Nest Location Trends of the Rhode Island Osprey Population

Lincoln Dark

The Audubon Society of Rhode Island

Audubon Society
of Rhode Island

Natural History

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- Females are ~20% larger than males
- Build nests atop tall trees, cliffs, and man-made structures
    - High nest-site fidelity

Osprey in the news

EAST BAY

RI Energy: Osprey nests to blame for intermittent power outages

by: Michael DeFusco
Posted: Apr 23, 2023 / 09:10 PM EDT
Updated: Apr 24, 2023 / 04:25 AM EDT

SHARE

EAST PROVIDENCE, R.I. (WPRI) — Rhode Island Energy says the on-and-off power outages happening in parts of the East Bay on Sunday were caused by osprey nests.

A spokesperson with RI Energy said they discovered “a couple of nests” on a transmission line at their Warren substation, which caused intermittent power outages throughout the day for those living in the area.

| LIVE UPDATES: Power Outage Tracker >

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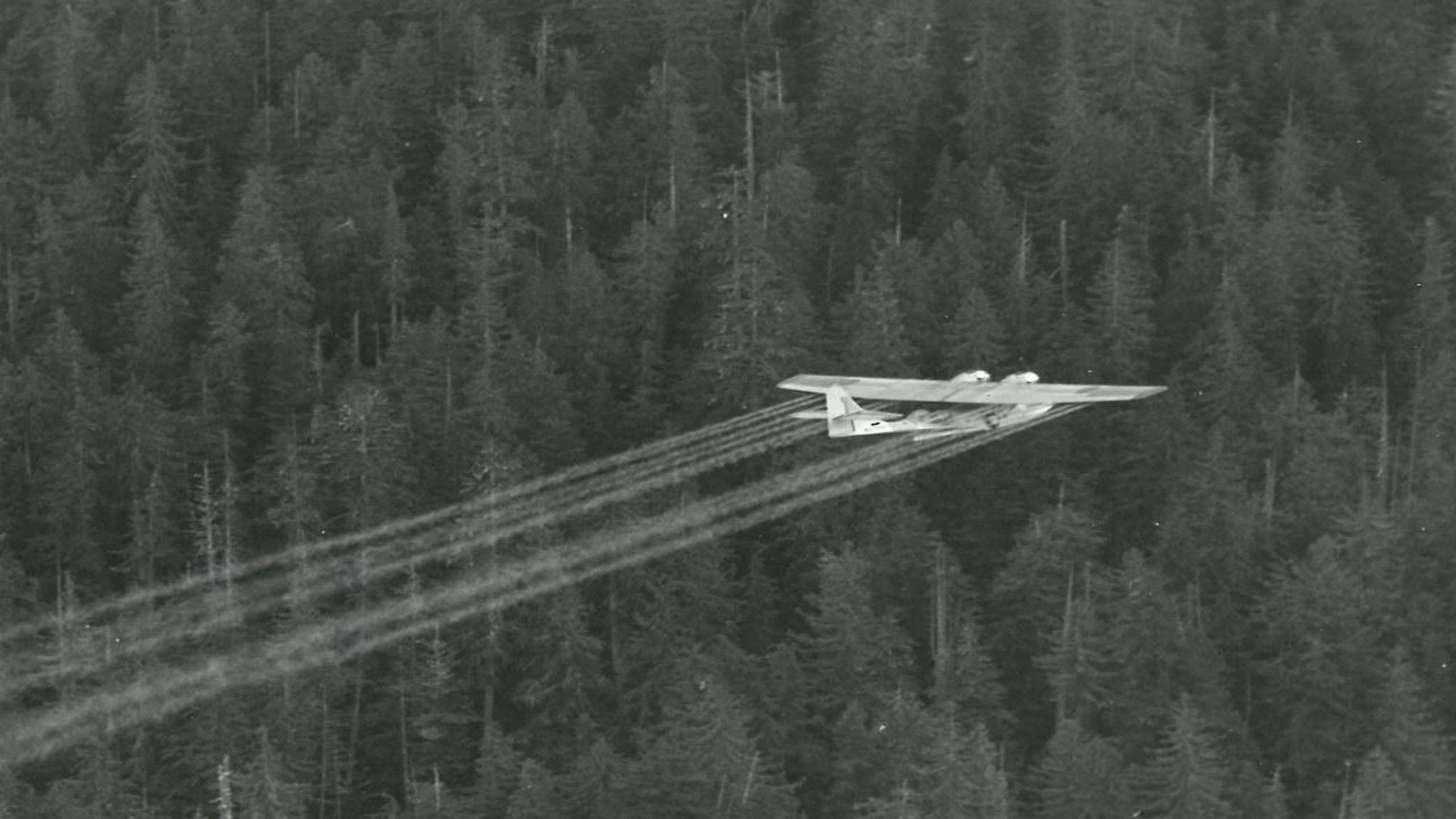
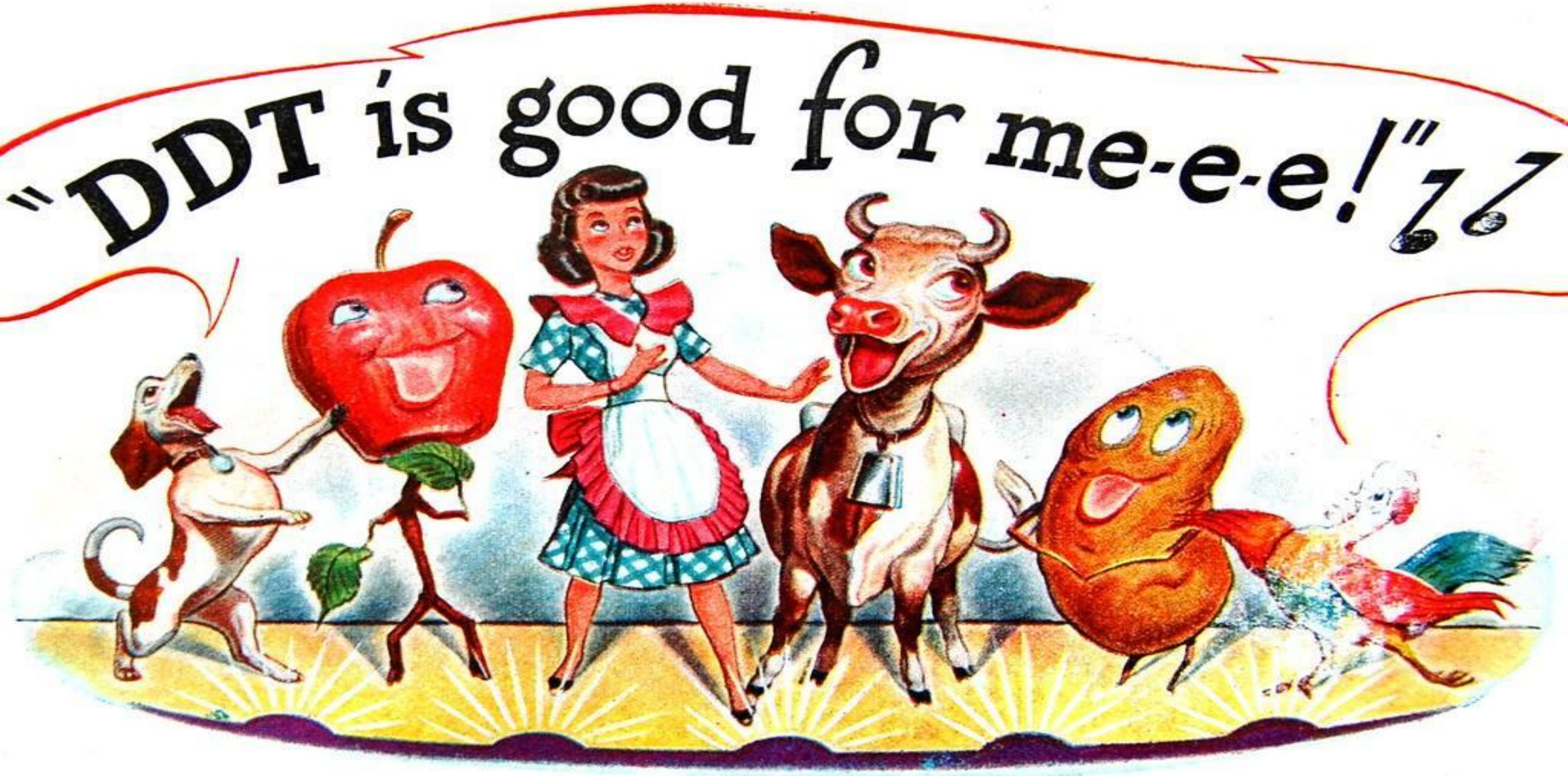
- Between 1940-1970, this population declined to 109 pairs.
- In Rhode Island, there were only 13 pairs left.

The Past; why did this happen?

- This decline was caused by exposure to the common pesticide DDT.


CITY OF WACO
DDT




"DDT is good for me-e-e!"

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- Runoff into our waterways caused fish to ingest DDT residues.
- Fish are the primary food source of Osprey.
- Accumulations of DDT in birds causes egg shell thinning, which resulted in fewer successful eggs, and death by poisoning.

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- *How do we know this?*

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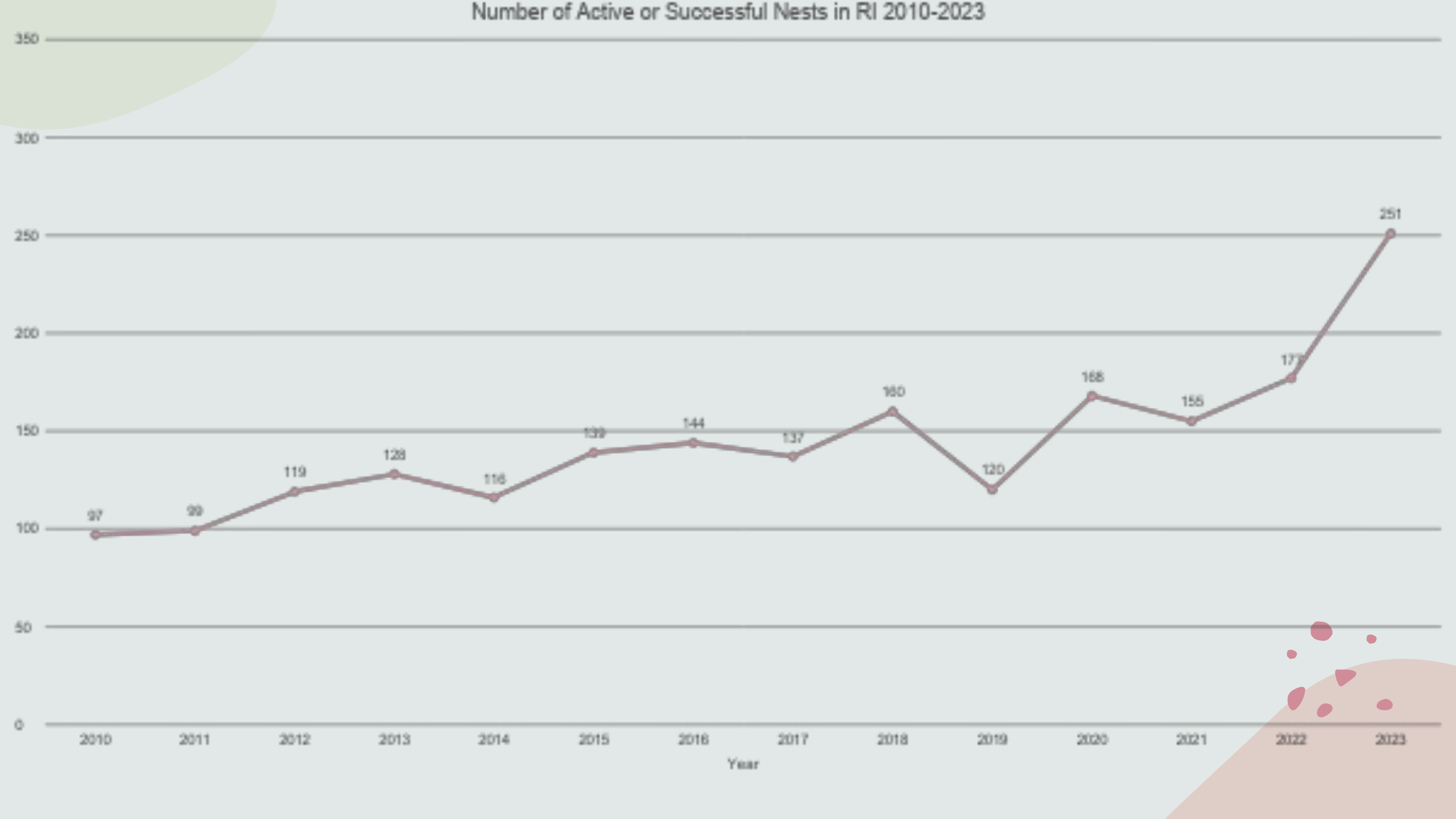
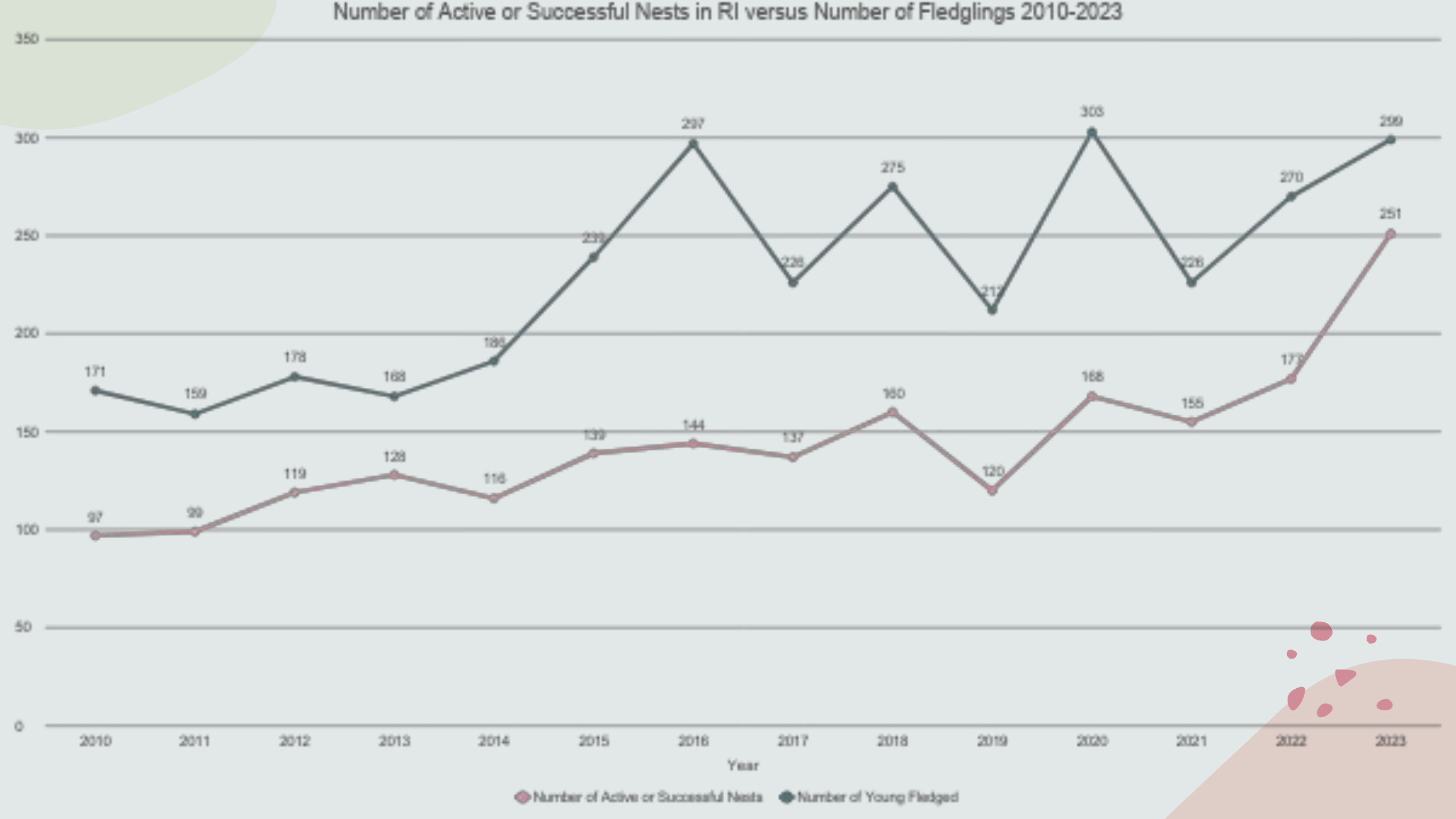
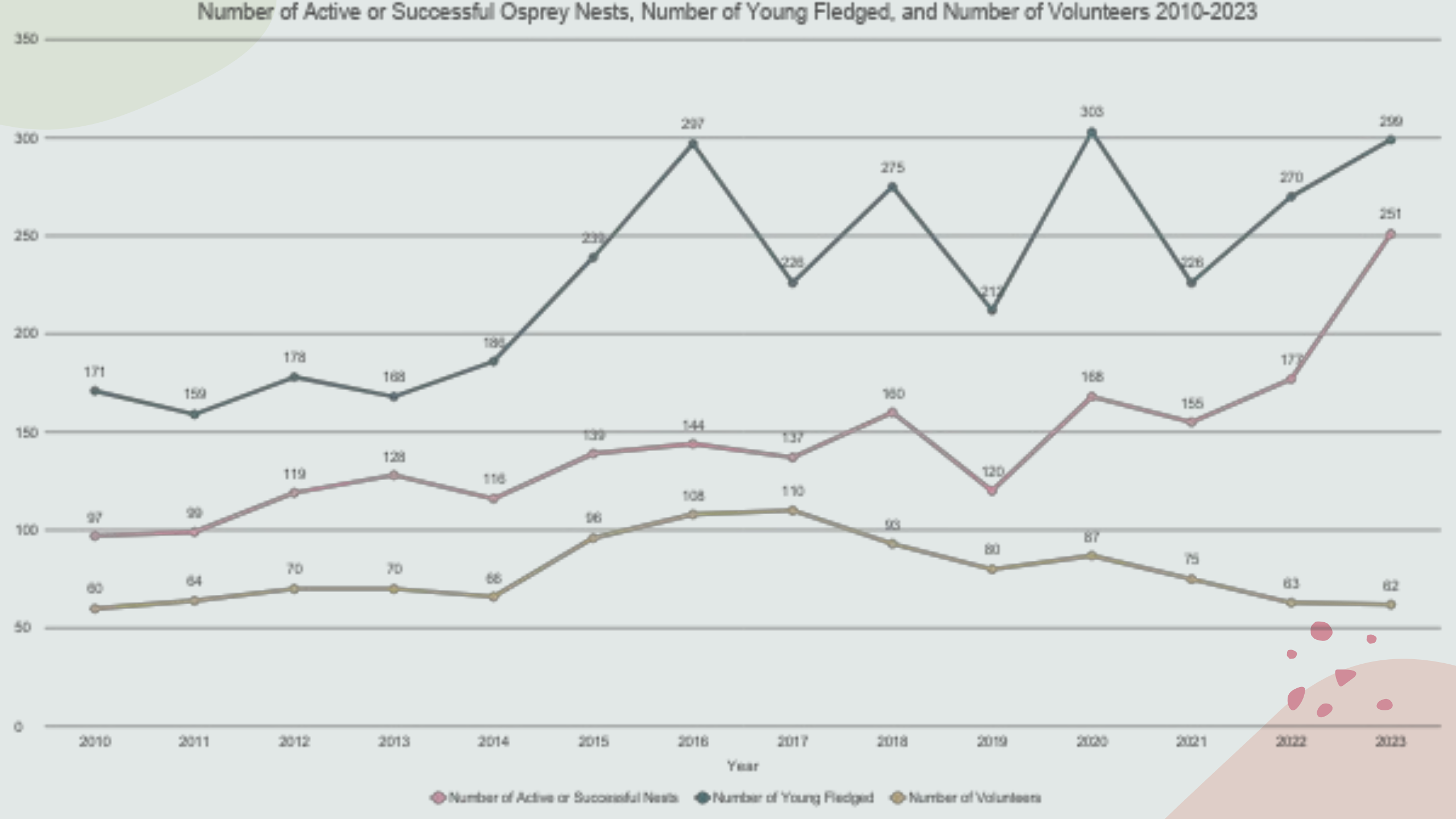
- Volunteers also submit locations of new nests that they come across during their site visits.

Trends


Number of Active or Successful Nests in RI 2010-2023
350
300
250
200
150
100
50
0
97
99
119
128
116
139
144
137
160
120
168
155
177
251
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
Year


Number of Active or Successful Nests in RI versus Number of Fledglings 2010-2023
350
300
250
200
150
100
50
0
171
159
178
168
186
239
297
226
275
211
303
226
270
299
97
99
119
128
116
139
144
137
160
120
168
155
177
251
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
Year
Number of Active or Successful Nests
Number of Young Fledged


Number of Active or Successful Osprey Nests, Number of Young Fledged, and Number of Volunteers 2010-2023
350
300
250
200
150
100
50
0
171
159
178
168
189
239
297
226
275
211
303
226
270
299
97
99
119
128
116
139
144
137
160
120
168
155
177
251
60
64
70
70
66
96
108
110
93
80
87
75
63
62
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
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2022
2023
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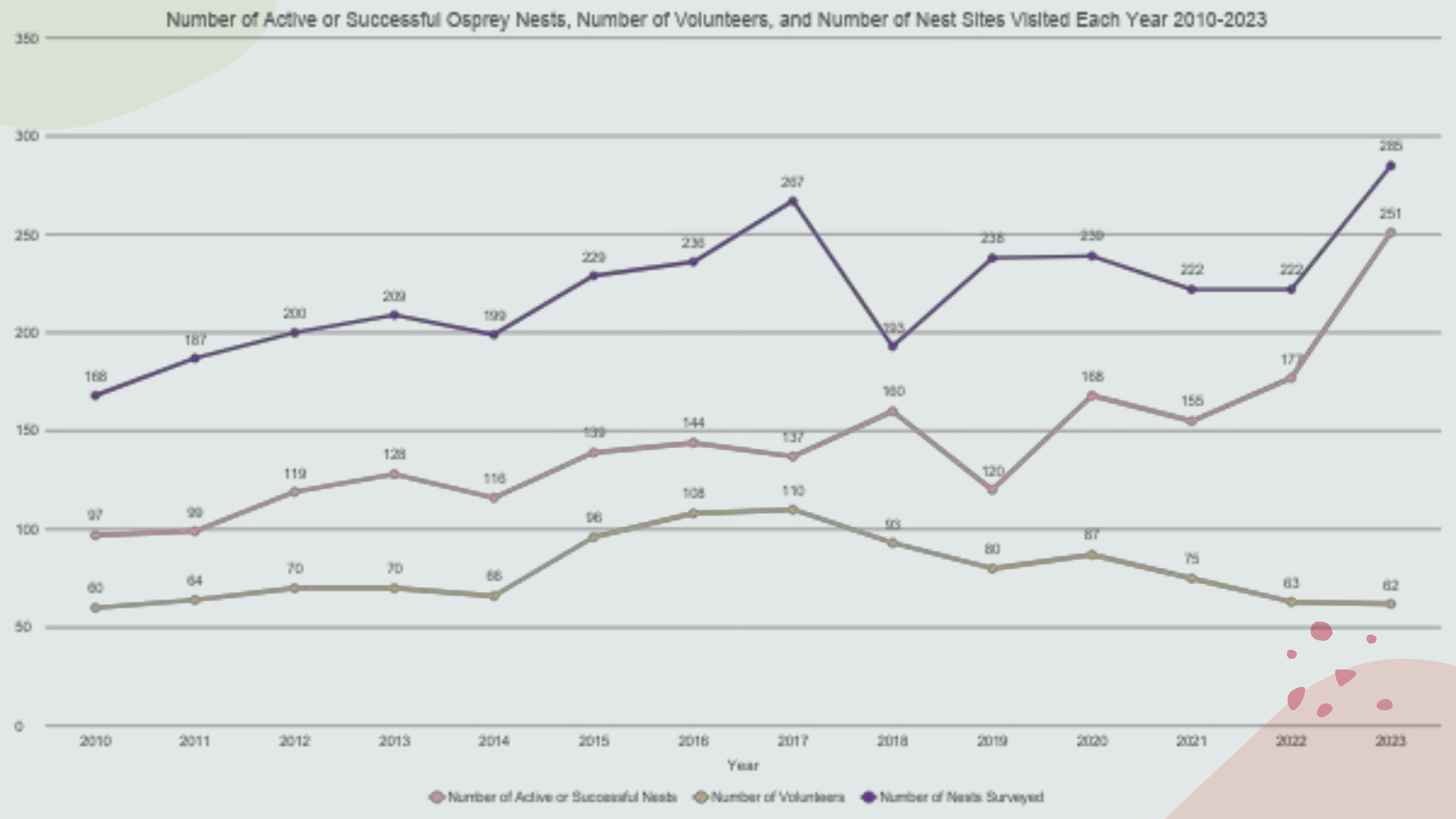
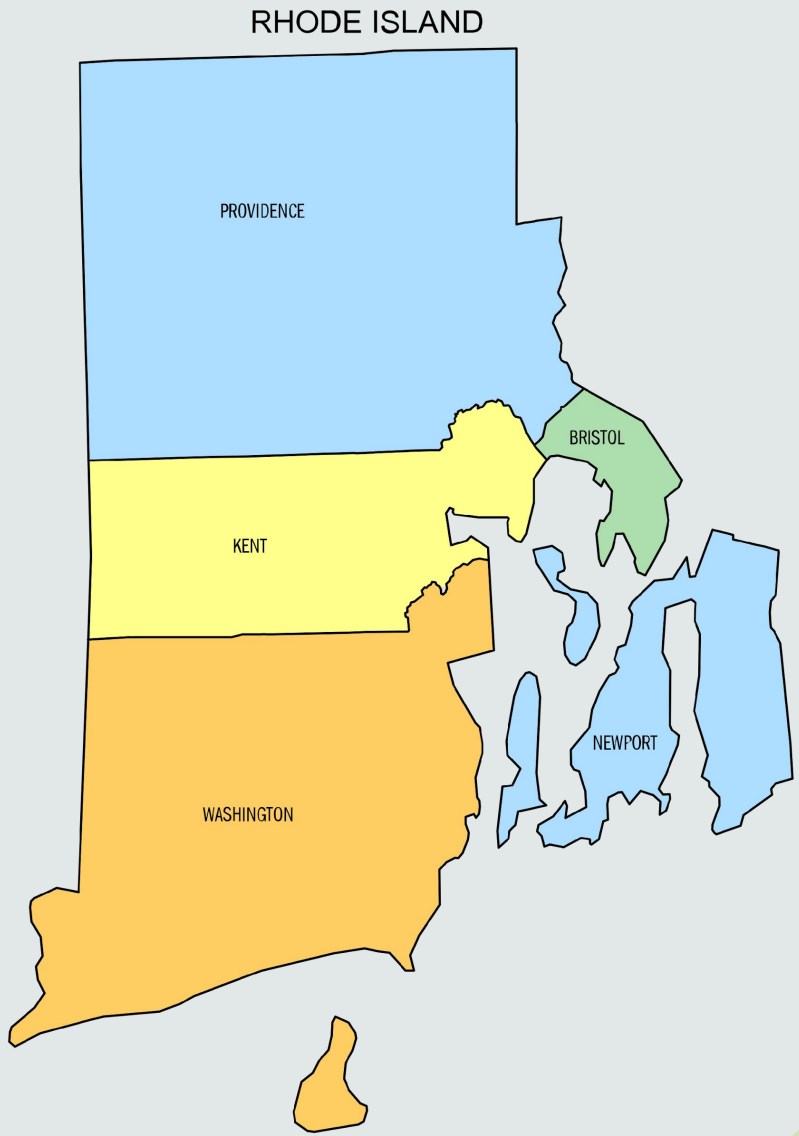
Number of Active or Successful Nests
Number of Young Fledged
Number of Volunteers


Number of Active or Successful Osprey Nests, Number of Volunteers, and Number of Nest Sites Visited Each Year 2010-2023
350
300
250
200
150
100
50
0
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
Year
168
187
200
209
199
229
236
267
193
238
239
222
222
285
97
99
119
128
116
139
144
137
160
120
168
155
177
251
60
64
70
70
66
96
108
110
93
80
87
75
63
62
Number of Active or Successful Nests
Number of Volunteers
Number of Nests Surveyed

East Bay vs. West Bay

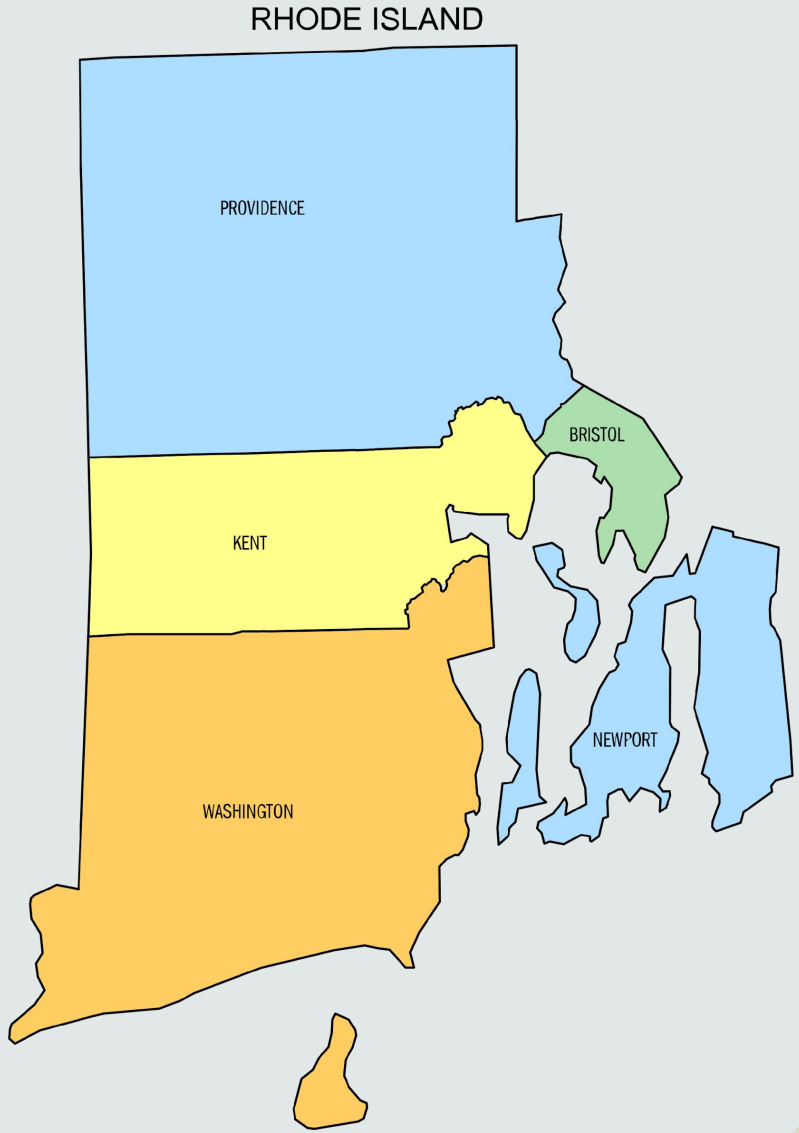


East Bay vs. West Bay

East Bay

- Bristol and Newport Counties

-East Providence



East Bay vs. West Bay

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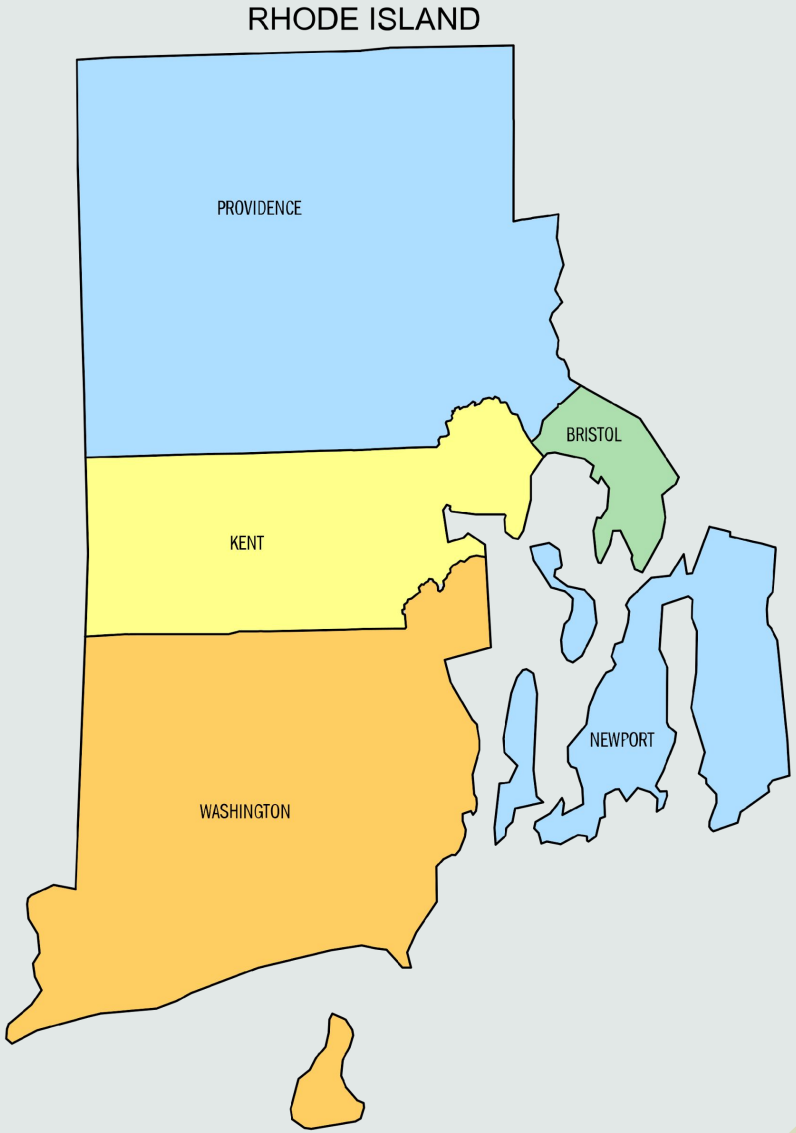
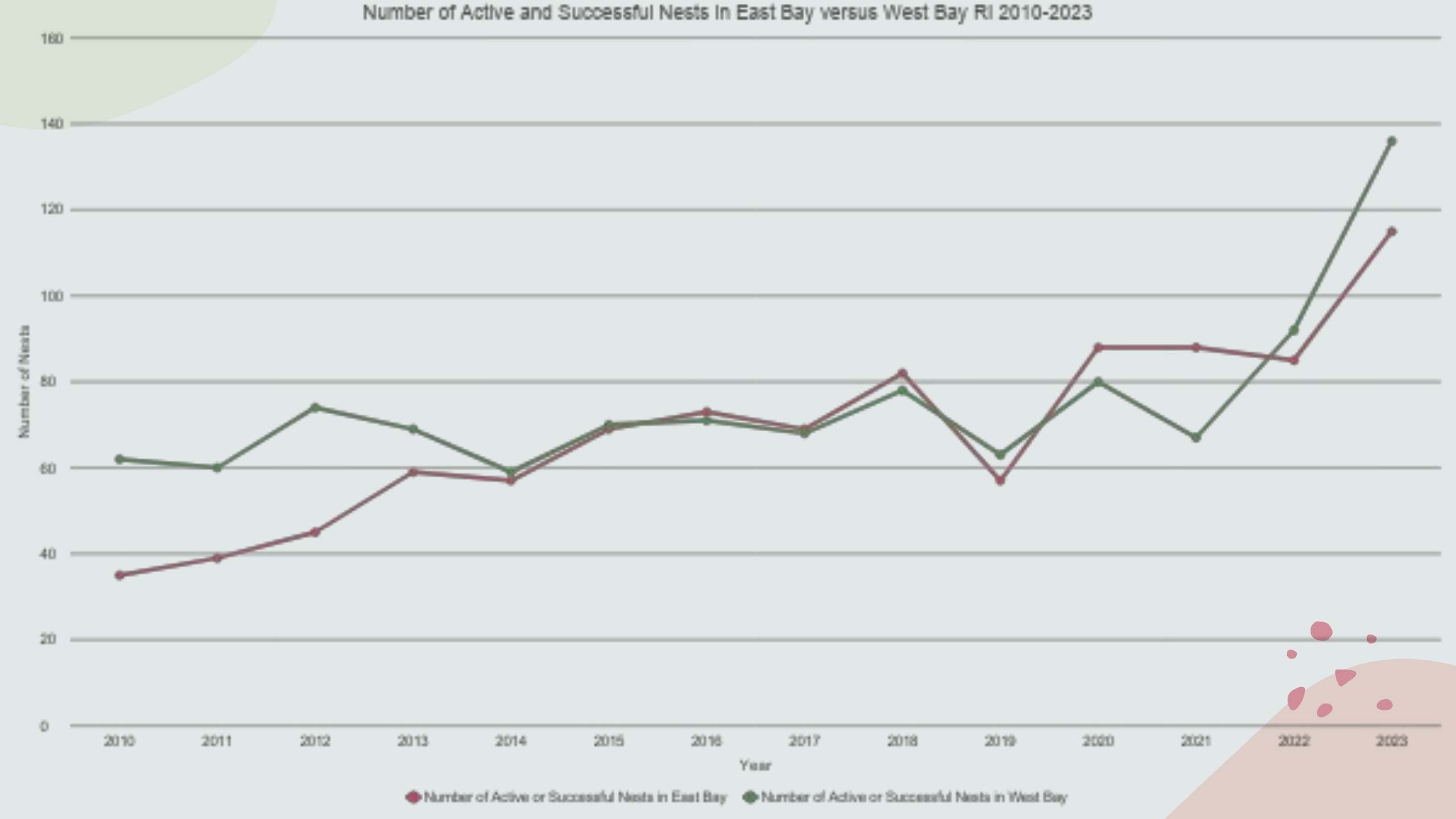
- Bristol and Newport Counties

-East Providence

West Bay

-Providence, Kent, and Washington Counties

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160
140
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2010
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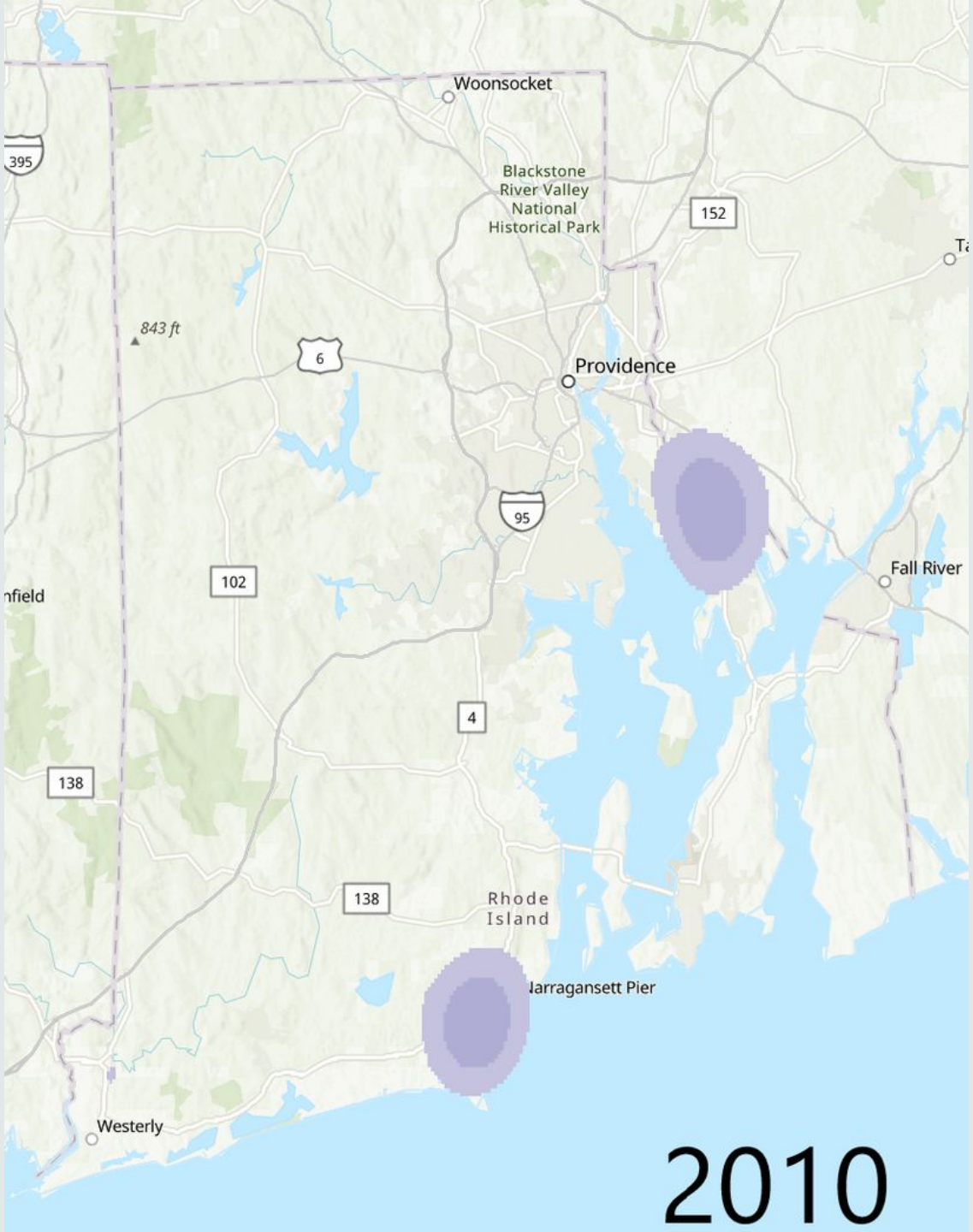
2019
2020
2021
2022
2023
Year
Number of Active or Successful Nests in East Bay
Number of Active or Successful Nests in West Bay


Woonsocket
395
Blackstone
River Valley
National
Historical Park
152
843 ft
6
Providence
95
102
Fall River
4
138
138
Rhode
Island
Narragansett Pier
Westerly
2010

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Density-dependent factors

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Density-independent factors

- Prey availability
- Sea level rise

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- Understanding the relationship between nest density and artificial nesting structures.
- Forecasting how sea level rise may impact nesting.
- Dive deeper into the changes in Osprey “hotspots” in RI over time.
  - Changes in prey species abundance and / or bathymetry.
- Collaborate with other local organizations studying Osprey in New England.

Thank you! Questions?