

20. Intermediate Marsh

Rarity Rank: S3S4/G4

Synonyms: Oligohaline Marsh

Ecological Systems:

CES203.467 Gulf Coast Chenier Plain Fresh and Oligohaline Tidal Marsh

CES203.470 Mississippi Delta Fresh and Oligohaline Tidal Marsh

General Description:

This natural community lies between brackish marsh and freshwater marsh, although it infrequently may be adjacent to the Gulf. Intermediate marsh has an irregular tidal regime, is oligohaline (salinity of 3 to 10 ppt), and is dominated by narrow-leaved, persistent species. Small pools or ponds may be scattered. Plant diversity and soil organic matter content is higher than in brackish marsh. This marsh is characterized by a diversity of species, many of which are found in freshwater marsh and some of which are found in brackish marsh. Chabreck (1972) reported 55 plant species in intermediate marsh versus only 17 different species in salt marsh. It is often dominated by *Spartina patens* (wire grass). Other characteristic species include *Phragmites communis* (roseau cane), *Sagittaria lancifolia* (= *S. falcata*; bulltongue), *Bacopa monnieri* (coastal water hyssop), *Eleocharis* spp. (spikesedge), *Scirpus olneyi* (three-cornered grass), *S. californicus* (giant bulrush), *S. americanus* (common threesquare), *Vigna luteola* (deer pea), *Paspalum vaginatum* (seashore paspalum), *Panicum virgatum* (switch grass), *Leptochloa fascicularis* (bearded sprangletop), *Pluchea camphorata* (camphor-weed), *Echinonchloa walteri* (walter millet), *Cyperus odoratus* (fragrant flatsedge), *Alternanthera philoxeroides* (alligator weed), *Najas guadalupensis* (southern naiad), *Spartina cynosuroides* (big cordgrass), and *S. spartineae* (gulf cordgrass) (LNHP 1986-2004). Two other major autotrophic groups in intermediate marsh are epiphytic and benthic algae. Intermediate marsh occupies the least acreage of any of the four marsh types. This marsh type is very important to many species of avian wildlife and supports large numbers of wintering waterfowl. It is also critical nursery habitat to larval marine organisms. Gradual changes in salinity conditions can cause this habitat to shift towards brackish marsh.

Current Extent and Status:

The acreage of intermediate marsh appears to be decreasing due to salt water intrusion, canal dredging, and commercial, industrial, and residential development. Presettlement acreage was estimated at 100,000 to 500,000 acres, but has been reduced by 50 to 75 % of this original extent (Smith 1993). The largest contiguous tracts of intermediate marsh occur in Cameron, Vermilion, Terrebonne, and Lafourche Parishes



(Hartley et al. 2000). In the Chenier Plain of southwestern Louisiana, Sabine NWR contains approximately 91,000 acres of intermediate to brackish marsh. Rockefeller Wildlife Refuge has a total of 76,000 acres with approximately one-fifth of its acreage in intermediate marsh. In the Deltaic Plain of southeastern Louisiana, LDWF lands with freshwater marsh habitat include Pointe-aux-Chenes WMA (35,000 total acres, the majority are in brackish marsh with some intermediate marsh), Pass-a-Loutre WMA at the terminus of the Mississippi River (115,000 total acres, the majority are canals and waterways with some fresh and intermediate marsh), Pearl River WMA (total 36,000 acres with approximately one-fourth in freshwater and intermediate marsh), Biloxi WMA (39,583 acres of intermediate and salt marsh), and Manchac WMA (total 8,300 acres, once cypress swamp but now converted to intermediate marsh). NWRs with intermediate marsh in the Deltaic Plain include Bayou Sauvage NWR (23,000 acres of fresh and intermediate marsh), and Big Branch NWR (total land area of 15,000 acres, intermediate marsh acreage unknown).

INTERMEDIATE MARSH SPECIES OF CONSERVATION CONCERN (31)		
BIRDS	Black Rail	Forster's Tern
Brown Pelican	Clapper Rail	Short-eared Owl
American Bittern	King Rail	Sedge Wren
Reddish Egret	Sandhill Crane	Loggerhead Shrike
Yellow-crowned Night-Heron	Whooping Crane	
Mottled Duck	Marbled Godwit	BUTTERFLIES
Northern Pintail	Dunlin	Neamathla Skipper
Canvasback	Short-billed Dowitcher	Dion Skipper
Redhead	Gull-billed Tern	Obscure Skipper
Lesser Scaup	Caspian Tern	Great Southern White
Bald Eagle	Common Tern	Western Pygmy-Blue
Northern Harrier		

Priority Species Research and Survey Needs:

Rails: Initiate intensive surveys to better understand population densities and distributions in coastal marsh habitats.

Terns: Continue with nesting surveys and initiate research that focuses on factors (predation, human disturbance, etc.) effecting overall population densities.

Brown Pelican: Continue long-term monitoring of nesting colonies.

Waterbirds: Continue to conduct rookery surveys to update the LNHP database.

Butterflies: Conduct surveys to determine current distribution and abundance of all butterfly species, especially species of conservation concern, for inclusion in the LNHP database.

Species Conservation Strategies:

1. Terns:

- Disturbance and loss of nesting habitat are major threats to terns. Develop partnerships to strengthen the protection and restoration of barrier islands.
- Develop a comprehensive survey methodology to determine long term trends in population abundances.

2. Shorebirds, Wading Birds:

- Provide public education regarding the importance of waterbird nesting colonies and shorebird feeding areas. Reduce the negative effects on these areas from recreational and other uses.
- Work with landowners to implement management and conservation recommendations for waterbirds (especially rails) of SWG project T18 upon completion.
- Coordinate with GCJV to implement recommendations of shorebird and wading bird conservation plans.
- Disturbance and loss of nesting habitat are major threats to these species. Continue to protect and restore coastal marshes. Develop new and/or improve existing partnerships to achieve this goal.

3. Waterfowl:

- Continue to encourage the creation/enhancement/maintenance of high-quality habitat across Louisiana.
- Work with DU, DW, and USFWS to assuring that quality habitat, including refuge from hunting and other disturbance, is distributed across the landscape.
- Encourage maintenance of rice agriculture and discourage conversion to crops with lower value to waterfowl.
- Continue LDWF partnerships with DU, DW, USWFS, and state wildlife management agencies to conserve habitat on the northern breeding grounds.

4. Continue to work with USFWS/LSU in efforts to reintroduce whooping crane to Louisiana.

Threats Affecting Habitat:

The following table illustrates the threats identified for this habitat type and the sources of these threats. This represents all threats and sources of threats identified across all ecoregions of the state where this habitat occurs.

Source of Threat	Threat						
	Altered Composition/ Structure	Altered Water Quality	Habitat Destruction or Conversion	Habitat Disturbance	Herbivory	Modification of Water Levels; Changes in Natural Flow Patterns	Salinity Alteration
Channelization of rivers or streams	XXX	XXX	XXX			XXX	XXX
Construction of ditches, drainage or diversion systems		XXX	XXX			XXX	XXX
Development/maintenance of pipelines, roads or utilities		XXX	XXX	XXX		XXX	XXX
Grazing practices	XXX	XXX	XXX	XXX			
Invasive/alien species	XXX	XXX	XXX		XXX		
Levee or dike construction	XXX	XXX	XXX	XXX		XXX	
Residential development			XXX	XXX			
Saltwater intrusion	XXX	XXX	XXX	XXX			XXX

Habitat Conservation Strategies:

1. Encourage the NRCS Plant Materials Center and other growers to produce a greater variety of plant species for the restoration of coastal habitats.
2. Work with COE and state agencies to insure water control structures provide the maximum benefit to intermediate marsh.
3. Work with landowners to develop alternatives to livestock production in this habitat.
4. Work with LCA, CWPPRA for protection and restoration of intermediate marsh.
5. Support NRCS and DNR efforts to stabilize shorelines and restore habitat.

References:

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