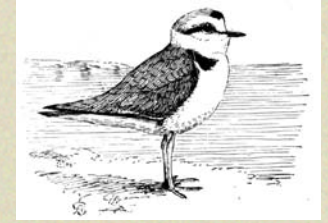


# FWC Snowy Plover Surveys

- 1989 – Gore, J. A. and C. A. Chase III. 1989. Snowy plover breeding distribution. Final Performance Report. Florida Game and Fresh Water Fish Commission.
- 2002 – Lamonte, K. M., N. J. Douglass, J. G. Himes, and G. E. Wallace. 2006. Status and Distribution of the Snowy Plover in Florida. 2002 Final Report. FWC.
- 2006 – Himes, J. G., N. J. Douglass, R. A. Pruner, A. M. Croft, and E. M. Seckinger. 2006. Status and Distribution of the Snowy Plover in Florida. 2006 Final Report. FWC.



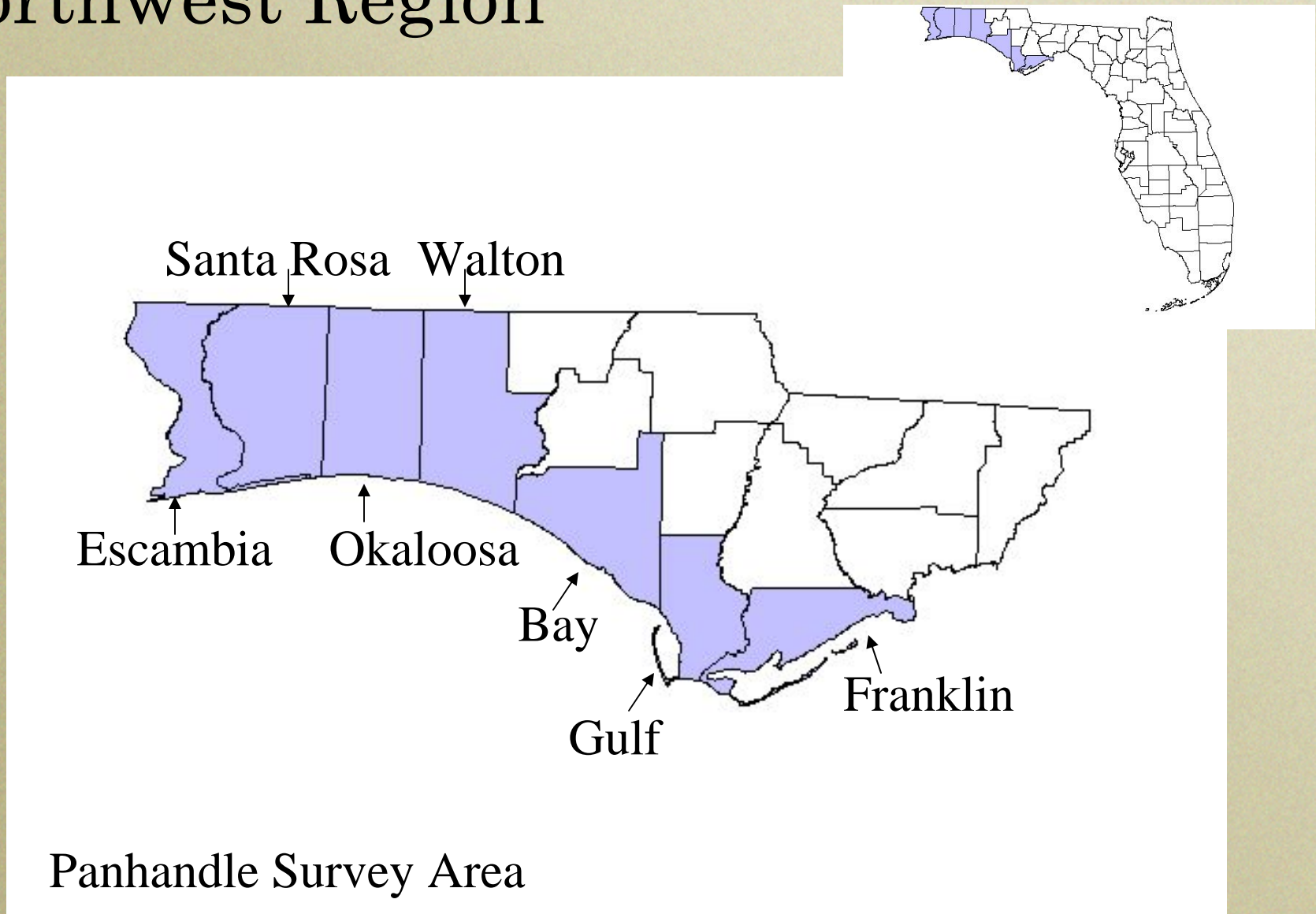
# Survey Comparisons



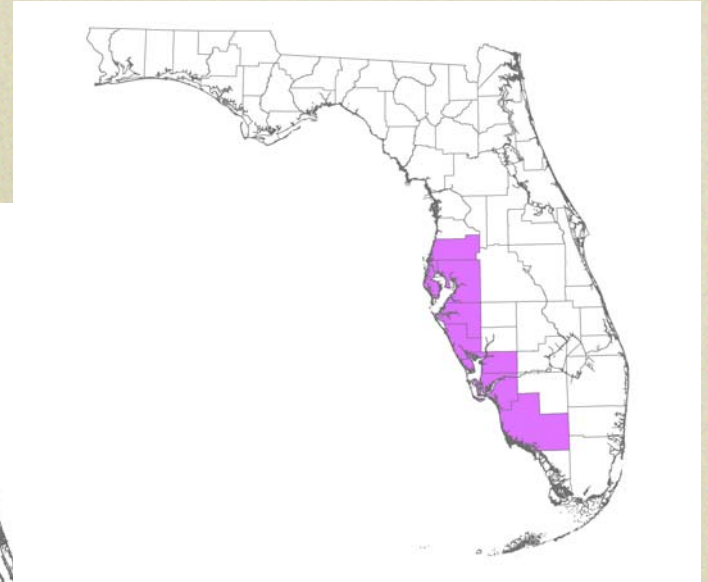
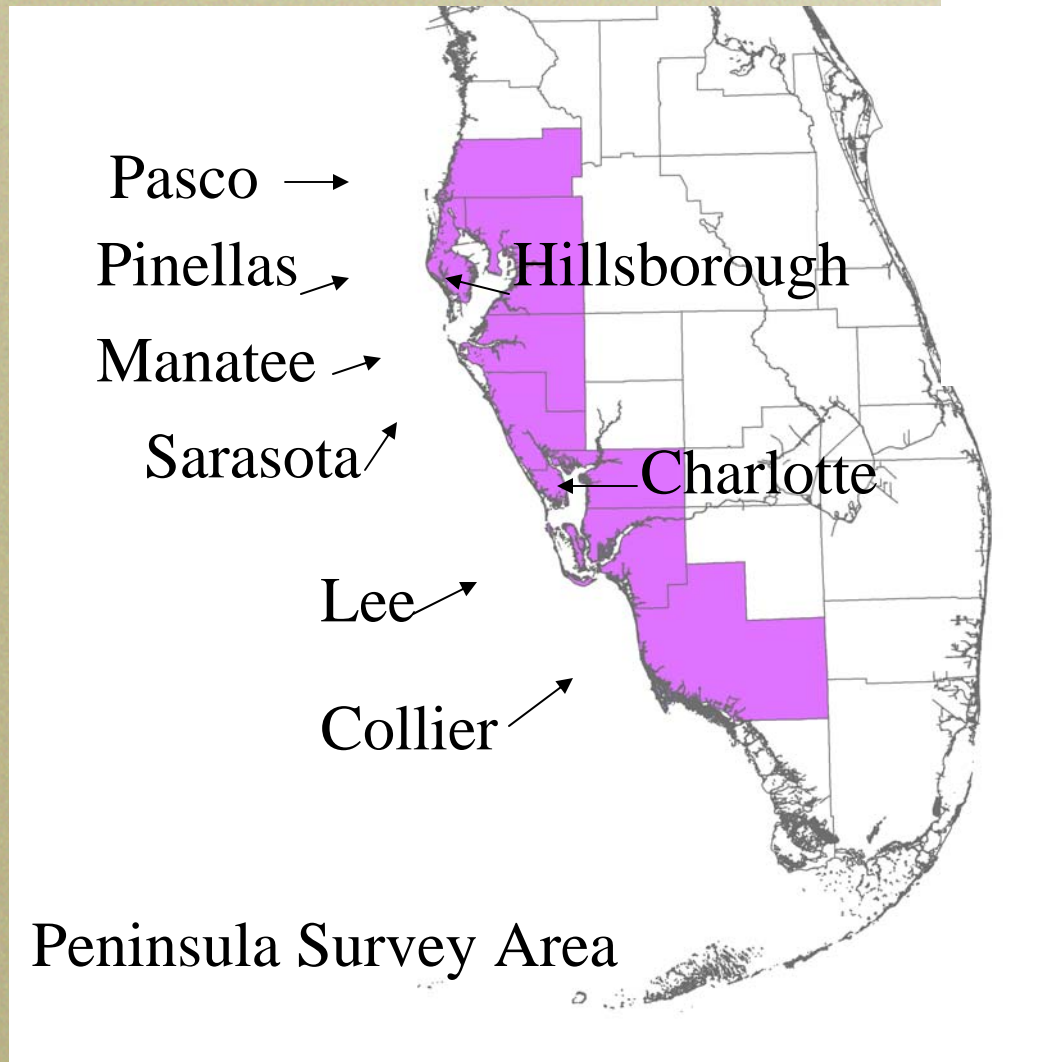
	1989	2002	2006
Spatial	Panhandle & <i>limited</i> SW coast	Gulf Coast	Gulf Coast
Temporal	Winter (nonsystematic) Breeding	Winter & Breeding	Breeding
Effort	7-10 days (SW - 1-3 times)	14 days	14 days



# Northwest Region



# Southwest Region



# Methods – breeding census

1. Site evaluations of known & potential breeding sites (Feb. 17 – Mar 3)



# Methods – breeding census

1. Site evaluations of known & potential breeding sites (Feb. 17 – Mar 3)
2. Suitable sites surveyed by ATV (panhandle) or on foot (Mar 4- Aug 4)



# Methods – breeding census

1. Site evaluations of known & potential breeding sites
2. Suitable sites surveyed by ATV (panhandle) or on foot
3. Each area surveyed once every 2 weeks



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5. Number and location of birds and nests recorded
6. Habitat measurements taken
7. Nests monitored until fate was determined or until finished



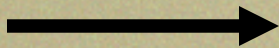
# Calculating Pair Numbers

- Possible breeding pairs/28-day period/site = nesting pairs + territorial pairs + families
- Breeding pairs/site = highest possible breeding pairs counted for any 28-day period
- Statewide population = combined high counts across all sites



# Overestimate?

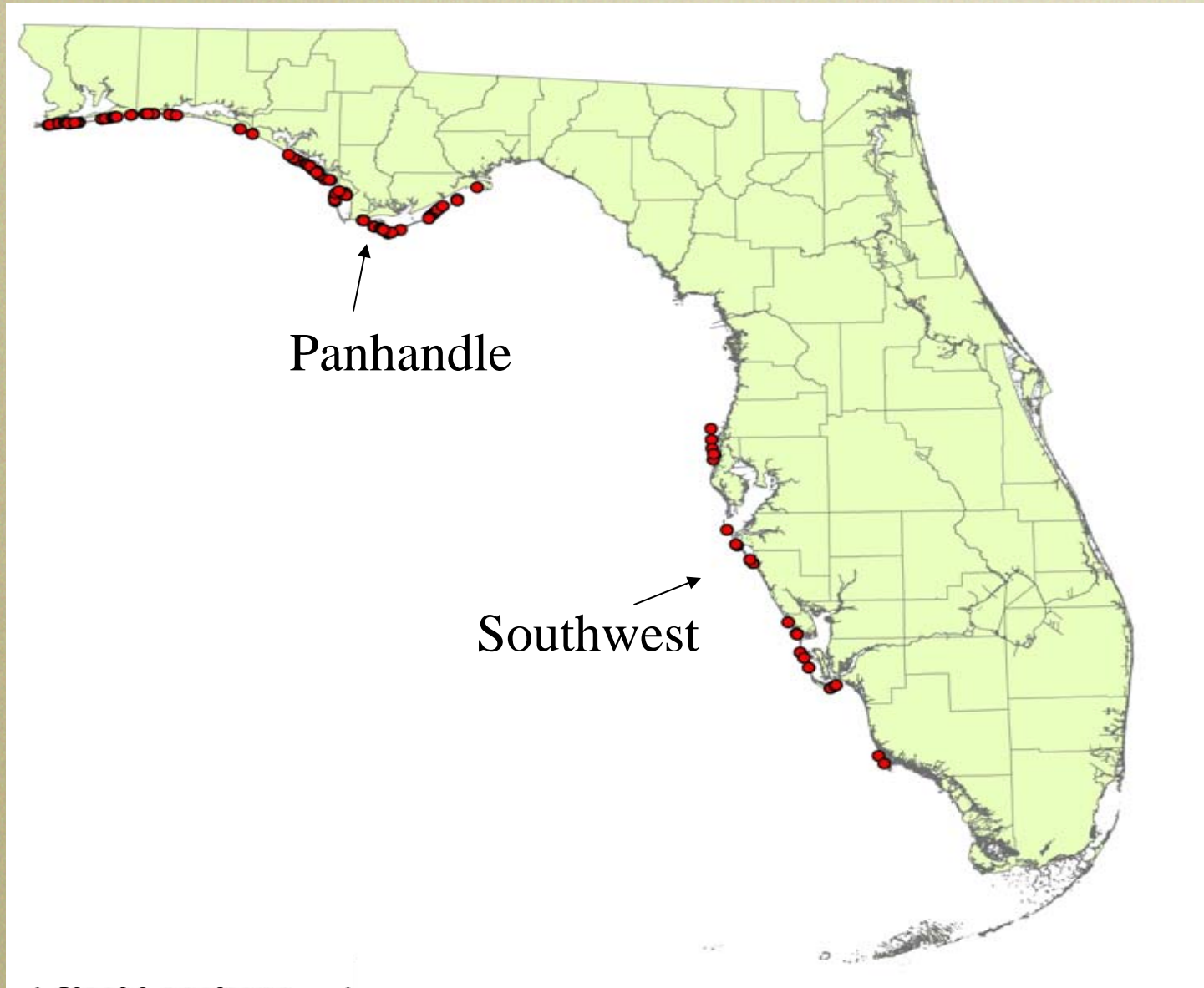
- Long interval
- Cryptic habits
- Unlikely that all pairs located



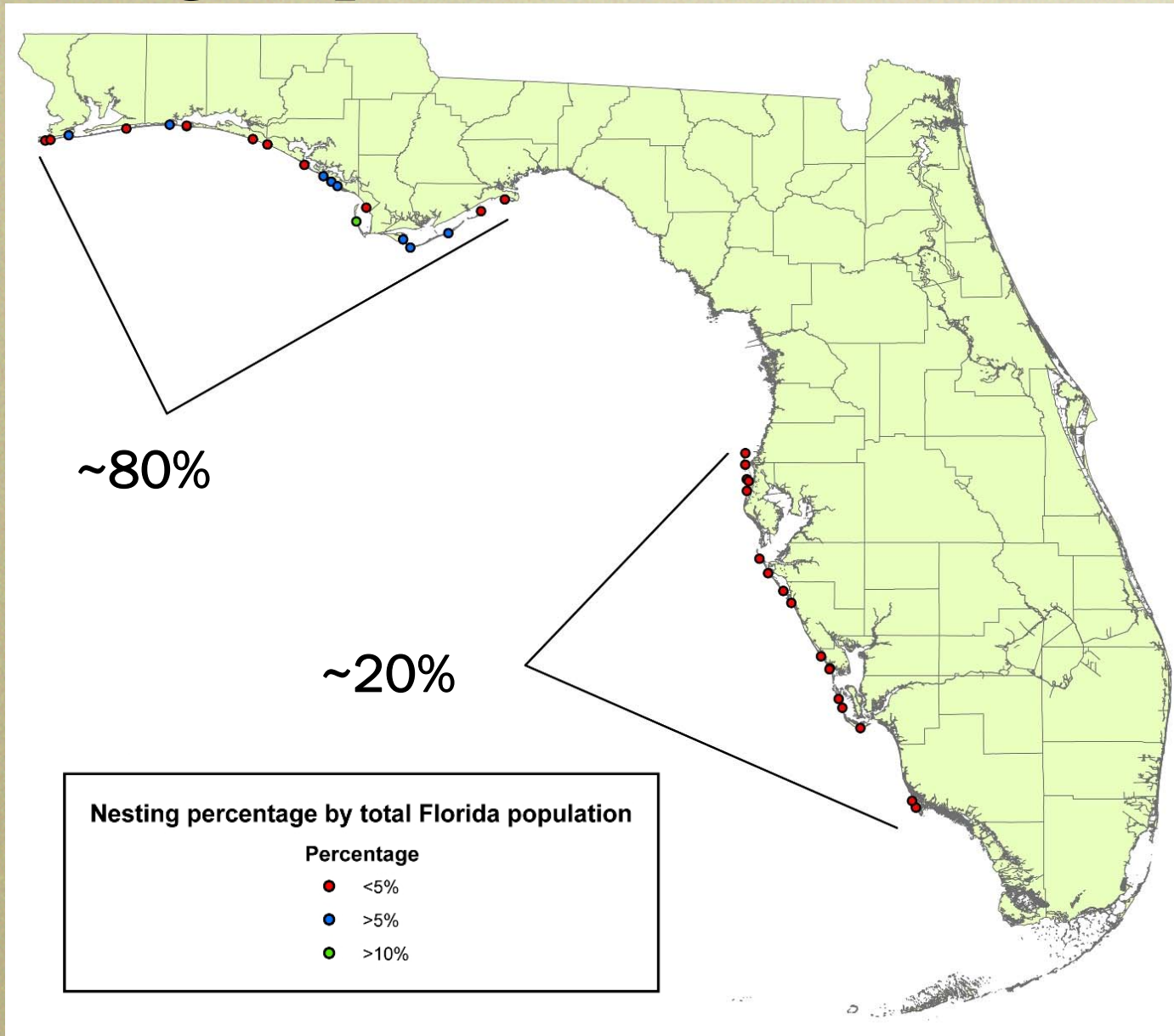
More likely to represent  
minimum number of pairs



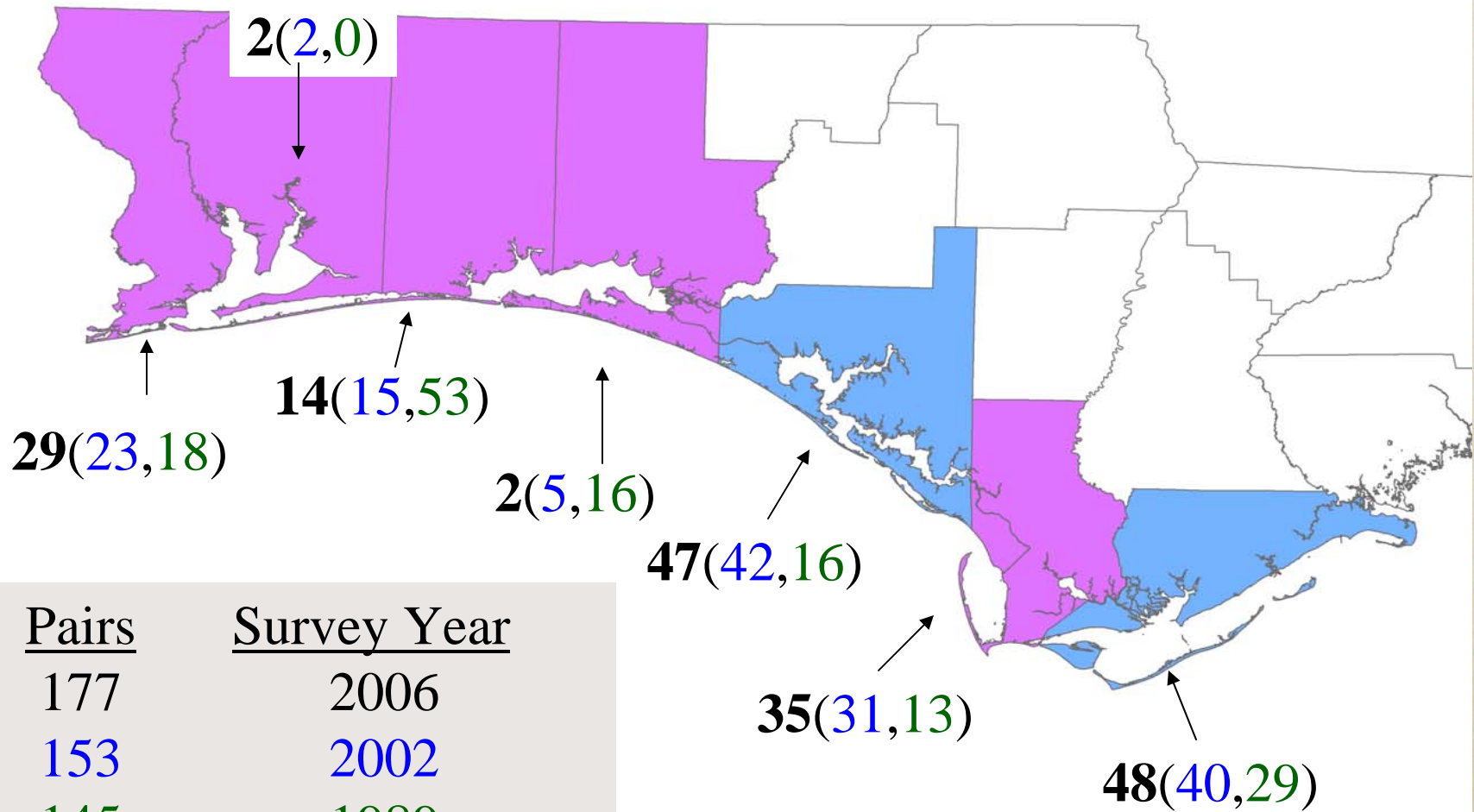
# Distribution



# Breeding Population Distribution



# 2006 (2002, 1989) Panhandle



<u>Pairs</u>	<u>Survey Year</u>
177	2006
153	2002
145	1989

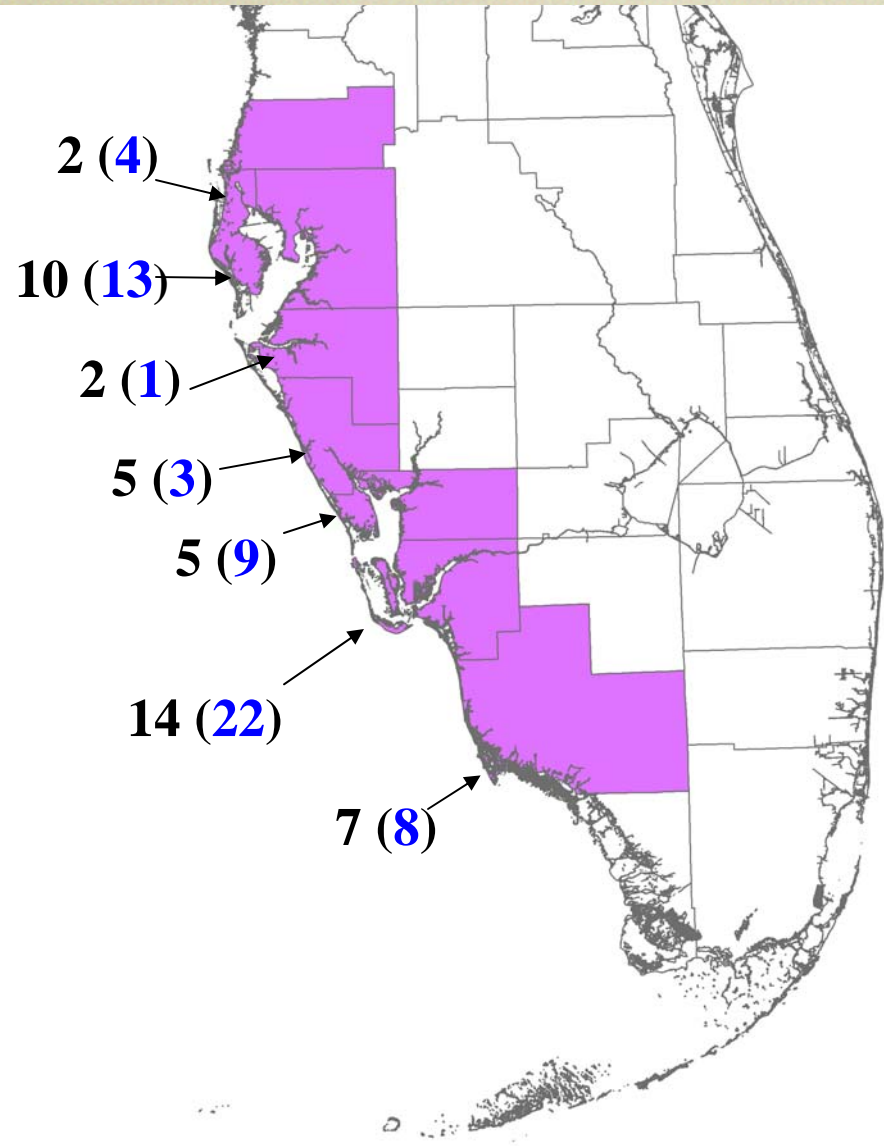




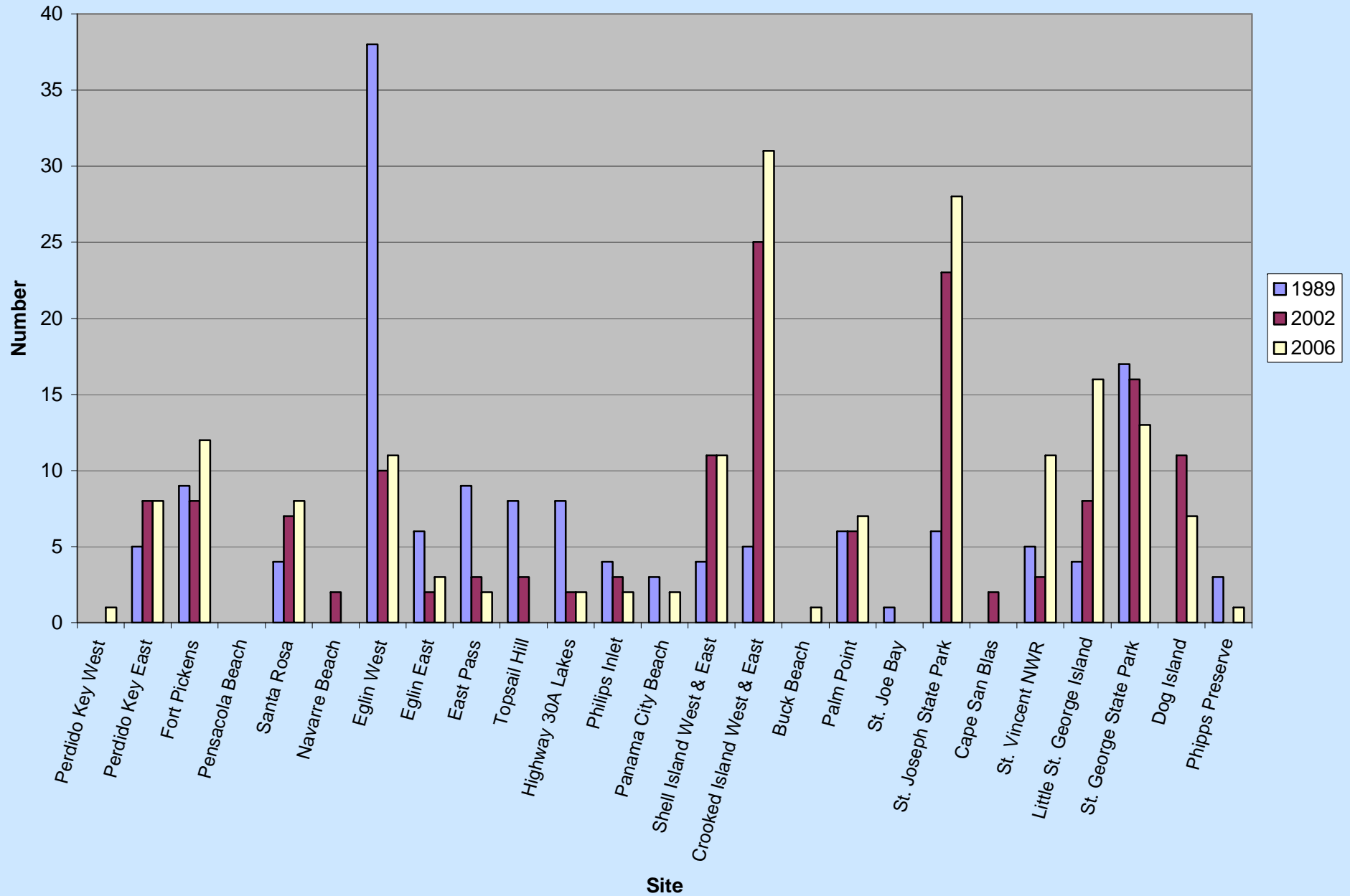
# 2006 (2002) Southwest

<u>Pairs</u>	<u>Survey Year</u>
45	2006
60	2002

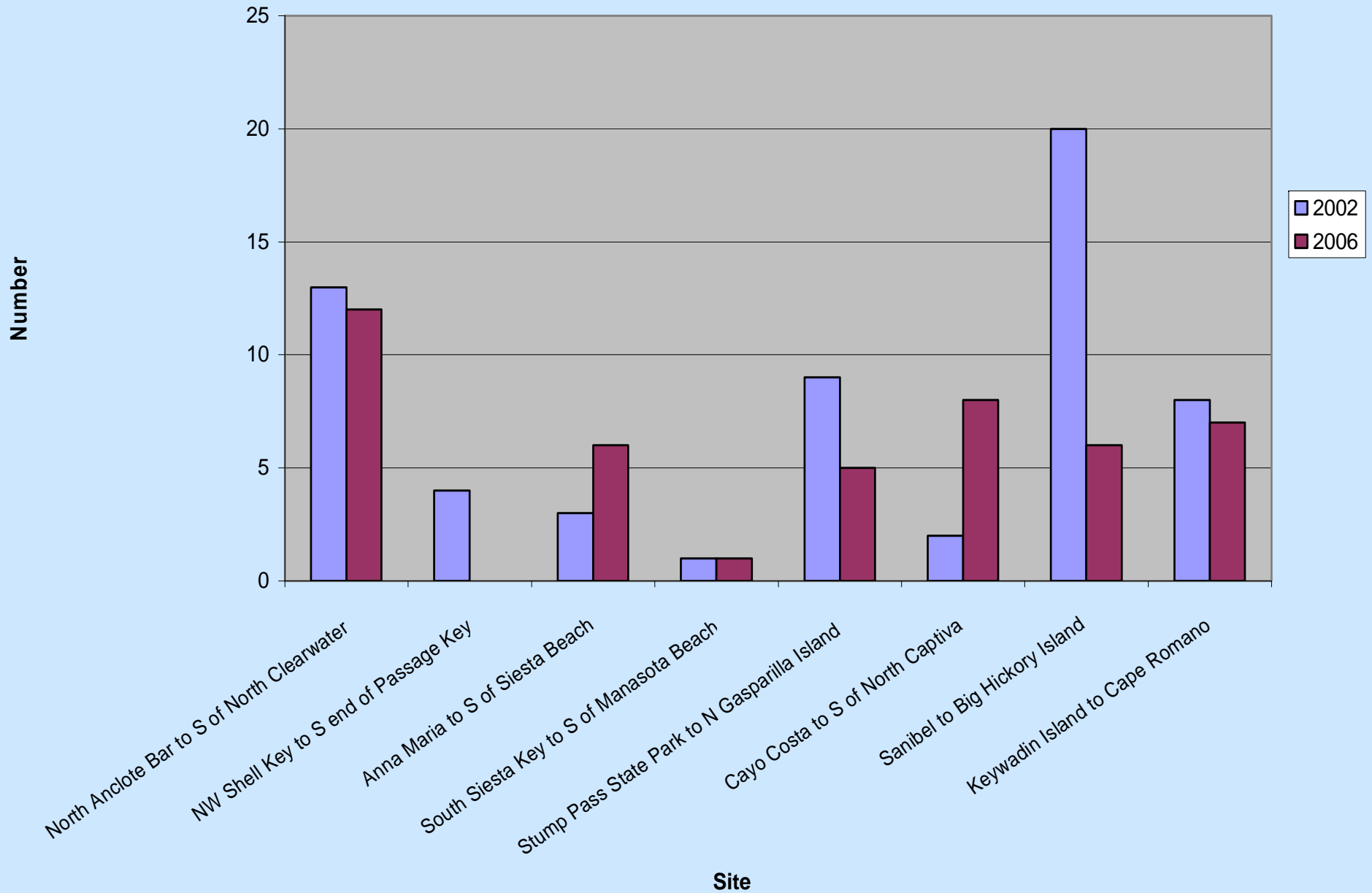
\* Inadequate data collected during 1989 for comparative purposes



# Breeding Pairs - Panhandle



# Breeding Pairs - Southwest



# Changes due to:

- Hurricane impacts
- Increases in coastal development & recreation
- Beach modification & dredging projects
- Differences in survey effort between years



# Measured habitat characteristics:



- Distance to high tide line
- Distance to primary dune
- Distance to nearest vegetation
- Distance to nearest structural debris
- In front/behind dune line
- Presence of shell/rock/debris in nest cup
- Visibility of Gulf



# Meaningful analysis:

- Requires Principle Component Analysis
- Cannot presume SNPL currently located in preferred habitat
- Human influence may affect/overwhelm habitat structural attributes
- Would have to include productivity to assess tolerance vs. success









# Conservation Challenges:

- Loss of coastal processes = habitat loss extending far beyond project boundaries



# Conservation Challenges:

- Beach as habitat = image problem & intolerance



# Conservation Challenges:



- Protected lands???



# Conservation Challenges:

- Predation



# Conservation Challenges:

- Refuge Syndrome

