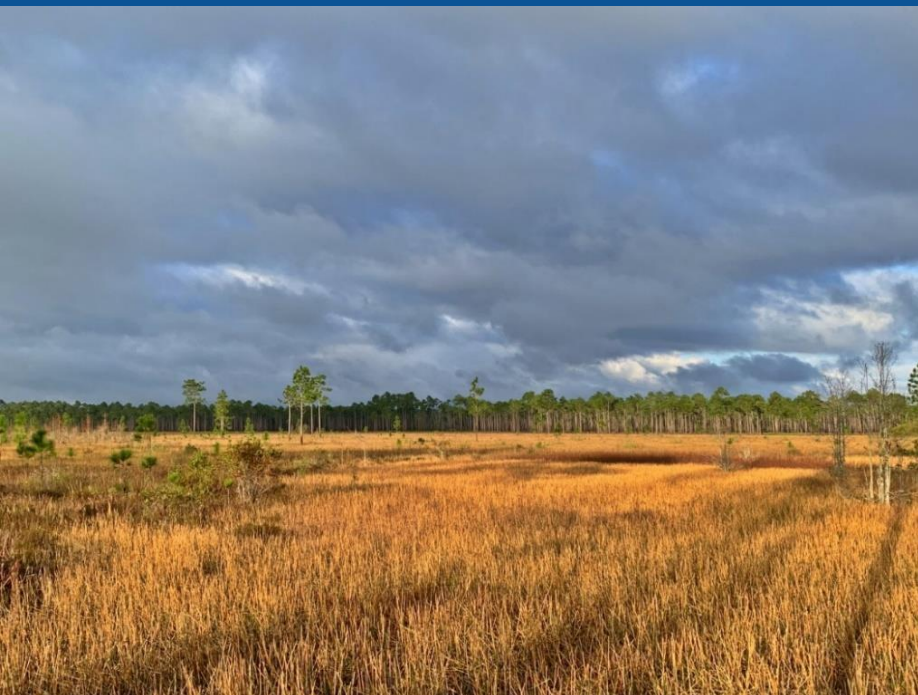


# Conservation of the Mississippi Sandhill Crane

very short version



Scott Hereford

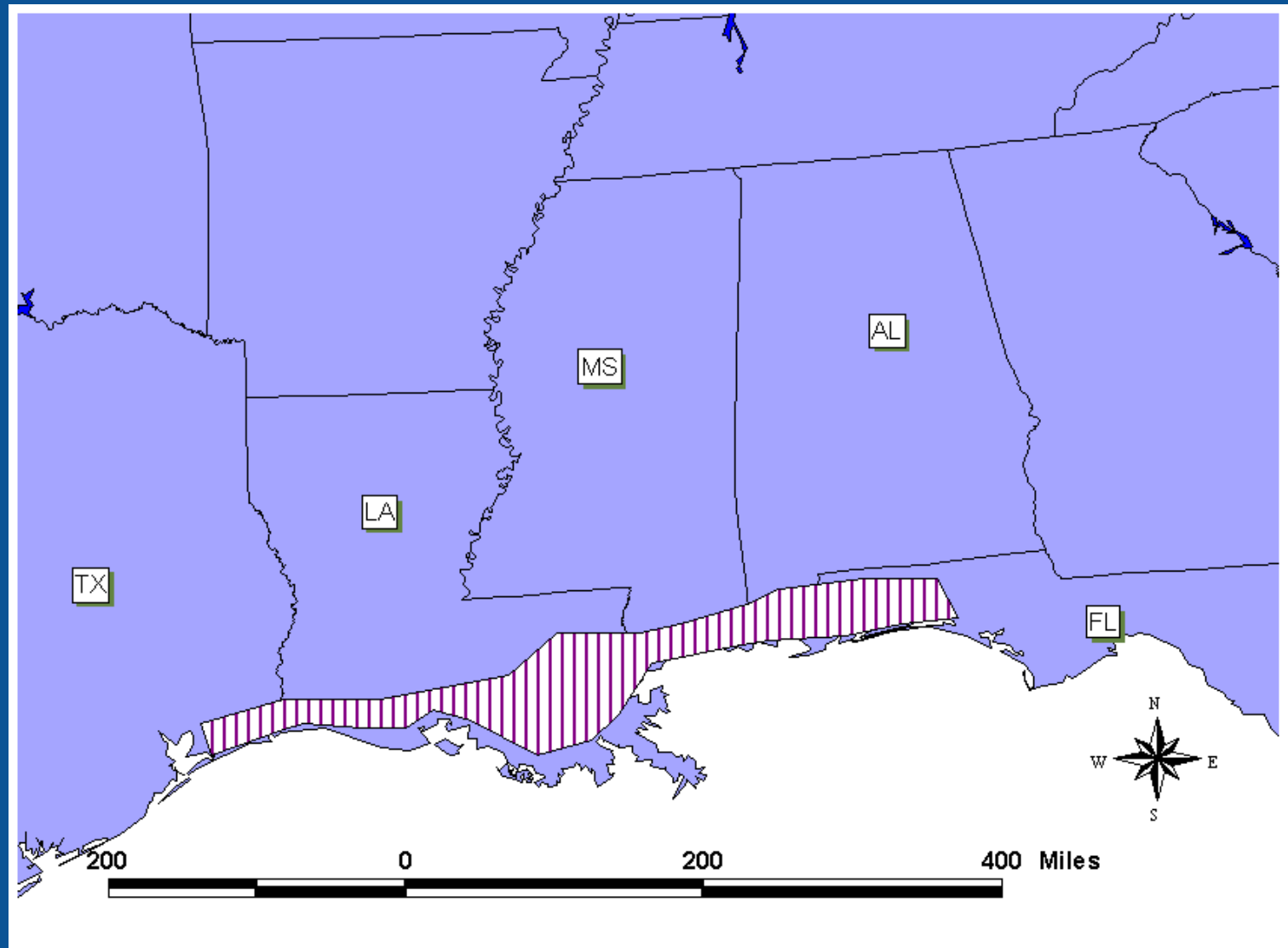
USFWS MS Sandhill Crane NWR

# Sandhill Crane Distribution

- Wide distribution
- 5 subspecies
  - 2 migratory (98%)
  - 3 non-migratory
    - Mississippi
    - Florida
    - Cuban



# Former MSCR Range



# Coastal Wet Prairie, Pine Savanna



- Wide open
- Nutrient poor, wet, acidic soils,
- Fire maintained
- <2-3% remains

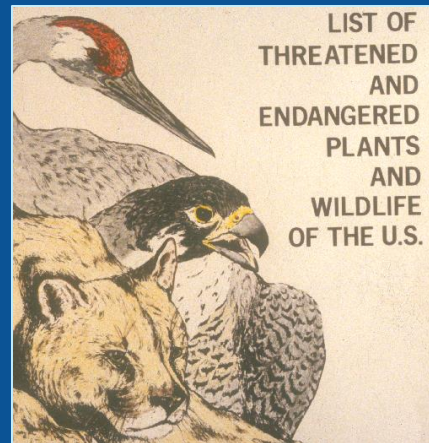


# 1970s

- 1972: *Grus canadensis pulla*



- 1973: ESA



- 1975: Refuge Established



# Population Management: Supplementation

- Captive flock
  - PWRC
  - ASSC, WOC
- 1981 –
- Parent or costume rearing
- Socialization
- Acclimation
- Release

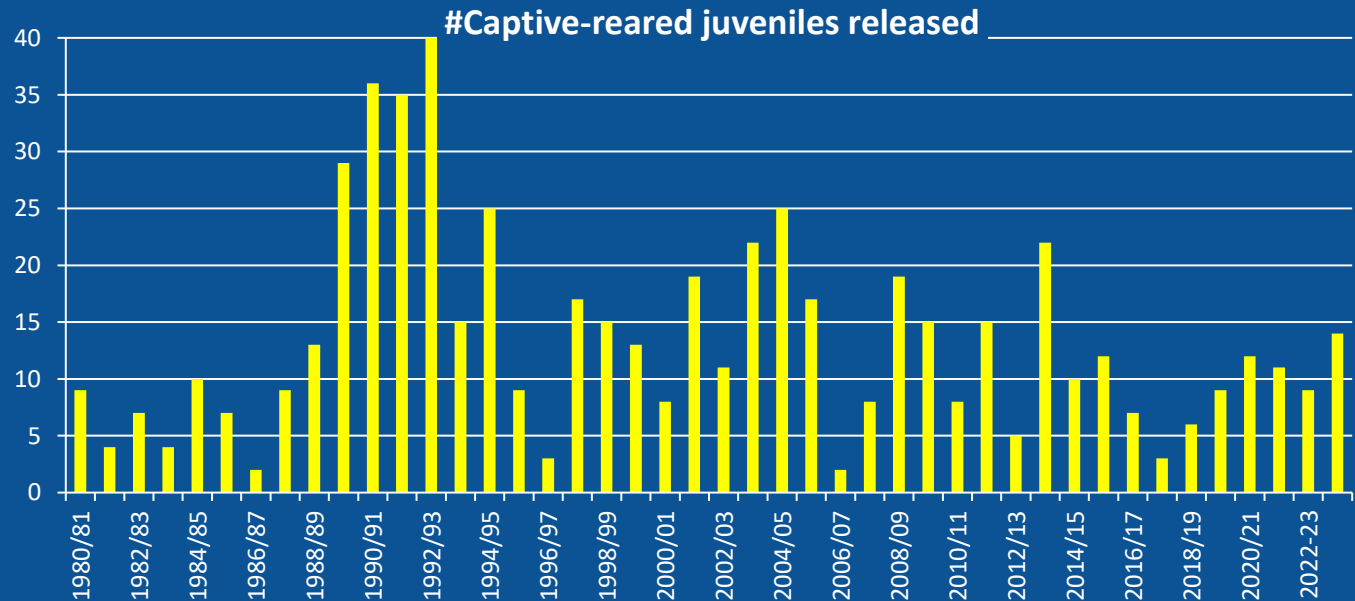


# Supplementation History

- 1981>
- 44<sup>rd</sup> year
- Largest, longest
- 92 cohorts
- 591 cranes
- 13 sites
  - 3 pen types
- Rearing
  - 343 PR
  - 248 HR
- Source
  - PWRC
  - ASSC
  - WOCC



Lauren McLaurin



# Crane Monitoring

- Year-round, >1984
- Visual (blind, road)
- VHF telemetry (1981-2022)
- Camera traps (35 lx)
- GPS GSM transmitters (2018-)
- Parameters
  - Release techniques
  - Use of managed habitat
  - Survival
  - Mortality
  - Social grouping
  - Movements
  - Home range



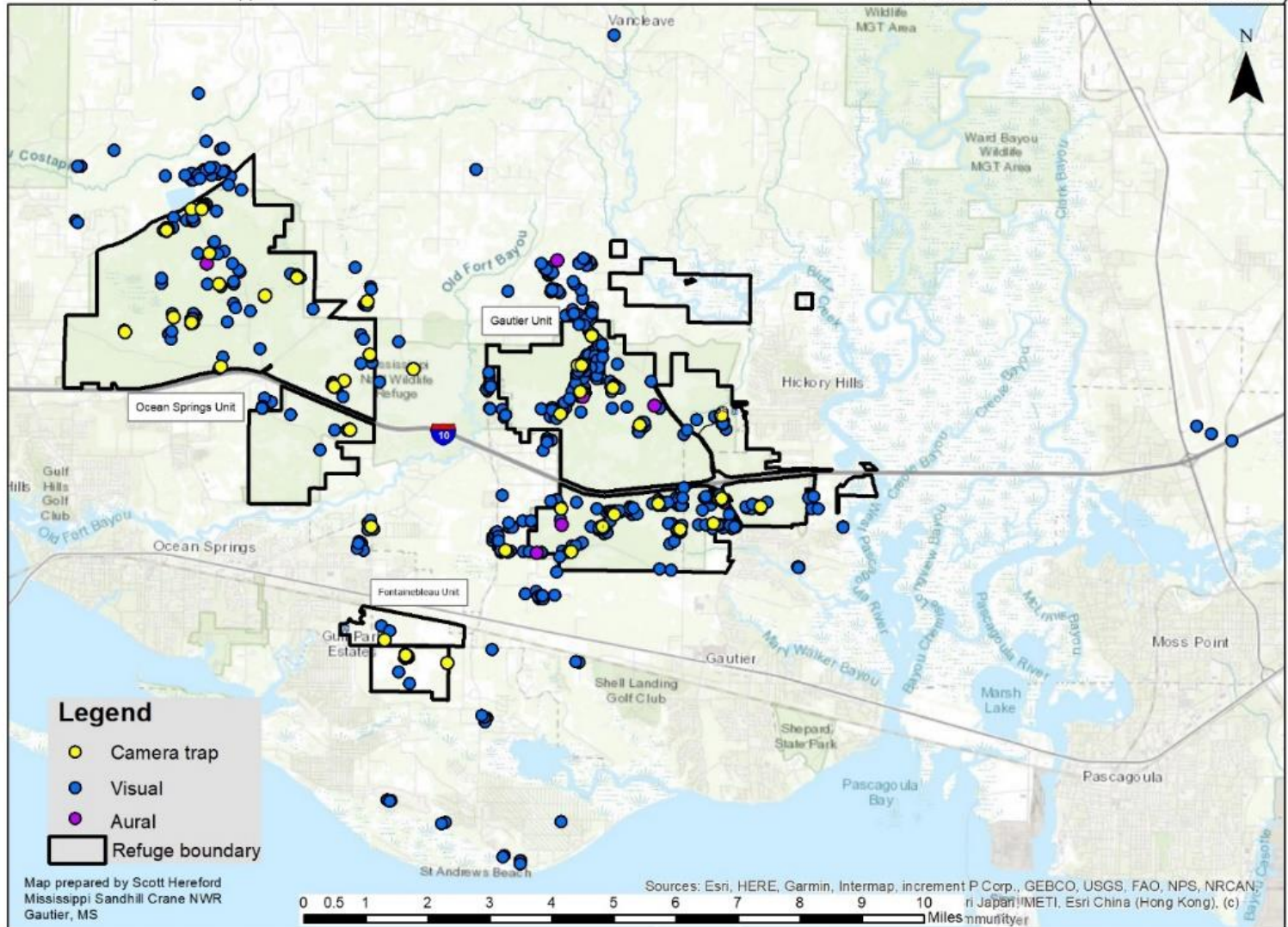
# Crane locations

- 73,000

## U.S. Fish & Wildlife Service

Mississippi Sandhill Crane National Wildlife Refuge  
Jackson County, Mississippi

MS Sandhill Crane  
2023 locations (non GPS GSM)

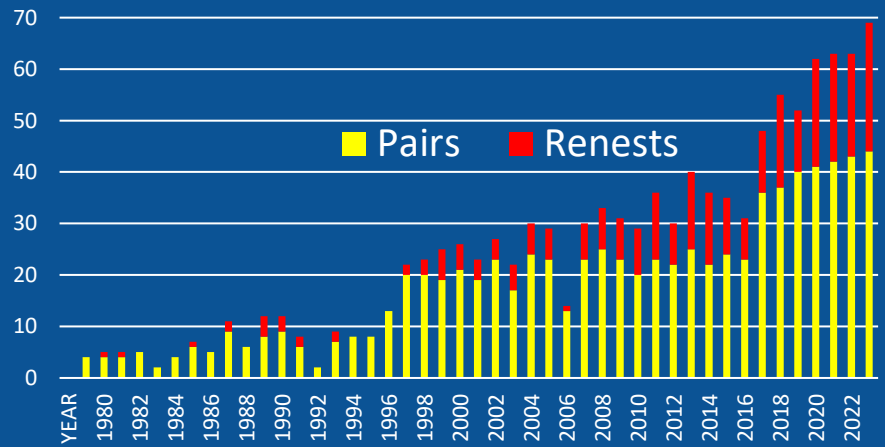


# Nest Monitoring

- 1965 –
- Census
- Ground search
- Aerial
  - Helicopter
  - UAS
- Indirect
- Camera traps

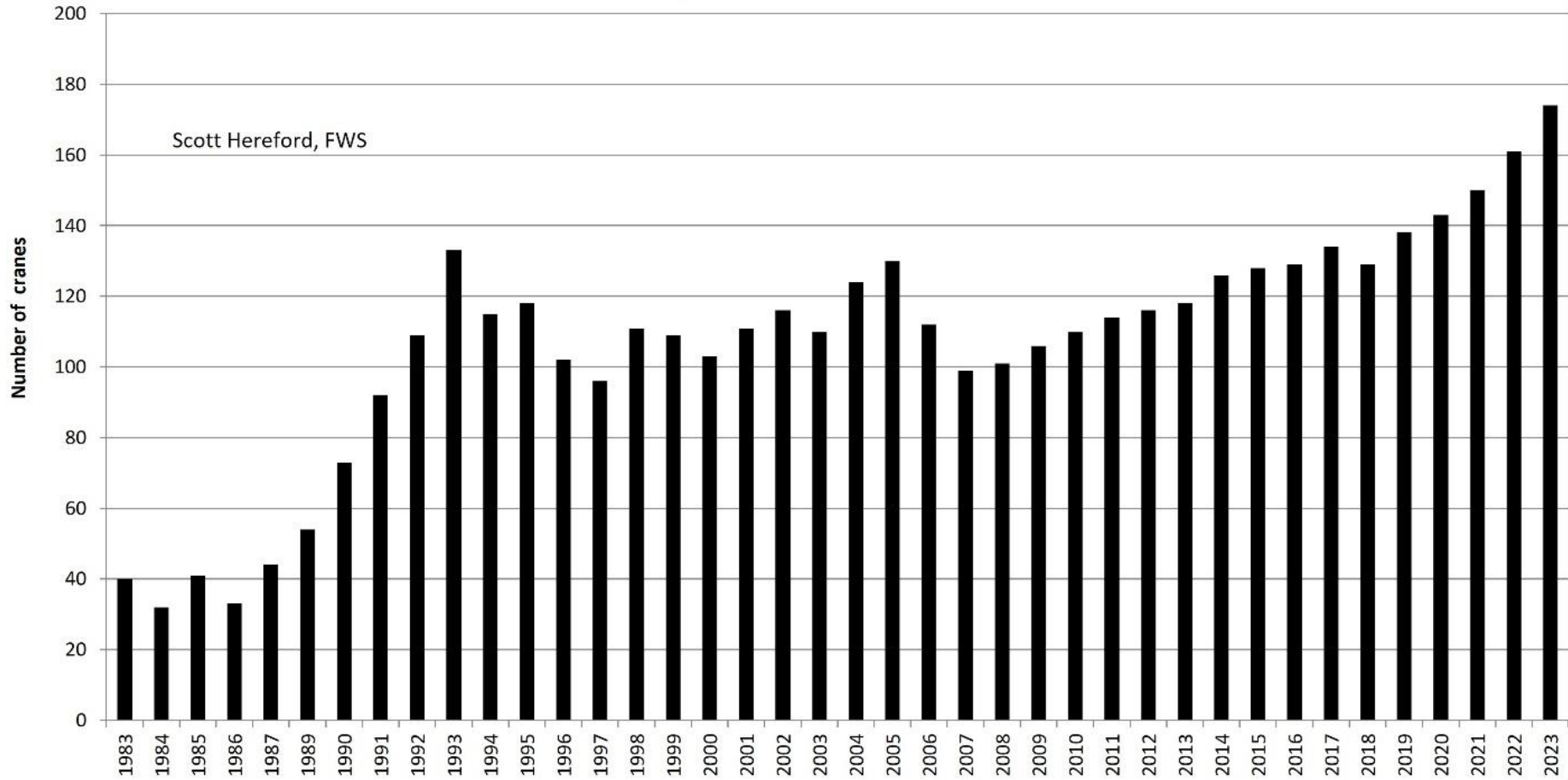


#Nests by year



# Year end population

Year-end Population of MS Sandhill Cranes



# Mississippi Sandhill Crane: Jan 2024 Wild Population



*Grus canadensis pulla*

**ENDANGERED**

## Sex

Male: 67  
Female: 72  
unknown: 35

## Source

(hatch)  
Wild: 82  
ASSC: 62  
WOC: 30

**174**

121 banded  
53 unbanded

## Pairs

# experienced breeding pairs: 36  
# pairs w/ 1 experienced: 4  
# experienced, unpaired: 7  
# inexperienced pairs: 8  
# unpaired: 71  
(Oldest marked crane: 27 years)

## Area

Gautier: 108  
Ocean Springs: 53  
Fontainebleau: 13

Source: Scott Hereford  
MS Sandhill Crane NWR

Thanks Jack Hutchison, Lauren & Kim McLaurin, Jake Power, Megan Spina, Theresa Wood

# Progress > Sustainability

	<u>Now</u>	<u>Recovery Goals</u>
• Population	170	130-170
• #Pairs	44	30-35
• Recruitment	10	10-12



# Challenge: Mortality

- Survival not high enough
- Predation main cause of mortality
- Other trauma
  - vehicle strikes (51)
  - Powerlines, fence
- Disease minor



# Challenge: Burning around cranes

- GS burns means burning around nesting cranes.
- Evolution of approaches
  - No burning during nesting
    - abandonment, burn over
    - Leave buffer
  - Steer family out
  - Pond nests
  - Minimize disturbance
  - Protect savanna nests



Photos: S Gray, S Saucier



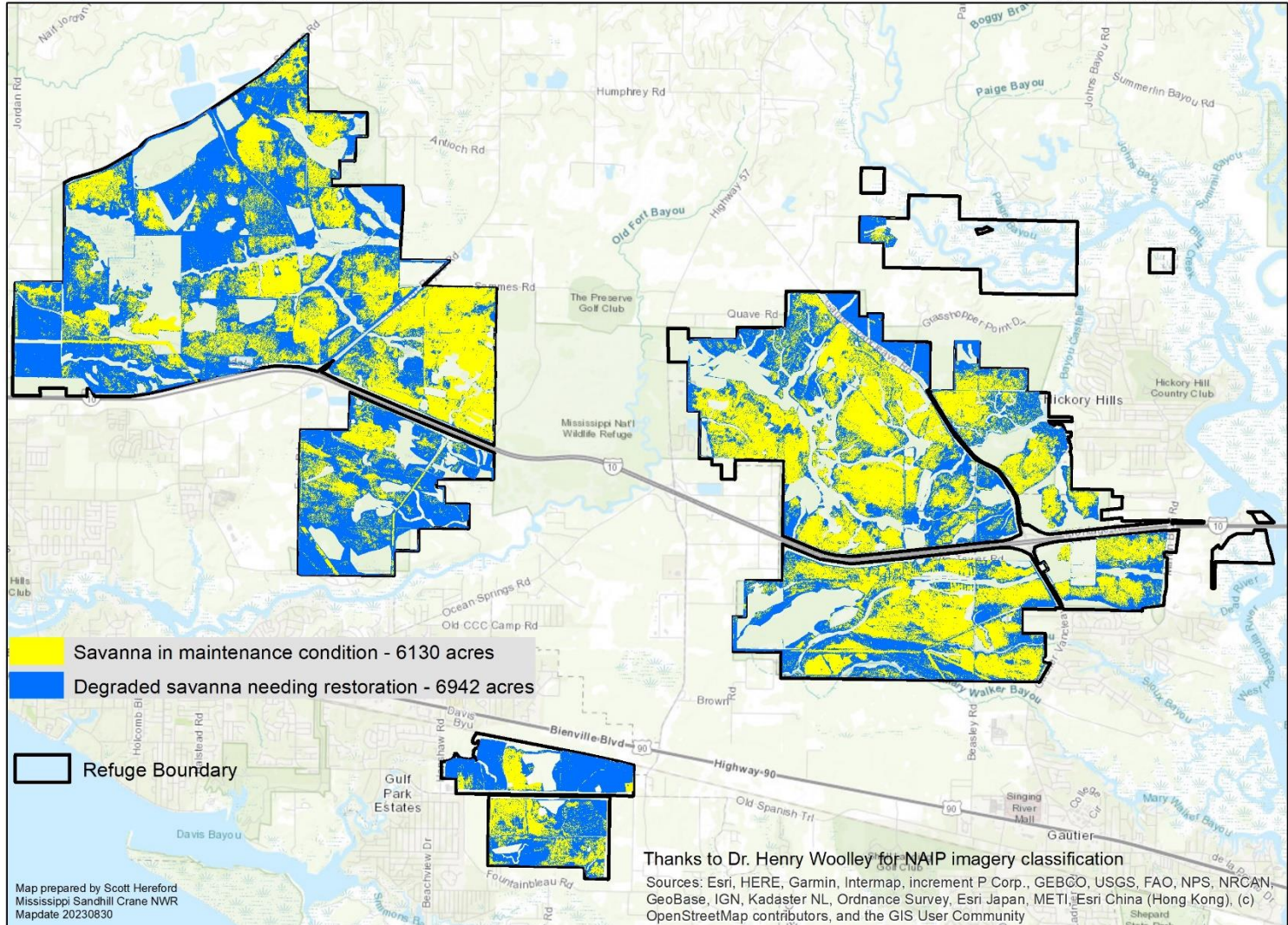
# Challenge: Habitat

U.S. Fish & Wildlife Service



Mississippi Sandhill Crane National Wildlife Refuge  
Jackson County, Mississippi

NRP Phase II  
Pine savanna condition



0 0.5 1 2 3 4 5 Miles

# Dusky Gopher Frog (*Rana sevosa*)

courtesy: Jackson Hutchison

## Status

Federally endangered

135 adults left in wild

Now restricted to Jackson and Harrison co., MS



## Ecology

Spend most of year in burrows in upland pine forest

Breed after heavy rainfall, Dec-April, in seasonal pools

## Translocation Project (10<sup>th</sup> year)

Eggs are collected and tadpoles are raised in cattle tanks until they become frogs

These raised frogs are measured, marked, and released at a designated site (almost 9,500 to date!)

Breeding adults are monitored at the release site (drift fence, egg masses, wild-hatched tadpoles)



Photos: Angela Dedrickson

# Other Benefitting Species

- Crane an umbrella species for the habitat.
- Coastal wet prairies are rare, species-rich, and MSCNWR has largest remaining patches.
- Several other species benefit from Refuge management actions.



Henslow's sparrow



Many-flowered grass pink



Eastern meadowlark



Yellow rail



At Risk burrowing crayfish (digger)

- Gopher tortoise, AL red-bellied turtle
- Northern bobwhite quail, black rail, Am woodcock, northern harrier, red-headed woodpecker, (SE) American kestrel, loggerhead shrike, brown-headed nuthatch, Bachman's sparrow, LeConte's sparrow, prairie warbler.



- Largest blocks of rare coastal wet prairie, savanna
- 2 of rarest vertebrate populations in USA
- Suite of other spp. of conservation concern

[scott\\_hereford@fws.gov](mailto:scott_hereford@fws.gov)

# Management

- Protection
- Habitat management
  - Prescribed fire
  - Mechanical veg
  - Invasive
  - Mowing (450 acres field)
  - Hydrology (27 ponds)
- Population management
  - Predator removal



# GSM revealed long movement

- 2011 'Magma'
- April-May
- 30 mi N
- 33 mi E
- 92 mi W

