

Determining the Effects of Habitat Enhancements and Predators on Western Snowy Plovers



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Western Snowy Plover

(Charadrius alexandrinus nivosus)



M. Kern



B. Griffin



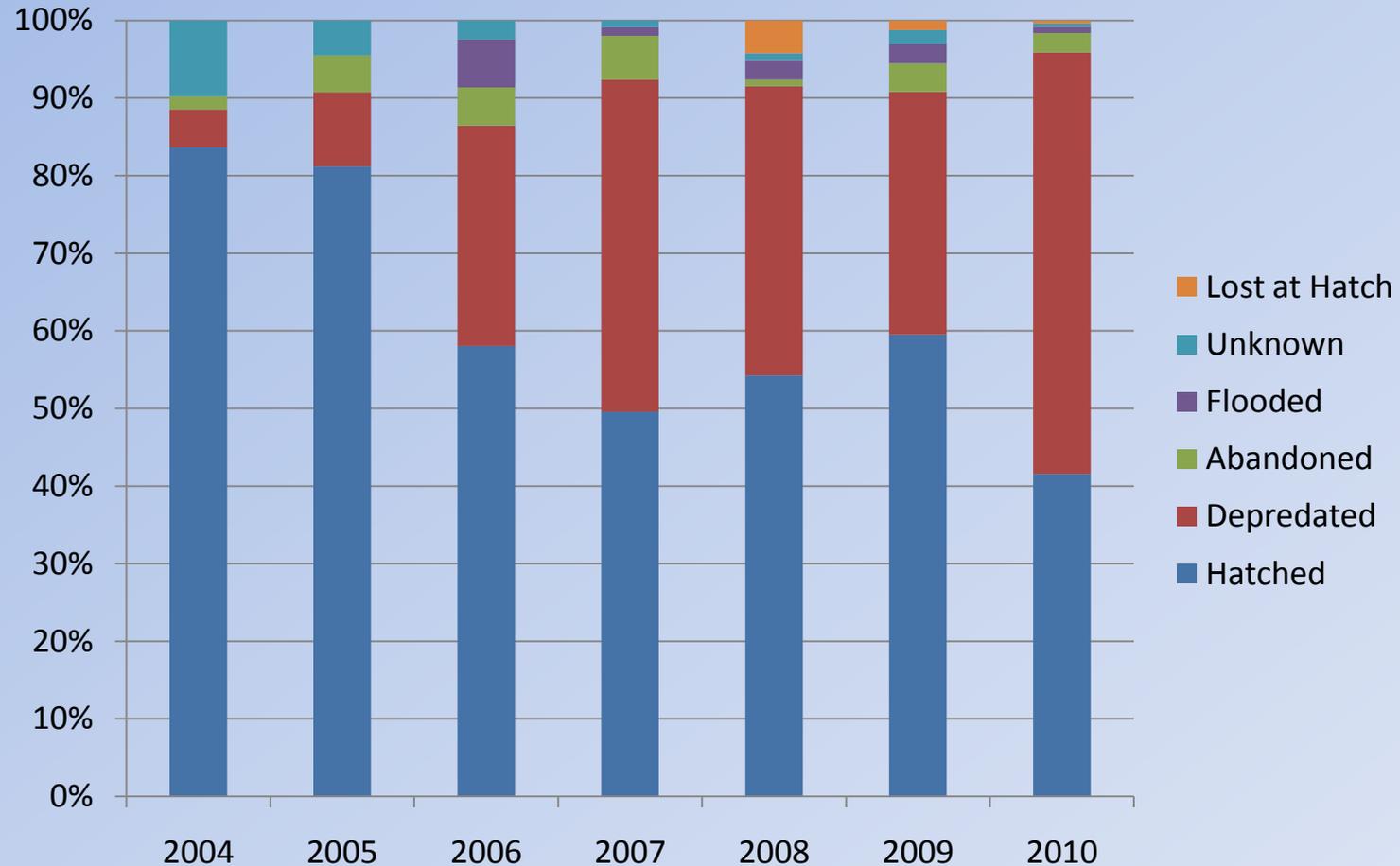
Western Snowy Plover Recovery Goals

- San Francisco Bay goal:
500 birds
- Support 250 breeding
birds within SBSP
Restoration Project
area
- Estimate between 130-
200 plovers in Bay

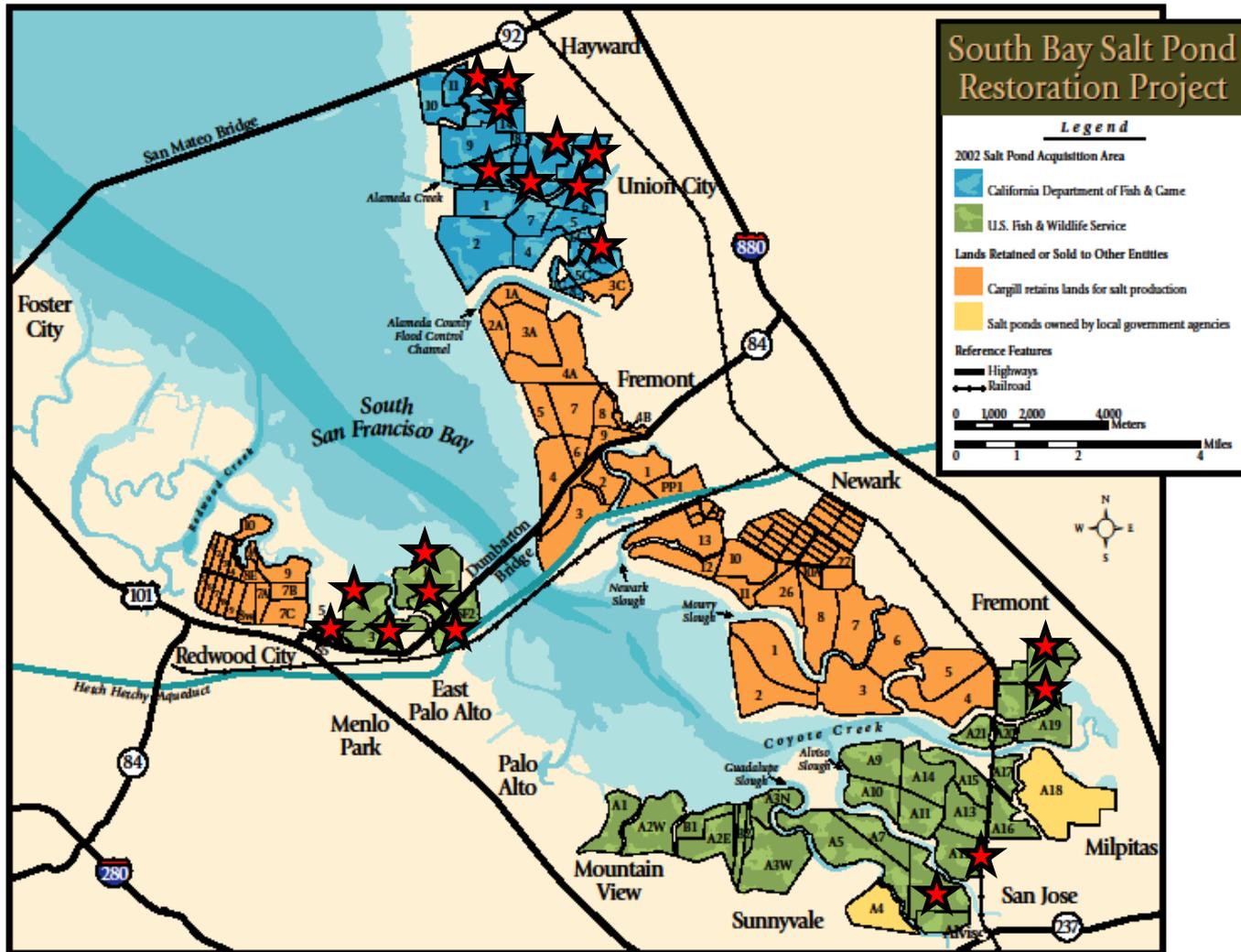


M. Kern

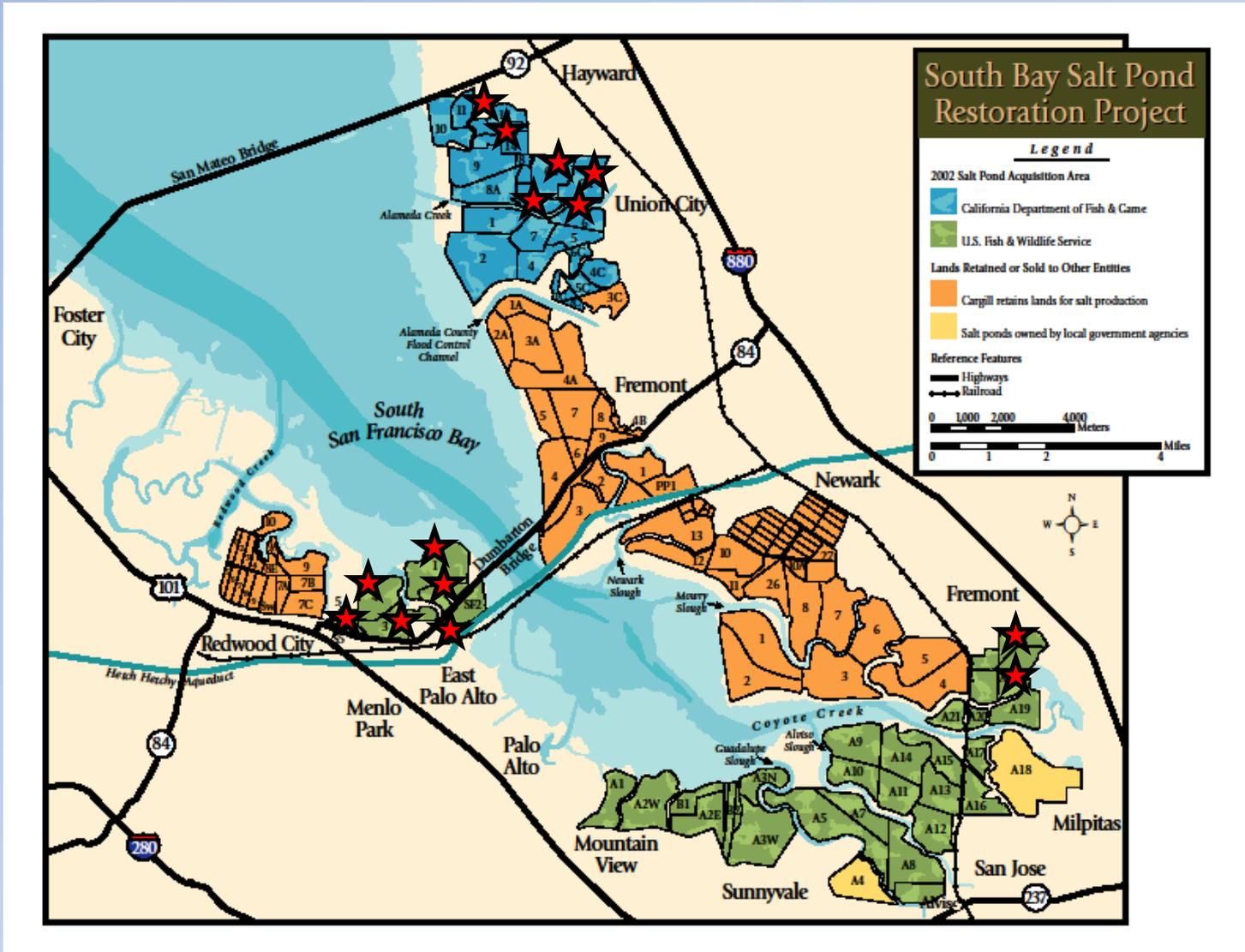
Observed Plover Nest Success in the South Bay: 2004 - 2010



Breeding Area - current



Breeding Area – after Phase 1



South Bay Salt Pond Restoration Project: Addressing Key Uncertainties

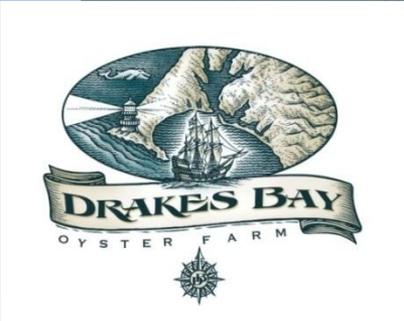


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- How to increase the number of Snowy Plovers nesting and nest success in project area?



Methods: Snowy Plover Habitat Enhancement





Methods: Snowy Plover Habitat Enhancement

- Compared 1 ha shell plots to 1 ha control plots
- Plots randomly placed in ponds

2009 – 7 shell and control plots

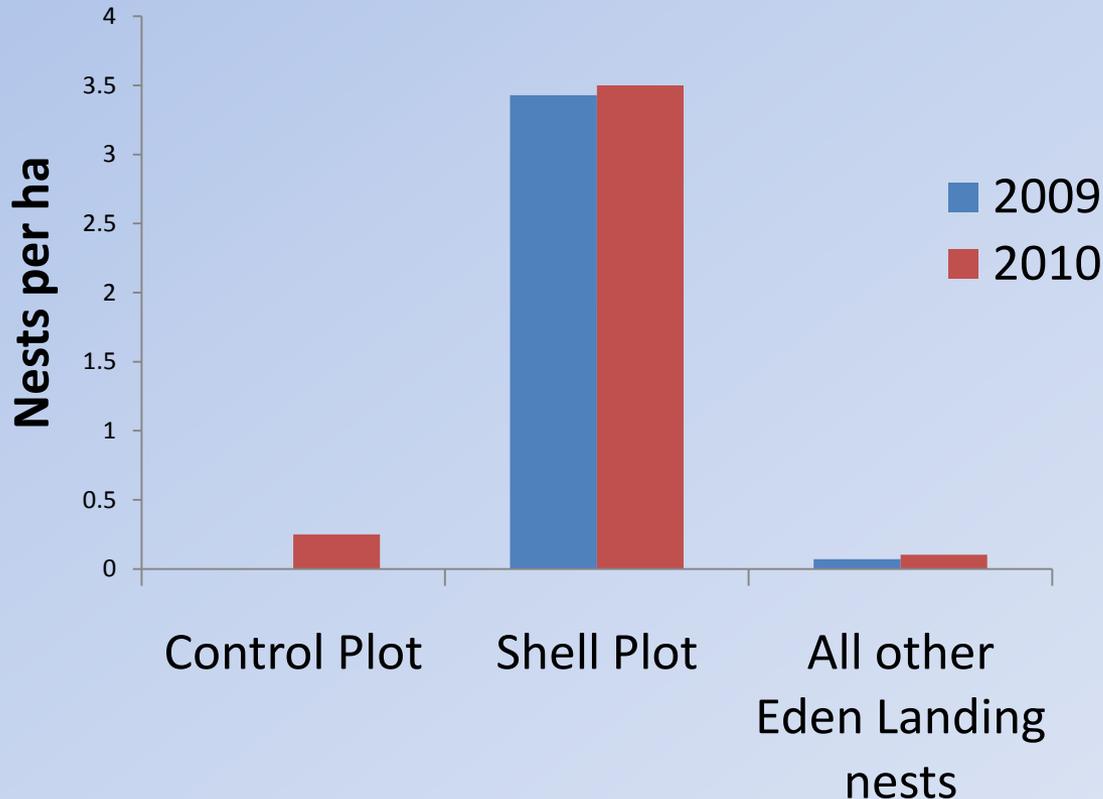
2010 – 12 shell and control plots





Results: Snowy Plover Habitat Enhancement

Higher nest density in shell plots than control or
all other areas at Eden Landing $P \leq 0.015$





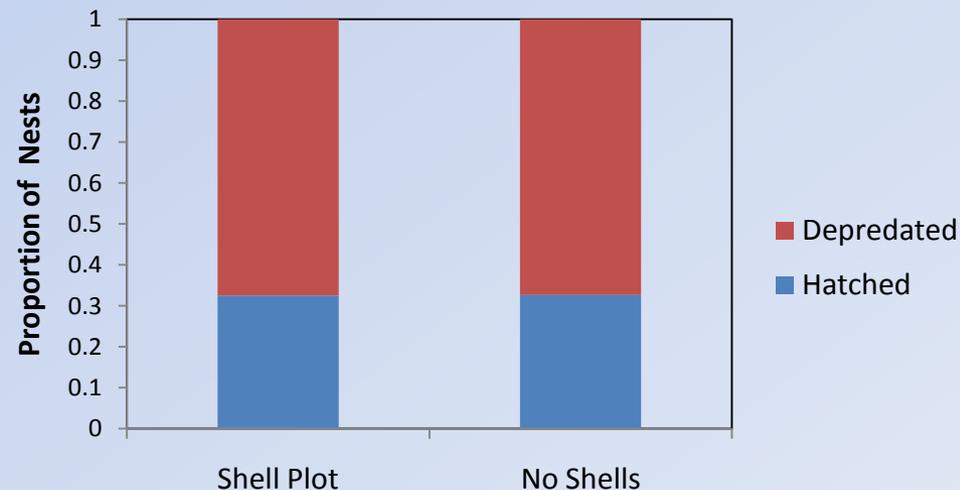
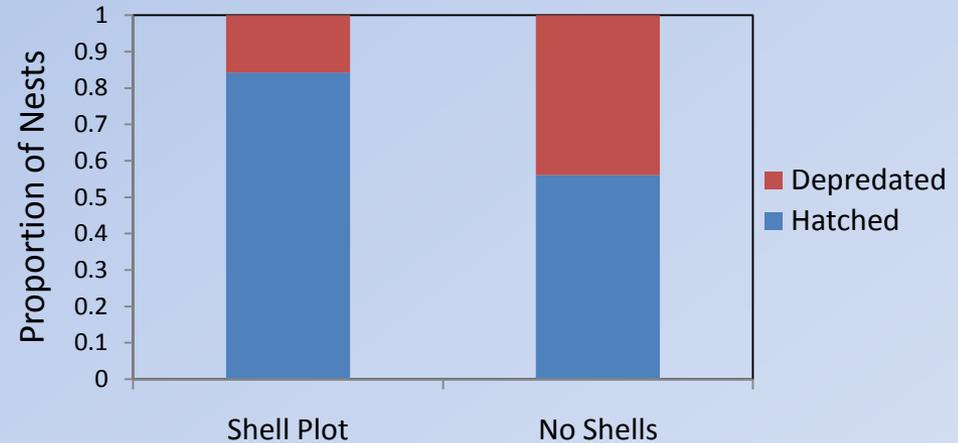
Results: Snowy Plover Habitat Enhancement

2009: Shell plot nests more likely to hatch than non-shell plot nests

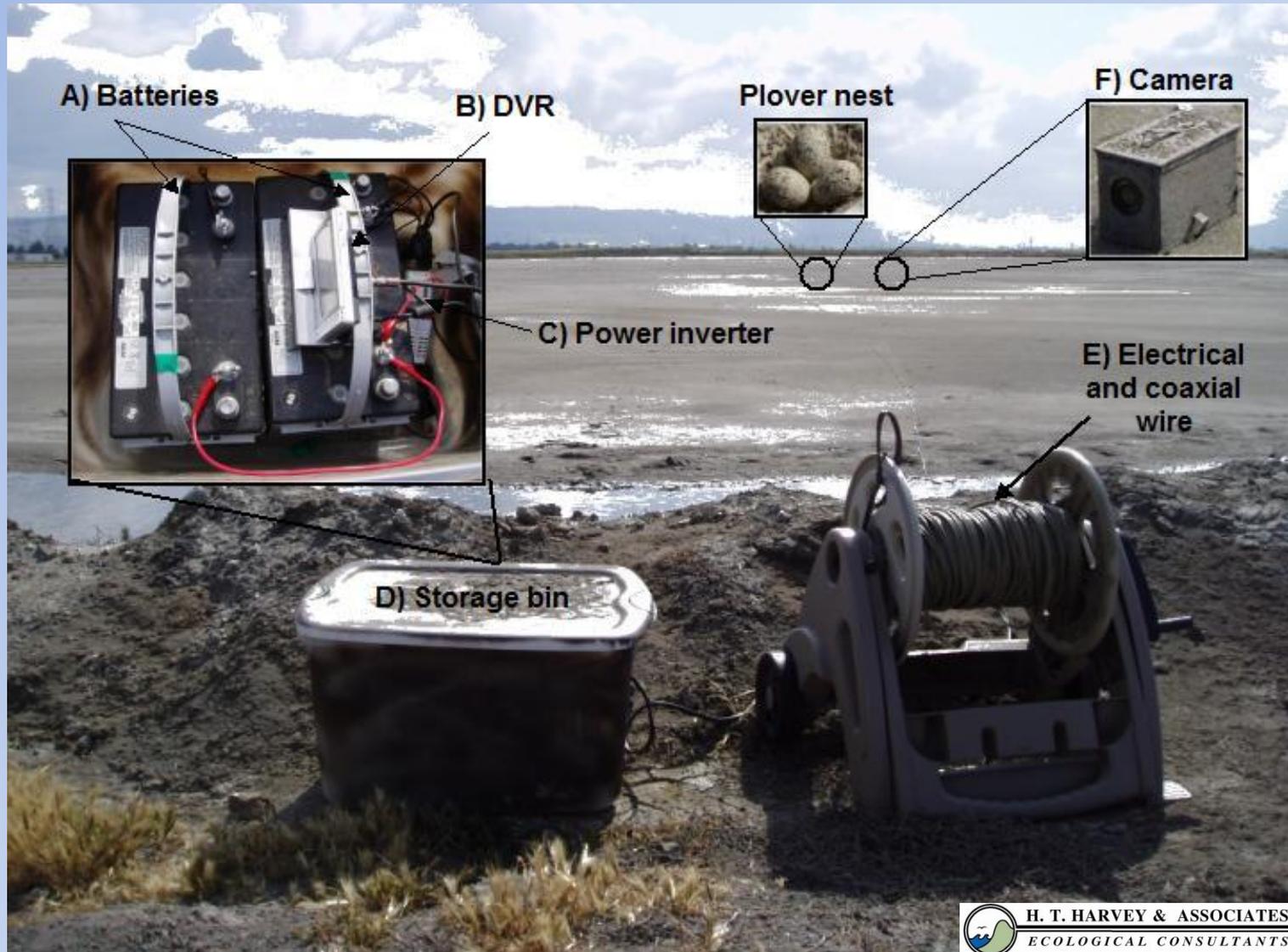
$$(\chi^2 = 4.98, df = 1, P = 0.03)$$

2010: No difference in likelihood of hatching between shell plot nests and non-shell plot nests

$$(\chi^2 = 0.0002, df = 1, P = 0.98)$$



Methods: Nest Camera Studies



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Results: Nest Camera Studies

Nest predators recorded with cameras



	2009	2010
California Gull	2	2
Northern Harrier	3	0
Red-Tailed Hawk	2	0
Common Raven	1	0
Ruddy Turnstone	0	1
Grey Fox	0	1
Total number of nests monitored	24	21



Recommendations

- **How to increase the number of Snowy Plovers nesting in project area?**
- Shell plots may not be the answer to meeting Snowy Plover goals
- May need to manage more area for plovers in the future



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Recommendations

- Continued funding for predator management and development of a California Gull management plan
- Short term - coordination to avoid construction conflicts





Questions?

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Endangered Species Recovery

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