

**The Gulf Intracoastal Waterway as
a Distributary of Mississippi River
Water to Coastal Louisiana Wetlands**
Abstract

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Since the early 1900's, the Mississippi River effectively has been cut off from most deltaic wetlands in south Louisiana by levees built for flood control. The supply of freshwater and sediment needed by marshes to flourish and keep pace with sea-level rise has been reduced and, in many places, completely eliminated. The GIWW (Gulf Intracoastal Waterway) is a major ship channel traversing the entire Louisiana coast. It trends east west. Following natural hydraulic gradients, the GIWW captures water and sediment from the southward flowing Lower Atchafalaya River and Wax Lake Outlet, and distributes this river water to points 30 to 50 miles east and west of the intersections. The passive flow is controlled by seasonally changing differences in water surface elevations between the Atchafalaya River and adjacent watersheds and becomes predictable when stage of Lower Atchafalaya River at Morgan City is 3 ft or higher above NAVD88. The GIWW has become the largest and frequently only source of Mississippi River water to many parts of coastal Louisiana. The ship channel functions like a freshwater diversion, but on a much larger scale in terms of volume and reach. The role this passive delivery of freshwater, nutrients and sediment may play in building and sustaining coastal Louisiana wetlands is not well understood and may include adverse effects.