

# **BENEFICIAL USE OF DREDGED MATERIAL DISPOSAL HISTORY MISSISSIPPI RIVER, BATON ROUGE TO THE GULF OF MEXICO, LA, SOUTHWEST PASS**

## **Fiscal Year 1990**

Under contract **90-C-0025**, the cutterhead dredges DREDGE 32, LOUISIANA, and MISSOURI H (working from 21 February 1990 to 10 October 1990) removed a total of 9,151,095 gross cubic yards from the Southwest Pass Mile 0.6 Above Head of Passes (AHP) to Mile 18.8 Below Head of Passes (BHP) dredging reach. Dredged material placed in shallow open water areas for marsh creation was limited to a maximum placement height of about +4.5 feet Mean Low Gulf (MLG). Dredged material placed in shallow open water areas for shoreline nourishment was limited to a maximum placement height of about +6.0 feet MLG.

### **West Side Placement: Marsh Creation**

Approximately 250,624 cubic yards (CY) were placed unconfined into shallow open water at about **Mile 0.27 AHP** in West Bay/Riverside Bay for marsh creation.

Approximately 132,299 CY were placed unconfined into shallow open water at about **Mile 0.0** in Riverside Bay on the west side of the channel for marsh creation.

Approximately 320,711 CY were placed unconfined into shallow open water at about **Mile 0.5 BHP** in Riverside Bay on the west side of the channel for marsh creation.

Approximately 71,467 CY were placed unconfined into shallow open water at about **Mile 1.25 BHP** in Riverside Bay on the west side of the channel for marsh creation.

Approximately 257,872 CY were placed unconfined in shallow open water at about **Mile 4.6 BHP** in Dixon Bay on the west side of the channel for marsh creation.

Approximately 365,599 CY were placed unconfined in shallow open water at about **Mile 5.1 BHP** in Dixon Bay on the west side of the channel for marsh creation.

Approximately 205,508 CY were placed unconfined in shallow open water at about **Mile 5.4 BHP** in Dixon Bay on the west side of the channel for marsh creation.

Approximately 241,695 CY were placed unconfined in shallow open water at about **Mile 12.0 BHP** on the west side of the channel for marsh creation.

Approximately 341,828 CY were placed unconfined in shallow open water at about **Mile 15.6 BHP** in Mud Bay on the west side of the channel for marsh creation.

Approximately 45,133 CY were placed unconfined behind foreshore rock dikes between **Mile 18.0 BHP** and **Mile 18.5 BHP** on the west side of the channel for marsh creation.

### **East Side Placement: Marsh Creation**

Approximately 300,601 CY were placed unconfined in shallow open water at about **Mile 9.5 BHP** on the east side of the channel for marsh creation. Dredged material placed at this BU site was mechanically degraded from an initial elevation of about +12.0 feet MLG to about +4.5 feet MLG.

### **East Side Placement: Shoreline Nourishment**

Approximately 46,646 CY were placed unconfined in shallow open water at about **Mile 13.9 BHP** in East Bay for shoreline nourishment.

Approximately 91,521 CY were placed unconfined in shallow open water at about **Mile 14.0 BHP** in East Bay for shoreline nourishment.

Approximately 362,253 CY were placed unconfined in shallow open water at about **Mile 14.4 BHP** in East Bay for shoreline nourishment.

Approximately 235,093 CY were placed unconfined in shallow open water at about **Mile 15.5 BHP** in East Bay for shoreline nourishment.

Approximately 92,480 CY were placed unconfined in shallow open water at about **Mile 15.8 BHP** in East Bay for shoreline nourishment.

Approximately 186,842 CY were placed unconfined in shallow open water at about **Mile 16.4 BHP** in East Bay for shoreline nourishment.

Approximately 175,517 CY were placed unconfined in shallow open water at about **Mile 16.9 BHP** in East Bay for shoreline nourishment.

Approximately 180,743 CY were placed unconfined in shallow open water at about **Mile 17.1 BHP** in East Bay for shoreline nourishment.

Approximately 197,551 CY were placed unconfined in shallow open water at about **Mile 17.0 BHP** in East Bay for shoreline nourishment.

Approximately 38,168 CY were placed unconfined in shallow open water at about **Mile 17.5 BHP** in East Bay for shoreline nourishment.

Approximately 150,529 CY were placed unconfined in shallow open water at about **Mile 18.5 BHP** in East Bay for shoreline nourishment.

Approximately 32,168 CY were placed unconfined behind east jetty rock between **Mile 18.7 BHP** and **Mile 18.8 BHP** on the east side of the channel for shoreline nourishment.

## **Bankline Stabilization**

Approximately 20,401 CY were placed unconfined behind foreshore rock dikes at about **Mile 1.1 BHP** on the west side of the channel for bank stabilization.

Approximately 268,583 CY were placed unconfined behind foreshore rock dikes between **Mile 1.5 BHP** and **Mile 2.9 BHP** on the west side of the channel for bank stabilization.

Approximately 49,678 CY were placed unconfined behind foreshore rock dikes between **Mile 3.75 BHP** and **Mile 3.85 BHP** on the west side of the channel for bank stabilization.

Approximately 232,972 CY were placed unconfined behind foreshore rock dikes between **Mile 6.0 BHP** and **Mile 7.0 BHP** on the west side of the channel for bank stabilization.

Approximately 32,768 CY were placed unconfined behind foreshore rock dikes between **Mile 7.2 BHP** and **Mile 7.3 BHP** on the east side of the channel for bank stabilization.

Approximately 285,038 CY were placed unconfined behind foreshore rock dikes between **Mile 7.9 BHP** and **Mile 9.0 BHP** on the west side of the channel for bank stabilization.

Approximately 65,018 CY were placed unconfined behind foreshore rock dikes between **Mile 8.8 BHP** and **Mile 9.0 BHP** on the west side of the channel for bank stabilization.

Approximately 7,682 CY were placed unconfined behind foreshore rock dikes at **Mile 9.2 BHP** on the west side of the channel for bank stabilization.

Approximately 69,977 CY were placed unconfined behind foreshore rock dikes between **Mile 10.0 BHP** and **Mile 10.1 BHP** on the west side of the channel for bank stabilization.

Approximately 104,246 CY were placed unconfined behind foreshore rock dikes between **Mile 10.2 BHP** and **Mile 10.6 BHP** on the west side of the channel for bank stabilization.

Approximately 79,941 CY were placed unconfined behind foreshore rock dikes at **Mile 11.1 BHP** on the east side of the channel for bank stabilization.

Approximately 19,136 CY were placed unconfined behind foreshore rock dikes at **Mile 11.5 BHP** on the east side of the channel for bank stabilization.

Approximately 127,429 CY were placed unconfined behind foreshore rock dikes between **Mile 11.8 BHP** and **Mile 11.9 BHP** on the east side of the channel for bank stabilization.

Approximately 182,923 CY were placed unconfined behind foreshore rock dikes between **Mile 12.1 BHP** and **Mile 12.5 BHP** on the east side of the channel for bank stabilization.

Approximately 396,155 CY were placed unconfined behind foreshore rock dikes between **Mile 12.5 BHP** and **Mile 13.6 BHP** on the east side of the channel for bank stabilization.

Approximately 996,689 CY were placed unconfined behind foreshore rock dikes between **Mile 12.6 BHP** and **Mile 15.0 BHP** on the west side of the channel for bank stabilization.

Approximately 135,408 CY were placed unconfined behind foreshore rock dikes between **Mile 14.1 BHP** and **Mile 14.2 BHP** on the east side of the channel for bankline stabilization.

Approximately 139,428 CY were placed unconfined behind foreshore rock dikes between **Mile 14.5 BHP** and **Mile 14.7 BHP** on the east side of the channel for bankline stabilization.

Approximately 169,148 CY were placed unconfined behind foreshore rock dikes between **Mile 15.1 BHP** and **Mile 15.3 BHP** on the west side of the channel for bankline stabilization.

Approximately 489,869 CY were placed unconfined behind foreshore rock dikes between **Mile 15.1 BHP** and **Mile 15.9 BHP** on the east side of the channel for bankline stabilization.

Approximately 12,859 CY were placed unconfined behind foreshore rock dikes at **Mile 16.3 BHP** on the east side of the channel for bankline stabilization.

Approximately 56,035 CY were placed unconfined behind foreshore rock dikes at **Mile 16.5 BHP** on the east side of the channel for bankline stabilization.

Approximately 120,738 CY were placed unconfined behind foreshore rock dikes between **Mile 17.2 BHP** and **Mile 17.4 BHP** on the east side of the channel for bankline stabilization.

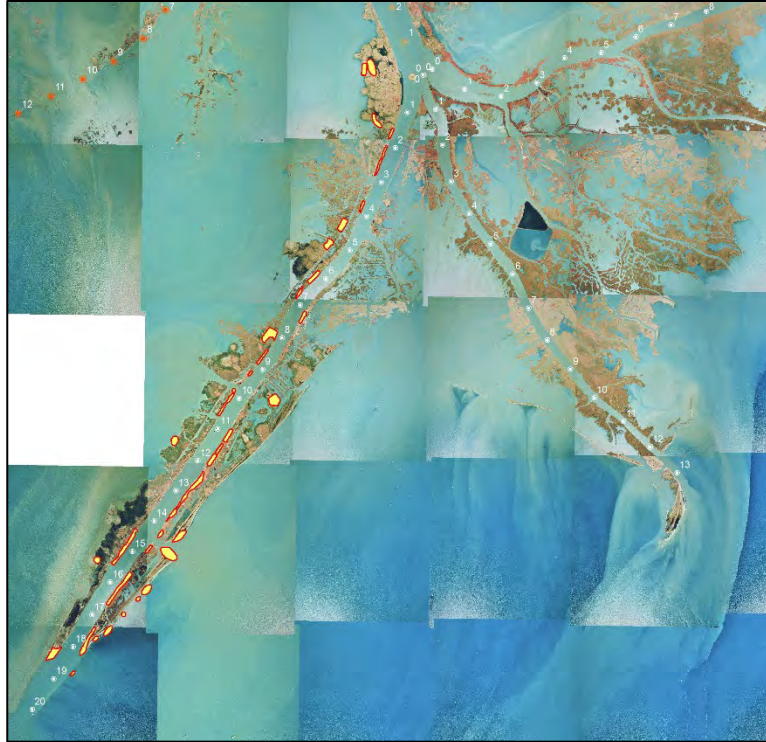
Approximately 352,396 CY were placed unconfined behind foreshore rock dikes between **Mile 17.4 BHP** and **Mile 17.6 BHP** on the east side of the channel for bankline stabilization.

Approximately 413,728 CY were placed unconfined behind foreshore rock dikes between **Mile 17.8 BHP** and **Mile 18.0 BHP** on the east side of the channel for bankline stabilization.

## **Results**

For this contract work, approximately 2,232,736 CY of dredged material was placed for marsh creation on the west side of the channel, and approximately 300,601 CY of dredged material were placed on the east side of the channel for marsh creation. Approximately 1,757,346 CY of dredged material was placed for shoreline nourishment on the east side of the channel. Approximately 2,269,432 CY of dredged material were placed for bank stabilization on the west side of the channel, and approximately 2,558,813 CY of dredged material were placed on the east side of the channel for bank stabilization.

Final contract cost was \$5,001,591.



Southwest Pass BU Sites (1990)

### Fiscal Year 1991

Under contract **91-C-0027**, the cutterhead dredge TL JAMES (working from 11 February 1991 to 18 June 1991) removed a total of 3,217,963 gross cubic yards from the Southwest Pass Mile 5.2 BHP to Mile 18.8 BHP dredging reach. Dredged material placed in shallow open water areas for marsh creation was limited to a maximum placement height of about +4.5 feet MLG. Dredged material placed in shallow open water areas for shoreline nourishment was limited to a maximum placement height of about +6.0 feet MLG.

### West Side Placement: Marsh Creation

Approximately 162,810 CY were placed unconfined in shallow open water at about **Mile 5.4 BHP** in Dixon Bay on the west side of the channel for marsh creation.

Approximately 275,688 CY were placed unconfined in shallow open water at about **Mile 14.9 BHP** in Dixon Bay on the west side of the channel for marsh creation.

Approximately 224,278 CY were placed unconfined in shallow open water at **Miles 18.5 BHP, 18.52 BHP, and 18.53 BHP** on the west side of the channel for marsh creation.

### **East Side Placement: Shoreline Nourishment**

Approximately 418,990 CY were placed unconfined in shallow open water at about **Mile 14.7 BHP** in East Bay on the east side of the channel for shoreline nourishment.

Approximately 1,504,642 CY were placed unconfined in shallow open water at about **Mile 17.0 BHP** in East Bay on the east side of the channel for shoreline nourishment.

Approximately 272,527 CY were placed unconfined in shallow open water at about **Mile 18.1 BHP** in East Bay on the east side of the channel for shoreline nourishment.

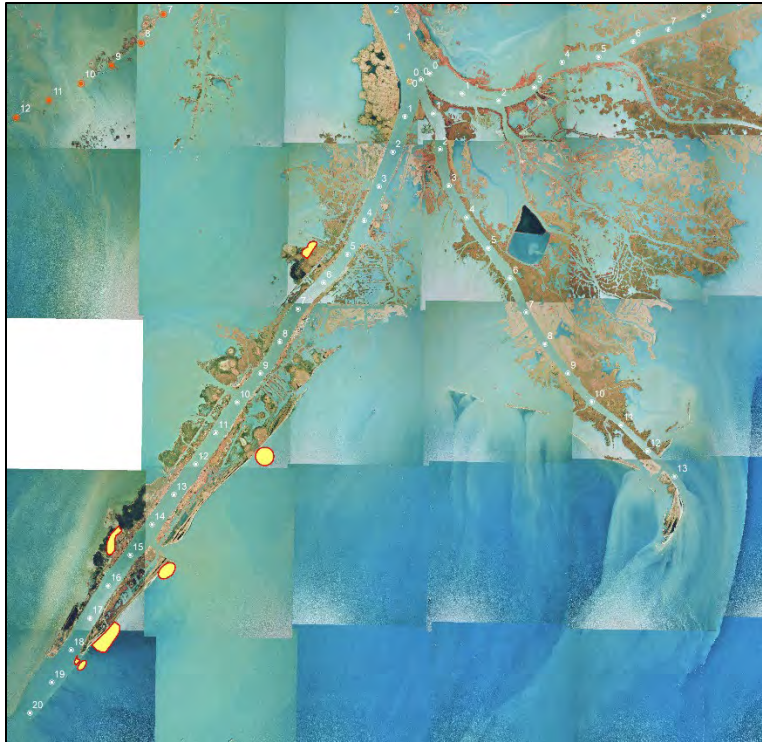
### **Bankline Stabilization**

Approximately 347,746 CY were placed unconfined behind foreshore rock dikes between **Miles 17.9 BHP** and **18.2 BHP** on the west side of the channel for bankline stabilization.

Approximately 8,909 CY were placed unconfined behind foreshore rock dikes at about **Mile 17.9 BHP** on the east side of the channel for bankline stabilization.

### **Results**

For this contract work, approximately 662,776 net CY of dredged material were placed for marsh creation on the west side of the channel. Approximately 2,196,159 net CY of dredged material were placed for shoreline nourishment on the east side of the channel. Approximately 356,655 net CY of dredged material were placed for bankline stabilization: 347,746 CY on the west side of the channel, and 8,909 CY on the east side of the channel. Final contract cost was \$2,318,109.



Southwest Pass BU Sites (1991)

### Fiscal Year 1992

Under contract **92-C-0025**, the cutterhead dredge ALASKA (working from 1 June 1992 to 3 September 1992) removed a total of 4,334,693 gross cubic yards from the Southwest Pass Mile 1.5 BHP to Mile 18.8 BHP dredging reach. Dredged material placed in shallow open water areas for marsh creation was limited to a maximum placement height of about +4.5 feet MLG. Dredged material placed in shallow open water areas for shoreline nourishment was limited to a maximum placement height of about +6.0 feet MLG.

Open water disposal areas dedicated to wetland creation were established in 1992 at specific locations in the West Bay (West Bay Mandatory Disposal Area (**WBMDA**) at Mile 14.5 BHP) and in the East Bay (East Bay Mandatory Disposal Area (**EBMDA**) at Mile 9.5 BHP) of Southwest Pass. Initial plans for the **WBMDA** called for a crescent-shaped design to extend into West Bay in order to help retain dredged material from subsequent placements. The maximum discharge height for dredged material placed at the **WBMDA** site was +6.0 feet MLG with an expectation that, following dewatering and compaction, a final height of +3.0 feet MLG would be achieved. This maximum elevation height restriction was chosen to offset the erosive effects of the high energy wave environment present in West Bay.

The **EBMDA** was authorized under Section 150 of the Water Resources Development Act of 1976. Dredged material placed at the **EBMDA** was not to exceed a maximum initial height of +4.5 feet MLG.

### **West Side Placement: Marsh Creation**

Approximately 162,332 CY were placed unconfined in shallow open water at about **Mile 1.9 BHP** in Dixon Bay on the west side of the channel. The discharge site was located approximately 1,900 feet west of the channel. Dredged material was placed to an initial elevation of about +2.8 feet MLG for marsh creation.

Approximately 492,780 CY were placed unconfined in shallow open water at about **Mile 5.5 BHP** on the west side of the channel in Dixon Bay about 5,000 feet from the channel centerline. Dredged material was placed to an initial elevation of about +3.0 feet MLG for marsh creation.

Approximately 190,931 CY were placed unconfined in shallow open water at about **Mile 9.5 BHP** in West Bay on the west side of the channel. Dredged material was placed at an initial elevation of about +3.5 feet MLG for marsh creation.

Approximately 298,712 CY were placed unconfined in shallow open water at about **Mile 10.3 BHP** on the west side of the channel in West Bay about 4,300 feet west of the channel centerline. Dredged material was placed to an initial elevation of about +3.2 feet MLG for marsh creation.

Approximately 391,034 CY were placed unconfined in shallow open water at the **WBMDA** at about Mile 14.2 BHP about 4,900 feet west of the channel centerline. A retention dike was unable to be constructed at this disposal site as planned due to the poor nature of the borrow material. As a result, although dredged material was placed to a maximum initial elevation of about +5.0 feet MLG for marsh creation, the average elevation for this site was about +3.5 feet MLG.

Approximately 121,422 CY were placed unconfined in shallow open water at about **Mile 15.6 BHP** in West Bay about 4,350 feet west of the channel centerline. Dredged material was placed to an initial elevation of about +3.5 feet MLG for marsh creation.

Approximately 427,297 CY were placed unconfined in shallow open water between **Mile 16.5 BHP** and **Mile 18.2 BHP** in Mud Bay on the west side of the channel. Dredged material was placed to an initial elevation of about +3.9 feet MLG for marsh creation.

### **East Side Placement: Marsh Creation**

Approximately 503,716 CY were placed unconfined in shallow open water at the **EBMDA** at about Mile 9.5 BHP on the east side of the channel about 2,100 to 3,650 feet from the channel centerline. Dredged material was placed to an initial elevation of about +4.3 feet MLG for marsh creation. The contractor declined to build retention dikes around this placement site, which resulted in dredged material shoaling several adjacent back canals. As of 17 September 1992, the average elevation at this site was estimated to be about +3.5 feet MLG.

Approximately 10,000 CY were placed unconfined in shallow open water at about **Mile 18.0 BHP** on the inside of the east jetty about 1,900 feet east of the channel centerline. Dredged material was placed to an initial elevation of about +3.5 feet MLG for marsh creation.

### **East Side Placement: Shoreline Nourishment**

Approximately 234,739 CY were placed unconfined in shallow open water at about **Mile 14.6 BHP** in East Bay about 4,700 feet east of the channel centerline. Dredged material was placed to an initial elevation of about +2.5 feet MLG for shoreline nourishment.

Approximately 55,386 CY were placed unconfined in shallow open water at about **Mile 18.2 BHP** behind the east jetty about 2,000 feet east of the channel centerline. Dredged material was placed to an initial elevation of about +2.5 feet MLG for shoreline nourishment.

Approximately 56,116 CY were placed unconfined in shallow open water at about **Mile 18.5 BHP** behind the east jetty about 1,750 feet east of the channel centerline. Dredged material was placed to an initial elevation of about +2.5 feet MLG for shoreline nourishment.

### **Bankline Stabilization**

Approximately 134,908 CY were placed unconfined behind foreshore rock dikes at about **Mile 2.6 BHP** along the west side of the channel. Dredged material was placed to an initial elevation of about +3.0 feet MLG for bankline stabilization.

Approximately 107,300 CY were placed unconfined behind foreshore rock dikes at about **Mile 2.8 BHP** on along the west side of the channel. Dredged material was placed to an initial elevation of about +3.0 feet MLG for bankline stabilization.

Approximately 57,937 CY were placed unconfined behind foreshore rock dikes at about **Mile 3.5 BHP** along the west side of the channel. Dredged material was placed to an initial elevation of about +3.5 feet MLG for bankline stabilization.

Approximately 183,761 CY were placed unconfined behind foreshore rock dikes at about **Mile 3.8 BHP** along the west side of the channel. Dredged material was placed to an initial elevation of about +3.1 feet MLG for bankline stabilization.

Approximately 52,971 CY were placed unconfined behind foreshore rock dikes at about **Mile 6.6 BHP** along the west side of the channel. Dredged material was placed to an initial elevation of about +3.0 feet MLG for bankline stabilization.

Approximately 102,720 CY were placed unconfined behind foreshore rock dikes at about **Mile 6.7 BHP** along the east side of the channel. Dredged material was placed to an initial elevation of about +4.2 feet MLG for bankline stabilization.

Approximately 230,130 CY were placed unconfined behind foreshore rock dikes at about **Mile 11.8 BHP** on the west side of the channel. Dredged material was placed to an initial elevation of about +3.2 feet MLG for bankline stabilization.

Approximately 300,350 CY were placed unconfined behind foreshore rock dikes located between **Mile 11.8 BHP** and **Mile 12.2 BHP** on the east side of the channel. Dredged was placed to an initial elevation of about +3.3 to +3.4 feet MLG for bankline stabilization.

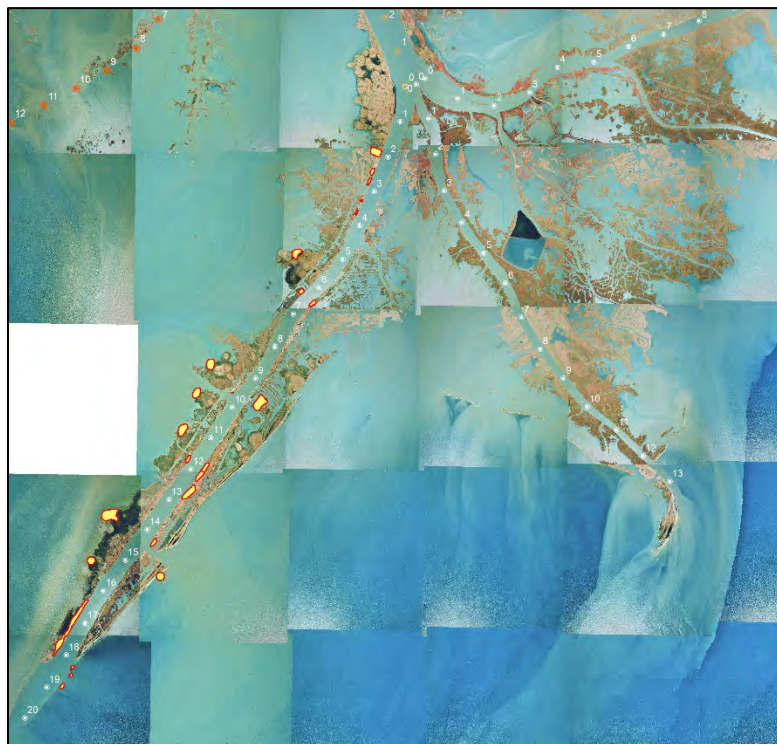
Approximately 41,388 CY were placed unconfined behind foreshore rock dikes between **Mile 12.4 BHP** and **Mile 12.6 BHP** on the east side of the channel. Dredged material was placed to an initial elevation of about +3.2 feet MLG for bankline stabilization.

Approximately 113,488 CY were placed unconfined behind foreshore rock dikes at about **Mile 14.0 BHP** on the east side of the channel. Dredged material was placed at an initial elevation of +4.0 feet MLG for bankline stabilization.

## **Results**

For this contract work, approximately 2,084,508 net CY of dredged material were placed for marsh creation on the west side of the channel. Approximately 513,716 CY net of dredged material were placed on the east side of the channel for marsh creation. Approximately 346,241 net CY of dredged material were placed for shoreline nourishment on the east side of the channel. Approximately 767,007 net CY of dredged material was placed for bank stabilization on the west side of the channel, and approximately 557,946 net CY of dredged material were placed on the east side of the channel for bank stabilization.

Final contract cost was \$4,315,000.



Southwest Pass BU Site (1992)

## Fiscal Year 1993

Under contract **93-C-0045**, the cutterhead dredges LOUISIANA, MISSOURI H, and DREDGE 32 (working from 29 April 1993 to 3 October 1993) removed a total of 3,876,065 gross cubic yards from the Southwest Pass Mile 5.4 BHP to Mile 18.2 BHP dredging reach. Dredged material placed in shallow open water areas for marsh creation was limited to a maximum placement height of about +4.5 feet MLG. Dredged material placed in shallow open water areas for shoreline nourishment was limited to a maximum placement height of about +6.0 feet MLG.

### West Side Placement: Marsh Creation

Approximately 162,287 CY were placed unconfined in shallow open water at about **Mile 5.5 BHP** on the west side of the channel in Dixon Bay about 5,000 feet from the channel centerline for marsh creation.

Approximately 145,359 CY were placed unconfined in shallow open water at about **Mile 9.4 BHP** in West Bay on the west side of the channel for marsh creation. A break in the shore pipeline resulted in some dredged material filling in the shallow open water area surrounding a wellhead located at about Mile 9.53 BHP just north of Outlet W-2.

Approximately 136,760 CY were placed unconfined in shallow open water at about **Mile 12.9 BHP** on the west side of the channel in West Bay about 2,000 feet west of the channel centerline for marsh creation.

Approximately 634,905 CY were placed unconfined in shallow open water at the **WBMDA** site at about Mile 14.8 BHP about 4,900 feet west of the channel centerline for marsh creation.

Approximately 202,076 CY were placed unconfined in shallow open water at about **Mile 15.6 BHP** in West Bay about 4,350 feet west of the channel centerline for marsh creation.

Approximately 91,260 CY were placed unconfined in shallow open water at about **Mile 17.8 BHP** in West Bay behind the west jetty about 3,000 feet west of the channel centerline for marsh creation.

### East Side Placement: Marsh Creation

Approximately 155,701 CY were placed unconfined in shallow open water at about **Mile 11.6 BHP** about 2,500 feet east of the channel centerline for marsh creation.

Approximately 64,843 CY were placed unconfined in shallow open water at about **Mile 15.6 BHP** on the east side of the channel about 2,000 feet east of the channel centerline for marsh creation.

### **East Side Placement: Shoreline Nourishment**

Approximately 123,372 CY were placed unconfined in shallow open water at about **Mile 12.5 BHP** in East Bay about 4,500 feet east of the channel centerline for shoreline nourishment.

Approximately 240,135 CY were placed unconfined in shallow open water at about **Mile 14.0 BHP** in East Bay about 4,500 feet east of the channel centerline for shoreline nourishment.

Approximately 269,903 CY were placed unconfined in shallow open water at about **Mile 14.5 BHP** in East Bay about 4,500 feet east of the channel centerline for shoreline nourishment.

Approximately 323,353 CY were placed unconfined in shallow open water at about **Mile 15.4 BHP** in East Bay about 4,000 feet east of the channel centerline for shoreline nourishment.

Approximately 713,000 CY were placed unconfined in shallow open water at about **Mile 16.9 BHP** behind the east jetty about 2,000 feet east of the channel centerline for shoreline nourishment.

Approximately 153,571 CY were placed unconfined in shallow open water at about **Mile 17.4 BHP** behind the east jetty about 2,000 feet east of the channel centerline for shoreline nourishment.

Approximately 142,014 CY were placed unconfined in shallow open water at about **Mile 17.7 BHP** behind the east jetty about 2,000 feet east of the channel centerline for shoreline nourishment.

Approximately 45,162 CY were placed unconfined in shallow open water at about **Mile 18.2 BHP** behind the east jetty about 2,000 feet east of the channel centerline for shoreline nourishment.

Approximately 55,386 CY were placed unconfined in shallow open water at about **Mile 18.2 BHP** behind the east jetty about 2,000 feet east of the channel centerline for shoreline nourishment.

### **Bankline Stabilization**

Approximately 53,023 CY were placed unconfined behind foreshore rock dikes at about **Mile 11.5 BHP** on the east side of the channel for bankline stabilization.

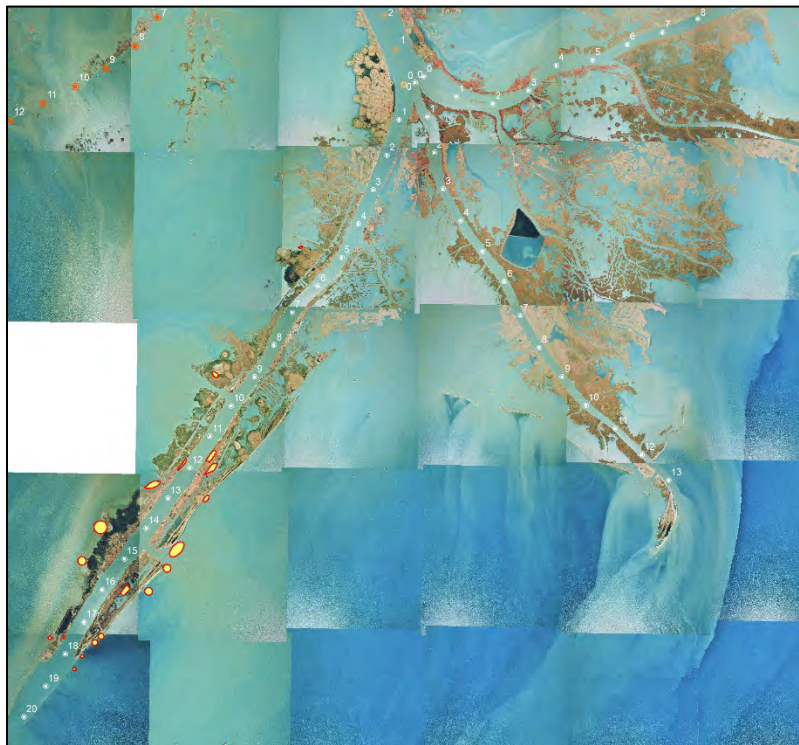
Approximately 138,434 CY were placed unconfined behind foreshore rock dikes at about **Mile 12.1 BHP** on the west side of the channel for bankline stabilization.

Approximately 25,521 CY were placed unconfined behind foreshore rock dikes at about **Mile 17.6 BHP** on the west side of the channel for bankline stabilization.

## **Results**

For this contract work, approximately 1,372,647 CY of dredged material were placed for marsh creation on the west side of the channel, and approximately 220,544 CY of dredged material were placed for marsh creation on the east side of the channel. Approximately 2,065,896 CY of dredged material were placed for shoreline nourishment on the east side of the channel. Approximately 163,955 CY of dredged material were placed for bank stabilization on the west side of the channel, and approximately 53,023 CY of dredged material were placed for bank stabilization on the east side of the channel.

Final contract cost was \$3,999,999.



Southwest Pass BU Sites (1993)

## **Fiscal Year 1994**

Under contract **94-C-0036**, the cutterhead dredges **GEORGE D. WILLIAMS** and **PONTCHARTRAIN** (working from 19 February 1994 to 5 July 1994) removed a total of 5,751,715 gross cubic yards from the Southwest Pass Mile 0.5 AHP to Mile 18.8 BHP dredging reach. Dredged material placed in shallow open water areas for marsh creation was limited to a maximum placement height of about +4.5 feet MLG. Dredged material placed in shallow open water areas for shoreline nourishment was limited to a maximum placement height of about +6.0 feet MLG.

### **West Side Placement: Marsh Creation**

Approximately 317,550 CY were placed unconfined in shallow open water at about **Mile 0.3 AHP** in West Bay on the west side of the channel for marsh creation.

Approximately 213,200 CY were placed unconfined in shallow open water at about **Mile 0.6 BHP** in Riverside Bay on the west side of the channel for marsh creation.

Approximately 100,400 CY were placed unconfined in shallow open water at about **Mile 2.3 BHP** on the west side of the channel for marsh creation.

Approximately 279,900 CY were placed unconfined in shallow open water at about **Mile 5.6 BHP** on the west side of the channel for marsh creation.

Approximately 271,625 CY were placed unconfined in shallow open water at about **Mile 6.0 BHP** on the west side of the channel for marsh creation.

Approximately 332,200 CY were placed unconfined in shallow open water at about **Mile 9.3 BHP** on the west side of the channel for marsh creation.

Approximately 737,710 CY were placed unconfined in shallow open water at the **WBMDA** site at about Mile 14.8 BHP on the west side of the channel for marsh creation. Dredged material was placed in a crescent-shape extending out into West Bay that was designed to help retain future dredged material placed at this site. Post-disposal surveys found that the area of dredged material discharge had an elevation of about +6.0 feet MLG with the remainder of the site below this elevation.

Approximately 281,500 CY were placed unconfined in shallow open water at about **Mile 15.7 BHP** on the west side of the channel for marsh creation.

Approximately 324,610 CY were placed unconfined in shallow open water at about **Mile 16.8 BHP** on the west side of the channel for marsh creation.

Approximately 247,135 CY were placed unconfined in shallow open water at about **Mile 18.3 BHP** on the west side of the channel for marsh creation.

Approximately 216,000 CY were placed unconfined in shallow open water at about **Mile 18.4 BHP** on the west side of the channel for marsh creation.

### **East Side Placement: Marsh Creation**

Approximately 367,300 CY were placed unconfined in shallow open water at the **EBMDA** at about Mile 10.0 BHP on the east side of the channel for marsh creation. Post-disposal surveys found that the majority of this site was at an elevation of about +4.5 feet MLG.

### **East Side Placement: Shoreline Nourishment**

Approximately 808,850 CY were placed unconfined in shallow open water at about **Mile 14.4 BHP** on the east side of the channel for shoreline nourishment.

Approximately 396,450 CY were placed unconfined in shallow open water at about **Mile 16.0 BHP** on the east side of the channel for shoreline nourishment.

Approximately 207,815 CY were placed unconfined in shallow open water at about **Mile 17.0 BHP** on the east side of the channel for shoreline nourishment.

Approximately 434,925 CY were placed unconfined in shallow open water at about **Mile 17.2 BHP** on the east side of the channel for shoreline nourishment.

Approximately 99,895 CY were placed unconfined in shallow open water at about **Mile 17.4 BHP** on the east side of the channel for shoreline nourishment.

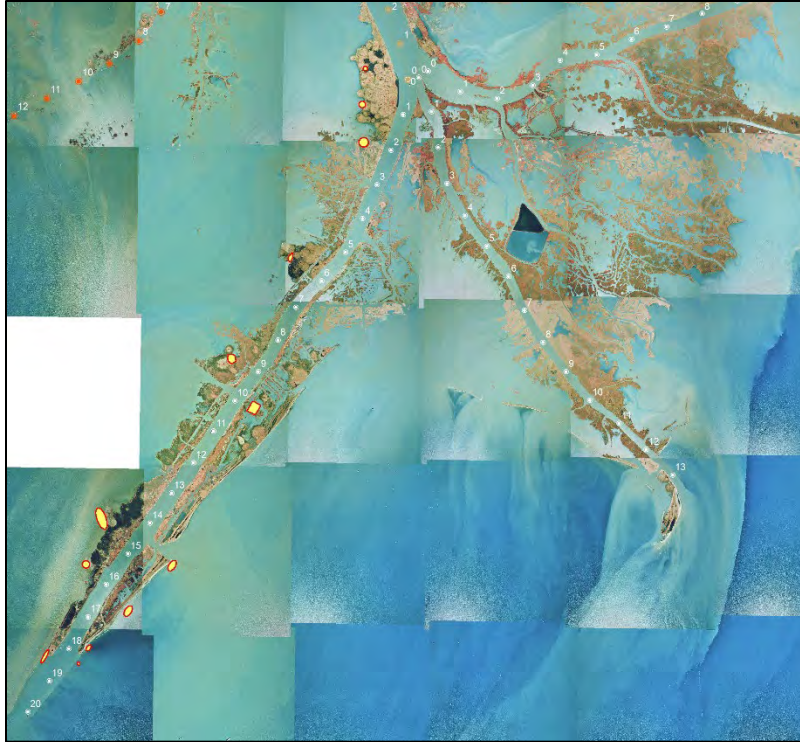
Approximately 74,730 CY were placed unconfined in shallow open water at about **Mile 17.6 BHP** on the east side of the channel for shoreline nourishment.

Approximately 36,920 CY were placed unconfined in shallow open water at about **Mile 18.0 BHP** on the east side of the channel for shoreline nourishment.

### **Results**

For this contract work, approximately 3,321,830 CY of dredged material were placed for marsh creation on the west side of the channel, and approximately 367,300 CY of dredged material were placed on the east side of the channel for marsh creation. Approximately 2,062,585 CY of dredged material were placed for shoreline nourishment on the east side of the channel.

Final contract cost was \$6,443,000.



Southwest Pass BU Sites (1994)

### Fiscal Year 1995

Under contract **95-C-0061**, the cutterhead dredge **GEORGE D. WILLIAMS** (working from 15 June 1995 to 4 September 1995) removed a total of 3,971,640 gross cubic yards from the Southwest Pass Mile 6.5 BHP to Mile 18.1 BHP dredging reach. Dredged material placed in shallow open water areas for marsh creation was limited to a maximum placement height of about +4.5 feet MLG. Dredged material placed in shallow open water areas for shoreline nourishment was limited to a maximum placement height of about +6.0 feet MLG.

### West Side Placement: Marsh Creation

Approximately 490,364 CY were placed unconfined in shallow open water at about **Mile 5.7 BHP** on the west side of the channel for marsh creation.

Approximately 377,317 CY were placed unconfined in shallow open water at the **WBMDA** site at about Mile 14.6 on the west side of the channel for marsh creation. Post-disposal surveys found that the area of dredged material discharge had an elevation of about +6.0 feet MLG with the remainder of the site below this elevation.

Approximately 503,564 CY were placed in shallow open water at about **Mile 15.8 BHP** on the west side of the channel for marsh creation.

Approximately 129,706 CY were placed unconfined in shallow open water at about **Mile 16.6 BHP** on the west side of the channel for marsh creation.

Approximately 491,729 CY were placed unconfined in shallow open water at about **Mile 16.9 BHP** on the west side of the channel for marsh creation.

#### **East Side Placement: Shoreline Nourishment**

Approximately 669,203 CY were placed unconfined in shallow open water at about **Mile 14.5 BHP** on the east side of the channel for shoreline nourishment.

Approximately 855,218 CY were placed unconfined in shallow open water at about **Mile 17.0 BHP** on the east side of the channel for shoreline nourishment.

#### **Bankline Stabilization**

Approximately 417,738 CY were placed unconfined behind foreshore rock dikes at about **Mile 6.3 BHP** on the east side of the channel for bankline stabilization.

Approximately 36,801 CY were placed unconfined behind foreshore rock dikes at about **Mile 17.3 BHP** on the west side of the channel for bankline stabilization.

#### **Results**

For this contract work, approximately 1,992,680 CY of dredged material were placed for marsh creation on the west side of the channel.. Approximately 1,524,421 CY of dredged material were placed for shoreline nourishment on the east side of the channel. Approximately 417,738 CY of dredged material were placed for bank stabilization on the west side of the channel, and approximately 36,801 CY of dredged material were placed on the east side of the channel for bank stabilization.

Final contract cost was \$3,781,750.

#### **Fiscal Year 1996**

Under contract **96-C-0045**, the cutterhead dredge GEORGE D. WILLIAMS (working from 24 May 1996 to 9 August 1996) removed a total of 4,080,055 gross cubic yards from the Southwest Pass Mile 3.6 BHP to Mile 18.8 BHP dredging reach. Dredged material placed in shallow open water areas for marsh creation was limited to a maximum placement height of about +4.5 feet MLG. Dredged material placed in shallow open water areas for shoreline nourishment was limited to a maximum placement height of about +6.0 feet MLG.

The **WBMDA** design plan was altered in 1996 to create a continuous spit to be angled away from the existing shoreline. The maximum initial height of dredged material placed at this site

was also changed from +6.0 feet MLG to +4.5 feet MLG with an expected final height of +3.0 feet MLG.

The maximum initial height restriction for dredged material placed at the **EBMDA** was also changed from +4.5 feet MLG to +4.0 feet MLG in 1996.

### **West Side Placement: Marsh Creation**

Approximately 296,945 CY were placed unconfined in shallow open water at about **Mile 2.3 BHP** on the west side of the channel for marsh creation. A total of about 30 acres of marsh habitat were created as a result of this placement effort.

Approximately 239,735 CY were placed unconfined in shallow open water at about **Mile 6.1 BHP** on the west side of the channel for marsh creation. A total of about 32 acres of marsh habitat were created by this placement effort.

Approximately 436,635 CY were placed unconfined in shallow open water at the **WBMDA** site at about Mile 14.2 BHP for marsh creation. Dredged material was discharged at this site to form a continuous spit feature that projected in a northerly direction to serve as wave protection for dredged material placed at the **WBMDA**. Post-disposal surveys revealed a maximum placement elevation of about +3.9 feet MLG at the discharge location with dredged material spreading out evenly. A total of about 70 acres of marsh habitat were created by this placement effort.

Approximately 397,390 CY were placed unconfined in shallow open water at about **Mile 15.8 BHP** on the west side of the channel for marsh creation. A total of about 19 acres of marsh habitat were created by this placement effort.

Approximately 363,150 CY were placed unconfined in shallow open water at about **Mile 17.9 BHP** on the west side of the channel for marsh creation. A total of about 6 acres of marsh habitat were created by this placement effort.

### **East Side Placement: Shoreline Nourishment**

Approximately 249,040 CY were placed unconfined in shallow open water at about **Mile 14.5 BHP** on the east side of the channel for shoreline nourishment. A total of about 7 acres of beach habitat were created by this placement effort.

Approximately 1,344,420 CY were placed unconfined in shallow open water at about **Mile 16.9 BHP** on the east side of the channel for shoreline nourishment. A total of about 10 acres of beach habitat were created by this placement effort.

Approximately 341,205 CY were placed unconfined in shallow open water at about **Mile 18.2 BHP** on the east side of the channel for shoreline nourishment. A total of about 3 acres of beach habitat were created by this placement effort.

### **Bankline Stabilization**

Approximately 341,750 CY were placed unconfined behind foreshore rock dikes between **Mile 9.7 BHP** and **Mile 10.7 BHP** on the east side of the channel for bankline stabilization. A total of about 19 acres of marsh habitat were created by this placement effort.

Approximately 69,785 CY were placed unconfined behind foreshore rock dikes at about **Mile 17.9 BHP** on the east side of the channel for bankline stabilization. A total of about 3 acres of marsh habitat were created by this placement effort.

### **Results**

For this contract work, approximately 1,733,855 CY of dredged material were placed for marsh creation on the west side of the channel. Approximately 1,934,665 CY of dredged material were placed for shoreline nourishment on the east side of the channel. Approximately 411,535 CY of dredged material were placed for bankline stabilization on the east side of the channel.

Final contract cost was \$4,180,669.

### **Fiscal Year 1997**

1) Under contract **97-C-0030**, the cutterhead dredges DREDGE 32 and LOUISIANA (working from 25 March 1997 to 7 June 1997) removed a total of 1,427,610 gross cubic yards from the Southwest Pass Mile 10.3 BHP to Mile 18.0 BHP dredging reach. Dredged material placed in shallow open water areas for marsh creation on the west side of the channel was limited to a maximum placement height of about +4.0 feet MLG. Dredged material placed in shallow open water areas for shoreline nourishment on the east side of the channel was limited to a maximum placement height of about +6.0 feet MLG. The **EBMDA** was determined to be filled to capacity after the 1994 placement event.

### **West Side Placement: Marsh Creation**

Approximately 116,660 CY were placed unconfined in shallow open water at the **WBMDA** at about Mile 14.7 BHP on the west side of the channel for marsh creation. A total of about 26 acres of marsh habitat were created by this placement effort.

Approximately 203,785 CY were placed unconfined in shallow open water at about **Mile 17.6 BHP** on the west side of the channel for marsh creation. A total of about 19 acres of marsh habitat were created by this placement effort.

### **East Side Placement: Marsh Creation**

Approximately 285,055 CY were placed unconfined in shallow open water at about **Mile 10.9 BHP** on the east side of the channel for marsh creation. A total of about 21 acres of marsh habitat were created by this placement effort.

## **Bankline Stabilization**

Approximately 78,835 CY were placed unconfined behind foreshore rock dikes between **Mile 10.0 BHP** and **Mile 11.0 BHP** on the east side of the channel for bankline stabilization. A total of about 17 acres of marsh habitat were created by this placement effort.

Approximately 49,030 CY were placed unconfined behind foreshore rock dikes at about **Mile 10.7 BHP** on the east side of the channel for bankline stabilization. A total of about 14 acres of marsh habitat were created by this placement effort.

Approximately 56,450 CY were placed unconfined behind foreshore rock dikes at about **Mile 15.5 BHP** on the east side of the channel for bankline stabilization. A total of about 11 acres of marsh habitat were created by this placement effort.

Approximately 299,375 CY were placed unconfined behind foreshore rock dikes at about **Mile 16.9 BHP** on the east side of the channel for bankline stabilization. A total of about 3 acres of marsh habitat were created by this placement effort.

Approximately 338,420 CY were placed unconfined behind foreshore rock dikes at about **Mile 17.5 BHP** on the east side of the channel for bankline stabilization. A total of about 3 acres of marsh habitat were created by this placement effort.

## **Results**

For this contract work, approximately 320,445 CY of dredged material were placed for marsh creation on the west side of the channel, and approximately 285,055 CY of dredged material were placed on the east side of the channel for marsh creation. Approximately 822,110 CY of dredged material were placed for bank stabilization on the east side of the channel.

Final contract cost was \$2,131,453.

2) Under contract **97-C-0039**, the cutterhead dredge GEORGE D. WILLIAMS (working from 14 April 1997 to 11 June 1997) removed a total of 2,835,803 gross cubic yards from the Southwest Pass Mile 5.8 BHP to Mile 18.8 BHP dredging reach. Dredged material placed in shallow open water areas for marsh creation on the west side of the channel was limited to a maximum placement height of about +4.0 feet MLG. Dredged material placed in shallow open water areas for shoreline nourishment on the east side of the channel was limited to a maximum placement height of about +6.0 feet MLG.

## **West Side Placement: Marsh Creation**

Approximately 187,700 CY were placed unconfined in shallow open water at about **Mile 6.0 BHP** on the west side of the channel for marsh creation. A total of about 25 acres of marsh habitat were created by this placement effort.

Approximately 748,890 CY were placed unconfined in shallow open water between **Mile 15.7 BHP** and **Mile 16.9 BHP** on the west side of the channel for marsh creation. A total of about 38 acres of marsh habitat were created by this placement effort.

Approximately 275,445 CY were placed unconfined in shallow open water between **Mile 17.9 BHP** and **Mile 18.3 BHP** on the west side of the channel for marsh creation. A total of about 38 acres of marsh habitat were created by this placement effort.

#### **East Side Placement: Shoreline Nourishment**

Approximately 797,718 CY were placed unconfined in shallow open water at about **Mile 17.0 BHP** on the east side of the channel for shoreline nourishment. A total of about 7 acres of beach habitat were created by this placement effort.

Approximately 420,700 CY were placed unconfined in shallow open water between **Mile 17.0 BHP** and **Mile 17.3 BHP** on the east side of the channel for shoreline nourishment. A total of about 4 acres of beach habitat were created by this placement effort.

Approximately 72,800 CY were placed unconfined in shallow open water at about **Mile 18.3 BHP** on the east side of the channel for shoreline nourishment. A total of about 1 acre of beach habitat was created by this placement effort.

#### **Bankline Stabilization**

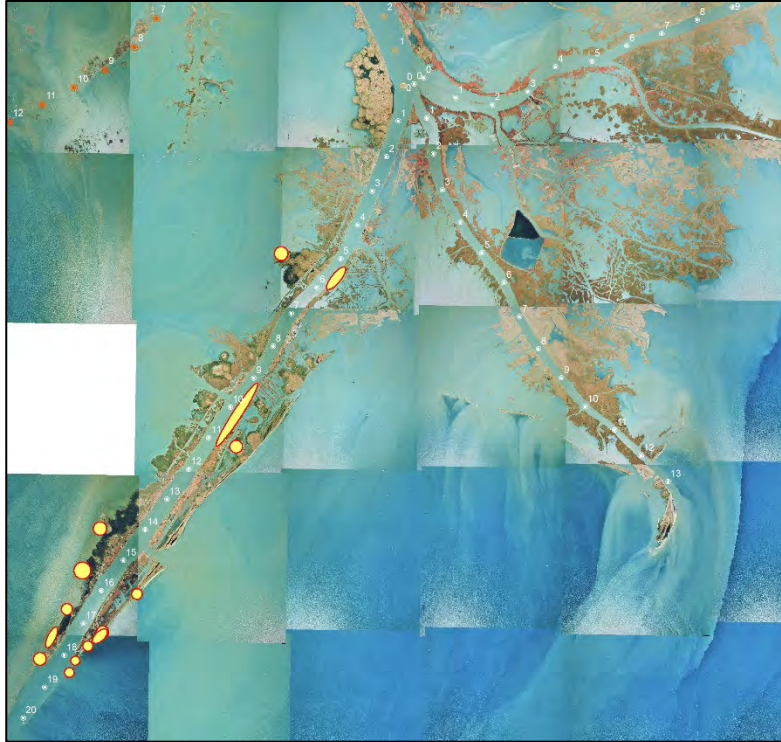
Approximately 253,250 CY were placed unconfined behind foreshore rock dikes between **Mile 5.3 BHP** and **Mile 6.2 BHP** on the east side of the channel for bankline stabilization. A total of about 52 acres of marsh habitat were created by this placement effort.

Approximately 79,300 CY were placed unconfined behind foreshore rock dikes at about **Mile 18.0 BHP** on the east side of the channel for bankline stabilization. A total of about 1 acre of marsh habitat was created by this placement effort.

#### **Results**

For this contract work, approximately 1,212,035 CY of dredged material were placed for marsh creation on the west side of the channel. Approximately 1,291,218 CY of dredged material were placed for shoreline nourishment on the east side of the channel. Approximately 332,550 CY of dredged material were placed for bank stabilization on the east side of the channel.

Final contract cost was \$4,042,334.



Southwest Pass BU Sites (1997)

### Fiscal Year 1998

Under contract **98-C-0037**, the cutterhead dredge ALASKA (working from 9 May 1998 to 14 July 1998) removed a total of 2,641,994 gross cubic yards from the Southwest Pass Mile 5.4 BHP to Mile 18.8 BHP dredging reach. Dredged material placed in shallow open water areas for marsh creation on the west side of the channel was limited to a maximum placement height of about +4.0 feet MLG. Dredged material placed in shallow open water areas for shoreline nourishment on the east side of the channel was limited to a maximum placement height of about +6.0 feet MLG.

### West Side Placement: Marsh Creation

Approximately 278,560 CY were placed unconfined in shallow open water at about **Mile 6.0 BHP** on the west side of the channel for marsh creation. A total of about 59 acres of marsh habitat were created by this placement effort.

Approximately 155,685 CY were placed unconfined in shallow open water at about **Mile 8.0 BHP** on the west side of the channel for marsh creation. No sub-aerial habitat was created by this placement effort.

Approximately 407,419 CY were placed unconfined in shallow open water at about **Mile 15.9 BHP** on the west side of the channel for marsh creation. A total of about 57 acres of marsh habitat were created by this placement effort.

Approximately 183,178 CY were placed unconfined in shallow open water at about **Mile 18.0 BHP** on the west side of the channel for marsh creation. A total of about 21 acres of marsh habitat were created by this placement effort.

#### **East Side Placement: Marsh Creation**

Approximately 209,391 CY were placed unconfined in shallow open water at about **Mile 8.6 BHP** on the east side of the channel for marsh creation. A total of about 3 acres of marsh habitat were created by this placement effort.

Approximately 286,979 CY were placed unconfined in shallow open water at about **Mile 11.0 BHP** on the east side of the channel for marsh creation. A total of about 18 acres of marsh habitat were created by this placement effort.

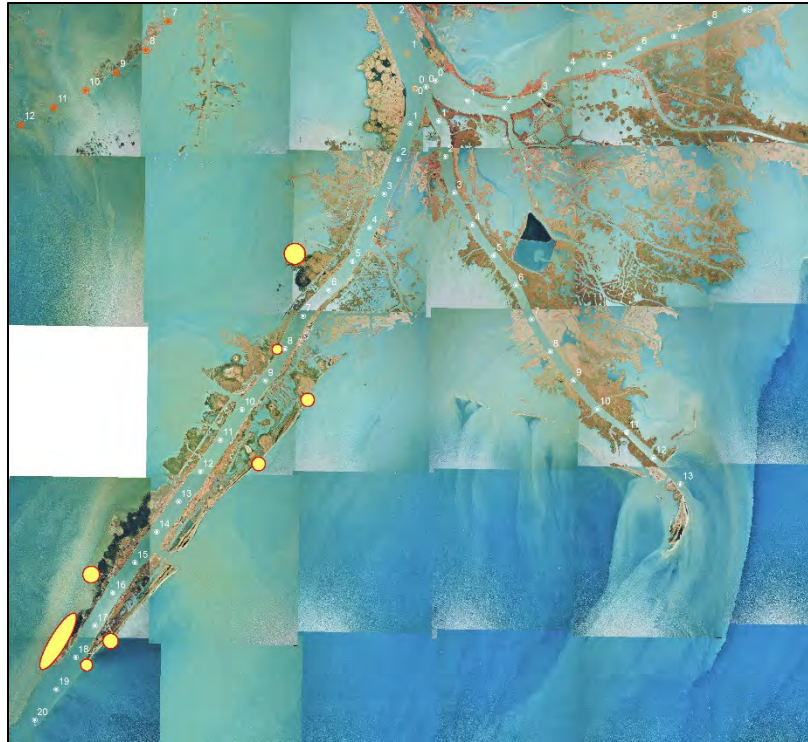
#### **East Side Placement: Shoreline Nourishment**

Approximately 386,927 CY were placed unconfined in shallow open water at about **Mile 17.0 BHP** on the east side of the channel for shoreline nourishment, and approximately 733,855 CY were placed unconfined in shallow open water at about **Mile 18.0 BHP** on the east side of the channel for shoreline nourishment. A total of about 56 acre of beach habitat were created by these placement efforts.

#### **Results**

For this contract work, approximately 1,024,842 CY of dredged material were placed for marsh creation on the west side of the channel, and approximately 496,370 CY of dredged material were placed on the east side of the channel for marsh creation. Approximately 1,120,782 CY of dredged material were placed for shoreline nourishment on the east side of the channel.

Final contract cost was \$3,703,687.



Southwest Pass BU Sites (1998)

### Fiscal Year 1999

Under contract **99-C-0023**, the cutterhead dredge **TOM JAMES** (working from 8 March 1999 to 6 April 1999) removed a total of 2,040,300 gross cubic yards from the Southwest Pass Mile 15.3 BHP to Mile 18.8 BHP dredging reach. Dredged material placed in shallow open water areas for marsh creation on the west side of the channel was limited to a maximum placement height of about +4.0 feet MLG. Dredged material placed in shallow open water areas for shoreline nourishment on the east side of the channel was limited to a maximum placement height of about +6.0 feet MLG.

### West Side Placement: Marsh Creation

Approximately 261,900 CY were placed unconfined in shallow open water at the **WBMDA** at about Mile 14.3 BHP on the west side of the channel for marsh creation. A total of about 32 acres of marsh habitat were created by this placement effort.

Approximately 358,600 CY were placed unconfined in shallow open water at about **Mile 15.5 BHP** on the west side of the channel for marsh creation. A total of about 22 acres of marsh habitat were created by this placement effort.

Approximately 250,000 CY were placed unconfined in shallow open water at about **Mile 16.8 BHP** on the west side of the channel for marsh creation. A total of about 8 acres of marsh habitat were created by this placement effort.

### **East Side Placement: Shoreline Nourishment**

Approximately 294,200 CY were placed unconfined in shallow open water at about **Mile 15.5 BHP** on the east side of the channel for shoreline nourishment. A total of about 3 acres of beach habitat were created by this placement effort.

Approximately 352,700 CY were placed unconfined in shallow open water at about **Mile 16.8 BHP** on the east side of the channel for shoreline nourishment. A total of about 11 acres of beach habitat were created by this placement effort.

Approximately 192,500 CY were placed unconfined in shallow open water at about **Mile 17.3 BHP** on the east side of the channel for shoreline nourishment. A total of about 8 acres of beach habitat were created by this placement effort.

Approximately 330,400 CY were placed unconfined in shallow open water at about **Mile 18.0 BHP** on the east side of the channel for shoreline nourishment. A total of about 13 acres of beach habitat were created by this placement effort.

### **Results**

For this contract work, approximately 870,500 CY of dredged material were placed for marsh creation on the west side of the channel. Approximately 1,169,800 CY of dredged material was placed for shoreline nourishment on the east side of the channel.

Final contract cost was \$3,750,481.

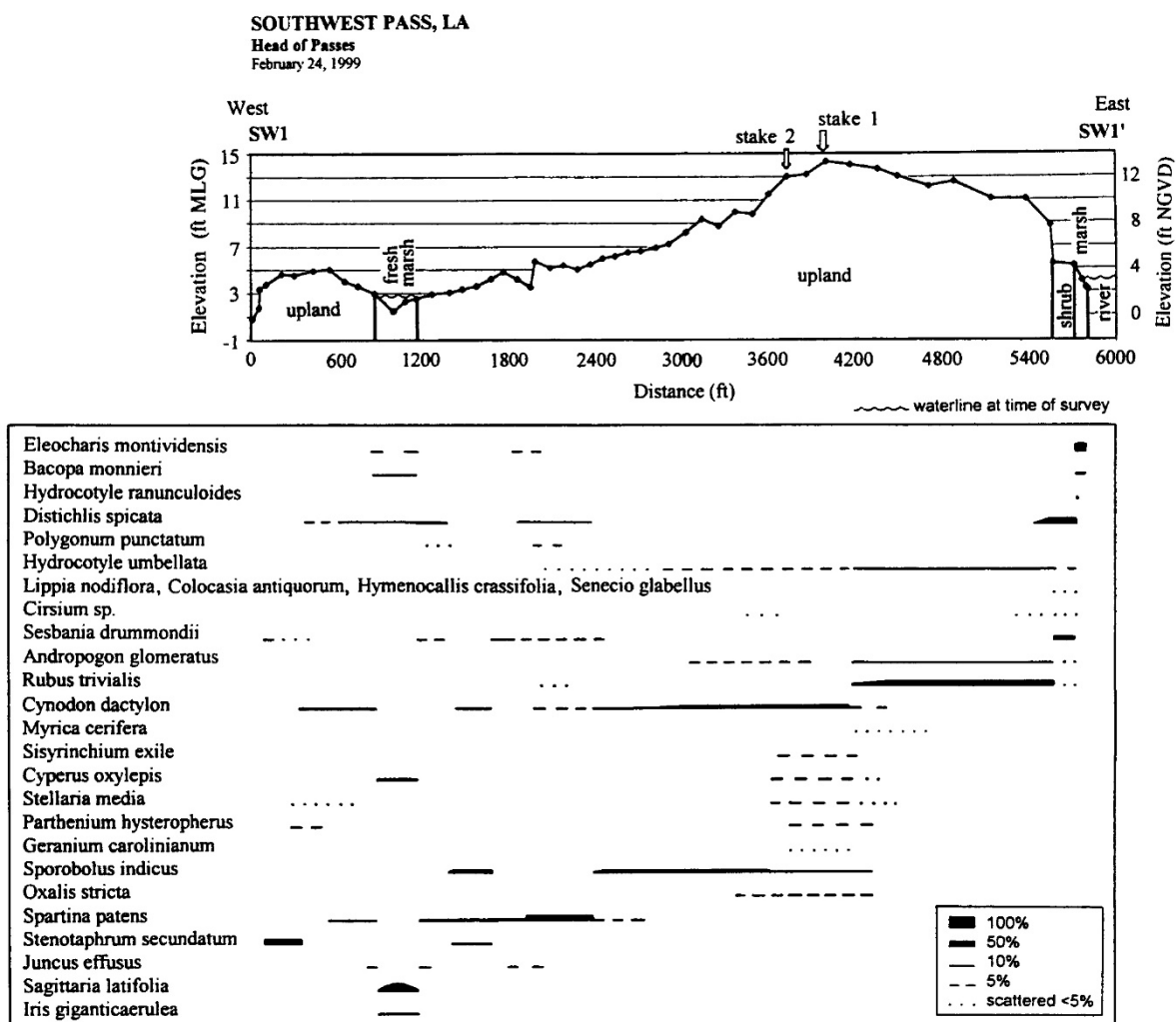
### **Notes:**

Elevation and vegetation data were acquired in December 1998 and February 1999 on 4 separate Southwest dredged material placement sites. Three of these sites were for marsh creation and one was an older upland disposal site that was last used during FY 1990. A single transect survey line was used for each of these sites.

#### **1. Head of Passes (Mile 0.6 BHP) Upland Disposal Area:**

Elevation and vegetation data were acquired at this site on 24 February 1999 along an approximately 5,793-foot transect running roughly east to west. This site was dominated by upland habitats and included elevated ponds and marshes. The area was being used for cattle grazing, which encouraged the stability and development of extensive grasslands. Dredged material discharged at this site was composed primarily of fine silty sand. While the average elevation across this site was about +6.3 feet MLG, the highest recorded elevation was about +14.3 feet MLG in the eastern portion of this site. This is not surprising as the majority of historical dredged material placement efforts occurred in the eastern portion of this disposal site nearest the navigation channel. Because placement of dredged material was unconfined, the heavier sediments (i.e., sand) tended to settle out quickly near the point of discharge, while the

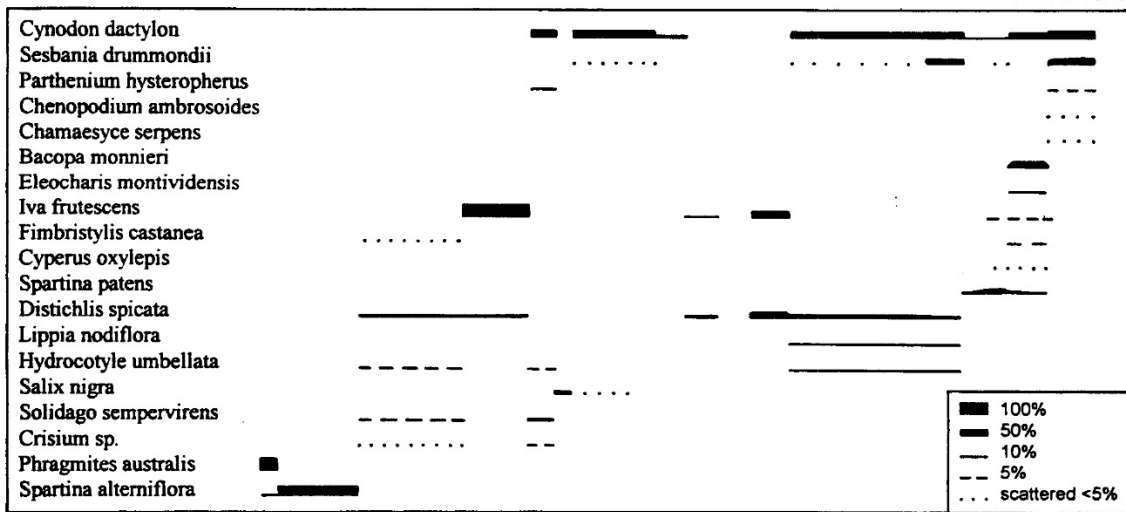
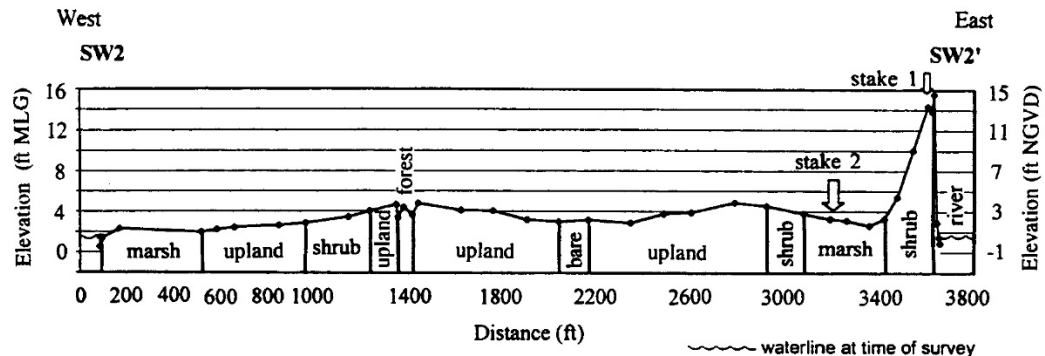
finer grained sediments tended to flow to the west away from the channel in the direction of the discharge. Thus, elevations are lower in the western portion of this site.



## 2. Central West Bay (Mile 9.5 BHP) Marsh Creation Site:

Elevation and vegetation data were acquired at this site on 15 December 1998 along an approximately 3,572-foot transect running roughly southeast to northwest. Dredged material had last been placed at this site during FY 1994. This site, dominated by upland habitats and included elevated ponds and marshes, was being used for cattle grazing which encouraged the stability and development of extensive grasslands. Shrub thickets bordered the edges of the most recently placed dredged material. Dredged material discharged at this site was composed primarily of fine silty sand. The average elevation across this site was about +4.2 feet MLG. Along the older portion of this site, adjacent to the petroleum facilities access canal, the highest elevations were found (about +14.3 feet MLG). It is likely that this represents the remnants of an earthen containment dike built to keep dredged material from entering the adjacent canal.

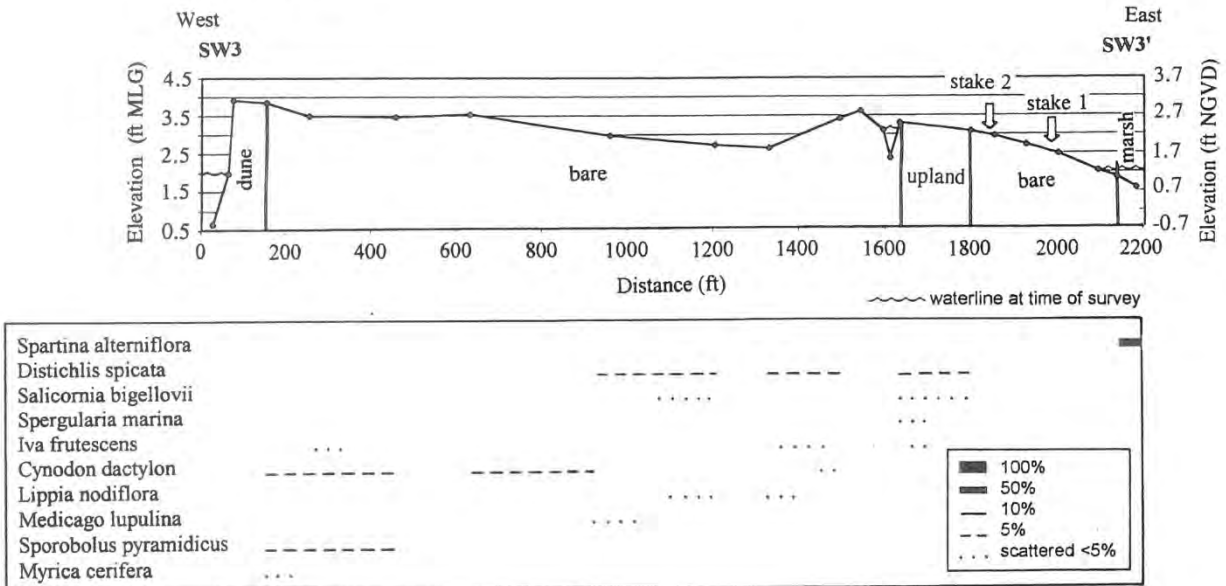
**SOUTHWEST PASS, LA**  
Central West Bay  
December 15, 1998



### 3. WBMDA (Mile 14.5 BHP) Marsh Creation Site:

Elevation and vegetation data were acquired at this site on 24 February 1999 along an approximately 2,154-foot transect running roughly east to west. Dredged material had last been placed at this site during March 1999. The eastern end of the transect began in a well-established *Spartina alterniflora* saltmarsh. The remainder of the transect crossed bare to sparsely vegetated, low relief mudflats dominated by saltgrass (*Distichlis spicata*) in the lower areas and Bermuda grass in the higher areas. This area was used by cattle which encouraged the development of grasslands. The average elevation across this site was measured at about +2.8 feet MLG. The highest point, about +3.9 feet MLG, was found at the dune habitat along the outer westernmost shoreline.

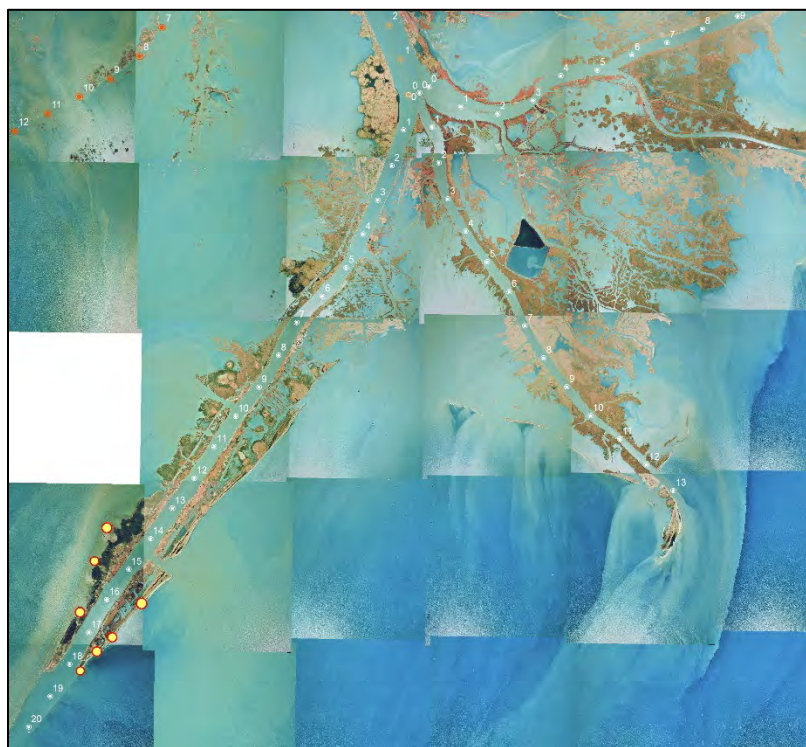
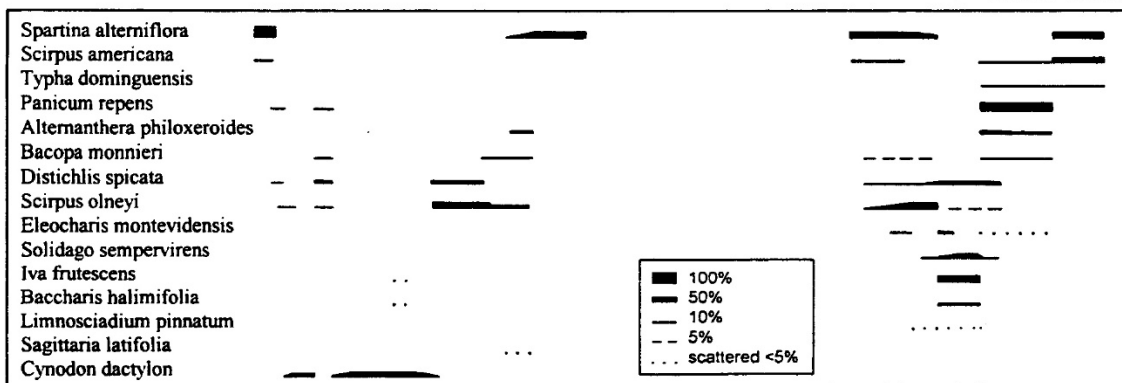
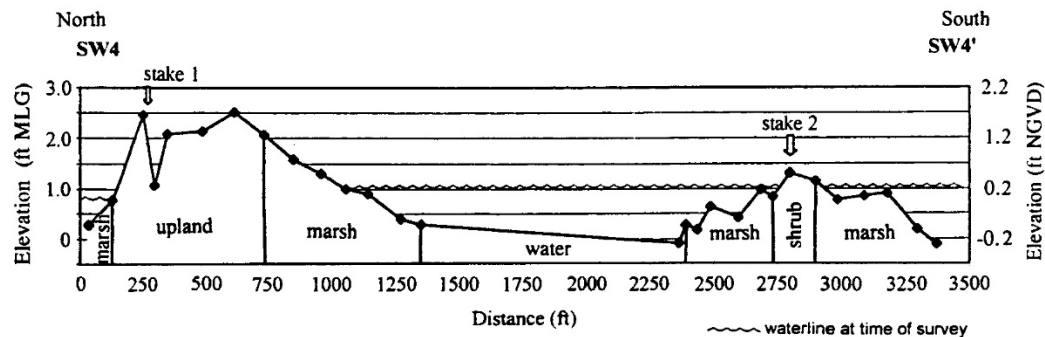
**SOUTHWEST PASS, LA**  
**WBMDA Site**  
 February 24, 1999



4. EBMDA (Mile 10.0 BHP) Marsh Creation Site:

Elevation and vegetation data were acquired at this site on 24 February 1999 along an approximately 3,122-foot transect running roughly north to south. Dredged material had last been placed at this site during FY 1994, which had resulted in the creation of 2 land areas separated by about 400 feet of shallow open water. The transect crossed both land areas. The smaller, southern land area was of lower elevation and was dominated by a mixture of marsh and shrub vegetation. The larger, northern land area supported both marsh and grassy upland habitats. The southern land area had an average elevation of about +0.5 feet MLG, with a high point of about +1.4 feet MLG. The northern land area had an average elevation of about +1.5 feet MLG, with a high point of about +2.5 feet MLG.

**SOUTHWEST PASS, LA**  
EBMDA Site  
February 24, 1999



Southwest Pass BU Sites (1999)