

Providing Water for Wildlife and Resiliency Before the Next Drought – PART 2



Joe Saenz

Aransas National Wildlife Refuge

Elizabeth H Smith

International Crane Foundation

James Dodson

San Antonio Bay Partnership

Storm Surge and Winds Early Next Morning



Dry Hole E

71° F

08 – 26 – 2017 08:15

Storm Surge and Wind Speed Reducing



Dry Hole E

71° F

08 – 26 – 2017 09:55

Storm Surge Beginning to Flow to Bay Late Afternoon



Dry Hole E

71° F

08 – 26 – 2017 19:40

Two Days Post-Hurricane, Birds Return



Dry Hole E

71° F

08 – 27 – 2017 07:50

Three Days Post-Hurricane



Dry Hole E

71° F

08 – 28 – 2017 07:20

14 Days Post-Hurricane, No Well Water

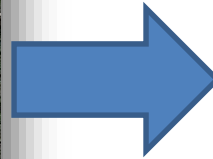


Dry Hole E

84° F

09 – 08 – 2017 10:45

Restoration Challenges

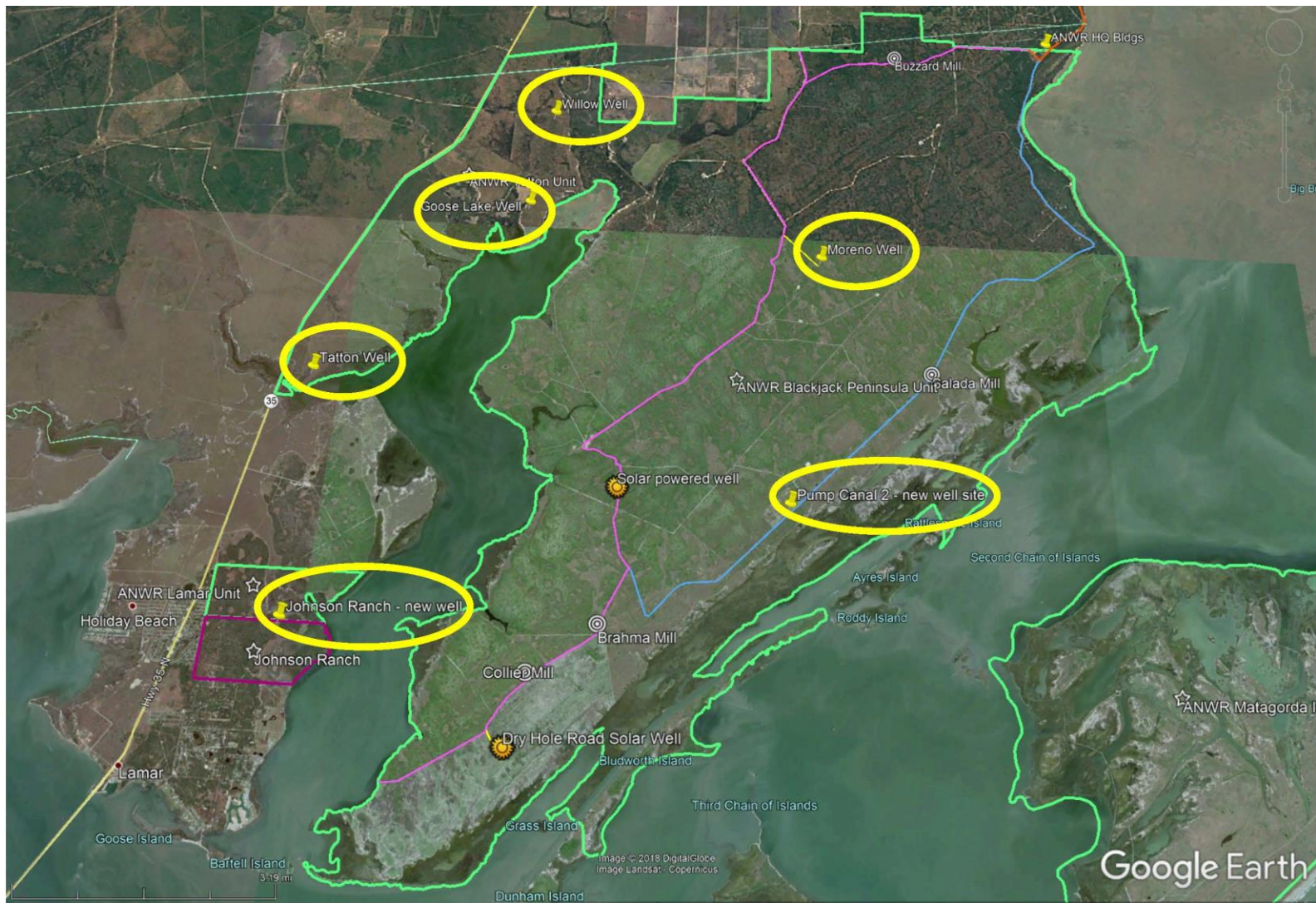


Restoration Steps

- Repair and Install additional wells in strategic locations within the Whooping Crane wintering range



- Recontour existing ponds with well to provide shallow water habitat for foraging and other activities

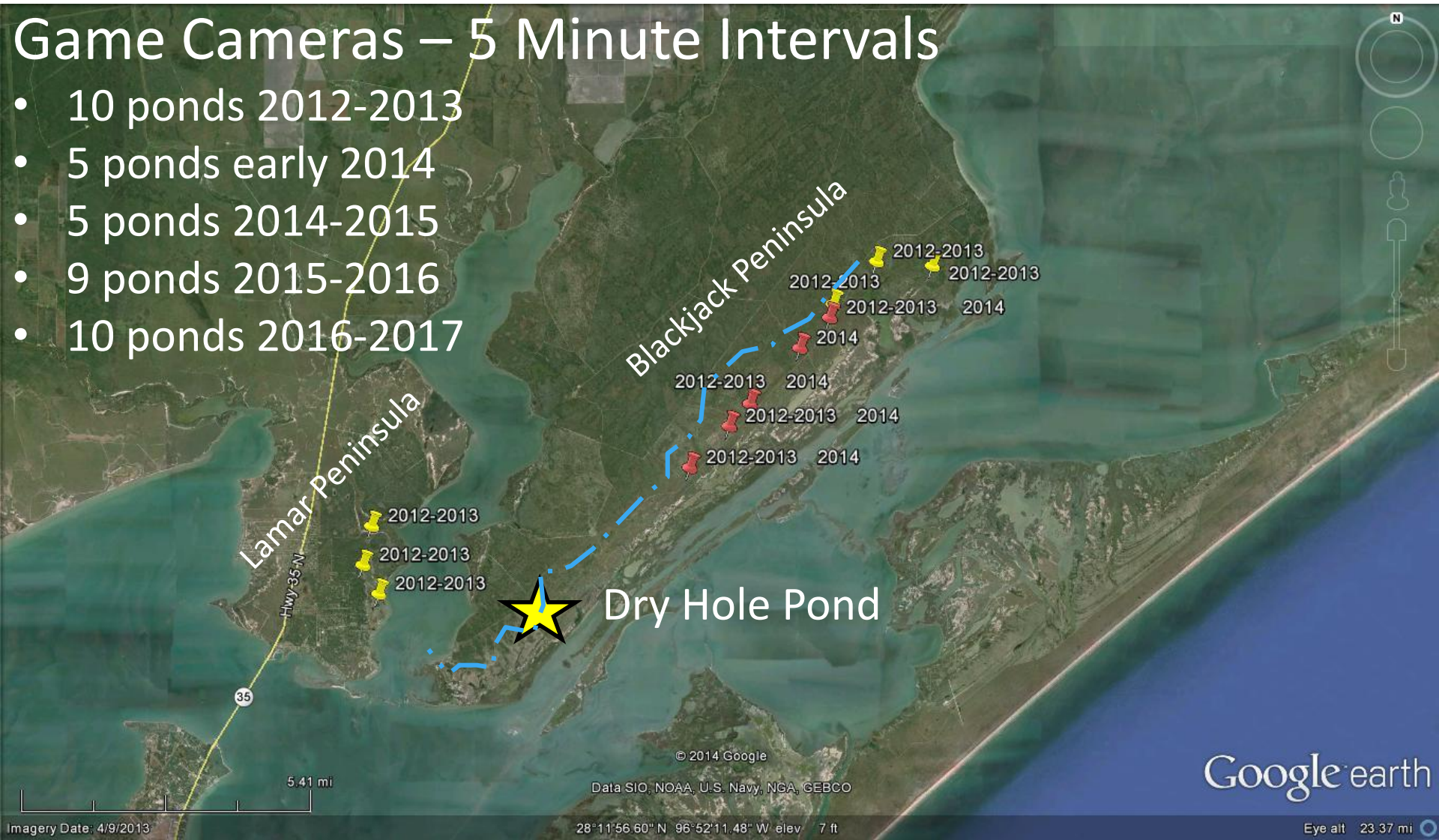


Pre-Hurricane Freshwater Pond Monitoring



Game Cameras – 5 Minute Intervals

- 10 ponds 2012-2013
- 5 ponds early 2014
- 5 ponds 2014-2015
- 9 ponds 2015-2016
- 10 ponds 2016-2017



Whooping Crane Use of Freshwater Ponds: Freshwater Use Post-Hurricane Harvey

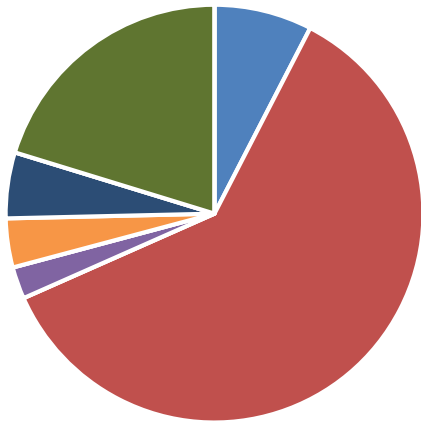
- 18 ponds monitored on Blackjack, Lamar, and Seadrift-Port O'Connor Ridge Jan-Mar 2018 for salinity and crane use
 - 15 ponds 8.8-13.7 Parts/Thousand, 3 ponds <1.0 Parts/Thousand
- 250,000 images from Bushnell HD Aggressor Game Cameras
 - Overall crane use 1.3% all ponds combined
 - Blackjack Peninsula used least
 - Seadrift-Port O'Connor Peninsula most

Using Whooping Crane Behavior as Metric for Habitat Conservation Goals

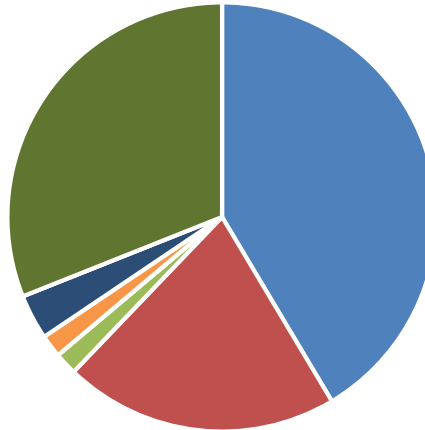


Whooping Crane Use Blackjack & Seadrift Ponds

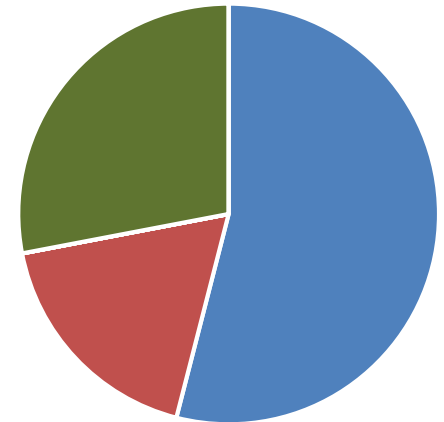
Salada (N=115)



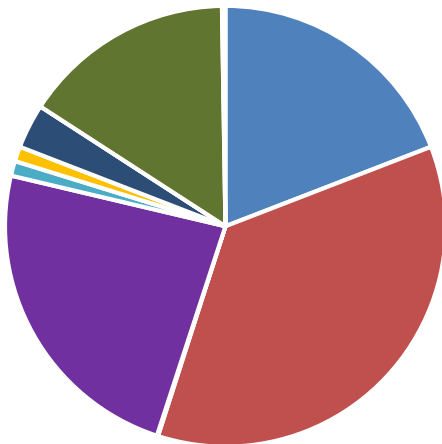
Lime Ash (N=58)



Pump Canal 1 (N=50)



Sandy Hill (n=534)



Foraging at Freshwater Ponds

Solar Water Wells (repaired)

Shallow Depressions





Coyote



Great Blue Heron

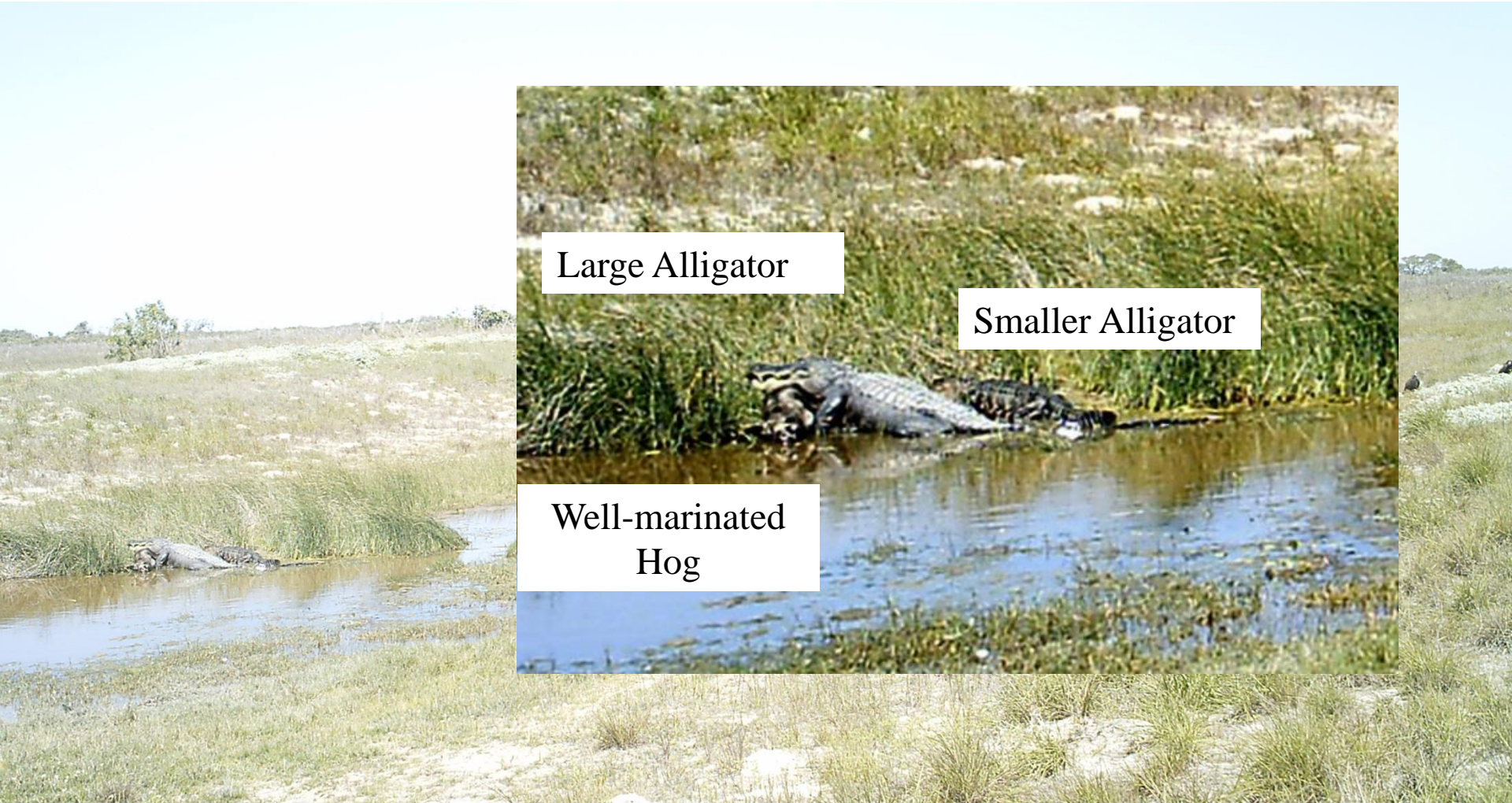
Large Alligator

Adult Whooping Crane



Feral Hog

Large Alligator



Large Alligator

Smaller Alligator

Well-marinated
Hog

Pond Use (Banded Birds) 2014

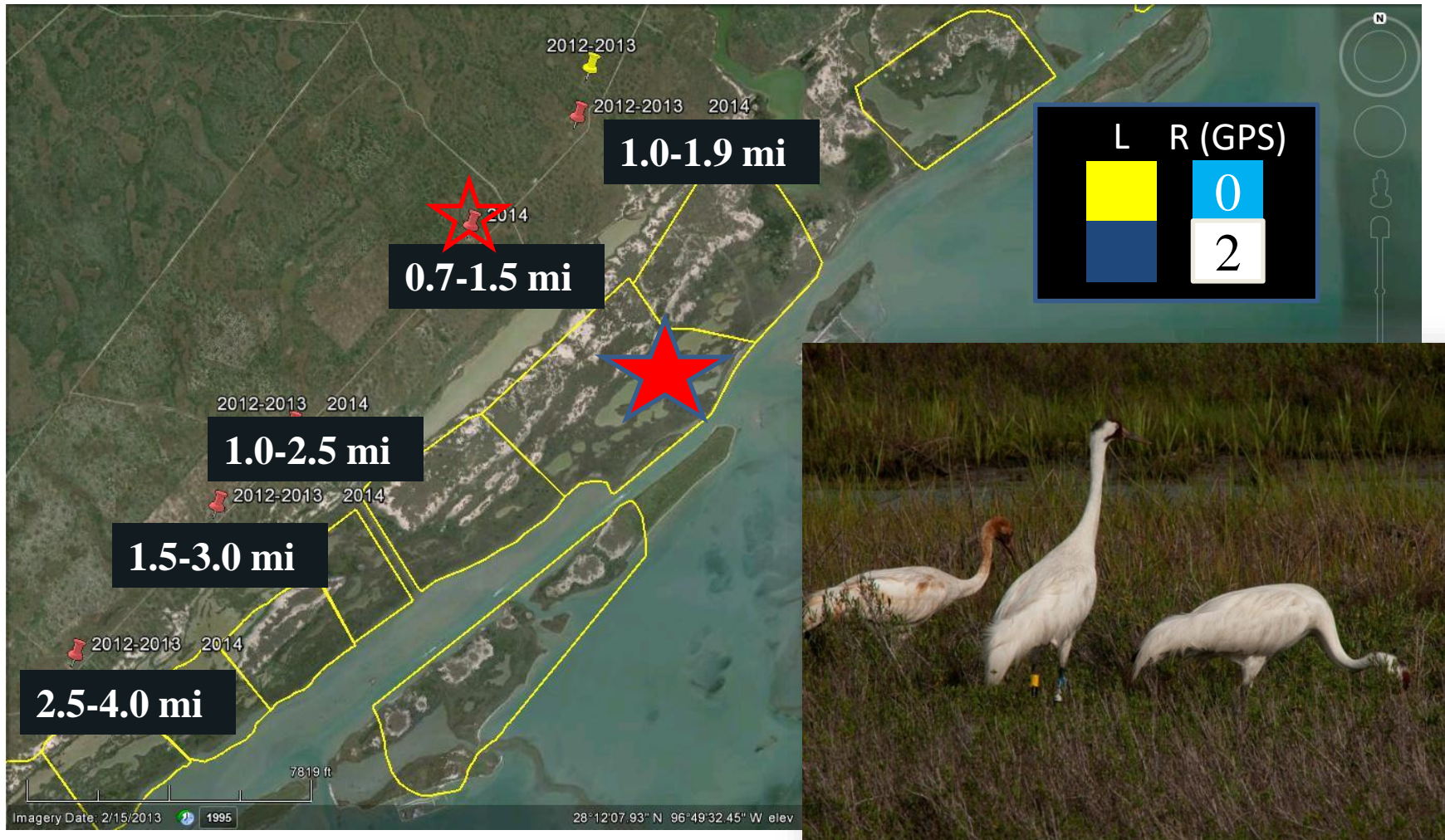
	Lime Ash	Pipeline
Y/B nil GPS		Feb 6, 8-10,12,14, 20-22, 24,26, 27; Mar 2, 3
GPS-G/W nil		
GPS-W/B G/G		Feb 7, 12, 17, 26; Mar 3
Y/BK GPS	Feb 7,14,16,18, 22, 28 Mar 1, 2, 3	Feb 5
GPS GRY/G		Jan 21
GPS BK/G	Jan 23	
GPS Y/R	Feb 12	



Whooping Crane
Yellow/Black
White/Blue GPS

Yellow/Black GPS Blue/White Family

Feb-Mar 2014



Thank You!



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