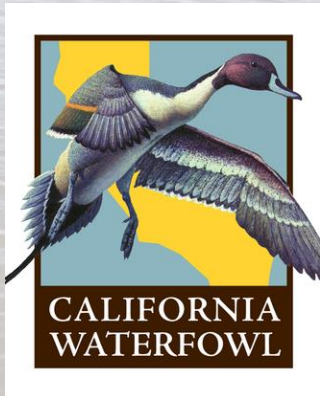


# Suisun Marsh Waterfowl Diet and Body Condition Study

Mason Hill & Jackie Satter



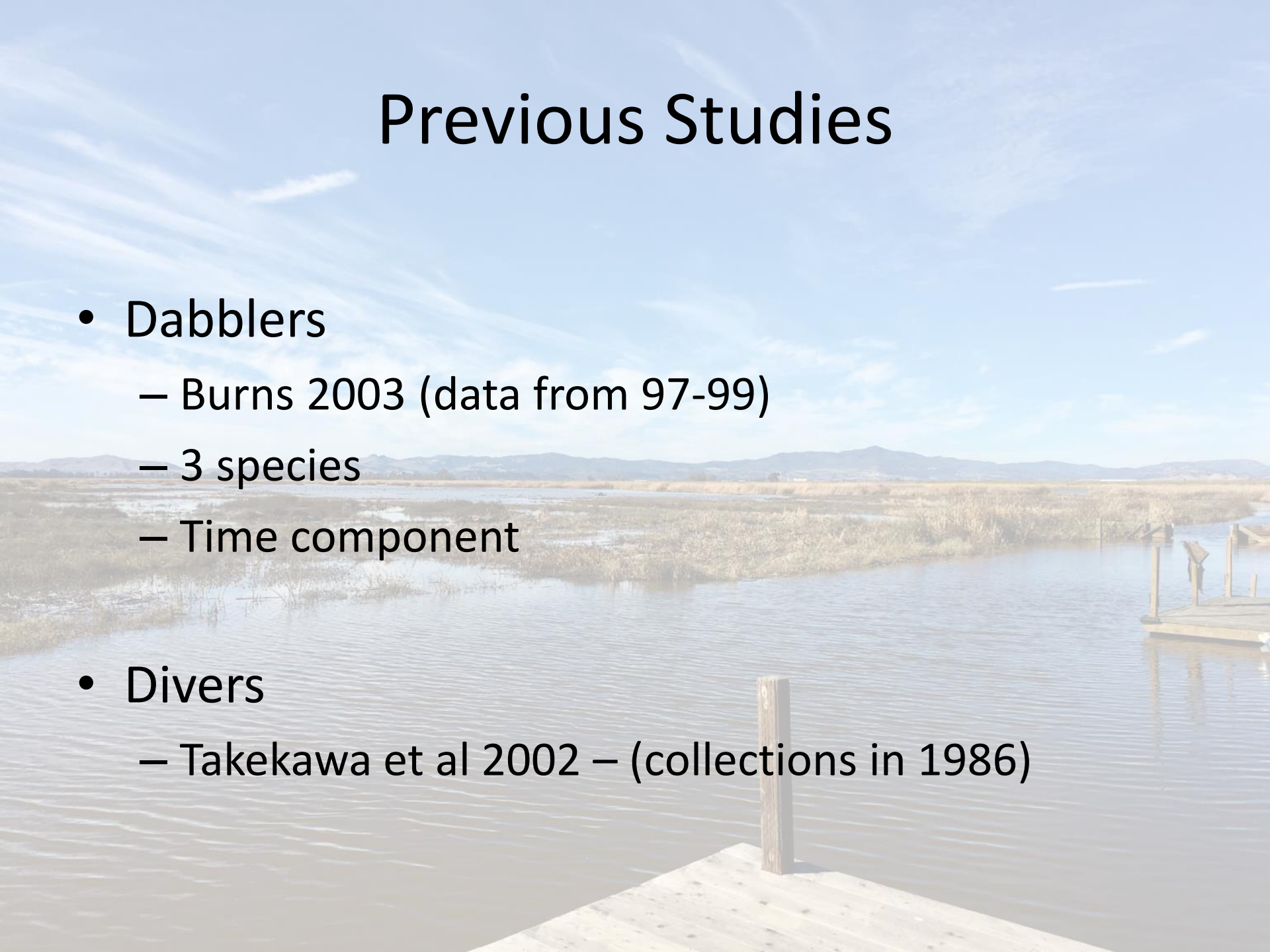
# Background

- Suisun project: 3 primary components
  - Assessment of seed availability
  - Contemporary diet data
  - Relate diet to body condition
- Dabblers and Divers



# Previous Studies

- Dabblers
  - Burns 2003 (data from 97-99)
  - 3 species
  - Time component
- Divers
  - Takekawa et al 2002 – (collections in 1986)



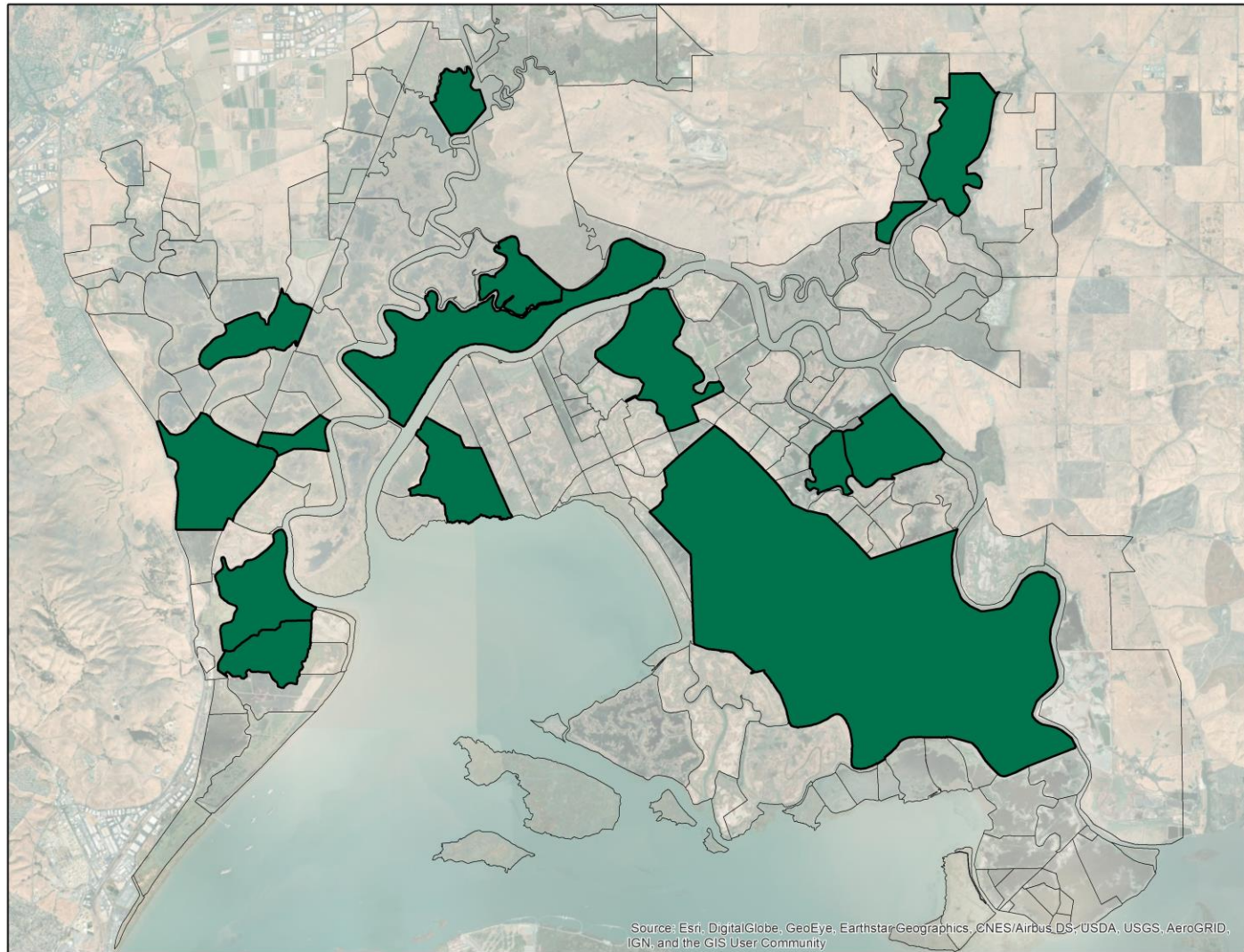
# Dabbler Methods

- Hunt club donations
- Check station donations
- Scientific collections –  
body condition





# Dabbler Year 1



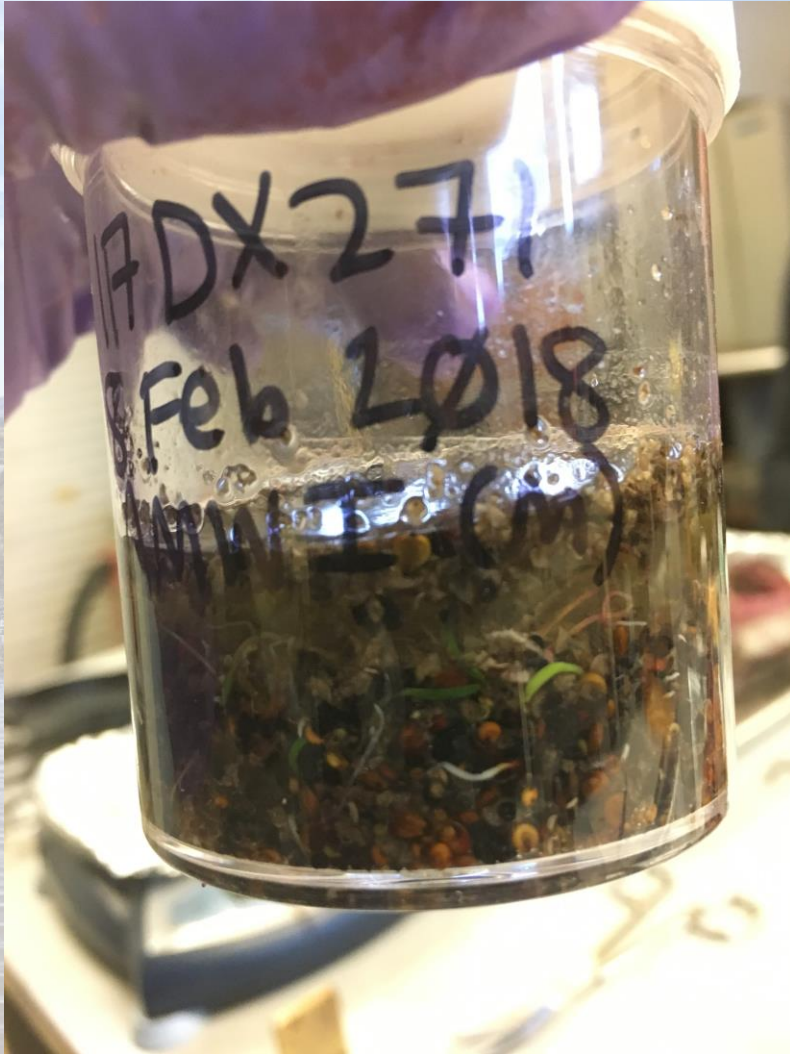


# Dabbler Year 1





# Dabbler Year 1



# Year 1 Dabbler Totals

M F

250

200

150

100

50

0

AGWT

AMWI

CITE

GADW

MALL

NSHO

NOPI

TOTAL

218

136

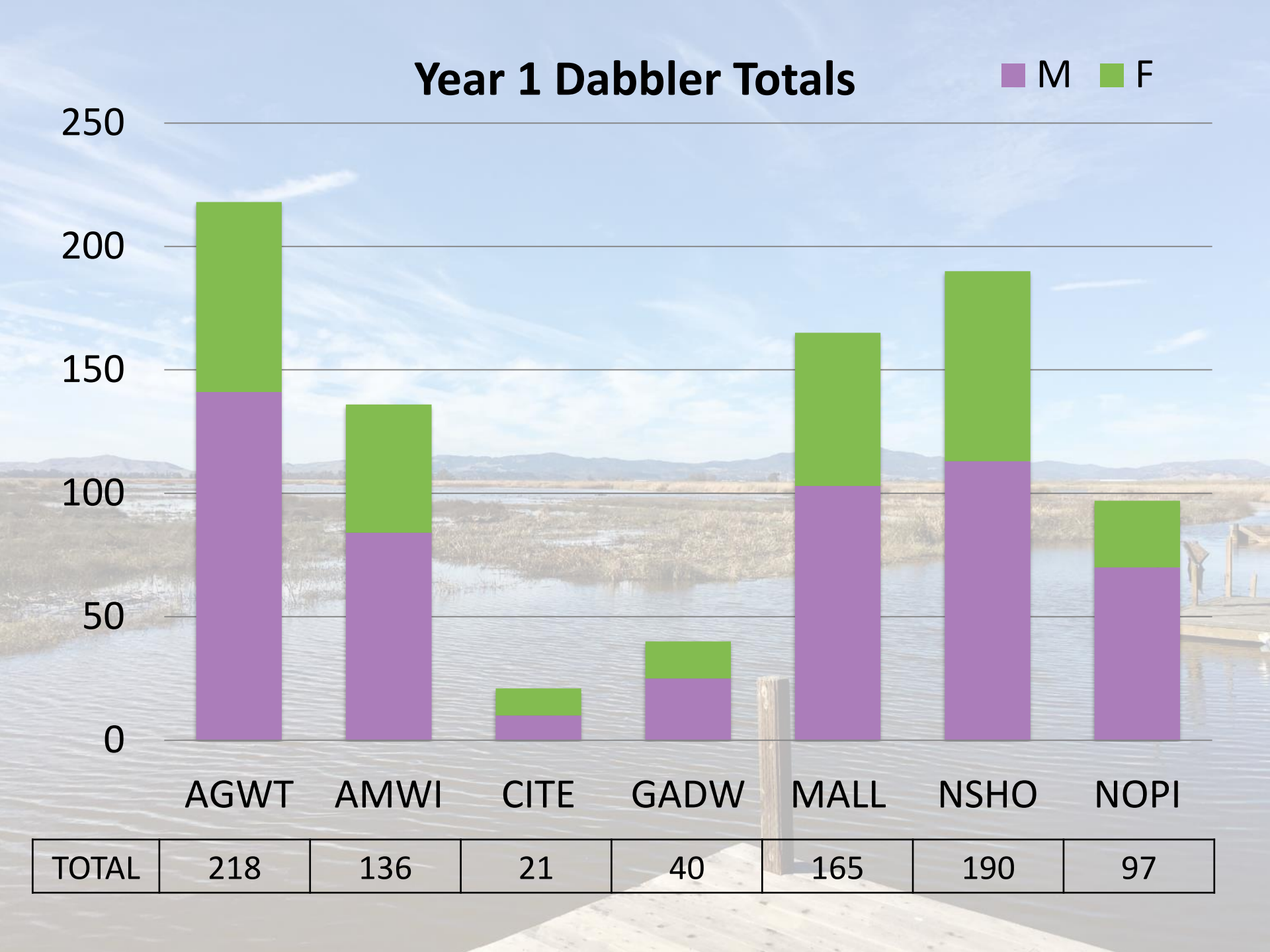
21

40

165

190

97



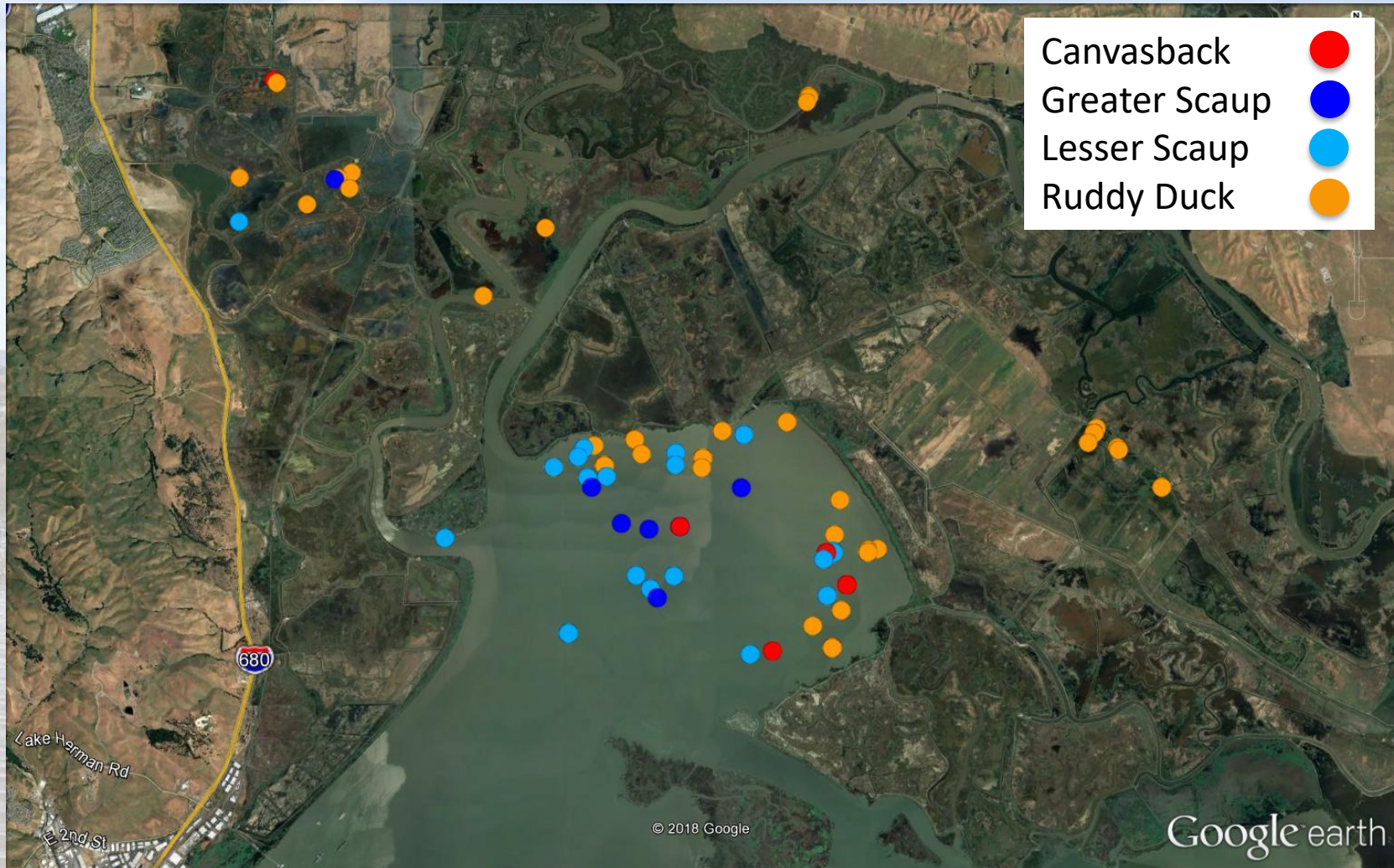


# Diver Methods

- Club Donations
- Scientific Collections
- Actively Foraging Individuals
- Core Sampling



# Divers Year 1





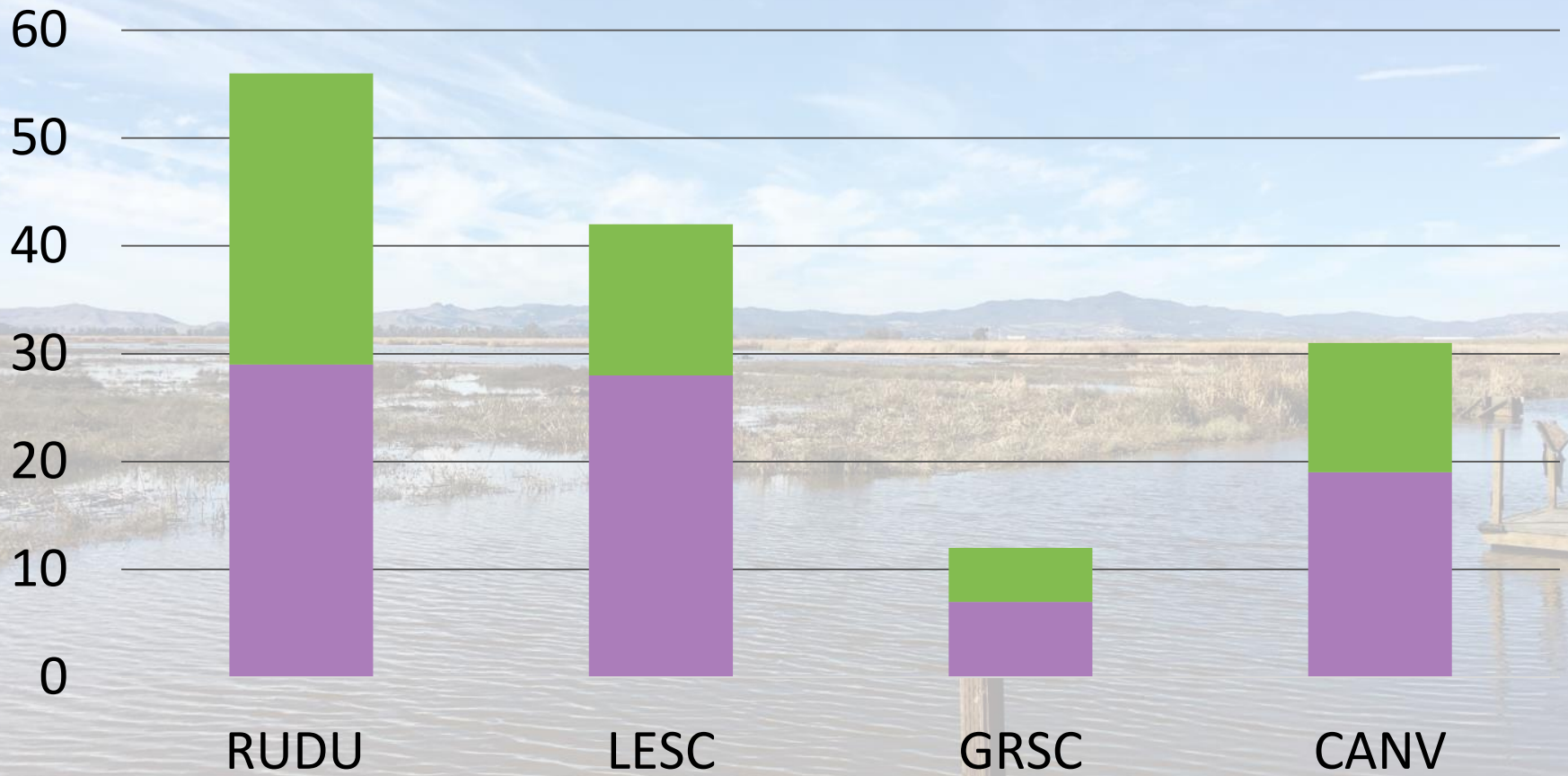
# Diver Coring



- Cores within 7 days of collection
  - 10cm cores 5 reps

# Year 1 Diver Totals

M F



TOTAL

56

42

13

31



# Body Condition





# Body Condition





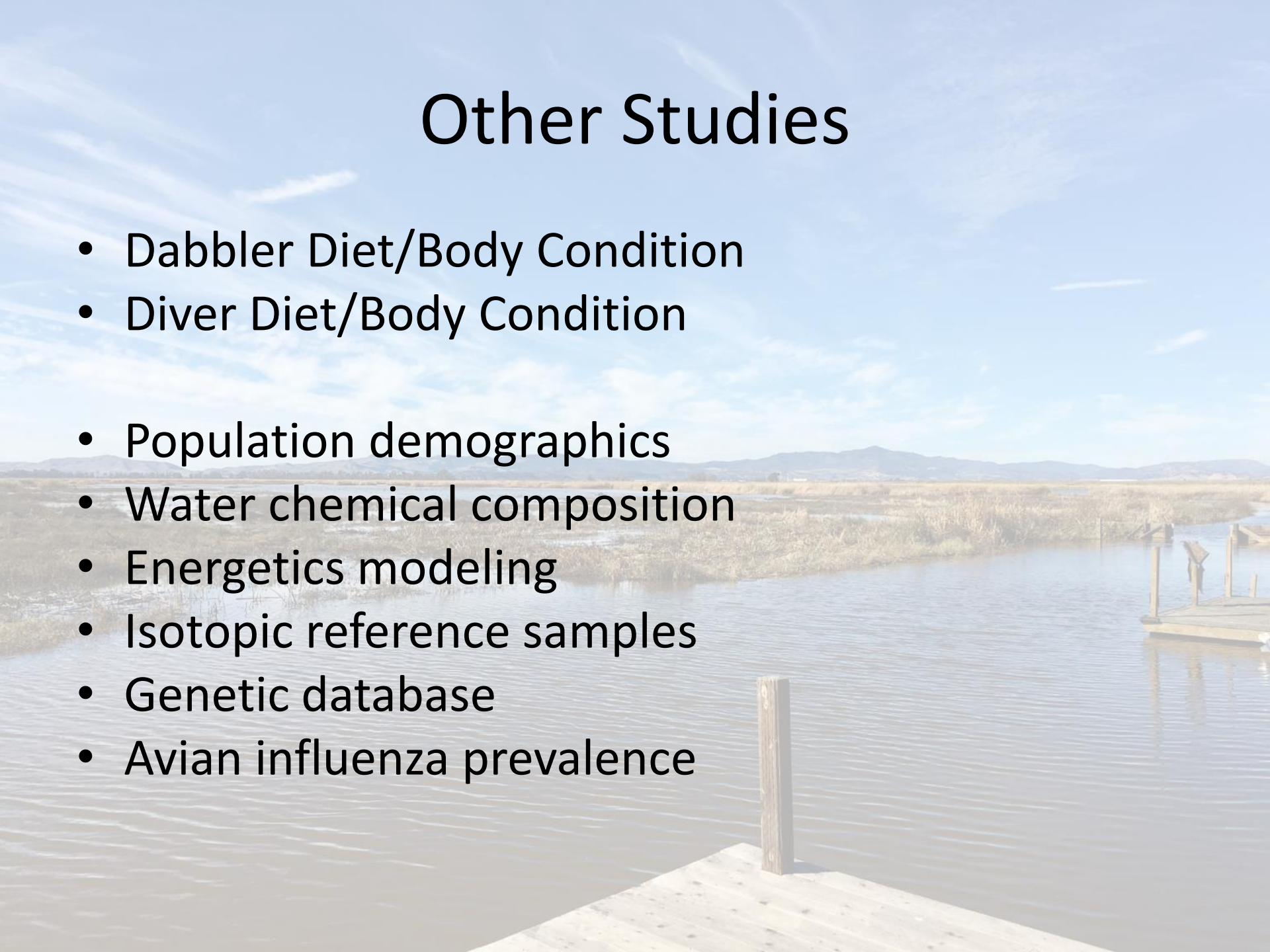
# Body Condition



- Lipid content (fat)
- Index for health
- Diet importance
- Breeding influence
- Improve management

# Other Studies

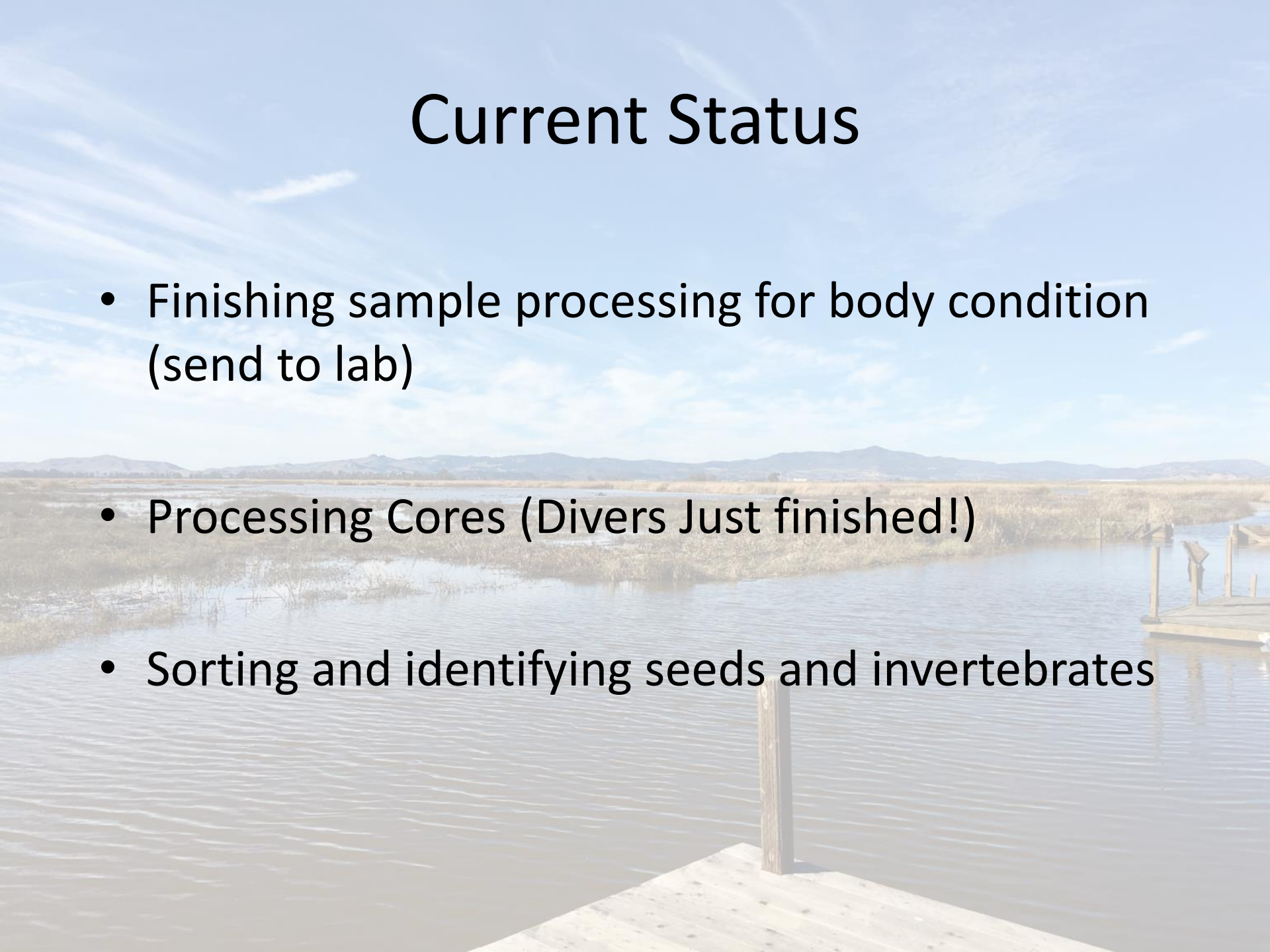
- Dabbler Diet/Body Condition
- Diver Diet/Body Condition
- Population demographics
- Water chemical composition
- Energetics modeling
- Isotopic reference samples
- Genetic database
- Avian influenza prevalence





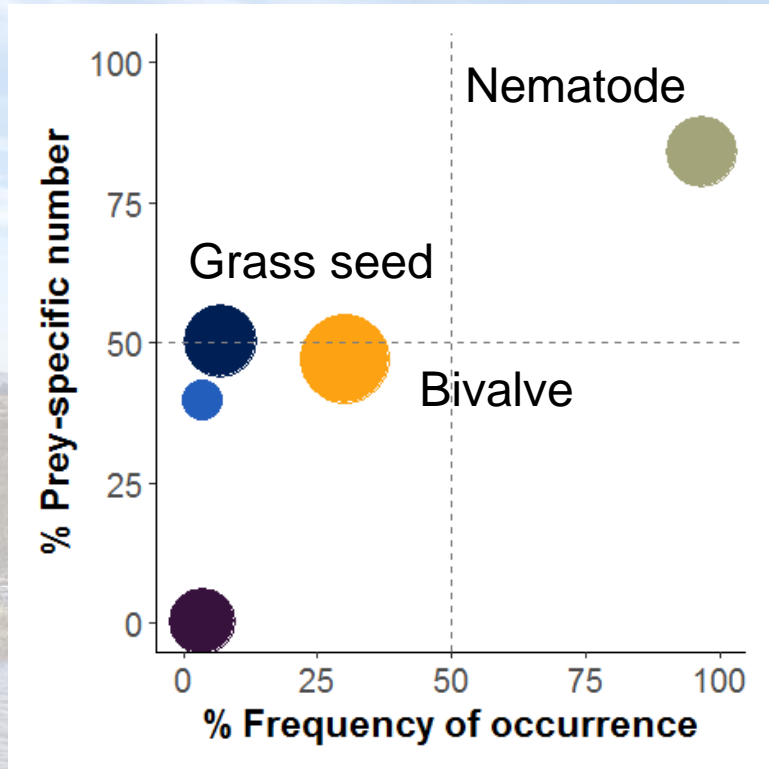
# Current Status

- Finishing sample processing for body condition (send to lab)
- Processing Cores (Divers Just finished!)
- Sorting and identifying seeds and invertebrates

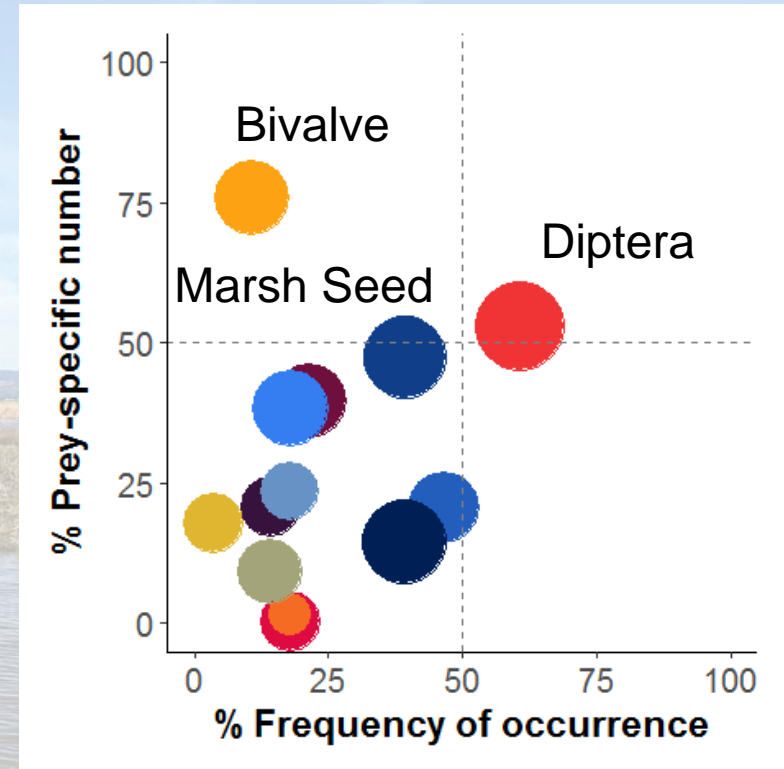


# Index of Relative Importance

## Canvasback



## Ruddy Ducks



Relative Importance

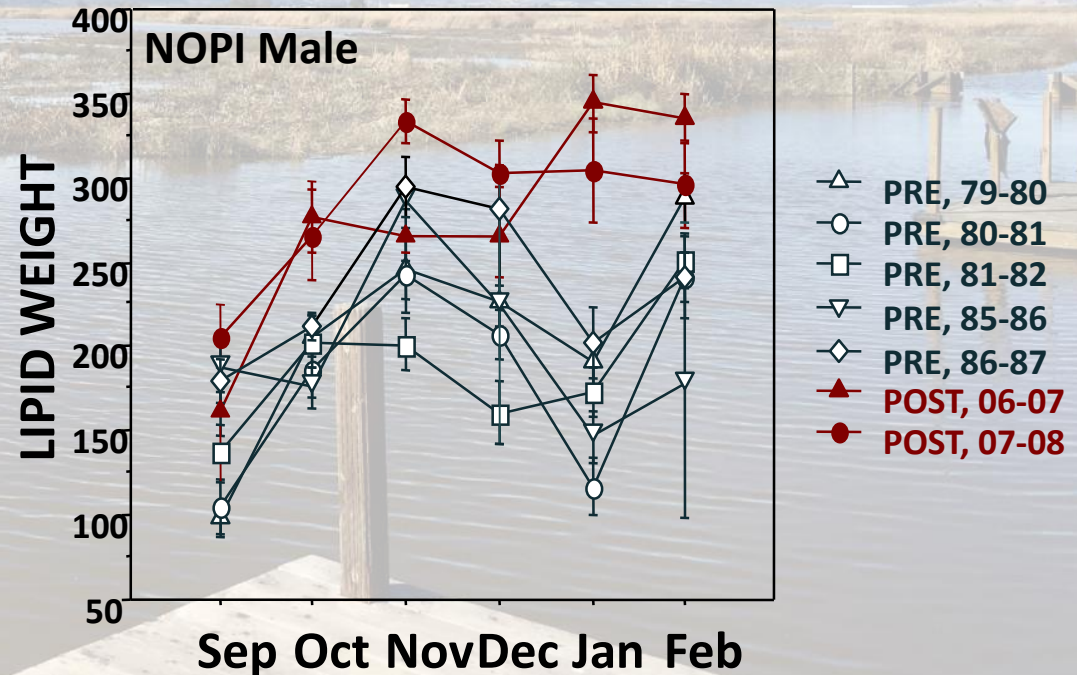
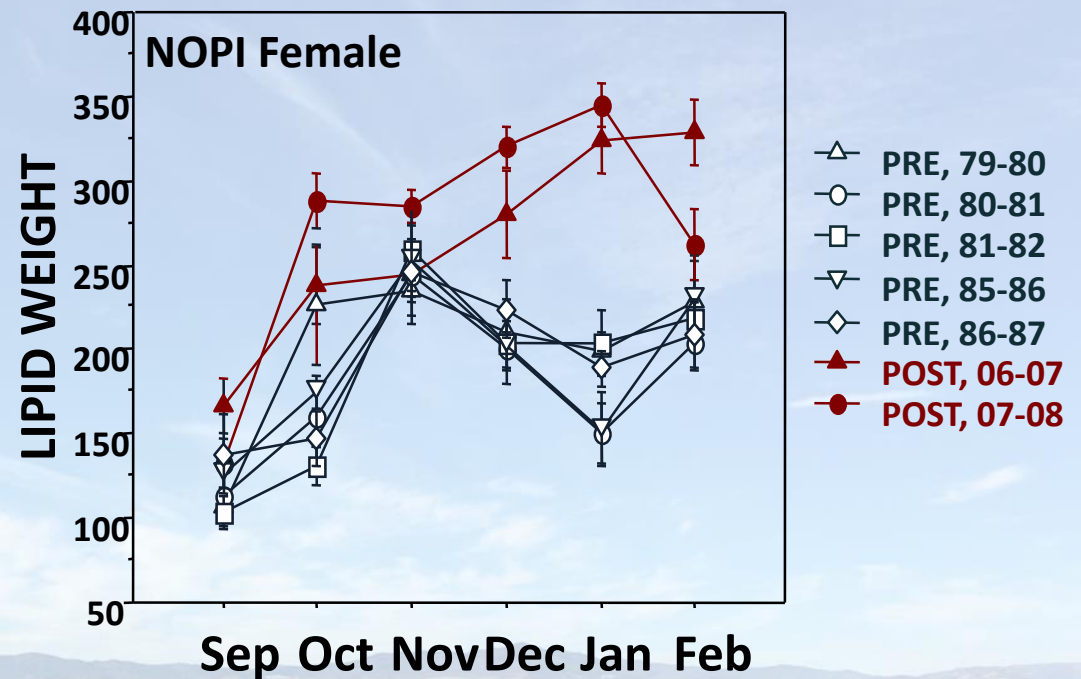


Taxa

- Amphipoda
- Copepoda
- Cumacea
- Ostracoda
- Diptera larvae
- Hemiptera
- Bivalvia
- Gastropoda
- Nematoda
- Polychaeta
- Other
- Aquatic seeds
- Marsh seeds
- Grass seeds

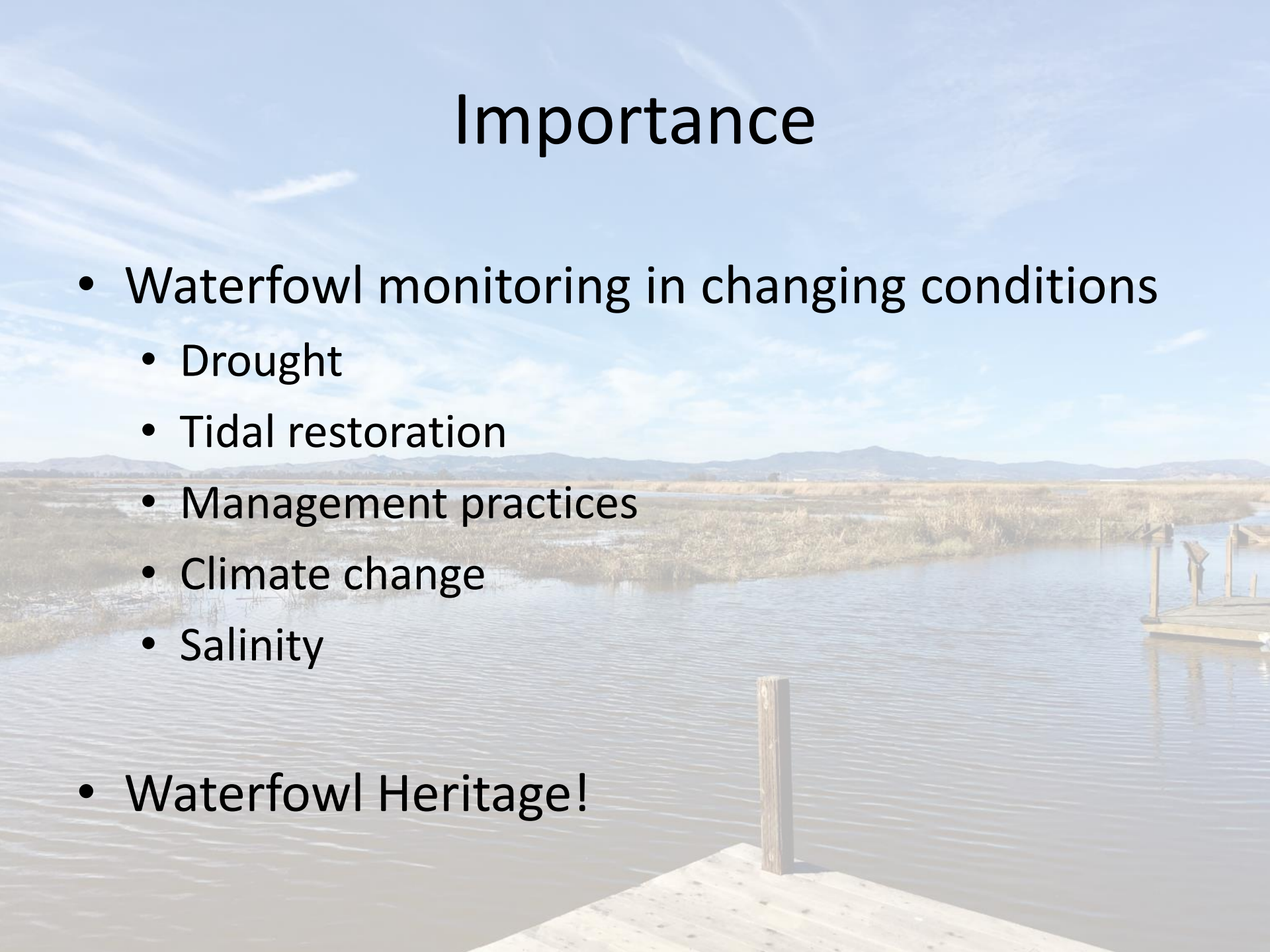


Northern Pintail lipid weight before (PRE) and after (POST) the initiation of the CVJV (Thomas 2009)



# Importance

- Waterfowl monitoring in changing conditions
  - Drought
  - Tidal restoration
  - Management practices
  - Climate change
  - Salinity
- Waterfowl Heritage!





# Thank You!

Department of Water Resources  
Suisun Resource Conservation District  
California Department of Fish and Wildlife  
California Waterfowl Association  
United States Geological Survey  
D. G. Raveling Endowed Waterfowl Chair  
UC Davis

Cordelia Duck Club

Cygnus

Denverton

Goodyear Duck Club

Grizzly Ranch

Island Club

Joice Island Mallard Co.

MILCO

Mulberry Land Co.

Tulle Belle

Tule Meadows

Wings Landing

# Questions?

