

# Snowy Plovers: Doing More With Less?



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# Western Snowy Plover

## Rangewide



Coastal sandy beaches,  
river bars, salt flats



## SF Bay



Dry salt ponds, levees,  
dredge spoils

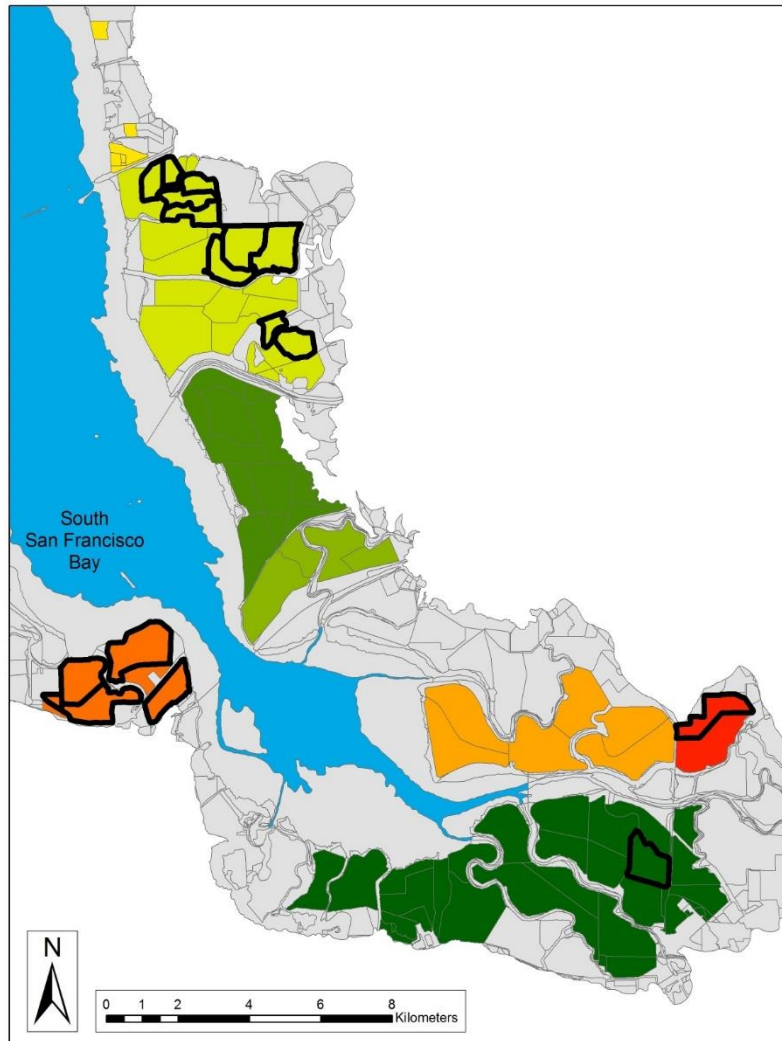
# What's the problem?

□ Federally threatened, 1993

1. Habitat loss
2. Predation
3. Climate change
  - Sea level rise



# SF Bay Population Management



- Annual monitoring
- Collaborative management
- Research

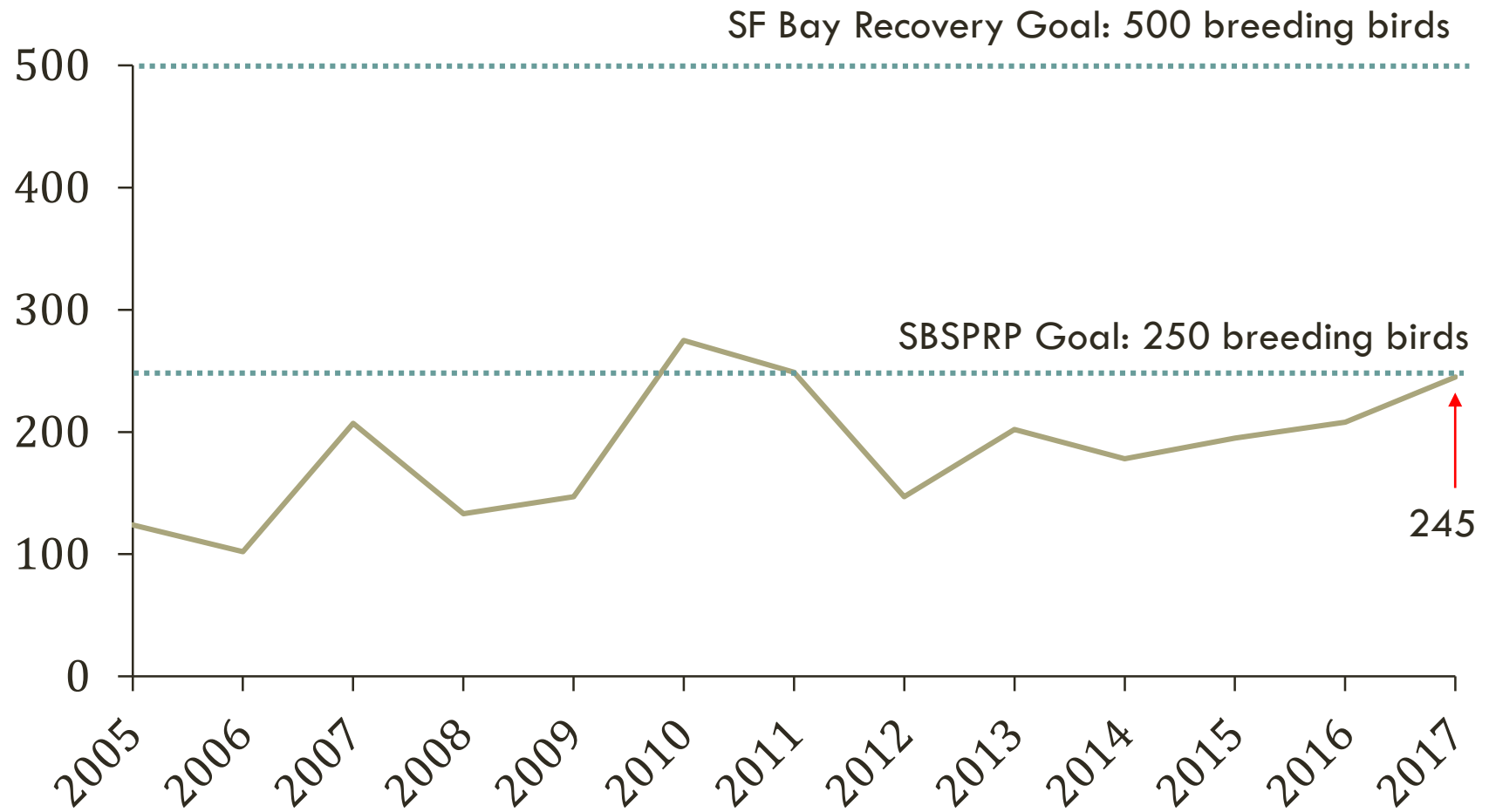


SAN FRANCISCO BAY  
BIRD OBSERVATORY

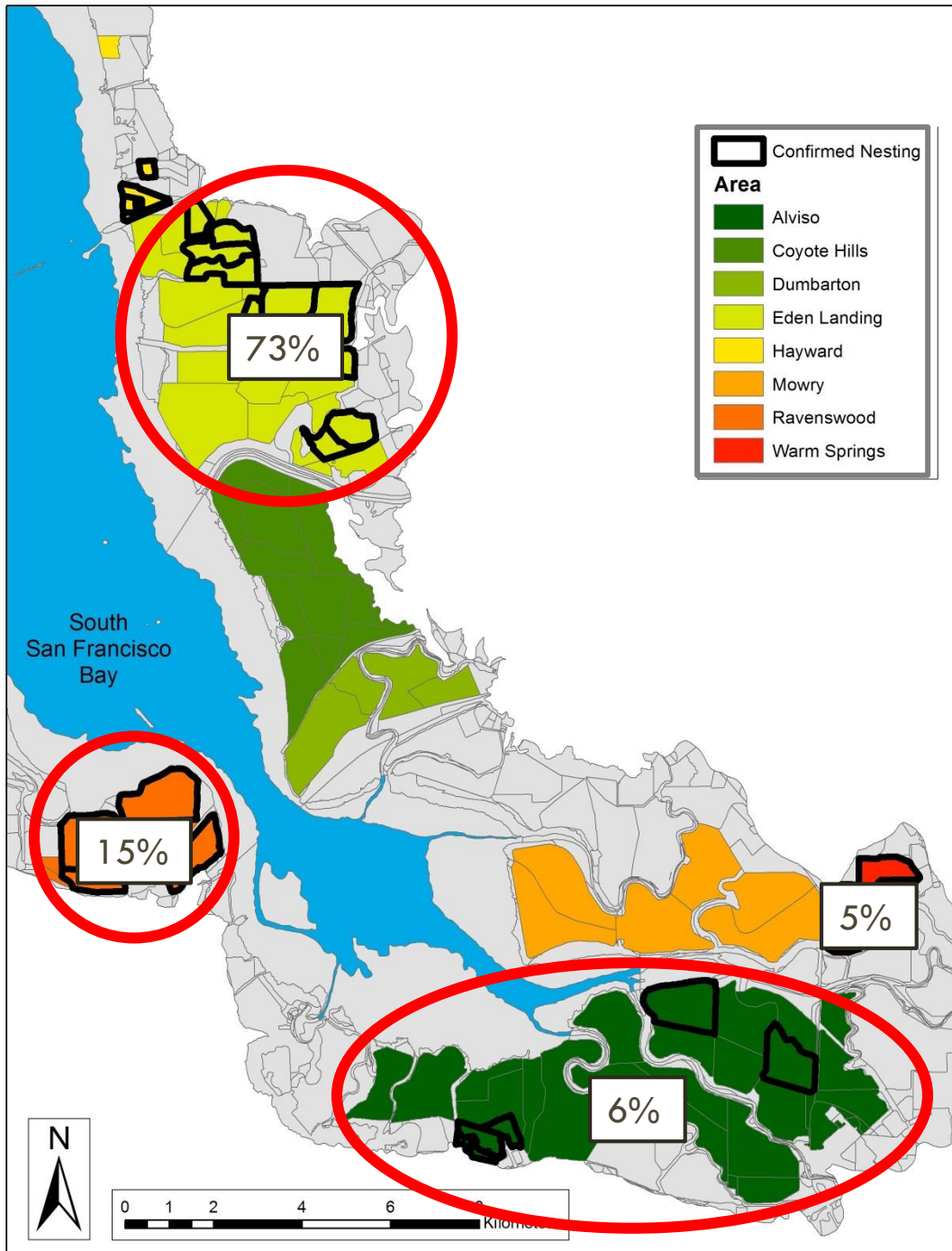


 **South Bay Salt Pond  
Restoration Project**

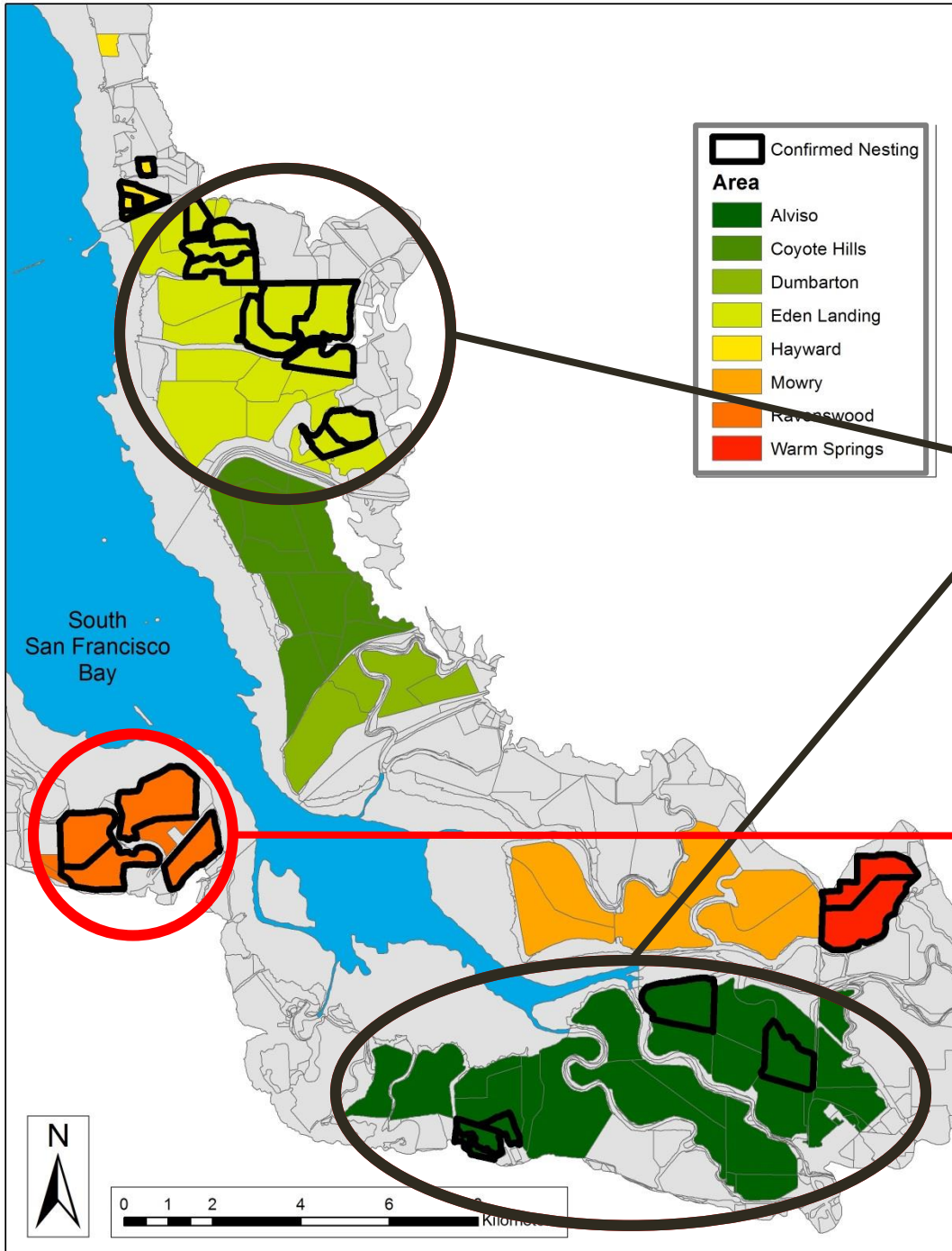
# SF Bay Population



# Restoration



# Habitat Loss



Phase I: 18% plover habitat converted. COMPLETE

Phase II: 8% plover habitat converted. BEGINS 2019.

# Key Uncertainty

How to increase plover breeding success as habitat is changed for Restoration ?





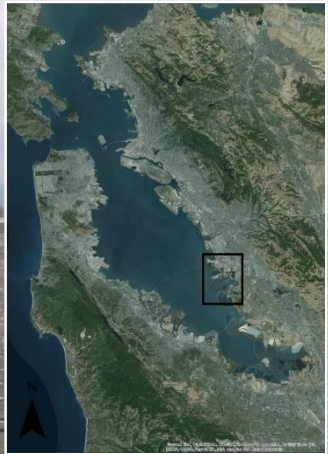
# Oyster Shell Enhancement



Provide  
camouflage and  
cover

Increase  
breeding success





# Enhancement Results

- Plover **nest density** increased in enhancement plots
- Plovers **selected** to nest in enhancement plots
- Plover **daily nest survival** rates did not statistically improve due to enhancement
- **Predation pressure** high



# Predation Pressure



# Species Recovery



SF Bay Recovery Goal: 500 breeding birds



SBSRP Goal: 250 breeding birds



- Should these numbers be revisited?

# Future Needs

- Predator – enhancement dynamics
- New technologies (drone, GPS)
- Mixed-management & resource efficiency





# Thank you!

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