Audubon Society of Rhode Island

Rhode Island Osprey

The Rhode Island Osprey Nest Monitoring Program was founded in 1977 by the Rhode Island Department of Environmental Management to collect data on the 13 nests that present in the state. Unfortunately, the Osprey population had suffered severe declines from 1940-1970 due to exposure to the harmful pesticide, DDT. When DDT was federally banned in 1972, researchers saw the importance in observing local Osprey populations.

In 2010, The Audubon Society of Rhode Island assumed management of the program. Since then, volunteers have worked each summer to observe each nest in the state on a weekly basis, to note breeding behaviors and the number of young that are produced by each nest each year.

In 2023, 70 Osprey monitors collected data on 306 nests across RI! In this report, we will discuss the results of our monitoring, as well as highlight some interesting stories from the 2023 season.

If you are interested in becoming an Osprey monitor, please contact Program Coordinator Lincoln Dark at ldark@asri.org

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Coming in for a landing! Photo by Ron Loeser

HOW DO WE MONITOR?

Audubon Osprey Monitors select a nest, or group of nests, that they will visit each week to collect data on. When visiting a nest, monitors typically use binoculars or a spotting scope to get an up-close look at the birds in the nest from a distance. Monitors are noting any of the following behaviors: resting / roosting (when the birds are just sitting or preening in or near the nest), nest building (when the birds are bringing nesting material into the nest), the male bringing food to the female (the males primarily do all of the hunting, and this is a common courtship behavior), copulation (the male mounting the female for intercourse), incubation (when either the male or female is sitting on eggs or chicks), adults feeding young (when either the male or female parent are ripping off pieces of a fish and giving it to the nestlings or fledglings), the number of nestlings present (chicks that recently hatched and have no flight feathers), and the number of fledglings present (chicks that are old enough to fly, and look very similar to the parents).

Monitors stay at their nest of interest for at least ten minutes, but there is no limit to the amount of time that can be spent monitoring. For some nests, it is fun to set up a chair on a sunny day and just sit and observe the comings and goings of the nest for an hour or two. Especially for the nests down by the beach!

At the end of the season, we want to know how many nests were observed, the number total number of nests in RI, and the number of fledglings that survived the season and “flew the coop” for their wintering grounds in South America.

A male Osprey bringing a fresh fish to the female in the nest. Photo by Norm Grant

2023 MONITORING RESULTS

Number of Monitors	70
Total Number of nests in RI	373
Number of Nests monitored	306
Number of sites with no nest found	22
Number of inactive nests	28
Number of active nests (includes both active *and* successful nests)	232
Number of successful nests (only nests that produced young)	166
Number of nests with unknown status	24
Number of Fledglings	301

Table 1. Summary of monitoring data.

Figure 1. Trends of the number of active nests and number of fledglings from 2010-2023.

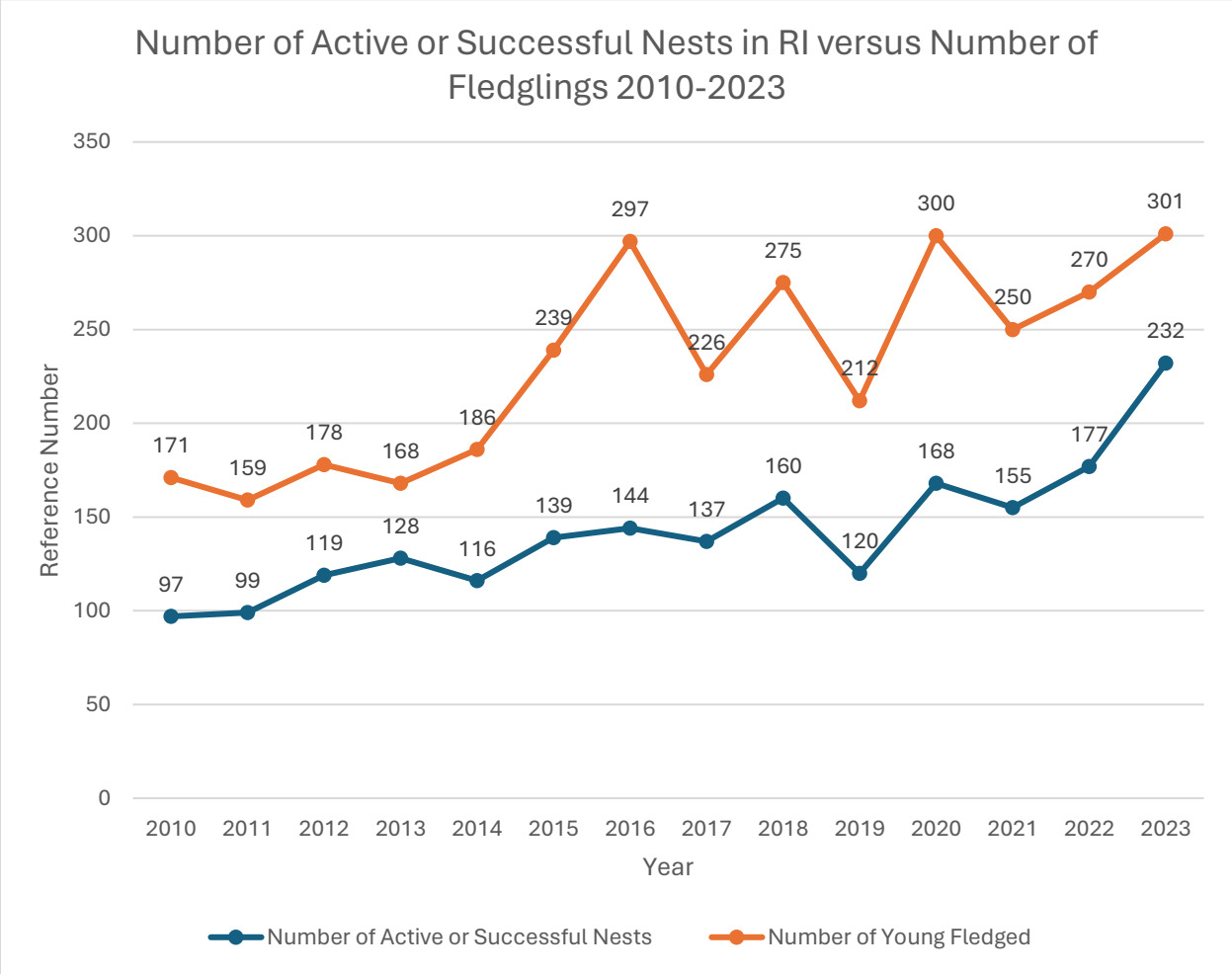


Figure 2. Trends of the number of active nests, number of nests surveyed, and number of active monitors from 2010-2023.

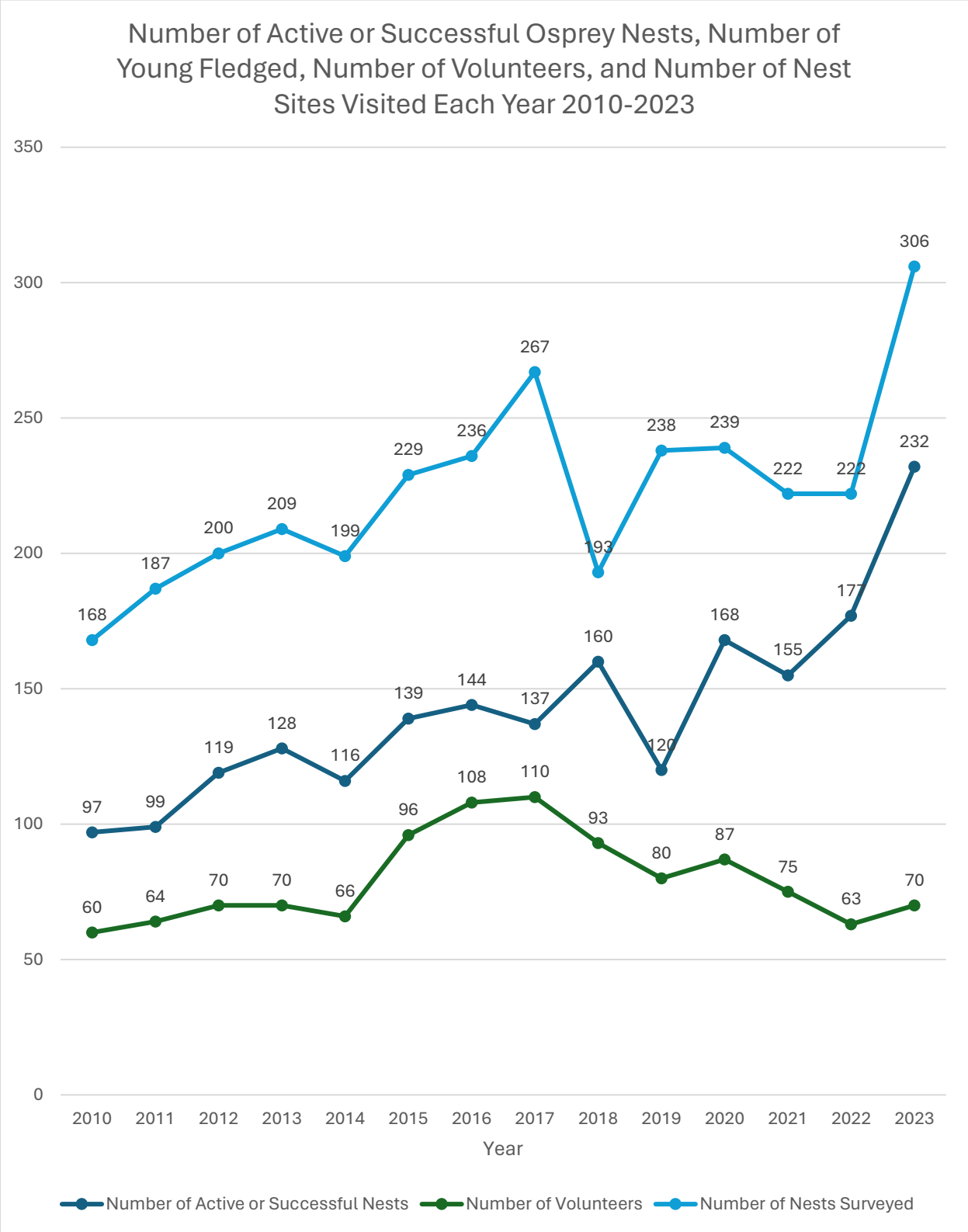
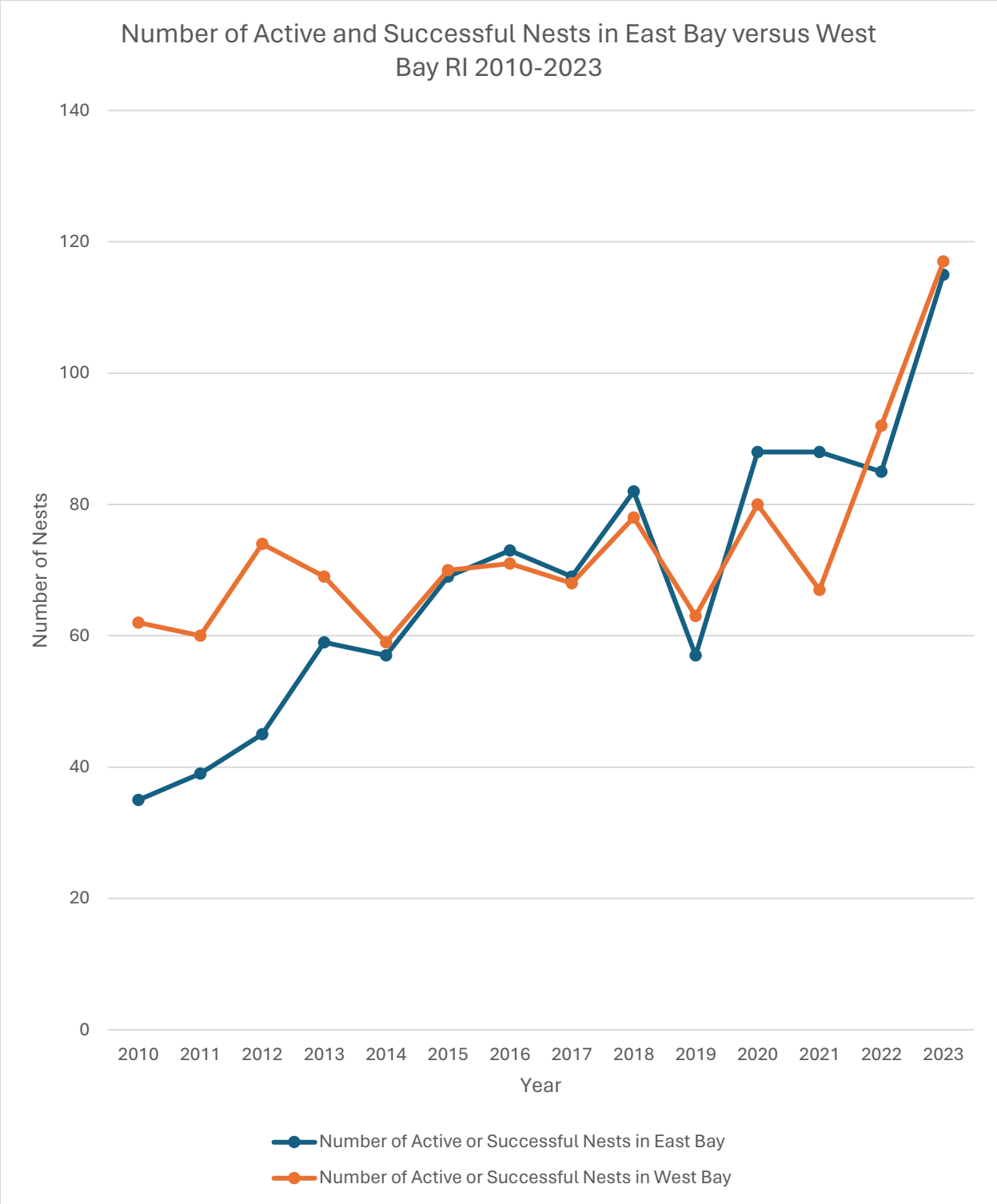


Figure 3. The trends of the number of active nests in the East Bay (Newport & Bristol Counties and East Providence) versus the number of active nests in the West Bay (Providence, Kent, and Washington Counties) from 2010-2023.



DISCUSSION

From these data we can identify some very interesting trends. First, we observed a record number of active nests (Figure 2) and number of fledglings (Figure 1)! Fortunately, this indicates that our local Osprey population is continuing to grow. Interestingly, when we split up the number of active and successful nests by region, East Bay versus West Bay, we find some additional trends (Figure 3). When Audubon began coordinating this program in 2010, there were more nests in the West Bay than in the East, but then from 2015-2021, there were generally more nests in the East Bay, but in 2022 & 2023, the West has had more nests. This is an interesting back-and-forth phenomenon between the regions. It is unlikely that there are birds choosing to nest in one region then the other from year to year, as Ospreys have very high nest site fidelity, meaning that they return to the same nest every year, and the young often nest near their parents. However, we do not tag or track these birds in any way, so we cannot confirm their movement. What is more likely to be occurring are independent metapopulations (sub-groups of the overall population that are spatially separated) growing as the young return to build more nests. These metapopulations are also likely seeded by Osprey from neighboring states that "move-in" here, but we cannot confirm the number. Currently, there are 2 major Osprey nest "hot spots" in RI, where they are nesting in greater densities than anywhere else where we are seeing the most growth. The first is the West Bay's primary nesting area, the Point Judith & Great Salt Pond area in Narragansett & South Kingstown. The second is along the water in the Barrington, Bristol, and Warren area. There are also 2 "satellite" hot spots, that are much smaller and less dense, but still significant; one being in Westerly and the second being in the Warwick / East Greenwich area.

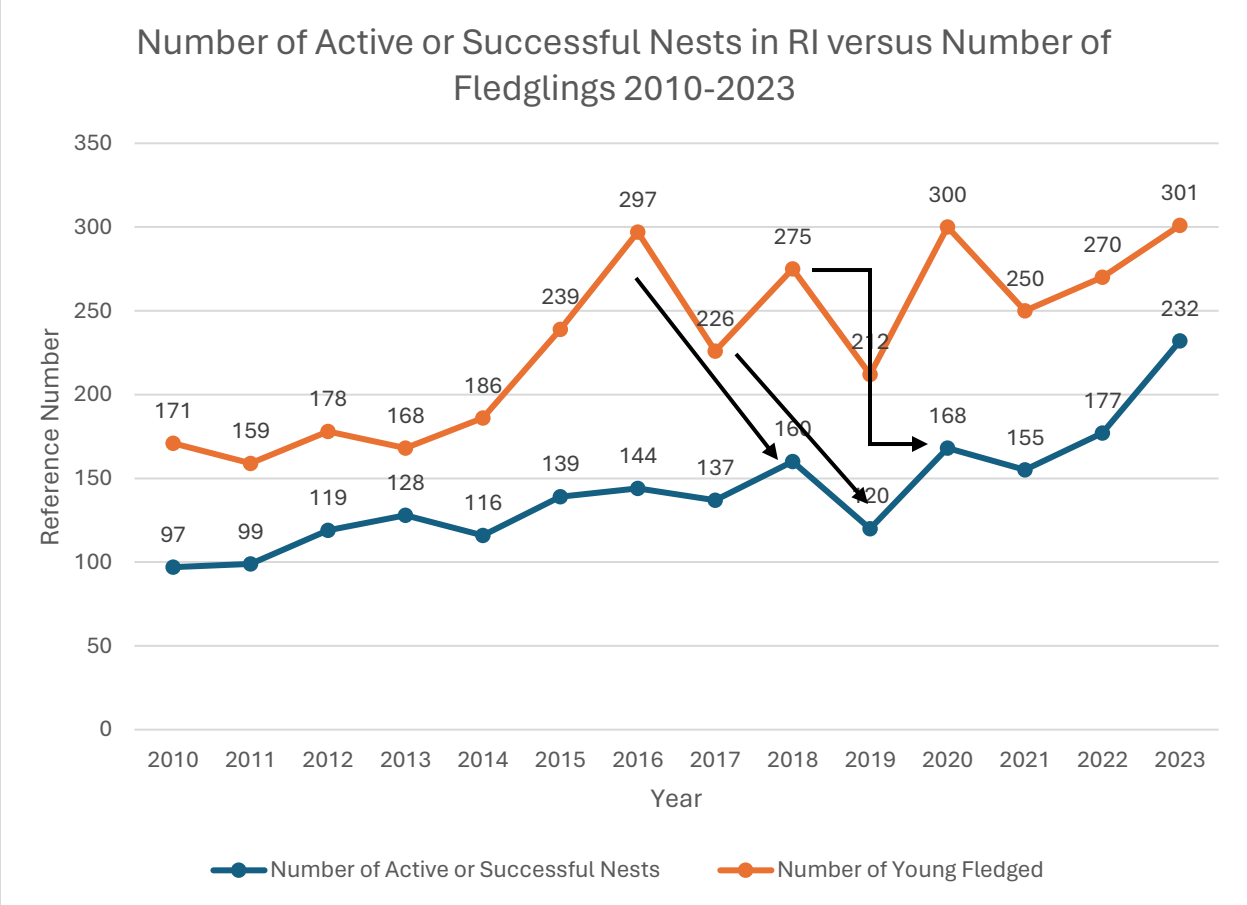
While we are seeing great population growth, the growth of these metapopulations cannot be infinite. Many of these areas of suitable Osprey habitat are growing more and more dense with nests, which can lead to problems for the population. The primary issue is territory. Ospreys are territorial animals, and when they see other pairs nesting too close to their own nests, males will often go and harass the other birds, and sometimes even kill them. This harassment causes birds to stay on their nest for more time to protect their nest and young, rather than going out and foraging for food. This leads to many young dying of malnutrition, and less overall population growth. As of the time that this report is being written (summer 2024), multiple monitors have already observed these harassment behaviors. Ironically, this is a problem that comes with a population's great growth rate and resurgence, and acts as a natural check on the population becoming too large. It is important for us as monitors to continue to observe these nests to understand what the greatest number of Ospreys that local RI ecosystems can support is. Then, how can we use our knowledge to contribute to Osprey conservation regionally and even globally? This is just another reason why our efforts are so important!

From 2022 to 2023, we increased the number of nests surveyed by 84 nests (38%!); however, we had only increased our number of volunteers by 7 (11%). This can be attributed to 2 factors. The first being the commitment of our hard-working monitors to collect data on so many nests across RI to contribute to the continual effort towards wildlife conservation. For that, not only are we so thankful, but so are the birds! The second contributing factor to the increase in the number of nests

surveyed was our first ever Osprey Nest Round Up. This was an initiative during the last week of July for established Osprey monitors, local birders, and new volunteers to visit each nest that did not have a full-time monitor assigned to it, just so we were able to have one data point for each of these nests. During these surveys, monitors observed 55 fledglings that would not have been observed without this initiative!

Another trend we can observe is the timing of how the number of fledglings each year goes on to affect the number of active nests in future years. When an Osprey fledges and then goes to it's South American wintering grounds for the non-breeding season, it will stay there for 2 years until it reaches sexual maturity. This means that an Osprey that fledges in 2023 will not come back to North America to breed until 2025. We can see evidence of this trend from our data. In Figure 4 below, the trends from Figure 1 are highlighted. As we can see, there was an increase in the number of young from 2015 to 2016, and a similar increase in the number of active nests 2 years later, from 2017 to 2018. There was also a decrease in fledglings from 2016 to 2017, and we see a similar reduction in the number of nests from 2018 to 2019. Then after that, there was an increase in fledglings from 2017 to 2018, and a subsequent increase in nests from 2019 to 2020. While this is an interesting trend, and is in line with Osprey life history, we cannot confirm that these nestlings are the birds that are contributing to the increases and decreases in the number of nests, as we are not tagging or tracking the birds.

Figure 4. An illustration of Figure 1, highlighting the effect of fledglings on the number of nests two years later, given the Osprey life cycle.



An Osprey nest from above. Photo by Butch Lombardi.

Lunch break with an Osprey! Photo by Barbara Seith.

STORIES FROM THE SEASON

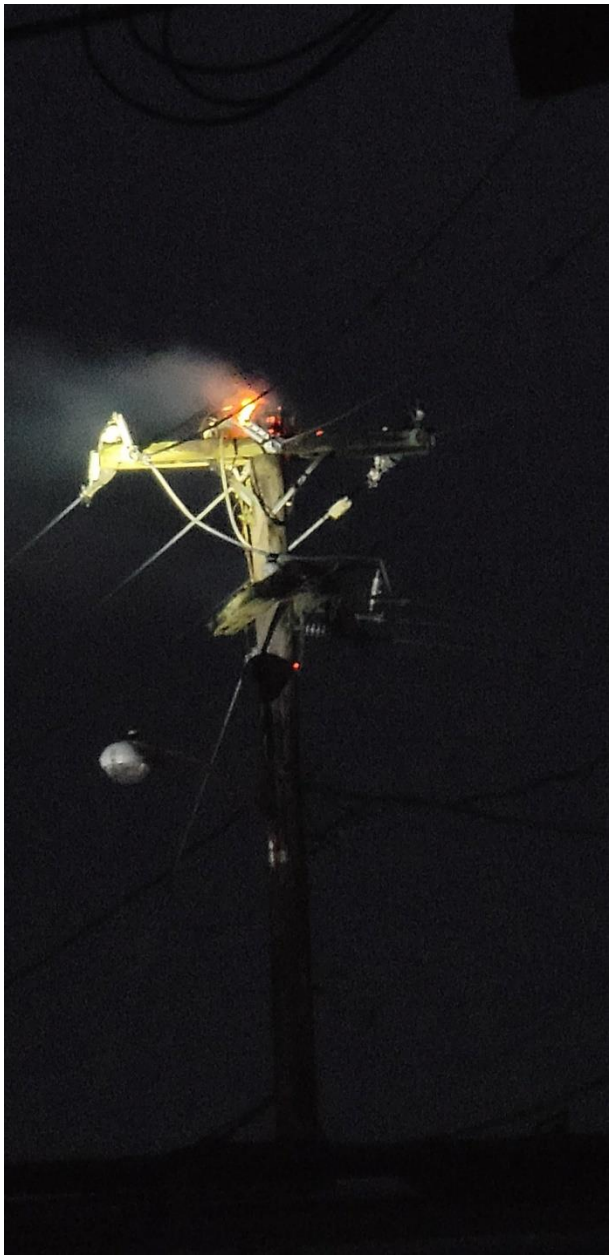
There are some special stories from the 2023 Osprey Monitoring season! The first is a bit treacherous. In August, the 131 Ocean State Drive in North Kingstown caught on fire, as it was on top of a utility pole with high-voltage power lines. Fortunately, the young had fledged so they were able to evacuate the nest, and no birds were harmed. Unfortunately, the nest was destroyed. When I was alerted of this situation, I contacted the property management office at the Quonset Development Corporation (QDC), the industrial park where this nest was located, to come up with a solution. Installing a nest pole for these birds would be a win for everybody, the Ospreys have a safe place to live, and the QDC would not have to worry about the danger to infrastructure. However, after much back-and-forth, the QDC would not install a nest pole, as they were concerned that installing a nest pole nearby the abutting airfield would pose a danger to the airplanes.

This then led me to think about other possible solutions. If the property owners wouldn't install a nest pole, who would? While the power lines are on private property, it is Rhode Island Energy (formerly National Grid) that has the jurisdiction over them. The Environmental Science team at RI Energy were very enthusiastic about installing a nest pole on the QDC property to prevent damage to their utility poles. In the early months of 2024, the pole was installed only a few hundred meters from the original nest site, perfect for Osprey nesting!

To the Environmental Scientists at RI Energy, we are grateful for your hard work and support of our local Ospreys!

The second story that I would like to highlight is how our program had its very own outreach table at Audubon's Raptor Weekend event! Raptor Weekend is Audubon's biggest program of the entire year, where over one thousand guests visit Audubon's Education Center & Aquarium in Bristol, RI to see live raptor demonstrations, learn about beautiful birds of prey, and enjoy raptor-themed activities. This year, our Osprey Monitoring program had its' very own outreach table that was run by monitors! At this table, monitors shared their experiences with guests, and encouraged them to sign up to become Osprey monitors in the 2024 season. In the photo on page 11, you can even see our taxidermized Osprey that we used to show guests what an Osprey looks like close-up!

Thank you to all the Osprey monitors who volunteered their time to help at our outreach table. I am already excited for Raptor Weekend 2024!



The 131 Ocean State Drive nest on fire in August 2023. Photo by Mike Costa.

The newly installed QDC nest pole, 2024. Photo by Bill Howard.

Osprey Monitors with our taxidermized Osprey at the RI Osprey Monitoring Program outreach table at Audubon's Raptor Weekend Event, September 2023.

CONCLUSION & ACKNOWLEDGEMENTS

Audubon wants to thank every single Osprey monitor that helped for the whole season or joined in for the Osprey Nest Round Up. Thanks to your many hours spent driving to nests, observing these magnificent birds out in the sun, and submitting your observations, we can continue to research and protect this amazing & resilient species.

I also want to thank all our monitors for the warm welcome I received when I began as the coordinator of this program this season. I am so excited for all that we will accomplish together in the future!

Ann Telfer	Barbara Costa	Barbara Seith	Barbara Watts	Betsy Staples
Birger Wernerfelt	Bonnie Krauss	Dave Krauss	Bonnie Turano	Butch Lombardi
Christine Benson	Cindy Dibble	Cindy Love	David Winsor	David Fulton
David Jones	Mary Di Cecco	Donna DiGangi	Frank Carroll	Gail Browning
Geoff Whann	Heather Gordon	Jean Entezary	Jean Whatley	Jim Oneill
Joan Gorman	Karen Nachin	Lelia Stokes Weinstein	Luis Mendes	Marianne Chronley
Martina Graziano	Mary Arakelian	Mike Browne	Mike Gerhardt	Nature Explorations
Norm Grant	Pam Mead	Patty Gallagher	Marge Peppercorn	Roberto Tornatore
Jon Mitchell	Kim Gaffett	Susan Williamson	Sandy Fahey	Susan Dey-Sigman
Sharyn Lawler	Steve Zambarano	Tami VS	Tracy Silvia	Ted Furtado
Therese Zink	Tim Pratt	Claudette Baril	John Carney	Jana Hesser
Tina Munter	Patty Colucci	Christine Ariel	Dan Shearer	Bob Kenney
Mark Peppercorn	Neal Carpenter	Olivia Mahoney	Mary MacDonald	David Delano
Barbara Sherman	Patsy Sanford	Eugenia Marks	Lenny Long	Shawna Lawton

I also want to extend a special thank you to some of our supporters, such as Jon Mitchell, the Land Stewardship Coordinator for the Narragansett Bay National Estuarine Research Reserve on Prudence Island, for collecting data on all of the Prudence Island nests, Kim Gaffett of The Nature Conservancy on Block Island who collects data on all of the Block Island Nests, and Tom Correia of Exxon-Mobil who generously coordinates with Audubon Osprey monitors to collect data on all of the nests in the East Providence Exxon-Mobil facility.

Osprey License Plate

Show your support for Osprey with Rhode Island Osprey license plates for your car! Purchase of an Osprey plate supports environmental conservation through education. The cost is only $42.50 with $20 supporting environmental education programs and $22.50 for production of the plates. A link to the form may be found on the Audubon website at www.asri.org. Once you complete the form it is automatically forwarded to the RI DMV for processing.

About The Audubon Society of Rhode Island

The Audubon Society of Rhode Island is a membership-based, independent not-for-profit conservation organization. It is dedicated to protecting birds, wildlife, and their habitats through environmental education, advocacy, and land conservation. The state's first environmental organization, Audubon now protects nearly 10,000 acres in a network of refuges, pristine properties and wildlife habitats. Audubon Society of Rhode Island is not affiliated with National Audubon.

See you next year! Photo by Norm Grant.