Gulf Coast Joint Venture

LOUISIANA CHENIER PLAIN INITIATIVE AREA



See www.gcjv.org for information about the Gulf Coast Joint Venture (GCJV) bird habitat conservation partnership.

This document summarizes priority bird conservation actions for the Louisiana Chenier Plain (LACHEN) Initiaitve Area.

Detailed descriptions and derivations are available at https://www.gcjv.org/GCJV_Resources.php.

Gulf Coast Joint Venture Office

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WATERFOWL

MIGRATING AND WINTERING WATERFOWL

Species Addressed in GCJV Planning: Mallard, Northern Pintail, Gadwall, American Wigeon, Green-winged Teal, Blue-winged Teal, Wood Duck, Northern Shoveler, Mottled Duck, Canvasback, Redhead, Ring-necked Duck, Greater & Lesser Scaup, Lesser Snow Goose, and Greater White-fronted Goose

Population Objectives: 2,377,212 ducks

	Green-winged Teal	American Widgeon	Canvas-back	Gadwall	Mallard	Northern Pintail	Northern Shoveler	Redhead	Ring-necked Duck	Scaup	Wood Duck	Blue-winged Teal	Total
LACHEN	332,631	68,740	9,513	226,471	201,496	349,109	208,558	23,378	47,977	294,156	114,255	500,927	2,377,212
GCJV	872,407	292,350	99,473	909,944	353,636	1,234,195	558,322	469,561	301,867	1,412,432	325,958	1,369,053	8,199,196



Habitat Objectives:

	Acres
Non-tidal Freshwater Wetlands	
Aug-Oct	
Harvested rice, 1st crop	21,091
Moist-soil/idle rice	4,304
Total	25,395
Nov-Mar	
Harvested rice, 2nd crop	14,356
Unharvested rice, 2nd crop	14,356
Moist-soil/idle rice	4,804
Non-ratooned rice	27,587
Total	61,104
Coastal Marsh Ponds	
Fresh	40,715
Intermediate	114,200
Brackish	58,318
Saline	10,833
Total marsh	224,065

Biological Foundation: Bio-energetic models yield acreage of foraging habitats necessary to meet dietary demands of population objectives.

Conservation Activities:

- Reduce erosion of coastal marsh through shoreline and bank stabilization.
- Minimize saltwater intrusion and enhance productivity of coastal marsh through hydrologic restoration.
- Maintain or improve levees and water-control structures on managed marshes.
- Provide water and vegetation management on harvested and idle croplands (i.e., rice) and coastal prairie wetlands.
- Protect, enhance, and create fresh water wetlands within 10 km of seagrass beds.



Non-breeding Waterfowl Research Priorities:

- Determine the importance of distributed sanctuary in habitat conservation for wintering waterfowl and its implication for food limitation
- Describe likely effects of water resource allocation, changing cultivation practices, and urban growth pressures on rice agriculture and associated waterfowl habitats
- Compatibility of crawfish aquaculture as foraging, breeding, or sanctuary habitat for waterfowl

BREEDING WATERFOWL



Species Addressed in GCJV Planning: Mottled Duck

Population Objectives: A spring population of 211,865 individuals as measured from the Western Gulf Coast Mottled Duck Breeding Population Survey, including 103,385 in Louisiana and 108,480 in Texas.

Habitat Objectives: Not yet available

Biological Foundation: Factors limiting recruitment are primary constraints to population growth.

Conservation Activities:

Create and restore large blocks of nesting habitat in agricultural lands and coastal marsh.

Use hydrologic restoration to maintain low salinity (<6–8 ppt) and enhance the quality of brood-rearing habitats in coastal marsh.

Restore wetlands and ensure reliable water to provide brood-rearing habitat from mid-April through July in agricultural landscapes.

Remove predators in targeted locations.

Breeding Waterfowl Research Priorities:

Measure the effectiveness of habitat conservation actions to benefit Mottled Duck breeding productivity, including breeding propensity, nest success, and brood survival.

LANDBIRDS

Priority Species: Northern Bobwhite, Loggerhead Shrike, LeConte's Sparrow, Seaside Sparrow, Cerulean Warbler, Golden-winged Warbler, and Swainson's Warbler

NORTHERN BOBWHITE

Population Objective: 9,018 birds in the LACHEN

Habitat Objective: 138,156 acres in th LACHEN

Desired Habitats: Create, restore, or maintain ≥11,000 ac blocks of contiguous habitat (as defined above) in a mix of native bunchgrasses, forbs, bare ground, and low woody cover.

Biological Foundation: Average spring home range size dictates acres needed to support population objectives.

Conservation Activities:

Maintain 15-30% of overhead cover consisting of evenly spaced dense shrubs

Conduct disturbance (e.g., fire, disking, prescribed grazing, mowing) every 3 years



LOGGERHEAD SHRIKE

Habitat Objectives for Loggerhead Shrike, Northern Bobwhite, and LeConte's Sparrow	LACHEN Acres	GCJV Total Acres
Integrated Across Grassland Species Total	303,420	2,232,637
Integrated in >20,000 ac contiguous blocks[1]	303,420	1,664,060
Integrated in >11,000 ac contiguous blocks[2]	0	568,577

[1] Open country with scattered bushes, trees, or other perches, including pastures, agricultural fields, grasslands, and low intensity developed areas.

[2] Grasslands and shrublands with an interspersed mix of native bunchgrasses, forbs, and low woody cover, including open pine (Pinus sp.) savannas.



Population Objective: 30,342 birds in the LACHEN

Habitat Objective: 303,420 acres in the LACHEN

Biological Foundation: Territory sizes dictateacreage needed to support population objectives.

Conservation Activities: Preserve native prairie areas; maintain low, thick shrubs in fields (i.e., 3–10 shrubs or small trees per acre).

Use fire or other disturbance periodically to set back woody plants and to create heterogenous grass heights.

LECONTE'S SPARROW



Population Objective: 62,766 birds during winter in LACHEN

Habitat Objective: 62,766 acres in LACHEN

Biological Foundation: Winter density estimates dictate acreage needed to support population objective.

Conservation Activities: Manage ≥ 500 acre blocks of native grassland with burned and unburned areas; prescribed burns should occur on a 3-year rotation.

SEASIDE SPARROW

Population Objective: 411,038 birds in the LACHEN

Habitat Objective: 207,285 acres in the LACHEN

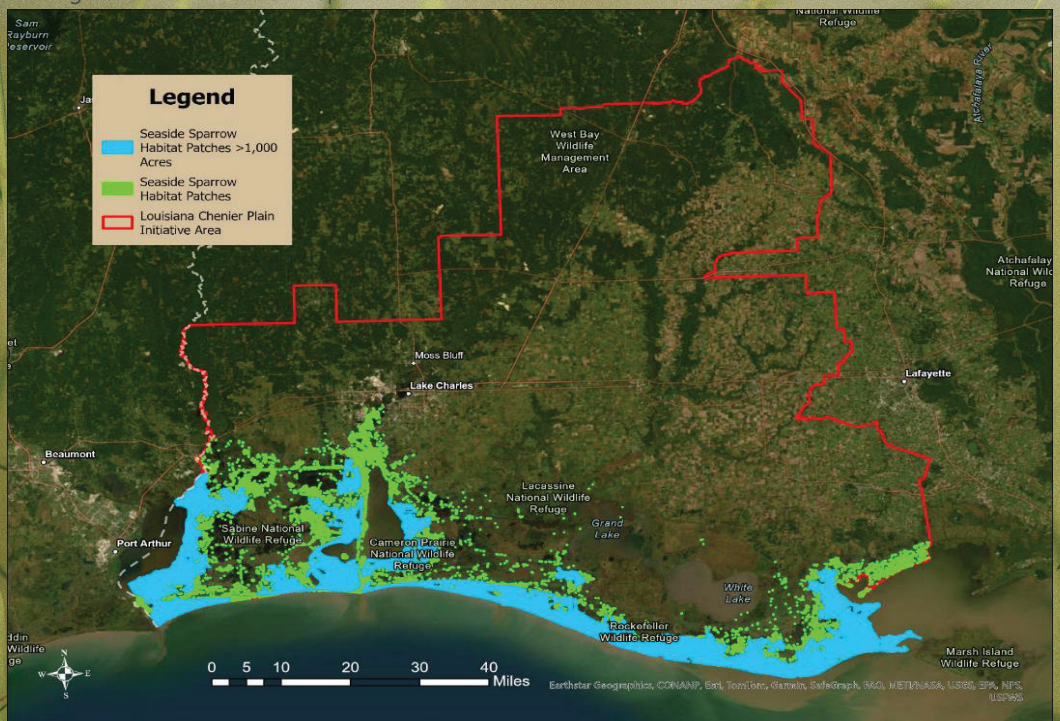
Biological Foundation: Breeding territory size dictates acreage needed to support population objective.

Conservation Activities:

Create and/or restore marsh habitat, in blocks ≥ 1,000 acres, containing areas of medium height smooth cordgrass, interspersed with ponds, tidal creeks, and bare ground areas (Figure 2).

Create marsh-elevation islands, with shallow water bodies and scattered woody shrubs, using dredged material.

Figure 2. LACHEN Seaside Sparrow Habitat Patches





CERULEAN WARBLER, GOLDEN-WINGED WARBLER, SWAINSON'S WARBLER

Population Objective: 269.5M total landbirds using coastal forests GCJV-wide in spring; 513.7M total landbirds using coastal forests GCJV-wide in fall.

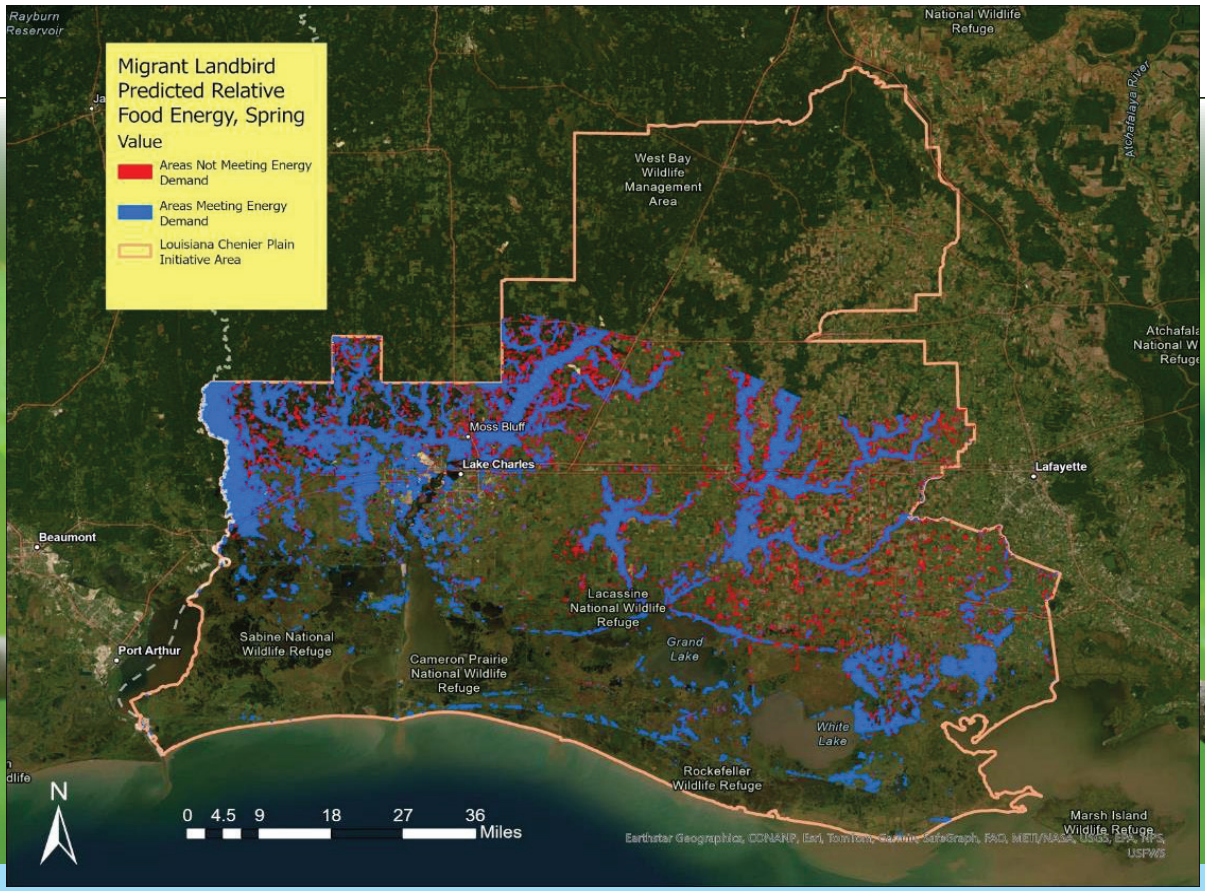
Habitat Objective: Positive food energy balance (i.e., supply meeting demand) during spring and fall migration.

Biological Foundation: Spatially explicit bio-energetic models yield foraging energetic demand of landbirds during migration relative to the foraging energy supply from available habitats.

Conservation Activities: Maintain forest conditions where food energy demands are high and food energy demands are currently adequate.

Improve food energy supply in forests where food energy demands exceed current supply, through plantings of trees, shrubs, and other plants that serve as high food energy hosts; removal of exotics and invasives with limited food value; and management of grazing to improve understory foraging values.

Figure 3. Migrant Landbird Predicted Food Energy Supply Relative to Demand, LA Chenier Plain Initiative Area, Spring





Landbird Research Priorities:

Estimate seasonal survival rates for Seaside Sparrow and determine the significance of winter survival and habitat needs in limiting GCJV populations.

Simulate Seaside Sparrow population response to predicted habitat changes, such as projected sea level changes.

Identify the habitat components of ideal forest landbird migration stopover habitat.

Test and refine assumptions of LeConte's Sparrow habitat-population model.

Determine primary limiting factors and desired habitat characteristics for Loggerhead Shrikes in the Gulf Coast Joint Venture region.

SHOREBIRDS

Species Addresssd in GCJV Planning: Long-billed Curlew, Western Sandpiper, Stilt Sandpiper, Buff-breasted Sandpiper, and Short-billed Dowitcher

Population Objectives:

		Beach/Inlet	Coastal Marsh (Including Impounded), Flats and Reefs	Inland Saturated Soil, Shallow Open Water, & Flooded Grassland	Inland Dry Grassland	Population Objective LACHEN
	Wilson's Plover	353	237	8	0	598
	Snowy Plover	299	183	30	0	512
	Long-billed Curlew	633	413	30	15	1,092
	Hudsonian Godwit	0	10	1,411	101	1,522
	Stilt Sandpiper	2,006	112,849	342,247	0	457,102
	Buff-breasted Sandpiper	0	0	817	1,401	2,218
	Western Sandpiper	3,228	2,560	33,226	0	39,013
	Short-billed Dowitcher	688	2,378	6,109	0	9,175
	Wilson's Plover	166	109	7	0	282
	Snowy Plover	631	352	40	0	1,022
	Long-billed Curlew	569	303	18	9	899
	Hudsonian Godwit	N/A	N/A	N/A	N/A	N/A
	Stilt Sandpiper	452	16,600	610,955	0	628,007
	Buff-breasted Sandpiper	50	37	931	1,595	2,612
	Western Sandpiper	2,465	3,013	47,703	0	53,182
	Short-billed Dowitcher	1,291	2,437	10,315	0	14,043

Habitat Objectives:

	LACHEN Acres[1]	GCJV Total Acres[1]
Fall Beach/Inlet	2,633	44,025
Fall Marsh, Flats, & Reefs	6,266	82,895
Fall Inland Saturated Soil, Shallow Water, & Flooded Grassland	70,896	146,619
Spring Inland Saturated Soil, Shallow Open Water, & Flooded Grassland	47,347	128,635

[1] Acreages represent need for available/open foraging habitat, which varies depending on habitat type.

Biological Foundation: Bio-energetic models yield acreage of foraging habitats necessary to meet the demand of population objective.

Conservation Activities: Provide inland habitat ranging from shallow, flooded fields to mudflats; restore and conserve marshes, tidal flats, oyster reefs, beaches and inlets.

Shorebird Research Priorities:

Determine if Gulf Coast Snowy and Wilson's Plover breeding populations are more limited by adult survival or productivity; if productivity limits population growth, determine levels of reproductive success needed for population stability.

Improve estimates of carrying capacity/prey density of shorebird habitat in marsh ponds, tidal flats, delta splays, grasslands, beaches, agricultural fields, moist-soil units and other important foraging habitats; determine how prey base availability is affected by cultivation practices, management, chemical amendments and other human activities.

Assess effectiveness of marsh and beach creation through sediment deposition in providing habitat used by shorebirds with abundant prey.

Develop and quantitatively assess best management practices for breeding Wilson's and Snowy Plovers in the GCJV region, including predator removal or exclusion and disturbance management.



Priority Species: Reddish Egret, Little Blue Heron, Wood Stork, King Rail, Black Rail, Gull-billed Tern, and Black Skimmer. Population and habitat objectives for Wood Stork, Black Rail, Gull-billed Tern, and Black Skimmer are not yet available.

REDDISH EGRET

Population Objective: 100 breeding pairs in LA, MS, and AL portion of the GCJV

Habitat Objective: Not yet available

Biological Foundation: Estimation of breeding population impacts of specific management treatments applied to specific colonies.

Conservation Activities:

Apply colony-specific management actions.

Create/improve alternate colony sites.

Improve foraging habitat within 10 km of existing colonies.



Figure 4. LACP Reddish Egret nesting colonies.

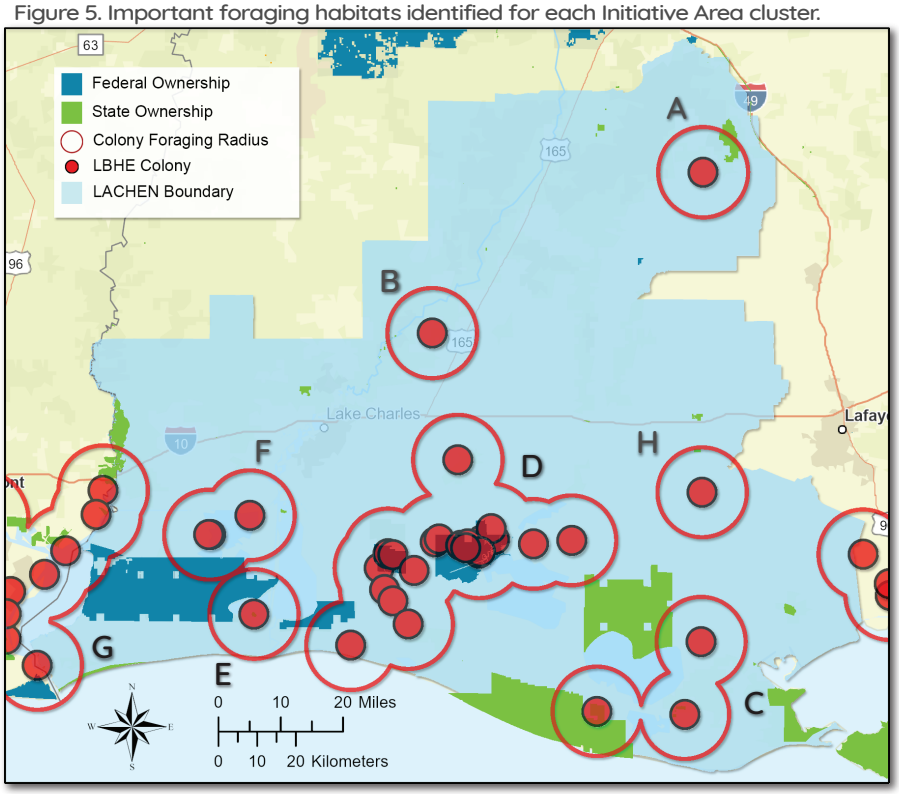


LITTLE BLUE HERON

Population Objective: 7,217 breeding pairs in LACHEN

Habitat Priorities:

Figure 5. Important foraging habitats identified for each Initiative Area cluster.



Important Foraging Habitats by Colony Cluster

A. Miller's Lake: PFW, RC, PEW
A. Bayou Serpent: PFW, RC
B. Lower Vermilion: PEW, EEW, PFW, RC
C. Cameron-Creole: PEW, EEW, PFW, RC
D. Rabbit Island: EEW, USOW
E. Black Lake: PEW, EEW, USOW
F. Sabine-Trinity-San Bernard Louisiana Chenier Plain Portion: PFW, EEW, PEW, USOW
G. Queue de Tortue: PFW, RC

EEW = Estuarine Emergent Wetland
PEW = Palustrine Emergent Wetland
PFW = Palustrine Forested Wetland
PSS = Palustrine Shrub/Scrub Wetland
RC = Rice/crawfish
USOW = Unconsolidated Shore/Open Water Ecotone

Biological Foundation: Population is limited by availability of suitable foraging habitat proximal to suitable nesting habitat.

Conservation Actvities: Apply specific management actions to colonies, or clusters of colonies and associated foraging habitat.



KING RAIL

Population Objective: 69,160 individuals in LACHEN

Habitat Objectives: 51,786 acres of new intermediate marsh converted from brackish and/or saline marsh Figure 6 depicts areas of brackish marsh with good structural and hydrological qualities within 1 km of existing fresh and intermediate marsh. Another management option is to create intermediate marsh in open water areas within 1 km of existing fresh and intermediate marsh. Figure 7 shows the 388,694 acres of open water that meet this criteria.

Figure 6. Brackish marsh within 1 km of fresh/intermediate

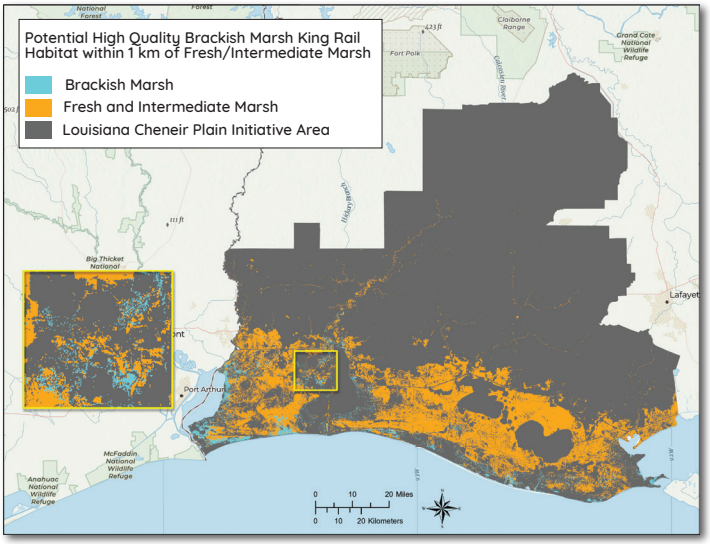
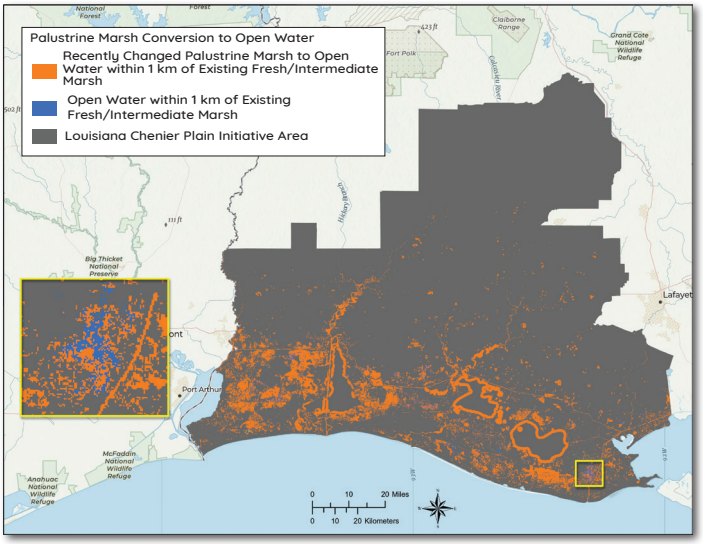


Figure 7. Open water within 1 km of fresh/intermediate marsh.



Biological Foundation: Population density estimates dictate acreage needed to support population objectives.

Conservation Activities:

Reduce salinities of high quality brackish marsh within 1 km of existing fresh to intermediate marshes.

Restore or create intermediate marsh in open water areas within 1 km of existing fresh to intermediate marshes.

Maintain complexes of ricelands and associated wetland features that support populations.

Figure 8. Predicted relative abundance of King Rail in Intermediate and Fresh Coastal Marsh.

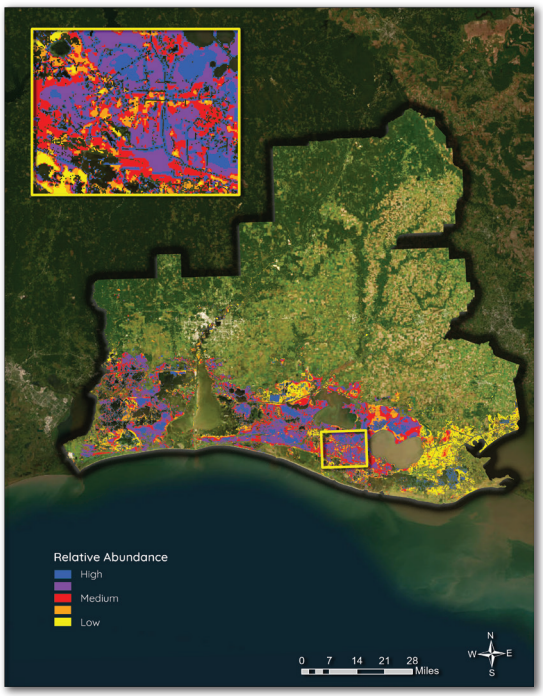
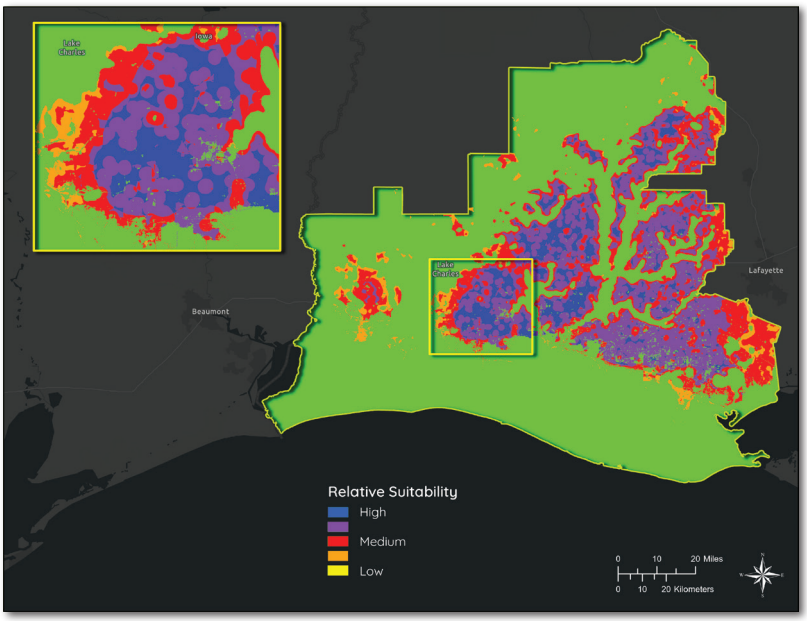


Figure 9. King Rail habitat suitability index in rice fields in



Waterbird Research Priorities:

Validate population response of priority colonial nesting waterbirds (e.g., Black Skimmer, Gull-billed Tern, Reddish Egret and Little Blue Heron) to colony site management measures, including erosion control, dredged material placement, vegetation management, disturbance minimization and predator control.

Assess status and distribution of Little Blue Heron in the GCJV region, employing a standard repeatable methodology incorporating detection probabilities.

