



Gulf Coast Joint Venture

TEXAS MID-COAST 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 Texas Mid-Coast (TMC) Initiative Area.

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

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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, Northern Shoveler, Mottled Duck, Canvasback, Redhead, Ring-necked Duck, Greater & Lesser Scaup, Lesser Snow Goose, and Greater White-fronted Goose

Population Objective: 1,670,588 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
TMC	149,033	85,746	9,713	105,158	23,435	469,417	150,815	241,255	23,314	222,630	18,919	171,153	1,670,588
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	6,386
Moist-soil/idle rice	21,896
Total	28,283
Nov-Mar	
Harvested rice, 2nd crop	35,774
Unharvested rice, 2nd crop	1,883
Moist-soil/idle rice	59,279
Non-ratooned rice	20,277
Total	117,212
Coastal Marsh Ponds	
Fresh	6,248
Intermediate	18,140
Brackish	10,531
Saline	114,262
Total marsh	149,181
Seagrass meadows	24,734

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 freshwater 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.
- Determine the effects of coastal marsh restoration on sustainability of waterfowl habitats.
- Describe likely effects of water resource allocation and changing cultivation practices on rice agriculture and associated waterfowl habitats.

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 Objective: 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: 103,178 birds for TX portion of Bird Conservation Region (BCR) 37

Habitat Objective: 1,580,687 acres for TX portion of BCR 37

Desired Habitats: Early successional habitat, 3,500 to 7,000 acres in size including agricultural fields, pastures, native prairies, and grass-brush rangelands.

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

Conservation Activities:

Maintain 15-30% woody vegetation in grasslands.

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

Figure 1. GCJV Bird Conservation Regions



LOGGERHEAD SHRIKE



Population Objectives: 233,056 birds during winter (i.e., 164,056 Resident, 69,000 Migratory) in TMC

Habitat Objective: 1,985,530 acres in TMC

Biological Foundation: Territory size(s) dictate(s) acreage 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).

LANDBIRDS

LECONTE'S SPARROW

Population Objective: 210,198 birds during winter in TMC

Habitat Objective: 210,198 acres in TMC

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: 65,000 birds in U.S. BCR 37 and GCJV portion of BCR 26

Habitat Objective: 650,000 acres in U.S. BCR 37 and GCJV portion of BCR 26

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

Conservation Activities:

Create and/or restore marsh habitat, in blocks $\geq 10,000$ acres containing areas of medium height smooth cordgrass, interspersed with ponds, tidal creeks, and bare ground areas (Figure 2).

Plug selected ditches in marshes that have been ditched.

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

Figure 2. TMC Seaside Sparrow Habitat Patches



LANDBIRDS

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

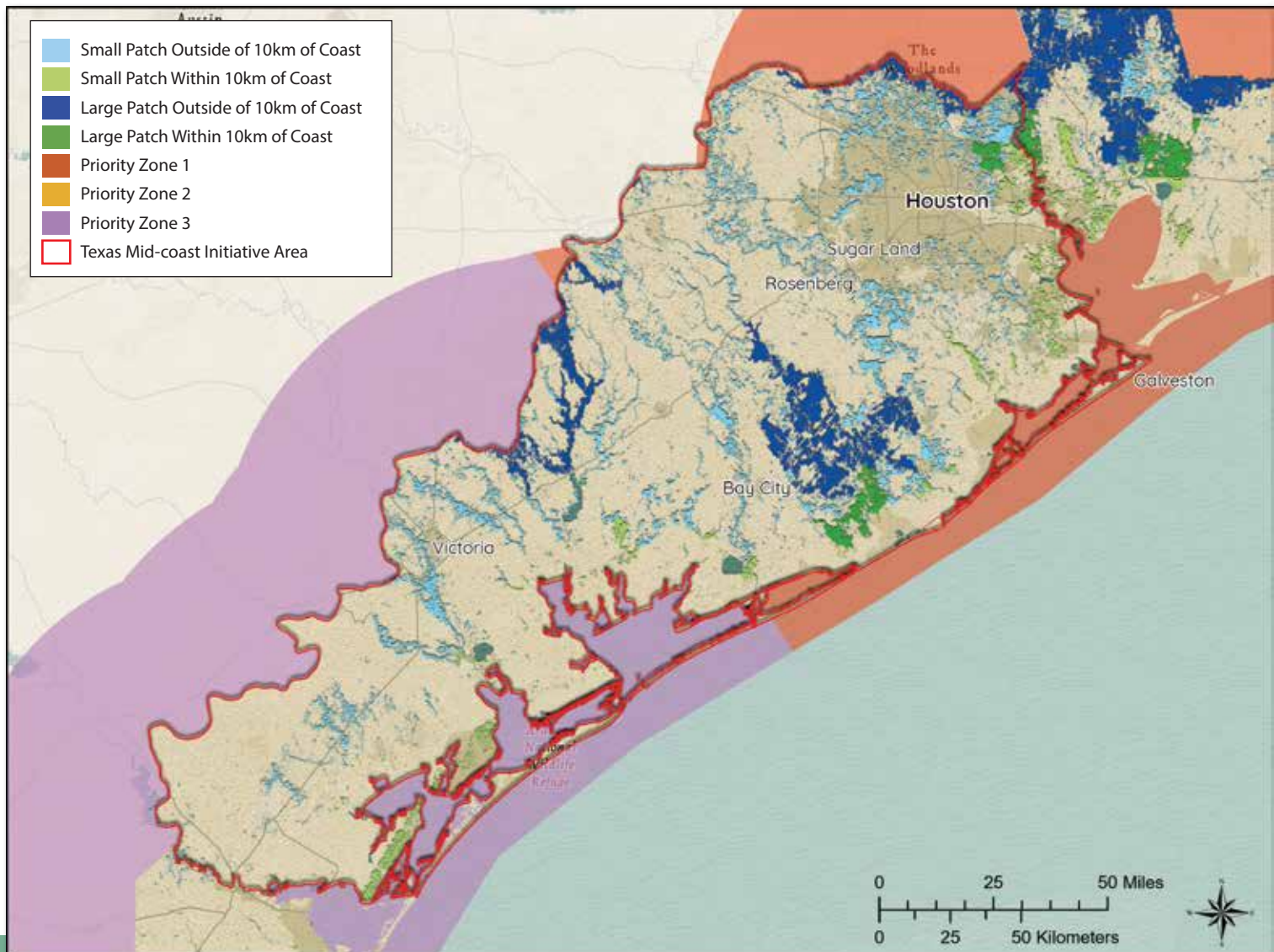
Population Objective: Not yet available

Habitat Priorities: Large forest patches ($\geq 10,000$ acres) close to the Gulf of America. Figure 3 illustrates habitat prioritization.

- Priority Zone 1 > Consistent abundant use
- Priority Zone 2 > Consistent common use
- Priority Zone 3 > Sporadic common-abundant use

Highest priority are large patches ($\geq 10,000$ acres) within 10 km of the coast. Second priority are large patches more than 10 km from the coast. Small patches are also identified.

Figure 3. Bird Conservation Region 37 Forest Habitat within Priority Zones by Patch Size and Distance from Coast



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.

WATERBIRDS

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: 2,000 breeding pairs in TX portion of the GCJV

Habitat Objective: Not yet available

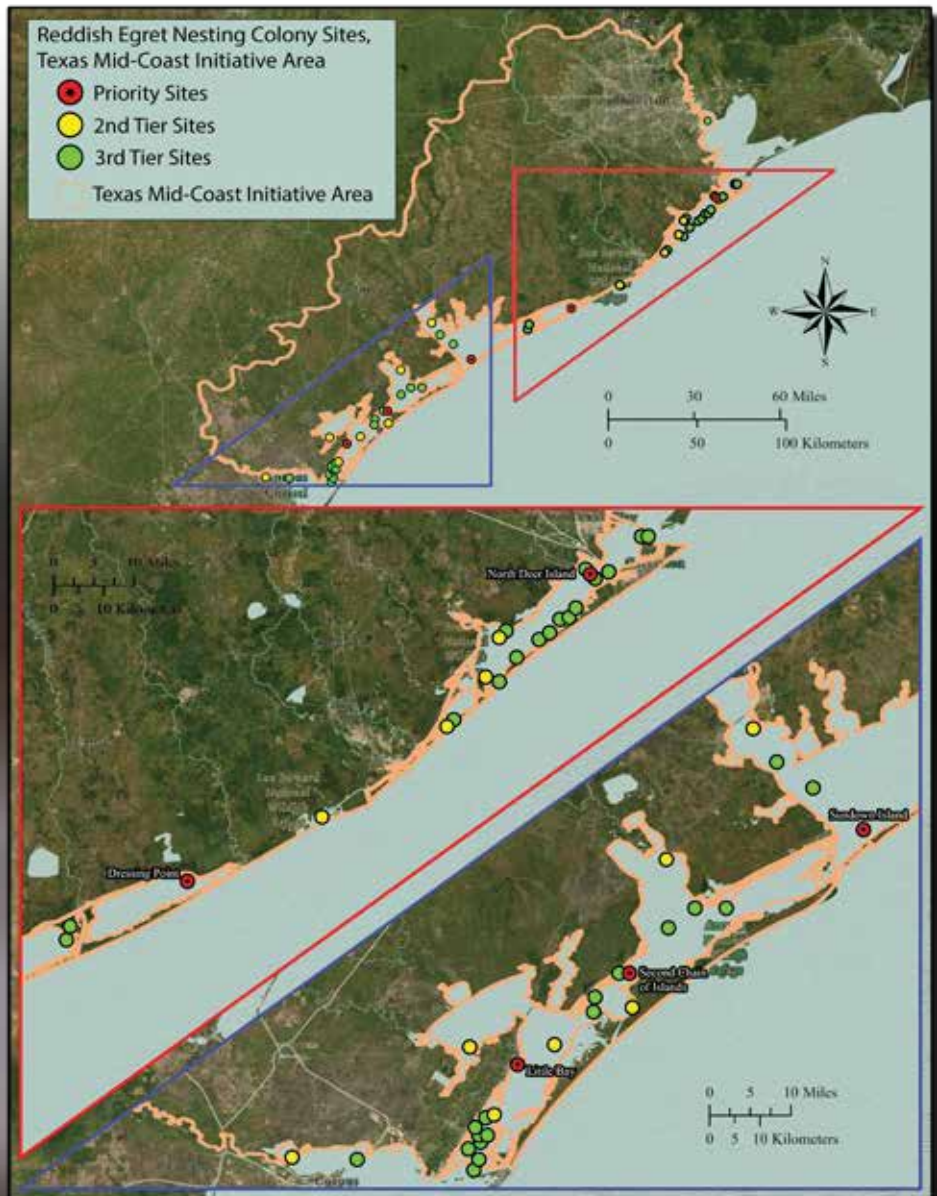
Biological Foundation: Estimation of breeding population impacts of specific management treatments applied to specific colonies. (Figure 4)

Conservation Activities:

- Apply colony-specific management actions.
- Create/improve alternate colony sites.
- Improve foraging habitat within 10 km of existing colonies.

Figure 4. TMC Reddish Egret nesting colonies.

Reddish Egret Colony Site	Recommended Action		
	Predator Control	Disturbance Management	Habitat Action
North Deer Island	X		
Dressing Point	X		X
Sundown Island			X
Second Chain of Islands	X	X	X
Little Bay	X	X	



SHOREBIRDS

Priority Species: Wilson’s Plover, Snowy Plover, Long-billed Curlew, Hudsonian Godwit (Spring only), 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 TMC
Spring	Wilson’s Plover	274	402	145	0	821
	Snowy Plover	1,983	2,266	854	0	5,103
	Long-billed Curlew	12,472	19,589	16,069	8,035	56,165
	Hudsonian Godwit	17	426	38,707	2,765	41,915
	Stilt Sandpiper	4,958	25,192	150,176	0	180,326
	Buff-breasted Sandpiper	0	93	24,322	41,695	66,111
	Western Sandpiper	6,731	11,437	9,256	0	27,425
	Short-billed Dowitcher	1,120	1,969	717	0	3,805
Fall	Wilson’s Plover	405	599	195	0	1,199
	Snowy Plover	2,655	3,025	1,008	0	6,688
	Long-billed Curlew	10,226	15,540	10,326	5,163	41,256
	Hudsonian Godwit	N/A	N/A	N/A	N/A	N/A
	Stilt Sandpiper	1,420	16,349	116,648	0	134,417
	Buff-breasted Sandpiper	2	136	27,817	47,686	75,641
	Western Sandpiper	7,112	12,182	10,407	0	29,701
	Short-billed Dowitcher	1,036	2,865	641	0	4,543

Habitat Objectives	TMC Acres ¹	GCJV Total Acres ¹
Fall Beach/Inlet	13,295	44,025
Fall Marsh, Flats, & Reefs	22,168	82,895
Fall Inland Saturated Soil, Shallow Water, & Flooded Grassland	43,905	146,619
Spring Inland Saturated Soil, Shallow Open Water, & Flooded Grassland	51,434	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.



LITTLE BLUE HERON

Population Objective: 5,345 breeding pairs in TMC

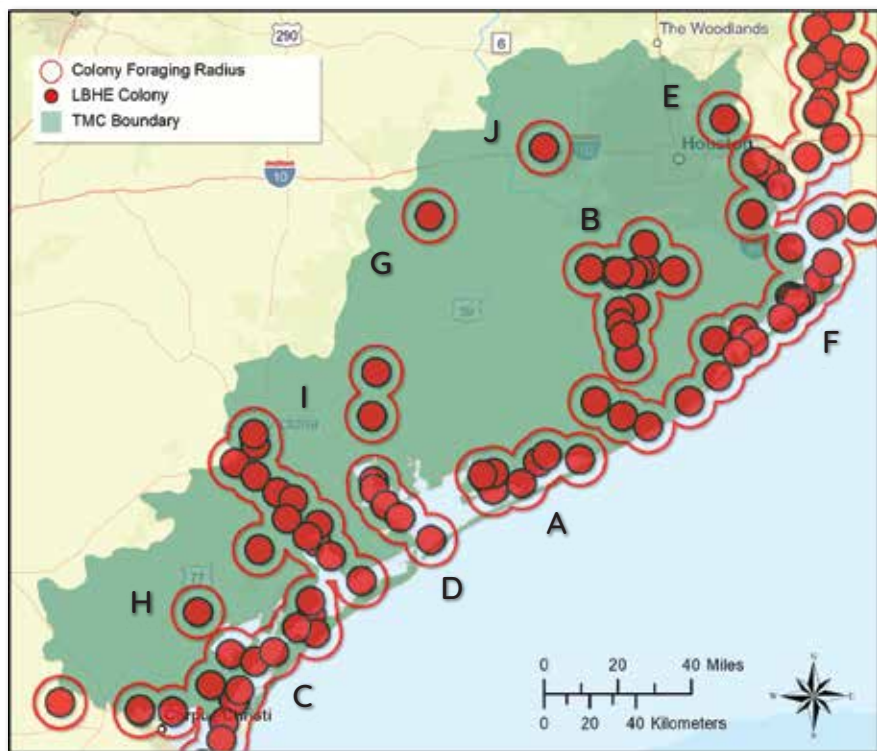
Habitat Priorities:

Important Foraging Habitats by Colony Cluster

- A. East Matagorda Bay: EEW, PEW, USOW
- B. Brazos River Wetlands: PFW, USOW
- C. Guadalupe to Baffin Bay Texas Mid-Coast Portion: PEW, EEW, PFW, USOW
- D. Lavaca Bay Islands: EEW, PEW, USOW
- E. Sheldon Lake: PFW, USOW, PSS
- F. Sabine-Trinity-San Bernard Texas Mid-Coast Portion: EEW, PEW, USOW
- G. Eagle Lake: RC, PFW, USOW
- H. Fennessey Ranch: EEW, PEW
- I. Lake Texana: USOW, PFW, RC
- J. Morton Road Rookery: RC, PEW

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

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



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

Conservation Activities:

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



WATERBIRDS

KING RAIL

Population Objective: 15,536 individuals in TMC

Habitat Objectives: 17,378 acres of new intermediate marsh converted from brackish and/or saline marsh
 Figure 6 depicts areas of brackish marsh 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 119,542 acres of open water that meet this criteria.

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

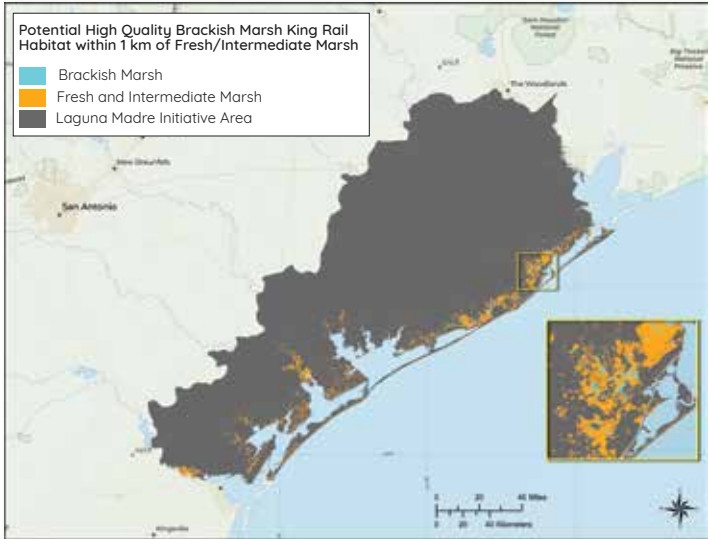
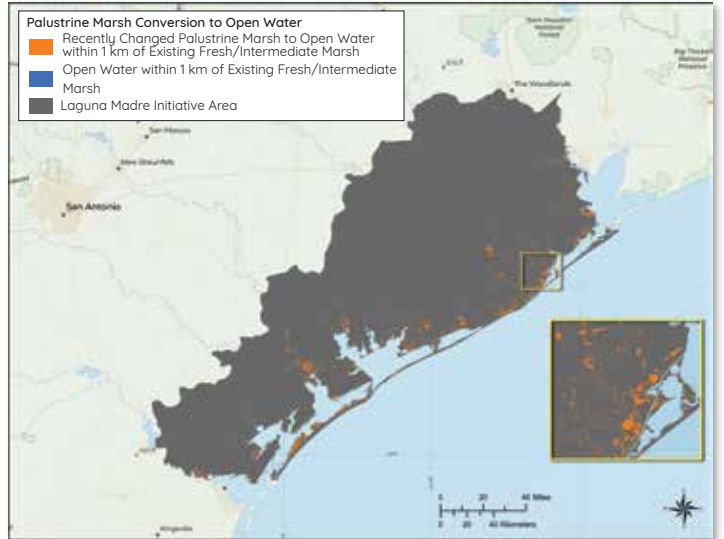


Figure 7. Open water within 1 km of fresh/intermediate marsh.



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.

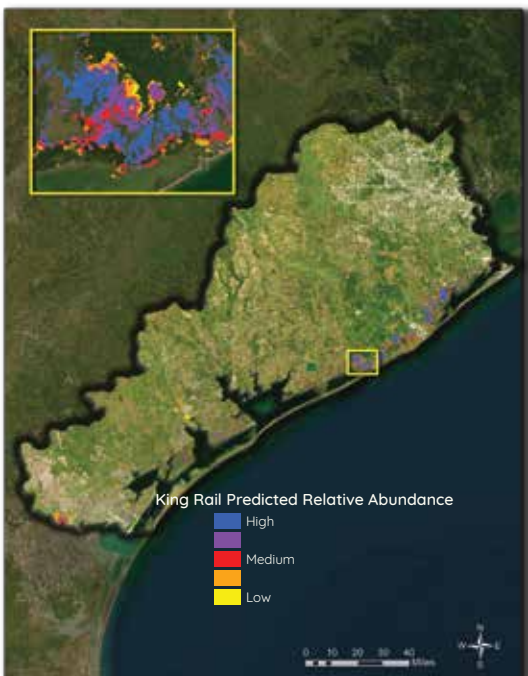
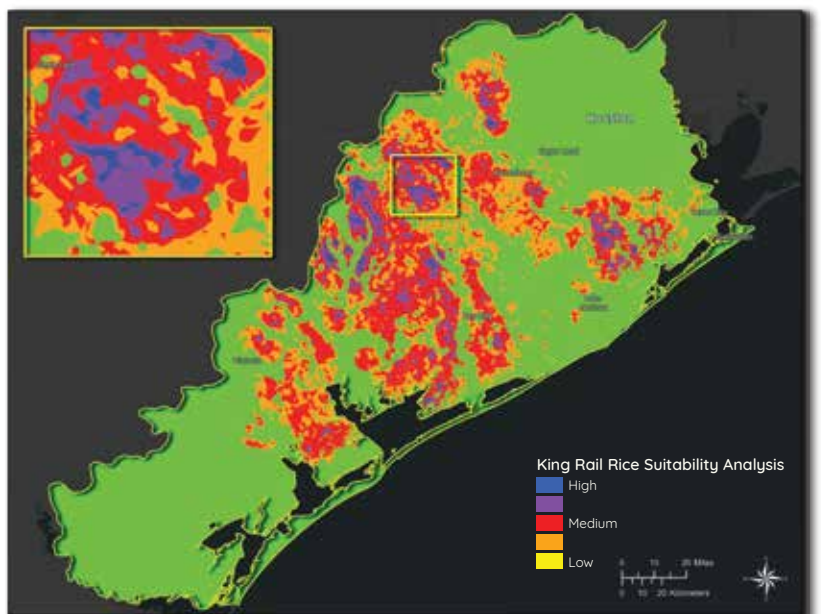


Figure 9. King Rail habitat suitability index in rice fields in TMC.



WATERBIRDS

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.

