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Ducks and More: Value-added Wetland Management

Monica Iglecia

Suisun Resource Conservation District Fall Landowner Workshop

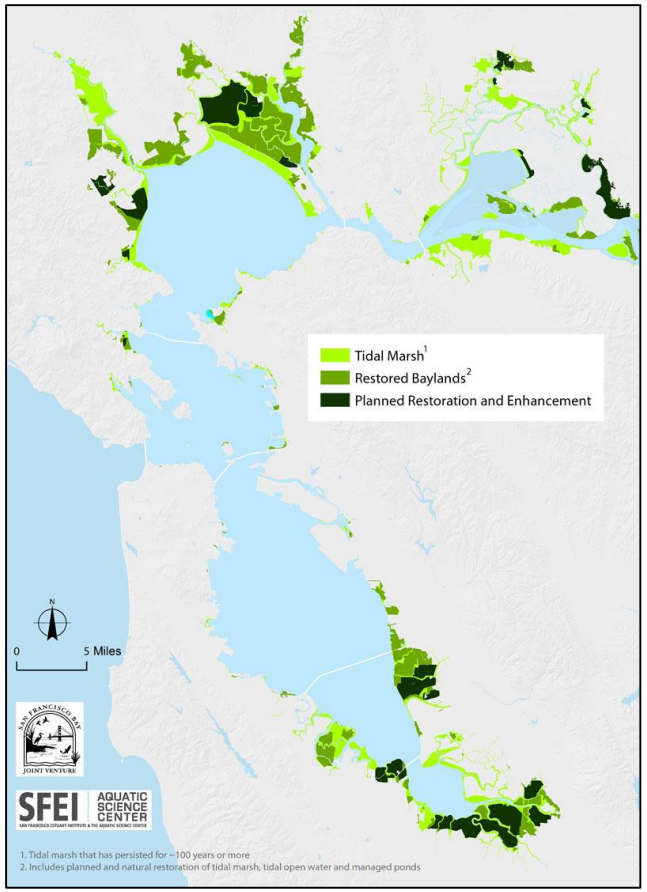
September 5, 2018

@monicaiglecia

Photos by Brad Winn and Monica Iglecia




An altered landscape



Over 90% of California's wetlands have been lost

Integrated management needed

- Include a broad suite of taxa in wetland management
- Priority taxa and species will vary by region
- Suisun Marsh: birds, fish, mammals, plants


soft bird's beak


river otter


salt marsh harvest mouse

California Department of Water Resources


white sturgeon


California Ridgway's rail

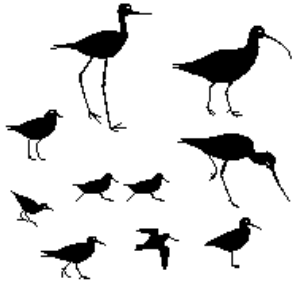
Adapt management with new knowledge

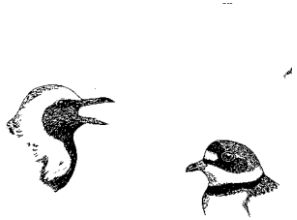
Ask Questions

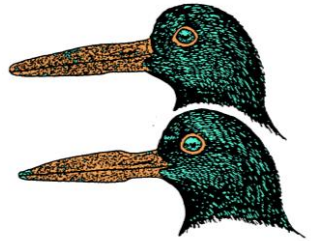
Track and Monitor

Share and Adapt

A focus on shorebirds in the Americas

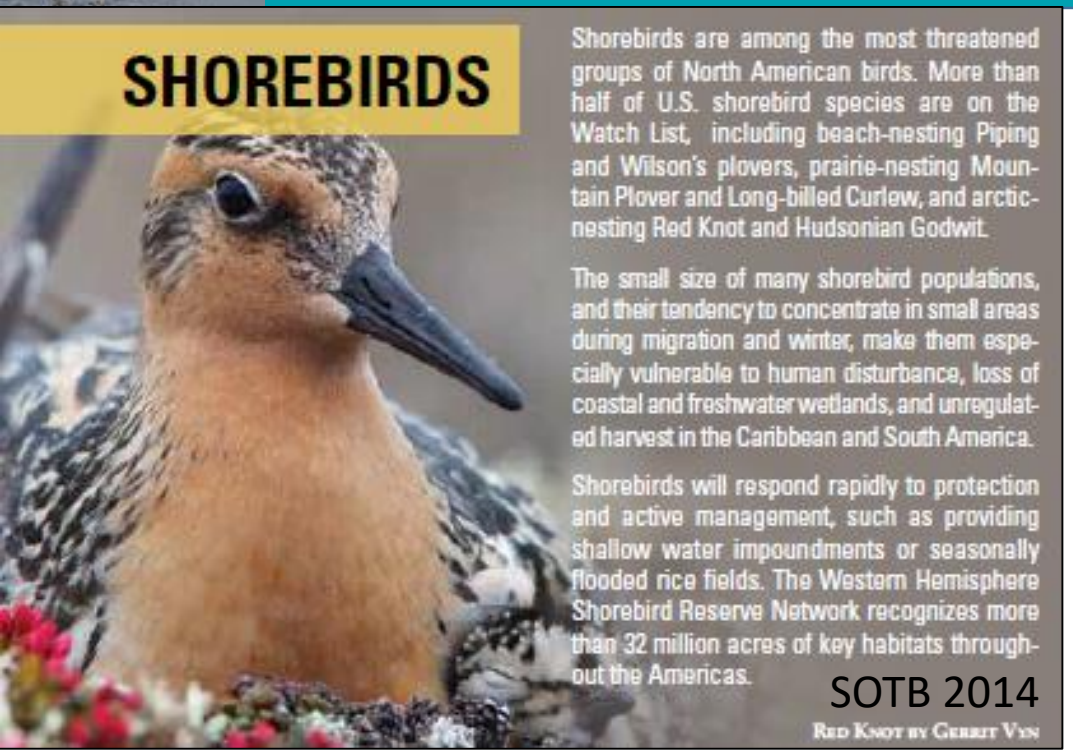




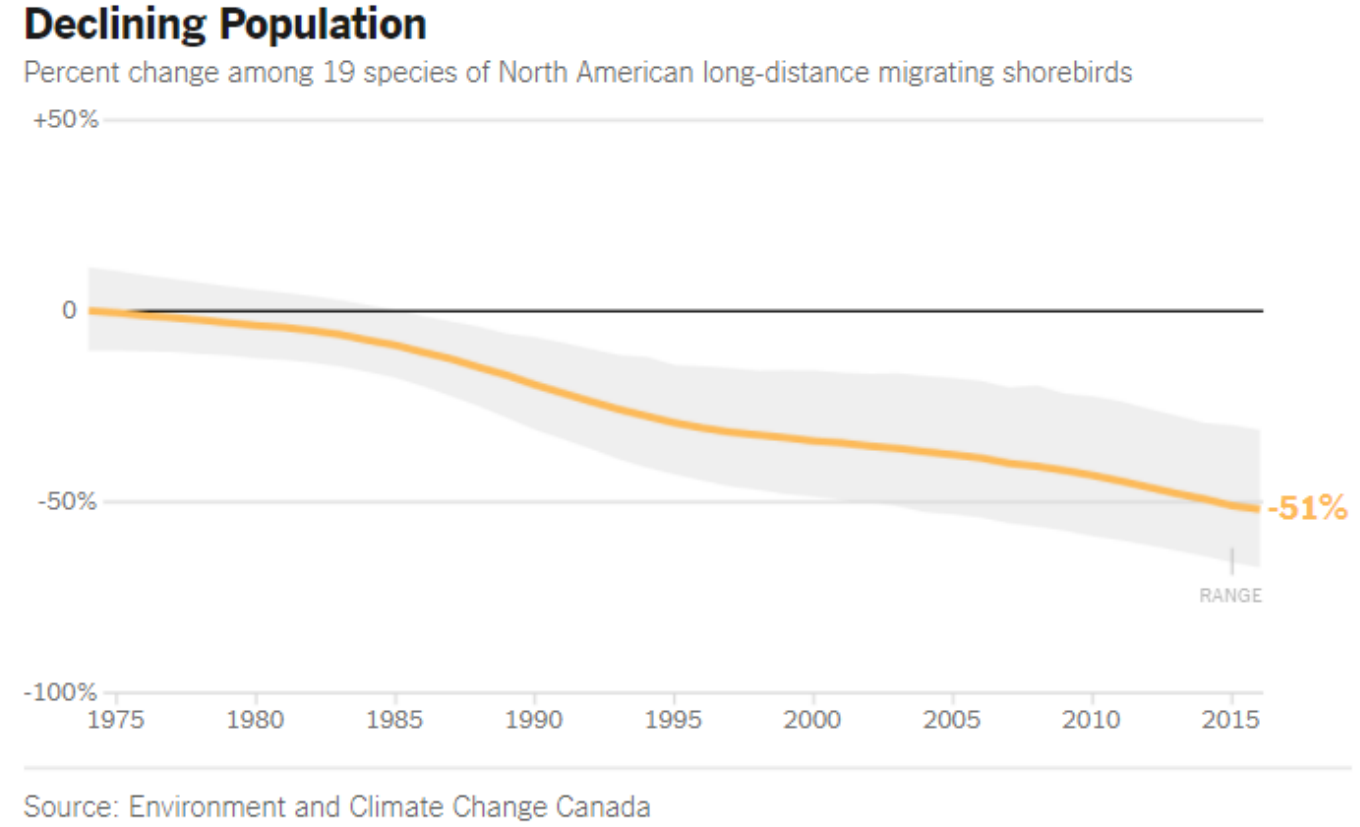


We are stewards of ¼ the worlds shorebirds

Shorebirds around the world are in decline



- Habitat Loss
- Invasive Species
- Disturbance
- Predation
- Climate Change
- Pollution



Source: Environment and Climate Change Canada

Data from the International Shorebird Survey

More than 40% of the world's shorebirds are in decline

Shorebird habitats

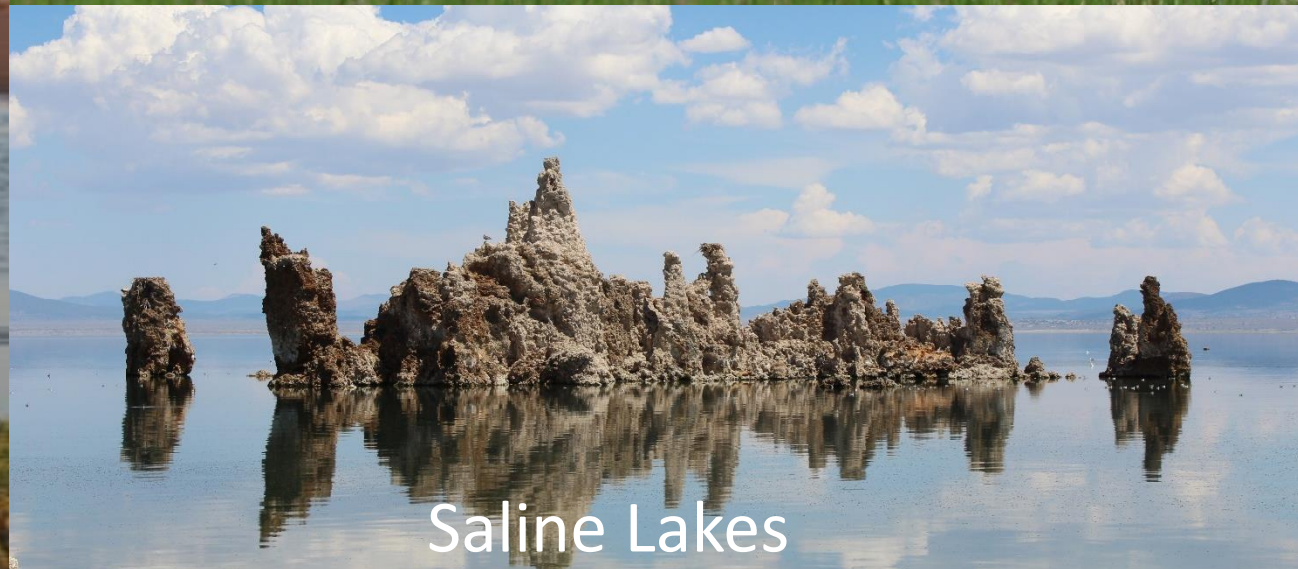
Tidal Mudflats

Wetlands and Marshes

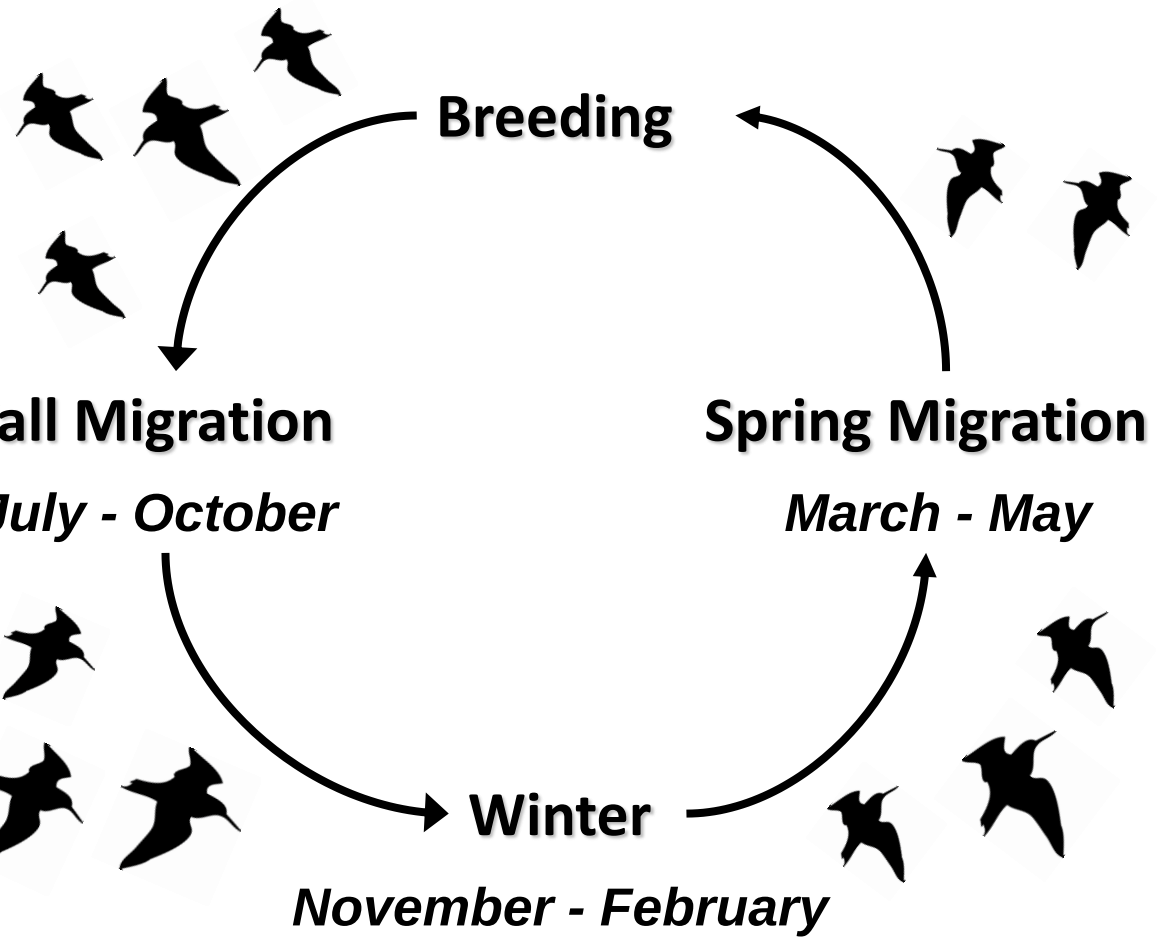
Sandy Beaches

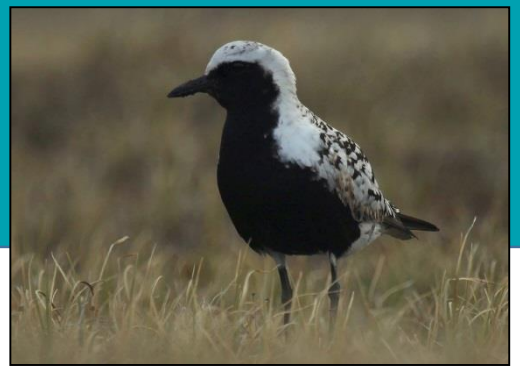
Rocky Beaches

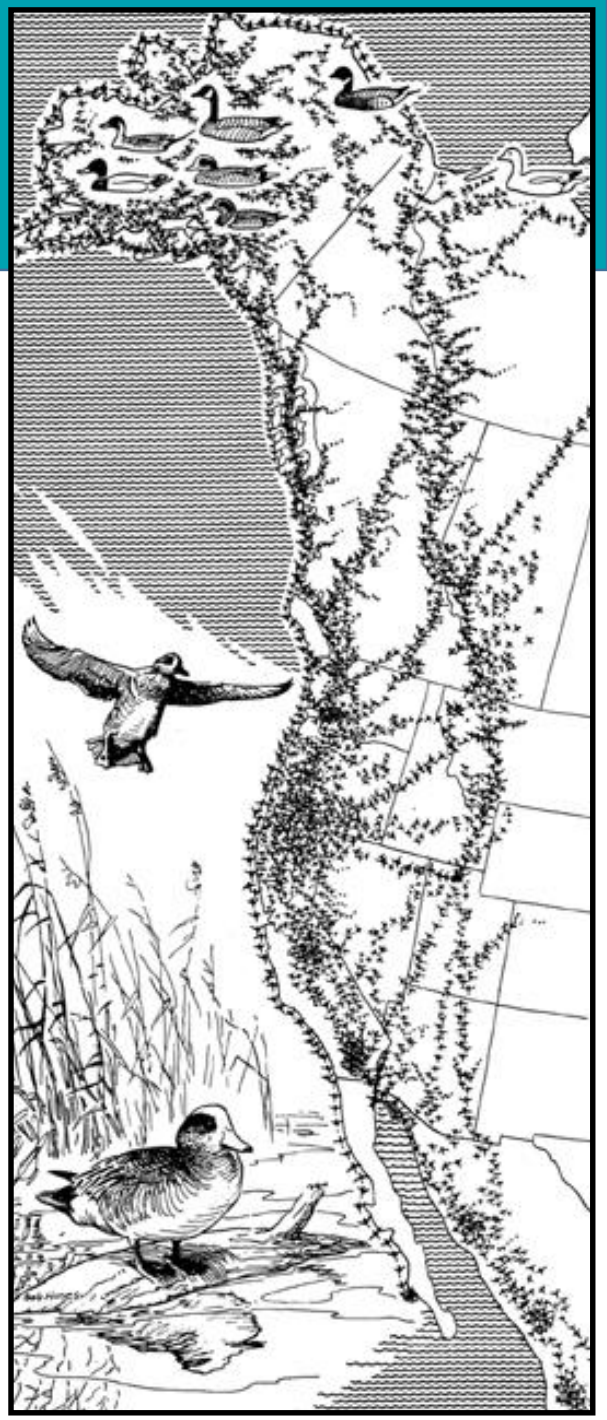
More than just the shore

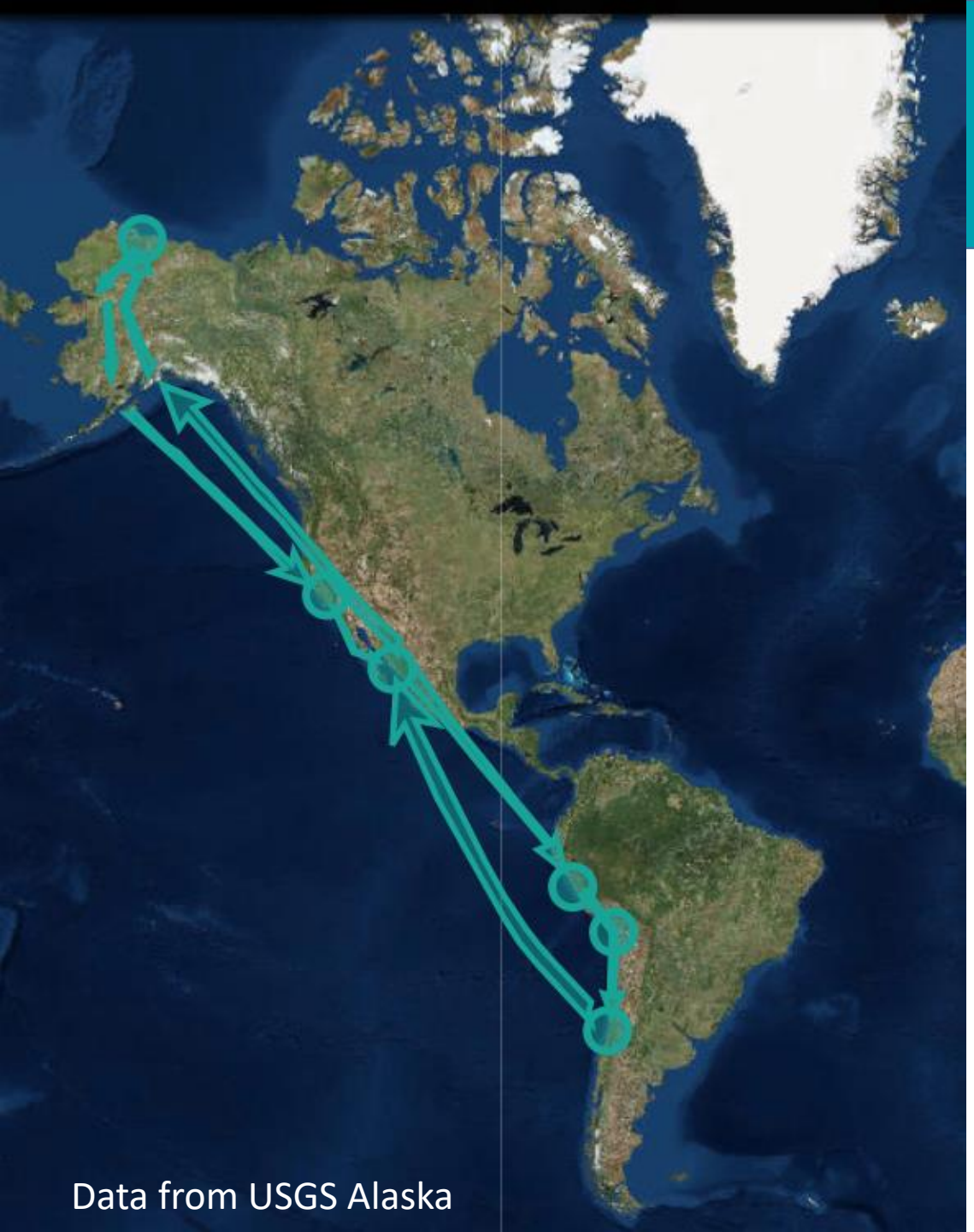


Most shorebirds migrate









~18,600 miles round trip in one year

Shorebirds and their habitat need protection at key sites

All shorebirds need shallow water

Mudflat to 4 inches water depth

Shorebirds prefer un-vegetated habitats

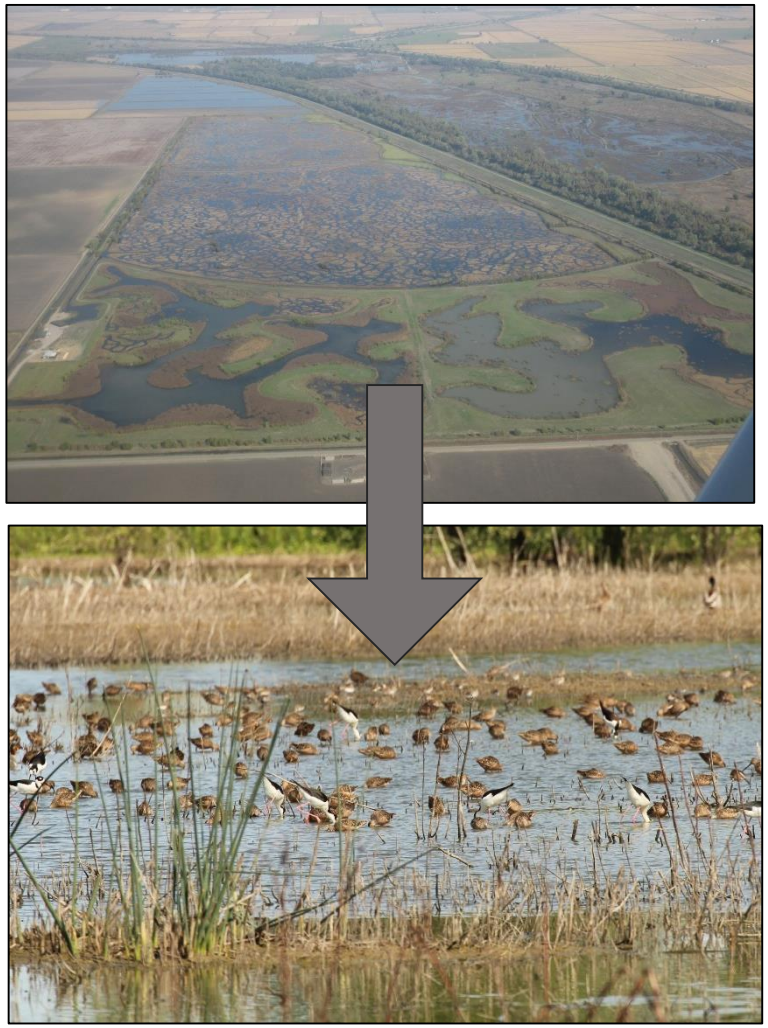
- Majority of use occurs < 25% vegetative cover
- Short vegetation – ½ the height of the bird

Shorebirds need places to rest

Kim Starke

Shorebirds need space to nest

Shorebirds respond to management



Waterbird Communities in Managed Wetlands of Varying Water Depth

M. A. COLWELL AND O. W. TAFT[1]

Accessible Habitat for Shorebirds:
Factors Influencing its Availability and Conservation Implications

JAIME A. COLLAZO[1], DAWN A. O'HARRA[1] AND CHRISTINE A. KELLY[1,2]

Implications of Coastal Wetland Management to Nonbreeding Waterbirds in Texas

Owen N. Fitzsimmons · Bart M. Ballard · M. Todd Merendino · Guy A. Baldassarre · Kevin M. Hartke

Journal of Applied Ecology 1998, **35**, 95–108

Winter management of Californian rice fields for waterbirds

CHRIS S. ELPHICK and LEWIS W. ORING

Ecology, Evolution & Conservation Biology/186, University of Nevada, Reno, 1000 Valley Road, Reno, NV 89512, USA

The Habitats for Shorebirds Project

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To inspire and foster the implementation of management action on wetlands, coasts, and uplands, in order to improve life sustaining conditions for shorebird populations at regionally important locations.

Habitats for Shorebirds workshops

Participants are:

- Private landowners
- Land managers
- Industry
- Municipalities
- Biologists
- Citizen scientists
- Educators
- Students
- Decision Makers
- Interested stakeholders

Topics include:

- Shorebird biology and migration
- Local and hemispheric threats
- Habitat management techniques
- Field estimating and identification
- Population monitoring



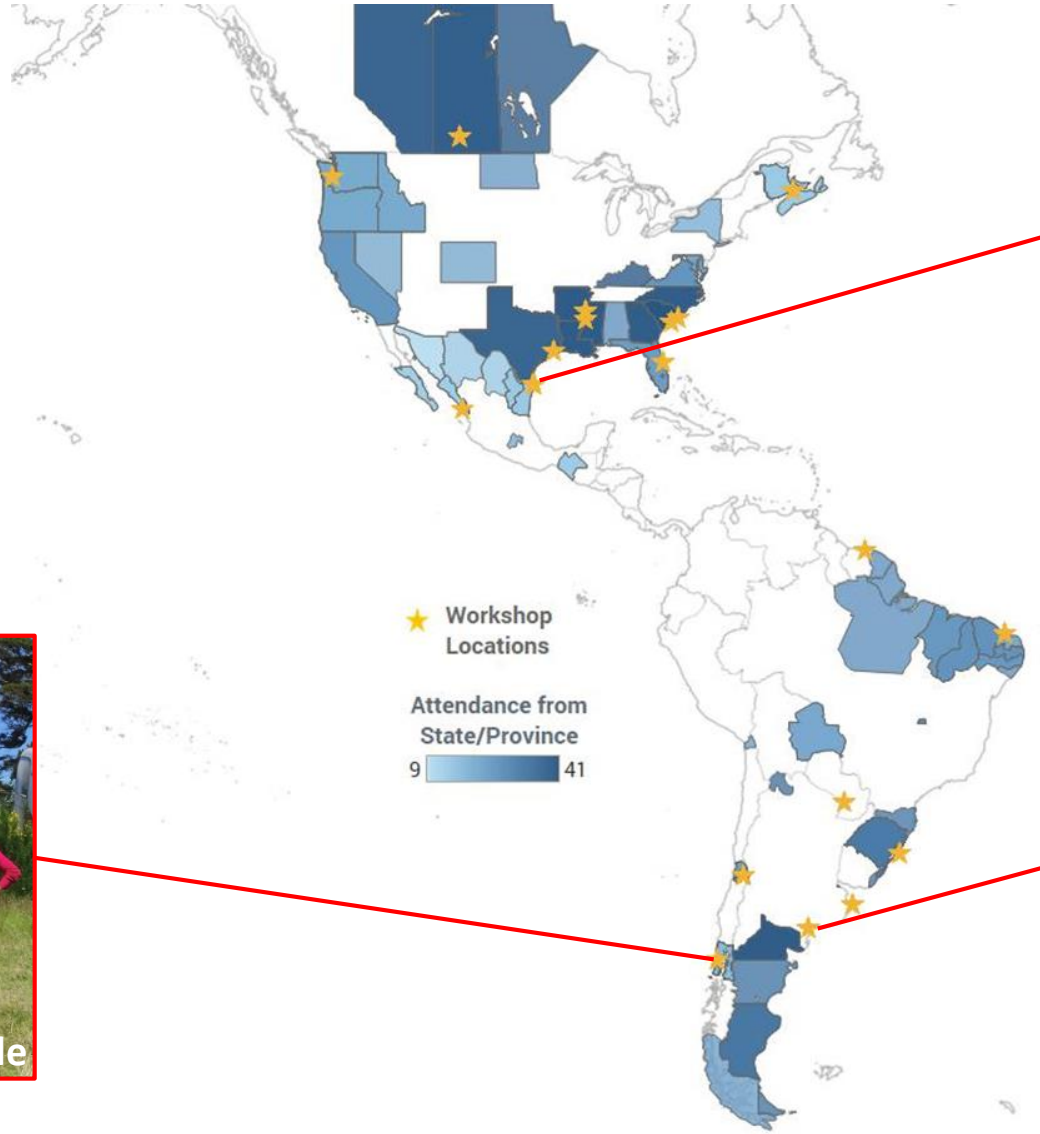





74%
MÁS DE 95

Habitats for Shorebirds

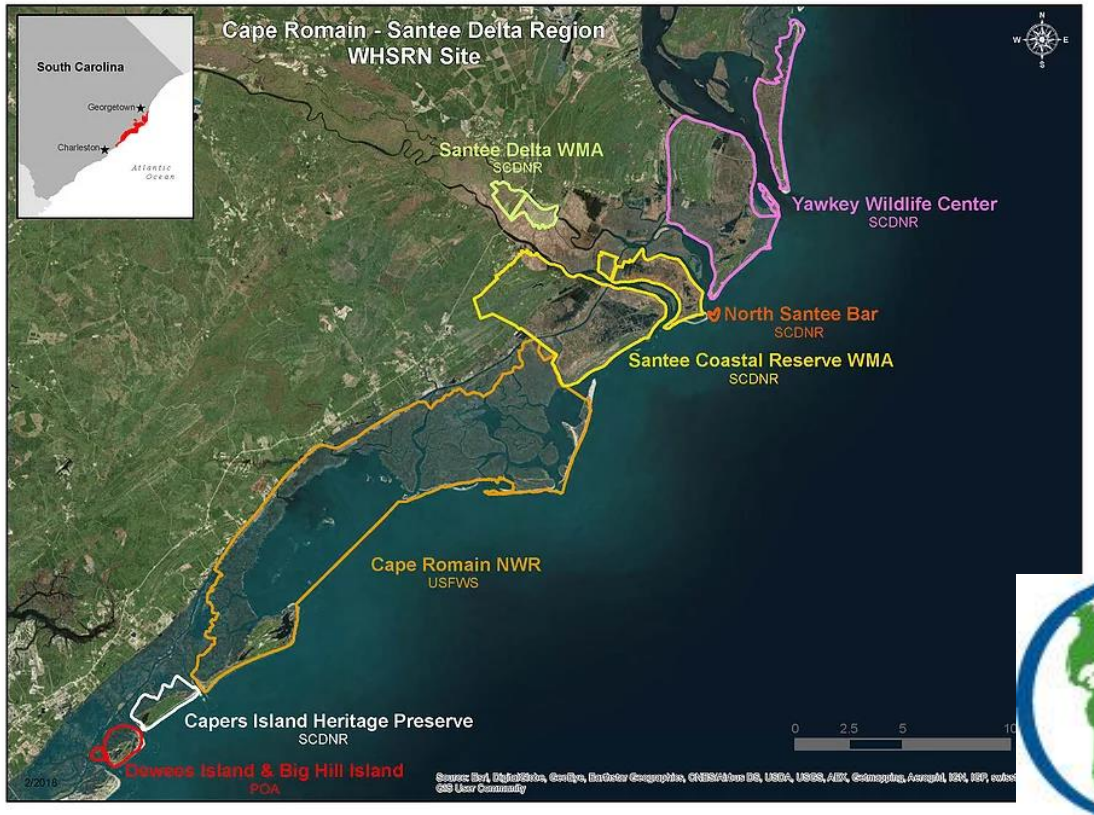
- 24 workshops
- 620 participants
- 10 countries



Texas, USA


Chiloe Island, Chile


Bahia Blanca, Argentina



South Carolina, USA

WHSRN
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SHOREBIRD RESERVE NETWORK

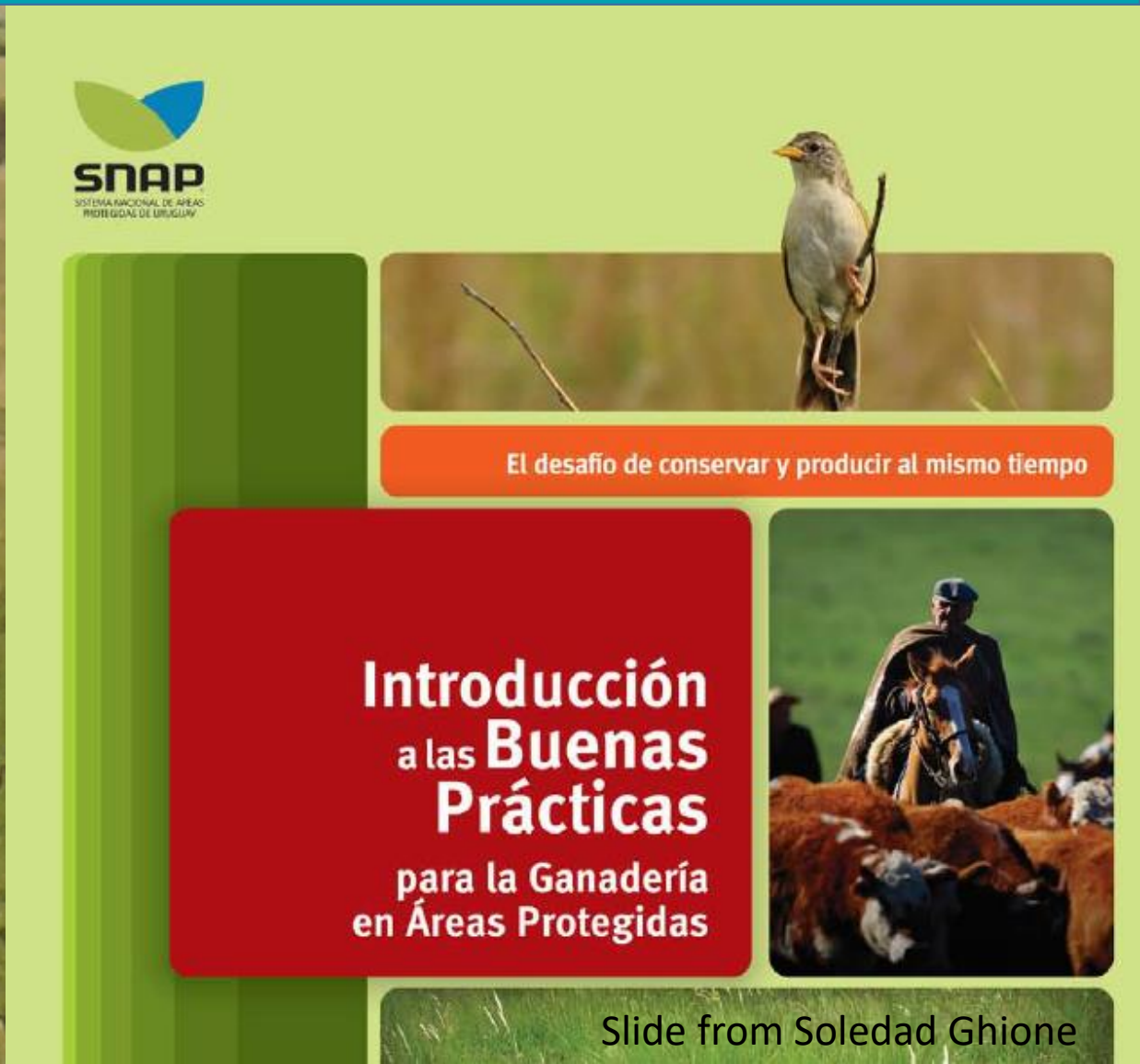
Icapuí, Brazil

Management to reduce disturbance in coastal Uruguay

- Kite surfing and beach driving

- Collaborate with kite surfing schools
- Zoning
- Ban driving and enforce

Managed grazing in the Pampas of the Southern Cone



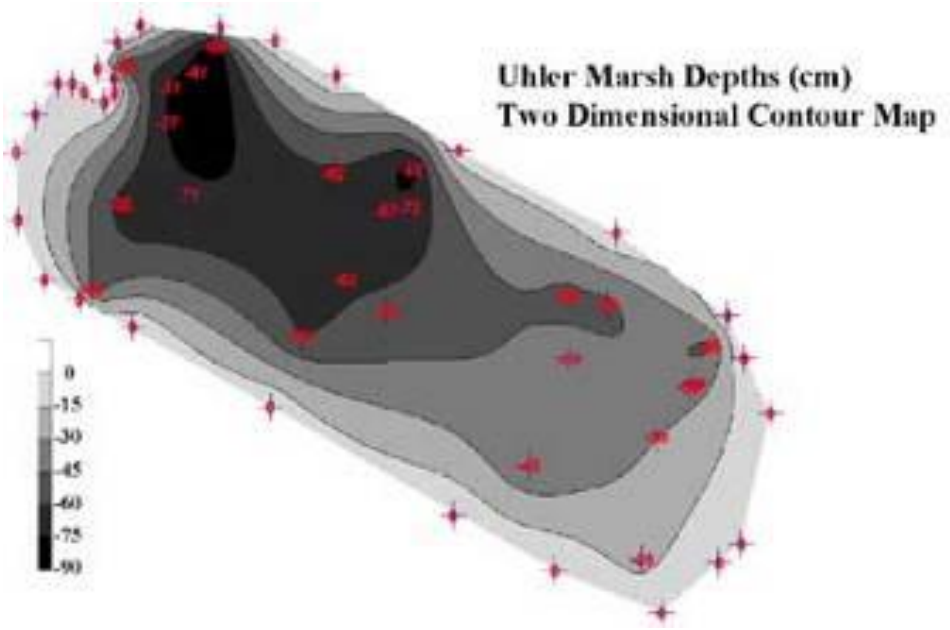
Slide from Soledad Ghione

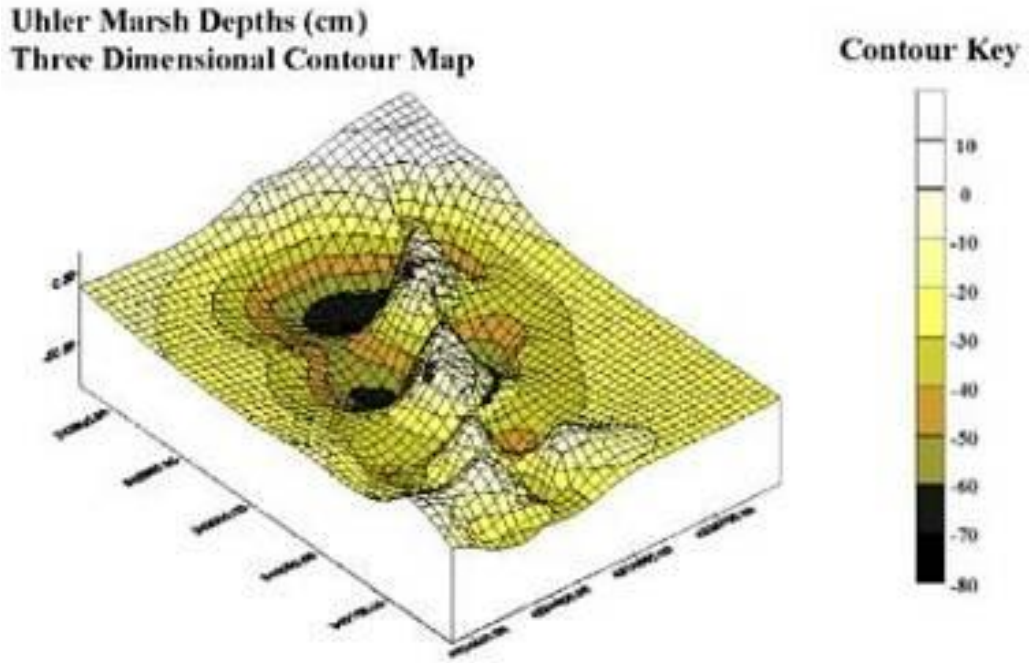
Management in wetlands : food and accessibility

- Food
  - ✓Decomposing vegetation
  - ✓Invertebrate production
- Accessibility
  - ✓Unvegetated or sparsely vegetated
  - ✓Mudflats, mixed with shallow water

Water depths & topography

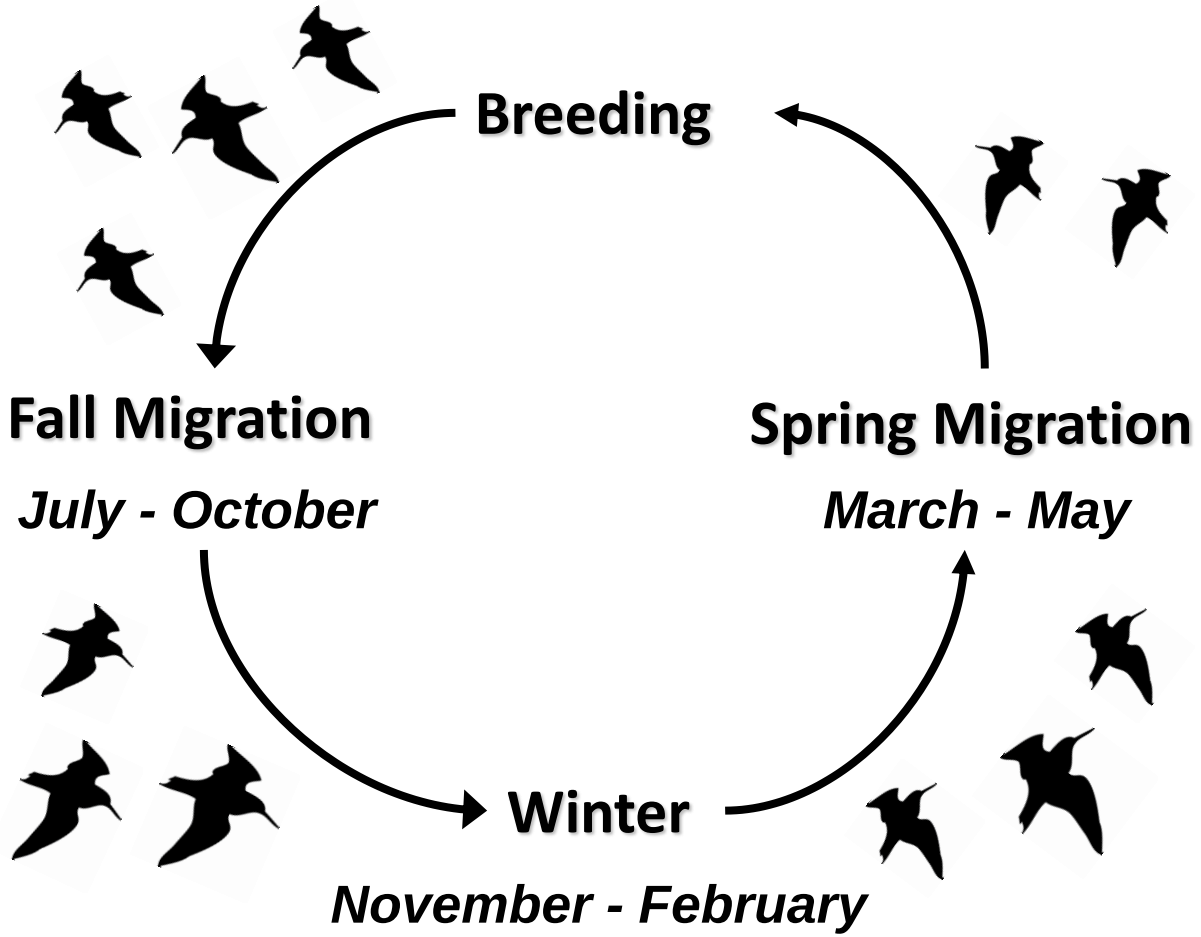
- Wetland features
- Slope
- Topography





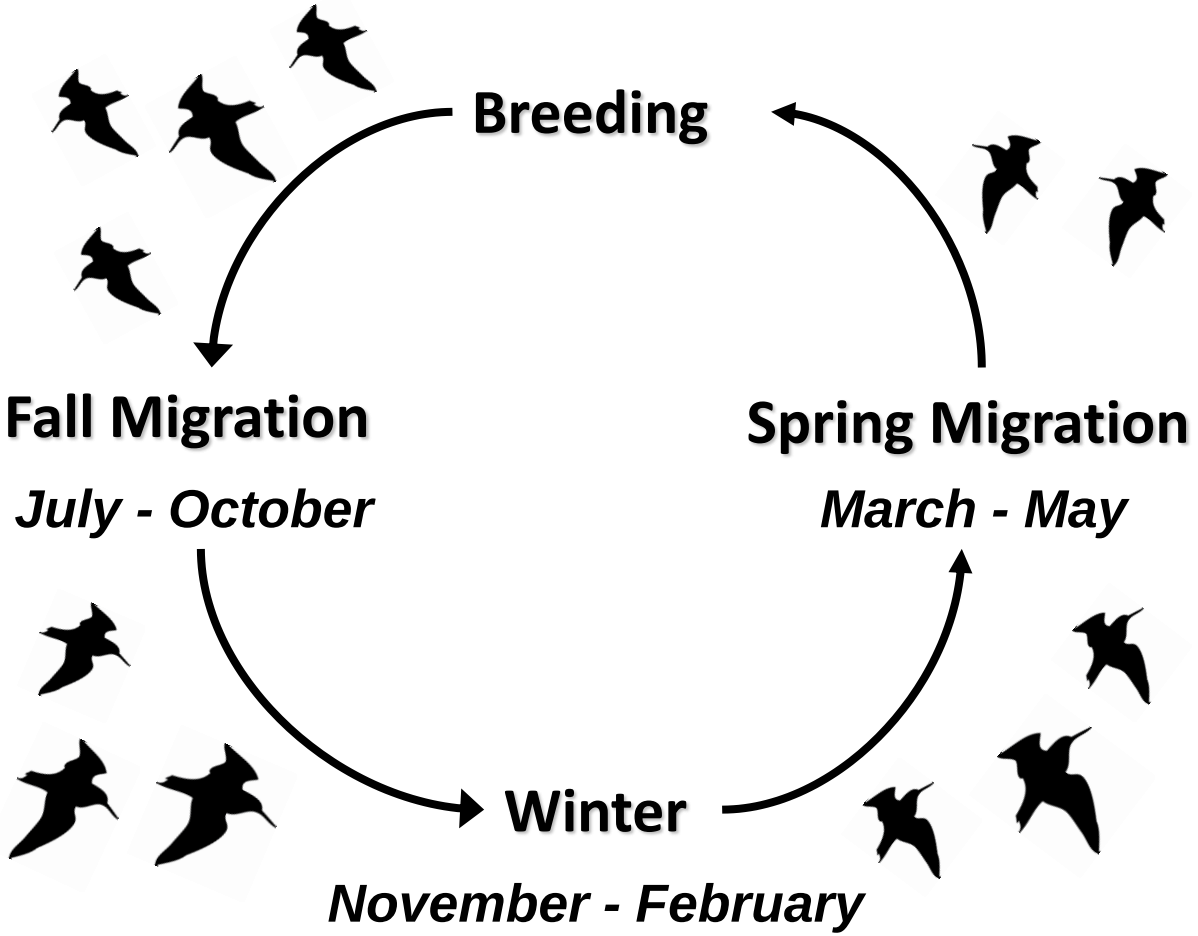
Shorebirds and seasonal managed wetlands

Arrive before seasonal wetlands are flooded

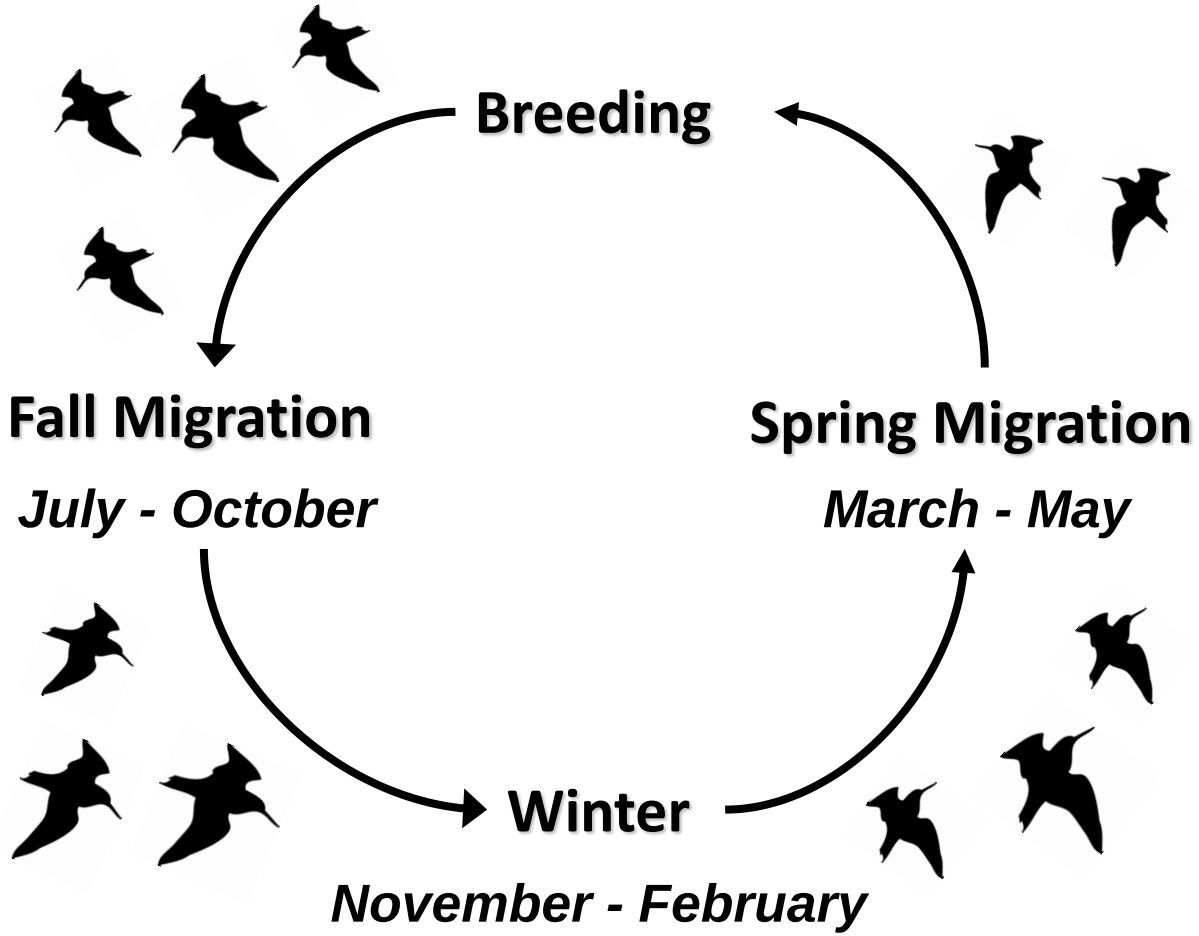


Shorebirds and seasonal managed wetlands

- Vegetation management
- Shallow water as early as July 1 – 15
- Slow, staggered flood up

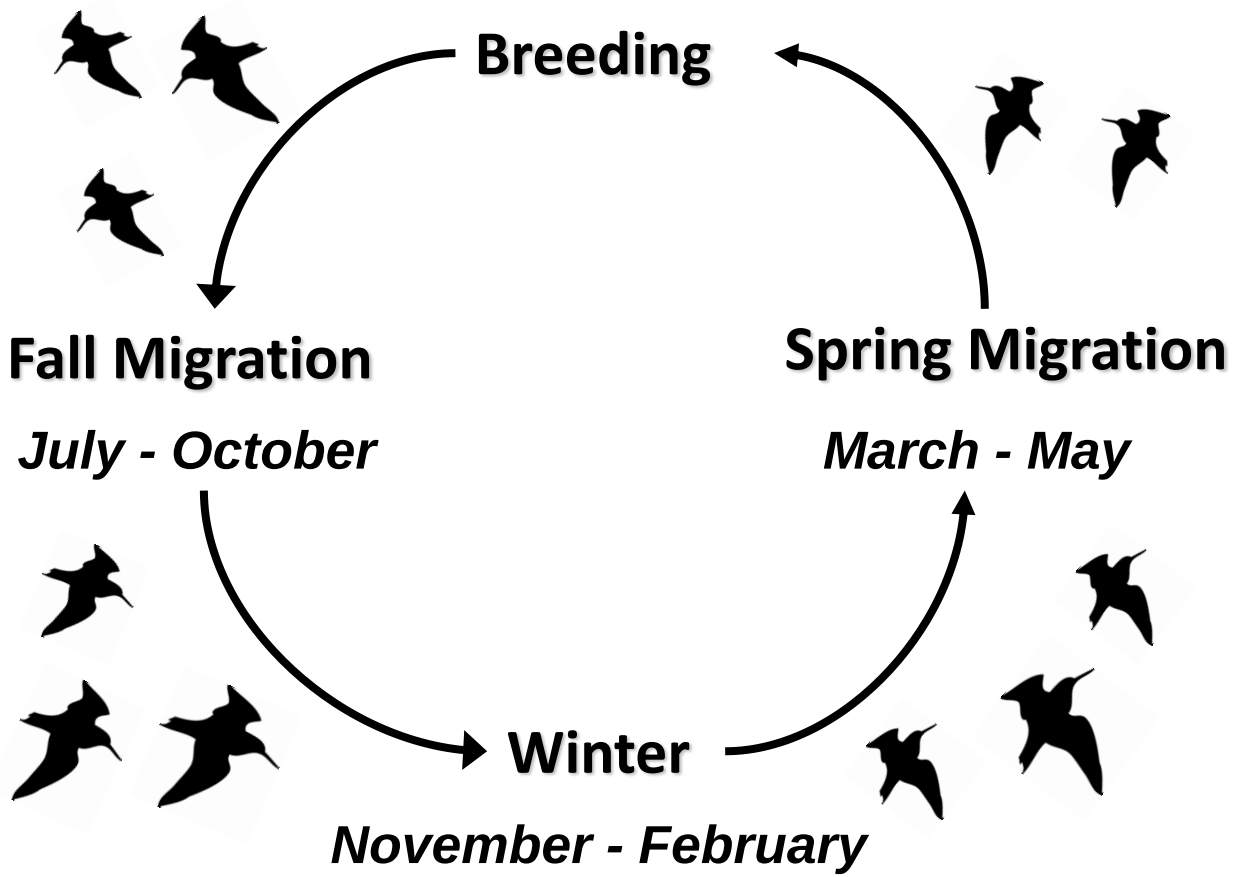


Shorebirds and seasonal managed wetlands



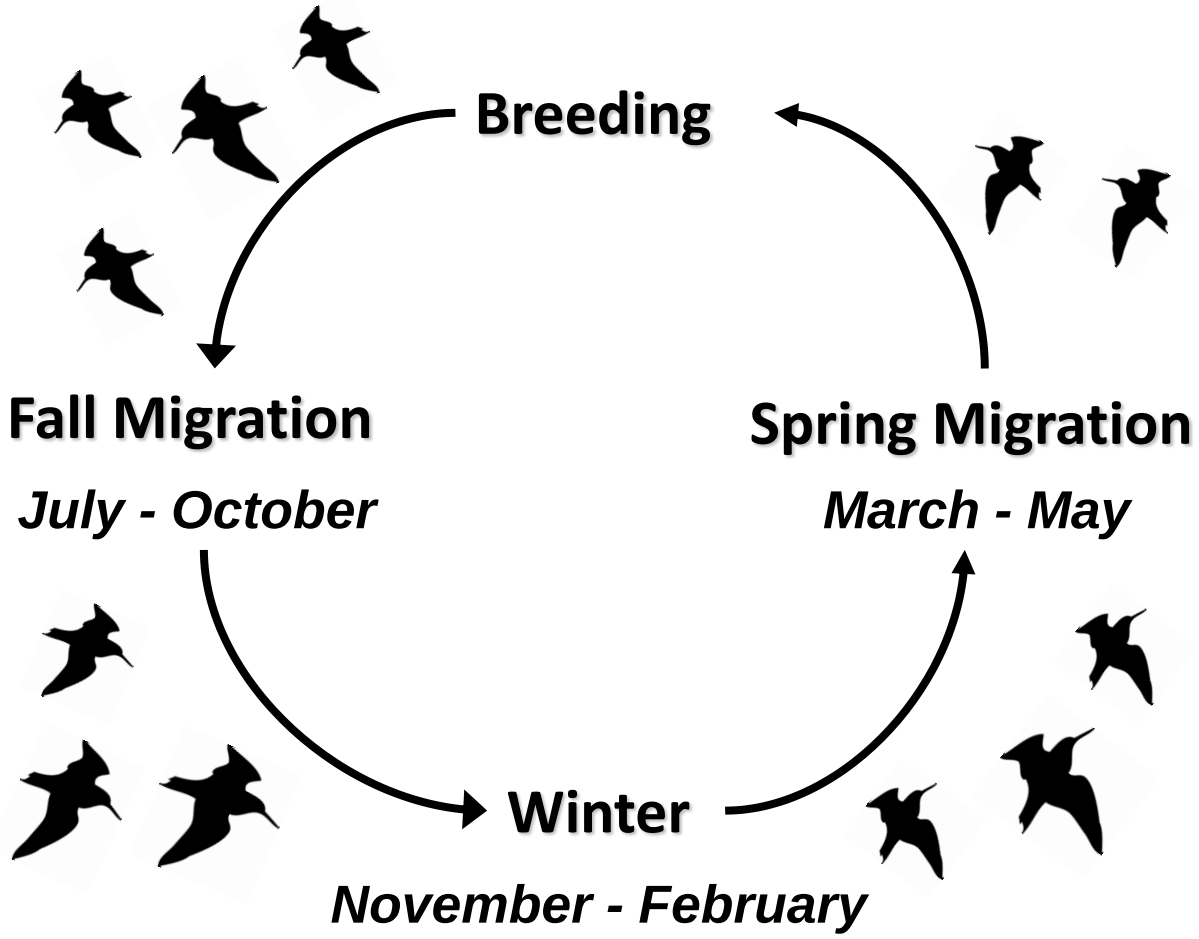
Wetlands often too deep

Shorebirds and seasonal managed wetlands



- Ensure availability of shallow water
- Conduct partial drawdowns

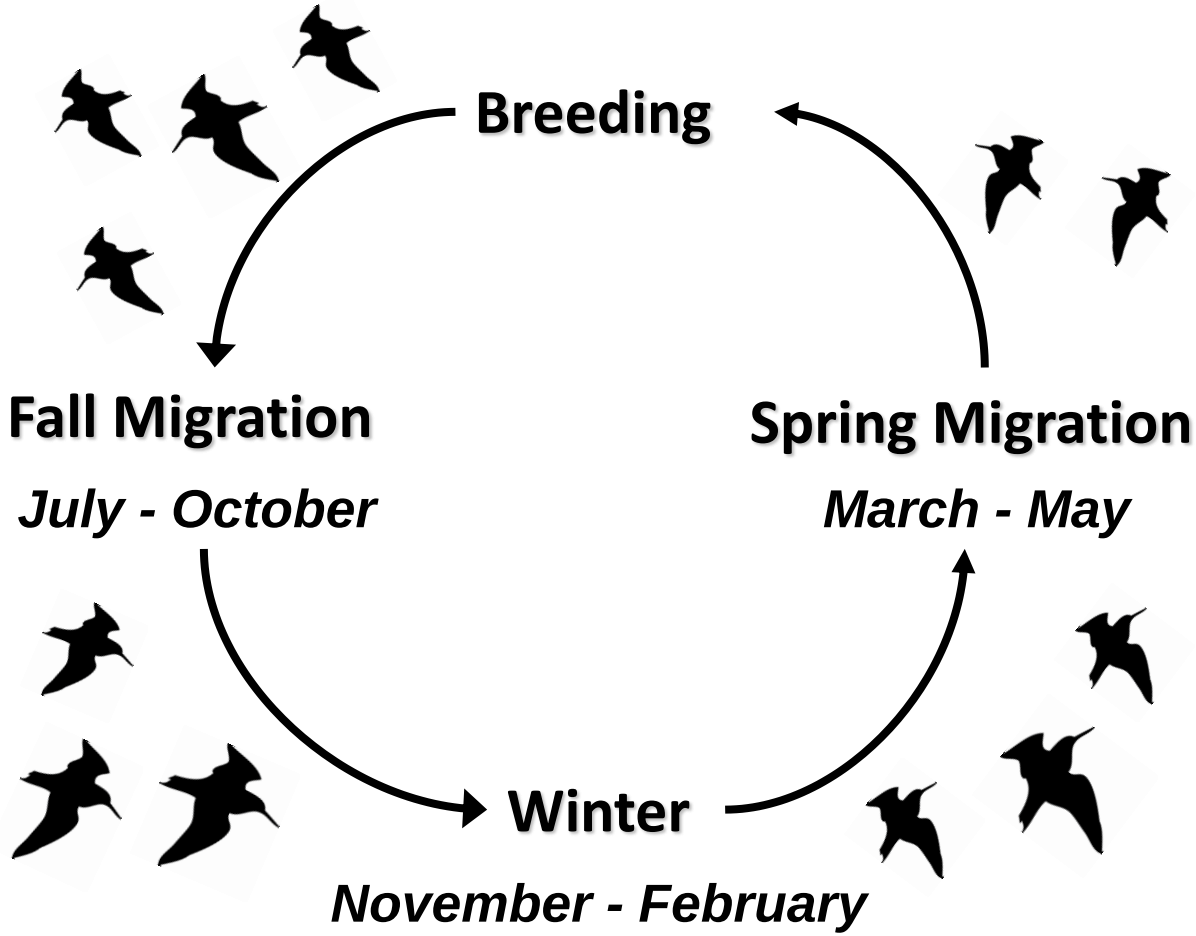
Shorebirds and seasonal managed wetlands



Peak shorebird migration during spring migration

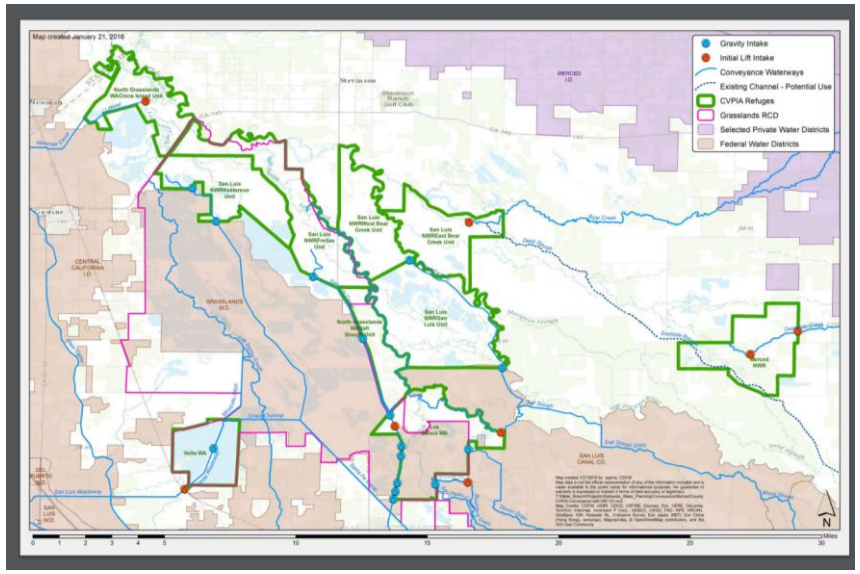
Stay after wetlands are most wetlands are drawn down

Shorebirds and seasonal managed wetlands



- Stagger, slow, delay drawdowns

Grasslands: Delayed drawdown during spring migration



Point Blue Conservation Science

Audubon CALIFORNIA

The Nature Conservancy
Protecting nature. Preserving life.™

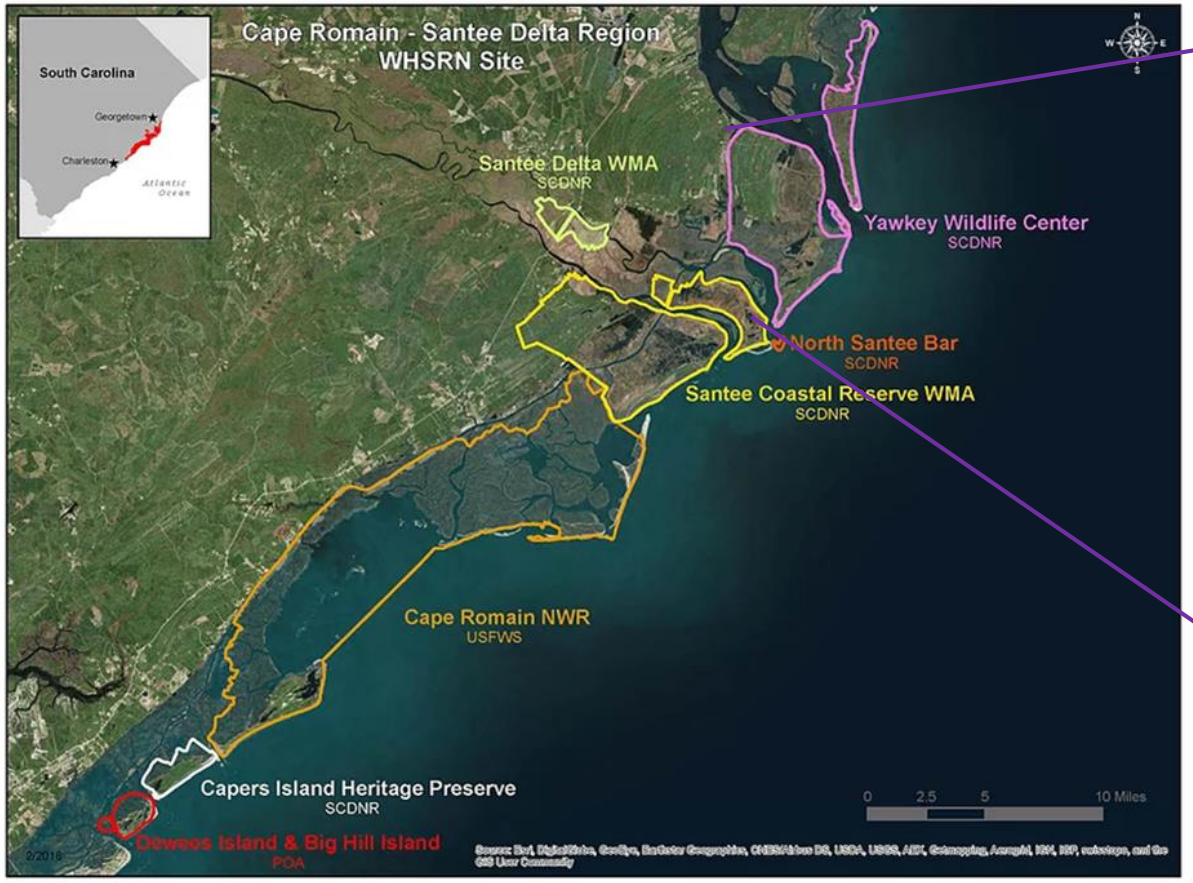
- A delayed and gradual drawdown extended flooded habitat into April and May
- Shorebird densities were higher in wetlands with delayed and gradual drawdowns than traditional drawdowns

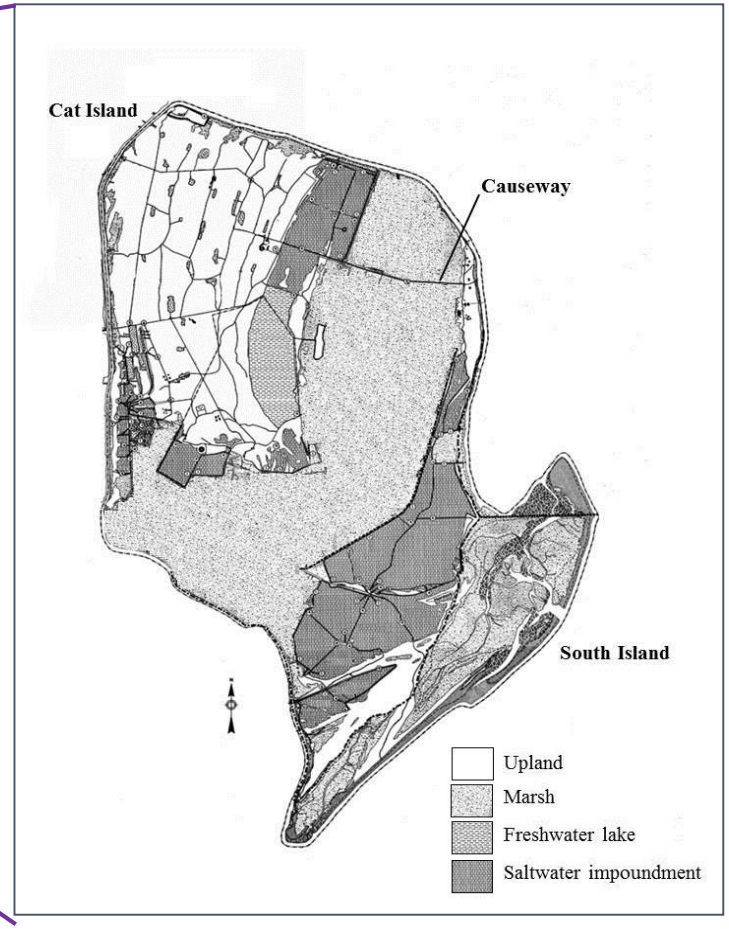
Souza-Cole et al. 2017, TWS West

Locally breeding shorebirds

- Spring/ summer water that is shallow and consistent
- Feathered edges with minimal vegetation
- Upland areas with short vegetation in proximity to shallow water

The Tom Yawkey Wildlife Center





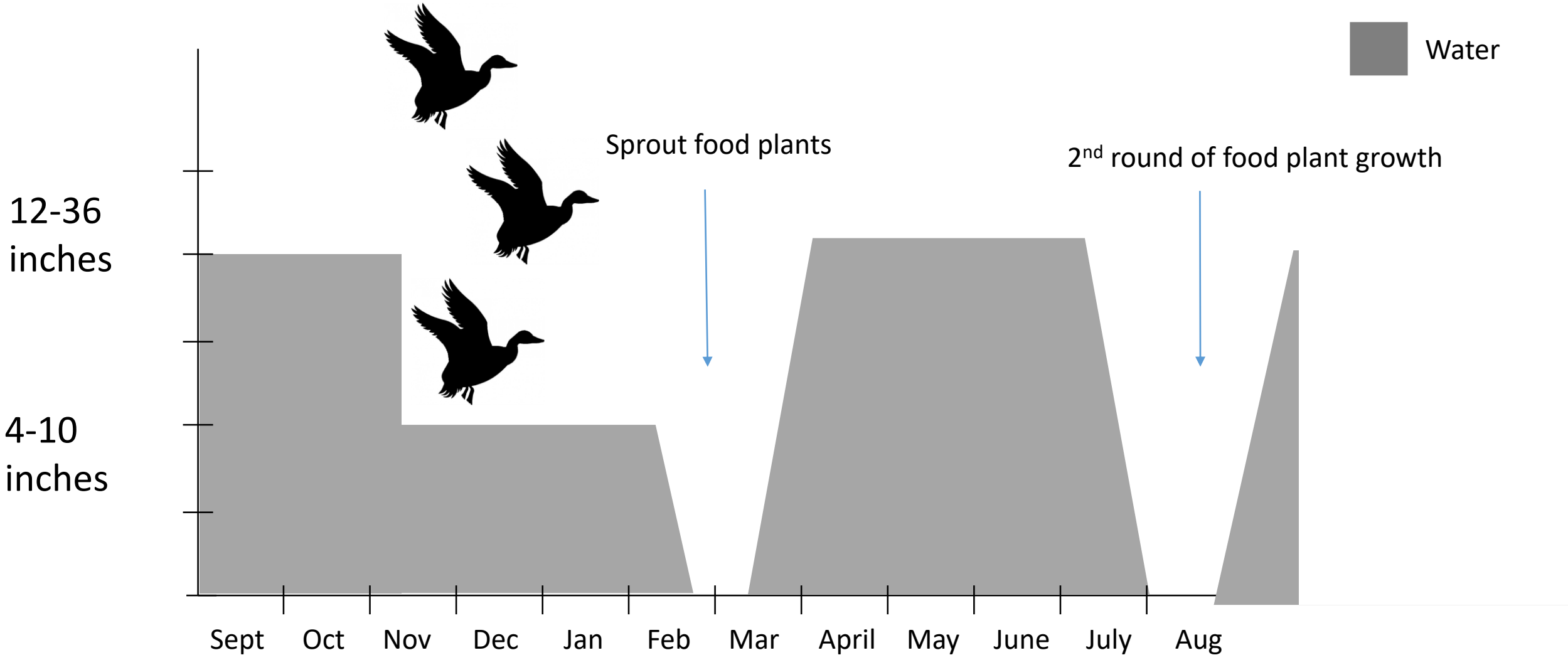
- 31 managed wetland units
- Brackish to highly saline

- Priorities: waterfowl, wading birds, shorebirds, and more

Water control

Converted to rice in 1800s

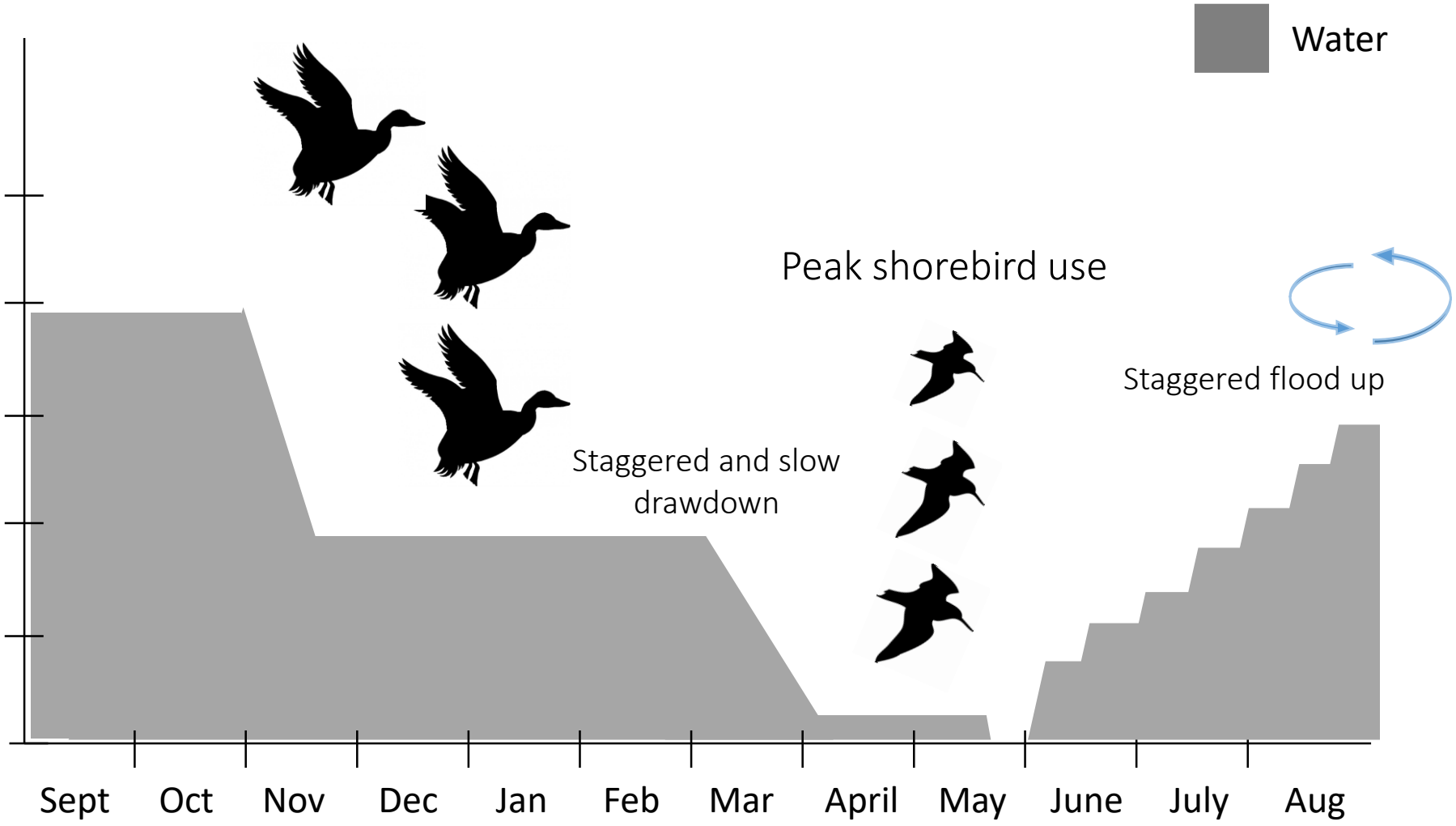
Two - drawdown method: wintering waterfowl



Single -drawdown method: waterfowl + spring shorebirds

12-36 inches

4- 12 inches



Incorporating shorebirds into wetland management

- Know the shorebird community and timing of occurrence
- Providing a variety of water depths = greater bird diversity
- Stagger drawdowns, use multiple units
- Often only small adjustments in timing of drawdown and flooding may be necessary
- Rotate management
- Many aspects of shorebird management are compatible with waterfowl management

Supporting shorebirds throughout their life cycle

WHSRN
WESTERN HEMISPHERE SHOREBIRD RESERVE NETWORK

People are behind every solution

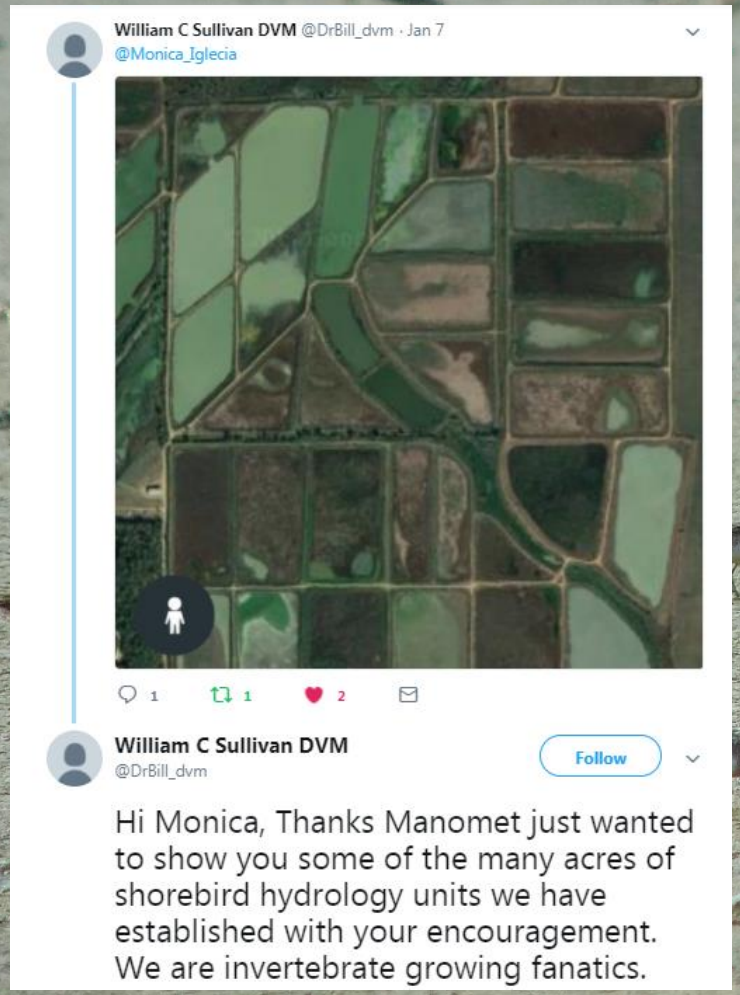


Photo: Jr Rigby

Thank you

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