

Osprey Nation Report for the 2021 Season

November 23, 2021



Photo taken by Carolyn Doan

By Kate Scimeca, *2021 Osprey Nation Coordinator*

Patrick Comins, *Executive Director*

Milan Bull, *Senior Director of Science and Conservation*, Tom Andersen,
Director of Communications

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Introduction

	2014	2015	2016	2017	2018	2019	2020	2021
Stewards	100	146	224	287	314	342	231	342
Nests with data	174	322	420	540	603	732	733	814
Active nests	210	250	337	394	416	501	510	558
Fledglings	NA	356	490	607	725	650	549/744 observed/ estimated	858
Fledglings per nest		1.42	1.45	1.54	1.74	1.30	1.08/1.46	1.54

Osprey Nation is a citizen science project that aims to capture Osprey nesting data each year, so the data can be used as an indicator for other environmental issues. This year we had a great turnout, with the highest number of reported fledglings since the start of the project, in 2014. All of the Osprey Nation stewards volunteer throughout the season, from April through August; they regularly monitor the hundreds of nests that have been reported to us. Osprey Nation would not succeed without them.

In 2021 we changed the categories for the status of nests. This allowed us to collect more information about why a nest might have failed. It also allowed us to determine

how many fledglings there were for each successful nest. This more specific information will give us a better idea of why a nest failed, or how successful a nest was.

2021

Osprey Nation Stewards compiled data on 814 nests, setting a project record (just over 80 more than last year).

Of these, 558 were active, meaning Ospreys attempted to reproduce in some capacity—eggs were laid or young were hatched. Regardless of whether the nest was successful, it was counted in the active nest category. Out of the active nests, 444 successfully fledged young.

The number of successful fledglings confirmed by stewards: 858.

The number of stewards was back up to 342, the same in 2019, following a decline during the pandemic year of 2020.

For a number of nests the data were inconclusive or incomplete. Reports on those nests were few, and while some of those nests had confirmed young, we received no reports about whether the young birds fledged. As a result, the total number of fledglings in Connecticut in 2021 was probably greater than reported above.

While many Osprey fledge the entirety of their clutch without issue (see Natural History, below), it's also common for some chicks to die before they leave the nest. Therefore we can't assume the number of chicks reported equals the number that fledged. Fledging has to be explicitly confirmed.

The Natural History of Osprey

The Osprey, *Pandion haliaetus*, is one of the most widespread and well-known of the world's raptors, and is the only raptor known to "plunge-dive" feet first in pursuit of fish. Their piscivorous diet restricts them to habitats with shallow, fish-rich water, a category that includes most wetlands and coastal areas. In Connecticut, Osprey are found around both salt and freshwater, although the bulk of the population is clustered along the coast, where there is an abundance of rich shallows and adequate nest sites. Historically Osprey nested on dead trees, snags, and cliff faces, but many have switched over to man-made structures, an adaptability that's been crucial to their conservation success.

Between the period of 1950-1970, Ospreys suffered widespread and unprecedented declines all across their North American range. Some of the worst losses occurred on the heavily developed, industrialized coastline that stretches between New York and Boston, including all of the Long Island Sound. Here, approximately 90% of Osprey pairs disappeared, turning a once abundant raptor into a scarce and imperiled species.

Certainly many birders growing up around the Sound during this period did not count Osprey as common or familiar; an abundance that new birders might today take for granted is still seen as miraculous by those who bore witness to the paucity that came before.

The primary driver of the Osprey's decline, which was mirrored across many other birds of prey, was pesticide pollution. Organochlorine pesticides such as DDT/DDE were all the rage during the mid 20th century, and their persistence in the ecosystem was subject to intense biomagnification in the systems of top-predators. Small amounts of DDT/DDE contained in the flesh of fish entered Osprey repeatedly, and this prolonged exposure drove chemical build-ups in the birds' system.

While this concentration came with a range of adverse health effects, the most severe was eggshell thinning. During the period of steepest declines here in the Northeast, average Osprey eggshell thickness was nearly 20% thinner than pre-DDT levels, and this caused widespread reproductive failure—eggs were broken in the nest and countless chicks lost. Raptors in general were very prone to the reproductive consequences of DDT, and remain susceptible to pollutants today; their position as high-trophic-level predators means that they often accumulate chemicals present in the environment to a dangerous and unparalleled degree.

DDT and other associated pesticides were banned in the US in 1972, and since that time Ospreys and other affected birds have enjoyed swift rebounds in their population size. Trace amounts of the chemical can still be found in certain Osprey populations, especially those in industrial areas, but the magnitude of contamination is comparatively low and is, for the most part, no longer a threat.

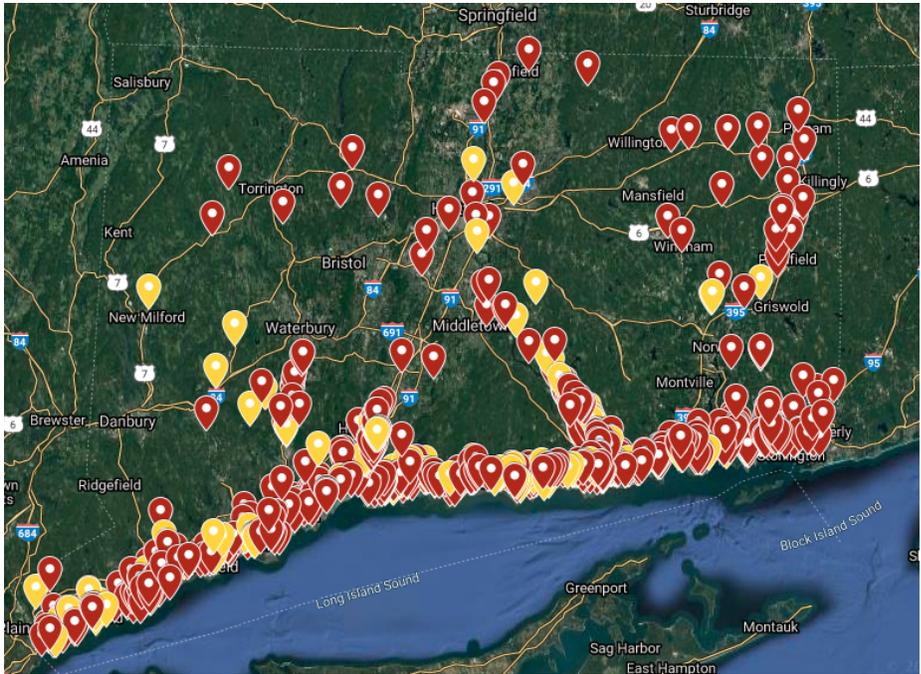
Ospreys are still of some conservation concern, however, and face a myriad of other threats including collision with man-made structures (a downside to their ability to nest in built-up areas), fishing line entanglement and habitat/food-chain degradation. As with all migratory species, the threats facing Osprey are not constant; dangers differ between breeding and winter territories, as well as en route, and comprehensive management plans for Osprey must take into account the conditions they experience both here on the East Coast and in northern South America and the West Indies, where they winter.

One core requirement for any management plan is an understanding of population parameters, trends, and distribution. The Osprey Nation project attempts to produce such a picture through annual citizen-science monitoring, and collects a wide range of spatial and temporal data suited to catch shifts in the status of Connecticut's Osprey population. During the project, the most notable change observed has been the continued expansion of the Osprey population and range here in Connecticut. How long this expansion can continue is, as of now, unclear (see *2021 Data*).

2021 Season Results

1. Nest Site Maps

Picture 1: Osprey Nation nests throughout the state of Connecticut in 2021. Red pins represent nests that we received conclusive data for. This means the reports allowed us to confirm what was happening at the nest and what the nest outcome was for the year. Yellow pins represent nests that we did not receive data for, or that we received some reports for but the data was not conclusive. We would have needed additional information to be able to make a conclusion for any of the yellow pins. All of the pins will be reset to be the same color at the start of the 2022 season.



As the map indicates, the distribution of Connecticut Osprey nests follows our major coastlines — along the Sound and up the shores of the three major rivers (Housatonic, Connecticut, Thames). There is also an expanded presence of Osprey in inland Connecticut, along certain ponds, lakes, and smaller rivers. The greatest concentration of Osprey nests in the state is on Great Island in Old Lyme, at the mouth of the Connecticut River.

2. 2021 Data

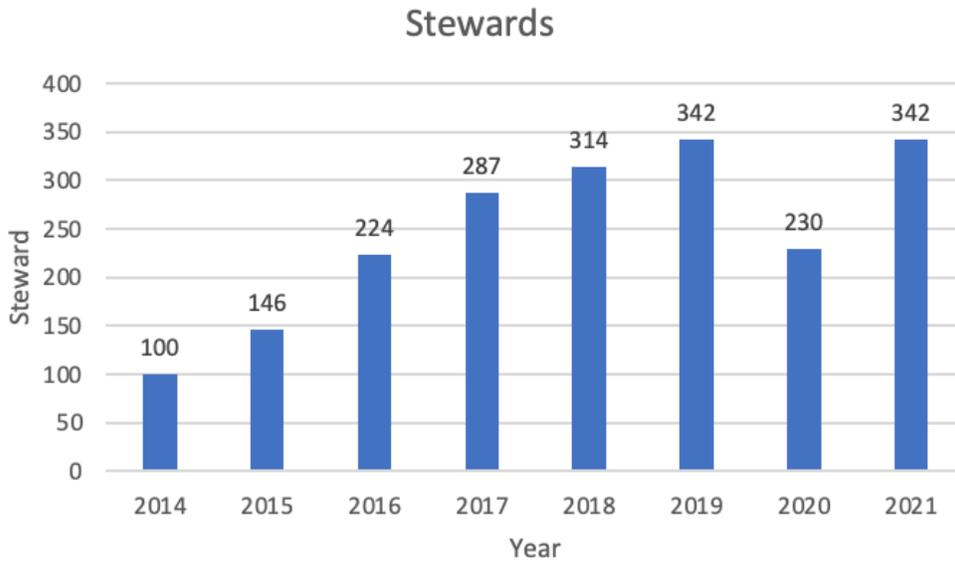


Figure 1: The number of stewards over time from 2015 to 2021. The number of stewards has had an upward trend in general. 2020 had a decrease in stewards due to covid, but 2021 steward numbers made it back to the 2019 numbers.

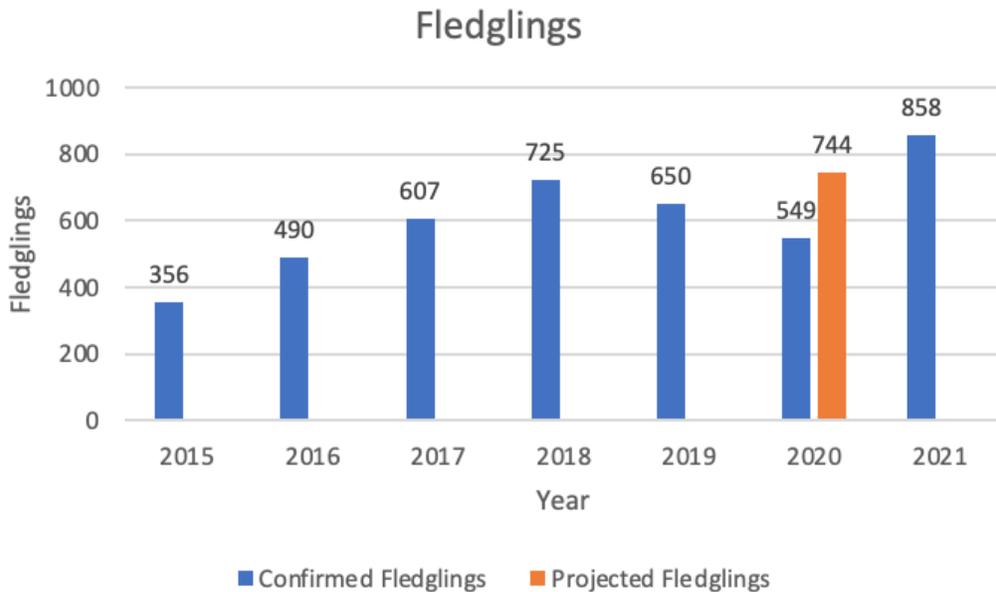


Figure 2: The number of fledglings over time from 2015 to 2021. The number of total confirmed fledglings reported to us has had an upward trend, although 2019 and 2020 had slightly lower numbers.

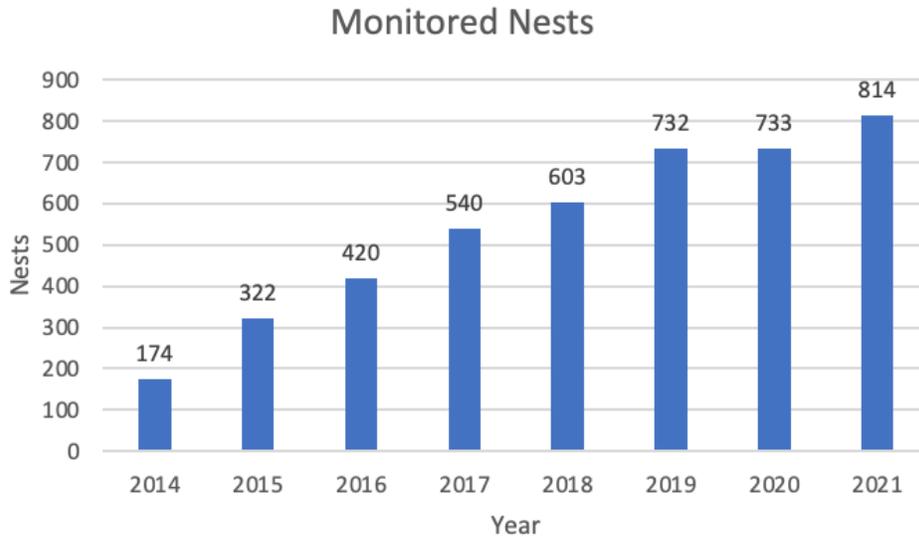


Figure 3: Monitored nests over time, 2014 through 2021. Active nests have increased each year that Osprey Nation has recorded data. This is a sign that the Osprey population is growing, but is also definitely in part because the Osprey Nation program is growing as well. We have more stewards that are involved and are collecting information. The coverage of nests is increasing. In 2020, when there were many fewer stewards due to Covid, the number of monitored nests still increased by one.

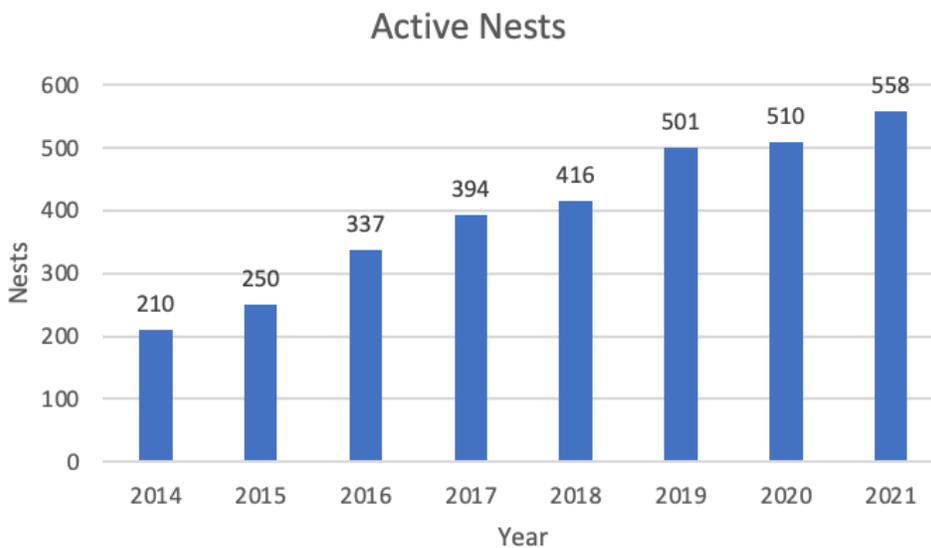


Figure 4: Active nests over time, 2014 through 2021. Active nests have increased each year that Osprey Nation has recorded data.

Acknowledgements

This season was a huge success, and it would not have happened without a huge amount of help. Osprey numbers were the highest since the project started, and steward numbers were back up to where they were pre-Covid. Thank you to all of our stewards, collaborators, and the Connecticut Audubon Staff.

Thank you also to the team at Connecticut Audubon for all your guidance and input. Specifically, a huge thanks to Patrick Comins, Milan Bull, Joyce Leiz, and Tom Andersen. Thank you also to Brendan Murtha (Osprey Nation Steward 2020) for his guidance and help with data sets.

Thank you so much to Terry Shaw who put up and repaired numerous osprey platforms this season!

As always, thank you to the Connecticut Department of Energy and Environmental Protection for supporting the project, and to the rehabbers at A Place Called Hope in Killingworth who once again provided excellent care for several injured Osprey found and rescued over the course of the season.

Last but certainly not least, a huge thanks to all 2021 stewards who monitored nests this season. We had a total of 342 stewards this season! This type of project could never exist without you. — Kate Scimeca, Osprey Nation Coordinator, 2021

The stewards, in alphabetical order:

Alison Mead	Barbara Landau	Bridget Cervero
Alison Zyla	Barbara Ryden	Bruce Lighty
Amanda Baker	Ben Myers	Carol Bisbano
Amanda Kennedy	Ben Philbrick	Carol Dunn
Amy Edwards	Bennett Pudlin	Caroline Erni
Amy Poturnicki	Beryl Thorpe	Carolyn Doan
Anastasia Zinkerman	Betty Hadlock	Cathy DeMeo
Andrew Griswold	Betty Slanetz	Cathy Malin
Angela Richards	Beverly Proppen	Charles Palardy
Anjani Jain	Bill Ponterella	Cheri Scull
Ann Colson	Bob Murdock	Chet Kirby
Ann Judd	Bob Myers	Chris Graham
Ann Orsillo	Bob Singer	Christine Gaynor
Ann Phillips	Bob Stout	Christine Gonillo
Anne McNulty	Brenda Rich	Christine Sweeney
Anne Semmes	Brian Geddes	Chuck Fitzgerald

Claudia Pessagno	Dottie Gutaj	Janer Belson
Craig Coleman	Doug Erni	Janet Messick
Craig Healy	Ed Ianello	Janet Sundman
Cyndi Ellis	Eileen Murphy	Jean Hopkins
Cynthia Ehlinger	Ellen Kennedy	Jean Webber
Cynthia Lee	Ellen van Wees	Jeanne Allen
Cynthia Wacha	Erin Grady	Jeff Rodia
Dale DiFronzo	Eugene Ralph	Jen Place
Dan Ferrier	Eve Coolidge	Jen Singer
Dan Persico	Francesca Jones	Jerilyn Duefrene
Dan Rottino	Frank Ginise	Jill Notar-Francesco
Dana Wehking	Frank Sandler	Jim Denham
Danelle Kegley	Frank Tracano	Jim McKay
Dave OBrien	Frederick Crosby	Jo Schaller
Dave Schreiber	Freyda Rose	Joan Hedquist
David Roger	Gary Childress	Joan Seguin
David Smith	George Kenyon	JoAnn Davidson
Dawn Griswold	Ginny Apple	Joe Blumberg
Deborah Lepine	Glen Cummings	Joe Carney
Debra Perez	Greg Brenner	Joe Suarez
Denis Devaux	Greta Jones	Joe Suarez
Denise Davies	Gretchen Levesque	John Brezina
Denise Ginise	Groton Utilities -	John Cunningham
Denise Palnitkar	Watershed Division	John Kofron
Denyse Miller	Harry Walpole	John Nichols
Diana Cirillo	Heather Milardo	John Ogren
Diana DeLisa	Heather Williams	John Sargent
Diana Whitelaw	Heide Smith	John Shegirian
Diane Hull	Hugh McManus	John Stoddard
Diane Volz	Igor Krajnak	John Troland
Diane Von Schleusingen	Iona Eden Siemer	Jon Colson
Dianne McHutchison	Jackie Kirby	Joseph Szalay
Don McGregor	Jacquelyn Conn	JP Babineau
Don Parrott	James Damon	Julia Gwen Rice
Donna Brinckerhoff	Jamie Flynn	Julia McShane
Donna Hansen	Jamie Rock	Julie Alnwick
Donna Meadors	Jan Prentice	Karen Gallo
Doreen Jezek	Jane Aldieri	Karen Harris

Karen Link	Lisa Schramm	Michael G. Mishik
Karen Morley	Lisa Tryon	Michael Zarotney
Karen Smith	Lisa Zawadski	Michele Millham
Karen Stigliano	Liz Coolidge	Michelle Sikorski
Kas Leiva	Lorain Rock	Mike Ferry
Kate Webb	Loralee Richter	Mike Tuneski
Kathleen DelMonico	Lori Bassett	Mike Wehking
Kathleen DePasquale	Lorrie Shaw	Mike Widmer
Kathleen Richards	Louise Crocco	Miriam Levin
Kathleen Ruby	Lucy Crescenzi	Misha Semenov
Kathy DelMonico	Lynn Craska	Morgan Werner
Kathy Kirkland	Lynn Dorsey	Nancy Anderson
Kathy OBrien	Lynn Johnson	Nancy Breininger
Kelly Barbieri	Lynn Tracey	Nancy James
Ken Ewell	Madeline Raleigh	Nancy Moon
Kendra Wingate	Marcia Wilcox	Natalie Albrecht
Kevin Hunt	Margaret Fikrig	Nick Maiorino
Kim Curry	Maria Ehrhardt	Pamela Reeser
Kim Etherington	Marilyn Schreiber	Pati Laudano
Kimberly Lambert	Mark Geist	Patricia Brune
Kris Rowe	Marla Whalen	Patricia Laudano
Kumu Fernando	Marsha Vetare	Patricia Mazella
Laura Bastien	Martha Lee Asarisi	Patricia Pickard
Lauragene Lyons	Mary Barravecchia	Paul Criscuolo
Laurie Desmet	Mary Casey	Paul Zwynenburg
Lesley Orlovski	Mary Seidner	Peter Alessi
Leslie Mastrianna	Mary Sue Hermann	Peter DeLisa
Lewis Spero	Maryann Bracken	Peter Pearce
Lily Kaffman	Maryann Leach	Polly Parker
Linda Berard	MaryEllen Walpole	Rae Studholme
Linda Wenner	Maura Bonafede	Rebecca Wronski
Lindsay Tomaszewski	Maureen Bashaw	Richard Madonna
Lisa DeRosa	Maureen O'Brien	Rick Allison
Lisa Falasco	Megan Czekaj	Rick Landau
Lisa McKay	Melissa Devaux	Rick Newton
Lisa McKay	Melissa Garthwait	Rob Coolidge
Lisa Peake	Melissa Weiss	Robert Klein
Lisa Roger	Melody Lehrman	Robert Raufeisen

Robert Stout	Stephanie Kollet	Terry Shaw
Robert Sundman	Stephanie Mickle	Timothy Widmer
Robin Copperthwaite	Steve Galkin	Tom Green
Robyn Leo	Steve Light	Tom Pfeifer
Rona Ramos	Steven Dodd	Tom Scull
Roni Widmer	Steven Peake	Tom Shoemaker
Ryan Orr	Sue Driscoll	Tom Thompson
Sandra Robison	Sue Mullaney	Tony Spinelli
Sandy Ianello	Sue Winkler	Tracy Tracano
Sarah Cocco	Susan Alon	Tricia Ryan
Sarah Davison	Susan Durant	Tristan Kolb
Sarah Johnson	Susan Ferency	Valerie Richardson
Sarah KH	Susan Gagliardi	Valerie Szondy
Sarah Wolcheski	Susan Ganley	Valerie Workman
Scott Brinckerhoff	Susan Marks	Victoria Atkin-Dahm
Scott Harris	Susan McNamara	Victoria Foulke
Shane Varnadore	Susan Taff	Virginia Wahl
Sharan Carney	Susan Worboys	William Chantrell
Sharon Foster	Sylvia Laudette	William Murphy
Sharon Hirsch	Tab Carter	Woody Long
Sherry Duff	Tammy Suarez	Zen Ganoe
Sherry Harmon	Tammy Suarez	
Sina Koritko	Tanya Patten	

Sources

Bierregaard, R. O., A. F. Poole, M. S. Martell, P. Pyle, and M. A. Patten (2020). Osprey (*Pandion haliaetus*), version 1.0. In *Birds of the World* (P. G. Rodewald, Editor). Cornell Lab of Ornithology, Ithaca, NY, USA.