The Freshwater Bayou, Louisiana, project was authorized by the Rivers and Harbors Act of 1960, House Document 435, 86th Congress, 2nd Session. It provided for an enlargement of a navigational channel from the Gulf Intracoastal Waterway (GIWW) at Mile 161.2 west of the Harvey Lock to the 12-foot depth contour of the Gulf of Mexico west of Vermilion Bay. The authorized channel is 12 feet deep and 125 feet wide through the 20-mile long inland segment of the waterway, and 12 feet deep and 250 feet wide through a 4-mile long off-shore portion. Six additional feet of allowable overdepth and advanced maintenance dredging were also provided. This Act also provided for the construction of jetties from the shoreline to the 6-foot depth contour in the Gulf of Mexico and for construction of a lock 84 feet wide, 600 feet long, and 16 feet deep. The construction of these provisions commenced in 1963 and was completed on August 26, 1968.

The inland reach (Mile 19.85 to Mile 1.3) begins at Freshwater Bayou Lock and extends to the GIWW. Approximately 2,500,000 cubic yards are removed from this reach each dredging cycle using a bucket and/or hydraulic cutterhead dredge. Dredging records dating back to 1970 indicate that the maintenance of discontinuous reaches of the 12-foot Gulf reach navigation project occurred biennially through 1985, at which time the frequency of dredging was changed and has commenced every 3 to 4 years since. Dredged material removed during the construction of the Gulf reach and all maintenance events through 1985 were placed in the ocean dredged material disposal site, located on the right descending bank of the channel.
1990
During the fiscal year (FY) 1990 maintenance event (14 September 1990 – 17 October 1990), about 251,507 cubic yards of dredged material were placed unconfined at the shoreline nourishment disposal site located on the west side of the channel, and 533,172 cubic yards were placed in the ocean dredged material disposal site.

Since 1990, dredged material has been placed unconfined at a shoreline nourishment disposal site on the west side of the channel and at the ocean dredged material disposal site. The shoreline nourishment disposal area extends from the beach into the Gulf of Mexico. The inner limit of the disposal area is 1500 feet west of the channel centerline.

1994
During the FY 1994 event (11 March 1994 to 29 April 1994), a total of 650,404 cubic yards of dredged material from the Mile 1.3 to Mile –1.3 reach were placed unconfined at the shoreline nourishment. The dredged material was placed to an elevation no higher than +3.5 Mean Low Gulf (MLG). Approximately 338,637 cubic yards of material were placed in the ocean dredged material disposal site.

2001
During the FY 2001 event (23 November 2000 to 8 January 2001) under contract DACW29-01-C-0005, approximately 843,385 cubic yards of dredged material from Mile 1.3 to Mile –4.0 were placed unconfined at the shoreline nourishment disposal site. The dredged material was pumped to an elevation of +3.5 feet MLG. About 5 acres of shoreline habitat were created by this placement effort.

2005
During the FY 2005 event (18 February 2005 to 20 March 2005) under contract W912P8-05-C-0015, approximately 1,699,835 cubic yards of dredged material from Mile 1.3 to Mile –4.0 were placed unconfined at the shoreline nourishment disposal site. The dredged material was pumped to an elevation of +3.5 feet MLG. About 20 acres of shoreline habitat were created by this placement effort.
During the FY 2007 event (8 November 2006 to 17 January 2007) under contract W912P8-06-C-0201, approximately 1,175,006 cubic yards of dredged material from Mile 1.3 to Mile –4.0 were placed unconfined at the shoreline nourishment disposal site. The dredged material was pumped to an elevation of +3.5 feet MLG. About 46 acres of shoreline habitat were created by this placement effort.
During the FY 2009 event (8 April 2009 to 6 May 2009) under contract W912P8-09-C-0021, approximately 306,412 cubic yards of dredged material from Mile 1.3 to Mile –4.0 were placed unconfined at the shoreline nourishment disposal site. The dredged material was pumped to an elevation of +3.5 feet MLG. About 11 acres of shoreline habitat were created by this placement effort.
During the FY 2019 event (14 November 2018 to 28 March 2019) under contract W912P8-18-C-0046, approximately 1,559,088 cubic yards of dredged material from Mile 1.3 to Mile –4.0 were placed unconfined at the shoreline nourishment disposal site. The dredged material was pumped to an elevation of +3.5 feet MLG. At the time of this writing, aerial photography was unavailable to determine land gain created by this placement effort.