

# 2020 NEW JERSEY OSPREY PROJECT REPORT



*This summer we began using a GoPro mounted on an extension pole to survey active nests. Mullica River. June 28, 2020. photo by Ben Wurst*

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Published February 5, 2021

This year was likely one of the most challenging, at least in recent years, in the history of this project. From social distancing and working from home (with children) to severe wind events and dealing with the impacts of humans on ospreys, for every dark day there was always hope for a brighter future. As many continue to deal with impacts from the COVID-19 global pandemic, last year we quickly adapted to fulfill our duty to document occupancy and outcome of nesting ospreys throughout New Jersey. Since much of our work is conducted outdoors and away from most people, it was largely unaffected, aside from a few early season nest platform installations, which were delayed until autumn. We made sure our work would not help spread the virus and would keep our dedicated volunteers and the general public safe. As we will illustrate in this report, our data shows that ospreys continue to flourish. We are eternally grateful for all of our dedicated volunteers (including citizen scientists who enter data on Osprey Watch), partners and donors who helped make a positive impact this year.



Ospreys began arriving back to their breeding colonies in late March and early April. This is when we were busy ensuring that any damaged nest platforms were repaired before nests are spruced up. Around 75% of nesting ospreys rely on man-made wooden nest platforms, which we have a duty to maintain. Over the years nesting material builds up and breaks down into very rich soil, if not cleaned out periodically. The heavy weight of this nesting material can cause nest boxes atop tall poles to collapse, which is something we hate to see happen during the nesting season. With more and more high wind events, especially along the coast, severe weather can be a recipe for disaster in an osprey colony. To help prevent this from occurring, we have been actively cleaning out established nests with excess nesting material. So far we've targeted this work on nests located on Barnegat Bay, Little Egg Harbor, Great and

Absecon Bays. Many of our volunteers and partners conduct it in areas where they survey, including the Great Egg Harbor watershed, Ventnor to Strathmere, Sea Isle, Avalon and Stone Harbor, Wildwood and Cape May and up the Delaware Bayshore.



*The adult female osprey at the Barnegat Light osprey cam prepares to feed her brood of three young a fresh caught summer flounder.*

Ospreys faced many challenges this year. From several severe weather events with high winds which caused nests to fail or flightless young to fall from nests to impacts from a human dominated landscape including breeding adults hit by motor vehicles or entangled in plastic marine debris. We'll touch more on these topics later on in the report. For now, let's stay positive — prey does not appear to be limiting the overall size and health of the state population. Anecdotal observations from commercial fishermen, recreational anglers and coastal guides were that menhaden were very plentiful throughout the entire nesting season for ospreys. At the Barnegat Light Osprey Cam we participated in a research project to document the abundance and species of prey caught by the breeding pair. The female is unbanded (she began nesting at this site in 2018) and the male was 14 years old (he was banded as a nestling at Sedge Island WMA). Overall a total of 869 responses were recorded. Of those, 78.5% reported the male caught the fish. Observers reported the fish was delivered to the nest whole 54.7%. The female was largely responsible for feeding young. Lastly, it was no surprise to see menhaden (505 - 58.1%) was the primary prey with summer flounder (196 - 22.6%) coming in second. Other species observed (from most to least) include unknown (86), bluefish (69), black sea bass (6), and striped bass (4). They produced three healthy young.



CWF/NJ Osprey Project Volunteer Student Intern Marissa M. holds a GoPro to “look” into an occupied (failed) osprey nest (L). A five day old nestling lays low in a nest with Atlantic City in the background (R). Photos by Ben Wurst.

Summer nesting surveys are conducted in late June and early July, but we often begin recording activity at nests during the onset of egg laying in April. During nesting surveys of the most densely populated colonies nests with adults present are recorded as occupied. Those who had eggs or young were active. A nest is only productive once young are visible and this is usually more evident when nestlings reach three weeks old and are visible above the nest rim. This is when surveys begin. Most nests are surveyed by our dedicated group of “Osprey Banders” who are specially trained. They visit coastal colonies of nests by boat and access nests via an extension ladder or a mirror attached to a pole.

We began using a GoPro attached to an extension pole to “look” into nests which was controlled by a smartphone that showed a live view of the nest. Connecticut biologists used this to survey nests on their coast and it proved to be an excellent tool to add to our arsenal — *Thanks, Kris!* Data collected at nests, besides the presence of adults includes: number of young, age of young, number banded/band number, nest structure type, presence of plastic in the nest, date, and any other relevant information. If the environmental conditions are comfortable and young are old enough, then they are banded with aluminum USGS bands for future tracking.

Citizen scientists or “Osprey Watchers” continue to play a crucial role in documenting nest occupancy and outcome throughout New Jersey, especially in areas that are not covered by our ground surveys, like northern/inland areas from Blairstown south along the Delaware River to the Delaware Memorial Bridge, the Meadowlands south to Raritan River and all of Monmouth County. They observe nests at a distance and record data online that is visible to anyone throughout the world.

In New Jersey we rely on these observations to help conduct statewide censuses, previously done using a helicopter. The last census was held in 2017 and we hope to conduct the next in 2022. Anyone who watches a nest can record their observations and contribute to this project, and ensure their ospreys are accounted for. Nest occupancy data was recorded on a total of 132 nests, more than any year since we began partnering with Osprey Watch in 2013! Overall the outcome was determined in 79% of 647 occupied nests, which is great considering the challenges faced.



*Family life as an osprey on Barnegat Bay as a recreational boater passes an active nest with one nestling. High Bar Harbor, NJ. July 2020.  
Photo by Ben Wurst.*

## **HIGHLIGHTS**

Ospreys dominate our coastal waterways and are expanding their range inland thanks to many tall man-made structures. Our surveys are focused on the most densely populated colonies, one of which has close to 40 nesting pairs in less than 2 square miles (Sedge Islands WMA). The stronghold for ospreys in New Jersey is along the direct Atlantic Coast, where 540 occupied nests (83% of the population) were recorded in 2020. The second largest stronghold is along the Delaware Bay and its tributaries (south of D. Memorial Bridge) where 12% of the population nests.

The remainder nest inland along the Delaware River, north Jersey, and the Meadowlands region. Colonies that are surveyed annually by our volunteer osprey banders and partners include: Sandy Hook — Gateway National Recreation Area (this area was not surveyed in 2020 due to staff changes at NPS); Barnegat Bay — Sedge Islands WMA; Great Bay - Absecon Bay/AC; Margate, Ventnor, Ocean City, Great Egg Harbor Watershed; Sea Isle & Strathmere; Avalon & Stone Harbor; Wildwood & Cape May Harbor; and the Delaware Bayshore including the Maurice River. The large majority of ospreys nest on man-made nest platforms. Other nests can be found on intracoastal waterway channel markers, communication towers, duck blinds, utility poles and occasionally some who attempt to nest on docks, boat lifts and anything else near water that will support a nest. More recently we have documented more pairs nesting in dead trees and snags on the ground or over water. Inside Barnegat Inlet is one area where there is around a dozen of ground level nesting ospreys. Of the twelve nests, around half were productive this year and half were newly discovered.



*Ground nesting ospreys on an island on Barnegat Bay. July 2020. Photo by Ben Wurst.*

Weather can play a role in the success of breeding ospreys. Wind can increase turbidity of coastal waters, making prey harder to catch, and it can destroy aging nests or cause flightless young to become grounded. Summer temperatures were the second warmest on record, with July being the hottest ever recorded. As we mentioned earlier, the weather this season was quite crazy, with several high wind events. These events, whether isolated or not, can wreak havoc for nesting ospreys, especially along the coast, where winds are usually the worst. On April 13, a nor'easter brought heavy rain and wind gusts over 80 mph to the coast. Most ospreys lay eggs in late April, but with warmer average temperatures in early spring, some pairs laid as early as April 9. At one nest with a live streaming camera, the nesting female could not remain on her clutch of eggs with the strong sustained winds. On June 3, a derecho impacted the majority of southern coastal New Jersey and many osprey colonies. The top wind gust associated with this storm was 93 mph in Beach Haven. We suspect many nests around Long Beach Island lost young from this storm as there were many empty nests during our survey a month later. Then Tropical Storm Fay made landfall in Little Egg Harbor, near Holgate and Great Bay Blvd WMA on July 10. It brought high winds and heavy rain to the entire state with plenty of coastal impacts. Lastly, Tropical Storm Isaias brought high winds (109 mpg gust in Stafford Twp) on August 4 - luckily this was after most nestlings fledged, but one flightless nestling (pictured at right) was recovered on the ground in Union Beach and then fostered into an active nest. Luckily ospreys are a very resilient species and any impacts from one year to another won't affect their long term stability. The survival of breeding age adults is much more important.



*Matt Gregg, a local oysterman, holds a young osprey who was fostered into a nest in High Bar Harbor after being found under its nest on August 4. It was banded with red aux. band 55/M for future tracking. Photo by Ben Wurst.*

In 2020, staff and volunteers recorded a total of 647 occupied nests throughout New Jersey. The outcome was determined in 503 active nests, which produced a total of 812 young. A total of 209 young were banded (26%) for future tracking. A total of 55 young were banded with red auxiliary bands on Barnegat Bay nest. The average statewide productivity rate was 1.61 young/active (known outcome) nest, which was the lowest recorded since 2009, but still double the rate to sustain the population. Despite the lower productivity rate, ospreys still had a decent year and continue to expand nesting colonies.

A total of 53 new nests were recorded throughout the state with the largest concentration (12 nests) in Monmouth County at the former Fort Monmouth military base. This is where several tall osprey nest platforms were installed in partnership with U.S. Army Corps of Engineers in

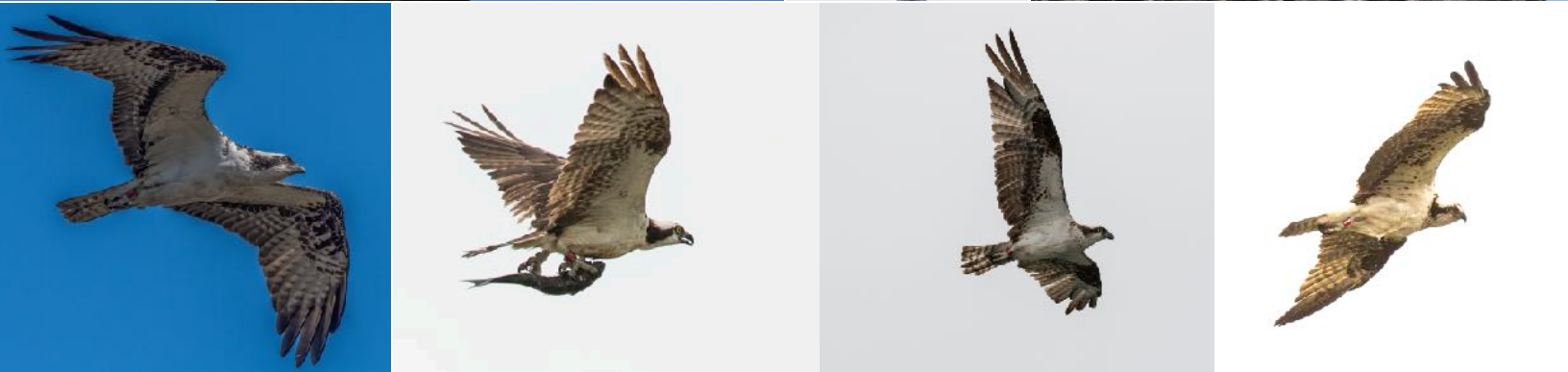
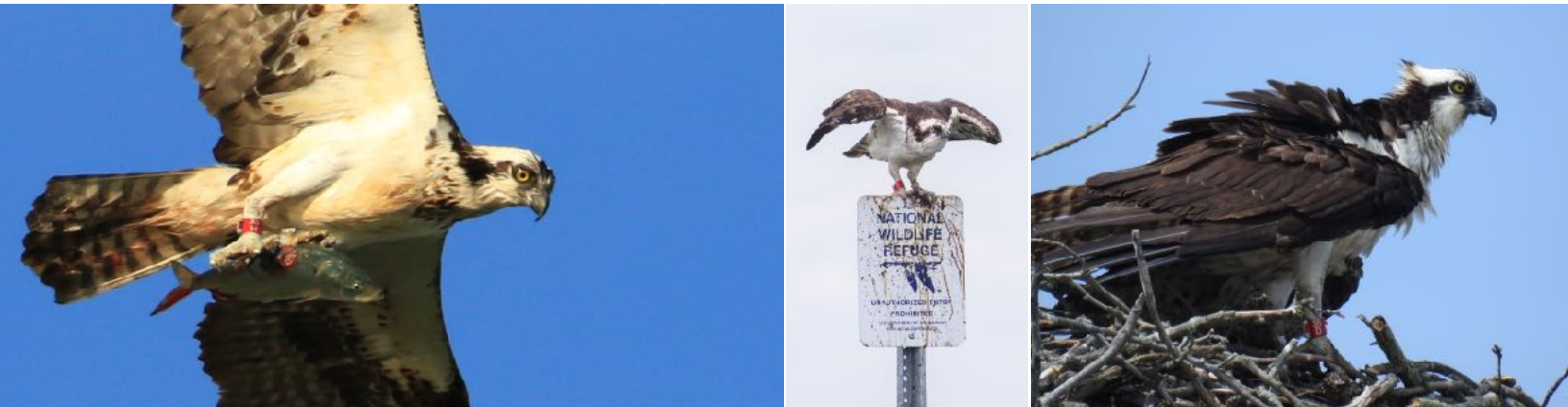
2010-2011 before the base closed. Now that the base has been decommissioned and is being turned into a mixed use development, ospreys nest in very close proximity to people. Their stability here is in large part due to the management of their nests and nest structures by the Fort Monmouth Economic Revitalization Authority (FMERA). Another region where osprey pairs are flourishing is around Sedge Islands and Barnegat Inlet. Here, many pairs are nesting on the ground or over water, as many new nest substrates (dead trees) are becoming available from a combination of coastal flooding, salt water intrusion, sea level rise, and shoreline erosion. In this region we now have close to a dozen nests on ground level, most of which are productive.



*Volunteer Northside Jim holds 48/M while Ben Wurst captures photos of nestlings and their bands. High Bar Harbor. July 2020. Photo by Randy Lubischer.*

Ospreys who nest along the Delaware Bay continue to be the most productive, at 1.65 young/active (known-outcome) nest, in New Jersey, though they were not as productive as previous years. There the outcome was determined for 72 active nests, which produced 119 young. Atlantic Coastal nests averaged 1.58 young/active (known-outcome) nest, where a total of 402 active nests produced 634 young. This year the outcome was determined for many northern nests, which are usually underrepresented in our annual reports. There a total of 22 active nests produced 48 young for an average productivity rate of 2.18 young/active (known-outcome) nest — the most productive region in 2020. Lastly, in the Meadowlands region, 7 pairs produced 11 young for a productivity rate of 1.57 young/active (known-outcome) nest. See Table 1 for full results from every colony in New Jersey.





*Just a few of the elite red banded ospreys who were photographed this year (from L to R and top to bottom). 09/D by Daniel D'Auria, 05/D by Dave Frederick, 41/H by Adam Cannizzaro, 35/H by Jeff Holmes, 05/H by Matt Reiting, 38/D by Dede Kotler, 28/D by Rich Nicol, 73/K by Faraaz Abdool, 02/D by Ben Wurst, 06/D by Doug Oley.*

This year we had an astounding 47\* recoveries or re-sightings of banded ospreys. Only 17% were reported as being found dead (8). Prior to beginning Project RedBand, our osprey banding and re-sighting project, most bands were recovered on injured or dead birds. Federal aluminum bands were mainly designed to be read in hand, after a game bird was harvested or a nongame bird had been injured. They are very hard to read from a distance, unless you have a super telephoto lens and can photograph the band multiple times to read the 9-digit code. In 2020, the majority of bands were re-sighted on live ospreys who were identified by their red auxiliary bands (35) using optics, recorded on live streaming nest cams or were found dead (2).



*08/D soars over the ocean front beach with a fresh caught menhaden on Long Beach Island. Photo by Northside Jim.*

Most bands were re-sighted on young birds who were between 1-5 years old and the rest were between 6-14 years old. A total of 11 (788-49033, 05/D, 74/C, 0928-00038, 1088-04481, 63/C, 38/D, 02/D, 43/H, 0928-14297, 41/C) were found nesting throughout coastal New Jersey. Two of these were found dead (00038, 04481) near their nests after fatal collisions with motor vehicles. The remains of a ten year old adult female, 1088-06487, were found near the new nest of 63/C on the Mullica River in June. Our re-sighting data shows that nesting males remained very close to their natal areas, with an average distance of 2.74 miles (min = 0.2, max = 7.5), and females wandered at 38.3 miles (min = 11.8, max = 100). Most red banded birds were photographed within osprey colonies from April to July (65/D, 44/C, 20/H, 40/H, 03/H, 28/D, 05/D, 06/D, 94/D, 05/H, 89/D, 18/H) and others were photographed foraging on ocean front beaches in July and August (09/C, 82/D, 74/D, 68/D, 08/K, 54/D, 08/D). See page 17 for details. Thanks to all who took the time to report these elite birds to us!

During our surveys by boat we were able to use optics to identify birds by their bands, but as you can see, many birds were re-sighted throughout the coast and many were non-breeding young adults, observed while foraging away from nests, or their nest had failed and their need to protect their nests waned. Five banded birds (besides the breeding male) were identified by the Barnegat Light Osprey Cam, which was amazing! All were likely trying to test the dominance of the breeding pair, and we shall see if one takes the place of the resident pair in the coming years. The others were photographed during spring (41/H, 90/C, 79/D, 67/C) and fall migration (42/M - NY, 16/M - found dead in VA). Two red banded birds were reported on their wintering grounds (12/H died of starvation in Colombia and 73/K was re-sighted live in Trinidad and Tobago).



*14 year old male with summer flounder in Barnegat Light. Photo by Stephanie Harvey.*

The oldest banded bird who was reported in 2020 is the breeding male at the Barnegat Light Osprey Cam. He was photographed near his nest with prey and was easily identified by his band using the live streaming camera. He nests 2.64 miles from where he originated at Sedge Islands WMA.

Of the eight ospreys who were found dead, three were juveniles, one after hatch year, 6, 9+, 10, and 13. Causes of death range from unknown to some being hit by car. One last notable recovery was an adult who was banded as an adult in Cape May Harbor in June 2014. There she was entangled but able to be rehabbed and

released. She was found near Villas in May 2020 and was very disoriented and transported to TriState Bird Rescue and Research in DE. There she died and her blood was analyzed for contaminants. The amount of mercury in her blood (97.32ppm) was 3-4x the upper limits of “normal” for osprey and likely her cause of death. There is no way to determine how or where she was exposed to such high levels of mercury, but as we know, heavy metals bioaccumulate in ospreys and their prey. She either lived a very long life and accumulated a lot of mercury or consumed recent prey with very high levels of mercury.

*\* there were several other red banded adults whose bands could not be read to confirm their identification.*

## **POLLUTION AND OSPREYS**

As mentioned in the beginning of the report, it was a challenging year for ospreys. We dealt with several emergencies where plastics had entangled or smothered osprey adults or young. In April, an adult female was observed at a nest in Bayville and had monofilament wrapped around her right wing. Local residents alerted us and we sprang into action. We knew it would not be easy to trap an adult who could fly, but we had to try. Since she was incubating, we knew we would use that as an advantage. If we placed a large “bal-chatri” or noose carpet over her eggs, then she could be trapped on her nest. Luckily this worked and we were able to capture and free her from the monofilament. Sadly, her clutch of eggs was lost but she survived. Later that summer we



*A damaged nest in March with loads of plastic marine debris. Mantoloking, NJ.*

returned and there were two young in the nest, so this effort was done early enough for them to lay another clutch of eggs. Another situation arose at the Pete McLain Osprey Cam nest at Island Beach State Park. In late May, viewers of the cam noticed one of the hatchlings was missing. A large white plastic bag was in the nest bowl and one hatchling got stuck under the



*Persistent plastic marine debris affects both osprey young and adults at one nest at Island Beach State Park. Photos by Ben Wurst.*

bag. We mobilized and with help from Seaside Heights Public Works, we were able to rescue the hatchling and prevent it from being suffocated by the plastic bag. Lastly, at this same nest, we returned when the nestlings were around six weeks old (July 1) after reports that the adult female had plastic twine wrapped around her right leg. Again, with support from Seaside Heights Public Works, we attempted to capture her with a bal-chatri on her nest. This proved to be much more difficult since her young had to be removed from the nest and she did not want to land on the nest. After several hours and many close captures, we were able to shorten the length of plastic twine, but were not able to trap her for full removal. We did have the camera though, and that allowed viewers the ability to monitor the situation and alert us if she got tied to the nest. Luckily, over the course of two weeks, the twine finally fell off. All in all, plastics were documented by participating volunteer osprey banders in 129 active nests. In our surveys, we find plastics throughout the range of ospreys in New Jersey, but they seem to be more prevalent in heavily developed areas. While conducting maintenance on nests in extreme northern Barnegat Bay, we found large amounts of plastic marine debris in and around nests. We hope to do more to raise awareness for plastic marine debris and its impacts on nesting ospreys.

In summary, ospreys fared quite well despite the slightly reduced productivity observed in the majority of nesting colonies. Luckily, prey availability has not been a concern in most nesting colonies, but overfishing of forage fish is always a threat. Ospreys who are returning to nest here for the first time do not seem to be limited by the availability of suitable nest structures.

Over 50 new nests were recorded throughout their range, with several new (and productive) nests on the ground or over water, which illustrate how adaptable they are. We consider this a look into the future of a changing coast, where the resiliency of ospreys will outdo humans and our development. We look towards a bright future of a healthy and stable osprey population.



*2020 NJOP Volunteer Student Intern Marissa Murdock holds a fledgling produced at a nest over water on B. Bay. Photo by Northside Jim.*

**Project Staff:** Ben Wurst, Kathy Clark, Larissa Smith and 2020 Intern Marissa Murdock/Rider University.

**Volunteer Osprey Banders:** Fred Akers - Great Egg Harbor Watershed Association, Jane and Peter Galetto - Citizens United to Protect the Maurice River and its Tributaries, Northside Jim - Nest Story, Damon Noe - The Nature Conservancy, Bill Stuempfig, Matt Tribulski, Hanna and Hans Toft, John King and Wayne Russell.

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*Thanks to everyone who donates to Conserve Wildlife Foundation of NJ, contributes to the Endangered and Nongame Species Program through the Check-Off for Wildlife on their NJ State Income Tax, and by purchasing Conserve Wildlife License Plates!*

*Funding also provided by the U.S. Fish & Wildlife Service, with matching contributions from Osprey Project volunteers.*

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**Special Thanks to:** Bill Clarke and the Osprey Foundation for his continued support of our efforts to monitor and manage New Jersey's ospreys. Marissa Murdock for her outstanding dedication to ensuring the success of our fieldwork.



**Thanks to:** Bill Clarke - Osprey Foundation; Jim Verhagen – NestStory; Don and Karen Bonica; Dr. Erica Miller; Dr. Andrew Wurst - Barnegat Animal Clinic; Osprey-Watch.org; Hugh Carola - Hackensack Riverkeeper; Bill Schultz - Raritan Riverkeeper; Borough of Seaside Heights - Public Works; Woodhaven Lumber & Millwork - Manahawkin; The Wetlands Institute; Cattus Island Park - Ocean County Parks; Citizens United to Protect the Maurice River and its Tributaries; Great Egg Harbor Watershed Association, Island Beach State Park; Friends of Forsythe NWR; Friends of IBSP; Toms River Avian Care; Tri-State Bird Rescue & Research; The Raptor Trust; Zoological Society of New Jersey; PSE&G - Salem; NJ-NY Baykeeper; Garden Club of LBI; Jetty Rock Foundation; The Home Depot in Manahawkin; Cape May County Mosquito Control Department; Ocean County Mosquito Commission; and all other donors and volunteers who assist with and support the project.

Figure 1. Osprey nesting population (bar) and productivity (line) 1984-2020 in New Jersey.

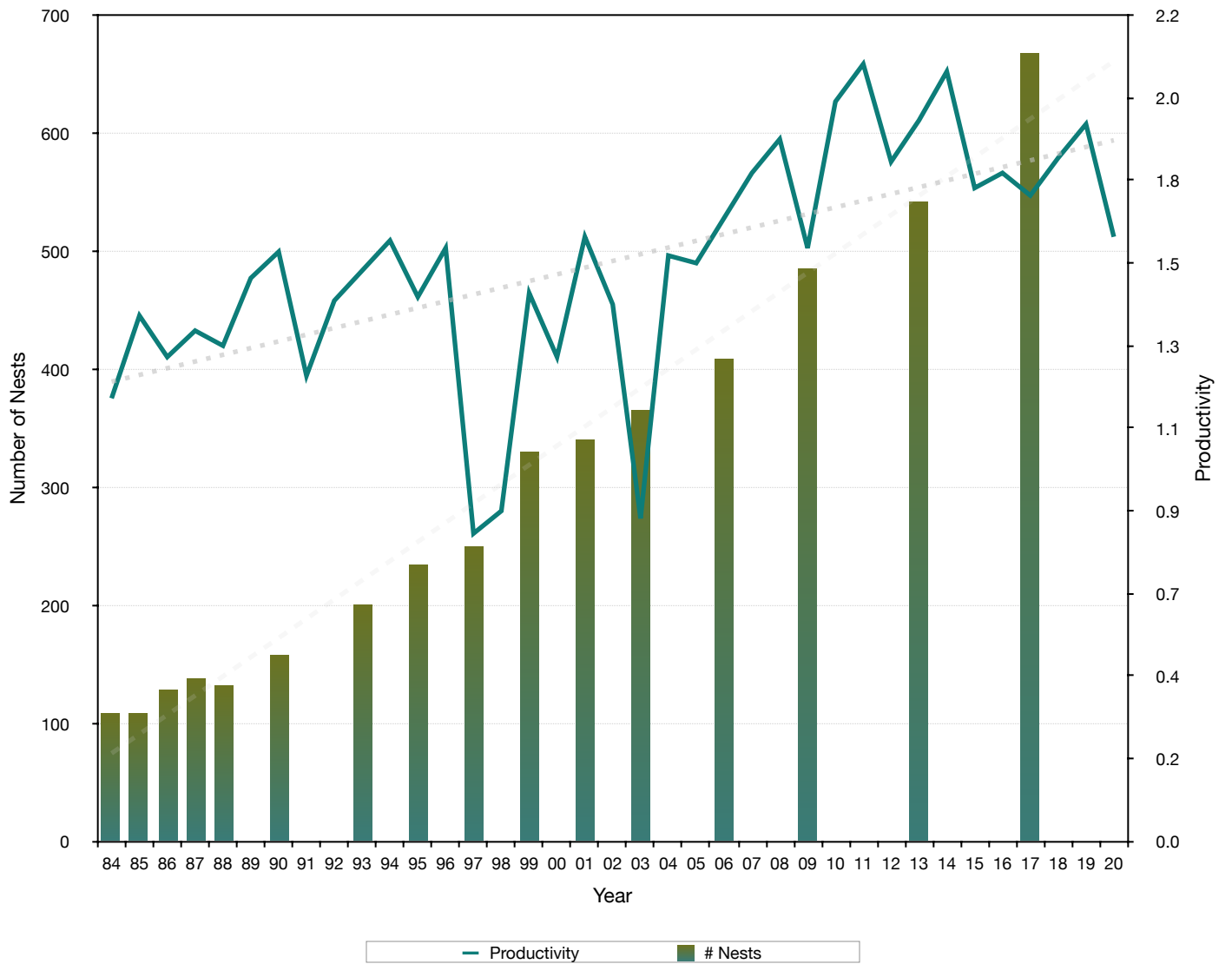


Table 1. Osprey productivity in 2020 in all major nesting areas. Productivity was determined by ground surveys in June-July. Productivity rates in 2017-2019 provided for comparison.

Nesting Area	# Nests	Known-Outcome Nests	# Young	# Banded	Production 2020	Previous Years		
						2019	2018	2017
Delaware River Basin & North Jersey	24	22	48		2.18	1.60		
Hackensack/Hudson Rivers	8	7	11		1.57	1.40	2.50	1.38
Raritan River & Bay	17	6	13		2.17	1.32	1.16	1.81
Monmouth County	51	11	20		1.82	2.29	2.05	1.46
Barnegat Bay	104	71	103	41	1.45	1.93	1.71	1.34
Sedge Islands	35	29	36	14	1.24	1.86	1.32	2.04
Great Bay to Atlantic City	80	63	87	10	1.38	1.80	1.65	1.46
Great Egg Harbor/Ocean City	86	74	158	26	2.14	2.14	1.99	1.90
Sea Isle City	36	35	71	21	2.03	1.74	1.45	1.95
Avalon & Stone Harbor	89	81	102	31	1.26	2.09	1.91	1.89
Wildwood & Cape May	42	32	44	11	1.38	1.90	2.11	1.81
Delaware Bay & Maurice River	75	72	119	55	1.65	2.09	2.24	2.01
<b>TOTAL of Study Areas</b>	<b>647</b>	<b>503</b>	<b>812</b>	<b>209</b>	<b>1.61</b>	<b>1.91</b>	<b>1.82</b>	<b>1.71</b>
D. River/N. Jersey	32	29	59		2.03	1.60		
Atlantic Coast	540	402	634	154	1.58	1.90	1.75	1.67
Delaware Bay	75	72	119	55	1.65	2.09	2.24	2.01
<b>Total Statewide</b>	<b>647</b>	<b>503</b>	<b>812</b>	<b>209</b>	<b>1.61</b>			



**PROJECT REDBAND RECOVERIES AND RE-SIGHTINGS**

Aux. Band	Nest Colony	Date Banded	Age	Date Recovered or Re-sighted	Bird Status	Previously Resighted?	If nesting, nest ID	Distance from natal nest (miles)	Sex of bird	Location re-sighted
12/H	Sedge	7/8/2017	2	2/24/2020	Dead	No				Colombia
41/H	Sedge	7/9/2017	3	3/30/2020	Live	No		25.5		Port Republic, NJ
90/C	Sedge	7/13/2015	5	3/31/2020	Live	No		3.5	Male?	Barnegat Light, NJ
79/D	Barnegat Bay	7/5/2017	3	4/3/2020	Live	Yes, Sept 2017 in FL		40	Female	Oceanport
67/C	Barnegat Bay	6/25/2015	5	4/7/2020	Live	No		3.6	Male	Sedge Islands WMA
65/D	Barnegat Bay	6/26/2017	3	4/18/2020	Live	No		12.7	F	Barnegat Light, NJ
44/C	Sedge	7/12/2014	6	4/19/2020	Live	Yes, 2016 at IBSP		8	Male	Bayville, NJ
20/H	Sedge	7/9/2017	3	4/21/2020	Live	No		37	Female	Oceanport, NJ
40/H	Sedge	7/9/2017	3	4/25/2020	Live	No		~90		3 mi. W Rehobeth Beach, DE
03/H	Barnegat Bay	7/9/2017	3	5/8/2020	Live	No		1.54		Barnegat Light, NJ
28/D	Sedge	7/12/2016	4	5/12/2020	Live	No		2.3		Barnegat Light, NJ
33/H	Sedge	7/9/2017	3	5/16/2020	Live	No		96	Female	Rehoboth Beach, DE
05/D	Barnegat Bay	7/1/2016	4	5/22/2020	Live	No	147-A-033	11.8	Female	Little Egg Harbor, NJ
15/K	Barnegat Bay	7/13/2018	2	5/22/2020	Live	No		68.8		Merrick, NY
06/D	Barnegat Bay	7/1/2016	4	5/24/2020	Live	No		54.7		Matawan, NJ
74/C	Barnegat Bay	7/1/2015	5	6/23/2020	Live	No	158-B-032	47.2	Female	Absecon, NJ
94/D	Barnegat Bay	7/8/2017	3	6/25/2020	Live	No		3.1	Male	Brick Twp., NJ
05/H	Barnegat Bay	7/9/2017	3	6/25/2020	Live	No		<1	Male	High Bar Harbor, NJ
63/C	Barnegat Bay	6/25/2015	3	6/28/2020	Live	No	146-B-005	15.3	Female	Bass River Twp., NJ
38/D	Sedge (IBSP - Osprey Cam)	7/13/2016	4	7/3/2020	Live	Yes, 9/16 (PA)	092-A-030	27.3	Female	Avon-by-the-Sea, NJ
89/D	Barnegat Bay	7/8/2017	3	7/3/2020	Live	No		25.3	Female?	Beach Haven West, Stafford Twp, NJ
02/D	Barnegat Bay	7/1/2016	4	7/4/2020	Live	No	147-B-027	7.5	Male	Little Egg Harbor, NJ
73/K	Barnegat Bay	7/8/2019	1	7/4/2020	Live	No		2,150		Caroni, Trinidad and Tobago
09/C	Barnegat Bay	7/8/2014	6	7/5/2020	Live	No		3.7	Male	Brant Beach, NJ
18/H	Sedge	7/9/2017	3	7/13/2020	Live	No		7.3	Male	Bayville, NJ
43/H	Sedge	7/9/2017	3	7/15/2020	Live	No	123-A-036	0.2	Male	Sedge Islands WMA, NJ
82/D	Barnegat Bay	7/5/2017	3	7/27/2020	Live	No		3.6		North Beach, NJ
74/D	Barnegat Bay	6/27/2017	3	7/28/2020	Live	No		4.25		North Beach, NJ
68/D	Barnegat Bay	6/27/2017	3	7/30/2020	Live	No		2.2		North Beach, NJ
08/K	Sedge	7/12/2018	2	7/30/2020	Live	No		7.87	Female	North Beach, NJ
54/D	Sedge	7/19/2016	4	8/1/2020	Live	No		8.3		North Beach, NJ
43/H	Sedge	7/9/2017	3	8/1/2020	Live	Yes, two weeks earlier at same nest.		0.2		North Beach, NJ
08/D	Barnegat Bay	7/1/2016	4	8/9/2020	Live	No		2.5		North Beach, NJ
05/H	Barnegat Bay	7/9/2017	3	8/11/2020	Live	Yes, June 2020		1		Barnegat Light, NJ
42/M	Sedge	7/15/2020	>1	9/14/2020	Live	No		99.75		Ossining, NY
16/M	Barnegat Bay	7/3/2020	>1	9/27/2020	Dead	No		176		Springfield, VA