

# Waterbird monitoring at the Newark ponds

Cheryl M. Strong





## Acknowledgements

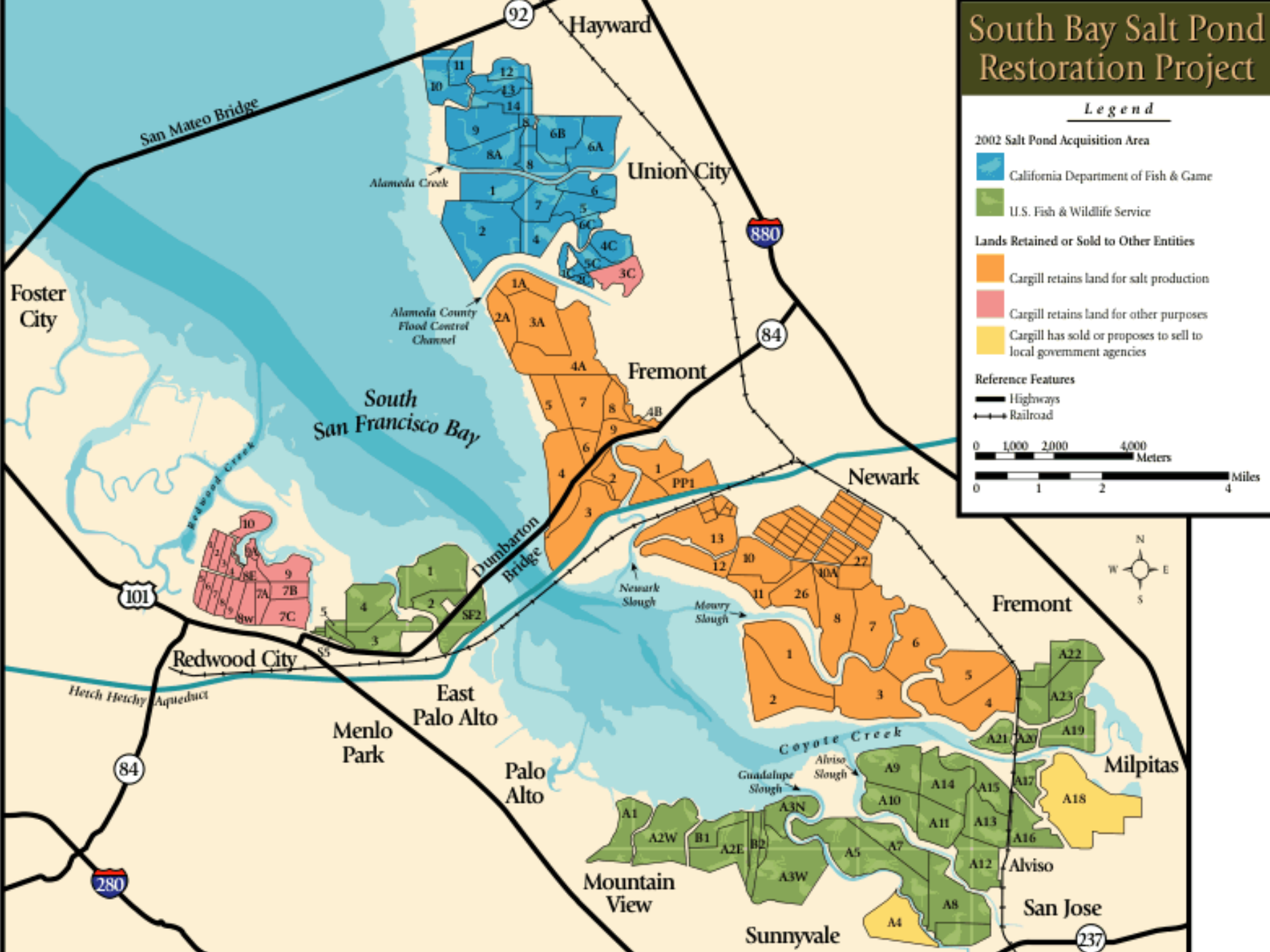
- Ann Murphy, Cynthia Padula and Sarah Stoner-Duncan for all the field work
- Nicole Athearn, USGS for all her GIS and other help!
- Kathleen Henderson, USGS for scheduling
- Tara Schraga, USGS for help with water quality
- Eric Berg, volunteer for GPS assistances
- Don Edwards SF Bay National Wildlife Refuge for funding and logistics
- The San Francisco Foundation for funding



# South Bay Salt Pond Restoration Project

## Legend

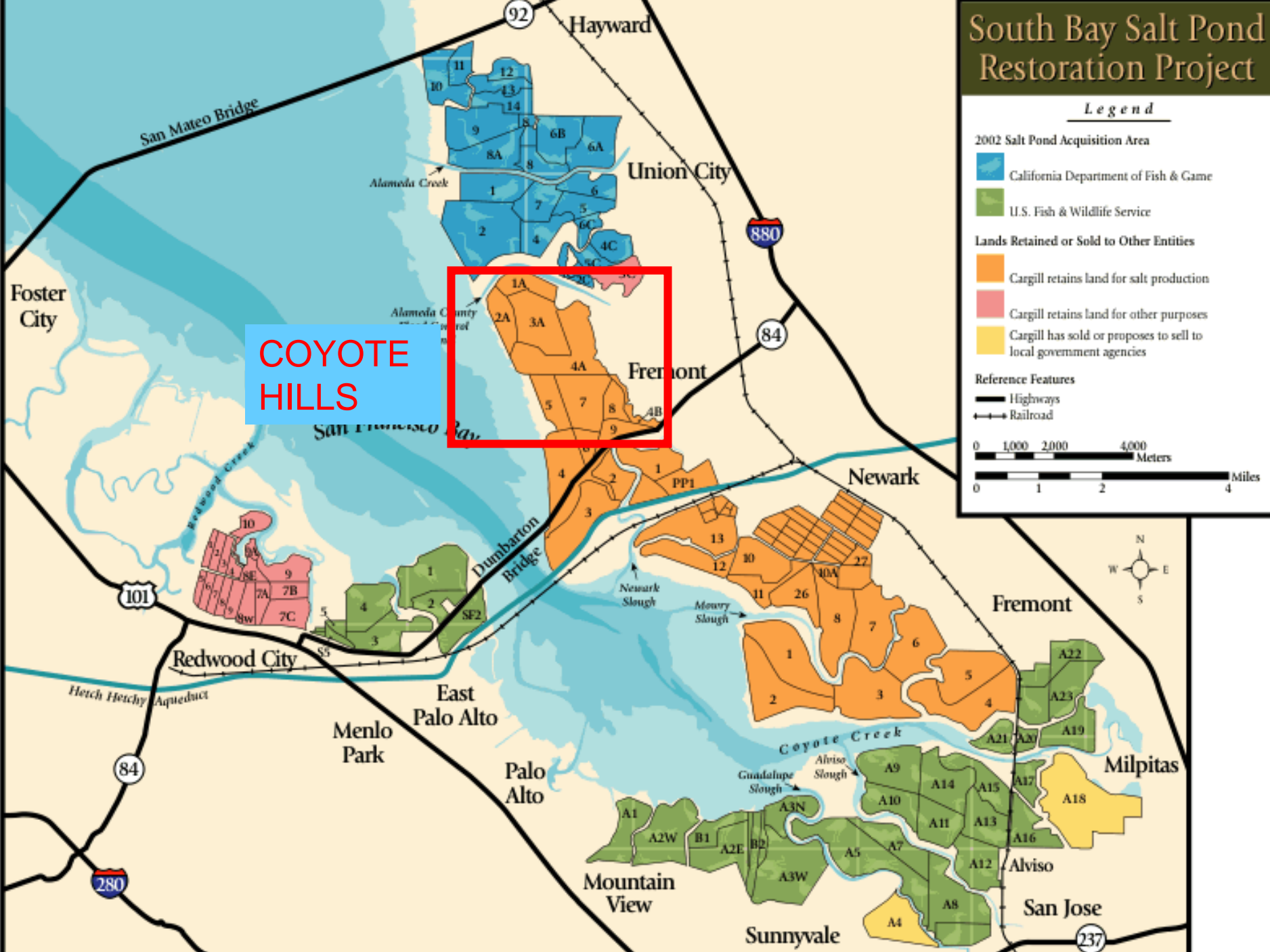
- 2002 Salt Pond Acquisition Area**
    - California Department of Fish & Game
    - U.S. Fish & Wildlife Service
  - Lands Retained or Sold to Other Entities**
    - Cargill retains land for salt production
    - Cargill retains land for other purposes
    - Cargill has sold or proposes to sell to local government agencies
  - Reference Features**
    - Highways
    - Railroad
- 0 1,000 2,000 4,000 Meters  
0 1 2 4 Miles



# South Bay Salt Pond Restoration Project

## Legend

- 2002 Salt Pond Acquisition Area
    - California Department of Fish & Game
    - U.S. Fish & Wildlife Service
  - Lands Retained or Sold to Other Entities
    - Cargill retains land for salt production
    - Cargill retains land for other purposes
    - Cargill has sold or proposes to sell to local government agencies
  - Reference Features
    - Highways
    - Railroad
- 0 1,000 2,000 4,000 Meters  
0 1 2 4 Miles

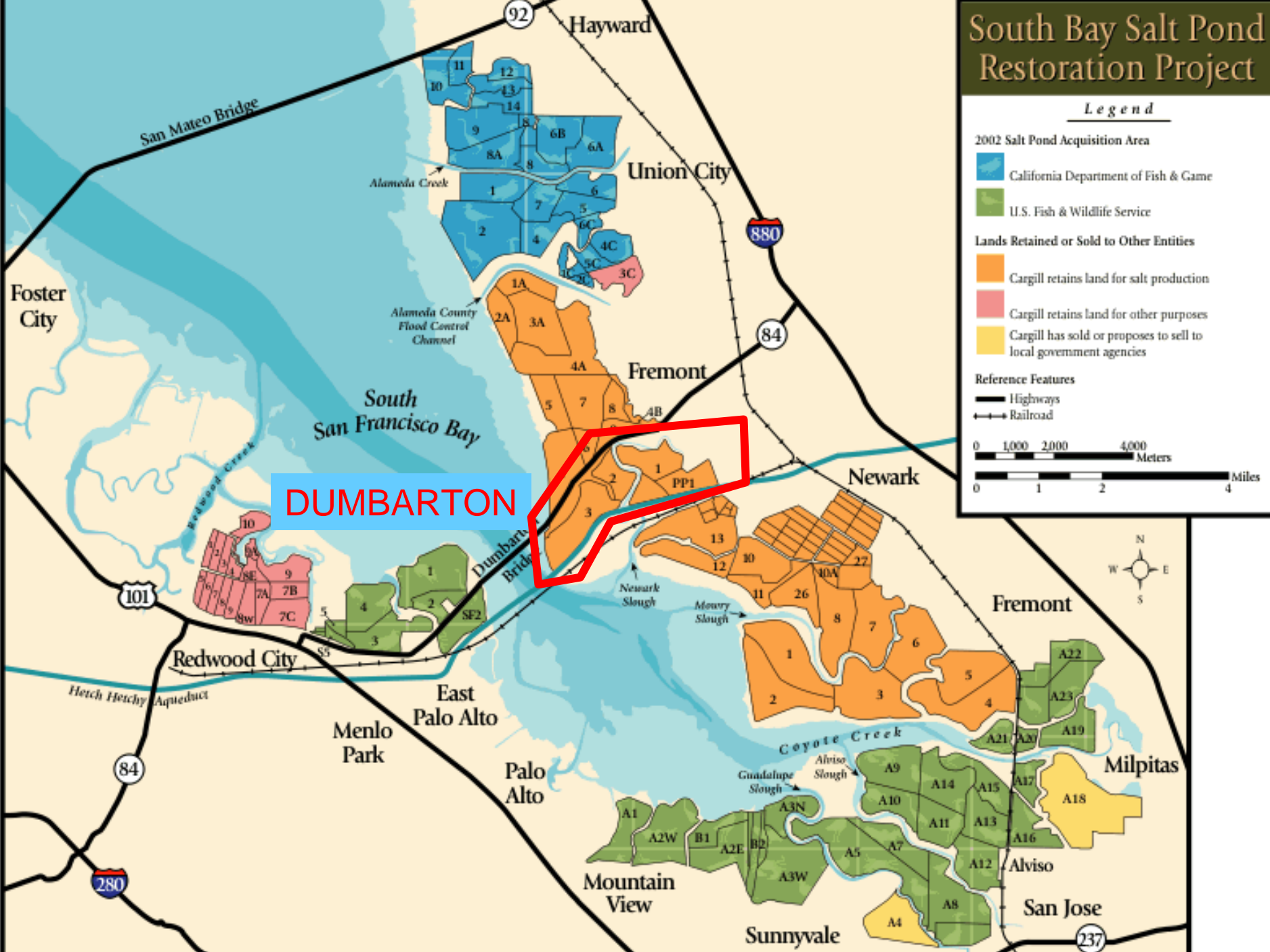




# South Bay Salt Pond Restoration Project

## Legend

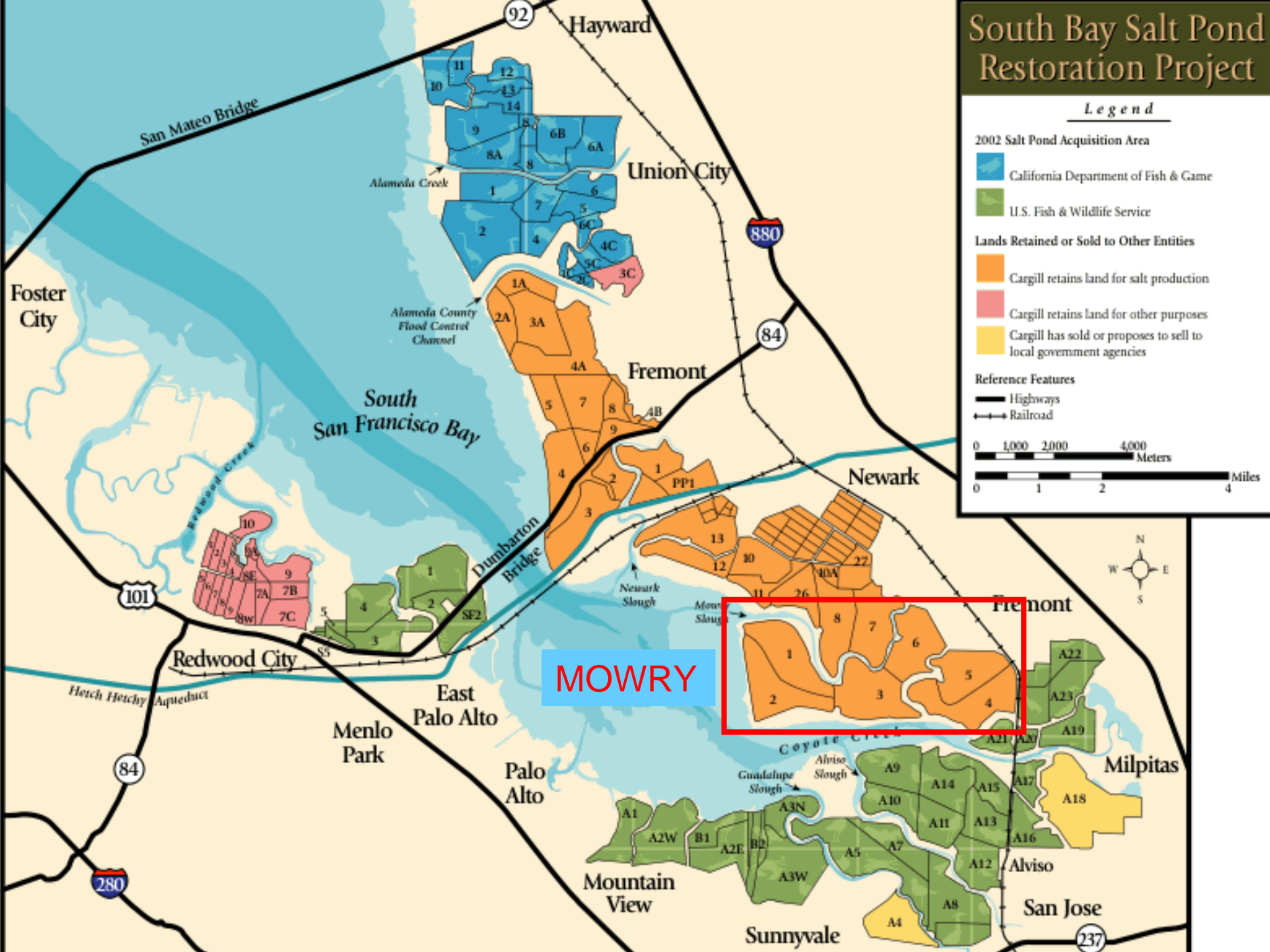
- 2002 Salt Pond Acquisition Area**
    - California Department of Fish & Game
    - U.S. Fish & Wildlife Service
  - Lands Retained or Sold to Other Entities**
    - Cargill retains land for salt production
    - Cargill retains land for other purposes
    - Cargill has sold or proposes to sell to local government agencies
  - Reference Features**
    - Highways
    - Railroad
- 0 1,000 2,000 4,000 Meters  
0 1 2 4 Miles



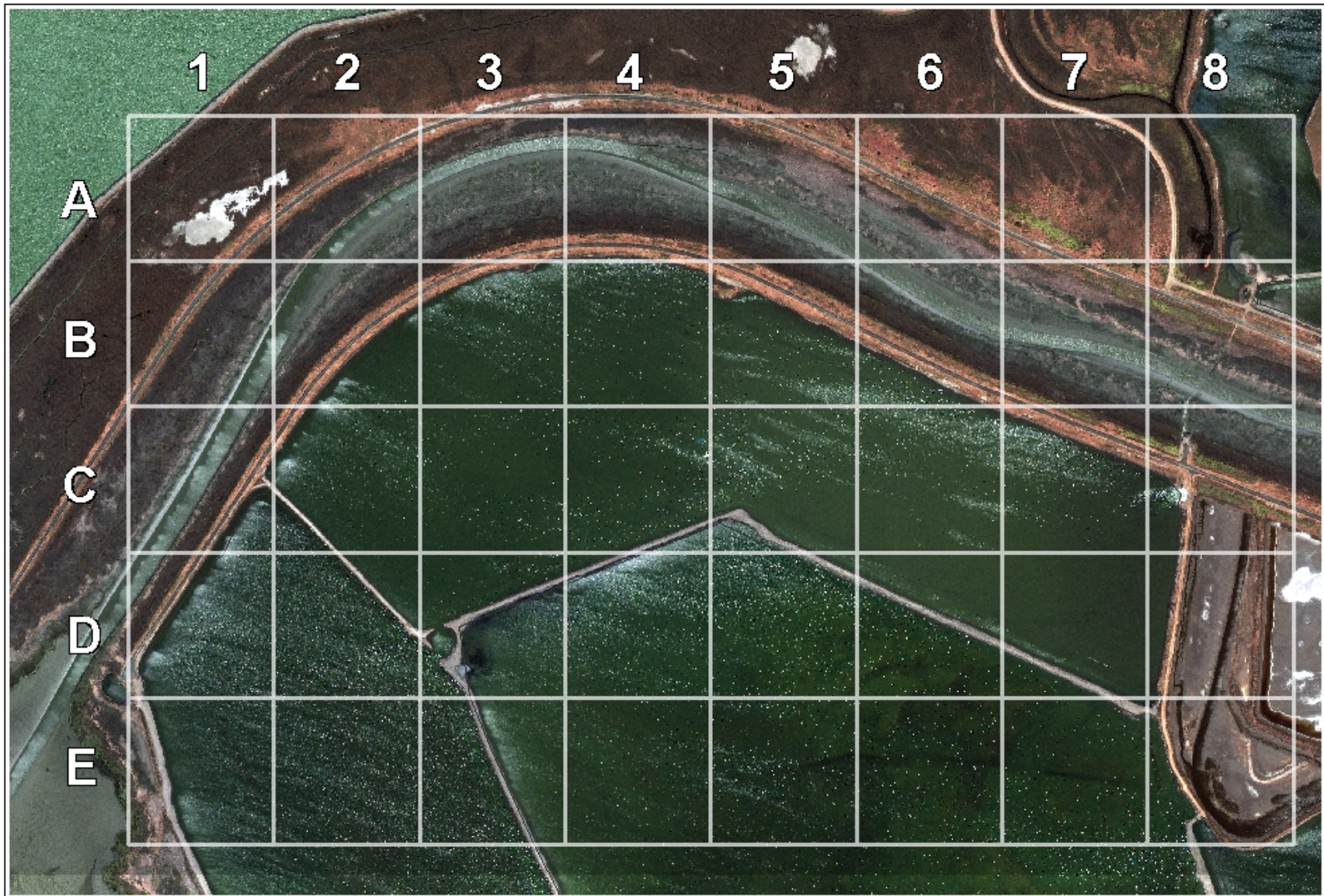
# South Bay Salt Pond Restoration Project

## Legend

- 2002 Salt Pond Acquisition Area**
    - California Department of Fish & Game
    - U.S. Fish & Wildlife Service
  - Lands Retained or Sold to Other Entities**
    - Cargill retains land for salt production
    - Cargill retains land for other purposes
    - Cargill has sold or proposes to sell to local government agencies
  - Reference Features**
    - Highways
    - Railroad
- 0 1,000 2,000 4,000 Meters  
0 1 2 4 Miles









# Guilds: dabblers





# Guilds: divers



# Guilds: gulls



# Guilds: medium shorebirds





# Guilds: small shorebirds



©Cardinal Photo



Dunlin (*Calidris alpina hudsonia*), Floyd Bennett Field, New York  
26 Jan 2002, Photo: Angus Wilson

Guilds: eared grebes,  
flamingoes, phalaropes

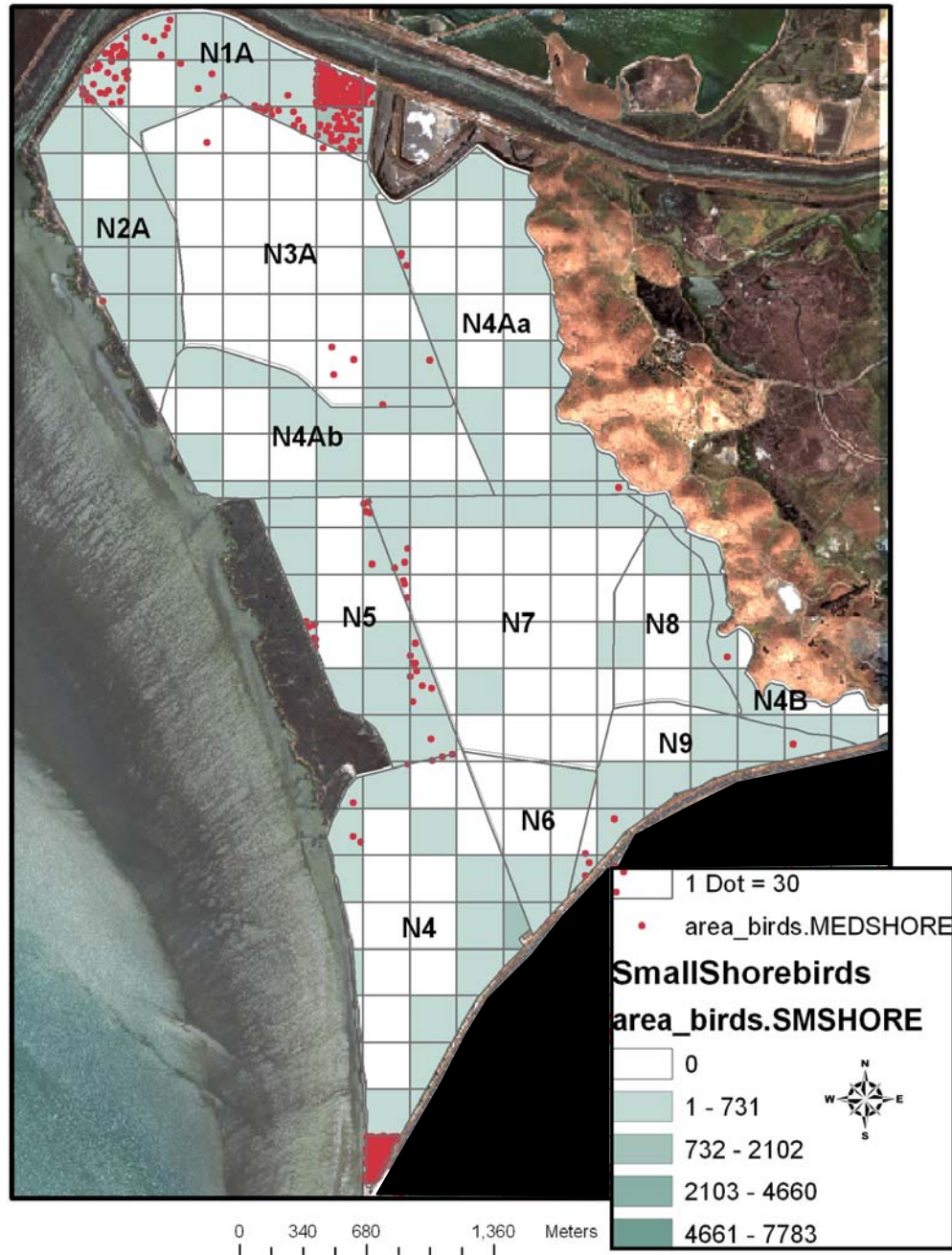


## Totals by area

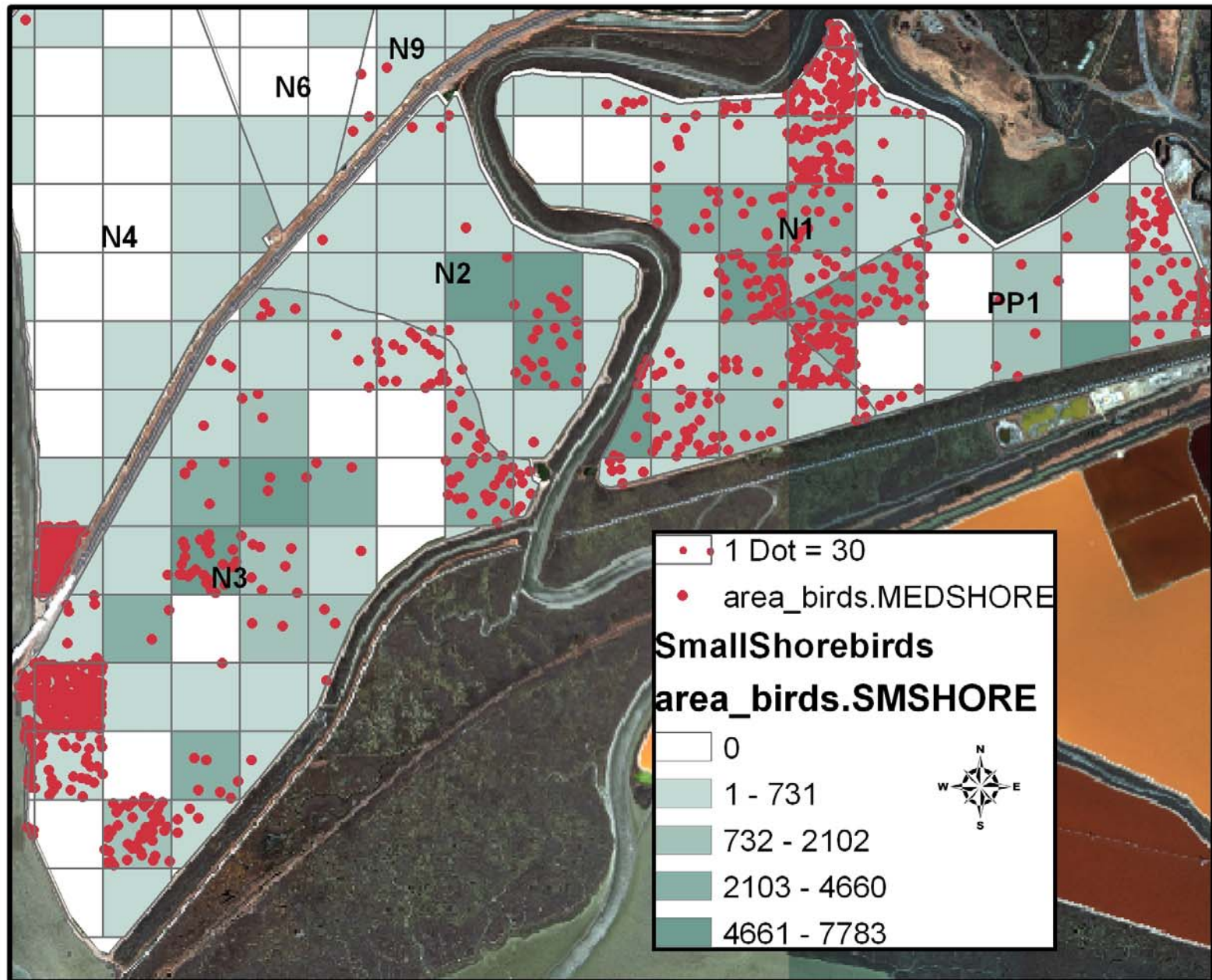
Area	area (ha)	total birds	total birds foraging	% of total area	% of total birds	% birds foraging	
Coyote Hills	1062.39	85157 <sup>1</sup>	30127	38.35	24.09	35.38	
Dumbarton	520.69	212406 <sup>2</sup>	74312	18.79	60.08	34.99	
Mowry	1187.37	55947 <sup>3</sup>	7858	42.86	15.83	14.05	
Totals	2770.45	353510	112297	100.00	100.00	31.77	
		1 shorebirds, some dabbling ducks					
		2 shorebirds, eared grebes					
		3 gulls					



# Bird distributions at Coyote Hills ponds



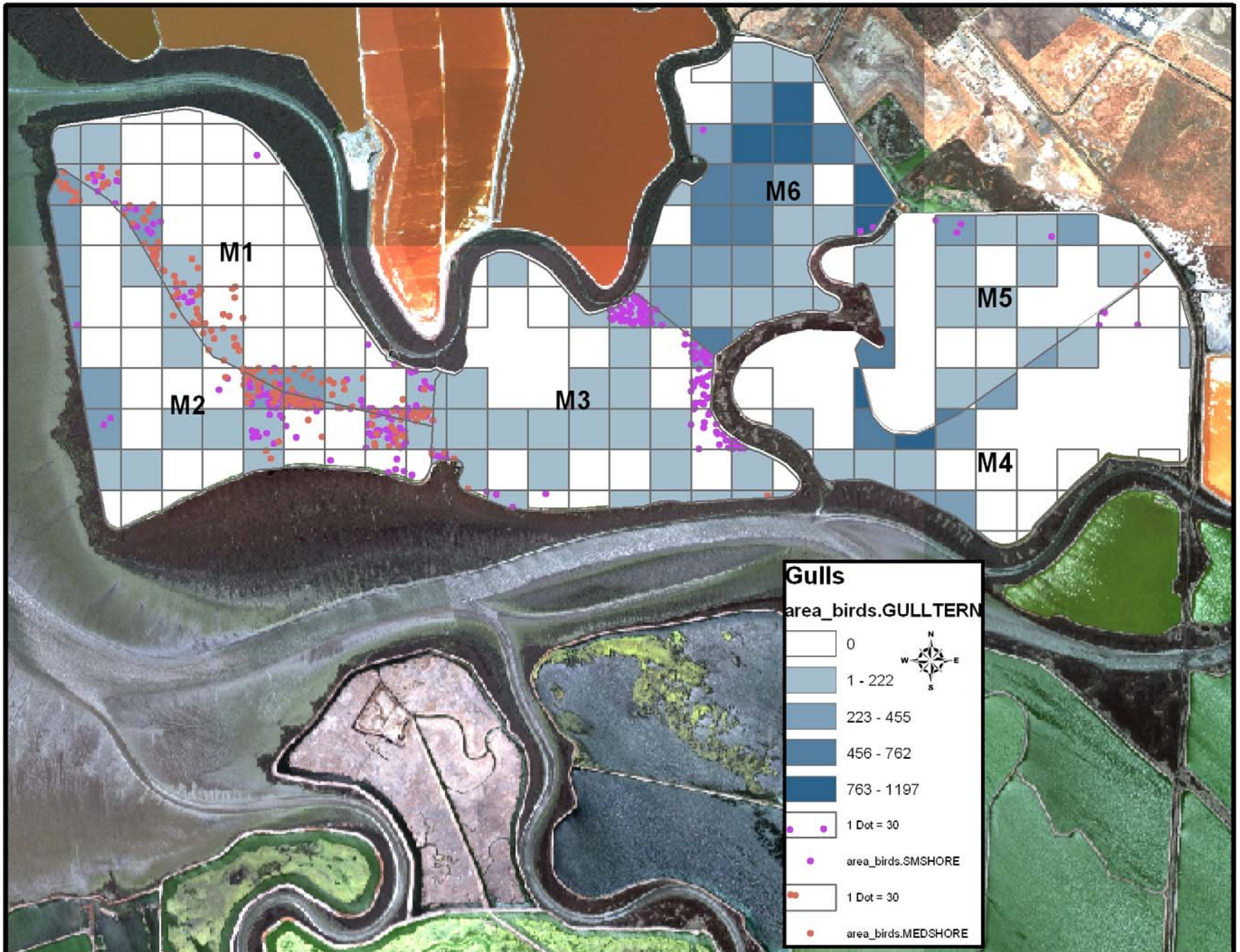
# Bird distributions at Dumbarton ponds





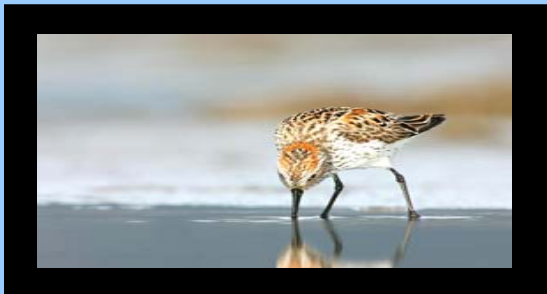
# Bird distributions at Mowry ponds

Meters  
0 112.325 450





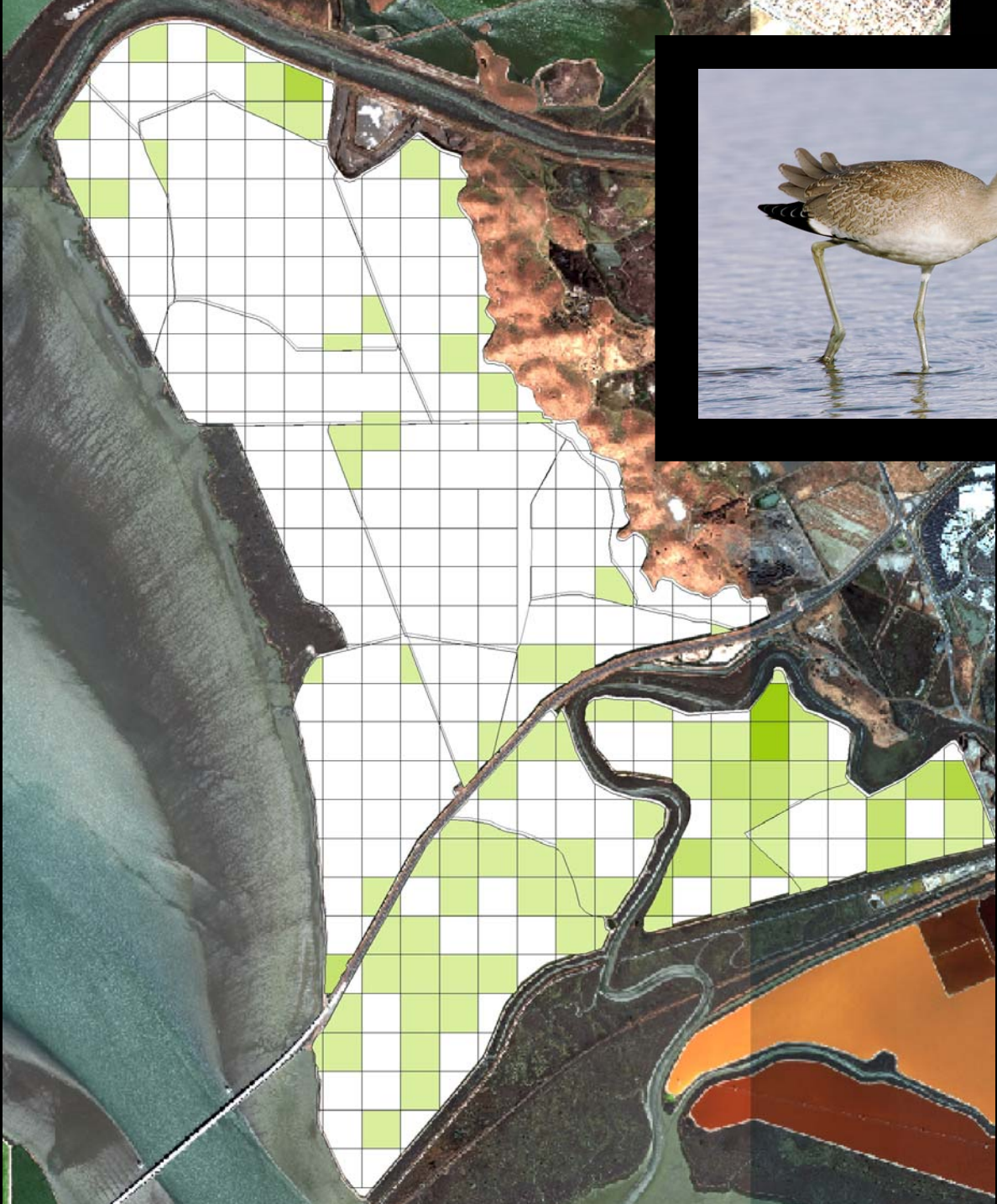
# Total shorebirds and foraging shorebirds: Coyote Hills and Dumbarton ponds



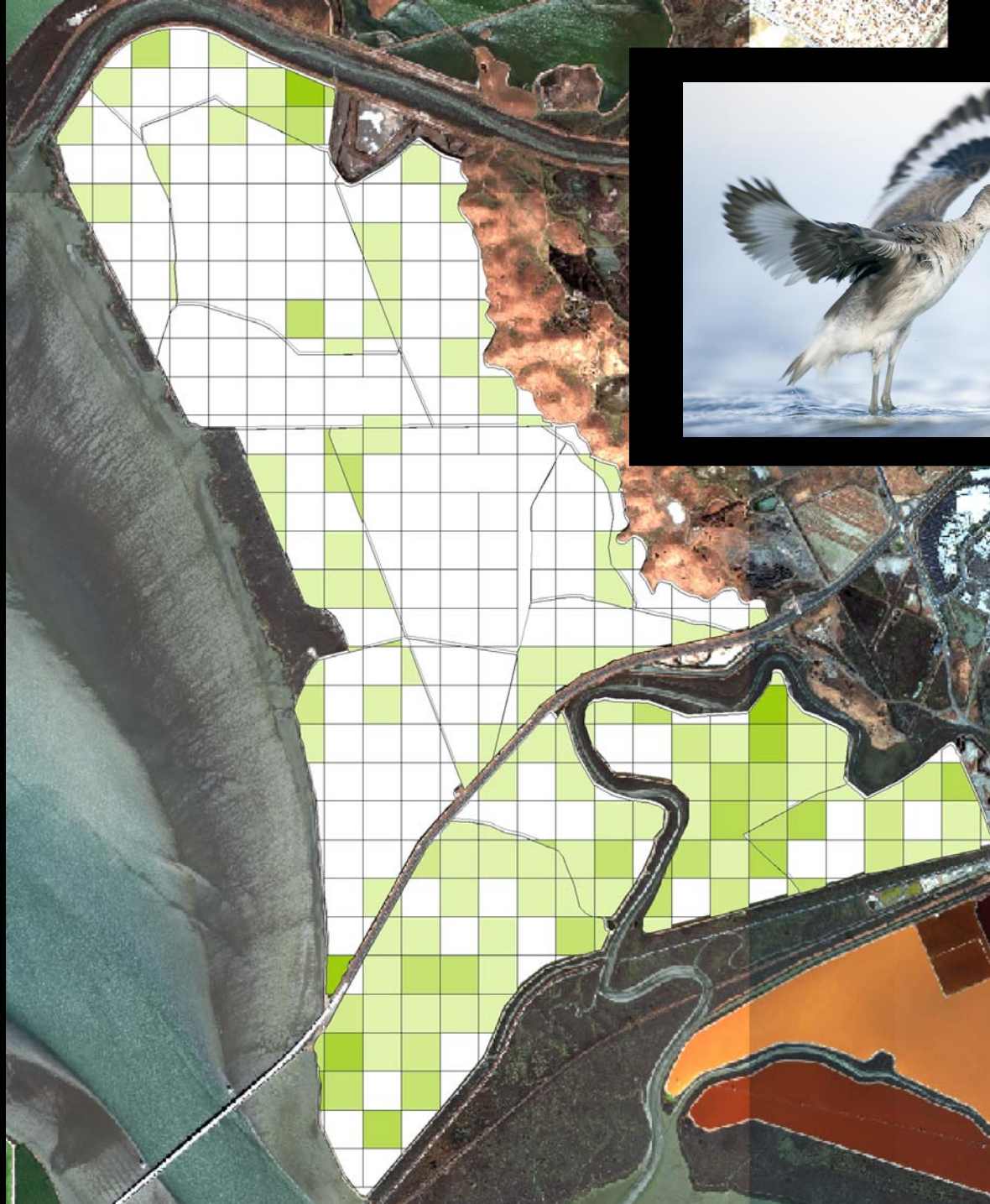
foraging



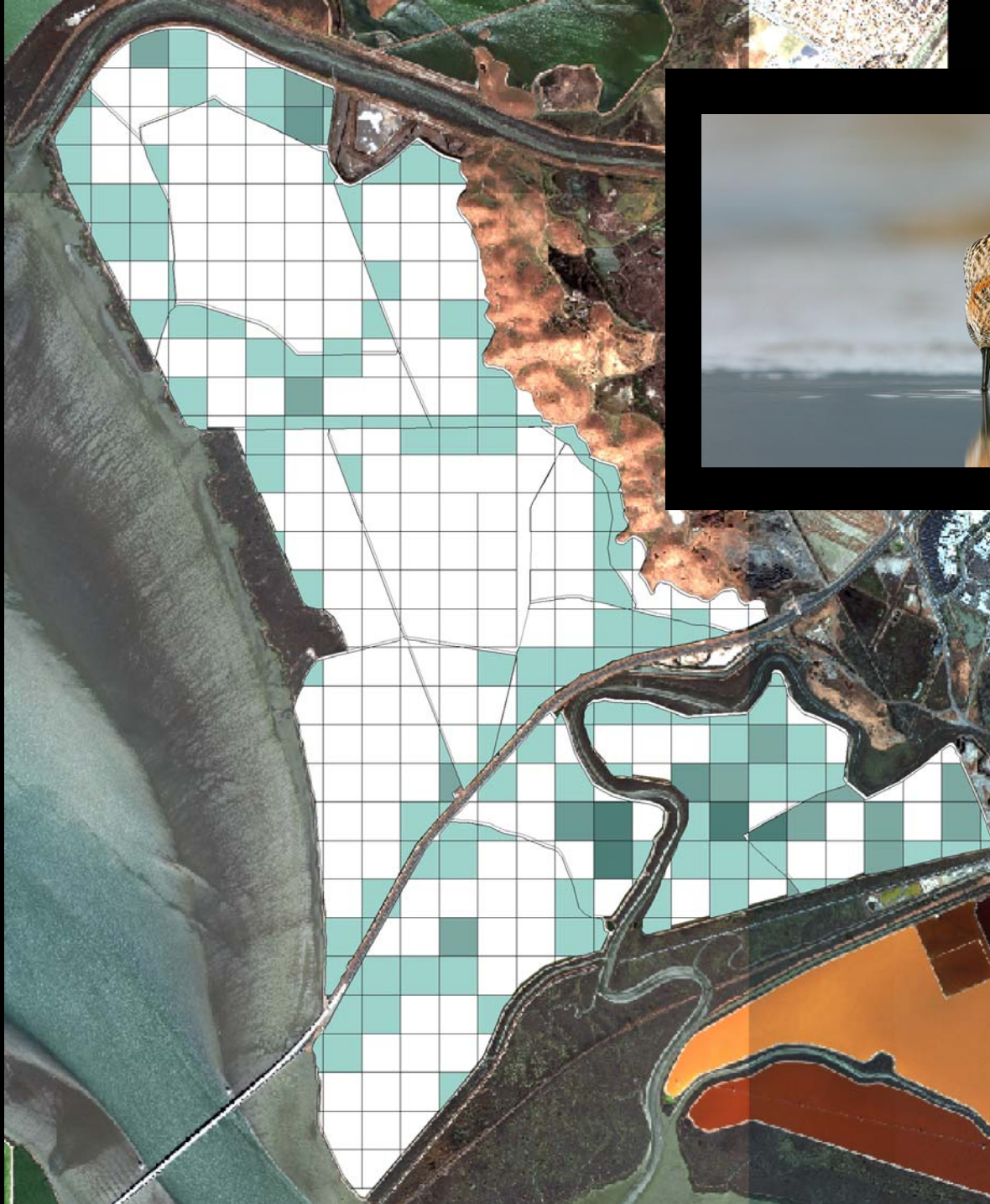
not foraging

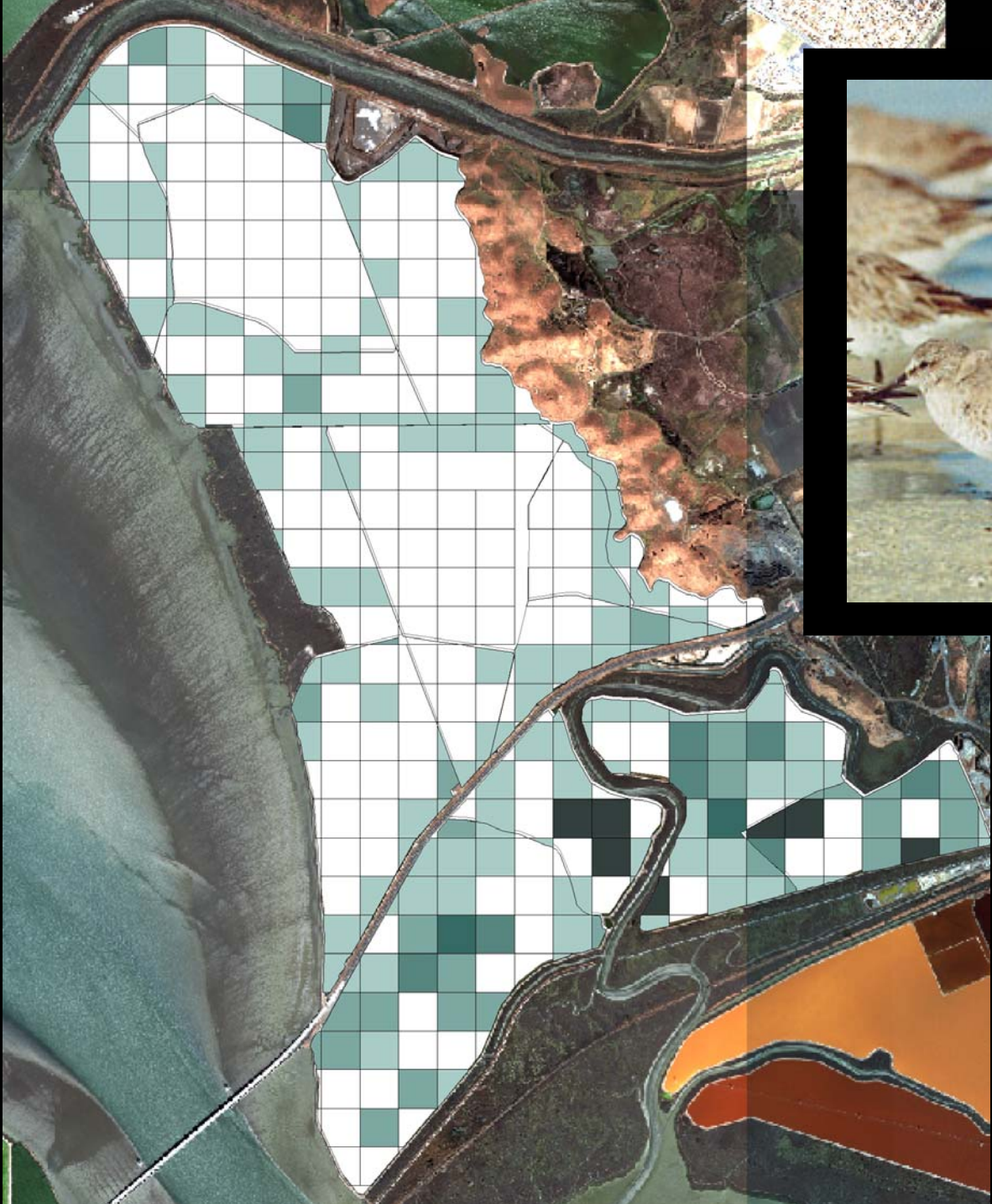














# The Newark Ponds: What are they good for?

- A few ponds are good for some guilds
- A lot of the ponds are used minimally or not at all, not even for roosting
- Mowry ponds are good for roosting gulls
- Dumbarton ponds are good for shorebirds
- Coyote Hills two ponds good for shorebirds to roost and forage



But...

- Where are the rest of the ducks?
- Where are the phalaropes?

Next step:

- Add in environmental and water quality factors to determine WHY
- Combine with USGS survey data

