures.

New Jersey Black Skimmer nesting summary by site: 2018

SITE	Peak Total Adult Count	Peak Incubating Adult Count	Chicks Fledged	Fledge Rate
Belmar – Shark River Inlet	65	8	0	0.00
Holgate - South	100	30	3	0.10
Seaview Harbor Marina	2123	820	772	0.94
Ring Island	144	10	0	0.00
Stone Harbor Point	244	138	166	1.20
NJDFW sites TOTAL	2432	966	938	--
All NJ sites TOTAL	2676	1,006	941	--
Statewide Peak Window Count	2330	827	--	--
	(7/30/18-8/5/18)	(7/9/17 – 7/15/17)		
# Active Sites	5			

- **“Fledge Rate”** equals the number of chicks fledged per incubating adult. This number should be considered an estimate as there is not a high degree of confidence in the incubating adult and fledge number as these data points are very difficult to collect. Because of this difficulty, there is no statewide fledge rate tallied here.
- **“Peak Total Adult Count”** & **“Peak Incubating Adult Count”** are the highest adult counts observed at any point during the breeding season. **“Statewide Peak Window Count”** represents the highest tally for one one-week survey window. This species exhibits a high degree of intra-year movements so both numbers are important to understand the distribution of adults and habitat use (on site and state levels) in NJ.
- The following sites had adults present during some surveys but no nesting was directly observed. Nesting may have occurred but it was not captured by our surveys.
 - Little Sedge Island
 - Vol Sedge - West
 - Dipper Point
 - East Sedge
 - Mordecai Island
 - Little Beach
 - South Channel – South

New Jersey Black Skimmer population: 2009-2018



Note: The number of colonies only includes sites where active nesting was documented.

Least Tern Nesting Summary

- Least Tern breeding bird surveys were conducted every week from mid-May until the end of August at beaches along the entire Atlantic coast. Colonies were located at 17 sites and observations were made at these locations for the duration of the season. These 17 sites were also visited 3-7x/week for management and outreach for the duration of the nesting season.
- A total of 1,143 adults were present at these sites (based on a cumulative total of peak site counts that occurred in the 18-24 June survey period). The summed peak adult number from each site was 1,912. A large difference between these two numbers can suggest failure at a given colony and then relocation/re-nesting to another colony, which given the data and on-the-ground observations appears to have happened in 2018.
- The population was distributed fairly evenly throughout the state and eight colonies had >100 with one colony 300+. The largest colony was at Stone Harbor Point, with 305 adults on its peak count followed by Holgate – North with 260 adults at its peak. The statewide adult number was about the same as recent years and more in line with the longer-term trend. Of note was the lack of colonies south of Hereford Inlet. As always, there was some difficulty tallying birds in dense vegetation. However, it is easier than with Black Skimmer so confidence in the tallies is higher.
- A peak (census period of 18-24 June) of 625 adult Least Terns were observed incubating. Productivity was poor for Least Terns with 199 fledglings produced statewide (0.32 fledglings/ pair, based on the peak number of incubating adults). The fledge rate continued the dip from last year and illustrates an increased issue with depredation and flooding, as well as difference among species at the same site. Take for example the nearly complete tern failure at Stone Harbor Point, compared to the success of American Oystercatcher and Black Skimmer at the same locale.
- Please note that the data in the following table is presented both in terms of peak tallies of each site *and* the peak counts statewide in a given survey window. It is presented by site so that the use of any given location can be understood. However, simply tallying these peaks can lead to double counting individuals since this species is known to use multiple sites in one year (e.g. a colony fails at one site and they re-nest at another site.) so the statewide peak window count is an effort to reduce that issue and add context to the site total figures.

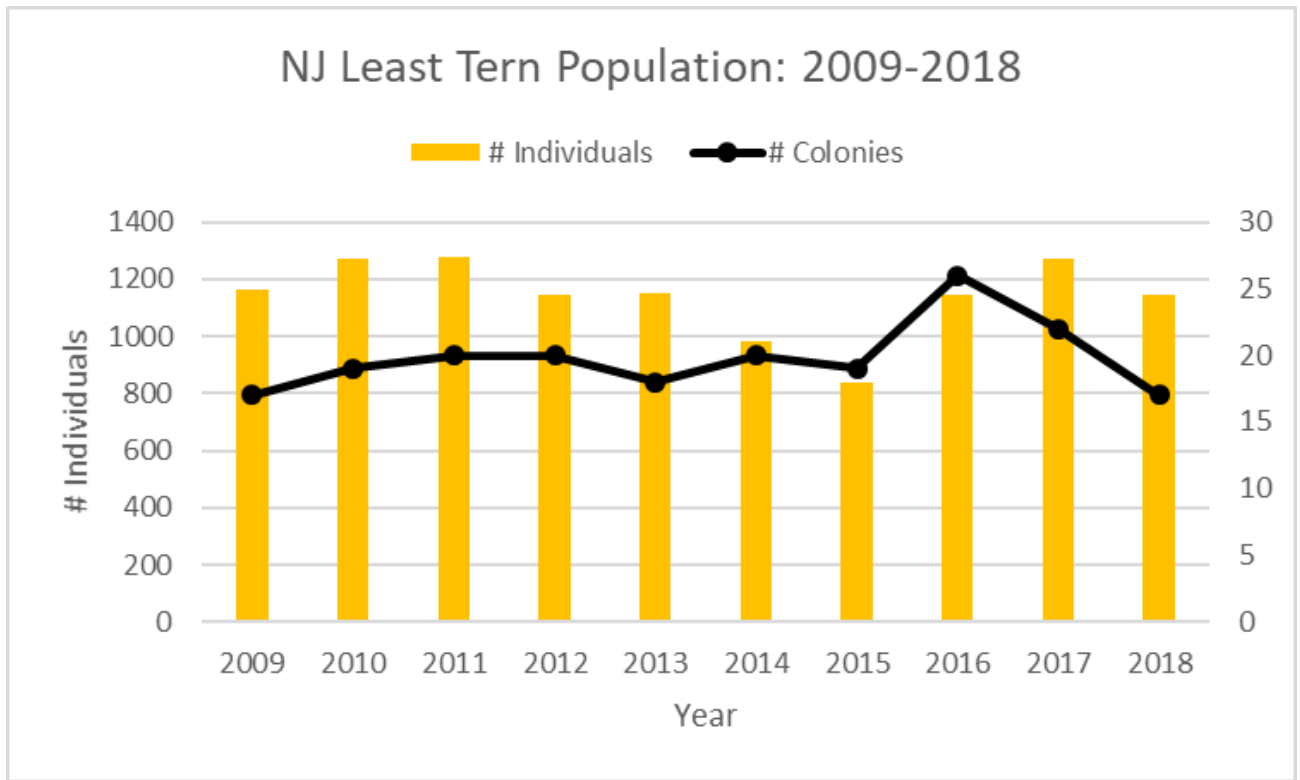
New Jersey Least Tern nesting summary by site: 2018

SITE	Peak Total Adult Count	Peak Incubating Adult Count	Chicks Fledged	Fledge Rate
Sandy Hook NRA	114	14	0	0.00
<i>North Beach</i>	54	8	0	0.00
<i>North Gunnison</i>	60	6	0	0.00
Sea Bright North	184	102	15	0.15
Monmouth Beach North	153	6	4	0.67
Seven President's Park	8	2	0	0.00
Belmar – Shark River Inlet	247	130	76	0.58
EB Forsythe NWR	295	107	90	0.84
<i>Holgate – North</i>	260	98	76	0.78
<i>Holgate – South</i>	35	7	14	2.00
<i>Little Beach</i>	5	2	0	0.00
North Brigantine NA	12	2	0	0.00
Malibu WMA	113	81	5	0.06
Ocean City - North	30	2	2	1.00
Strathmere Natural Area	191	31	0	0.00
Strathmere - Upper Township	48	16	0	0.00
Townsend's Inlet	205	129	1	0.01
Stone Harbor Point	307	226	6	0.03
Ring Island	5	4	0	0.00
NJDFW sites TOTAL	1498	727	109	--
All NJ sites TOTAL	1912	852	199	--
Statewide Peak Window Count	1143	625	--	--
	(6/18/18 - 6/24/18)	(6/18/18 - 6/24/18)		

Active Sites **17**

- “Fledge Rate” equals the number of chicks fledged per incubating adult. This number should be considered an estimate as there is not a high degree of confidence in the incubating adult and fledge numbers. As these data points are very difficult to collect.
- “Peak Total Adult Count” & “Peak Incubating Adult Count” are the highest adult counts observed at any point during the breeding season. “Statewide Peak Window Count” represents the highest tally for one two-week survey window. This species exhibits a high degree of intra-year movements so both numbers are important to understand the distribution of adults and habitat use (on site and state levels) in NJ.

New Jersey Least Tern population: 2009-2018



Note: The number of colonies only includes sites where active nesting was documented.

American Oystercatcher Nesting Summary

- Although American Oystercatchers are a management priority in areas of high human disturbance, resource limitations dictate that the data collected on this species is neither comprehensive to the state (it is well known that many individuals nest in the marsh, but the vast majority are not tracked) nor is the data broken down in the same way it is for the listed species. The sites listed in the table were visited anytime from 1x/week (or less) to 7x/week.
- There was a decrease in the number of pairs that were monitored by NJDFW-ENSP and partners compared to 2017 (125 pairs vs. 142 pairs) but since there is not an ability to monitor all the pairs in the state, it is difficult to put this into context. There *was* a notable decrease in the Sandy Hook region, from 29 to 15 pairs, and small losses at other strongholds Holgate, Little Beach and Stone Harbor Point. Whether this means there was lower survivorship over the winter, that poor productivity from past years has begun to catch up or if those birds simply moved to areas that weren't monitored is impossible to say, but biologists will continue to investigate the situation and look for patterns to emerge in the future.
- The table below shows the reproductive output for all the pairs that were tracked by NJDFW-ENSP and their partners. Looking at the data, it is clear the reproductive output of monitored pairs was on the lower side for this species, at 0.40 fledglings/pair (the American Oystercatcher Working Group recommends a goal of 0.50 fledglings/pair). As a longer-lived species, they can better cope with lower rates than a shorter-lived species (like Piping Plover), but reproductive output over years must average on the higher side to secure populations. They may have more difficulty than other species because they are more conspicuous in a beach environment (unlike the well-camouflaged and diminutive plover) and have a less aggressive strategy for protection of their nests (like terns).
- The Conserve Wildlife Foundation of NJ led a more concerted effort to monitor pairs on the Delaware Bayshore and this resulted in “new” sites coming online. Monitoring of these pairs will help species managers have a greater understanding of distribution across the state.
- As the distribution of plovers, terns and skimmers continues to shift from historic norms, oystercatchers appear to be continuing to use habitat along the entire coastline, which invites questions there are not currently answers for—why are they still selecting habitat other beach nesting birds have abandoned? Does interspecific competition between oystercatchers and plovers help explain the lack of plovers in the southern part of the state? Are these species sensitive to elevation changes on a small enough scale that it helps explain the changes (with oystercatchers preferring higher habitat)? Future research and monitoring seeks to answer these questions.
- American Oystercatchers are among the beach nesting bird species that garner the most interest by the public. Their striking appearance and comical behaviors make them a natural at engaging the beach-going public. NJDFW-ENSP staff and volunteers built on this curiosity to help make connections between people and their natural resources, including the full suite of beach nesting birds.

American Oystercatcher nesting summary: New Jersey 2018

SITE	Pairs	Pairs Hatched	Chicks Fledged	Pair Success	Fledge Rate
Sandy Hook NRA	15	2	0	0.13	0.00
<i>Coast Guard</i>	2	1	0	0.50	0.00
<i>North Beach</i>	3	1	0	0.33	0.00
<i>North Beach Recreational</i>	1	0	0	0.00	0.00
<i>North Gunnison</i>	1	0	0	0.00	0.00
<i>South Gunnison</i>	2	0	0	0.00	0.00
<i>Visitor's Center</i>	1	0	0	0.00	0.00
<i>D-Lot</i>	1	0	0	0.00	0.00
<i>Critical Zone</i>	2	0	0	0.00	0.00
<i>Hidden Beach</i>	1	0	0	0.00	0.00
<i>Fee Beach</i>	1	0	0	0.00	0.00
<i>Sea Bright - North</i>	1	0	0	0.00	0.00
<i>Monmouth Beach - North¹</i>	1	0	0	0.00	0.00
Region 2 Subtotal	17	2	0	0.12	0.00
<i>Long Branch</i>	1	1	0	1.00	0.00
<i>Deal</i>	1	0	0	0.00	0.00
<i>Avon</i>	1	1	1	1.00	1.00
<i>Belmar-Shark River Inlet</i>	1	1	2	1.00	2.00
<i>Sea Girt-Wreck Pond</i>	1	0	0	0.00	0.00
<i>Gull Island – Shoreline & CDF</i>	3	2	3	0.67	1.00
<i>Island Beach SP – SNA</i>	1	0	0	0.00	0.00
<i>Barnegat Light</i>	1	0	0	0.00	0.00
Region 3 Subtotal	10	5	6	0.50	0.60
<i>Holgate</i>	16	8	10	0.50	0.63
<i>Tucker's Island</i>	3	0	0	0.00	0.00
<i>Little Beach</i>	16	0	0	0.00	0.00
Region 4 Subtotal	35	8	10	0.23	0.29
<i>North Brigantine Natural Area</i>	4	0	0	0.00	0.00
<i>Seaview Harbor Marina</i>	1	1	3	1.00	3.00
<i>Malibu WMA</i>	2	2	1	1.00	0.50
Region 5 Subtotal	7	3	4	0.43	0.57
<i>Strathmere NA</i>	1	0	0	0.00	1.00
<i>Strathmere Upper Twp</i>	1	0	0	0.00	0.00
<i>Thompson's Beach</i>	1	1	0	1.00	0.00
<i>North Moore's Beach</i>	2	1	0	0.50	0.00
<i>Moore's Beach</i>	2	1	0	0.50	0.00
<i>Stipson's Island</i>	1	0	0	0.00	0.00
<i>Avalon – Dunes</i>	1	1	1	1.00	1.00
Region 6 Subtotal	9	4	1	0.44	0.11
<i>Ring Island</i>	8	4	2	0.50	0.25
<i>Stone Harbor Point</i>	24	18	22	0.75	0.92
<i>Two-Mile Beach</i>	6	5	0	0.83	0.00
<i>Cape May NWR</i>	3	2	0	0.67	0.00
<i>USCG LSU</i>	3	3	0	1.00	0.00
<i>Coast Guard-TRACEN</i>	3	0	0	0.00	0.00
<i>Cape May Meadows</i>	6	1	0	0.17	0.00
<i>The Nature Conservancy</i>	4	0	0	0.00	0.00
<i>Cape May Point State Park</i>	2	1	0	0.50	0.00
Region 7 Subtotal	47	28	24	0.60	0.51
NJDFW Sites Total	51	27	33	0.52	1.22
All NJ sites TOTAL	125	50	45	0.40	0.36
# Active Sites	40				

¹ – This site includes Sea Bright - South