

# Ospreys: Your Neighbors at the Shore

*Monitoring and managing New Jersey's ospreys*



CONSERVE WILDLIFE  
FOUNDATION OF NEW JERSEY



NEW JERSEY DIVISION OF  
**Fish and Wildlife**



*Photos by Eric Sawyer and Bill Green*

# Osprey (*Pandion haliaetus*)

- Large, migratory bird of prey
- Dark from above (except crown), dark eye stripe, light from below
  - Build large stick nests
  - Nest near water







*Photo by Brian Kushner*

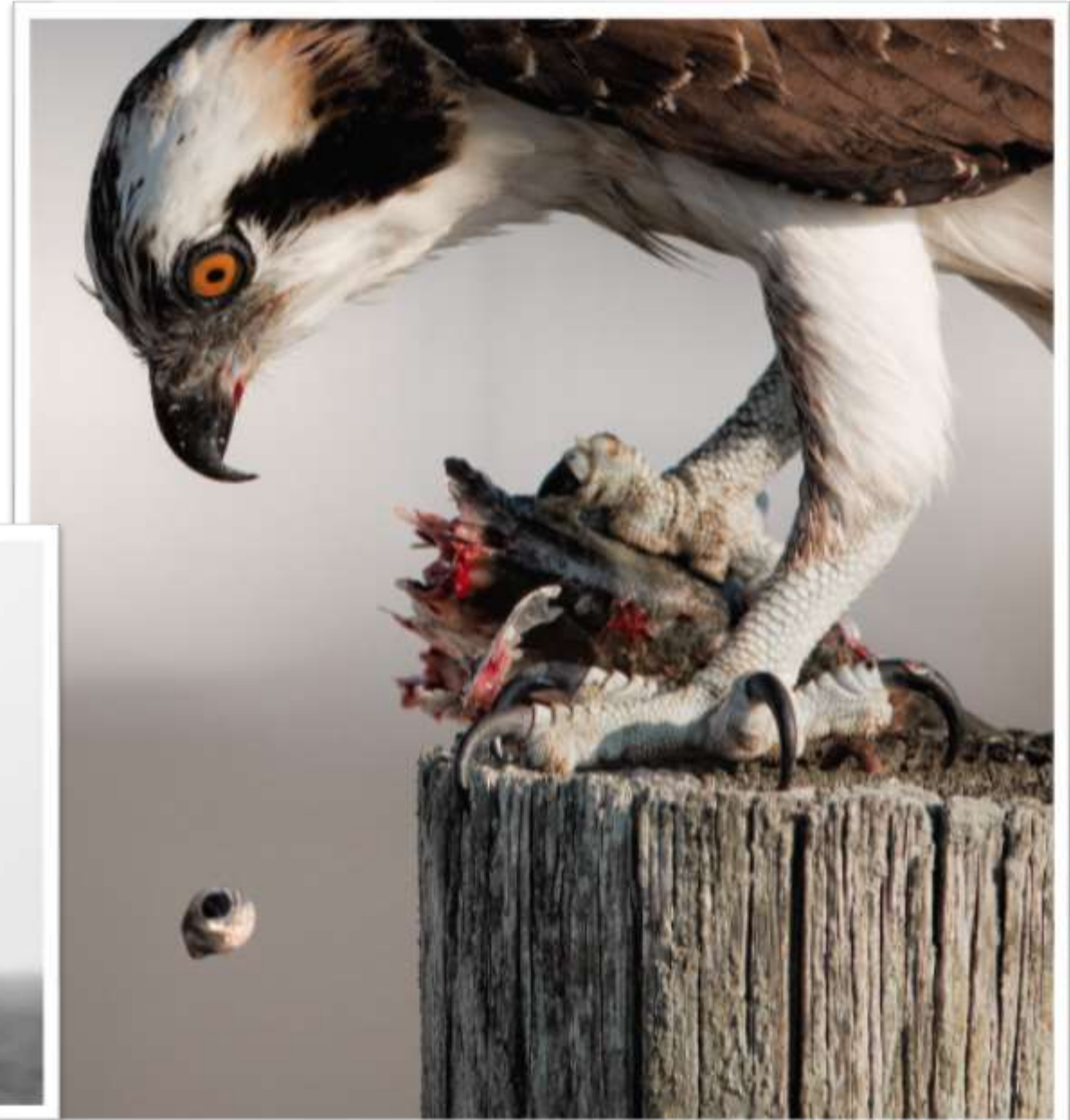
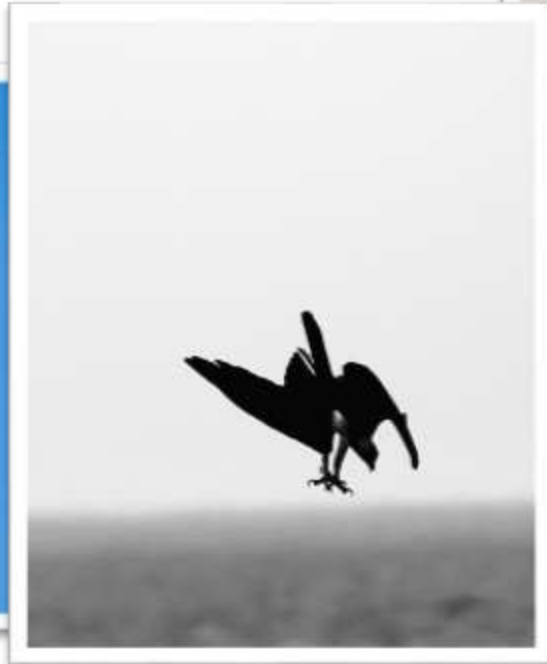






# What do Ospreys eat?

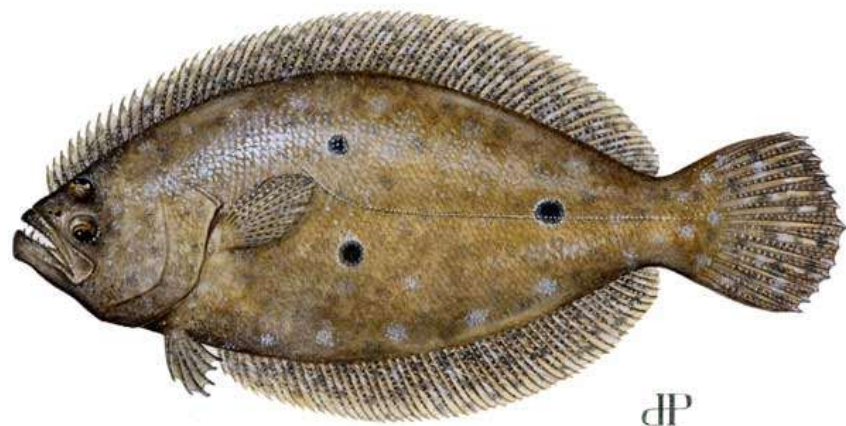
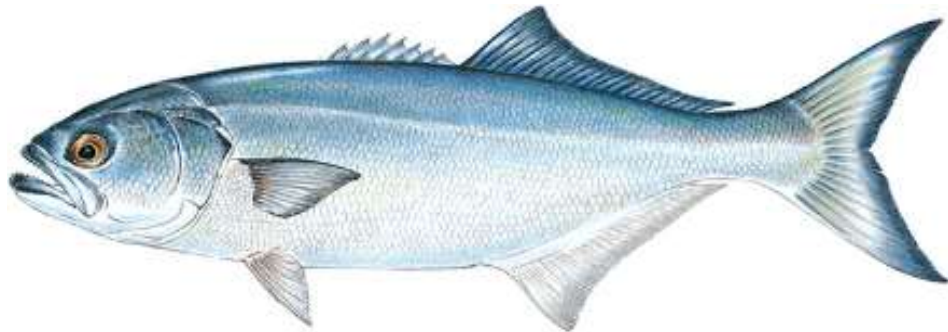
- Specially adapted, opportunistic predator
- Super keen vision
- Long legs; super sharp talons
- Tiny barbs called “spicules” help grip fish
- Zygodactyl
- “Specialized generalists”
- More successful at catching benthic fish than pelagic fish
- Older birds are more successful than younger birds



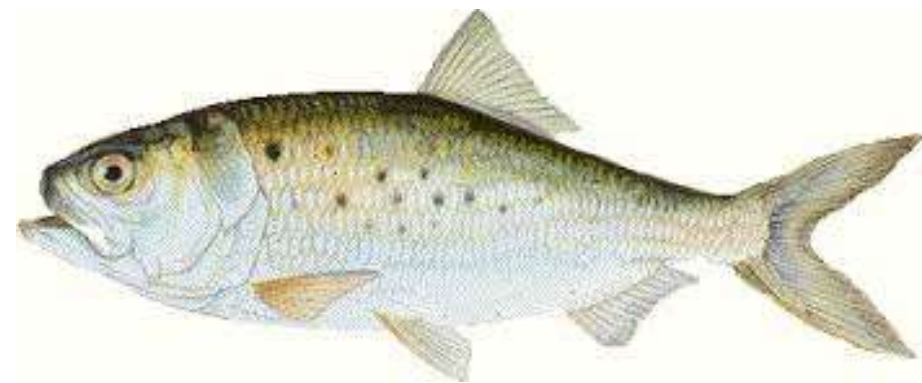
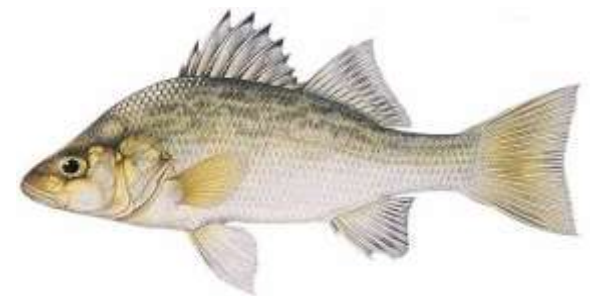
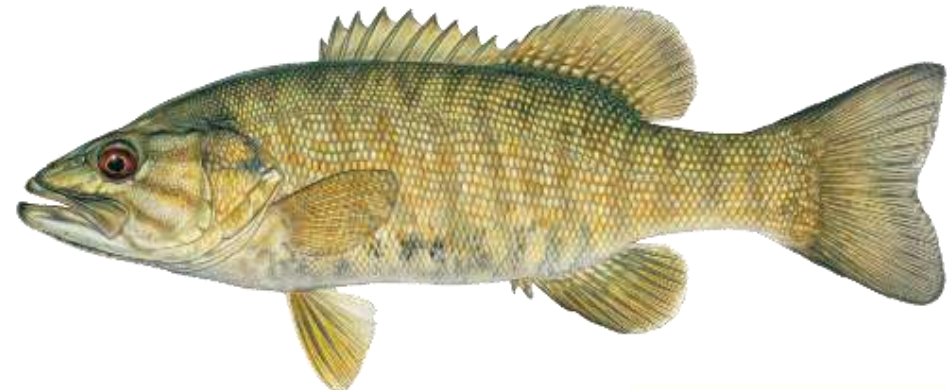
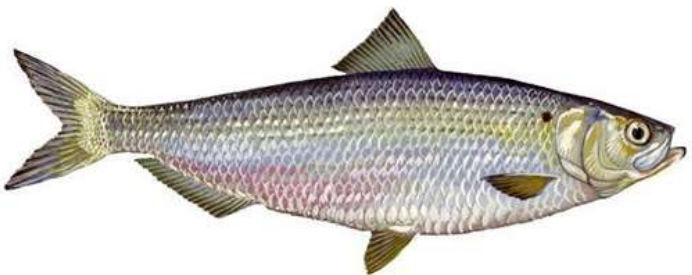




# Osprey prey



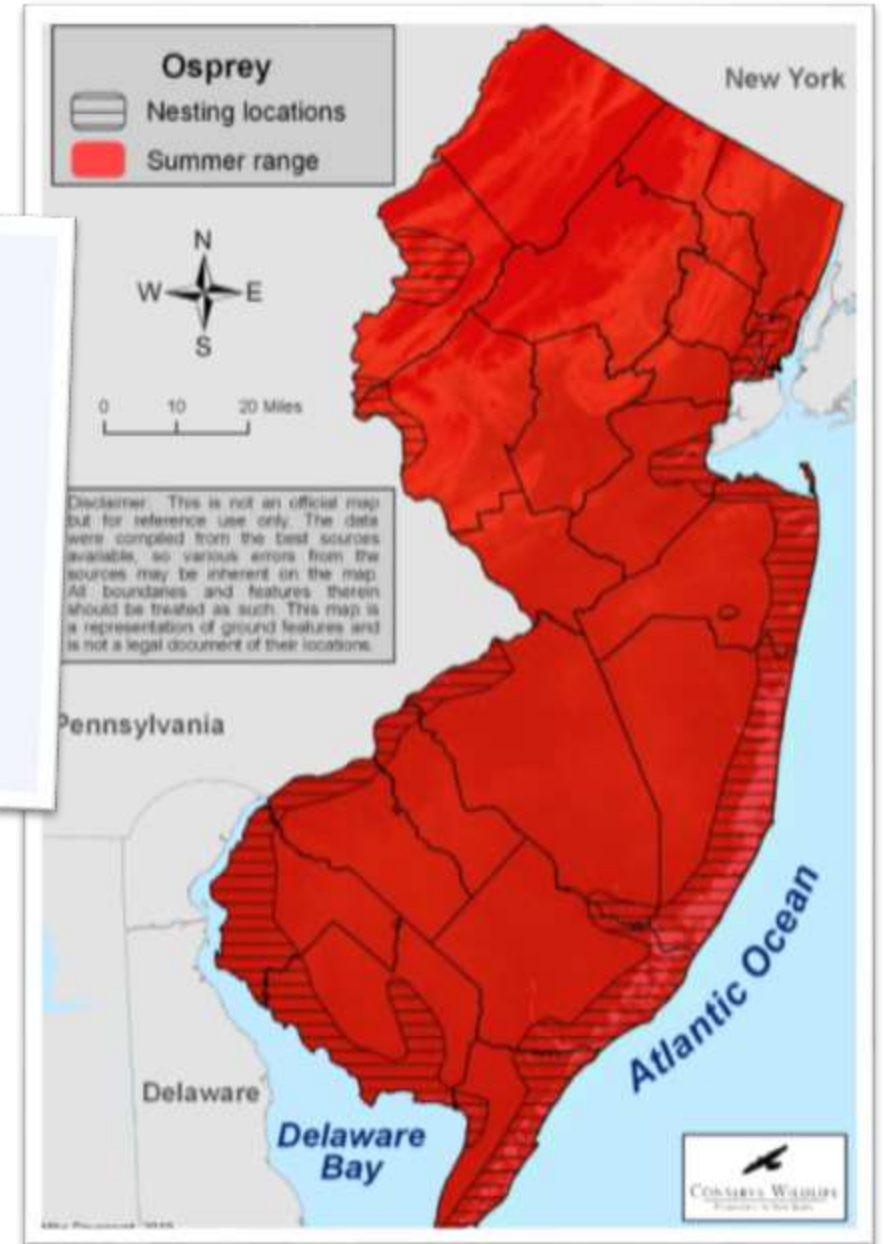
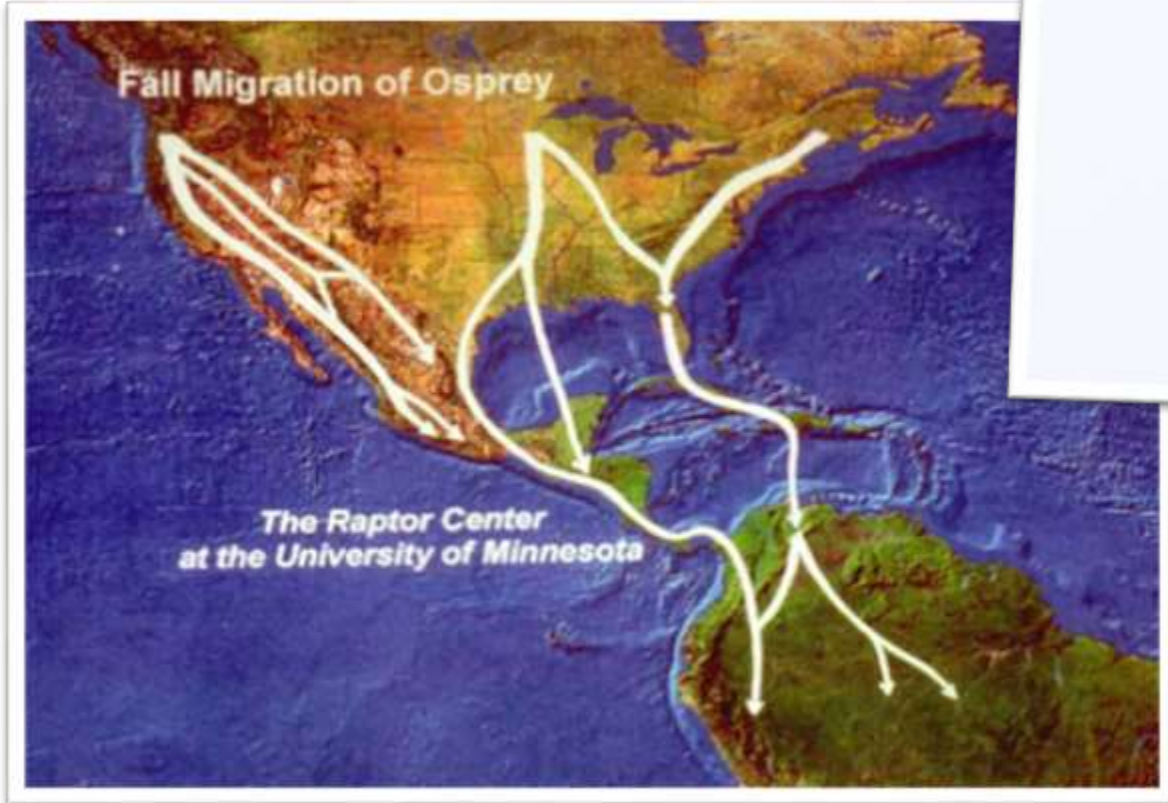
JP





# Ospreys in New Jersey and abroad

- Migratory - winter in Central America & the Caribbean, w/ concentrations in Northern S. America



# Life History & Reproduction



- Monogamous
- Arrive in mid-late March
- Return to the same nest site
- Lay between 2-3 eggs (up to 4)
- Incubate for ~36 days
- Female does 70% incubation
- Young hatch in late April-early May

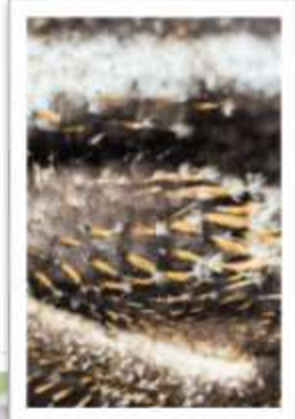




# Development of Young



- Semi-altricial; downy, eyes open
- Fate of nest depends heavily on male
- Brood of three require up to 6 lbs. of fish/day
- Fledge in 7-8 weeks
- Migrate south in September
- Young remain on wintering areas for 2 years
- Average life span = 8 years





# Silence at the Shore: The Decline of Ospreys



- In the 1950s and 60s east coast populations decline.
- Habitat destruction & pesticide contamination to blame.
- DDT (*organochlorine compound*) - a widely used, easily dispersed insecticide accumulated in fish.
- Depressed hatching rates.
- Highest concentrations of DDT in North America were found in NJ osprey eggs!
- The population fell from over 500 nesting pairs (pre-1950's) to 50 pairs in 1973.



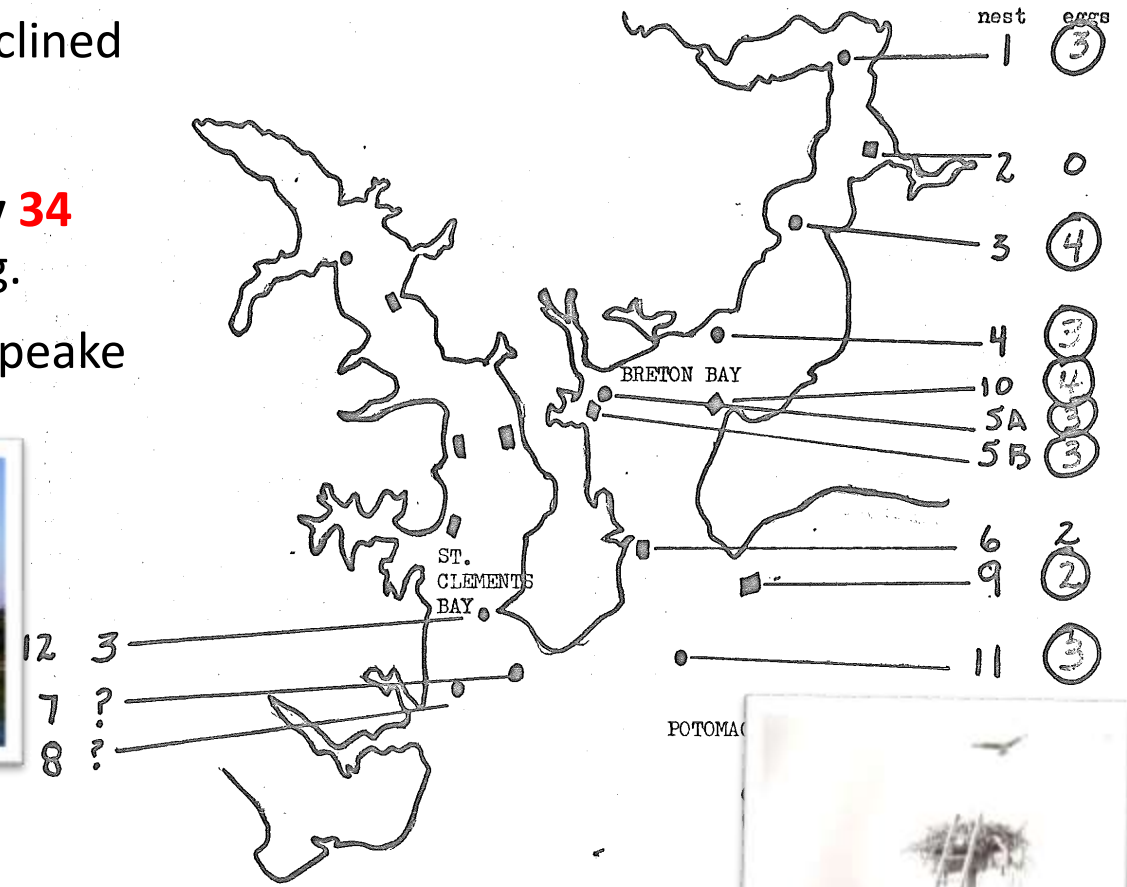


# New Hope & the Osprey Recovery Project



- “Silent Spring” began environmental movement
- D.D.T. was banned in 1968 in NJ & federally in 1972 & use declined
- Ospreys listed as endangered in 1974
- In 1975 biologists surveyed entire population and found **only 34 active nests**, 17 were successful and produced only 26 young.
- Biologists began a “Transplant Program” from nests in Chesapeake Bay
- Placed young in active NJ nests

MARYLAND



1977 Osprey transplant May 2-3, 1977

Shows nest number and number of eggs found in nests. The eggs used to supply eggs for New Jersey nests: 1, 3, 4, 5A, 5B, Circles denote clutches taken for transplant.



# Osprey Recovery Project



## 1970s

- Aerial surveys monitored nests where eggs had been transplanted
- Transplant program a success
- Artificial nesting platforms were installed
- Partnerships key to success!
- **1977: 68 pairs**



## 1980s

- Productivity steadily increased, from  $< 1$  young/nest, to  $\sim 1.2$  young/nest.
- Biologists continued annual aerial surveys
- Population doubled in size
- **1985: 100 pairs; status upgraded to Threatened**







## 1990s

- **200 nesting pairs in 1993**
- Biologists began aerial helicopter surveys every two years
- The most densely populated areas were surveyed by ground using boats
- **300 pairs in 1998**



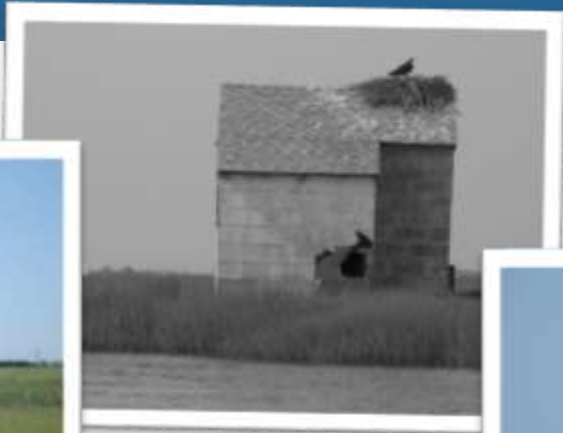
## 2000 – Present

- 2003 – 366 active nests
- 2006 - 400 active nests
- 2009 - 485 active nests
- **2013 – 542 active nests**
- Population grew by 21% from 2006 to 2009
- **Growth has slowed to 10% since 2009**
- **Great production over past 6 years**

# Where do Ospreys nest today?



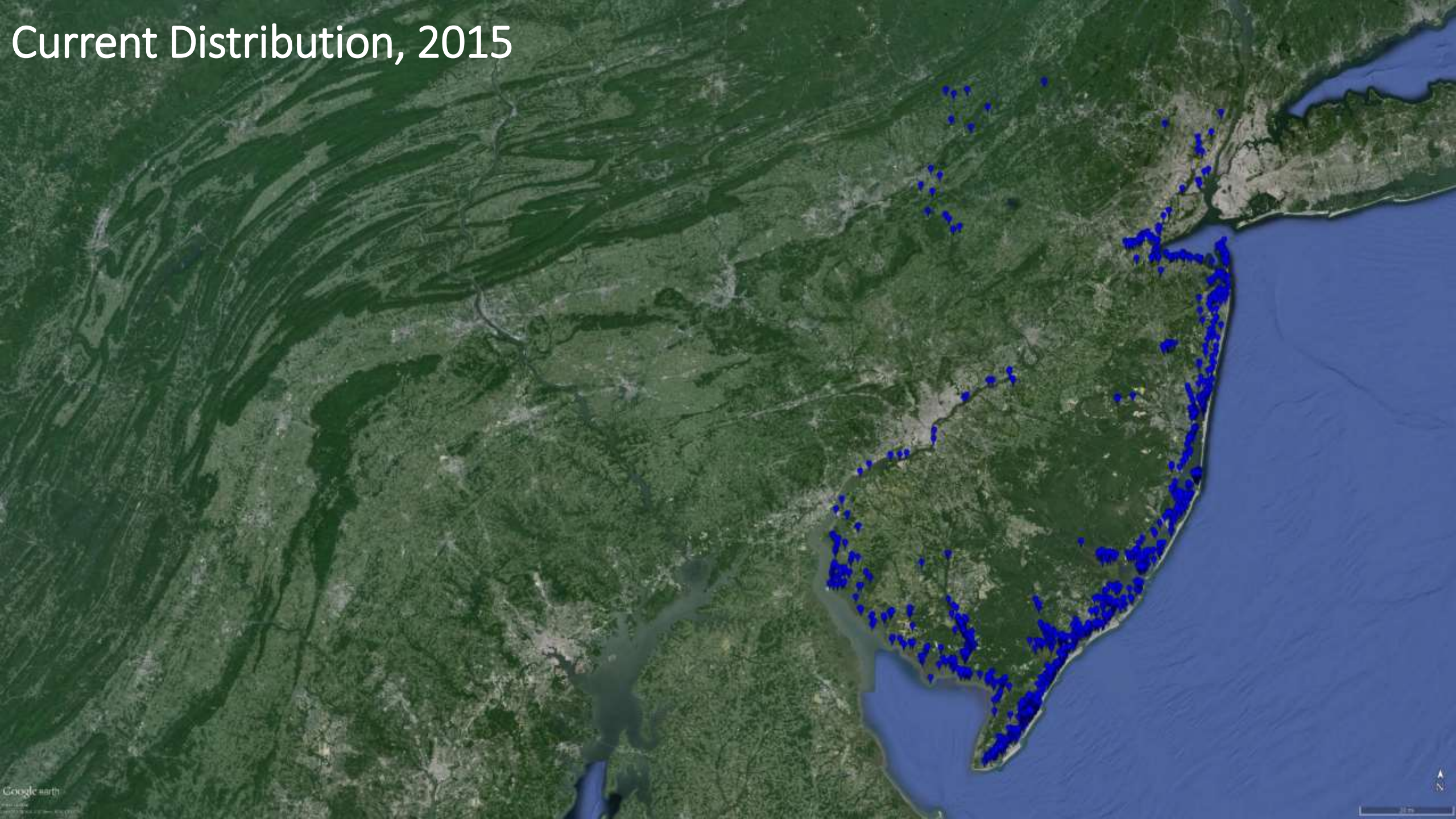
- 75% osprey platforms
- 4% Intercoastal channel markers
- 2% Natural nests
- 8% Cell towers
- 3% Duck blinds
- 7% Other
- *Not always on suitable structures*



*Ospreys build large nests that consist of sticks, reeds, grass, seaweed, and is often decorated with carcasses and trash.*



# Current Distribution, 2015





# Current management & survey methods



- Conduct nesting surveys by boat and on ground using volunteers
- Major colonies include: Sandy Hook, Barnegat Bay, Great Bay/LEH, Great Egg Harbor/OC, Avalon & Stone Harbor, Wildwood, Cohansey and Maurice Rivers
- Determine if nest is active & count # of young
- Age and assess health of young
- Check platform for repairs needed







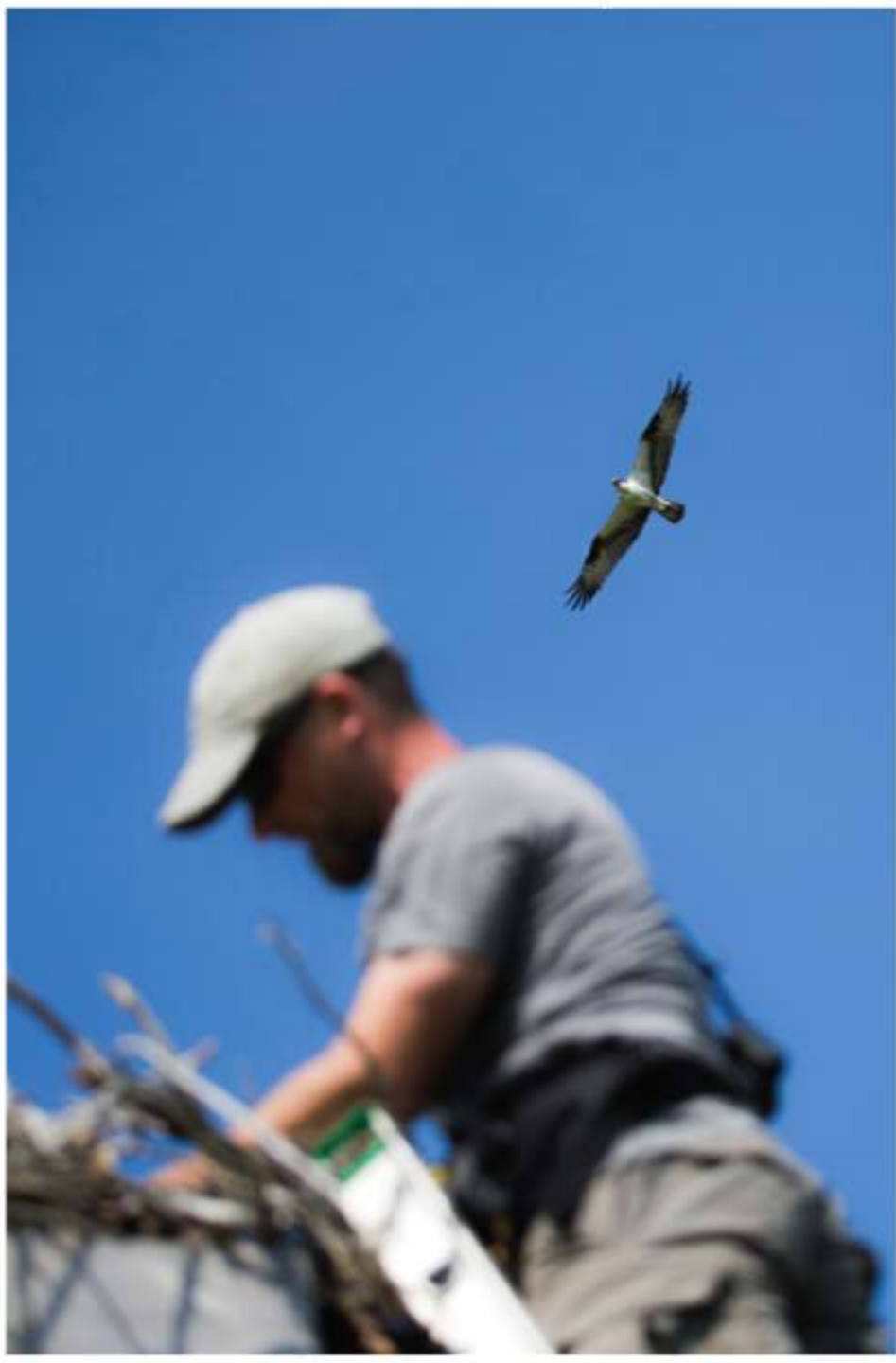
- Young are banded w/ USGS bird bands
- Addled eggs are collected
- Trash is cleaned from nest and surrounding marsh
- Nest sites are quick to minimize stress to adults and young







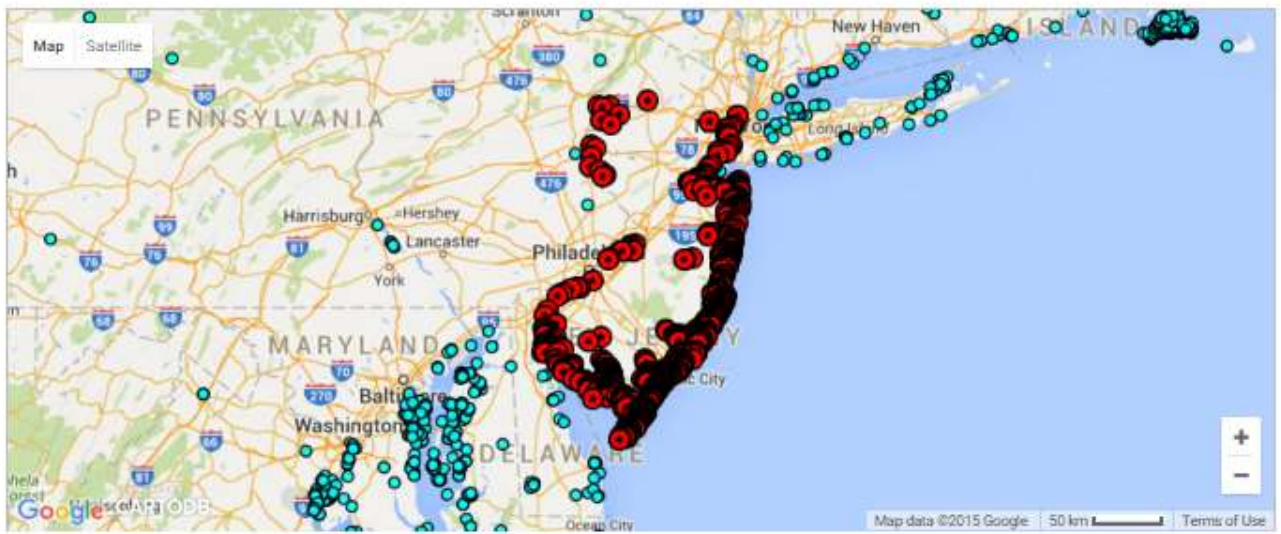






# New Jersey Osprey Project

Home > Monitoring Groups > New Jersey Osprey Project



New Jersey Osprey Project <http://www.conservewildlifenj.org/protecting/projects/osprey/>



- About 1 month ago - New Diary Entry on nest 5085
- About 1 month ago - New Diary Entry on nest 5085
- About 1 month ago - New Diary Entry on nest 3307
- About 1 month ago - New Diary Entry on nest 3307
- About 1 month ago - New Diary Entry on nest 5085
- 2 months ago - New Diary Entry on nest 360

Leader



Ben Wurst  
email

The Conserve Wildlife Foundation of New Jersey plays an active role in helping to manage and protect the statewide population of ospreys. It is our goal to help the population recover to the historic level of over 500

1085 nests and 85 members



# Threats to Ospreys



*"Indicator species can be among the most sensitive species in a region, and sometimes act as an early warning to monitoring biologists."*





# Always a platform to repair and a ditch to cross











# Success!



*July 29, 2015*















# 2015 Survey and Current Status

- 534 active nests (542 in '13 census) recorded





# 2015 Osprey Survey

- 737 young produced from 423 nests
  - 432 young banded
- Average of 1.74 young produced/active (known-outcome nests)



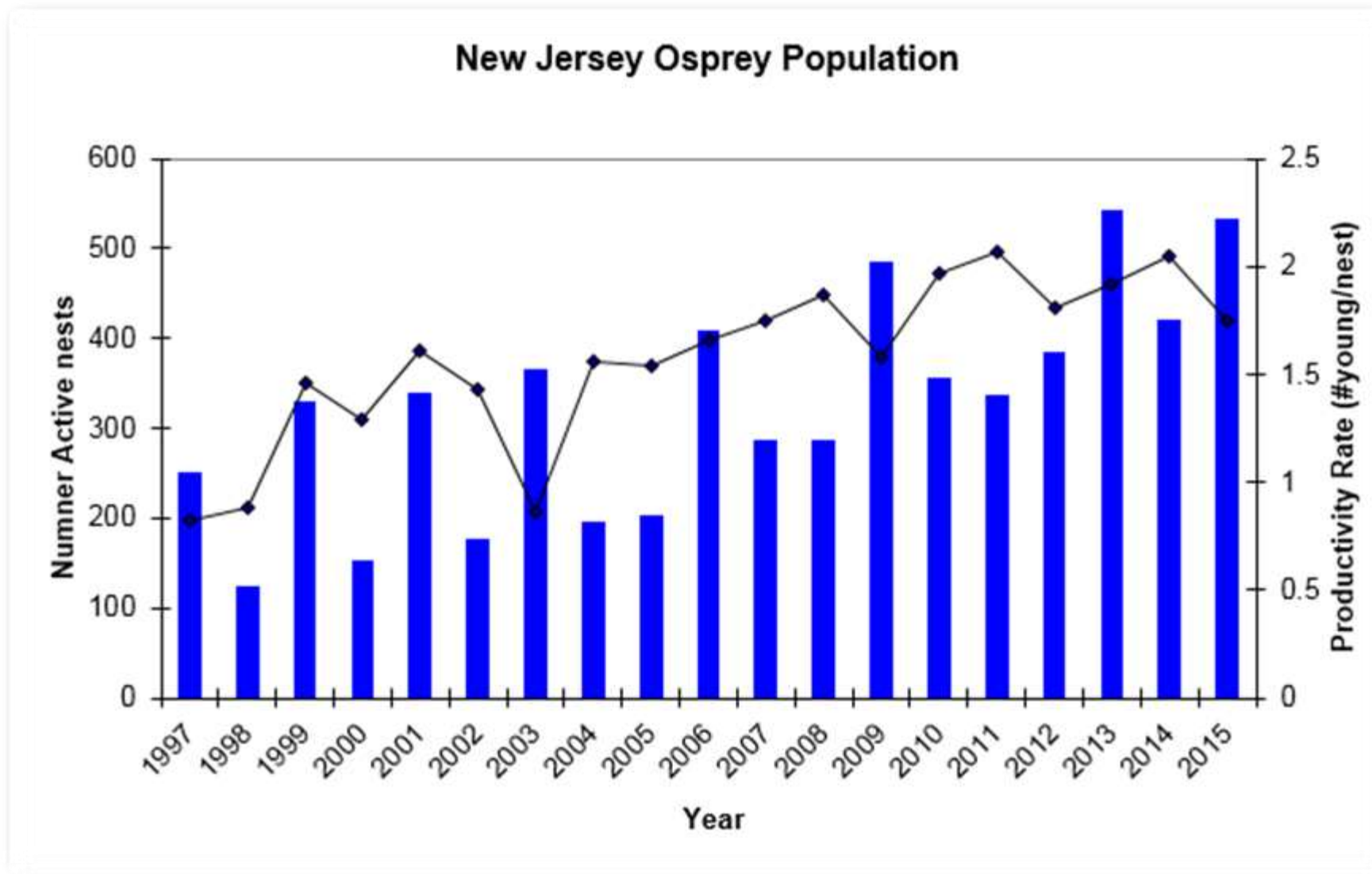


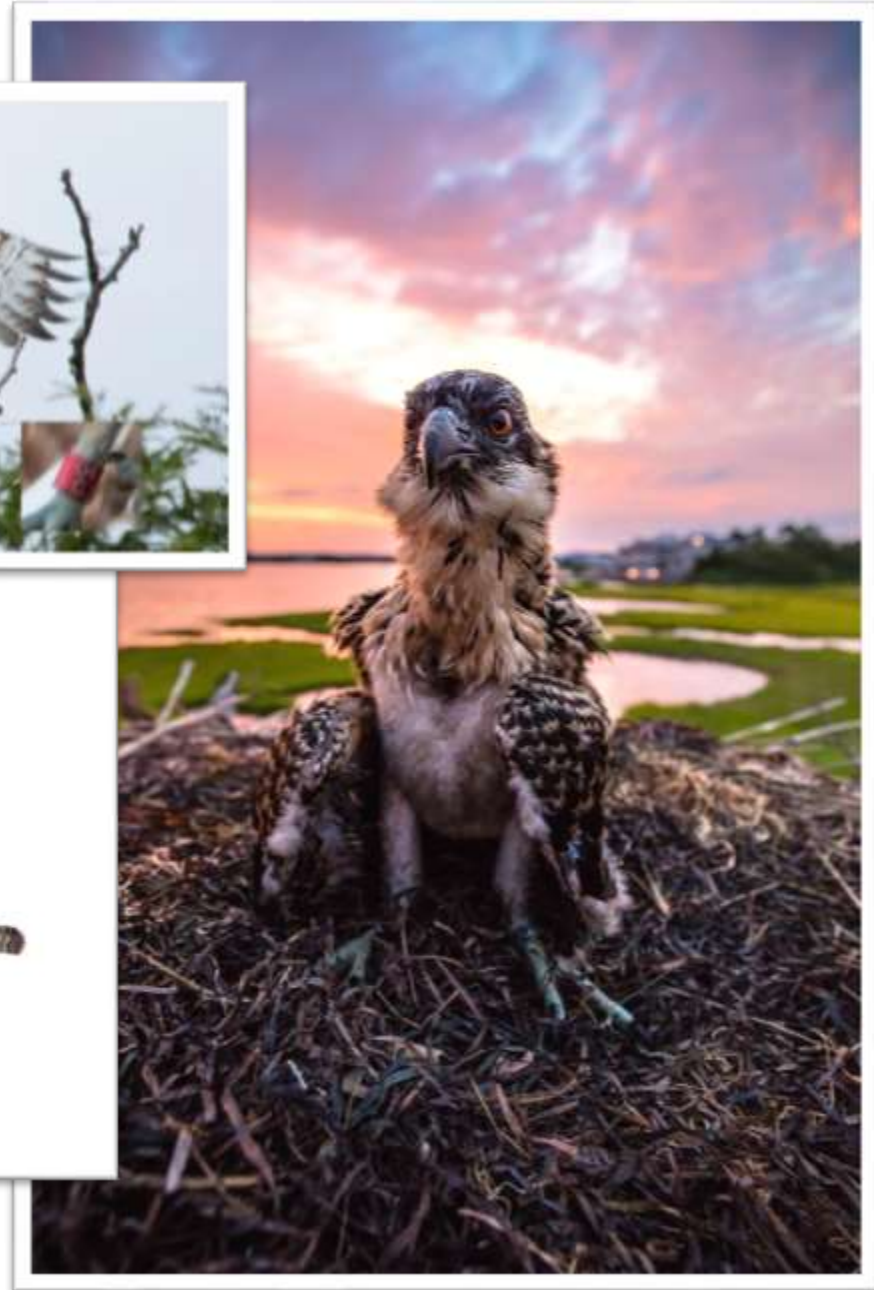
Figure 1. Osprey nesting population (bar) and productivity (heavy line) from 1997 through 2015 in New Jersey.



# Project RedBand



- Barnegat Bay re-sighting project
- Deployed 95 (62 in 2014 and 33 in 2015) red auxiliary bands on young
- Learn about dispersal, nest site selection, etc..
- Used to track individuals
- Engage public in osprey conservation



# How you can help:



- Donate!
- Don't release balloons!
- Participate in local watershed cleanups!
- Adopt an Osprey
- Adopt a Platform
- Volunteer







# Questions?



**Special thanks to all the photographers  
who allowed me to use their work:**

*Brian Kushner  
Howie Williams  
Northside Jim  
Ray Hennessy  
Susan Liddle*

*Learn More:*

[conservewildlifenj.org](http://conservewildlifenj.org)