

# Habitat Mosaics to Meet the Needs of Priority Gulf Coast Birds

Barry Wilson & Bill Vermillion

U.S. Fish & Wildlife Service

Gulf Coast Joint Venture

March 14, 2006

Corpus Christi, Tx

# Gulf Coast Joint Venture Management Board

## State Agencies

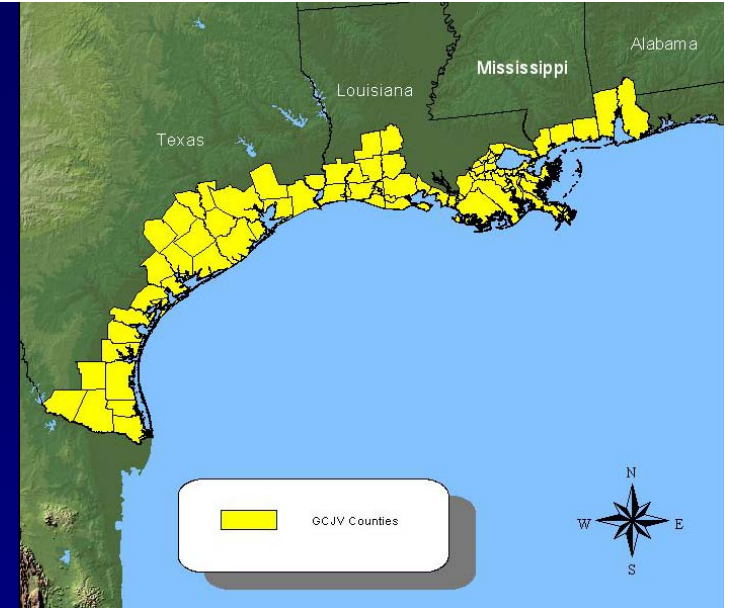
*Texas Parks & Wildlife Department*

*Louisiana Department of Wildlife & Fisheries*

*Louisiana Department of Natural Resources*

*Mississippi Department of Fisheries, Wildlife, & Parks*

*Alabama Department of Conservation & Natural Resources*



## Federal Agencies

*U.S. Fish & Wildlife Service*

*U.S.D.A. – Natural Resources Conservation Service*

*U.S. Army Corps of Engineers (vacant)*

*U.S. Geological Survey*

## Non-governmental

*The Nature Conservancy*

*Ducks Unlimited, Inc.*

*Gulf Coast Bird Observatory*

Private Landowner Representative

## Staff

Coordinator

*Barry Wilson (FWS)*

GIS/Remote Sensing Analyst

*Mark Parr (DU)*

Biological Team Leader

*Michael Brasher (DU)*

Bird Conservation Specialist

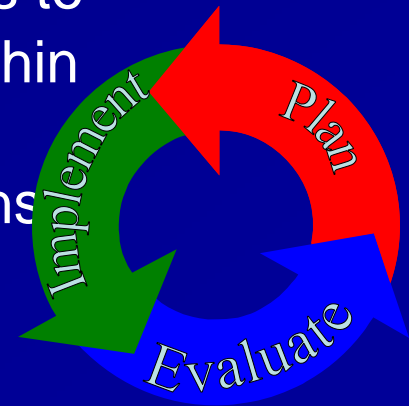
*Bill Vermillion (FWS)*

# Gulf Coast Joint Venture



**Purpose:** The Gulf Coast Joint Venture is the regionally based, biologically driven, landscape oriented volunteer partnership of private, state, and federal conservation organizations dedicated to delivery of habitat conservation important to priority bird species within the joint venture region.

**Mission:** The mission of the Gulf Coast Joint Venture is to advance the conservation of important bird habitats within the Gulf Coast Joint Venture region through biological planning, implementation of habitat conservation actions and focused monitoring and evaluation of the planning and implementation processes.

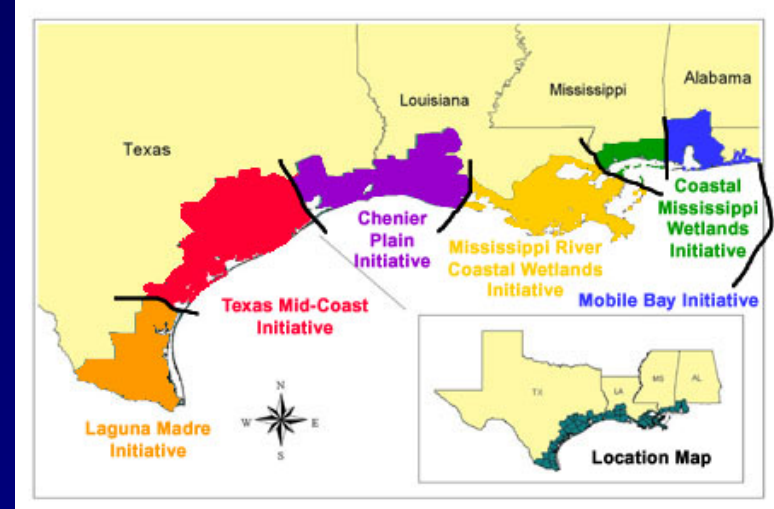


# Non-Breeding Waterfowl Objectives

Mobile Bay { Flooded Forest: 67,969 ac

Coastal Miss. { Flooded Forest: 34,749 ac

Miss. River Coastal { Flooded Forest: 487,117 ac  
Shoalgrass: 801 ac



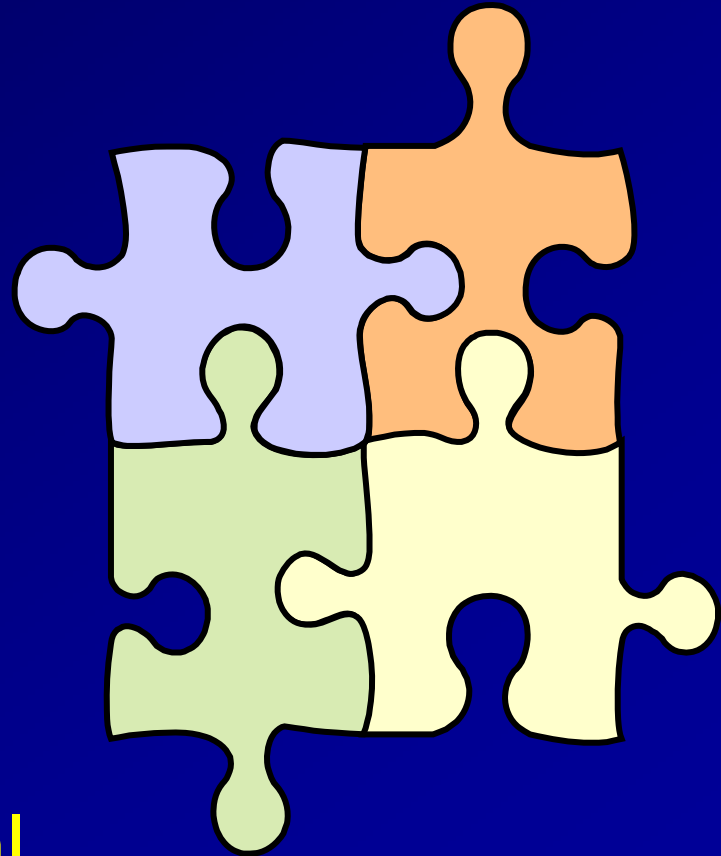
|                 |                     |         |                   |                     |
|-----------------|---------------------|---------|-------------------|---------------------|
| Chenier Plain { | Flooded Agriculture |         | <u>Moist Soil</u> | <u>Flooded Rice</u> |
|                 |                     | Aug-Oct | 20,804 ac         | 42,492 ac           |
|                 |                     | Nov-Mar | 58,942 ac         | 48,656 ac           |

|                   |                     |           |                   |                     |
|-------------------|---------------------|-----------|-------------------|---------------------|
| Texas Mid-Coast { | Flooded Agriculture |           | <u>Moist Soil</u> | <u>Flooded Rice</u> |
|                   |                     | Aug-Oct   | 23,614 ac         | 9,840 ac            |
|                   |                     | Nov-Mar   | 135,654 ac        | 62,896 ac           |
|                   | Shoalgrass:         | 13,549 ac |                   |                     |

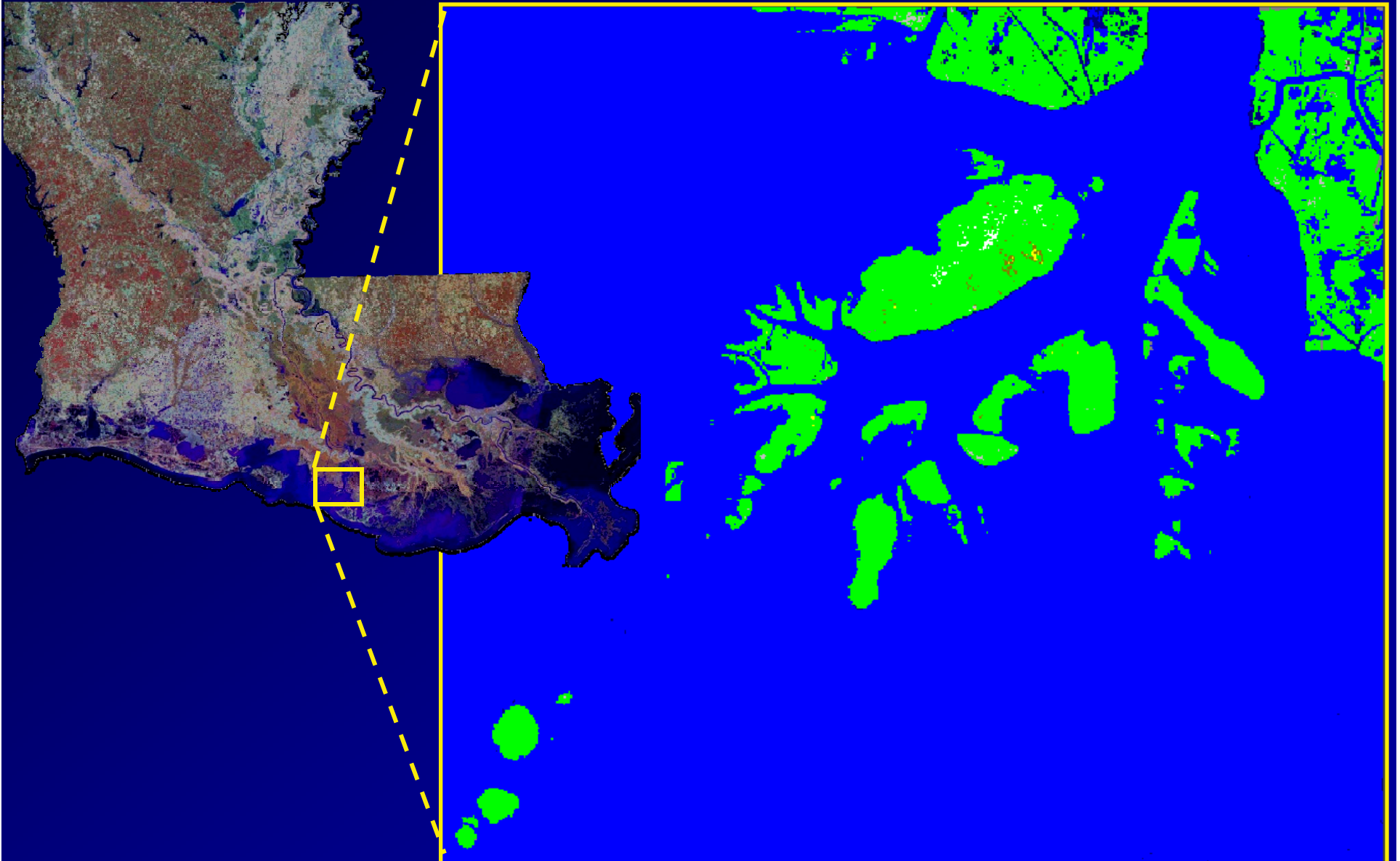
|                      |                     |  |                   |  |
|----------------------|---------------------|--|-------------------|--|
| Texas Laguna Madre { | Flooded Agriculture |  | <u>Moist Soil</u> |  |
|                      |                     | Aug-Oct                                    | 2,256 ac          |  |
|                      |                     | Nov-Mar                                    | 10,134 ac         |  |
|                      | Shoalgrass:         | 57,237 ac w/in 10km of freshwater wetlands |                   |  |

# Bird Habitat Mosaics

- Temporal/Successional
  - Spoil islands
  - Marsh burning
- Small-scale Spatial
  - Marsh creation
  - Barrier islands
  - Marsh terracing
  - Intertidal flats
- Landscape-scale Spatial



# Atchafalaya River Delta



# Atchafalaya River Delta

## Post-Deposition 1

No vegetation

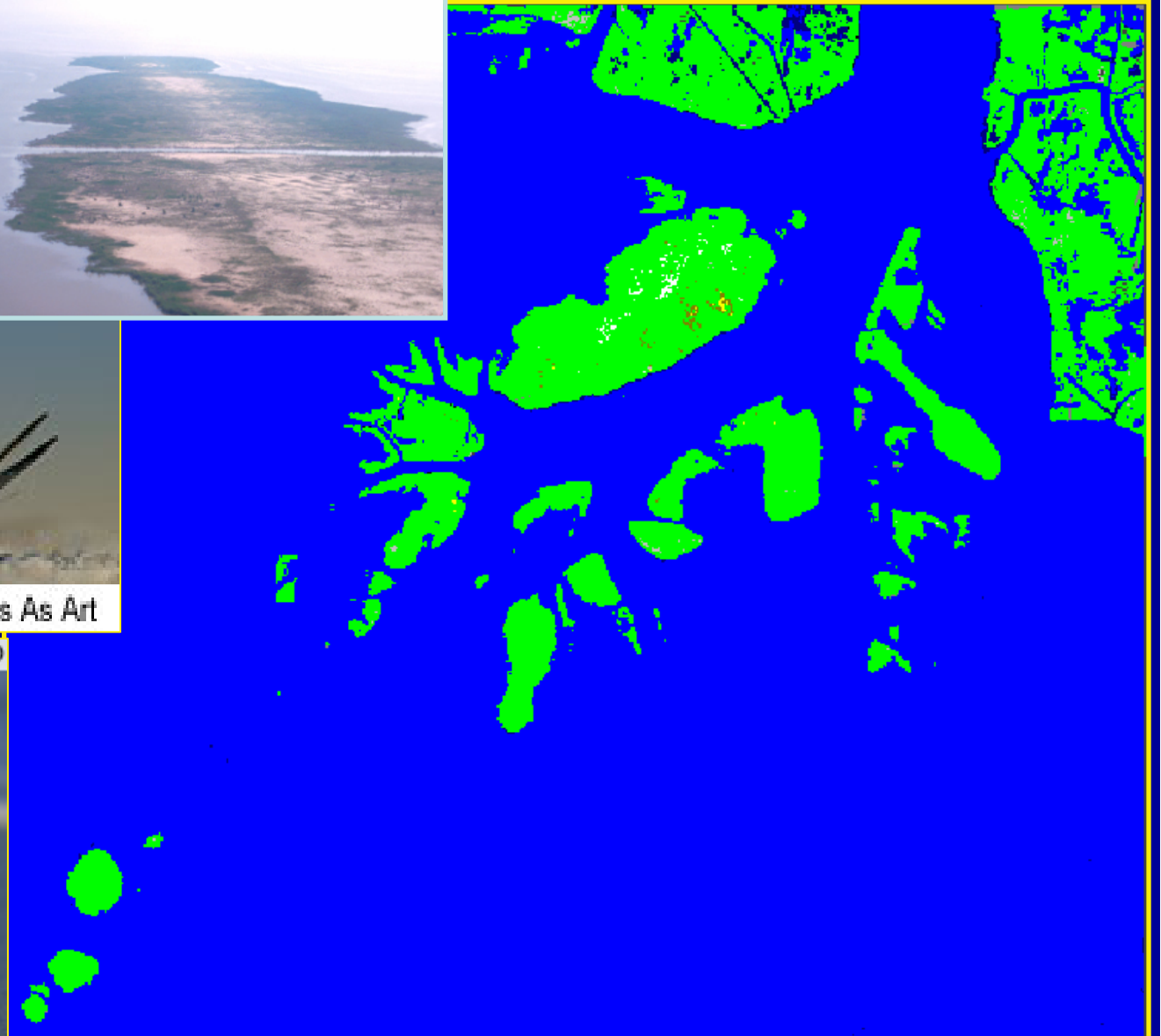
- Least Tern
- Black Skimmer
- Gull-billed Tern



© Arthur Morris / Birds As Art



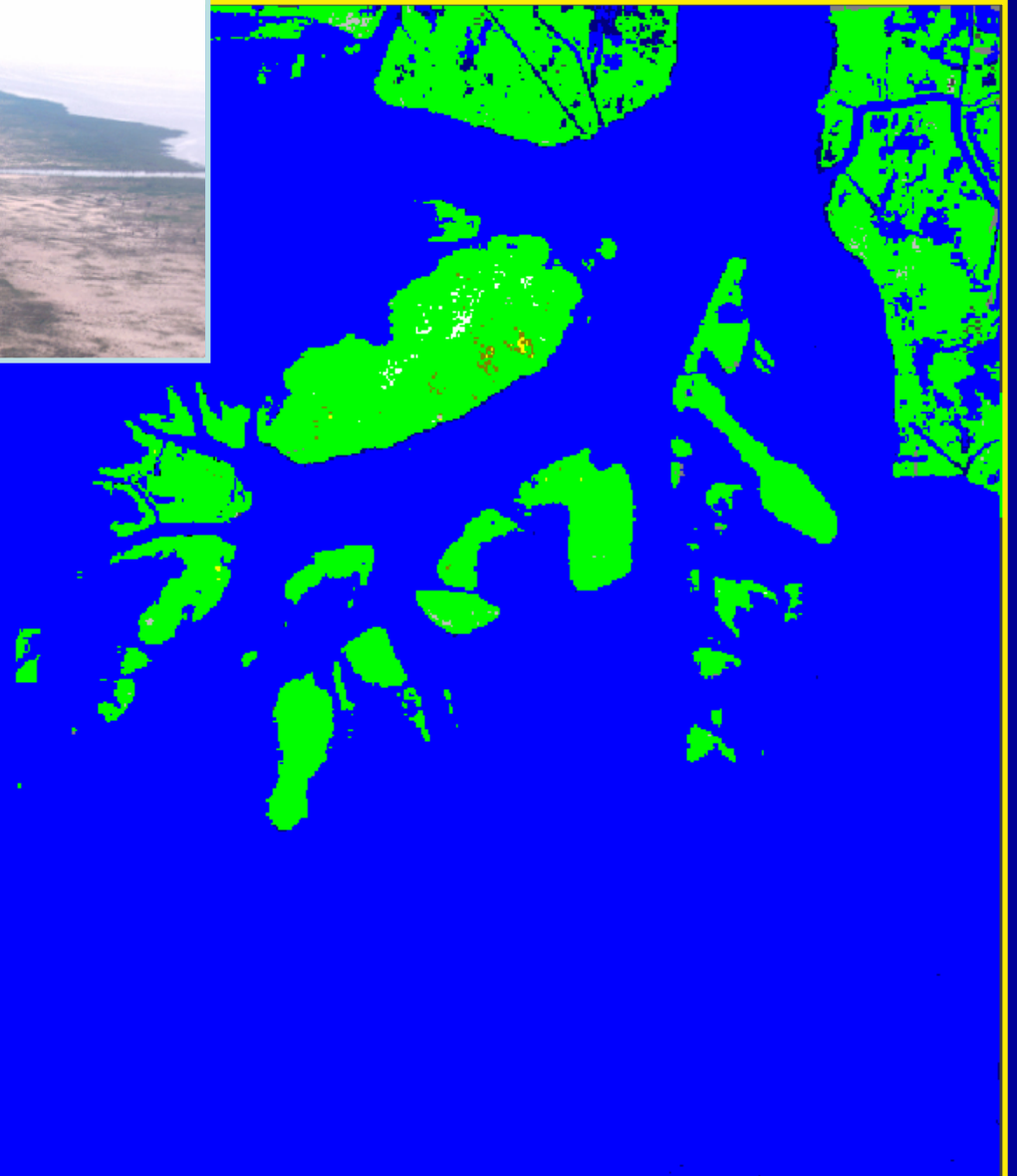
© William L. Newton/CLO



# Atchafalaya River Delta

## Post-Deposition 2

Sparse vegetation  
- Mottled Duck



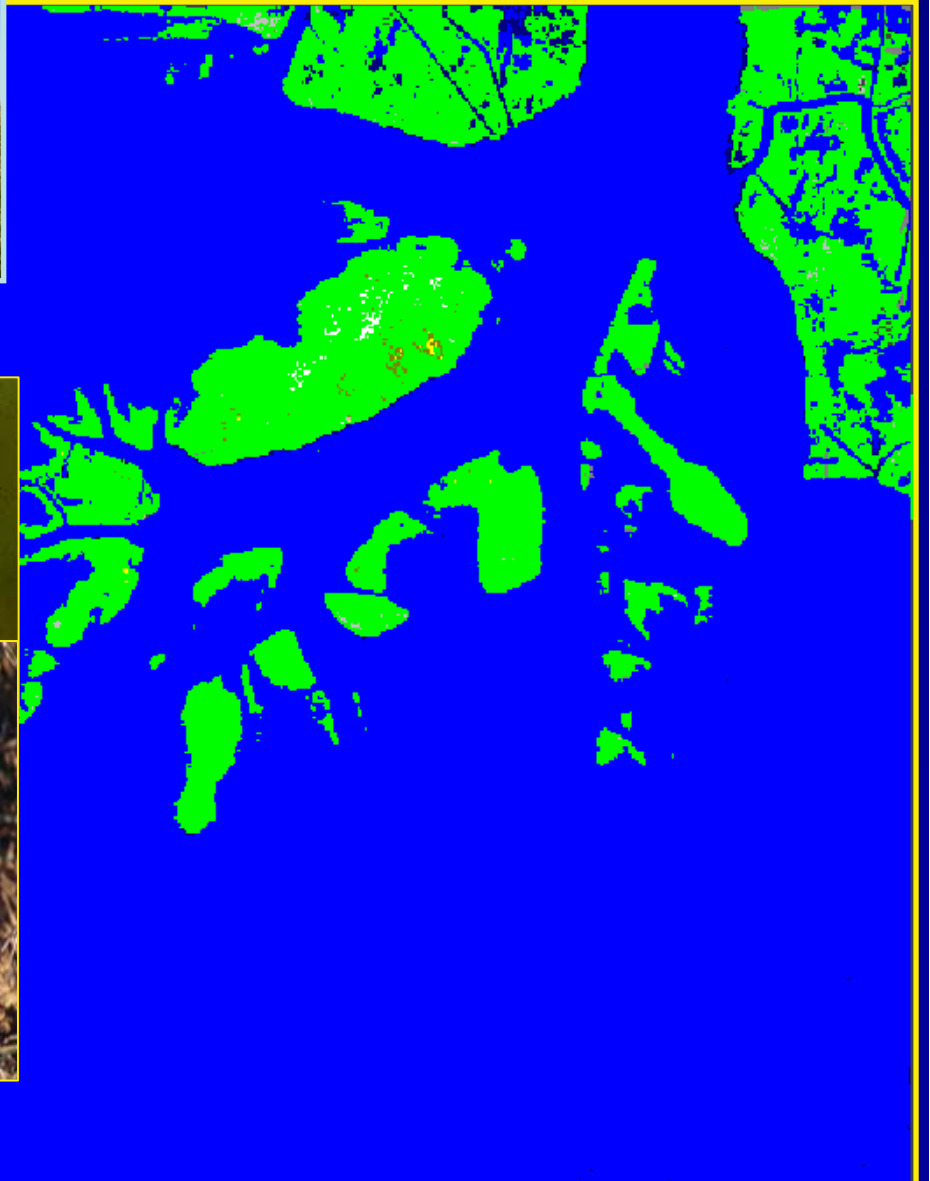


# Atchafalaya River Delta

## Post-Deposition 3

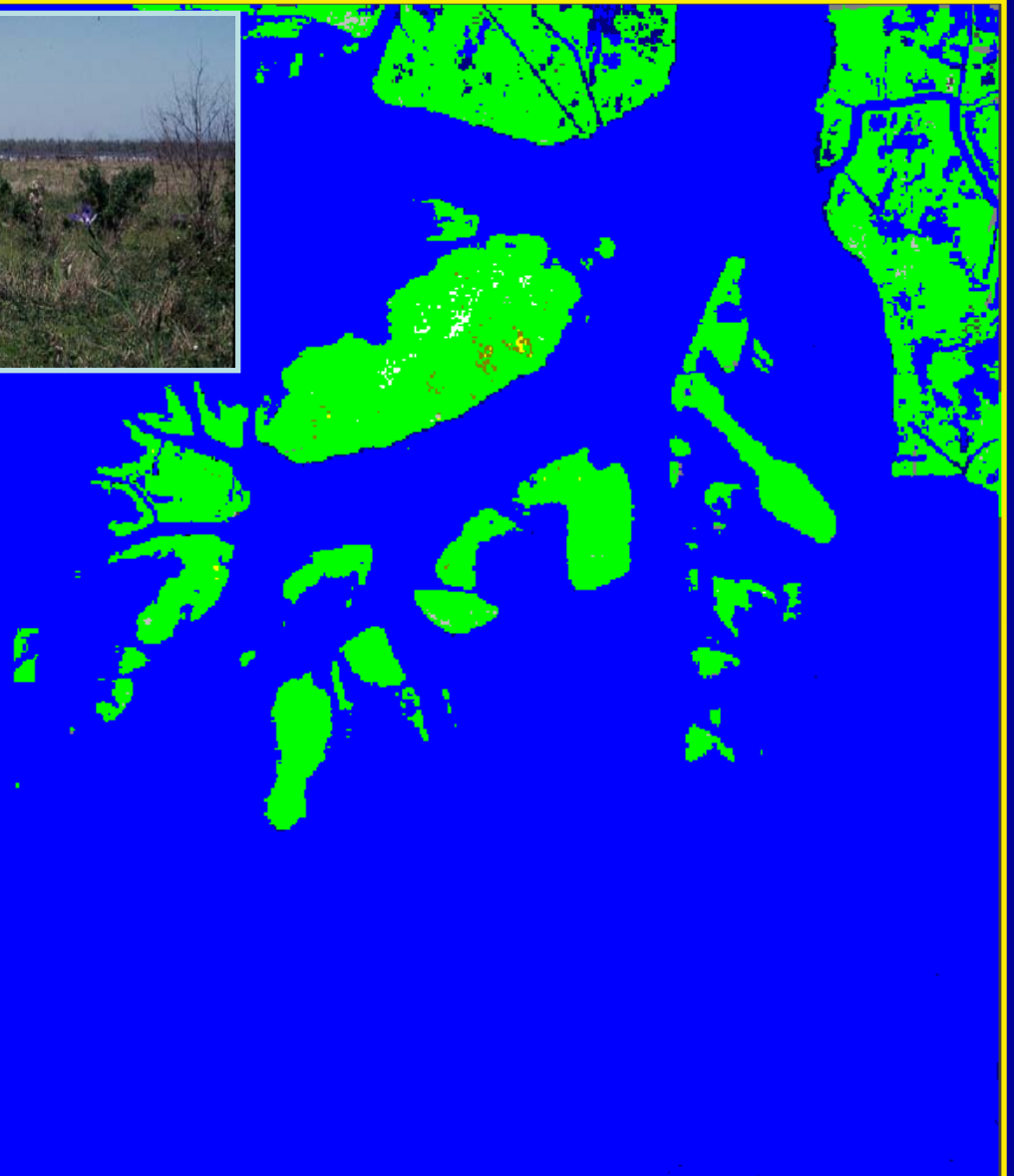
Emergent vegetation

- Mottled Duck
- King/Clapper Rail
- American Bittern
- Seaside Sparrow



# Atchafalaya River Delta

**Post-Deposition 4**  
Scrub-shrub  
- Colonial Nesters



# Atchafalaya River Delta

## Post-Deposition 5

Forest

- Colonial Nesters
- Transient Landbirds



# Atchafalaya River Delta

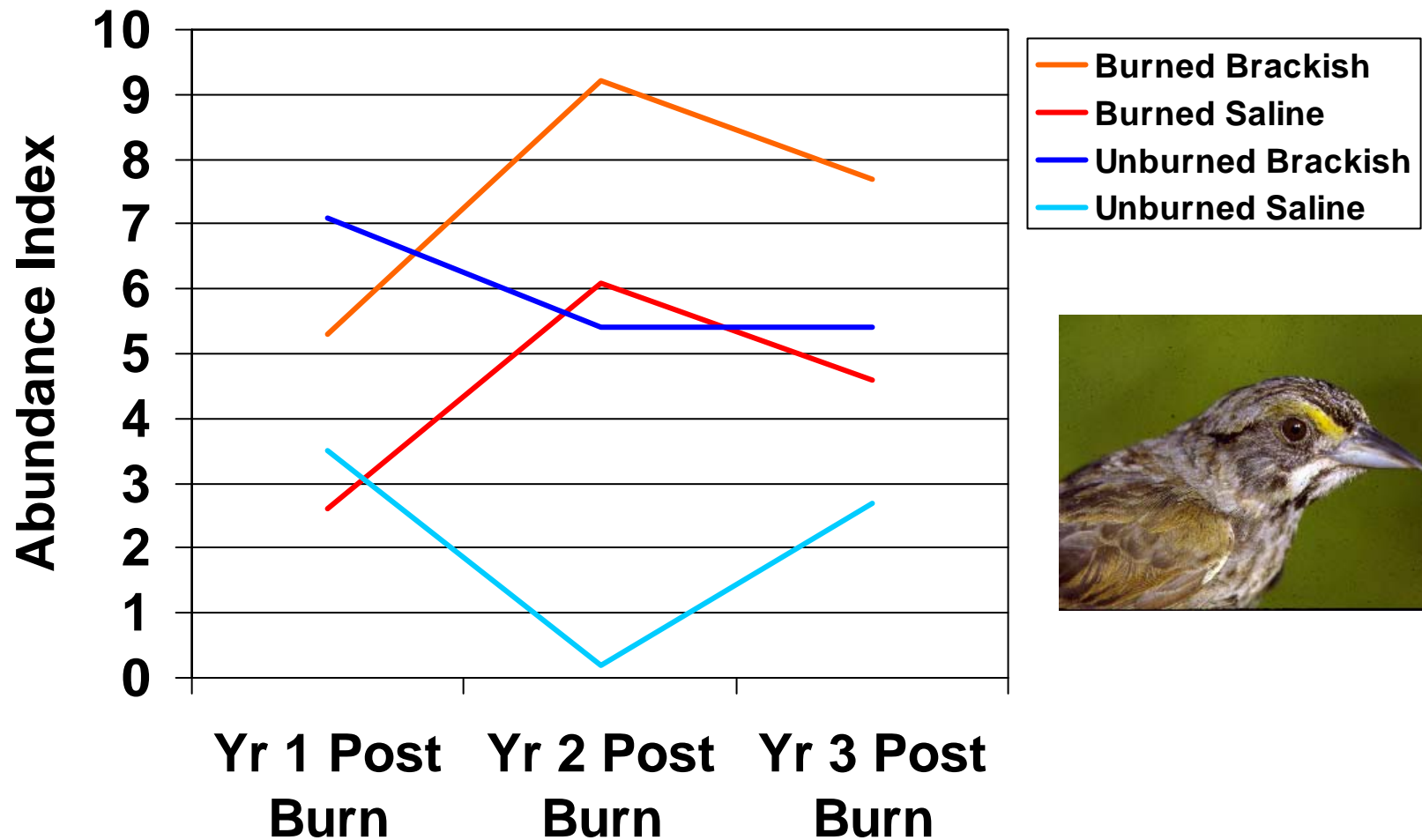
- No Vegetation
- Sparse Vegetation
- Emergent Vegetation
- Shrub-scrub
- Forested



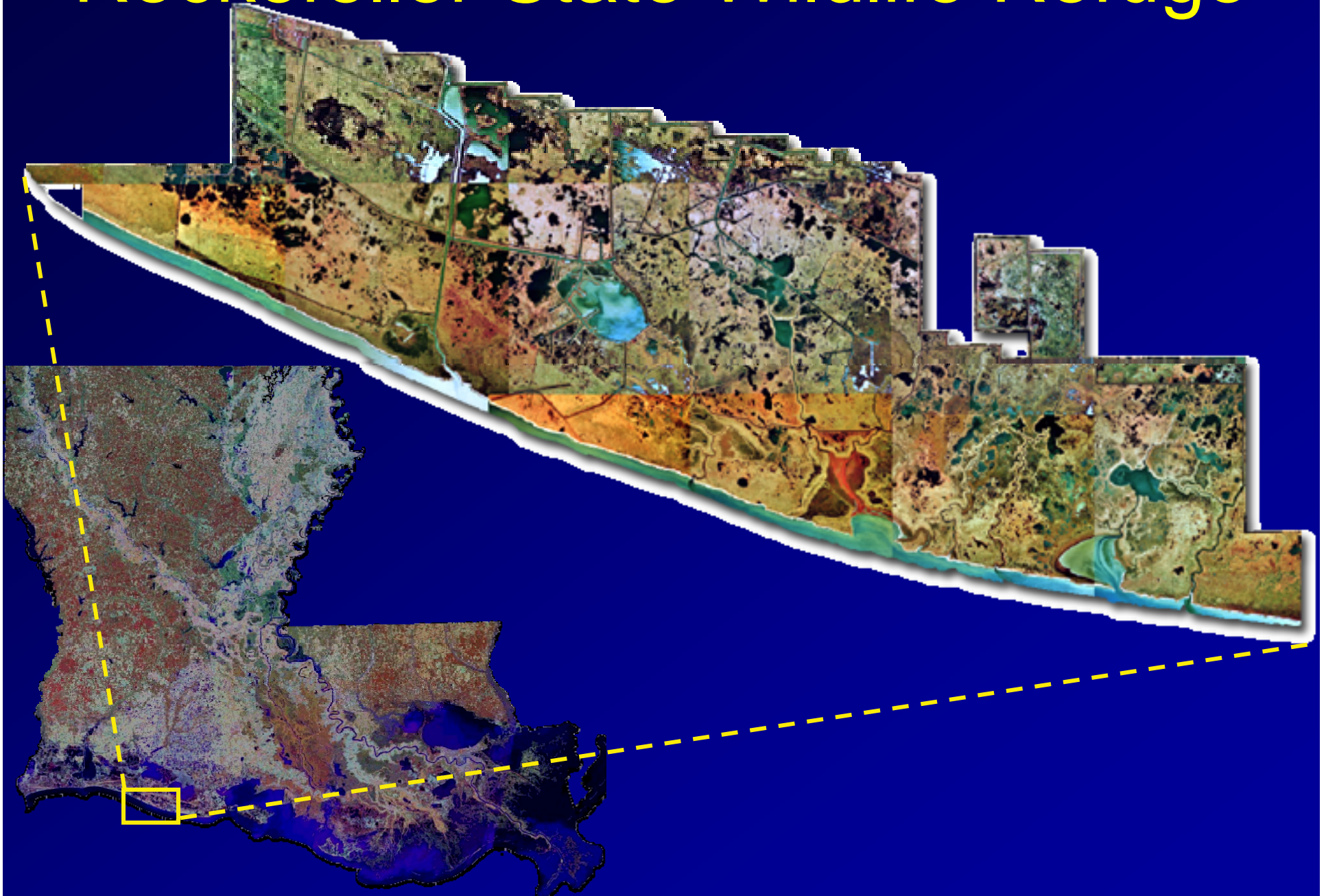
# Marsh Burning Mosaics



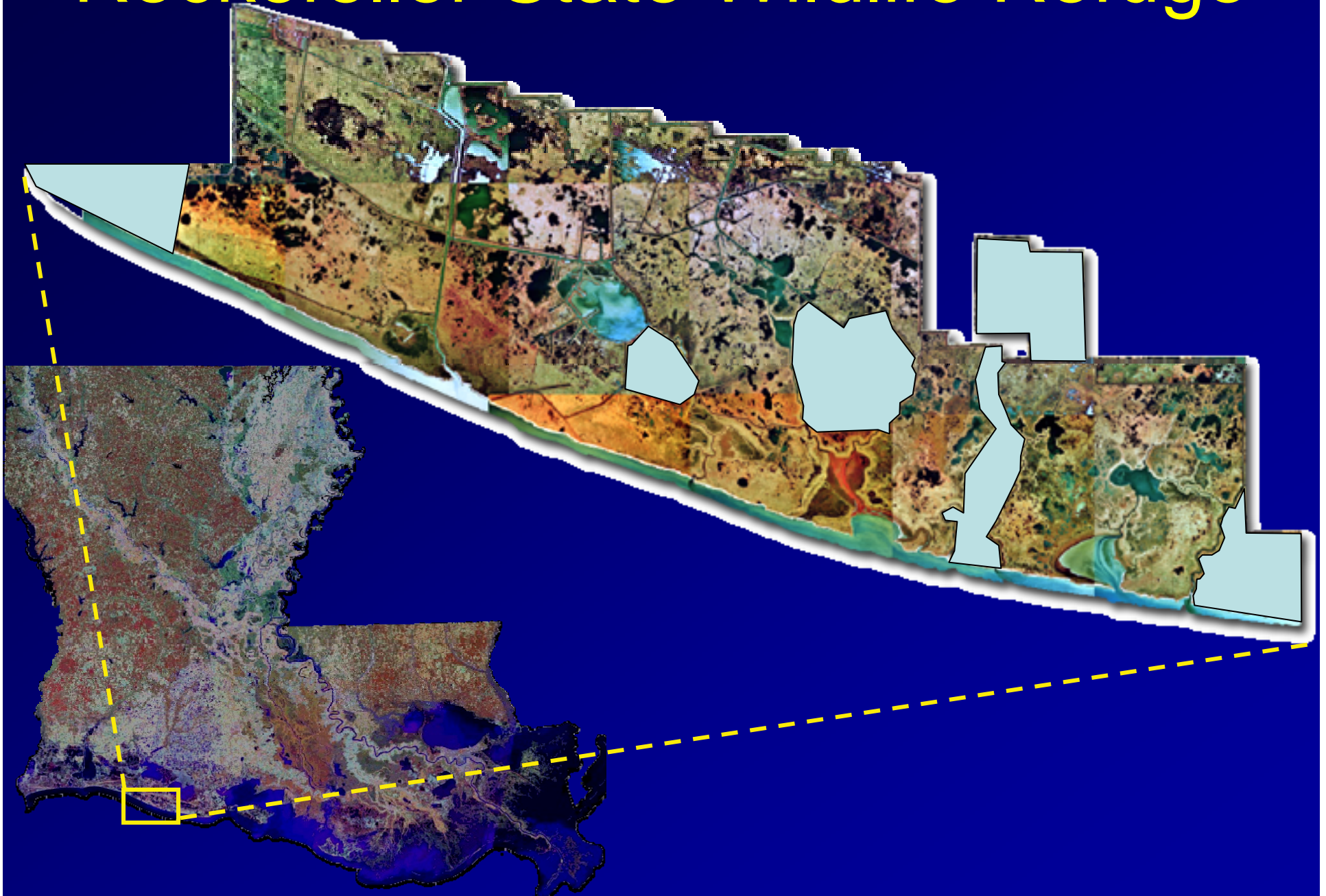
# Summer Seaside Sparrow Abundance in Unimpounded La Chenier Plain Marshes



# Rockefeller State Wildlife Refuge

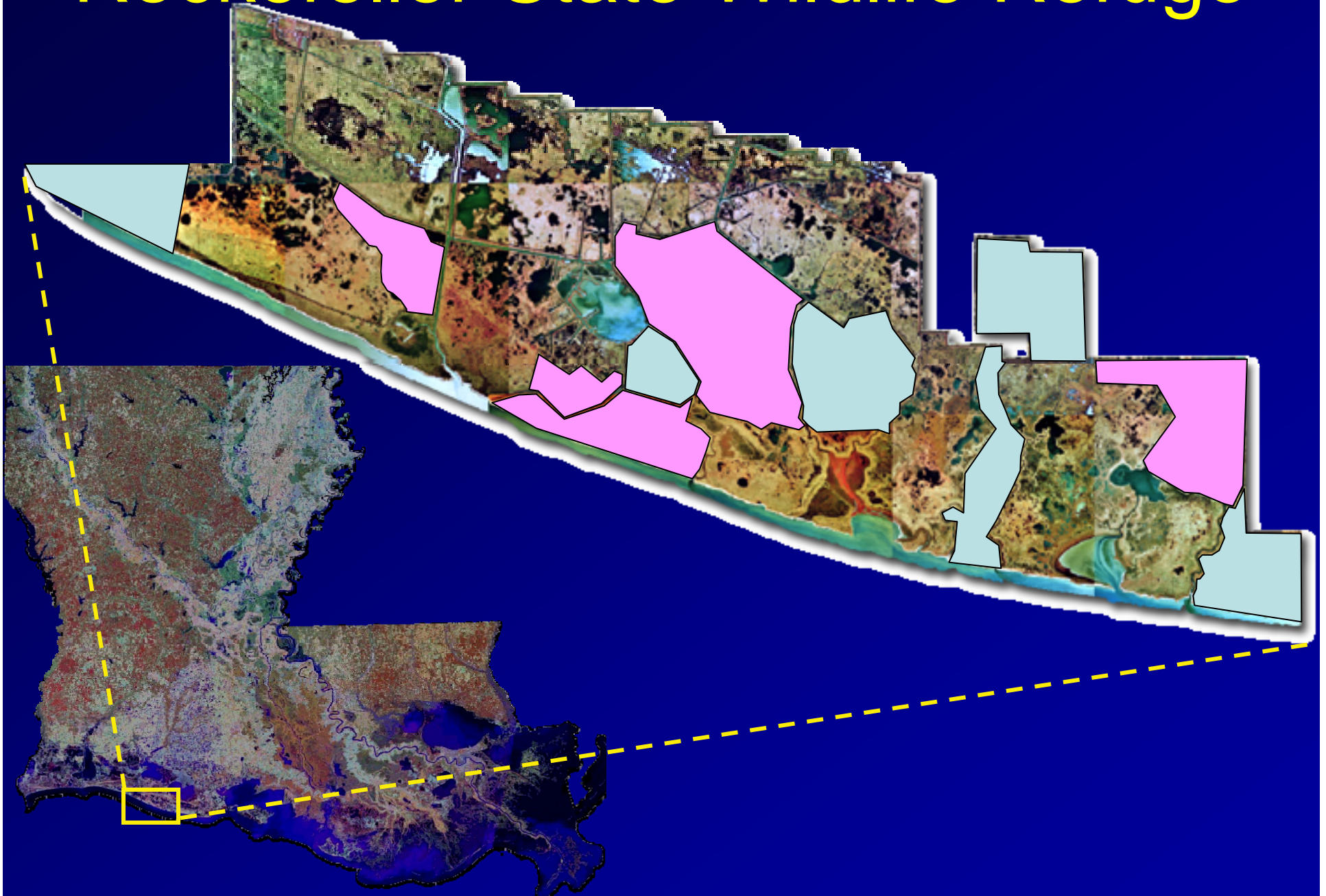


# Rockefeller State Wildlife Refuge

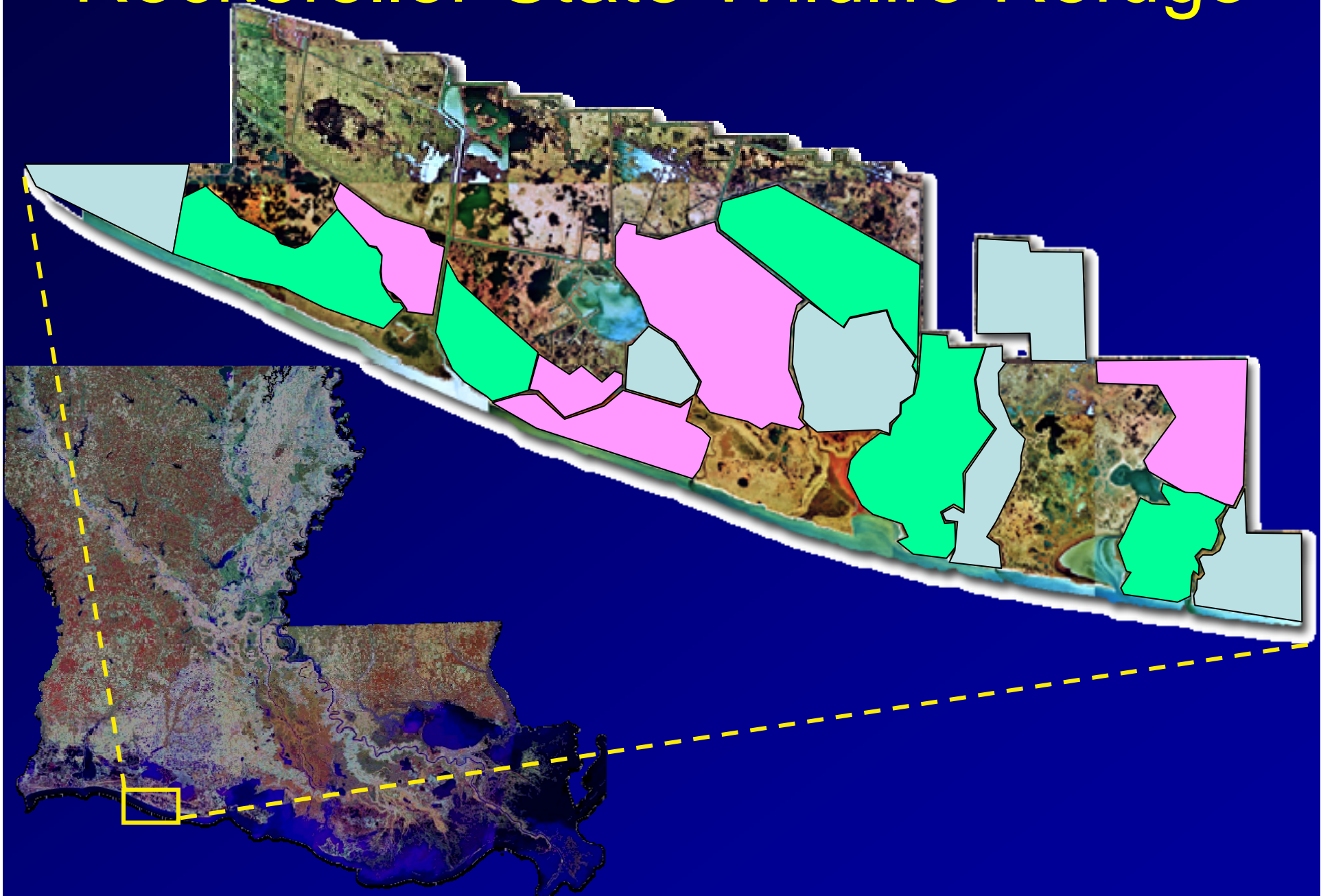




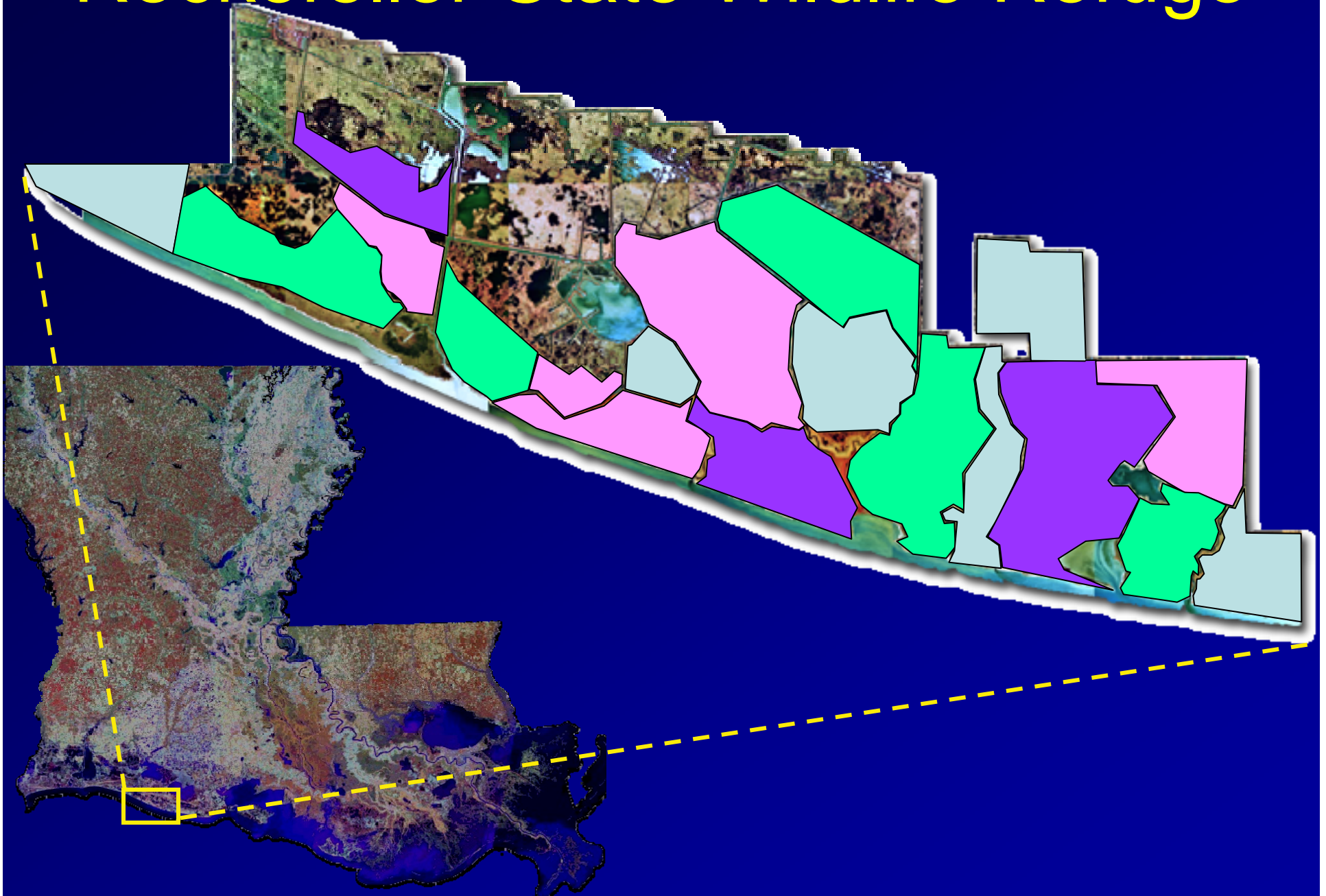
# Rockefeller State Wildlife Refuge



# Rockefeller State Wildlife Refuge

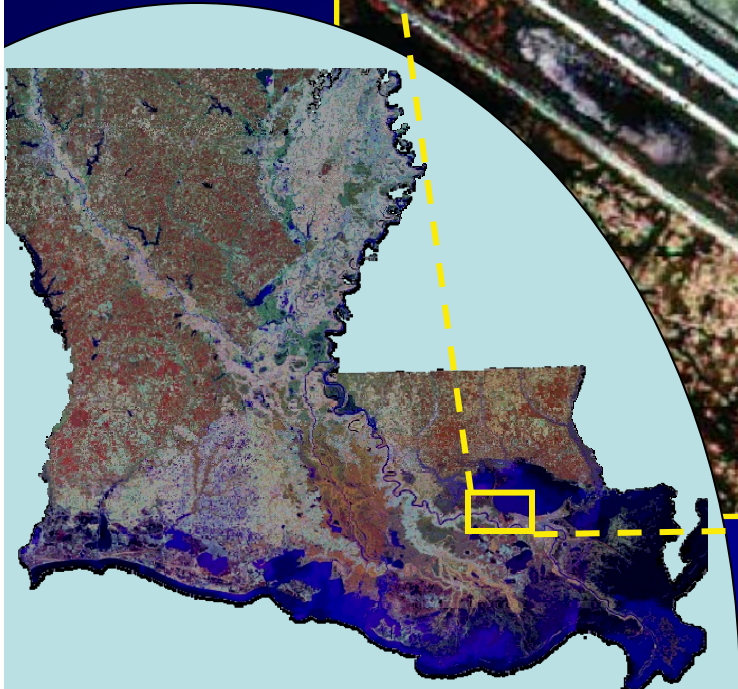


# Rockefeller State Wildlife Refuge



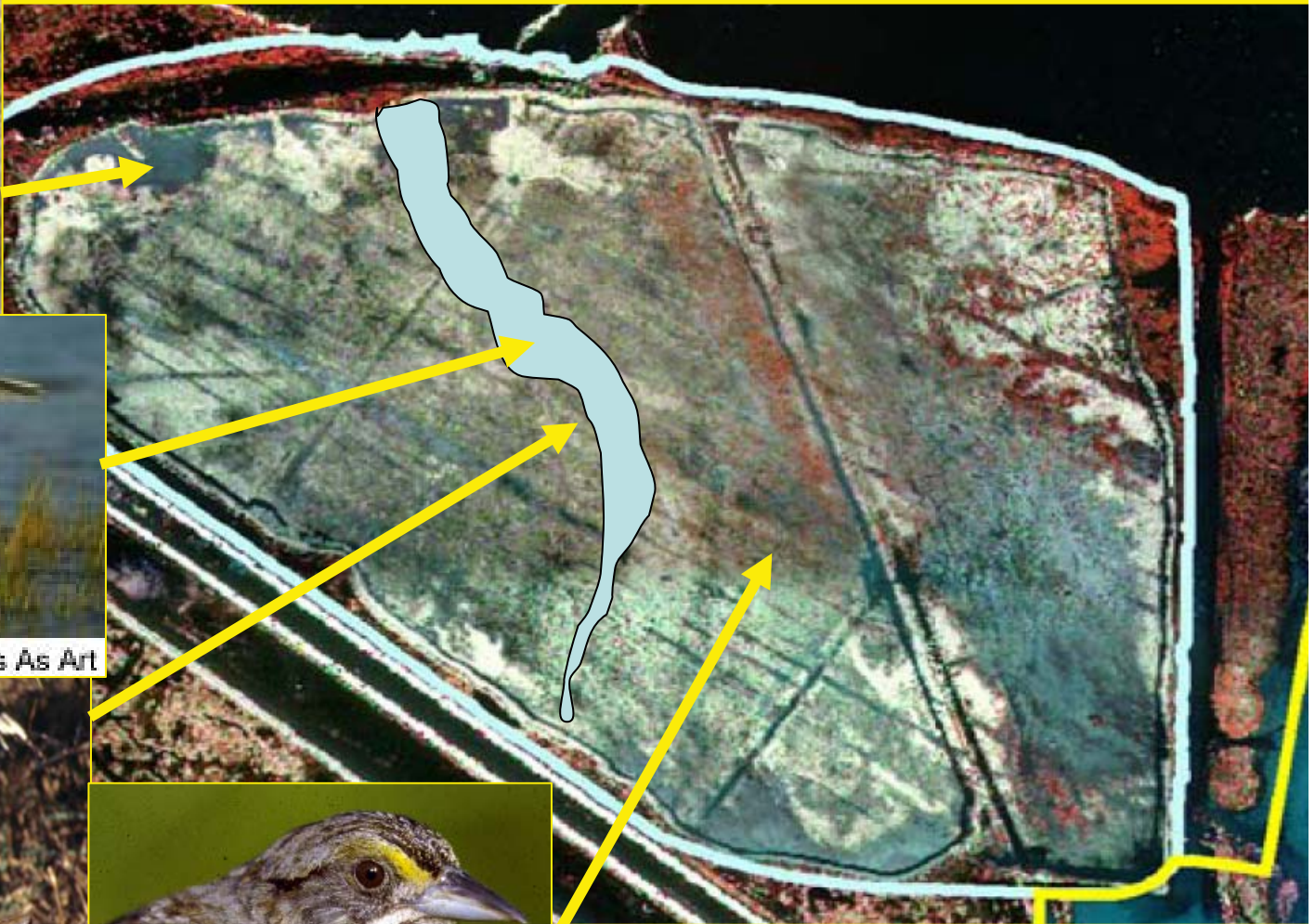
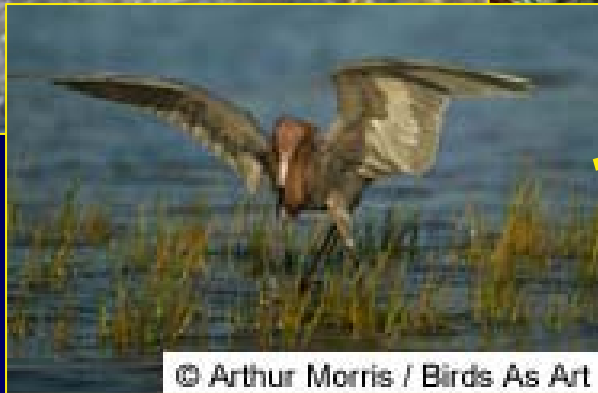
# Marsh Creation Mosaics

## Bayou La Branche, LA



# Marsh Creation Mosaics

## Bayou La Branche, LA



# Habitat Mosaics on Barrier Islands



# Habitat Mosaics on Barrier Islands

Intertidal Zone  
Foraging Plovers  
Reddish Egret



# Habitat Mosaics on Barrier Islands

## Beach

Nesting Plovers  
Terns  
Black Skimmer





# Habitat Mosaics on Barrier Islands

## Dune Grasslands & Shrubs

LeConte's Sparrow

Brown Pelicans

Colonial Wading Birds



© Michael Costello/CLO

# Habitat Mosaics on Barrier Islands

## Emergent Marsh

Clapper Rail  
Seaside Sparrow  
American Bittern



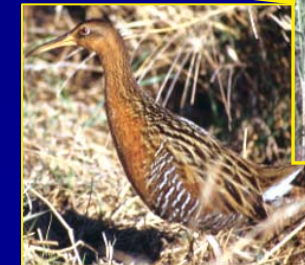
# Habitat Mosaics on Barrier Islands



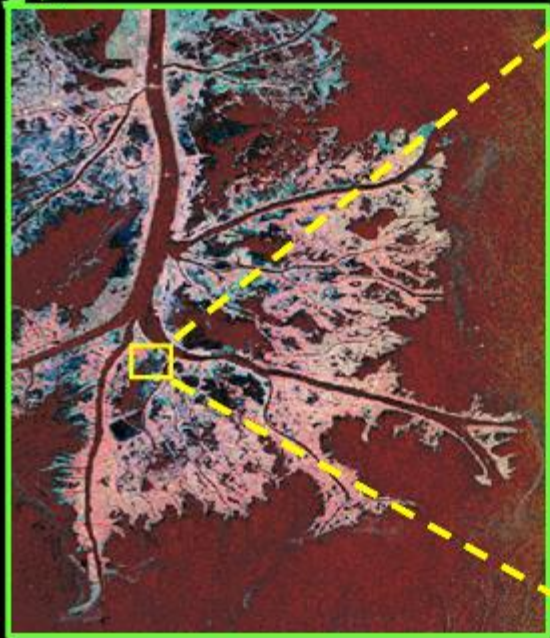
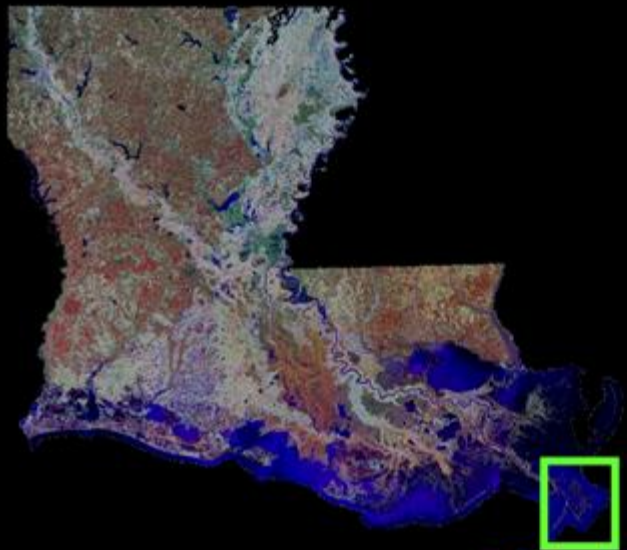
# Marsh Terracing as a Habitat Mosaic



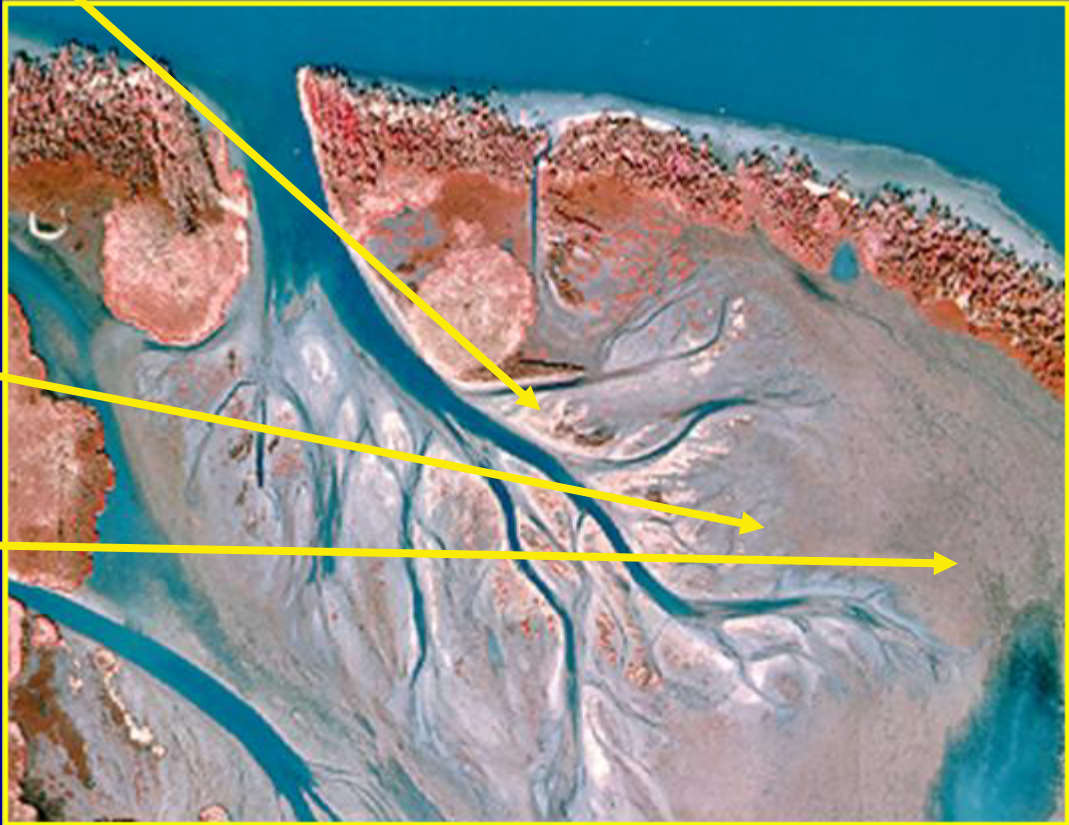
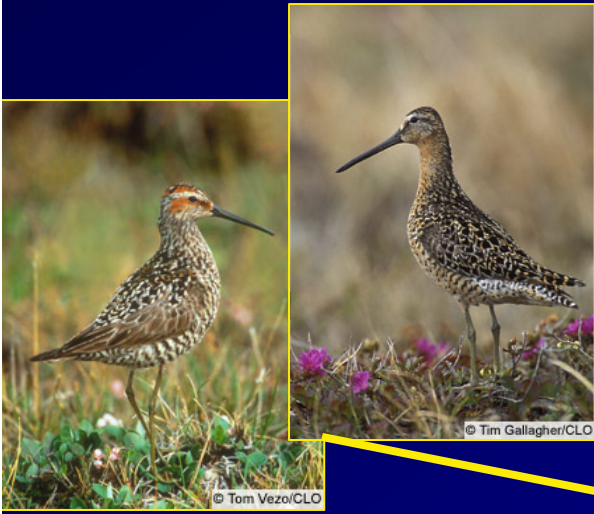
# Marsh Terracing as a Habitat Mosaic



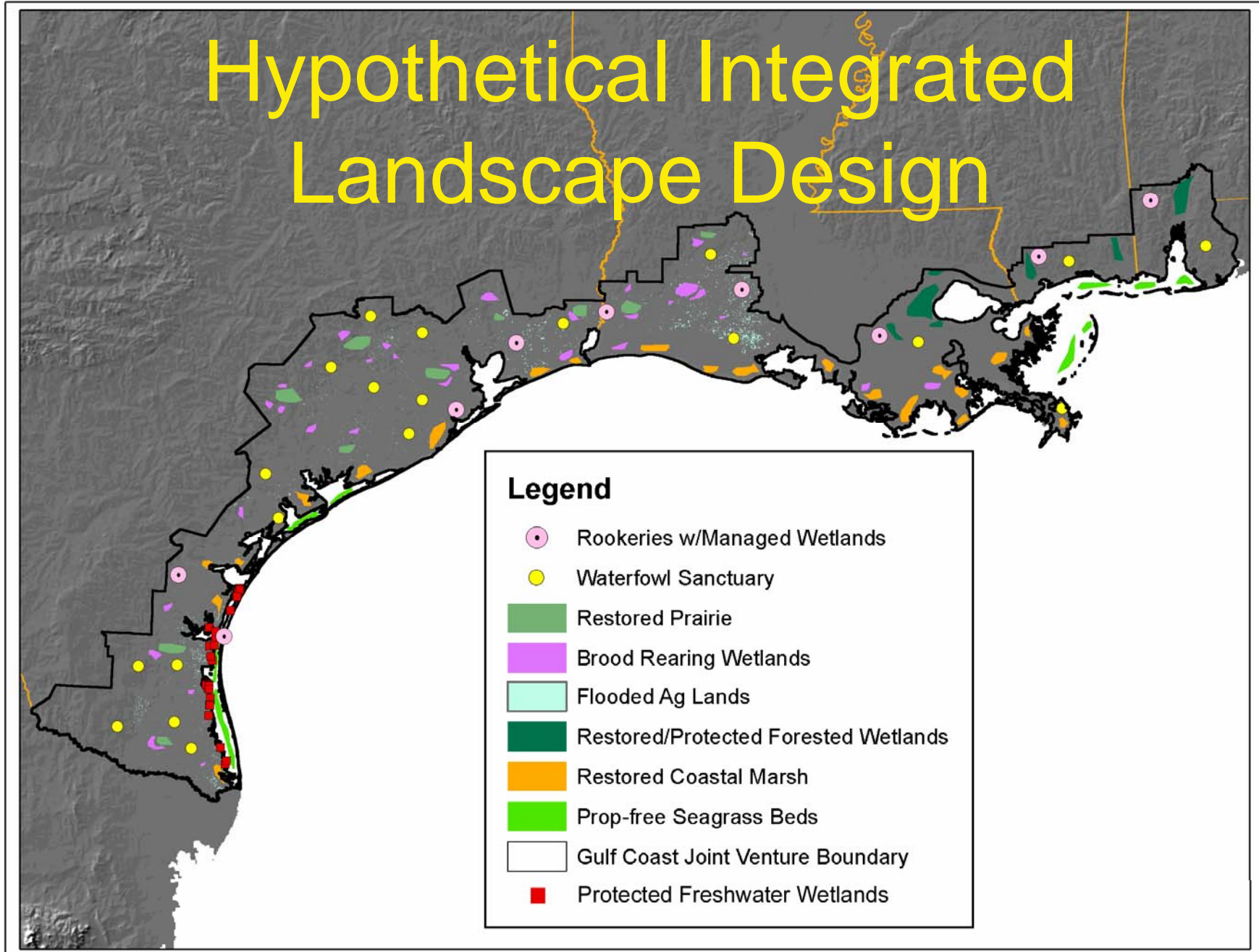
# Intertidal Flats as Mosaics



# Intertidal Flats as Mosaics



# Hypothetical Integrated Landscape Design





# Closing Thoughts

- There is no such critter as an “all-bird”
- Consequently, there is no “all-bird” habitat
- Habitat mosaics are key
- Quantified habitat needs for priority birds, once available, will inform the design of optimal mosaics at multiple spatial scales
- Until then we will be ...
  - challenged to identify an adequate mosaic,
  - more opportunistic than strategic,
  - at least considering a wide array of species needs



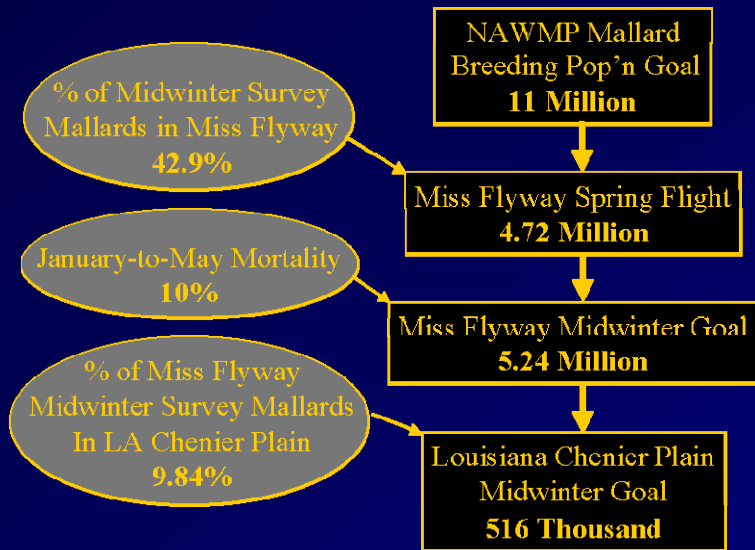


Sea-Side Finch

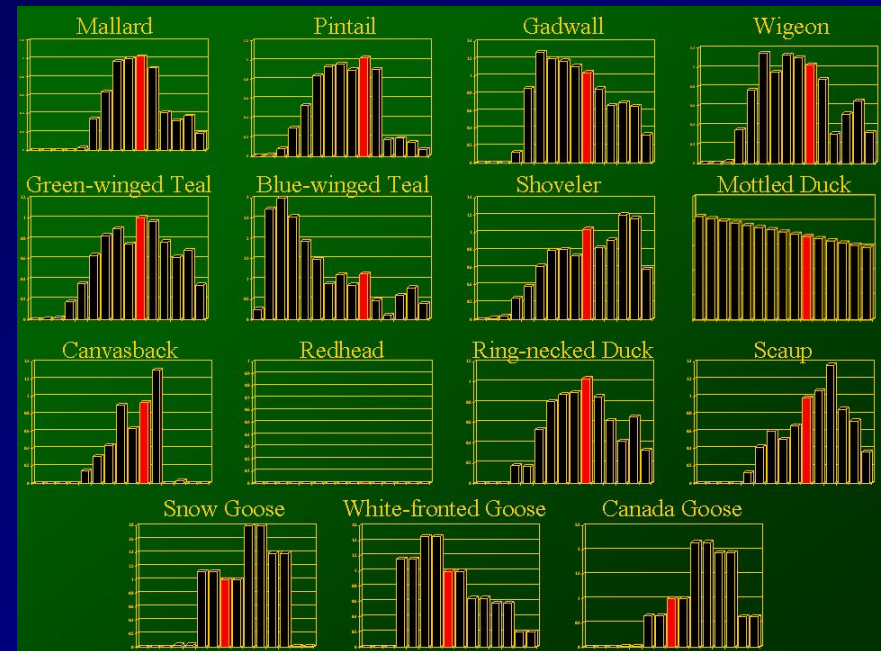
**Having one day shot a number of these birds, merely for the sake of practice, I had them made into a pie, which, however, could not be eaten, on account of its fishy savour.**

**- J. J. Audubon**

# Midwinter Population Targets



# Migration Chronology



# Food Energy Demand



# Habitat Foraging Values

- Harvested Rice  
576 MUDs/ac
- Moist Soil  
1,332 MUDs/ac
- Unharvested 2nd Rice  
5,618 MUDs/ac

# Habitat Objectives

## Aug-Oct

- 35,007 ac Rice
- 5,836 ac Moist Soil

## Nov-Mar

- 45,536 ac Rice
- 9,804 ac Moist Soil

**9:00-9:15-** Meeting introduction and announcements

**9:15-10:45- Session 1: The conservation status of birds on the Gulf Coast.**

- 1) Which bird species on the Gulf Coast are in greatest need of conservation attention and why?
- 2) What mosaic of coastal habitats is needed for endangered species AND multi-species conservation?

- Session 1. Bill will lead this session off with a PowerPoint presentation that will outline the major coastal bird species of conservation concern. For each species he will talk briefly about seasonal habitat preferences and presumed reasons that they are in trouble. Species will be grouped by major coastal habitat types. Bill will also prepare a word document for the workshop website to supplement this presentation so that people will have this information in a lasting reference after the meeting. After Bill's presentation, Patty Kelly and Margo Z. will give a 20 minute presentation (30 minutes MAX) that provides more detail about the conservation status of three species of plovers on the coast. This presentation will be grouped into two parts (in which ever order you would like): 1) beach-nesting Snowy and Wilson's plovers; and 2) wintering Piping and Snowy Plovers. These presentations will focus on distribution, specific habitat associations, and presumed reasons why these species are of conservation concern. I haven't talked with Patty or Margo about this presentation recently. Please respond and let me know how this is going. Please try to make this combined presentation 20 minutes. We don't have time for anything over 30 minutes. After Patty and Margo, Barry Wilson will give a presentation about the distribution of various coastal habitat types and bird conservation. If there is much time remaining, Barry and Bill will facilitate any discussion. However, I imagine this session will be mostly presentations. Since it is only 1.5 hours long, and there are three presentations, please do not make any of your presentations longer than 30 minutes.