

Update on Chandeleur Island Engineering & Design

September 13, 2023

Todd Baker – Project Manager – CPRA

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Habitat Goals for PO-199

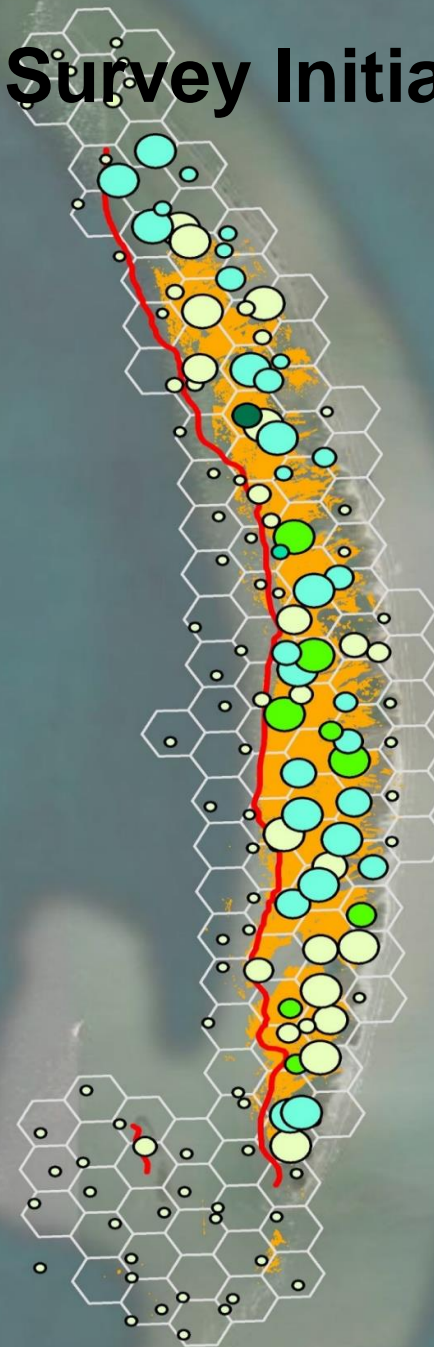
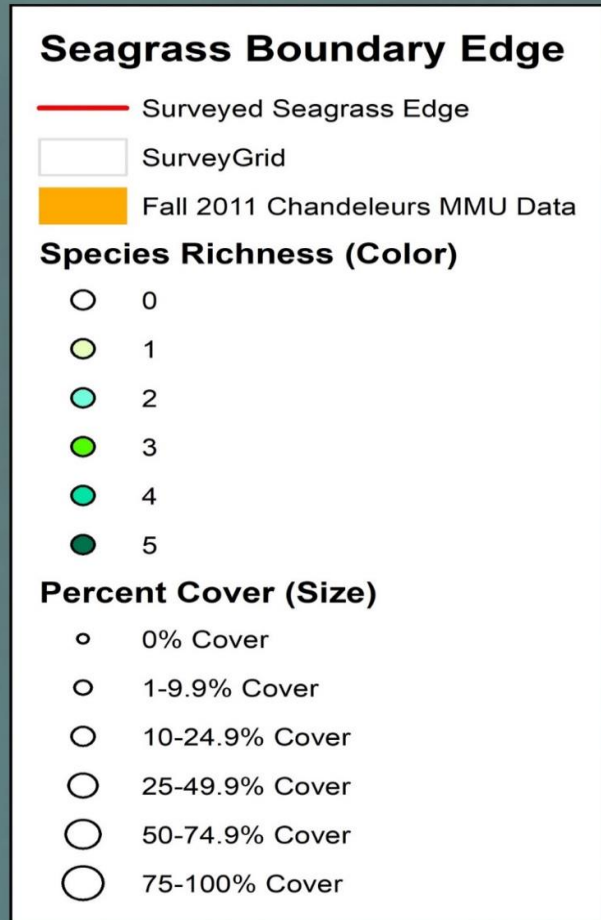
Living Coastal Marine Resource Restoration

- **Restore and Conserve Bird Nesting and Foraging Habitat**
- Enhance Sea Turtle Hatchling Productivity and Restore and Conserve Nesting Beach Habitat
- Create, Restore, and Enhance Barrier and Coastal Islands and Headlands
- Restore and Enhance Submerged Aquatic Vegetation



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Submerged Aquatic Vegetation Survey Initial Assessment





Data Collection Underway



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Bird Survey Preliminary Findings:

- **Colonial Nesting Birds: 2022 = 27,534 Nests**
- **Waterfowl: January 2023 = 48,980 Birds (90% Redheads)**
- **Solitary Nesting Birds: Spring 2023 = 405 Nests** (24 Chandeleur Gulls)





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Breton National Wildlife Refuge

- 2nd oldest National Wildlife Refuge
- The only Refuge visited by Theodore Roosevelt
- Established to Protect and Preserve Birds
- Designated “Wilderness Area” by Law



Breton National Wildlife Refuge Bird #s

“Typical Year”

Spring/Summer Nesting Species	Nests	Breeding Adults (Nests *2)	Likely Young (Nests *1.5)	Total Birds
CI Chain Colibri Data w/o Breton TWIG Avg Nest count '10-'13,'15,'21,'22	31,142	62,284	46,713	108,997
Breton Colibi Data Avg Nest count '10-'13,'15,'18,'21,	29,639	59,278	44,459	103,737
Solitary Nest Count SEG 2023	405	810	608	1,418
Totals	61,186	122,372	91,779	214,151

Migratory Wintering Species	Number of Birds
Waterfowl - 90% Redheads - 2023 Winter Survey	48,980
Red Knots 2020 Winter Survey - BTNEP	2,079
Piping Plover 2022-winter survey - BTNEP	102
Snowy Plover 2020 winter survey - BTNEP	740
Shorebirds Dowitchers, Dunlin, Sandpipers, Sanderlings, etc - 2020 BTNEP	10,261
Total	62,162

Breton National Wildlife Refuge Bird #s

“2023 Probable”

Bird Numbers for Calendar Year 2023	Birds
Colonial Water Birds (Colibri)	212,735
Solitary Nesting Birds North Chandeleur Island (SEG 2023) + 20%	1,700
Wintering Migratory Birds North Chandeleur Island (USFWS '23+BTNEP '22) + 20%	74,595
Totals	289,030

Bird Numbers in August 2023	
Colonial Water Birds	212,735
Solitary Nesting Birds North Chandeleur Island + 20%	1,700
Wintering Migratory Birds North Chandeleur Island *10%	7,460
Totals	221,895

- Totals do not include secretive marsh birds, passerines, or pelagic birds such as Frigate Birds.

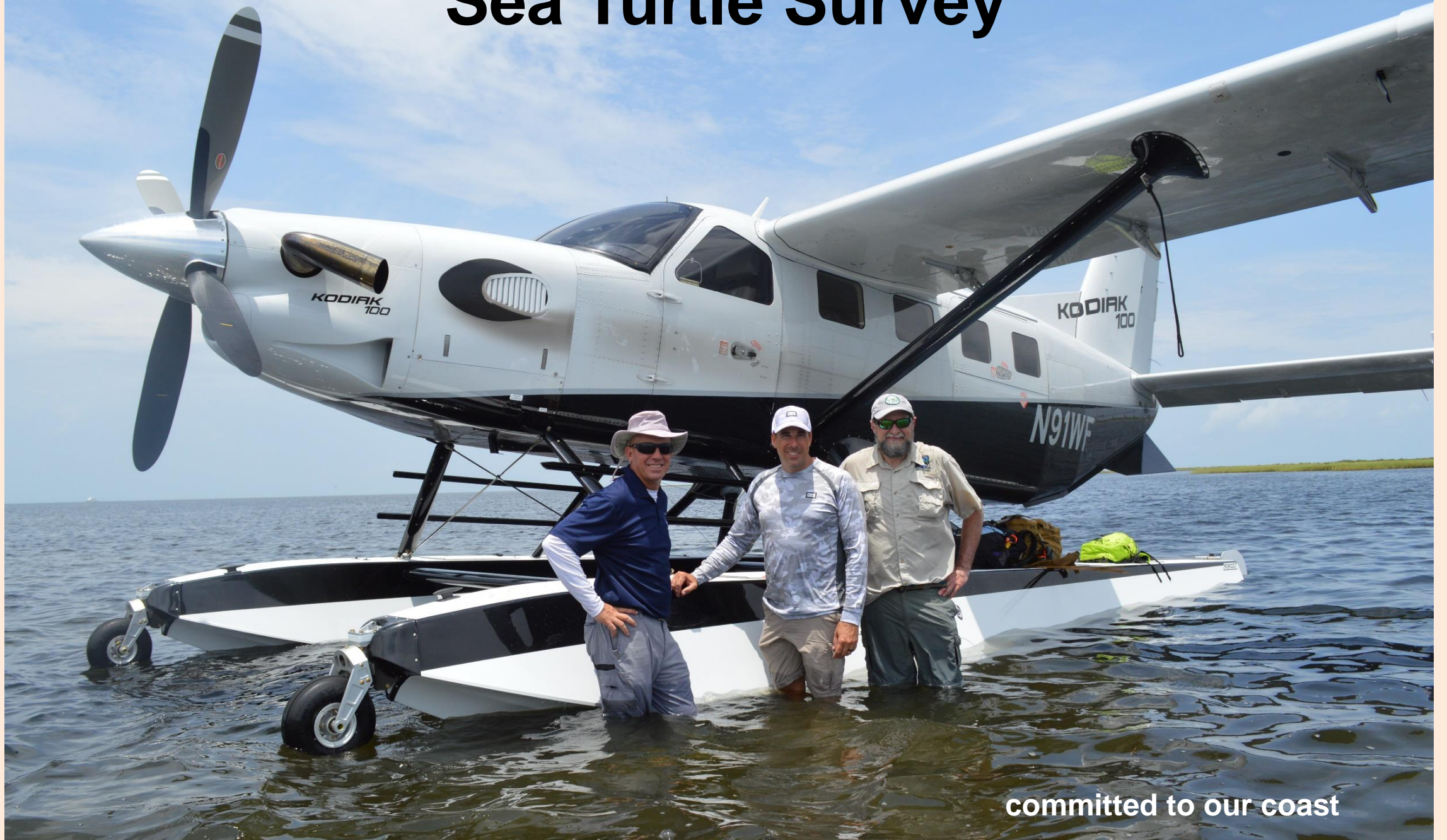
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FRI 6:38 AM



**Roost
Rings**

Sea Turtle Survey



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Sea Turtle Survey 2022

- 54 Crawls
- 5 Confirmed Nests with Eggs
 - 2 Loggerhead
 - 3 Kemps ridley



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NATURE NOTES

Ecology and Evolution  WILEY

Confirmation of significant sea turtle nesting activity on a remote island chain in the Gulf of Mexico

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Funding information

Deepwater Horizon Regionwide Trustee Implementation Group: Final Restoration Plan/Environmental Assessment 1

Abstract

Globally, six of the seven sea turtle species are threatened or endangered and as such, monitoring reproductive activity for these species is necessary for effective population recovery. Remote beaches provide a challenge to conducting these surveys, which often results in data gaps that can hamper management planning. Throughout the summer of 2022, aerial surveys were conducted over the Chandeleur Islands in the Gulf of Mexico. Turtle crawls were photographed for subsequent review by 10 expert observers. Whenever possible, ground surveys were conducted, and samples of unhatched eggs or dead hatchlings were collected. A summary of historic reports of sea turtle nesting activity at this site was also compiled. On 11 days between May 4, 2022, and July 30, 2022, photographs of 55 potential sea turtle crawls were taken. Observers identified 54 of those as being made by a sea turtle. There was high-to-moderate certainty that 16 of those crawls were nests, that 14 were made by loggerheads, and that two were made by Kemp's ridleys. Observers were least certain of species identification when surveys were conducted during rainy weather. Genetic analyses based on mitochondrial and nuclear DNA were conducted on samples from five nests and those analyses confirmed that three nests were laid by Kemp's ridleys and two were laid by loggerheads. Historic records from the Chandeleur Islands substantiate claims that the Chandeleurs have supported sea turtle nesting activity

TABLE 2 Sea turtle crawls per kilometer per day across all counties in Northwest Florida and Alabama and along the Chandeleur Islands, LA in 2022 and mean data for all crawls documented on the Chandeleur Islands, Louisiana (in italics) during 10 aerial survey flights conducted from May to July 2022.

County	Survey length (km)	Crawls/km/day
Franklin	98.0	0.128
Gulf	47.0	0.273
Bay	71.1	0.041
Walton	48.7	0.019
Okaloosa	38.0	0.013
Santa Rosa	11.2	0.020
Escambia	64.8	0.024
Alabama	74.8	0.018
Chandeleurs	29.0	0.186

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Sea Turtle Survey 2023



Sea Turtle Survey 2023



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Sea Turtle Survey 2023

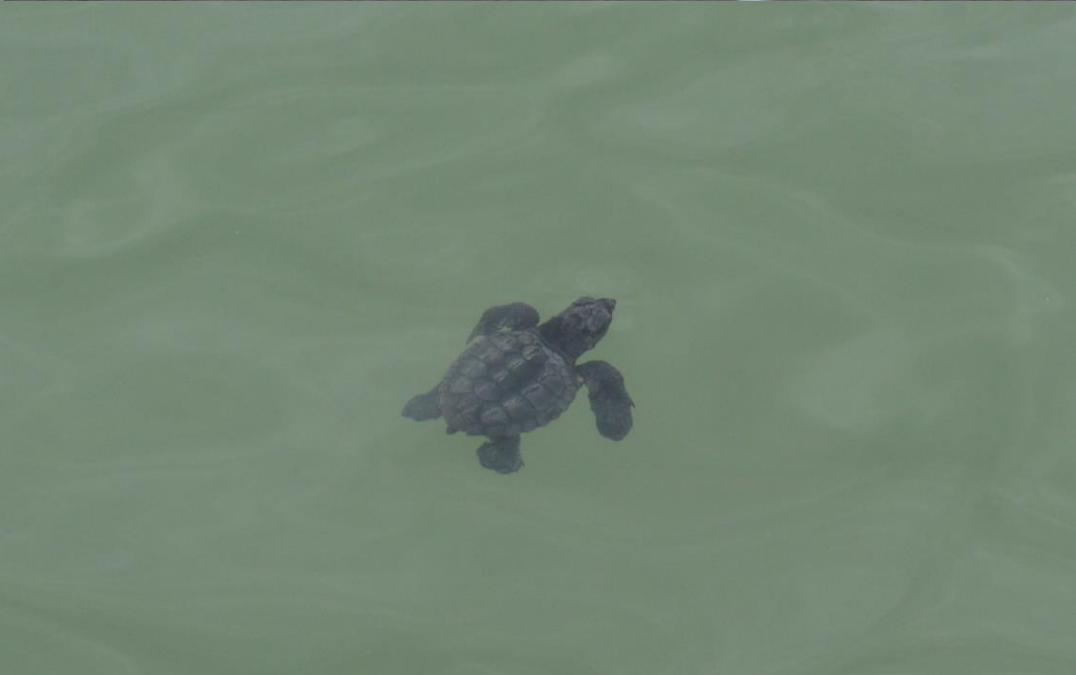
- **54 Crawls**
- **12 Confirmed Nests with Eggs**
- **1 Nest Site to be Evaluated**
- **Only 2 Successful Nests as of Today**



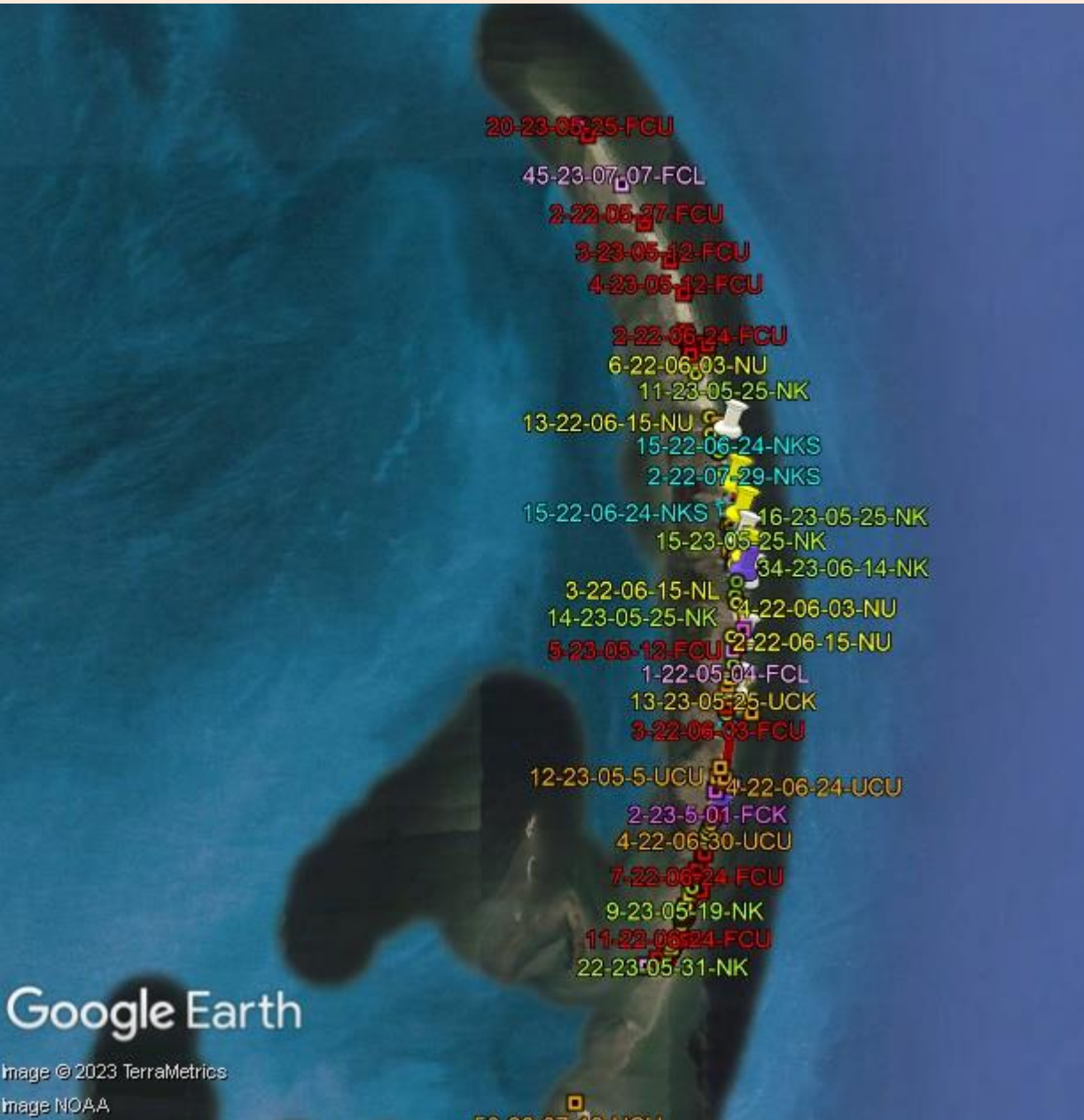
Nest Evaluations 2023



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Sea Turtle Crawl Locations 2022 & 2023



Next Steps for Chandeleur Island E&D

- **Complete Hydrographic and Topographic Surveys-**
September 2023
- **Complete Geotechnical Sampling in the Hewes Point Borrow Area -** Fall 2023
- **Habitat Team Meetings and Establishment of Habitat Goals –** Winter 2023
- **Develop Design Alternatives –** Fall/Winter 2023
- **Select Preferred Alternative and Submit Construction Permit Applications –** Fall/Winter 2024
- **Seek Construction Funding – NOW!**

A serene sunset scene over the ocean. The sun is a bright red semi-circle on the horizon. The water is a mix of orange and blue tones. In the foreground, a bird is captured in mid-flight, its wings spread wide, just above the water's surface. The overall mood is calm and reflective.

Questions?

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LA Brown Pelican Colonies in Decline

- 2002 – 30 Colonies
- 2010 – 22 Colonies
- 2023 – 9 Colonies
 - 3 Recently Restored
 - 3 Under Design





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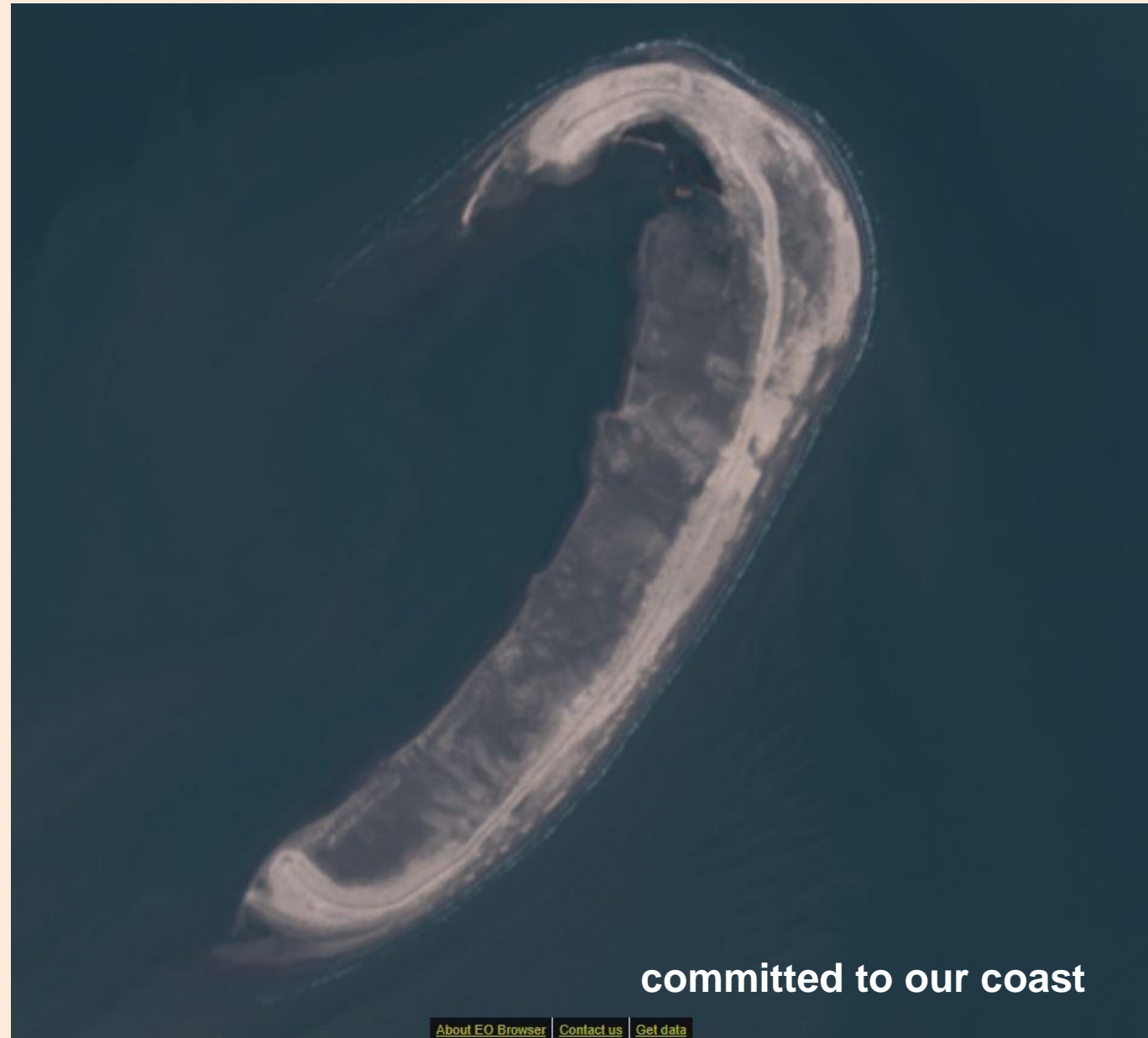
Project Features

- Expanded island from **290** acres to **426** acres
- **5,974,000** cubic yards of material placed on the island, dredge source 3+ miles east of NBI
- **15,300** linear feet of sand fencing installed
- Plantings **64 acres** of dune plantings (Bitter Panicum-Sea Oats)- 80% Complete; **53 acres** of black mangrove; **165 acres** smooth cordgrass (back barrier marsh)
- Project Cost - \$72 Million – LA TIG – Early Restoration Bird Funds



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North Breton Island - February 2022



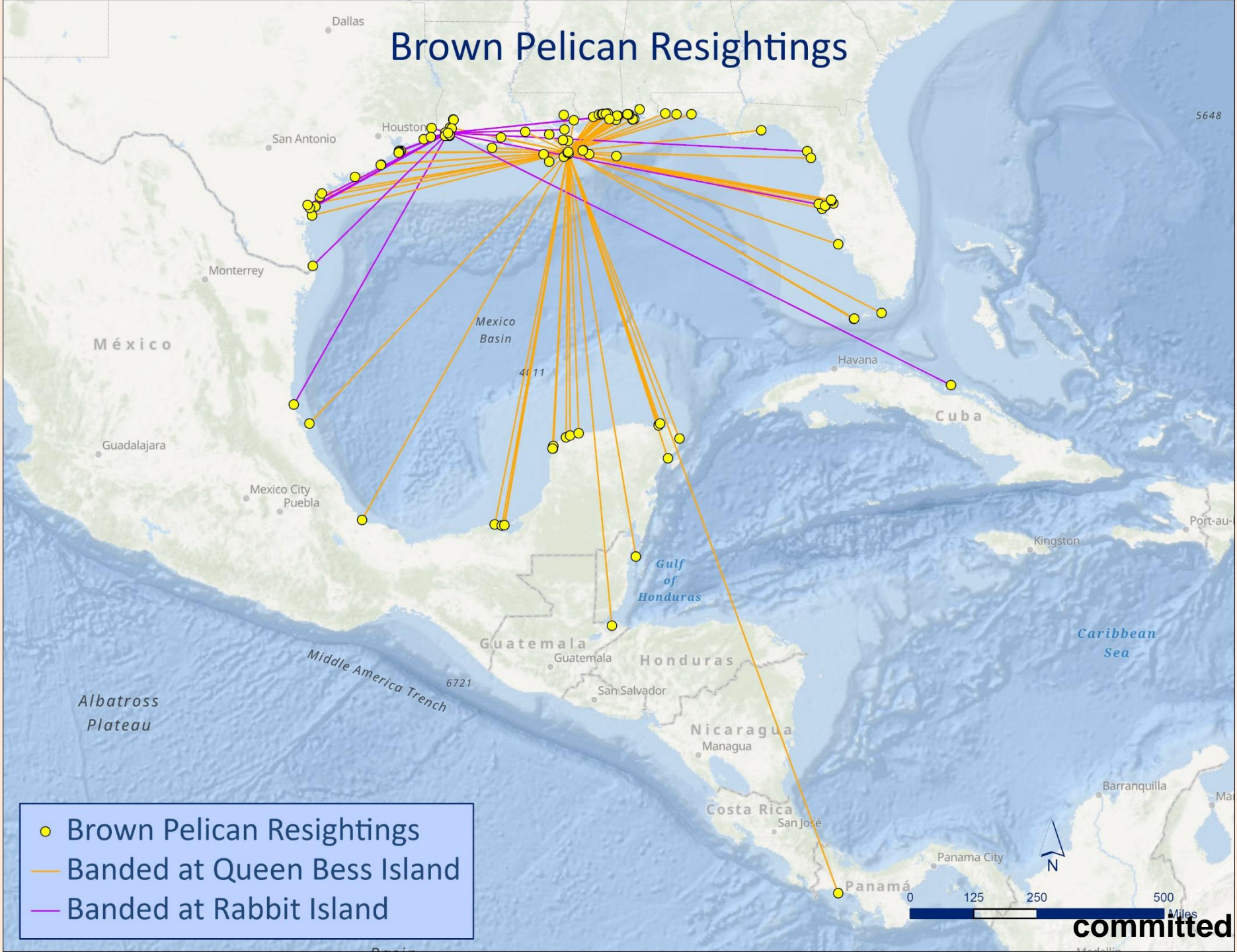
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North Breton Island Bird Response

	2018	Under Construction		2023 **
		2021	2022	
Wading Birds	0	1	0	0
Terns/Skimmers	18,304	145	3,208	6,000+
Laughing Gulls	3,089	4,668	1,047	--
Brown Pelicans	6,488	4,301	5,847	5,600
Total	27,881	9,115	10,102	11,600+



Brown Pelican Resightings



- Brown Pelican Resightings
- Banded at Queen Bess Island
- Banded at Rabbit Island

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The regional, national, and international importance of Louisiana's coastal avifauna



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The regional, national, and international importance of Louisiana's coastal avifauna

J. V. Remsen Jr.,^{1*} Bryan P. Wallace,^{2,3,4} Michael A. Seymour,⁵ Daniel A. O'Malley,^{5,6} and Erik I. Johnson⁷

ABSTRACT—Coastal Louisiana—and its Mississippi River Delta, in particular—provides large and diverse habitats for many types of birds in North America and beyond. The Mississippi River and its distributaries have shaped Louisiana's unique coast, which includes extensive marsh and marsh islands, sandy barrier headlands and sandy islands, and isolated patches of maritime forest on natural levees, cheniers, and canal spoil banks. Louisiana thus supports large populations of many obligate marsh bird species as well as marine bird species that require islands for breeding sites. Here, we have collated available data and attempt to estimate the breeding population sizes of 17 bird species in coastal Louisiana. We then summarize the importance of the Louisiana coast for these bird species in the contexts of regional, national, and global bird populations. These preliminary estimates indicate that Louisiana's coast supports a high percentage of regional, national, and, in some cases, global populations of several coastal bird species. For example, we estimate that 73% of the United States population of Sandwich Tern (*Thalasseus sandvicensis*) breeds in Louisiana, and comparable estimates range from 24 to 55% for Mottled Duck (*Anas fulvigula*), Clapper Rail (*Rallus crepitans*), Tricolored Heron (*Egretta tricolor*), Wilson's Plover (*Charadrius wilsonia*), Royal Tern (*Thalasseus maximus*), Black Skimmer (*Rynchops niger*), and Seaside Sparrow (*Ammodramus maritimus*). Because most of these other bird species are distributed across state, regional, and national jurisdictions, management of birds and bird habitats in Louisiana has wide-reaching implications for the conservation of these shared natural resources. In this light, this paper is intended to be a resource for managers of avian resources in North America and beyond. Received 21 May 2018. Accepted 6 November 2018.

Key words: barrier islands, coastal bird conservation, Louisiana coastal birds, Mississippi River delta, population estimates

La importancia regional, nacional e internacional de la avifauna costera de Louisiana

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RESUMEN (Spanish)—La costa de Louisiana—y en particular el delta del río Mississippi—provee grandes y diversos hábitats para muchos diferentes tipos de aves en Norteamérica y más allá. El río Mississippi y sus distributarios han formado una costa única, que incluye extensas ciénagas, islas en ciénagas, barras arenosas de tierra firme, islas arenosas, parchos aislados de bosques marítimos en diques naturales, dunas ondilantes y bancos de material de dragado de canales. Con ello, Louisiana alberga grandes poblaciones de muchas especies obligadas de humedales, así como especies de aves marinas que requieren islas como sitios de reproducción. Aquí recopilamos los datos disponibles e intentamos estimar el tamaño de las poblaciones reproductivas de 17 especies de aves de la costa de Louisiana. A continuación, sintetizamos la importancia de la costa de Louisiana para estas especies de aves en el contexto de sus

Species	Estimated LA population	LA rank (among nGOM states)	LA % of nGOM	LA % of global population
Sandwich Tern	75,000	1	83%	70%
Brown Pelican	35,000	1	47%	23%
Forster's Tern	7,500	1	71%	15%
Royal Tern	50,000	1	51%	26%
Black Skimmer	10,000	1	44%	10%
Tricolored Heron	15,000	1	48%	17%



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