Atlantic Coast Piping Plover Monitoring Program

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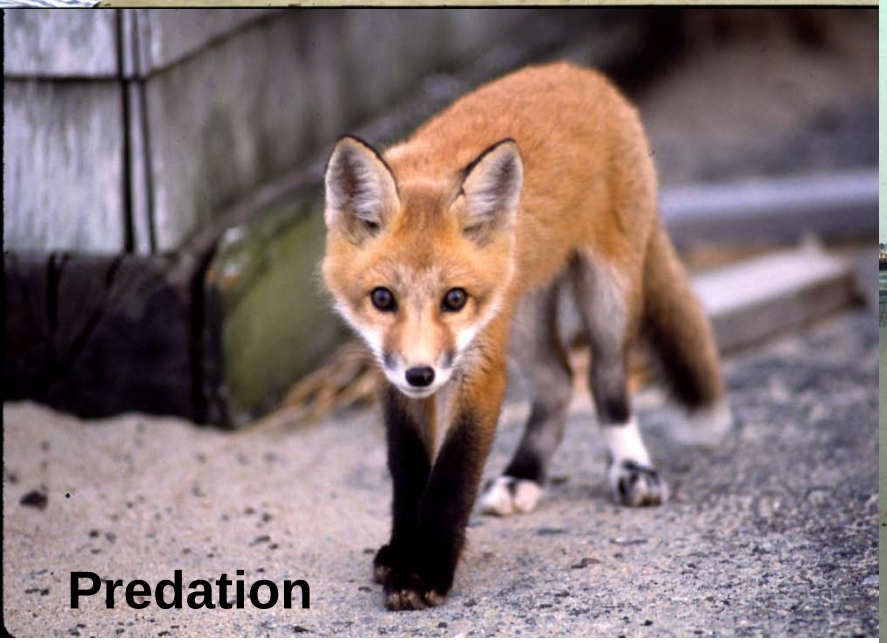
Photo: Suzi Fox



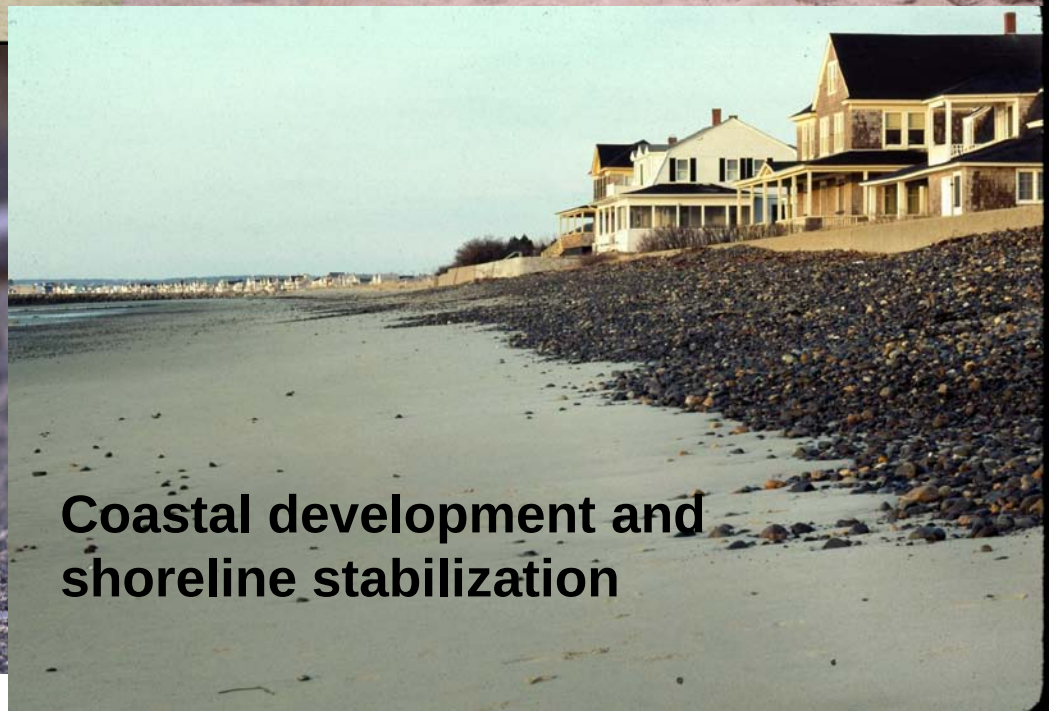


Photo credits: MassWildlife

Monitoring is integral to Atlantic Coast piping plover conservation

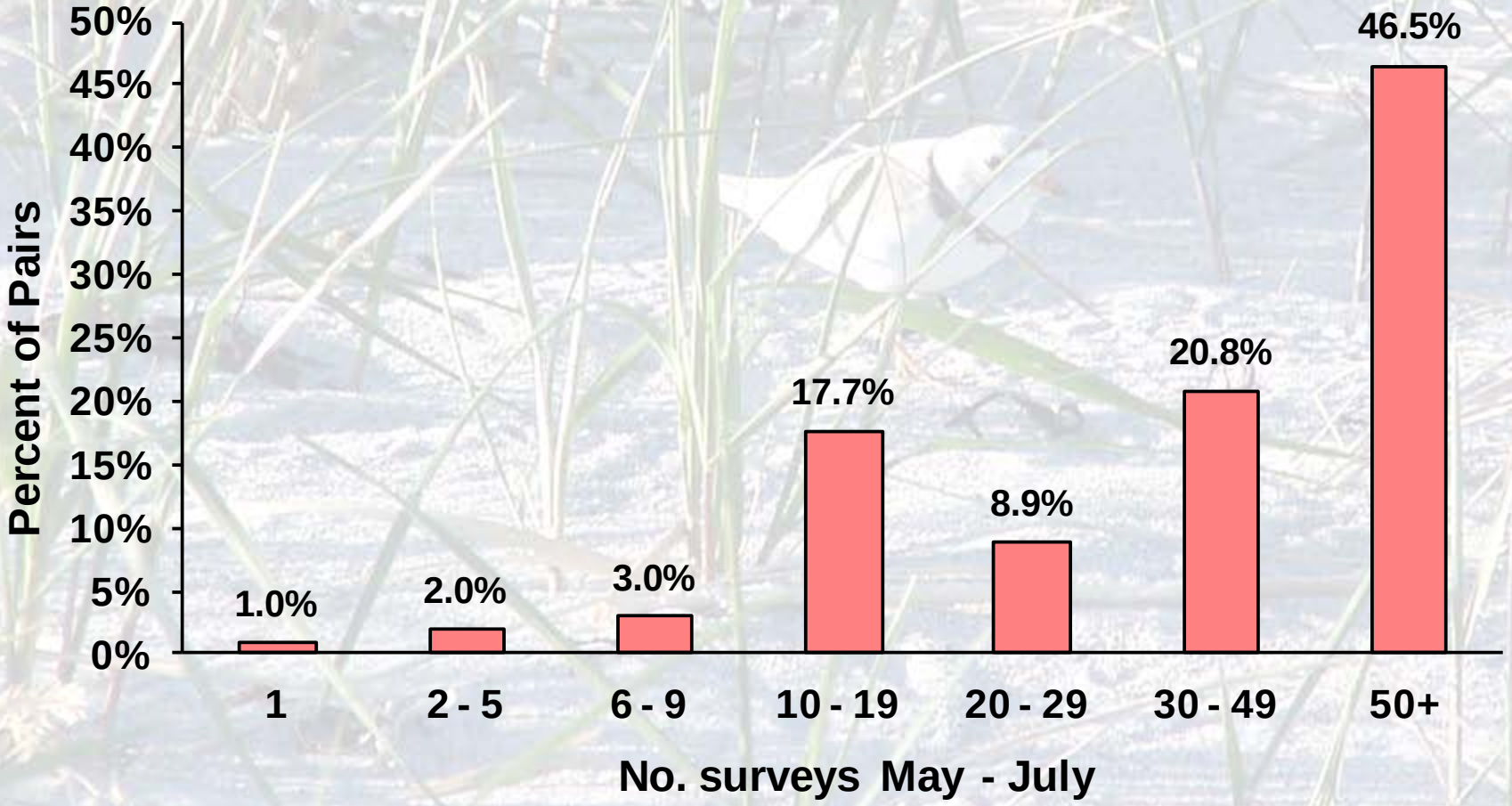
- Placement of signs and symbolic fencing
- Timing and locations of ORV closures
- Predator exclosures
- Assess progress toward recovery

S. Melvin, MassWildlife

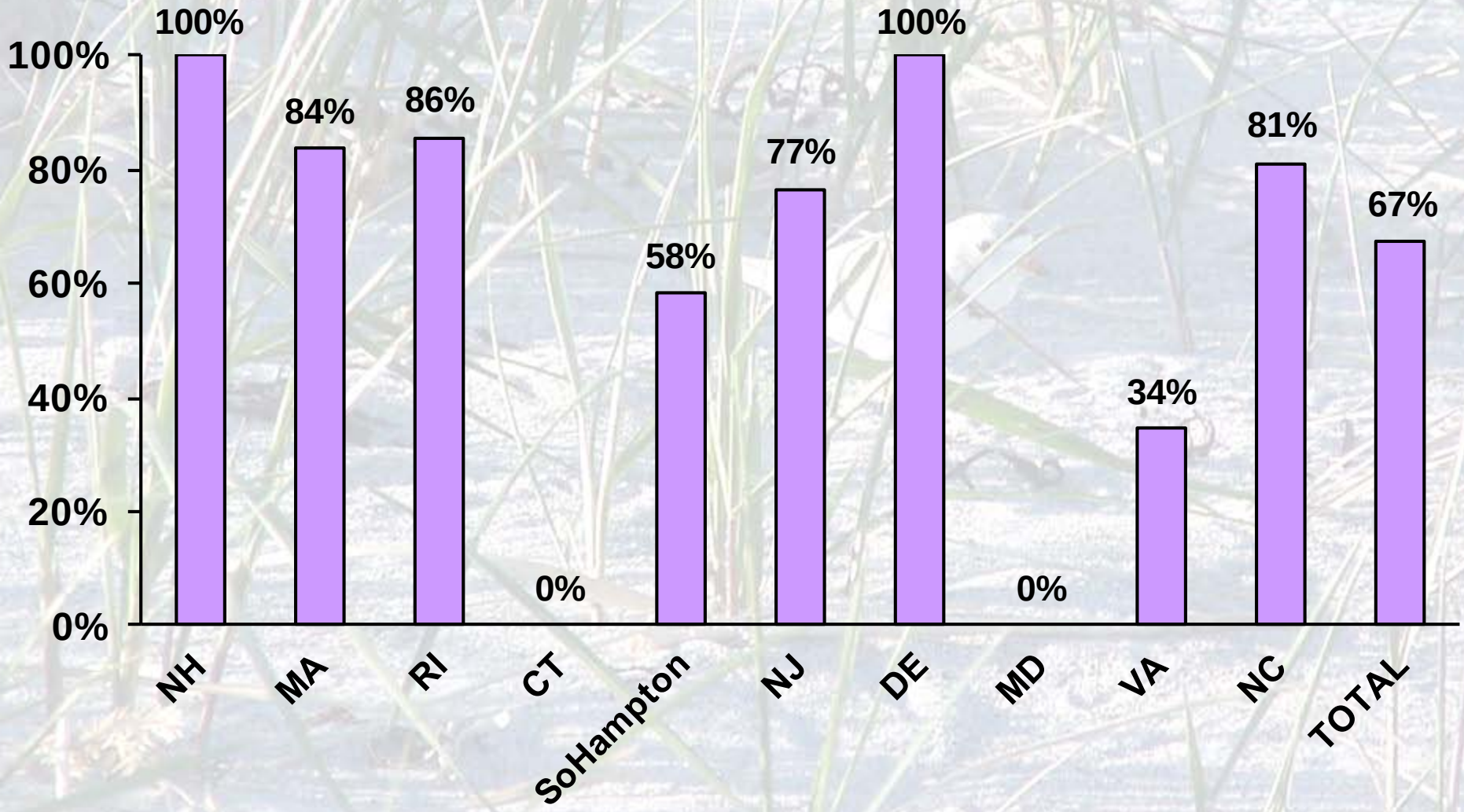
2008 Assessment of Monitoring
U.S. Atlantic Coast Piping Plover

- Information from 1187 pairs (74.3% of total)
- 164 sites surveyed ≥1 time (May-July) but no pairs observed
- 87 sites surveyed ≥3 times (May-July) but no pairs observed

Percentage of 1187 pairs by number of surveys, May - July 2008 in NH, MA, RI, CT, Southampton NY, NJ, DE, MD, VA, NC



Percent Pairs with ≥30 Surveys, May - July 2008



Measures Tracked

- Abundance: number of breeding pairs exhibiting sustained territorial and courtship behavior, tending nests and/or chicks.

- Productivity: Number of chicks fledged per breeding pair. Fledging defined as surviving to 25 days of age or seen flying ≥15 meters, whichever occurs first.


L. MacIvor

Cape Cod National Seashore
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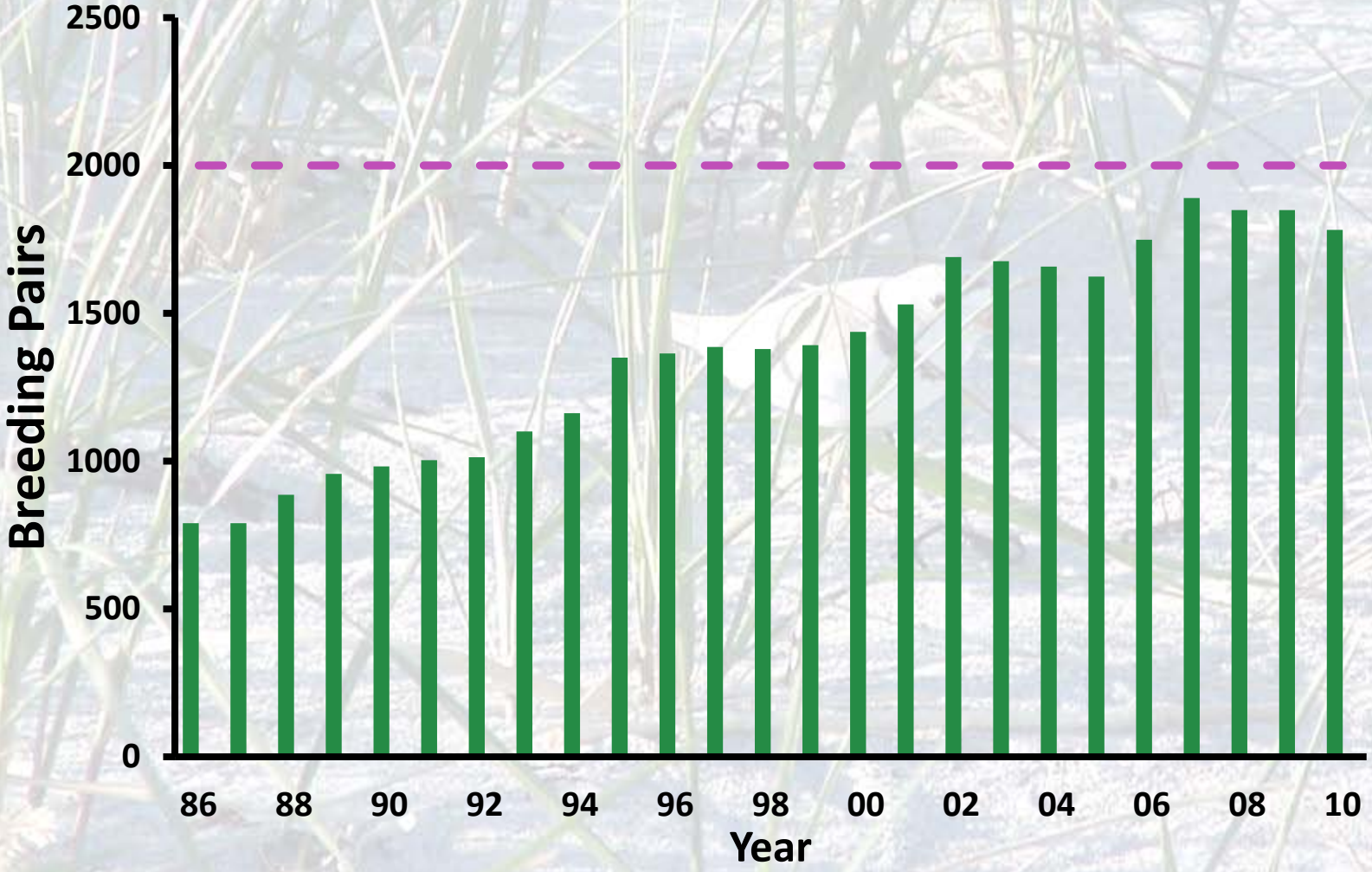
National Park Service
U.S. Department of the Interior

Piping Plover Nest Sites - Coast Guard, Eastham 2005

Produced by CACO GIS OFFICE plover_cge04.mxd

Abundance Estimates, 1986-2010



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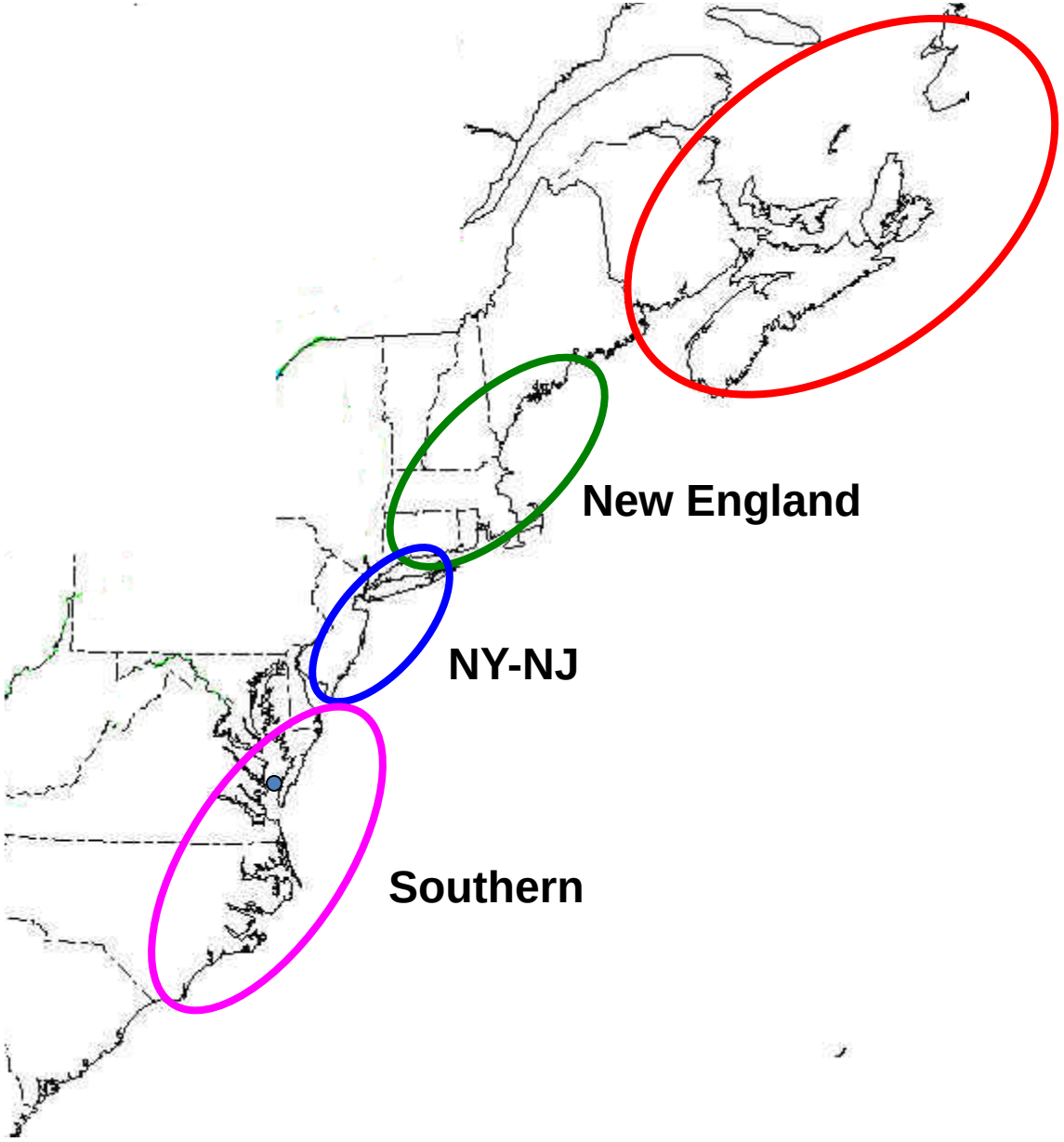
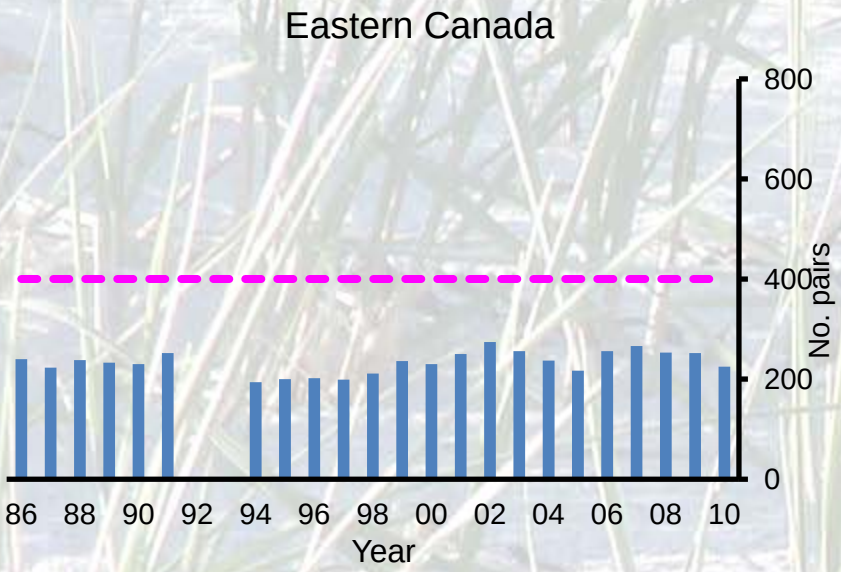
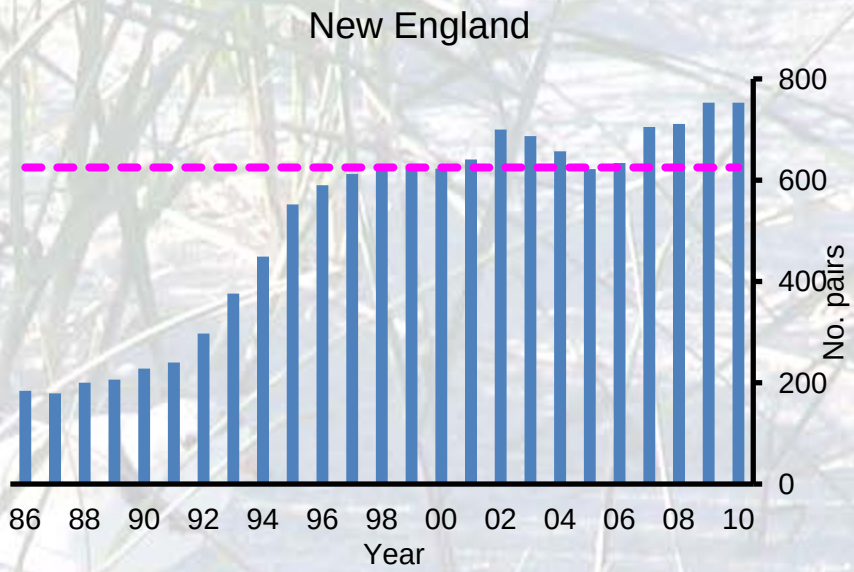
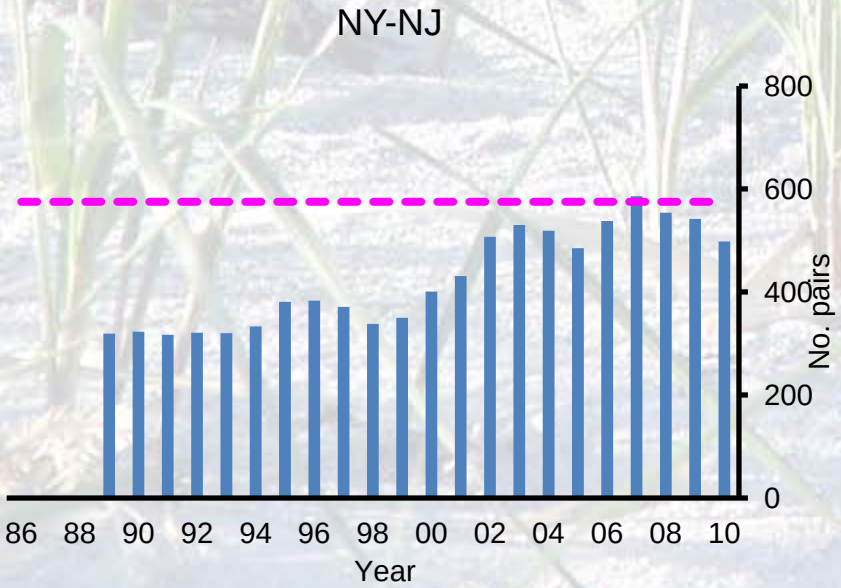


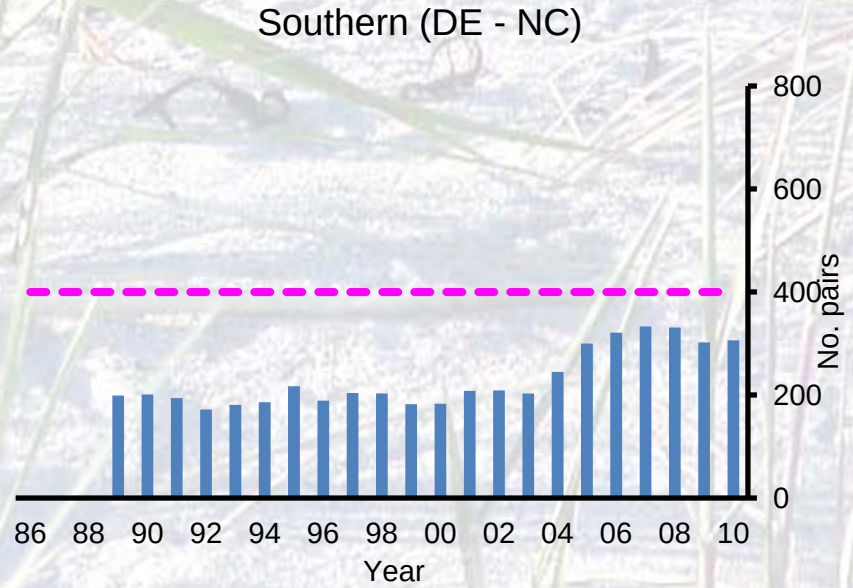
Atlantic Coast Piping Plover Recovery Units

Atlantic Coast Piping Plover Abundance by Recovery Unit









Productivity (chicks fledged per pair) of Atlantic Coast Piping Plovers, 1989-2008

	Annual productivity	
Recovery unit	Mean	(range)
Eastern Canada	1.54	(0.69 – 2.10)
New England	1.44	(1.15 – 1.91)
NY – NJ	1.16	(0.88 – 1.49)
Southern	1.09	(0.62 – 1.95)
Atlantic Coast (all)	1.33	(1.16 – 1.54)

What productivity is needed to maintain or increase populations?

Estimate for stationary Massachusetts population (deterministic modeling based on1985-89 survival estimates) = 1.24 chicks/pair

Recovery objective, U.S. Atlantic Coast = 1.5 chicks/pair

Regression Estimates of Piping Plover Productivity Needed to Maintain Atlantic Coast Sub-populations*

Recovery unit	Productivity for stationary population	r^2	*p*
E. Canada (1998-2008)	1.46	0.16	0.243
New England (1987-2008)	1.21	0.50	< 0.001
New Jersey (1989-2008)	0.99	0.51	0.001
Southern (1992-2008)	0.93	0.41	0.008

* Hecht and Melvin 2009