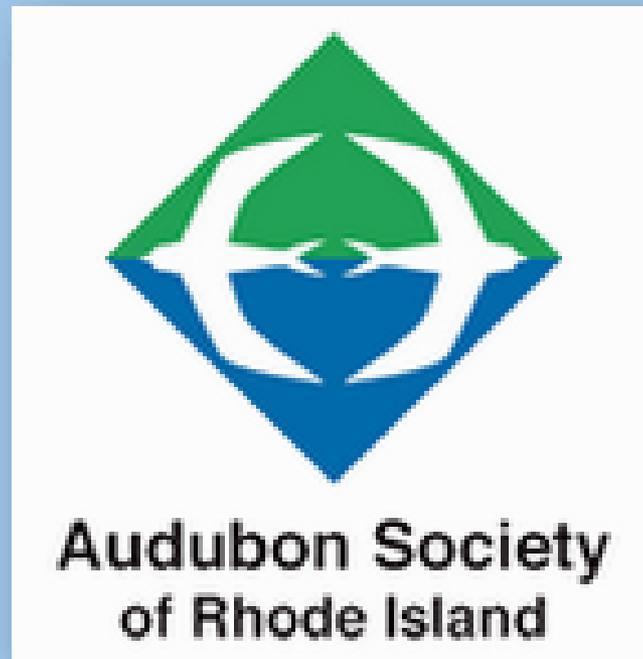


RI OSPREY MONITORING PROGRAM



Volunteers Protecting the Rhode Island Osprey
Population

Table of Contents

2

- Audubon Society of Rhode Island
- The RI Osprey Monitoring Program
 - Program Overview
 - Monitoring Process
 - Resources: Forms, Website & Facebook
 - Map of Nest Sites
 - Nest Assignments
 - Monitoring Tips
- Osprey Natural History
- Conservation
- Contact Information



Audubon Society of Rhode Island



Audubon Society
of Rhode Island

3

- ❑ The RI Osprey Monitoring program is managed by the Audubon Society of Rhode Island (ASRI).
- ❑ ASRI was founded in 1897 with the mission of conservation, education and advocacy.
- ❑ ASRI owns nearly 100 wildlife refuges totalling over 10,000 acres. The properties include 13 that are open to the public.
- ❑ Through classes, outreach and programs, ASRI educates 20,000 children and adults per year.
- ❑ ASRI has 23 employees and relies upon volunteers to fulfill their mission.
- ❑ ASRI manages several community science efforts including annual butterfly counts, Osprey monitoring, Bluebird monitoring, New England Cottontail restoration and more!

RI Osprey Monitoring Program

4

In the 1950's-60's, the Osprey population began to decline due to the prolific use of the pesticide DDT. The harmful chemicals in DDT accumulate up the food chain, eventually reaching birds of prey. In birds, DDT causes thin eggshells resulting in breakage during incubation and nest failure.

In 1972, the Federal Government banned DDT, and then in 1976, the Osprey was listed as an Endangered Species by the U.S. Fish and Wildlife Service. Since then, the Osprey populations have begun to recover and they were upgraded to "Threatened" in 1982 and of "Special Concern" in 1999.

In the 1940's, breeding surveys estimated ~1000 nests between New York and Boston. By the end of the 60's, nest sites declined by 98.5% to 150 active nests.

DDT

5

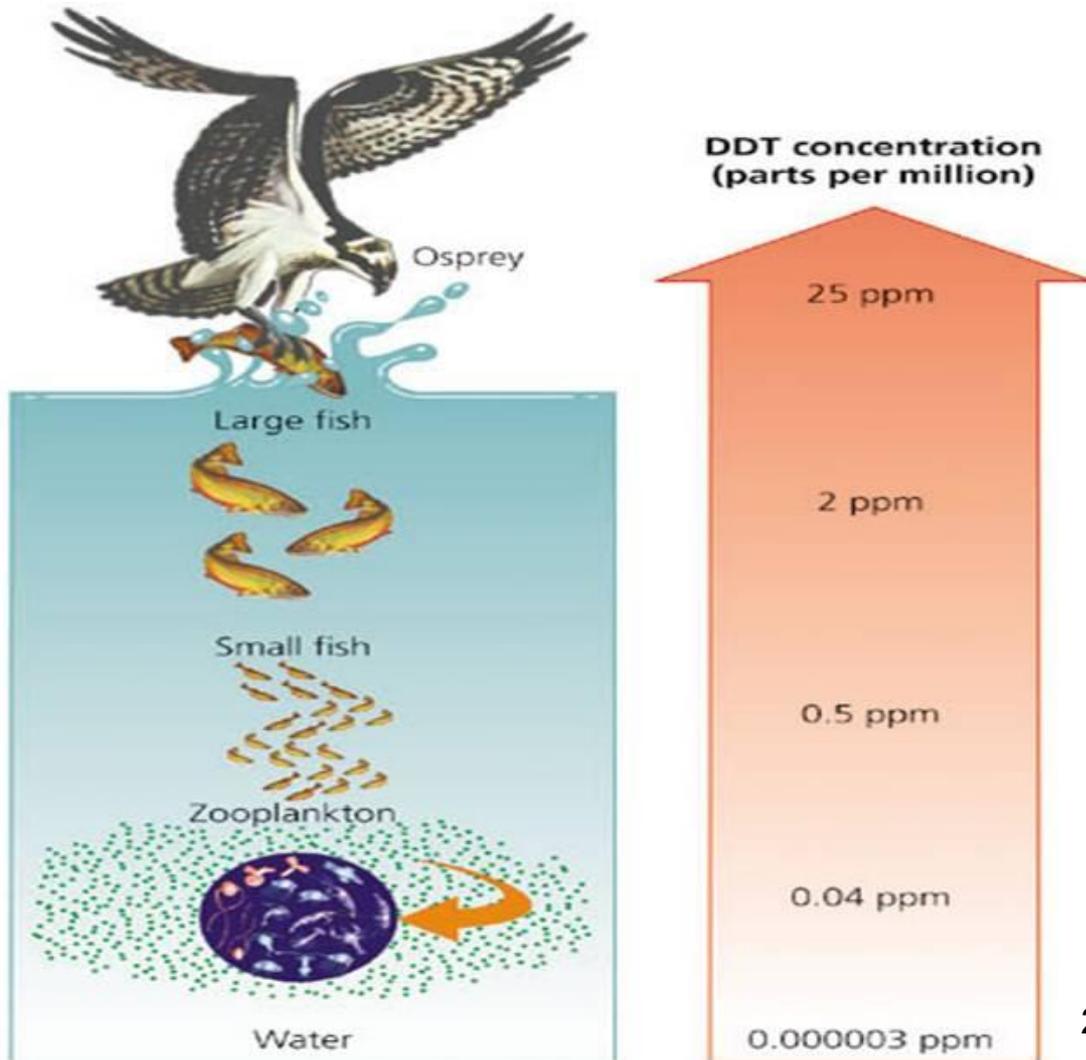
Osprey populations began their decline in the 50's and 60's because of DDT entering the ecosystems.

Photo: Pesticide Action Network



DDT: The impact on Osprey

6



RI Osprey Monitoring Program

7

In 1977, the Rhode Island Department of Environmental Management (RIDEM) began monitoring the state's osprey population. Staff biologists and volunteers observed all known nests in Rhode Island and recorded how many chicks fledged (left the nest) each year. In 2010, RIDEM asked the Audubon Society of Rhode Island to take over management of this successful program.

Over the years, the osprey population has steadily increased. In 1977, 8 fledged chicks and 12 nests were documented. Over thirty years later, the Osprey population is increasing with a recorded 298 fledged chicks and 176 active nests in 2020.

Why Monitor Osprey?

8

- Osprey serve as ecosystem sentinels, providing valuable information about the conditions of their habitat. Similar to canaries in a coal mine - raising an alarm.
- Their almost exclusive diet of fish make them extremely vulnerable to changes in their habitat and food sources.
- During the 1950's and '60's, Osprey populations were almost wiped out by the effects of the pesticide DDT.
- In Rhode Island, the number of nests plummeted from several hundred to just eight.
- Osprey are easy and rewarding to observe

Fun Fact: “In North America, the osprey has shown a phenomenal 90 percent success rate in some catches-per-dive studies, with a nationwide average of 40% - well above the catch rates of most eagles, hawks and owls.”

(The Fish Hawk Osprey, Stephen Carpenteri, 1997)

RI Osprey Population History

9

- 1950's and 1960's - DDT utilized as a pesticide
- 1960's - Only 8 known nest sites in RI
- 1972 - DDT banned in US
- 1976 - Osprey listed as Endangered
- 1977 - RIDEM began monitoring all known nest sites
- 1977 - 12 Active Nests, 8 Fledged Osprey
- 2013 - 138 Active Nests, 168 Fledged Osprey
- 2014 - 127 Active Nests, 186 Fledged Osprey
- 2015 - 156 Active Nests, 239 Fledged Osprey
- 2016 - 159 Active Nests, 297 Fledged Osprey
- 2017 - 145 Active Nests, 226 Fledged Osprey
- 2018 - 166 Active Nests, 275 Fledged Osprey
- 2019 - 123 Active Nests, 212 Fledged Osprey
- 2020 - 176 Active Nests, 298 Fledged Osprey



Osprey Monitoring Program Goals

10

- The goal of the monitoring program is to document the breeding success of Osprey in Rhode Island and parts of Massachusetts.
- Several factors determine annual breeding success. Monitors track the number of active nests, successful nests, housekeeping activities and confirmed fledglings.
- Monitors also track the location and status of nests across the state.
- The data resulting from the observations are published in an annual report for the public to view and use.



Osprey Monitoring Process

11

The monitoring season calendar:

- **January - February:** Returning monitors confirm their participation
- February - March: New monitors undergo training (via this document)
- **Late February:** List of nests needing monitoring is published
- **February - March:** New monitors indicate nest preference
- **March:** New monitors are assigned nests to monitor
- **March:** All monitors make an initial visit to their assigned nest(s)
- **March - August:** Monitors check their assigned nests on a weekly or bi-weekly basis and submit their observation data weekly
- **September:** Monitors submit final nest status and fledgling counts at the end of the season
- **November:** Annual Monitoring report is published



Osprey Program Resources

12

Audubon has developed some resources to help monitors:

- Program website: The “home” of the program, monitors should check the site weekly for updates. This site is where monitors submit their observation data each week. The nest map is also accessed through this site. The website also contains links to information pertaining to the program and Osprey in general.
- Facebook Group: This is a closed group, only for RI Osprey Monitors. It is a platform for monitors to share questions, discuss issues, send photos, etc..
- Email: Occasionally information will be sent to monitors via email. Monitors may send information and questions to rhodeislandosprey@gmail.com
- Phone: If needed, monitors may call 401-949-5454 x3201

Observation Data Collection

13

- Please plan to make weekly nest visits throughout the breeding season. Frequent visits are especially important once chicks are visible.
- After each visit, go to the program website and submit your data (observations). If you are covering more than one nest you will have to submit data for each nest separately.
- Near the end of the season (late July) it is important to get a count of the fledglings. Once chicks can fly (fledge), counting becomes tricky as they may visit other nests.



Data Submission

14

- Submission site: www.riosprey.info (Submit Data tab)
- You must be registered with Jon at Audubon and have been assigned a nest in order to submit observations.
- Your email address will be your login.
- Email Jon at rhodeislandosprey@gmail.com to edit or delete your submission, or if you have questions.
- Check the website on a weekly basis for updates
- Please save your field notes for one year.



RI Osprey Program Resources

15

Program Website

t secure | riosprey.info

Rhode Island Osprey Monitoring Program

An Audubon Society of Rhode Island Community Science Program

Audubon Society of Rhode Island

Home About the Project Audubon Society of Rhode Island **Submit Data** Map of Osprey Nest Sites Report a New Nest

It's Nest Assignment Time!

Posted on [January 29, 2021](#) by [Jon at Audubon](#)

Osprey Photos

Fort Getty (Jamestown)
April 2019, Photo by John A.

NCeivgN9

o search

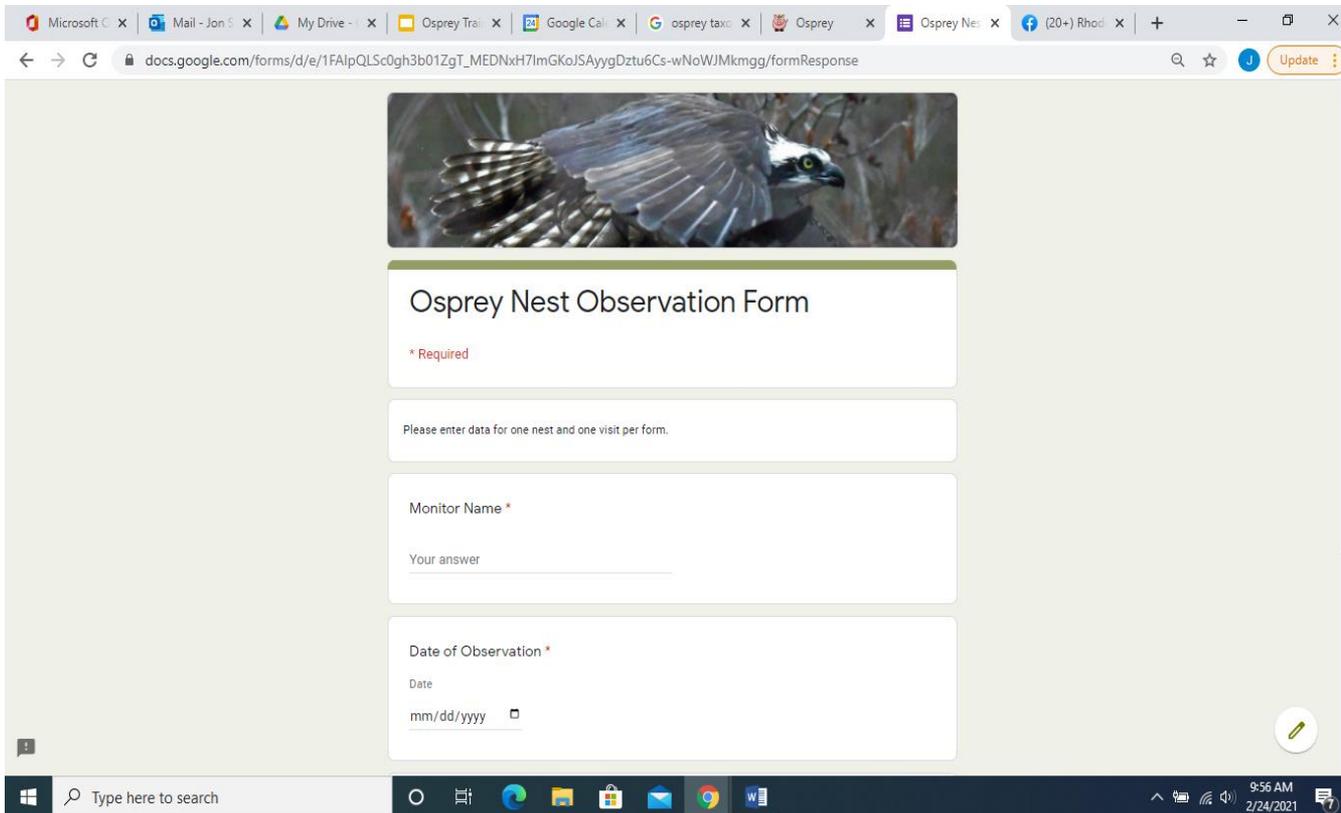
Note that the “Submit Data” tab is highlighted.

Monitors click on this tab to submit their observations.

RI Osprey Program Resources

16

Observation Form



The screenshot shows a web browser window displaying a Google Form titled "Osprey Nest Observation Form". The browser's address bar shows the URL: docs.google.com/forms/d/e/1FAIpQLSc0gh3b01ZgT_MEDNxH7ImGKoJSAyygDztu6Cs-wNoWJMkmgg/formResponse. The form itself features a header image of an osprey in flight. Below the title, there is a red asterisk indicating a required field. A instruction box states: "Please enter data for one nest and one visit per form." The form contains two visible input fields: "Monitor Name" with a red asterisk and a text input area labeled "Your answer"; and "Date of Observation" with a red asterisk, a "Date" label, and a date picker showing "mm/dd/yyyy". The Windows taskbar is visible at the bottom of the screen, showing the time as 9:56 AM on 2/24/2021.

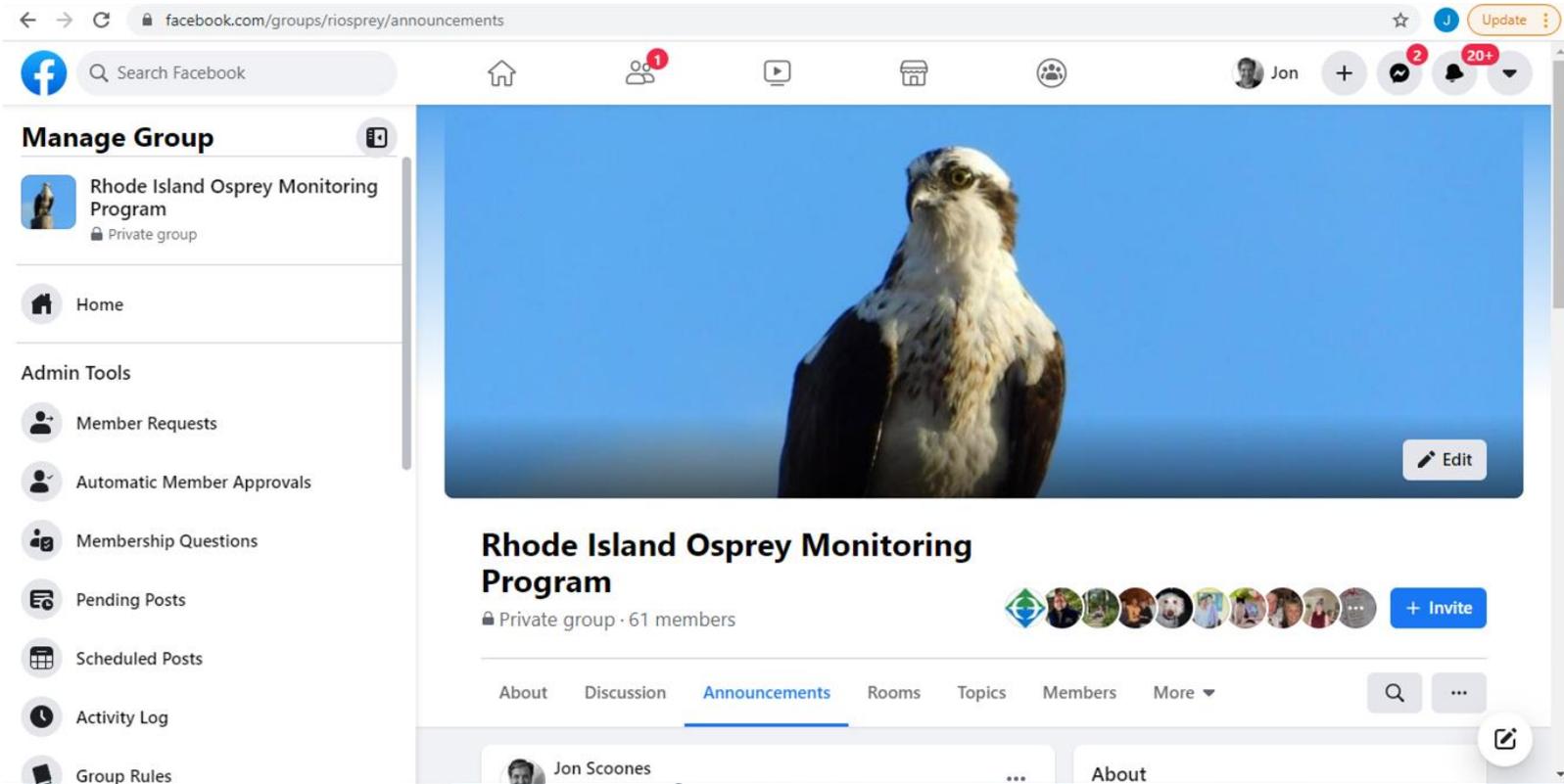
This form appears after clicking on the Submit Data tab. It is used each time an observation is submitted.

The form continues on for a couple of pages.

RI Osprey Program Resources

17

Facebook Group for Monitors only.



The screenshot shows the Facebook interface for the "Rhode Island Osprey Monitoring Program" group. The browser address bar displays "facebook.com/groups/riosprey/announcements". The group's cover photo features a close-up of an osprey's head against a clear blue sky. The group name "Rhode Island Osprey Monitoring Program" is prominently displayed, along with the designation "Private group" and "61 members". A navigation menu on the left includes options like "Home", "Admin Tools", and "Membership Questions". The main content area shows the "Announcements" tab selected, with a search bar and a "More" dropdown menu. At the bottom, a post by "Jon Scoones" is partially visible.

Osprey Program Resources

18

RI Osprey Monitoring Website: Nest Site Map

t secure | riosprey.info

Rhode Island Osprey Monitoring Program

An Audubon Society of Rhode Island Community Science Program

Audubon Society of Rhode Island

Home About the Project Audubon Society of Rhode Island Submit Data **Map of Osprey Nest Sites** Report a New Nest

It's Nest Assignment Time!

Posted on [January 29, 2021](#) by [Jon at Audubon](#)

Mt Hope High School (Bristol)
April 2019, Photo by Julie B.

Search

Note that the “Map of Nest Sites” tab is highlighted.

Click on this tab to look for nests across RI.

Osprey Program: Map of Nests

19

Map of Nest Sites

The screenshot displays a Google My Maps interface for a map titled "RI Osprey Nest Sites". The map shows the state of Rhode Island with numerous red pins indicating nest sites, primarily concentrated in the southern coastal region. The interface includes a search bar at the top, navigation controls, and a layer management panel on the left. The layer panel shows the following options:

- RI Osprey Nest Sites (1,710 views)
- All changes saved in Drive
- Add layer, Share, Preview
- Osprey Nest Sites in Little Rhody (Layer options)
- Uniform style
- All items (265)
- Directions from Audubon EEC Tre...
- Directions from Audubon EEC Tre...
- Untitled layer
- Untitled layer
- Untitled layer

The map shows major cities like Boston, Worcester, and Providence, and major roads like I-95 and I-295. The Google My Maps logo is visible at the bottom of the map area.

Osprey Program: Map of Nests

20

- To access the map of nest sites, go to the program's website and click on the "Nest Site Map" tab.
- To select a particular nest, use the search bar.
- Use the + or - controls to zoom in or out.
- To learn more about a particular nest, click on the "pin".
- If you have information to update the "pin" or want to submit a photo, please email it to us!



Osprey Nest Assignment Process

21

The program covers ~200 nests across RI and two towns in Massachusetts. Some nests have monitors from previous years; some nests need monitors.

In late February a list of nests that need monitors is published. New monitors should review the nest list, check the nest sites on the map and send an email to Jon at rhodeislandosprey@gmail.com listing those nests that they would like to cover for the upcoming season.

Jon will reply back listing the approved nests. After approval, monitors will be able to submit data and access the Facebook group.

Please list only those nests that you can commit to covering through the entire season. If you list 3 nests you may be approved for all 3. So please be clear in your email!

If you do not hear back from us please send a note or call us.

Osprey Nest Status & New Nests

22

- Following your first visit to your assigned nest, please report the physical status of your assigned nest(s). This can be done in the “Observation Details” section of the observation form. E.g. “nest on pole, good condition”. Or “Pole with no platform”. Or “No pole or nest found”. Etc...
- If you find a new nest please double check that it is not already listed. If not, use the tab on the program website to submit the information. Verifying new nests takes time, please be patient!
- Audubon does not repair or install nests off of our property.
- Please don't become too territorial over nests – they are not YOUR nests... they belong to the birds!

Osprey Program Monitoring Tips

23

- ❑ Approach nests slowly & quietly
- ❑ Avoid data collection in inclement weather
- ❑ If the ospreys create a fuss (make alarm calls, leave the nest, etc..), increase your observation distance
- ❑ Chicks can be difficult to see. Be sure to learn and identify the breeding behaviors of the adults and be patient.
- ❑ Keep a journal of your observations and thoughts. When you get home submit your observations via the program's website.
- ❑ Enjoy your time outside!



Osprey Program Monitoring Tips

24

- Dress for nature and the weather. Be comfortable!
- Binoculars are necessary to clearly see the Osprey and chicks
- No need to monitor in foul weather or periods of extreme heat.
- Take pictures with a camera and then blow them up on a computer. You may see little chick heads you missed in the field.
- Sending us photos is great, but please curate your photos. Please do not send us all of them! Include your name, nest name, the nest location, date and any description. All photos are assumed to be ok for Audubon to use. Please send your photos to:
rhodeislandosprey@gmail.com
- Learn more about the Osprey you are monitoring. Research!
- If you have to stop monitoring or are going to be away for more than two weeks please send a note to rhodeislandosprey@gmail.com via email as soon as possible!

Osprey Program Monitoring Tips

25

Breeding-related activities to look for:

- ❑ Nest building - adding materials to the nest
- ❑ Copulation - Male over the female
- ❑ Incubation - Female hunkered down in nest, not moving much
- ❑ Nest defense by both female and male
- ❑ Incubation Feeding - Male bringing fish to the female
- ❑ Feeding chicks - Female feeding the chicks. You may not see the chicks, but may see the female's head moving as she feeds the chicks.
- ❑ Chicks' heads poking up out of the nest
- ❑ Fledglings on the edge of the nest (Important time to count them)
- ❑ Once fledglings have fledged be careful counting them as they may travel to other nests to be fed.
- ❑ Go to Cornell University's www.allaboutbirds.org for more info.

Osprey Natural History

26

This section covers the following topics:

- Osprey Taxonomy & Identification
- Range, Habitat and Migration
- Feeding
- Lifecycle: Nests, Eggs & Breeding Calendar



Osprey: Taxonomy

27

Osprey Classification

Kingdom - Animalia

Phylum - Chordata

Class - Aves

Order - Accipitriformes

Family - Pandionidae

Genus - Pandion

Species - Pandion

haliaetus

Osprey (*Pandion haliaetus* - Western Osprey) are members of the Raptor family. The term “raptor” in this situation refers to a bird of prey; a carnivorous bird that feeds on meat taken by hunting or carrion.

There is some debate whether the Osprey belong to the order Falconiformes or Accipitriformes. In either case, they make up their own Genus: Pandion. Most experts recognize two subspecies: Eastern and Western Osprey.

Osprey: Identification

28

- One of the largest birds of prey in North America, Osprey prey on fish.
- Osprey have long, narrow wings that are always angled and bowed down. Their wings have a distinctive pattern when viewed from below.
- Both sexes have a white head and dark eye band.
- Adults weigh from 2 - 4.6 lbs and can have a nearly 6' wingspan.
- When flying they have arched wings and drooping fingers, looking similar to a gull.
- Juveniles have buff feather tips and streaked feathers.

Sibley Field
Guide



Osprey Identification: Fledgling

29

- Fledglings resemble adults, but have buff-tipped feathers on the back of their upper body, giving them a speckled appearance.
- Some fledglings have brown streaking on the breast. Do not confuse this with the female's "necklace".
- Fledglings have an orange colored irises. (Adults' are yellow)



Osprey Identification: Adult

30

- Usually weigh 3-4 lbs
- 5' wing span; body is 2' in length
- Mostly dark plumage on top and white underneath
- Head is white with black eyeband
- Females are typically larger than males and have a speckled brown “necklace” across their upper chest.
- Sharply curved, black bill
- Adults have a yellow iris
- Four toes with black talons

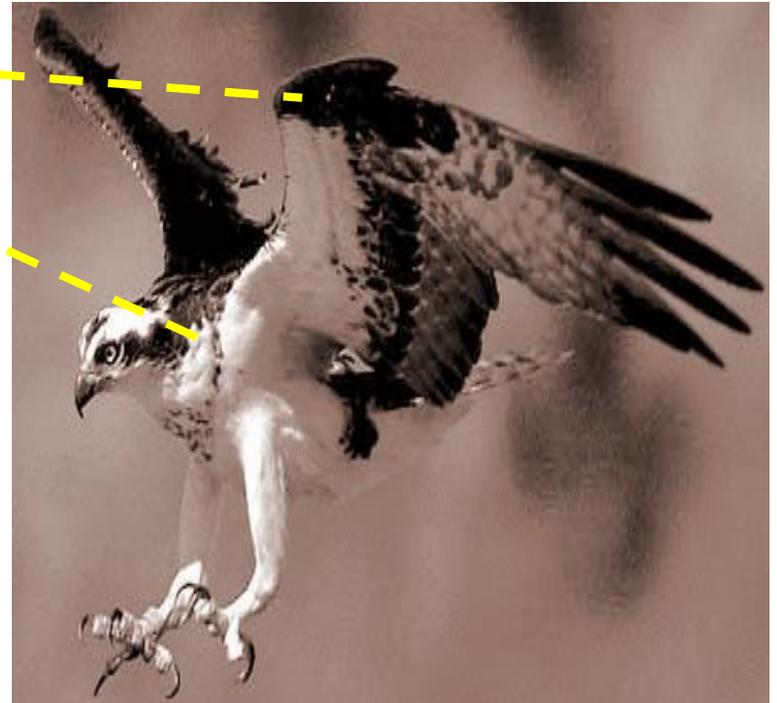


Osprey: Field Identification

31

The following identifying markers help identify Osprey:

- White breast
- Dark eye band
- Dark wrist patch
- Speckled neck (females)
- Four talons
- “M” Shape of wings



Osprey: Field Identification

32



< Adult Female:
Note "Necklace"

Adult female
with 3 nestlings
>



Juvenile,
Adult,
Juvenile>

< Adult male
bringing stick
to female (Note
"necklace")



Osprey Calls

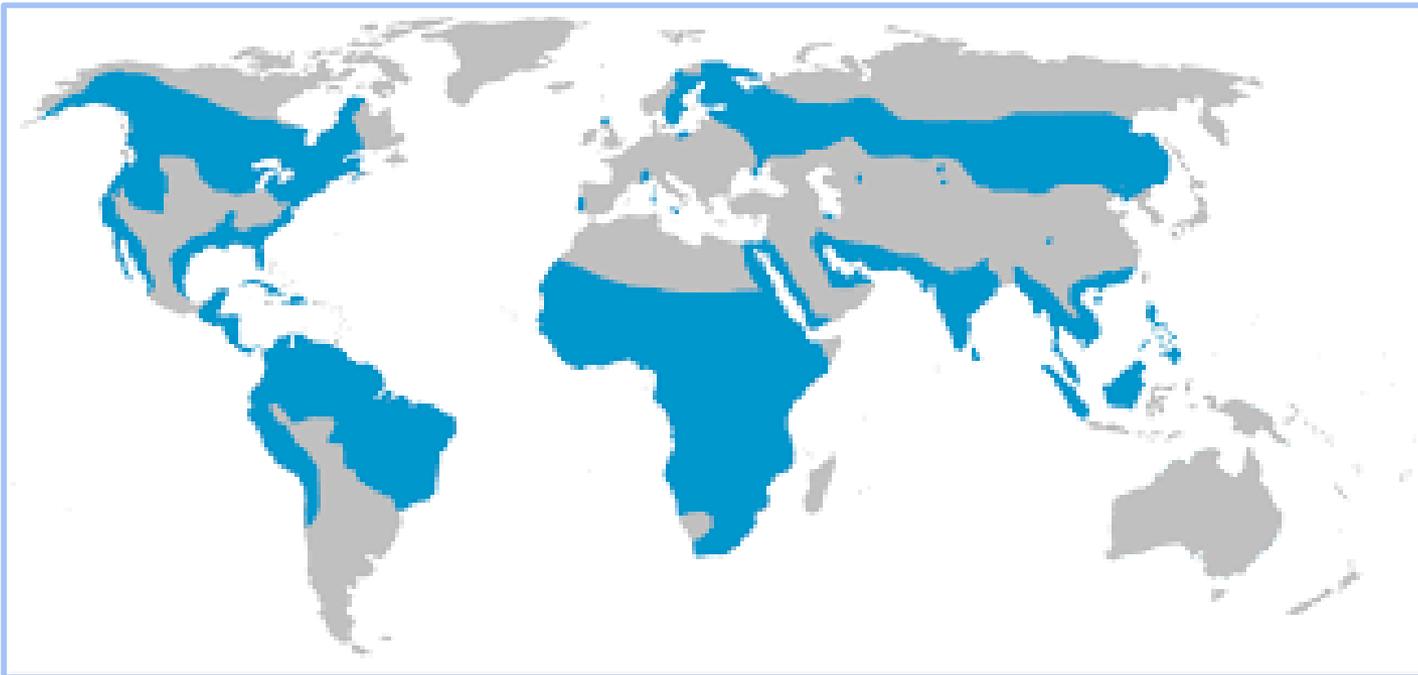
33

- Ospreys have high-pitched, whistling voices.
- Flight calls: Slow succession of chirps
- Alarm call: Chirps strung together into a series that rises in intensity and then falls away, similar to the sound of a whistling kettle taken rapidly off a stove. This type of call is most often given as an unfamiliar Osprey approaches the nest. As the perceived threat increases, the call can build in intensity to a wavering squeal.
- <https://www.allaboutbirds.org/guide/Osprey/sounds>

Osprey: Global Range

34

Osprey are one of the most widespread birds in the world, found on all continents except Antarctica. Because their diet is almost exclusively fish, they are found near bodies of fresh or saltwater (and in Rhode Island, both!).



Wikipedia

Western Osprey Range

35



Map by Cornell Lab of Ornithology
Range data by NatureServe

Osprey may be year-round residents or migrate.

Populations in Florida and the Baja reside their all year.

The population observed in Rhode Island spends summers here and migrates to South America for the winter.

Osprey Habitat

36

- Osprey breed near shallow water (salt or fresh) that support fish - their primary food source. In Rhode Island, these habitats include lakes, rivers, fresh and saltwater ponds, marshes, Narragansett Bay and the ocean.
- Since Osprey dive into water and grab their prey feet-first, the water must be clear enough to see their prey. Osprey can dive 3' into the water, so the fish must be near the surface.
- In Rhode Island nests are found in trees along shorelines, in man-made platforms, on cellular & powerline towers, tall floodlight structures, chimneys and the Dutch Island lighthouse!

Photo: Linda Blackburn



Osprey: Migration

37

- Some Osprey migrate, while others reside in one location year-round. The osprey that breed in Rhode Island (RI) migrate to various places in South America.
- Adults migrate first, typically in August. Juveniles follow closely behind in early late August/September. The males return first, in March, and are followed by the females.
- Their migratory path typically leads from RI down the coast to Florida, then to Haiti, Cuba and into South America. After a winter of feeding, Osprey return back to their nests in Rhode Island. Juveniles may stay in their winter grounds for 2 to 3 years after their first migration south. Male juveniles will return to the general area of their birth and look for suitable nest sites.

Osprey: Feeding

38

- The Osprey diet consists of 98% fish. Osprey have been observed eating snakes, birds, frogs, reptiles, mammals and crustaceans.
- Osprey are adapted to hunt their prey from the water. Their excellent vision enables them to spot the fish from up to 100' above the water's surface. After locating its prey, Osprey dive into the water feet first, grabbing the fish with its talons.
- Sometimes Osprey will dive completely underwater chasing their prey. Due to their buoyancy, they do not usually dive more than 3' under the surface.
- In order to catch and transport the fish, Osprey have several adaptations. These include two reversible toes, backwards-facing scales on their talons, spicules (barbs) on their toes and nostrils they can close.

Osprey Lifecycle

39

- Usually 1-4 eggs the size of chicken eggs are laid
- Male typically brings food to the nest while the female incubates and tending to nestlings.
- As the fledglings mature the nest becomes less important for survival.
- Osprey begin their migration south in August. Adults leave first and are followed by the fledglings.

Osprey Egg Colors

Photo taken from:
[ARCTOS Collaborative
Collection Management
Solution](#)



Osprey Lifecycle: Egg to Juvenile

40



- Osprey typically lay 1 to four eggs
- Chicks/nestlings are small with just a few fluffy feathers
- Fledglings resemble the adults, but have buff tipped feathers on the back of their upper body, giving them a speckled appearance. Their chests may show streaking or coloration.
- As juvenile osprey mature, their eye color changes from brown to yellow.
- At 18 months, osprey achieve their full adult plumage.
- At age 3-4 Osprey reach sexual maturity

Osprey Breeding Calendar

41

- March/April - Nesting
- April/May - Eggs Laid (Usually 2-4 eggs per clutch)
- May/June - Incubation (36 - 42 days)
- June - Chicks hatch
- July - Chicks grow into fledglings
- August - Chicks fledge (50-55 days after hatching)
- August/September - Osprey begin their migration south in August. Adults leave first and are followed by juveniles.



Osprey: Conservation

42

- Up to 1950, ospreys were one of the most widespread and abundant hawks in North America. Following WWII, insecticides (such as DDT) developed for military use flooded onto the civilian market.
- In the 1950's -1960's, the number of ospreys breeding along the Atlantic coast between New York City and Boston had fallen by 90 percent.
- In 1972 the Federal Government banned DDT
- In 1975 Osprey were Federally listed as “Endangered”.
- Thanks to numerous Osprey recovery and citizen science programs, the species began rebounding. In 1982 Osprey were re-listed as “Threatened” and in 1999 as “Special Concern”. That said, Osprey are still listed as “Endangered” in several states where the population remains in danger.
- In 1977 the DEM began monitoring Osprey nests in Rhode Island. There were 12 nests in total, with 7 listed as “successful”.
- In 2010 the Audubon Society of Rhode Island took over the state’s monitoring program.

Osprey Program Resources

43

- Audubon Society of Rhode Island
- Rhode Island Osprey Monitoring Program
- Jon Scoones - RIOMP Program Manager
- Rhode Island DEM Enforcement
- Alan Poole - Renown Osprey expert and author
- John Bierregaard - - Renown Osprey expert, Ospreytrax.com
- Cornell University - Allaboutbirds.org
- Conanicutraptors.com
- Narrowriver.org
- WWW.fws.gov

Thank You!

44



Photo: Gary Carlson