

# Wildlife Habitat Characteristics of Great Salt Lake, Utah



# Topics of Discussion

- ◆ Introduction to Great Salt Lake
- ◆ Great Salt Lake Ecosystem Project
- ◆ Bird/Habitat relationships
- ◆ Saline lakes as desert oases
- ◆ Research & management

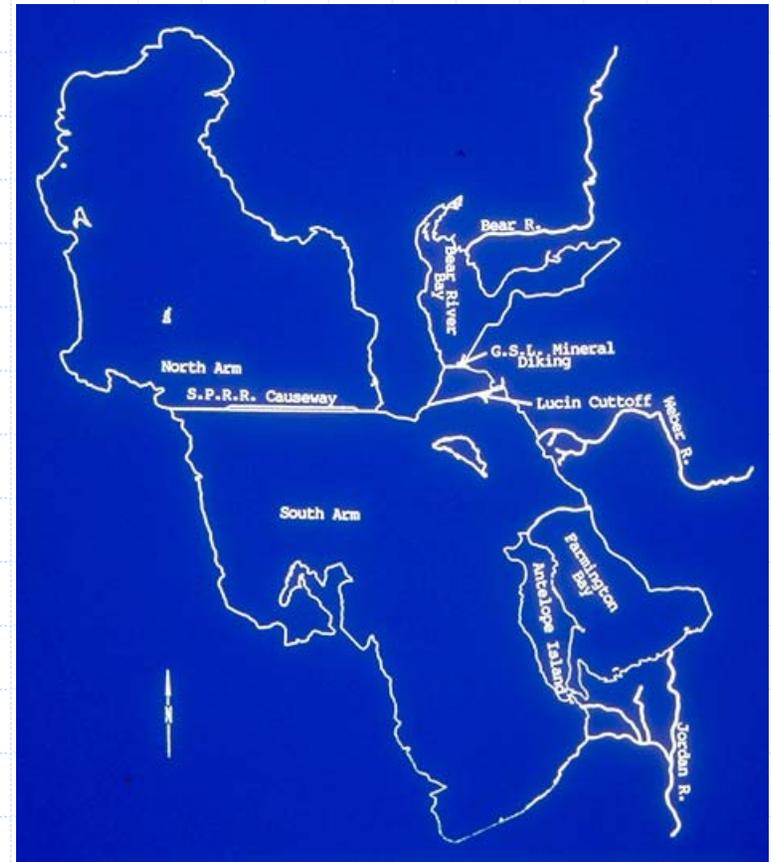


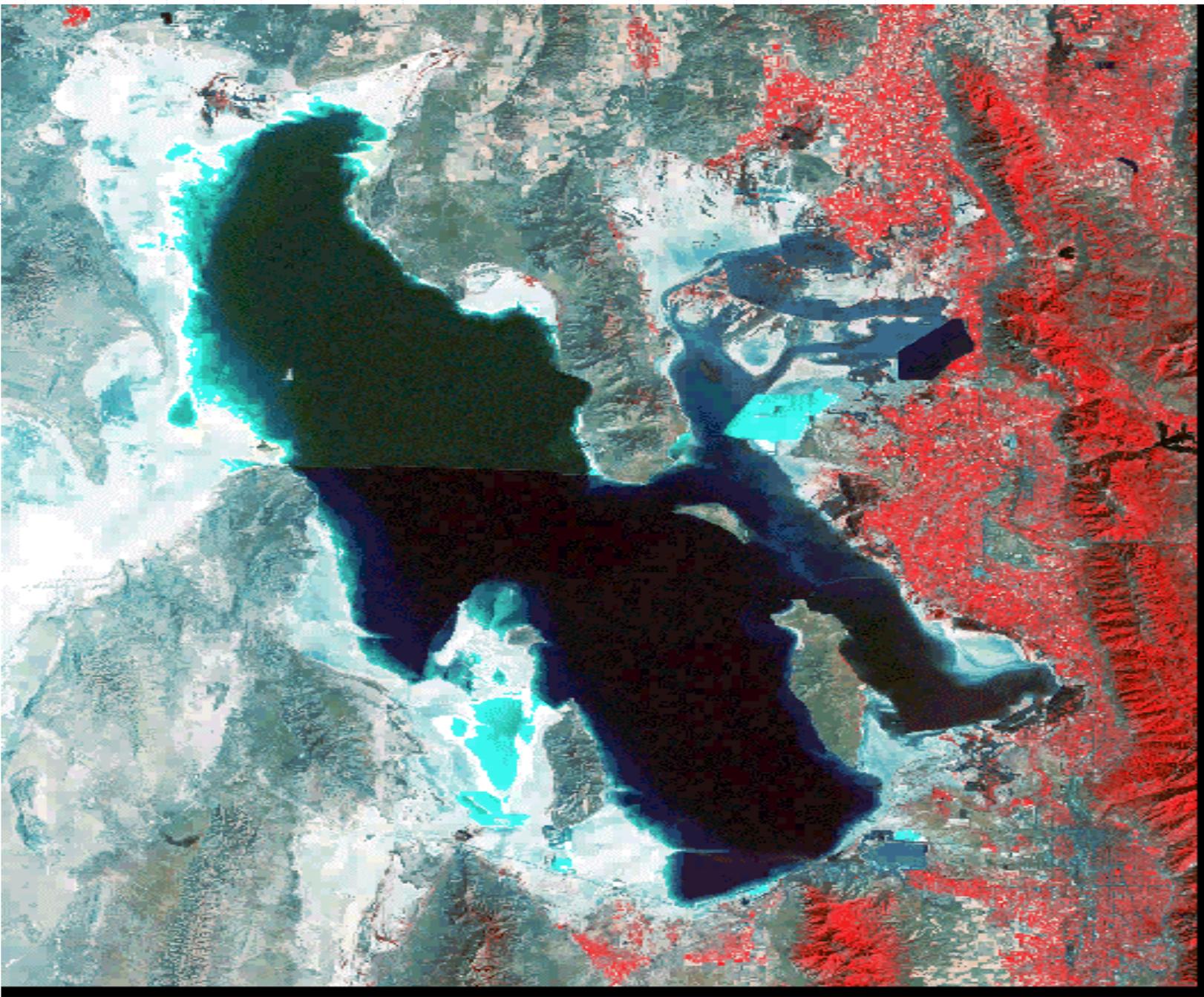
# Introduction to Great Salt Lake



# Sixth Great Lake

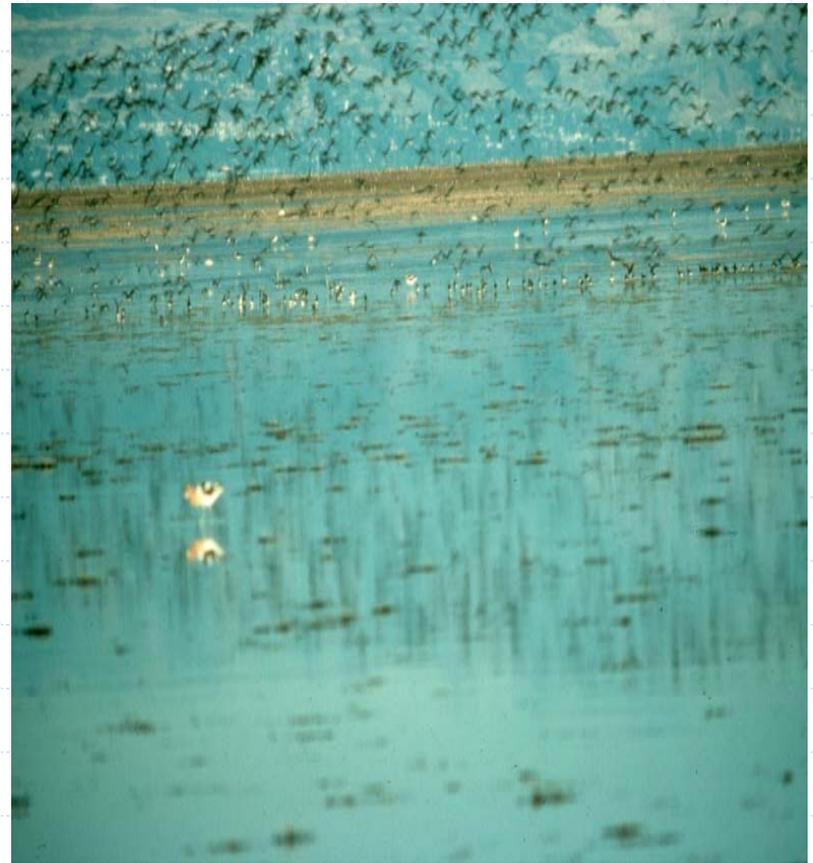
- ◆ Surface area 900-2416 square miles
- ◆ Salinities range from 3-26‰
- ◆ Elevation ranges from 4192 - 4212.5 feet





# Bird species

- ◆ Used by 250 species
- ◆ Annually visited by 5-9 million birds



# Aquatic Life

- ◆ Brine shrimp
- ◆ Brine flies
- ◆ Water boatmen



# Brine shrimp commercial fishery

- ◆ Eggs harvested from lake and beach
- ◆ Processed locally, then sold worldwide
- ◆ Used as a starter feed in aquaculture
- ◆ Economic value local/worldwide



# Great Salt Lake Ecosystem Project

- ◆ Established in 1996
- ◆ Management objective: Sustain shrimp population annually, provide forage for birds, and allow for a harvestable surplus.
- ◆ Never previously attempted
- ◆ Managed on an ecosystem basis rather than a species basis.



# Bird/habitat relationships



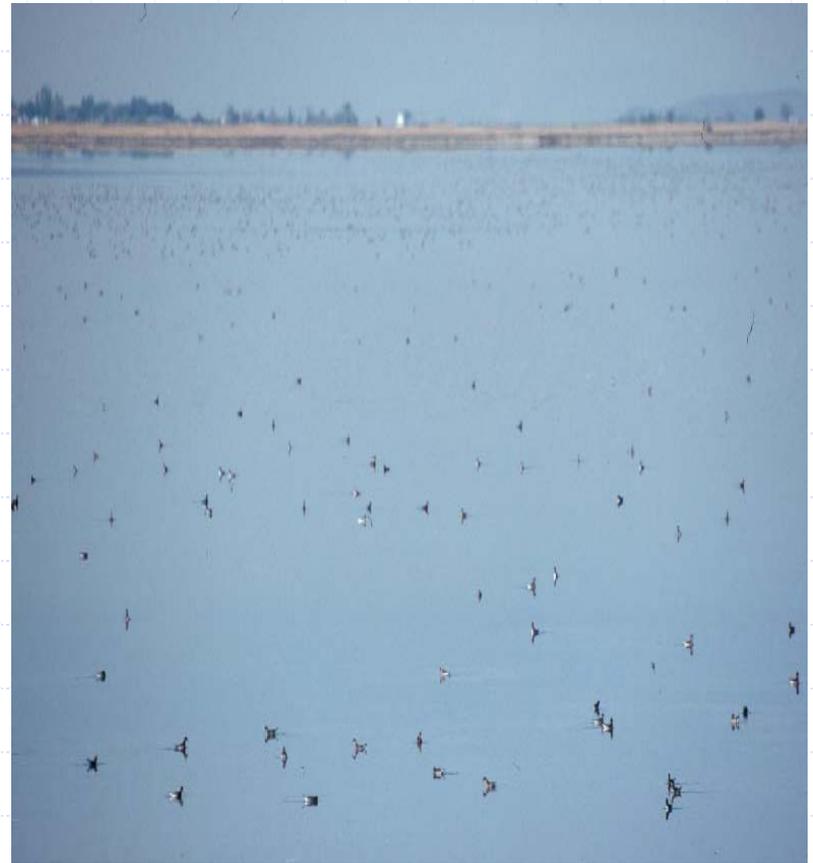
# Wilson's Phalaropes



- ◆ 500,000 – largest staging concentration in the world
- ◆ Freshwater marshes and pelagic feeding areas; salt lake specialist
- ◆ Migration route follows saline lakes enroute to South America

# Red-necked Phalaropes

- ◆ 280,000 single day estimate
- ◆ Behavioral preference for pelagic areas; salt lake specialist
- ◆ Migration route includes GSL enroute to pelagic areas of Pacific



# American Avocet



- ◆ Counts have exceeded 250,000 – greater than any other site within the entire Pacific Flyway
- ◆ Inhabits shallow shoreline areas for both nesting and feeding; salt lake specialist
- ◆ Migrates to coastal California and southward

# Black-necked Stilt

- ◆ Counts have exceeded 65,000 – greater than any other site within the entire Pacific Flyway
- ◆ Inhabits shallow shoreline areas for both nesting and feeding; salt lake specialist
- ◆ Migrates to Central Valley of California & Mexico



# Marbled Godwit



- ◆ 30,000 – only interior staging population in US
- ◆ Uses fresh/brackish water for feeding
- ◆ Migrates to coastal areas – Point Reyes

# Snowy Plover

- ◆ 10,000 – world's largest assemblage; 55% of breeding population west of Rocky Mtns.
- ◆ Feeds and nests along barren beaches; salt lake specialist
- ◆ Migrates to Mexico

# Western Sandpiper

- ◆ 17,000 counted in single flock
- ◆ Feeds in shallow salt water areas
- ◆ Migrates to coastal California and southward



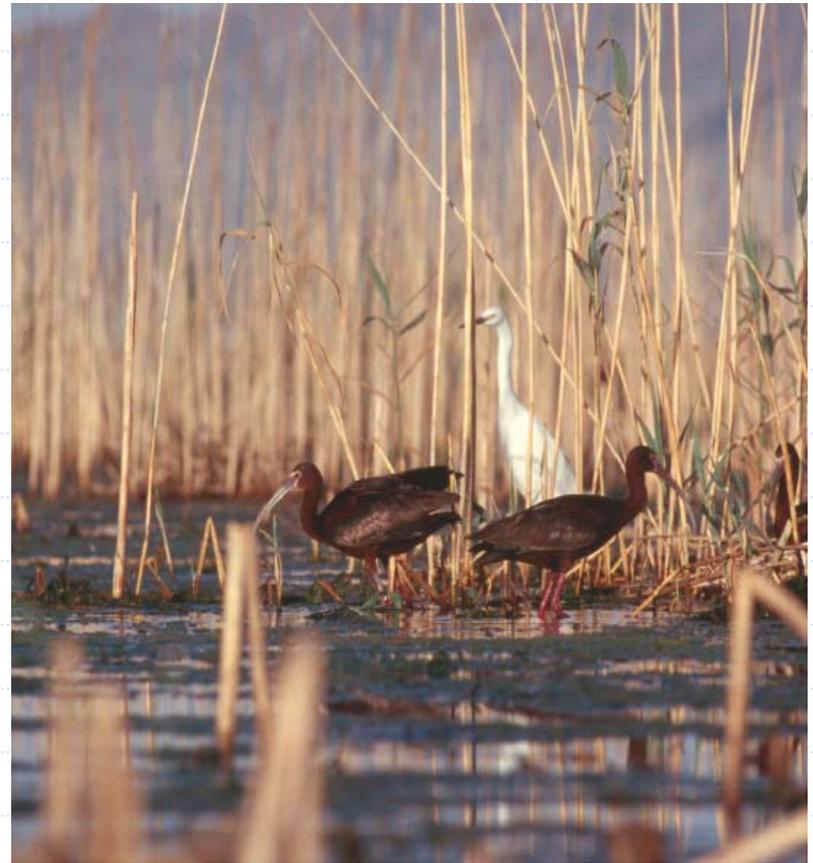
# American White Pelican



- ◆ 18,000 breeding adults
- ◆ Utilizes remote islands for nesting; feeds in fresh water areas
- ◆ Migrates to central California, Salton Sea and southward

# White-faced Ibis

- ◆ 7,500 breeding adults; world's largest breeding population
- ◆ Feeds in freshwater areas and flooded pasture land. Nests in emergent vegetation – open water interface areas.
- ◆ Migrates to central California and southward



# California Gull

- ◆ 160,000 breeding adults; world's largest breeding population
- ◆ Nests on islands, feeds everywhere
- ◆ Migrates to west coast, including California



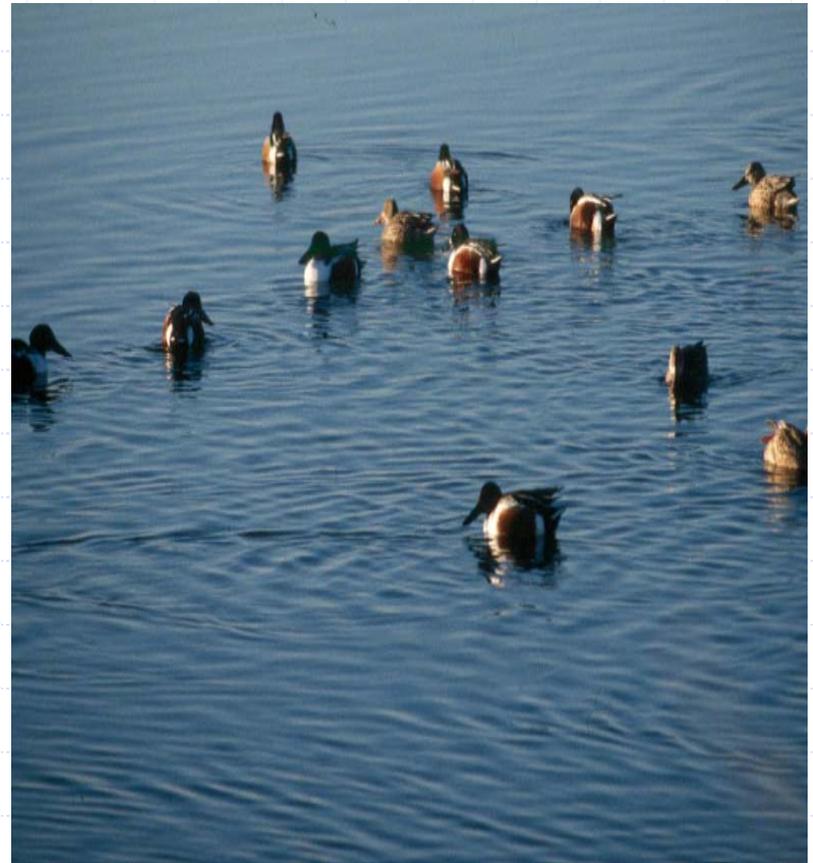
# Eared Grebes



- ◆ 1.5 Million birds – largest population
- ◆ Migrates to GSL, molts, feeds on brine shrimp, continues migration; salt lake specialist
- ◆ Migrates to Salton Sea and southward
- ◆ Counts established cooperatively with CaF&G, and CWS

# Waterfowl

- ◆ Major production & migration area for Pacific flyway populations
- ◆ 13,500 Northern Shovelers counted in one flock
- ◆ Most birds migrate farther south for winter



# Saline Lake Oases



- ◆ Chaplin & Quill Lakes  
Lake Abert, Great Salt  
Lake, Mono Lake,  
Salton Sea
- ◆ Linkage of habitats for  
birds obligated to or  
favoring saline systems
- ◆ Western Shorebird  
Hemispheric Resource  
Network

# Efforts to Research and Manage GSL Birds

- ◆ 5-year waterbird survey
- ◆ Eared grebe research
- ◆ Winter waterbird research
- ◆ Population monitoring of eared grebes and American white pelicans



# Saline Lake Ecological Considerations

- ◆ Simple systems, high productivity
- ◆ Displacement of fish-eating birds
- ◆ Essential rest stops (oases)

