BENEFICIAL USE OF DREDGED MATERIAL DISPOSAL HISTORY
ATCHAFALAYA RIVER AND BAYOUS CHENE, BOEUF AND BLACK, LA
ATCHAFALAYA BAY AND BAR

The Rivers and Harbors Act of 25 June 1910 authorized the USACE, New Orleans District (CEMVN) to construct and maintain the Atchafalaya River, Morgan City to the Gulf of Mexico, Louisiana, project which provided a navigation channel 20 feet deep, 200 feet wide and 15.75 miles long from the 20 foot contour in the Atchafalaya Bay, approximately 4 miles beyond the mouth of the Atchafalaya River, to the 20 foot contour in the Gulf of Mexico. Traffic sufficient to warrant maintenance of the authorized navigation channel to full project dimensions did not immediately develop. The channel was progressively enlarged during maintenance events from 10 by 100-feet in 1939 to 20 by 200-feet in 1974.

The Rivers and Harbors Act of 1968 authorized construction and maintenance of the Atchafalaya River and Bayous Chene, Boeuf, and Black, Louisiana, project. It incorporated the existing project and provided an increase in channel width of the navigation channel in Atchafalaya Bay and Bar to 400 feet. Construction of the channel in the bay and Gulf of Mexico was initiated in April 1974 and was complete in December of the same year.

BAY CHANNEL DISPOSAL HISTORY

Dredged material disposal history prior to construction of the enlarged channel in 1974 is limited. Dredging records dating back to 1957 indicate that maintenance of *discontinuous* reaches of the bay and/or bar channels occurred on an annual basis from 1957 until 1974 except for 1958. It is likely that dredged material was placed unconfined in open water on either side of the navigation channel.

Dredged material removed during new work dredging associated with construction of the 400 foot navigation channel in 1974 was placed in open water and on sub-aerial levees of existing delta lobes on the west side of the navigation channel. During maintenance events beginning in 1979, and continuing on an annual basis through 1985, this practice continued. During this period, Big Island was created (1975-1984); dredged material was used to construct a campground at the Louisiana Department of Wildlife and Fisheries (LWDF) camp; dredged material was used to construct islands for colonial nesting seabirds; and some wetlands were created on the western side of Big Island.

In 1987, at the request of the LDWF and the US Fish and Wildlife Service (FWS), the CEMVN began placement of dredged material on the east side of the navigation channel in an effort to stimulate growth of the east side of the delta. Disposal plans developed in coordination with the LDWF, FWS, and other state and Federal natural resources agencies, were designed to direct sediment-laden water through existing natural channels, i.e., God's Pass, East Pass, Ratcliffe Pass, to the east side of the delta. In general, dredged material was to be placed as a series of mounds on the eroding sub-aerial levees of existing delta lobes and on the heads of islands at existing channel bifurcations. The maximum initial placement height of the dredged material mounds was about +5.0 feet NGVD (+5.72 feet MLG). The mounds of dredged material would refurbish the sub-aerial levees which would direct flows into the desired locations within the developing

delta. During high flow events, the re-furbished levees would be over-topped and sediment-laden waters would drop sediment behind them at elevations suitable for the establishment of fresh marsh (+2.3 feet MLG) and/or submerged aquatic vegetation. The refurbished levees also would protect the developing wetlands from wave-induced erosion.

During upper bay maintenance events in 1987, 1988, and 1989, in accordance with this plan, dredged material was placed on the eroded sub-aerial levees of Roger Brown Island, Poule Deaux Island, and Roseate Island and on the heads of God's Island and Long Island. In the lower bay, dredged material was used to maintain and construct islands for colonial nesting seabirds (terns, gulls, and black skimmers) on the west side of the navigation channel. The maximum initial placement height of the dredged material for bird island creation was about +6.0 feet MLG (+5.28 feet NGVD).

Fiscal Year 1990

During the 1990 maintenance event (1 September 1990 – 11 November 1990), working under contract 90-C-0072, the cutterhead dredge BLACKBURN placed a total of approximately 2,250,000 cubic yards of dredged material unconfined at five sites in the Atchafalaya Bay.
1. Approximately 1,000,000 cubic yards of coarse sand and silt were placed at **Roseate Island** to a maximum initial elevation of +4.2 feet MLG. The Narrative Completion Report (NCR) reported that about 150 acres were created by this placement effort.

2. Approximately 390,000 cubic yards of coarse sand and silt were placed at **Long Island** to a maximum initial elevation of +3.6 feet MLG. The NCR reported that about 65 acres were created by this placement effort.

3. Approximately 300,000 cubic yards of fine silt with some coarse sand were placed at **T-Pat Island** (colonial nesting seabird island) to a maximum initial elevation of +2.4 feet MLG. The NCR reported that about 20 acres were created on the western side of the existing island by this placement effort.

4. Approximately 120,000 cubic yards of fine silt with some coarse sand and shell were placed at **Skimmer Island** (colonial nesting seabird island) to a maximum initial elevation of +2.2 feet MLG. The NCR reported that about 8 acres were created on the western side of the existing island by this placement effort.

5. Approximately 440,000 cubic yards of coarse sand and silt were placed at **A4/Location Island** to a maximum initial elevation of +3.0 feet MLG. The NCR reported that about 60 acres were created by this placement effort.

Atchafalaya Bay – 1990

Fiscal Year 1991

By 1991 it became obvious that the refurbished levees were not being over-topped during high flow events. At the request of the LDWF, the maximum initial placement elevation of dredged material was decreased from +5.0 feet NGVD (+5.72 feet MLG) to +3.0 feet NGVD (+3.78 feet MLG).

During the 1991 maintenance event (10 May 1991 – 25 September 1991), working under contract 91-C-0048, the cutterhead dredges PORT ARTHUR and BILL JAMES placed a total of approximately 3,480,000 cubic yards of dredged material at eight sites in the Atchafalaya Bay.

1. Approximately 1,500,000 cubic yards of mostly silty material was placed at **Roseate Island** over a distance of about 9,000 feet parallel to the channel to a maximum initial elevation of +2.0 feet NGVD. Average water depths at this disposal site prior to dredged material discharge ranged from -2.1 feet NGVD to -3.0 feet NGVD. The NCR reported that about 105 acres of marsh habitat were created by this placement effort.

2. Approximately 650,000 cubic yards of silty sand were placed along the eastern shoreline of **Big Island** between the island and the channel to a maximum initial elevation of +2.0 feet NGVD. Dredged material was not allowed to be deposited closer than 500 feet from the navigation channel's western edge. Average water depths at this disposal site prior to dredged material discharge ranged from -3.0 feet NGVD to -0.2 feet NGVD. The NCR reported that about 40 acres of marsh habitat were created by this placement effort.

3. Approximately 200,000 cubic yards of mostly sand with some silt was placed on the channel side of **Willow Island** to a maximum initial elevation of +1.8 feet NGVD. The NCR reported that about 10 acres of marsh habitat were created by this placement effort.

4. Approximately 150,000 cubic yards of dredged material were placed at **God's Island** to a maximum initial elevation of +1.8 feet NGVD. Prior to disposal at this site, water depths ranged from -6.0 feet NGVD to -2.0 feet NGVD. The NCR reported that about 10 acres were created by this placement effort.

5. Approximately 180,000 cubic yards of mostly coarse sand with silts were placed at **Poule Deaux Island** to a maximum initial elevation of +1.8 feet NGVD. Average water depths at this disposal site prior to dredged material discharge ranged from -2.0 feet NGVD to 0.0 feet NGVD. The NCR reported that about 18 acres of marsh habitat were created by this placement effort.

6. Approximately 100,000 cubic yards were placed at **Long Island** to a maximum initial elevation of +1.8 feet NGVD. The NCR reported that about 8 acres of marsh habitat were created by this placement effort.

7. Approximately 300,000 cubic yards of silty sand were placed at **T-Pat Island** (colonial bird nesting island) to a maximum initial elevation of +6.0 feet MLG. The NCR reported that about 30 acres of additional bird island habitat were created on the southwestern side of the existing bird nesting island by this placement effort.

8. Approximately 400,000 cubic yards of fine silty sand were placed at **Skimmer Island** (colonial nesting seabird island). The NCR reported that an approximately 40-acre peninsula feature was constructed on the western side of the existing bird nesting island to a maximum initial elevation of +2.5 feet NGVD, over a length of 2,000 feet, and with a crown width of 1,000 feet.

Fiscal Year 1992

Beginning with the 1992 maintenance event and in coordination with LDWF, FWS and other natural resources agencies, the dredged material disposal plan was modified to incorporate use of dredged material from the upper bay/delta to construct artificial delta lobes/peninsulas aligned nearly perpendicular to the channel. The disposal plan developed was designed to direct flows between the lobes/peninsulas and to provide protected, shallow, open water areas within the lobes/peninsulas for the development of fresh marsh and submerged aquatic vegetation. A minimum of about 1,000 feet was to be maintained at elevation 0.0 feet NGVD between parallel lobes/peninsulas. A 20-foot wide gap was to be constructed at elevation 0.0 feet NGVD at the midpoint of each disposal lobe/peninsula where it paralleled the navigation channel to allow water interchange.

At the start of the 1992 maintenance event, dredged material placed at the artificial delta lobe/peninsula placement sites (Andrew Island, Mile Island, and Community Island) were limited to a maximum initial placement height of +3.0 feet NGVD (+3.78 feet MLG) and a crown width of approximately 300 feet. During dredging/disposal activities, the maximum initial placement elevation was increased to +4.0 feet NGVD (+4.78 feet MLG).

During the 1992 maintenance event (17 August 1992 – 15 November 1992), working under contract 92-C-0040, the cutterhead dredges DREDGE 32 and GALVESTON placed a total of approximately 1,822,029 cubic yards of dredged material at five sites in the Atchafalaya Bay.

Dredging work was temporarily suspended between 24 August 1992 and 28 August 1992 due to the passage of Hurricane Andrew. The passage of Hurricane Andrew resulted in some erosion of dredged material placed at Mile Island and some additional shoaling of the bay channel.

1. Approximately 56,032 cubic yards of dredged material were placed at **Andrew Island**. Approximately 15 acres of land were created by this placement effort.

2. Approximately 661,125 cubic yards of dredged material were placed at **Mile Island**. The maximum initial elevation of dredged material placed at Mile Island and Andrew Island was increased from the original +3.0 feet NGVD to +4.0 feet NGVD to prevent dredge pipeline equipment from continually bogging down at this disposal site. The initial elevation of +3.0 feet NGVD resulted in this disposal site remaining just above the high tide water elevation. This meant that the dredged material placed at this disposal site remained wet throughout disposal operations and provided a poor foundation for operating heavy equipment used to build dredge pipeline. The LDWF personnel managing the Atchafalaya Delta Wildlife Management Area allowed the Corps to increase the maximum initial placement elevation of dredged material at both Mile and Andrew islands to +4.0 feet NGVD to allow for a firmer foundation for construction equipment operations. Approximately 57 acres of land were created by this placement effort.

3. Approximately 560,741 cubic yards of dredged material were placed at **Community Island**. Dredged material placed at Community Island was characterized by a greater percentage of silts and clays than sand. As a result, dredged material placed at this disposal site tended to spread in all directions from the pipeline discharge point. This dredged material also made for a poor foundation for heavy equipment used to build dredge pipeline. LDWF personnel again allowed the Corps to increase the maximum initial placement elevation from +3.0 feet NGVD to +4.0 feet NGVD to remedy this problem. Due to concerns that the spreading dredged material might fill in an existing channel located just northeast of the disposal site, dredged material placed at Community Island was angled more to the southeast than originally planned. Approximately 62 acres of land were created by this placement effort.

4. Approximately 544,131 total cubic yards of dredged material were placed at **T-Pat Island** and **Skimmer Island** to a maximum initial elevation of +6.0 feet MLG. Dredged material was allowed to cover over existing vegetation in an effort to manage these islands for colonial nesting seabirds such as terns, gulls, and skimmers. The NCR does not provide information regarding the exact amount respectively placed at these islands. Approximately 25 acres of land were created at T-Pat Island and approximately 10 acres of land were created at Skimmer Island and by this placement effort.

Fiscal Year 1993

During the 1993 maintenance event (10 June 1993 - 16 September 1993), working under contract 93-C-0075, cutterhead dredges GALVESTON, PONTCHARTRAIN, and TOM JAMES placed a total of 2,819,665 cubic yards of dredged material at three artificial delta lobe disposal sites and at two seabird nesting islands in the Atchafalaya Bay.

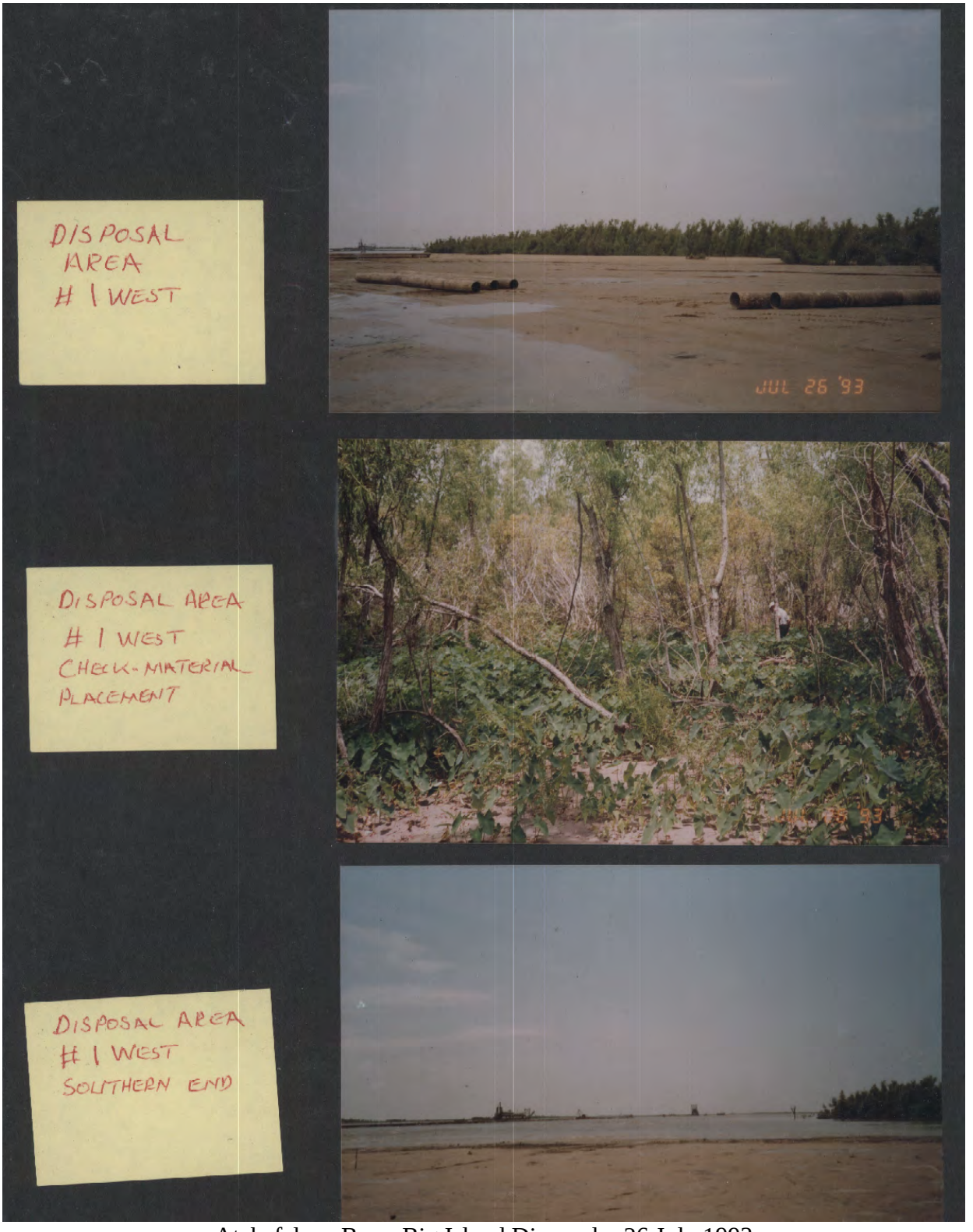
1. Approximately 289,650 cubic yards of dredged material were placed at **Roseate-Andrew Island**. Approximately 19 acres of land were created by this placement effort. The maximum initial height of the dredged material placed for creation of the artificial delta lobes was about +4.78 feet MLG (+4.0 feet NGVD).

2. Approximately 787,650 cubic yards of dredged material were placed at the **North Point of Big Island** (aka Disposal Area #1 West). Approximately 59 acres of land were created by this placement effort. The maximum initial height of the dredged material placed at the North Point of Big Island was about +8.0 feet NGVD.

3. Approximately 836,240 cubic yards of dredged material were placed at **Horseshoe Island** (aka Disposal Area #5 East). Approximately 48 acres of land were created by this placement effort. The maximum initial height of the dredged material placed for creation of the artificial delta lobes was about +4.78 feet MLG (+4.0 feet NGVD).

4. Approximately 641,125 cubic yards of dredged material were placed at **Skimmer Island**. Approximately 33 acres of land were created by this placement effort. Dredged material was placed at the bird nesting islands to a maximum initial elevation of about +6.0 feet MLG.

5. Approximately 265,000 cubic yards of dredged material were placed at **Donna Island** (colonial nesting seabird island). Approximately 9 acres of land were created by this placement effort. Dredged material was placed at the bird nesting islands to a maximum initial elevation of about +6.0 feet MLG.



Atchafalaya Bay - Big Island Disposal – 26 July 1993

DISPOSAL AREA
#1 WEST
LOOKING NORTH

DISPOSAL AREA
#1 WEST
LOOKING SOUTH

DISPOSAL AREA
#1 WEST
SOUTH

Atchafalaya Bay - Big Island Disposal – 26 July 1993

DISPOSAL AREA
1 WEST
LOOKING WEST

DISPOSAL AREA
1 WEST
NORTH SIDE

DISPOSAL AREA
1 WEST
LOOKING SOUTH.

Atchafalaya Bay - Big Island Disposal – 26 July 1993

Atchafalaya Bay – Horseshoe Island Disposal – 26 July 1993

Atchafalaya Bay – 27 September 1993

Fiscal Year 1994

During the 1994 maintenance event (27 May 1994 – 17 October 1994), working under contract 94-C-0058, the cutterhead dredge TOM JAMES placed a total of 3,133,613 cubic yards of dredged material at three sites in the Atchafalaya Bay.

1. Approximately 1,384,333 cubic yards of dredged material were placed at **Andrew Island** to a maximum initial elevation of about +4.0 feet NGVD (+4.78 feet MLG) over a length of about 7,950 feet. Approximately 183 acres of land were created by this placement effort.

2. Approximately 1,374,680 cubic yards of dredged material were placed at **Horseshoe Island** to a maximum initial elevation of about +4.0 feet NGVD (+4.78 feet MLG) over a length of about 4,690 feet. Approximately 154 acres of land were created by this placement effort.

3. Approximately 374,600 cubic yards of dredged material were placed at **Skimmer Island**, a bird nesting island, to a maximum initial elevation of about +6.0 feet NGVD. Approximately 56 acres of land were created by this placement effort.

Atchafalaya Bay – 15 November 1994

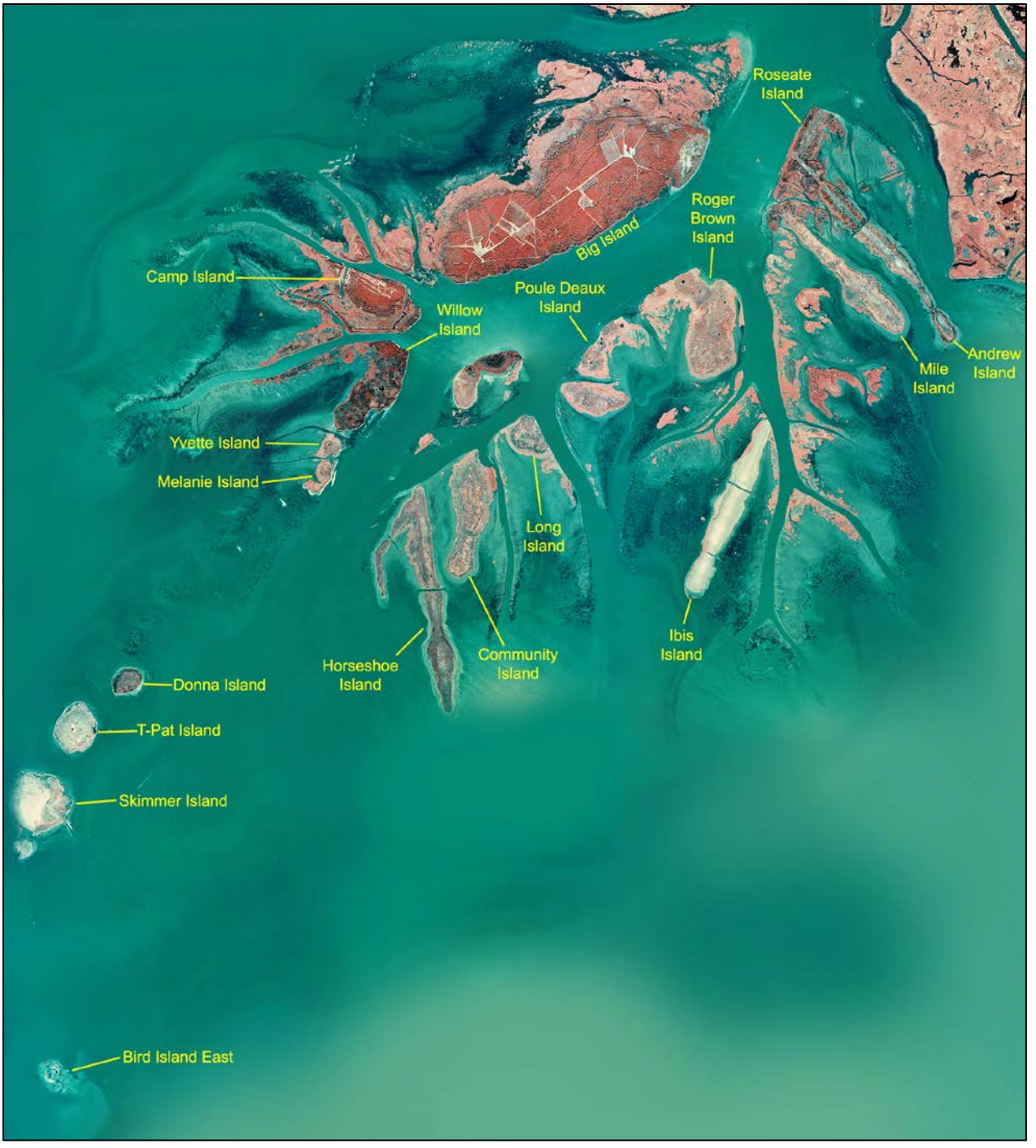
Fiscal Year 1995

During the 1995 maintenance event (27 July 1995 – 28 August 1995), working under contract 95-C-0080, the cutterhead dredge TOM JAMES placed a total of 944,620 cubic yards of dredged material at **Ibis Island** in the Atchafalaya Bay. Approximately 156 acres of land were created by this placement effort.

Atchafalaya Bay – 28 October 1995

Fiscal Year 1996

No maintenance dredging was necessary in the Atchafalaya Bay channel during 1996.



Atchafalaya Bay – 10 November 1996

Fiscal Year 1997

During the 1997 maintenance event (4 September 1997 – 8 October 1997), working under contract 97-C-0076, the cutterhead dredges TOM JAMES and GEORGE D. WILLIAMS placed a total of 2,348,835 cubic yards of dredged material at four sites in the Atchafalaya Bay.

1. The TOM JAMES placed approximately 130,000 cubic yards of dredged material on **A4/Location Island** to a maximum initial elevation of about +4.0 feet NGVD (+4.78 feet MLG) over a length of about 6,600 feet. Approximately 131 acres of land were created by this placement effort.

2. The TOM JAMES placed approximately 200,000 cubic yards of dredged material on **Long Island** to a maximum initial elevation of about +4.0 feet NGVD (+4.78 feet MLG) over a length of about 1,200 feet. Approximately 41 acres of land were created by this placement effort.

3. The GEORGE D. WILLIAMS placed approximately 1,552,135 cubic yards of dredged material on **Horseshoe Island** to a maximum initial elevation of about +4.0 feet NGVD (+4.78 feet MLG) over a length of about 6,500 feet. Approximately 149 acres of land were created by this placement effort. Two water interchange gaps were excavated in this peninsula at 3,000 foot intervals. Including previous placement of dredged material, Horseshoe Island now measures about 8,000 feet in length.

4. The TOM JAMES placed approximately 466,700 cubic yards of dredged material at **Skimmer Island** to a maximum initial elevation of about +6.0 feet MLG. Approximately 38 acres of land were created by this placement effort.

Atchafalaya Bay – 17 October 1997

Fiscal Year 1998

During the 1998 maintenance event (22 September 1998 – 29 December 1998), working under contract 98-C-0061, the cutterhead dredge TOM JAMES placed a total of 625,720 cubic yards of dredged material at three sites in the Atchafalaya Bay.

1. Approximately 173,639 cubic yards of dredged material were placed on **Roger Brown Island** to a maximum initial elevation of about +4.0 feet NGVD (+4.78 feet MLG). Approximately 41 acres of land were created by this placement effort.

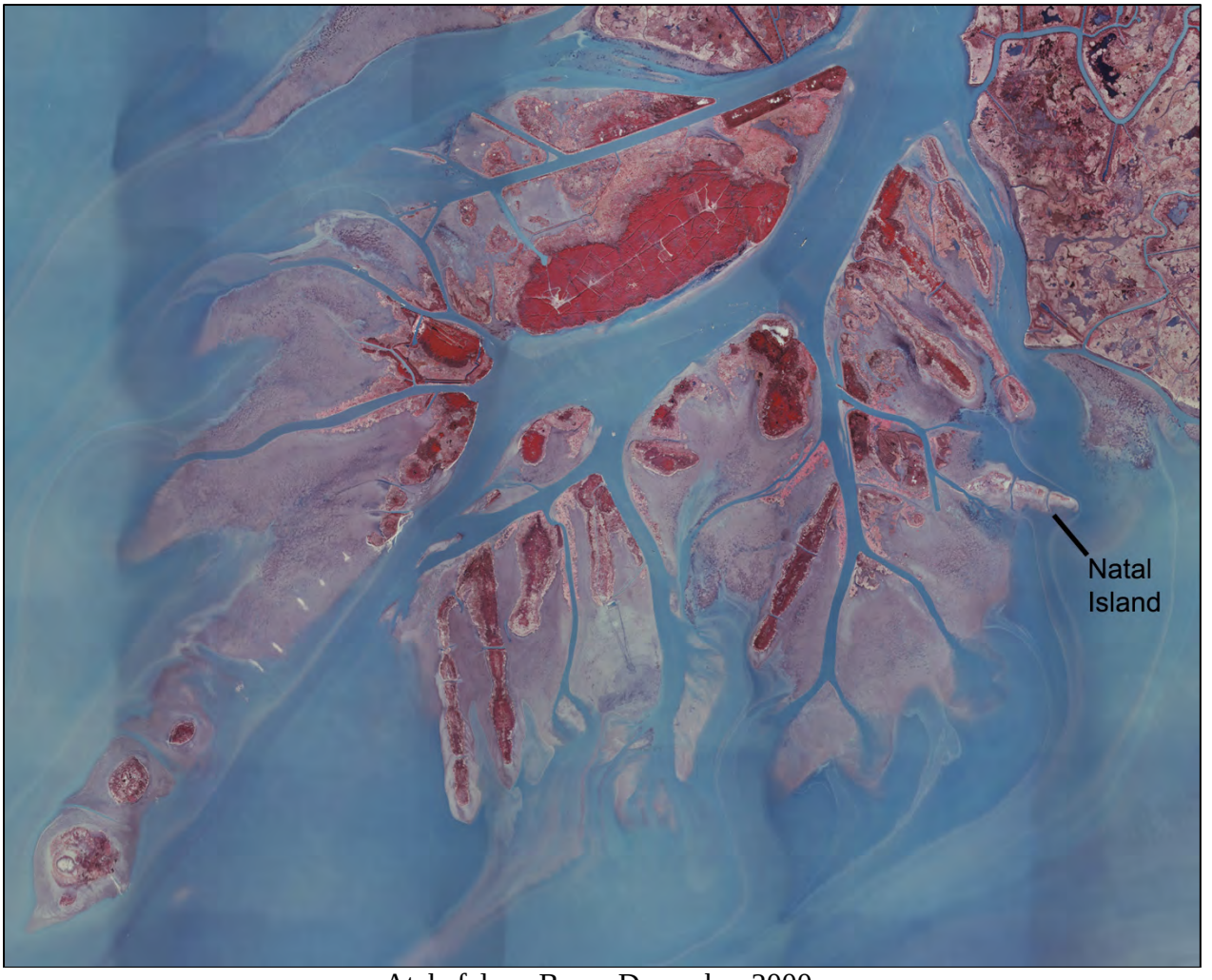
2. Approximately 252,806 cubic yards of dredged material were placed on **Long Island** to a maximum initial elevation of about +4.0 feet NGVD (+4.78 feet MLG). Approximately 83 acres of land were created by this placement effort.

3. Approximately 199,275 cubic yards of dredged material were placed on **Skimmer Island** to a maximum initial elevation of about +6.0 feet MLG. Approximately 36 acres of land were created by this placement effort.

Atchafalaya Bay – 5 January 1999

Fiscal Year 1999

During the 1999 maintenance event (30 August 1999 – 22 December 1999), working under contract 99-C-0057, a new delta lobe, Natal Island, was created off of East Pass. Approximately 616,377 cubic yards of dredged material were placed at **Natal Island** by the cutterhead dredge TOM JAMES. Approximately 112 acres of land were created by this placement effort.



Atchafalaya Bay – December 2000

BAR CHANNEL DISPOSAL HISTORY

Between 1974 and 1991, all of the dredged material removed from the Atchafalaya River bar channel during routine maintenance was placed in an interim designated ocean dredged material disposal site located on the east side of the navigation channel (ODMDS East). Upper bar channel material tended to be characterized by higher concentrations of sand than the remainder of the bar channel. Because of this sand presence, upper bar channel material placed in the upper portion of the ODMDS East did not easily disperse following placement at the disposal site and a number of small subaerial mounds were periodically formed, only to become submerged again following wave erosion effects characteristic of this area. Beginning with the 1991 maintenance event, dredged material suitable for stacking from the upper reach of the bar channel has been placed into the upper portion of the ODMDS East (labeled Bird Island East) in a manner conducive to seabird nesting island construction and material not suitable for stacking has been placed into the ODMDS East. The maximum initial placement height of the dredged material for bird island creation was about +6.0 feet MLG (+5.28 feet NGVD). Terns, gulls, and black skimmers have typically utilized the Bird Island East site for breeding purposes.

Fiscal Year 1991

During the 1991 maintenance event (31 January 1991 – 17 April 1991), working under contract 91-C-0031, the cutterhead dredge MISSOURI H removed a total of approximately 1,643,900 cubic yards of dredged material from the Atchafalaya River bar channel and placed all of this material into the **ODMDS East**.

During the 1991 maintenance event (29 June 1991 – 5 September 1991), working under contract 91-C-0048, the cutterhead dredge BILL JAMES removed a total of approximately 9,571,591 cubic yards of dredged material from the Atchafalaya River bar channel.

1. Approximately 8,741,591 cubic yards of bar channel dredged material were placed in the **ODMDS East**.

2. At the **Bird Island East** placement site, two mounds were constructed about 3,500 feet from the edge of the bar channel, and separated by a distance of about 3,500 feet from each other. Although dredged material was allowed to be placed to a maximum initial elevation of +6.0 feet MLG at these sites, neither mound managed to reach an elevation exceeding +3.4 feet MLG (+2.6 feet NGVD). These mounds were created adjacent to old existing mounds created by previous bar channel dredged material disposal efforts that are now submerged.

   a. Approximately 580,000 cubic yards of silt with some sand/shell placed at the northern mound resulted in the creation of about 4 acres of land at an elevation of +2.6 feet NGVD.

   b. Approximately 250,000 cubic yards of fine silts placed at the southern mound resulted in the creation of about 1.5 acres of land at an elevation of +2.2 feet NGVD.

Fiscal Year 1992

During the 1992 maintenance event (11 May 1992 – 11 August 1992), working under contract 92-C-0040, the cutterhead dredges DREDGE 32 and MISSOURI H removed a total of approximately 9,630,972 cubic yards from the Atchafalaya River bar channel. Unfortunately, the NCR does not provide an accounting of how many cubic yards were placed in the **ODMDS East** and the **Bird Island East** disposal sites, respectively. It is likely that the majority of material removed was placed into the ODMDS East and a smaller portion placed at the Bird Island East site since only about half of the dredging reach that utilizes the Bird Island East disposal site required maintenance dredging during this work.

Fiscal Year 1993

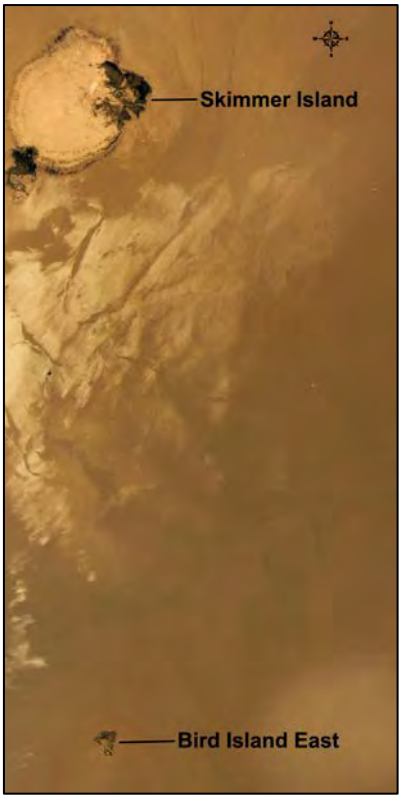
During the 1993 maintenance event, two separate contracts were awarded to perform dredging in the Atchafalaya River bar channel.

1. During the 1993 maintenance event (16 August 1993 – 16 September 1993), working under contract 93-C-0097, the cutterhead dredge MISSOURI H placed approximately 2,254,937 cubic yards in the **ODMDS East**.

2. During the 1993 maintenance event (10 June 1993 - 16 September 1993), working under contract 93-C-0075, the cutterhead dredge TOM JAMES removed a total of 7,623,930 cubic yards of shoal material from the Atchafalaya River bar channel.

   a. Approximately 6,768,286 cubic yards of dredged material were placed in the **ODMDS East**.

   b. Approximately 855,644 cubic yards of dredged material were placed at **Bird Island East**. Approximately 20 acres of bird island habitat were created by this placement effort.



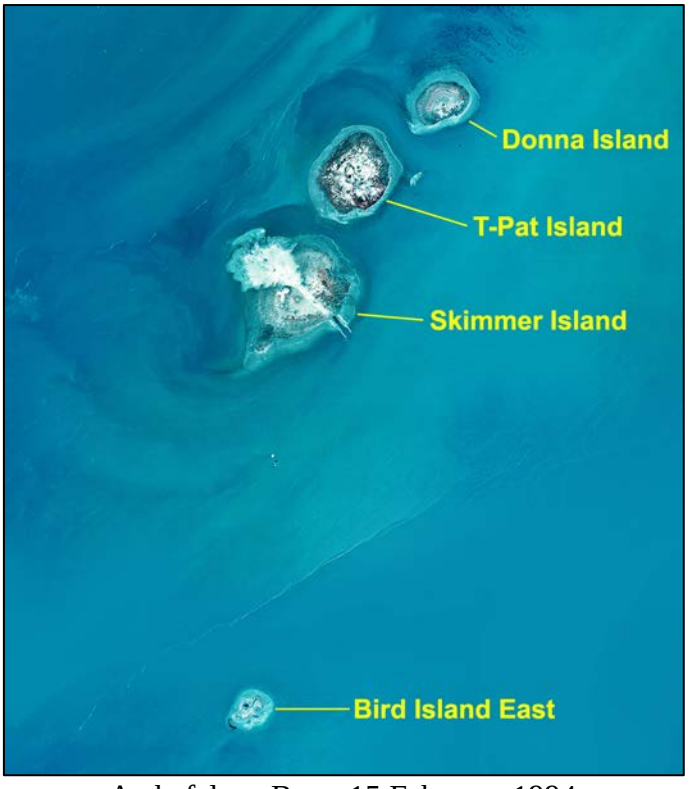
Atchafalaya Bar – September 1993

Fiscal Year 1994

During the 1994 maintenance event (27 May 1994 – 27 September 1994), working under contract 94-C-0058, the cutterhead dredge TOM JAMES removed a total of 10,691,281 cubic yards of shoal material from the Atchafalaya River bar channel.

1. Approximately 10,032,611 cubic yards of dredged material were placed in the **ODMDS East**.

2. Approximately 658,670 cubic yards of dredged material were placed at **Bird Island East** to a maximum initial elevation of about +6.0 feet MLG. Approximately 26 acres of bird island habitat were created by this placement effort.



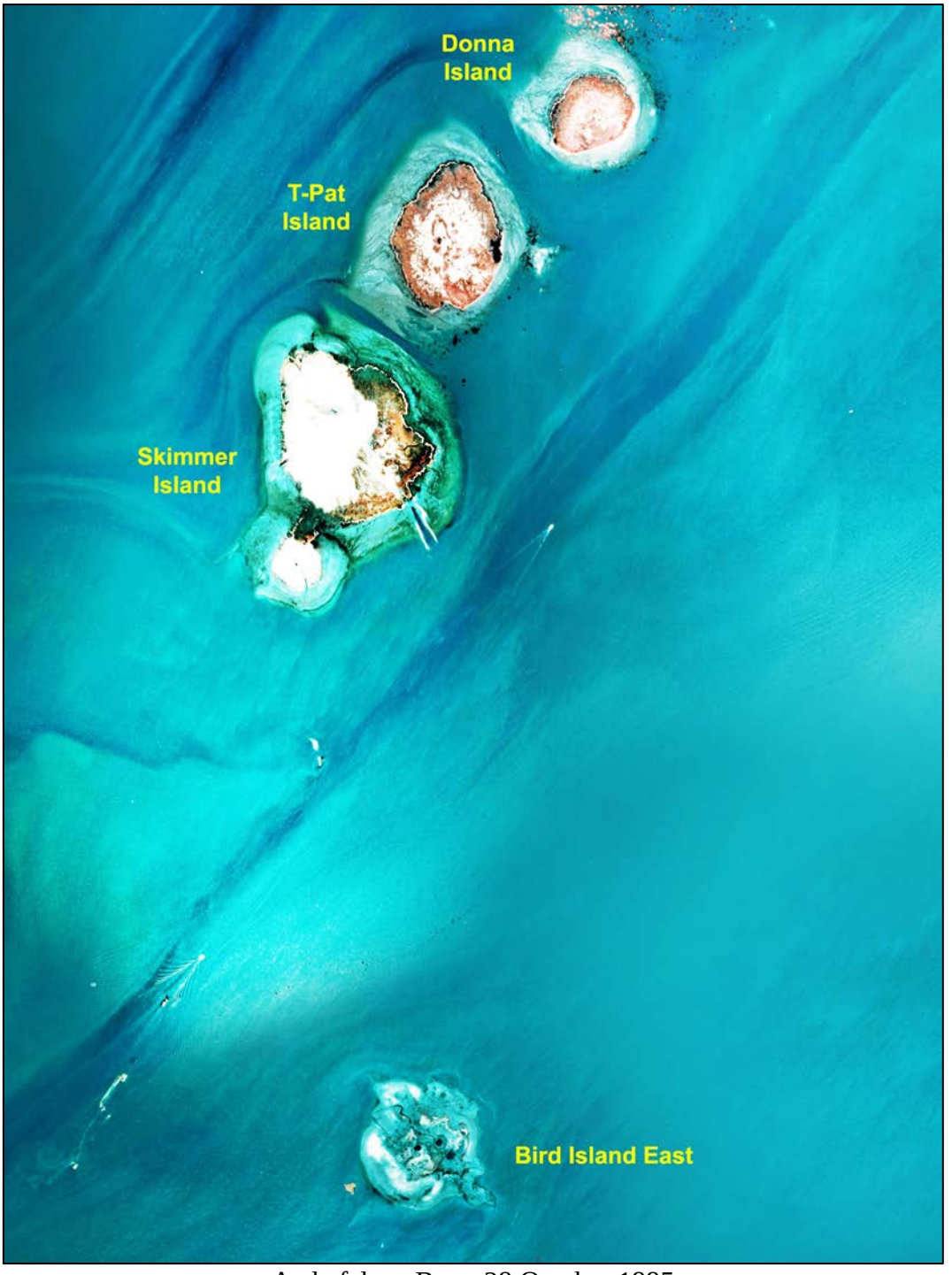
Atchafalaya Bar – 15 February 1994

Fiscal Year 1995

During the 1995 maintenance event (24 June 1995 – 25 October 1995), working under contract 95-C-0069, the cutterhead dredge DREDGE 32 removed a total of 10,137,631 cubic yards of shoal material from the Atchafalaya River bar channel. All work was temporarily stopped from 31 July 1995 through 4 August 1995 due to the passage of Hurricane Erin. All work was again temporarily stopped from 28 September 1995 through 4 October 1995 due to the passage of Hurricane Opal.

1. Approximately 8,510,370 cubic yards of dredged material were placed in the **ODMDS East**.

2. Approximately 1,627,261 cubic yards of dredged material were placed at **Bird Island East** to a maximum initial elevation of about +6.0 feet MLG. Approximately 25 acres of land were created by this placement effort.



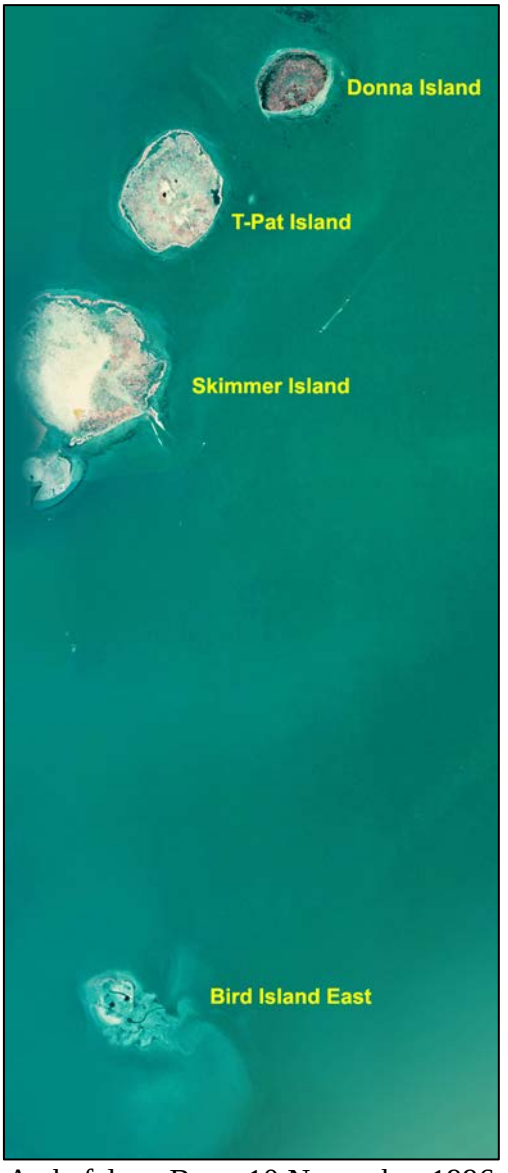
Atchafalaya Bar – 28 October 1995

Fiscal Year 1996

During the 1996 maintenance event (28 July 1996 – 16 December 1996), working under contract 96-C-0062, the cutterhead dredge DREDGE 32 removed a total of 10,366,633 cubic yards of shoal material from the Atchafalaya River bar channel.

1. Approximately 7,347,470 cubic yards of dredged material were placed in the **ODMDS East**.

2. Approximately 3,019,163 cubic yards of dredged material were placed at **Bird Island East**.



Atchafalaya Bar – 10 November 1996

Fiscal Year 1997

During the 1997 maintenance event (30 March 1997 – 9 December 1997), working under contract 97-C-0089, the cutterhead dredge TOM JAMES removed a total of 10,492,296 cubic yards of shoal material from the Atchafalaya River bar channel.

1. Approximately 6,968,673 cubic yards of dredged material were placed in the **ODMDS East**.

2. Approximately 3,523,623 cubic yards of dredged material were placed at **Bird Island East**. Approximately 34 acres of land were created by this placement effort.

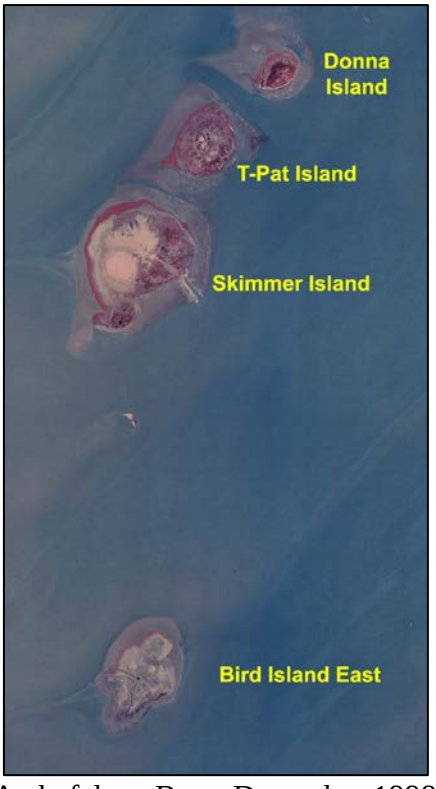
Atchafalaya Bar – 17 October 1997

Fiscal Year 1998

During the 1998 maintenance event (16 August 1998 – 22 November 1998), working under contract 98-C-0056, the cutterhead dredge GEORGE D. WILLIAMS removed a total of 13,150,806 cubic yards of shoal material from the Atchafalaya River bar channel.

1. Approximately 10,942,132 cubic yards of dredged material were placed in the **ODMDS East**.

2. Approximately 2,208,674 cubic yards of dredged material were placed at **Bird Island East**. Approximately 146 acres of land were created by this placement effort.



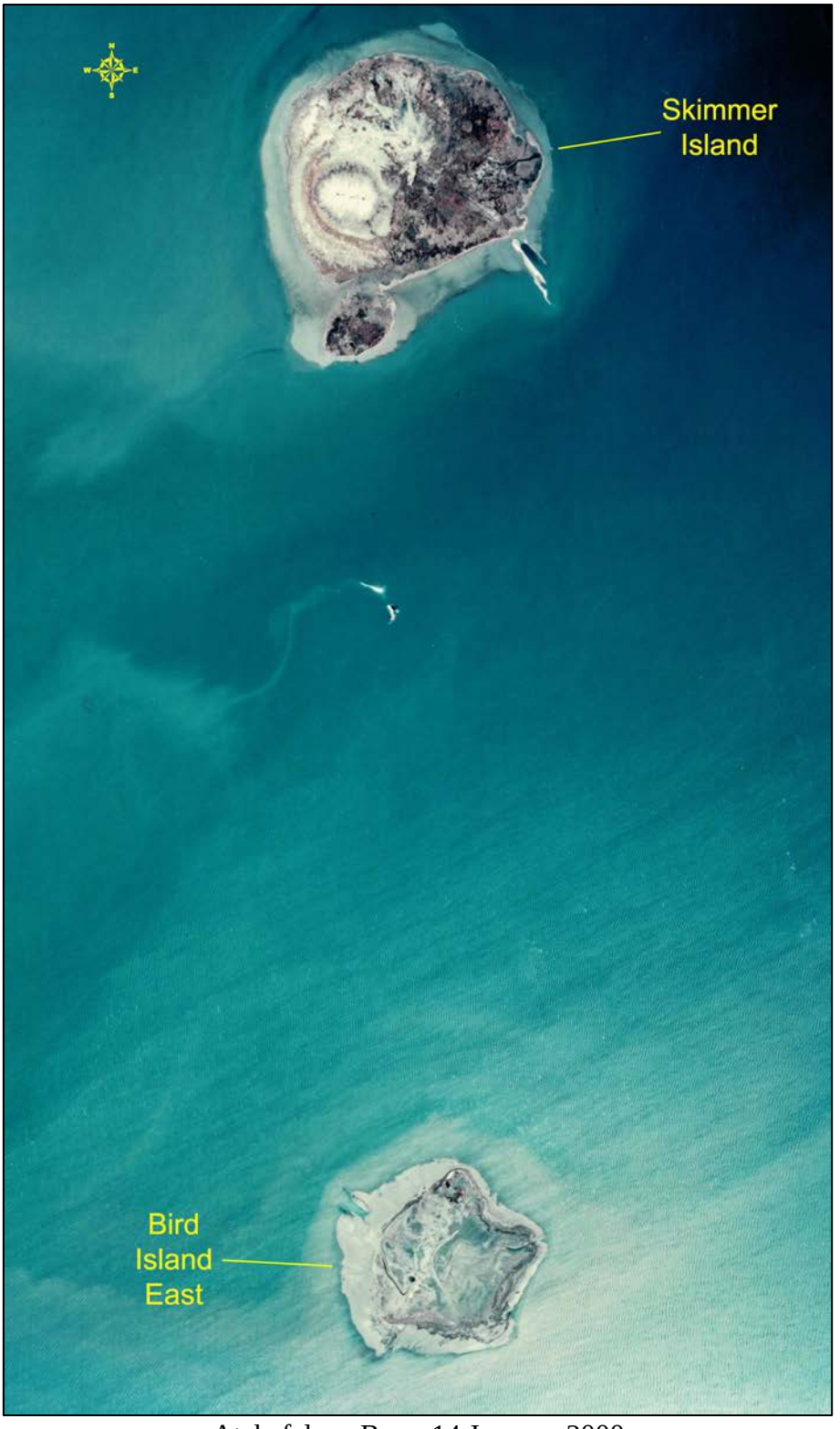
Atchafalaya Bar – December 1998

Fiscal Year 1999

During the 1999 maintenance event (11 August 1999 – 23 October 1999), working under contract 99-C-0048, the cutterhead dredge GEORGE D. WILLIAMS removed a total of 13,846,011 cubic yards shoal material from the Atchafalaya River bar channel.

1. Approximately 10,847,337 cubic yards of dredged material were placed in the **ODMDS East**.

2. Approximately 2,998,674 cubic yards of dredged material were placed at **Bird Island East**. Approximately 37 acres of land were created by this placement effort.



Atchafalaya Bar – 14 January 2000

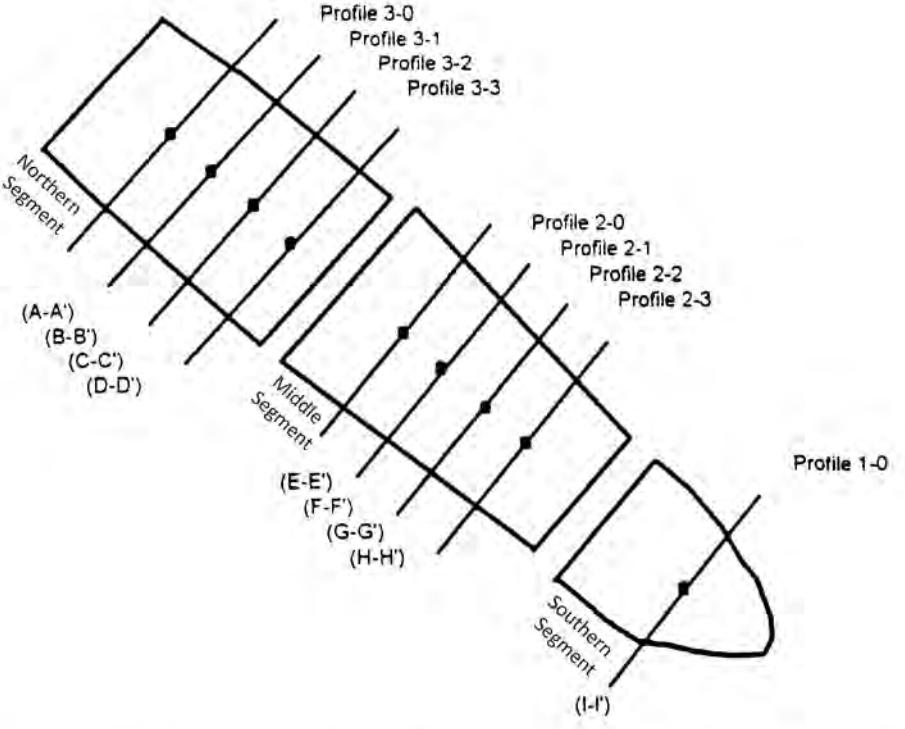
1995-1996 Elevation and Vegetation Survey Effort

An elevation and vegetation monitoring survey was conducted on Andrew Island, Horseshoe Island, and Ibis Island during 1995 and again during 1996.

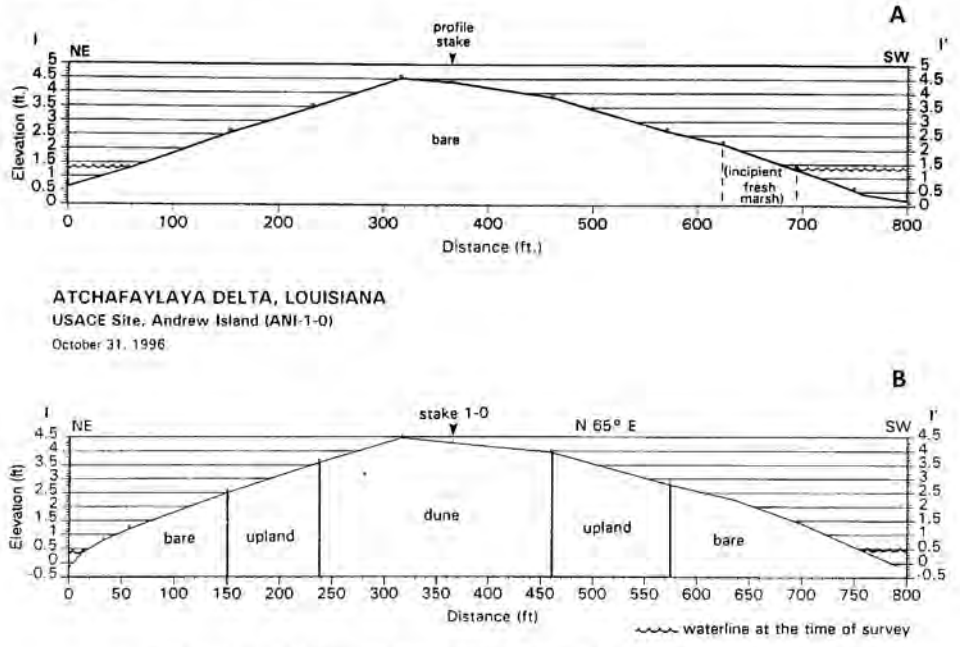
Andrew Island

The southern segment of **Andrew Island** (transect I) was characterized by an average elevation of +2.3 feet MLG, with a maximum elevation located at the center of the island of +4.5 feet MLG. Transects along the middle segment of the island (E-H) were characterized by an average elevation of +2.2 feet MLG, with a maximum elevation of +4.2 feet MLG. Transects along the northern segment of the island (A-D) were characterized by an average elevation of +3.1 feet MLG, with a maximum elevation of +4.3 feet MLG.

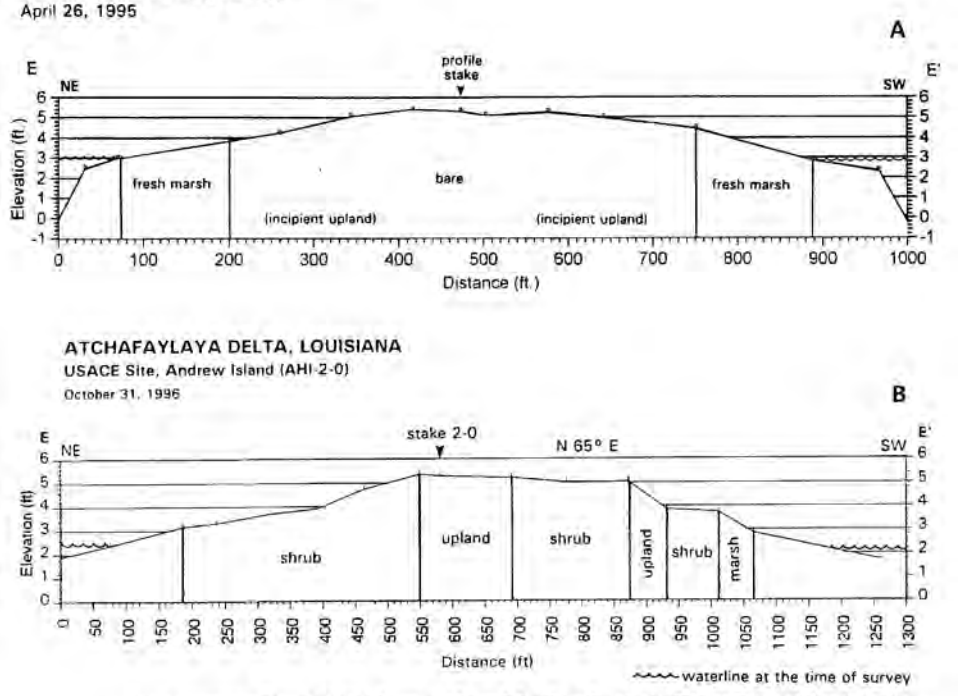
Andrew Island was typically more vegetated at its lateral ends (intertidal zone), and vegetation generally decreased in density with an increase in elevation. The island crest was generally composed of bar aeolian type sand features (ripples and dunes).



A schematic diagram of the BUMP profile locations and configurations for Andrew Island in the Atchafalaya River delta.



Profile ANI 1-0 from Andrew Island in the Atchafalaya River delta showing habitat distribution changes. A) 1995 data. B)1996 data.

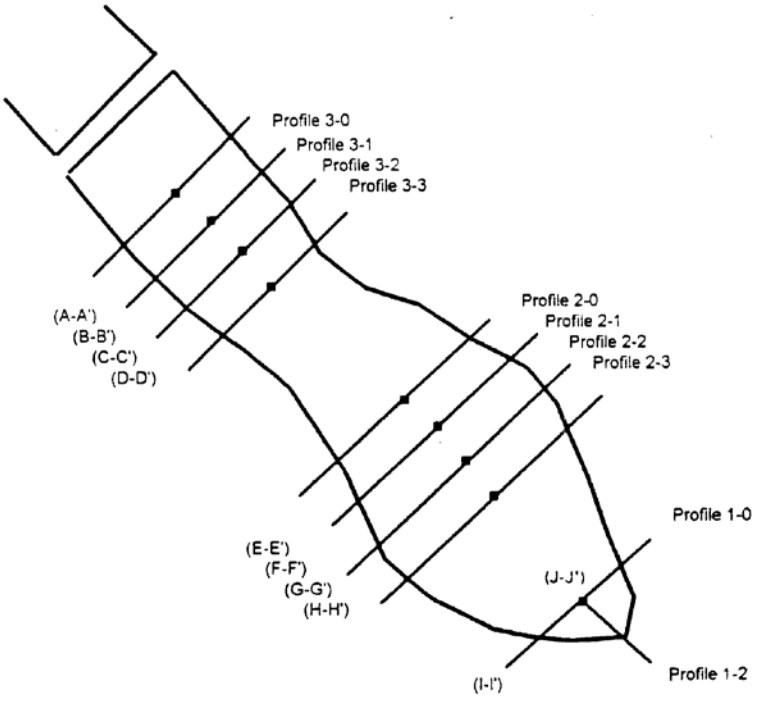


Elevation profile ANI 2-0 from Andrew Island in the Atchafalaya River delta showing habitat distribution change. A) 1995 data. B) 1996 data.

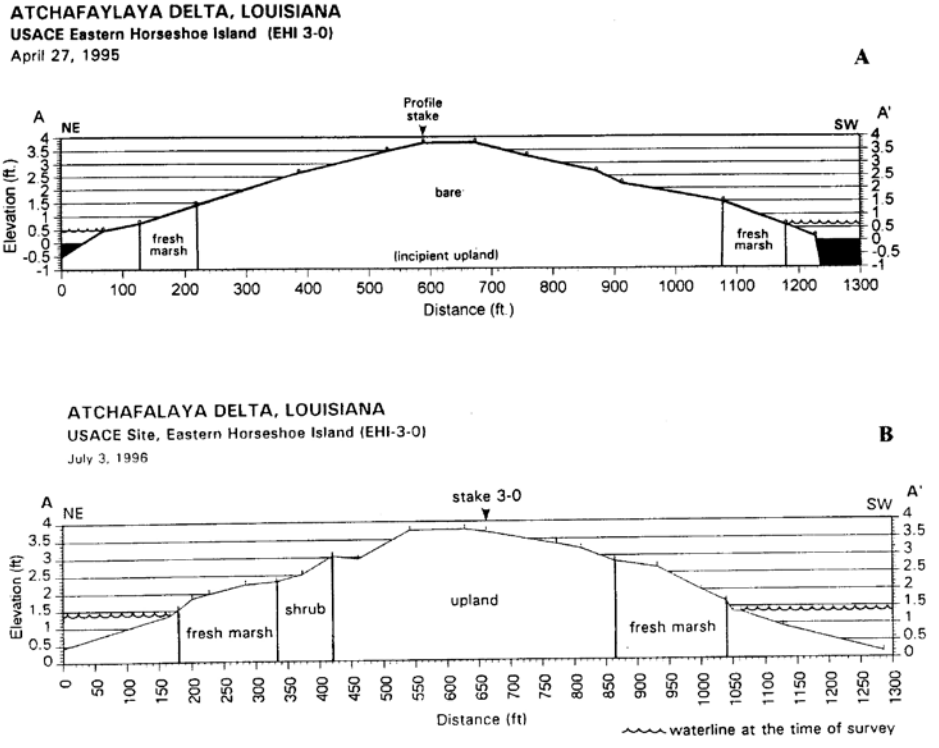
Horseshoe Island

The southern tip of eastern **Horseshoe Island** (transect I) was characterized by an average elevation of +2.2 feet MLG, with a maximum elevation of +3.1 feet MLG. The middle series of transects (E-H) were characterized by an average elevation of +1.8 feet MLG, with a maximum elevation of +3.4 feet MLG. The northern series of transects (A-D) were characterized by an average relief of +2.6 feet MLG, with a maximum elevation of +3.8 feet MLG.

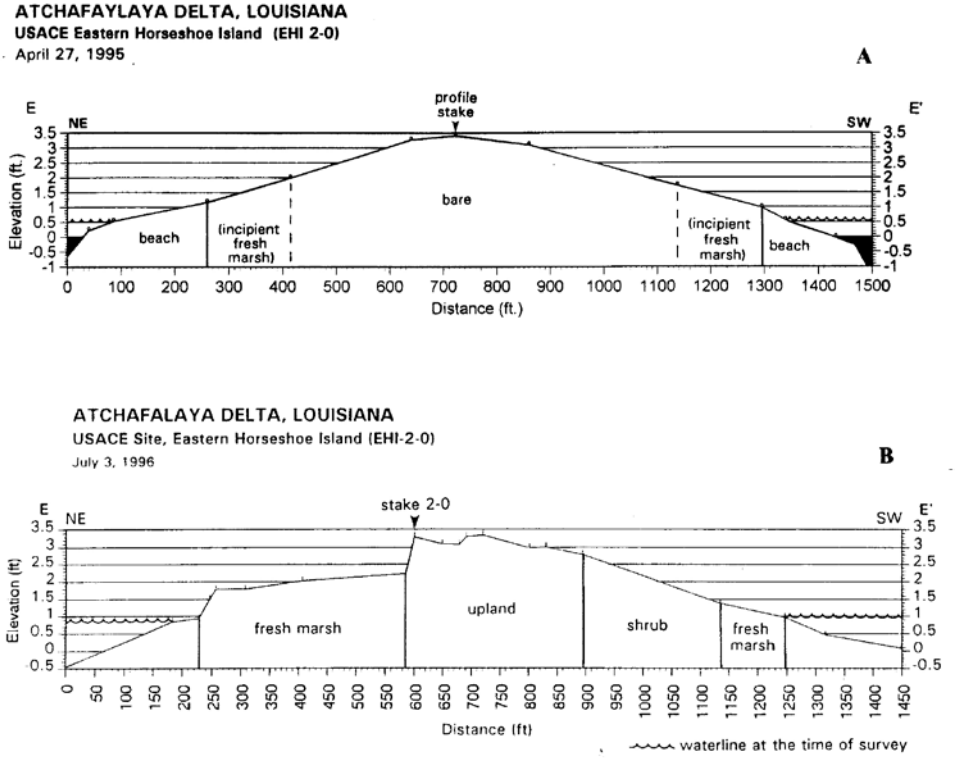
The profiles transects were typically vegetated at the lateral ends (intertidal zone), and generally decreased in vegetative density with an increase in elevation. The island crest was generally composed of bar aeolian type sand features (ripples and dunes).



Schematic diagram of the BUMP profile locations and configurations for the eastern lobe of Horseshoe Island in the Atchafalaya River delta.



Elevation profile EHI 3-0 from Horseshoe Island in the Atchafalaya River delta showing habitat distribution changes. A) 1995 data. B) 1996 data.



Elevation profile EHI 2-0 from Horseshoe Island in the Atchafalaya River delta showing habitat distribution changes. A) 1995 data. B) 1996 data.

Most of the plants observed at **Andrew Island** and **Horseshoe Island** were riparian or wetland habit species. Other plants were species that take advantage of newly created or exposed ground with rapid growth and the ability to withstand some inundation by fresh water. Such opportunistic species will occupy a new area quickly, but will eventually be replaced by plants more suited for long term survival in a specific habitat.

Marsh species on **Andrew Island** and **Horseshoe Island** occurred most commonly at an elevation below +2.0 feet MLG. The fresh marsh zone was represented by predominantly high marsh or marsh-margin species *Scirpus* spp., *Cyperus* sp., *Ranunculus sceleratus, Polygonum lapathifolium, Rorippa palustris,* and *Senecio glabellus.* Fresh marsh dependent species such as *Sagittaria* sp. that compose low fresh marsh were insignificant or not present along the transect profiles. Young willow trees *(Salix nigra)* were present throughout, scattered in many areas of the marsh, along low energy beaches, or within the grasslands. Water hyacinth *(Eichhomia crassipes)* was found along the shore, rafted against the windward side and stranded thickly by a previous high water event.

Upland areas along transects were represented by grasslands, embryonic dune terraces, and potential shrub/scrub. Grasses establish quickly on well-drained, freshly deposited materials and form grasslands that help to quickly stabilize the new material. *Leptochloa uninervia, Panicum repens,* and *Cynodon dactylon* tended to be the most common grass species, with *Cyperus elegans, Acnida tamariscina, Conyza bonariensis* as common herbaceous plants. Older deposits supported additional species and the beginnings of shrub habitats with an understory of grasses.

Shrub communities usually indicate older, more stable, elevated areas. In the Atchafalaya area, this is almost exclusively black willow (*Salix nigra*). Since willows also forms a forested wetland habitat, shrub/scrub is not a good indicator of elevation in the delta, but does indicate stable areas. Young willows were profusely represented along most of the survey transects at **Andrew** and **Horseshoe** islands. *Baccharis halimifolia* was the only other significant shrub species found along the transect profiles.

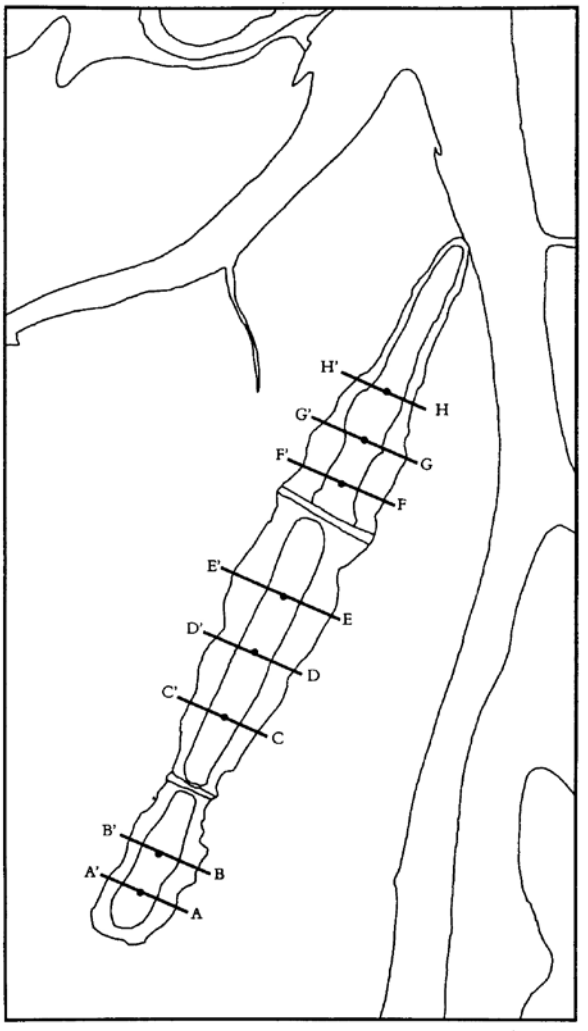
Low wet areas within the upland areas of **Andrew** and **Horseshoe** islands are being colonized by *Bacopa monnieri, Polygonum lapathifolium,* and tiny *Eleocharis parvula.*

Ibis Island

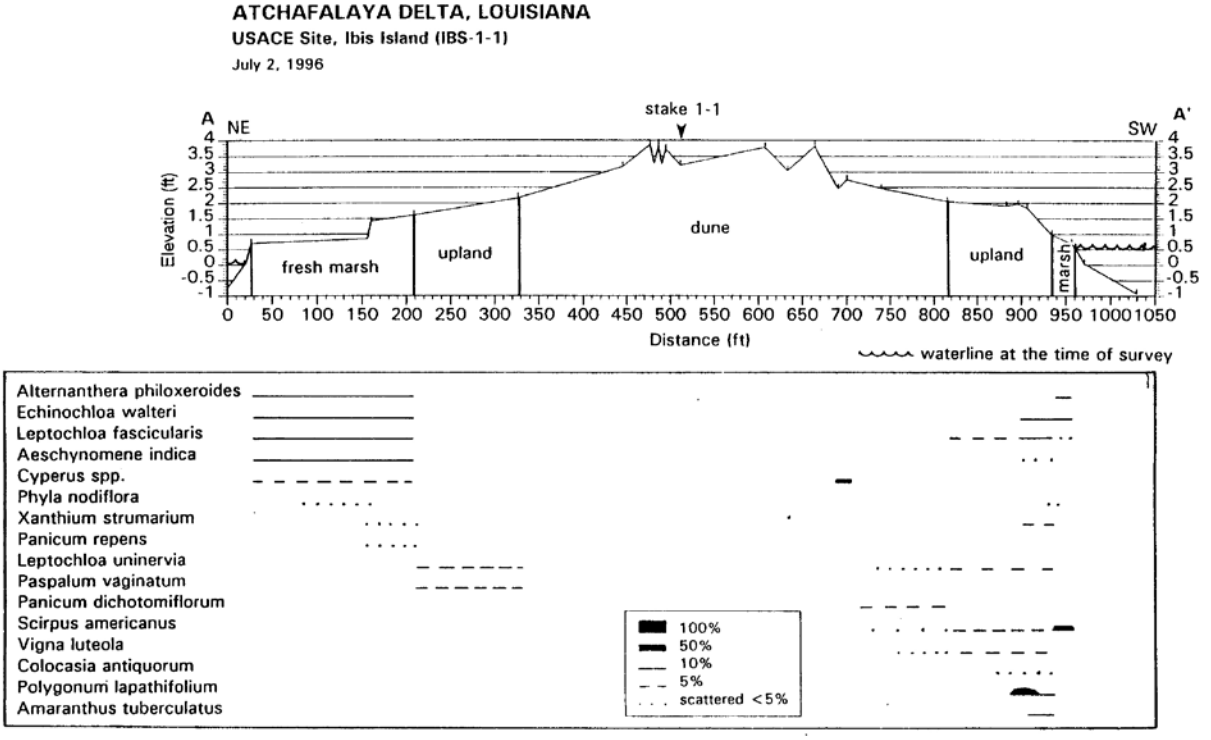
Ibis Island was created approximately one year before the survey effort. The first transect series (A-B) across the southern tip of **Ibis Island** were characterized by an average elevation of +2.1 feet MLG, with a maximum elevation of +3.9 feet MLG. The second transect series (C-E) across the central portion of the island were characterized by an average elevation of +2.4 feet MLG, with a maximum elevation of +4.1 feet MLG. The third transect series (E-H) across the northern portion of the island were characterized by an average elevation of +2.1 feet MLG, with a maximum elevation of +2.9 feet MLG.

The transect profiles across **Ibis Island** were typically vegetated at the lateral ends (intertidal zone), and generally decreased in vegetative density with an increase in elevation. The majority of the island was generally composed of extensive bar aeolian type sand features (ripples and dunes). The island was still relatively unvegetated at the time of the survey. However, the

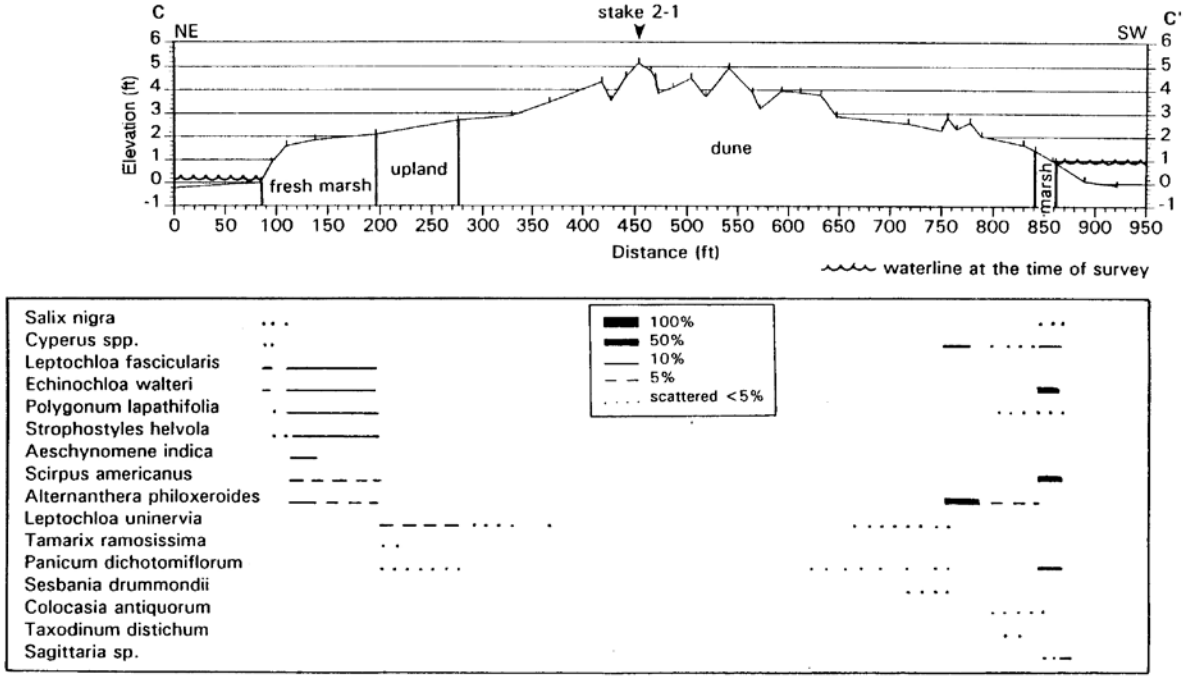
lateral parts of the island, characterized by lower elevations, had already been colonized by a variety of marsh plant species.



Schematic diagram of the BUMP profile locations and configurations for Ibis Island in the Atchafalaya River Bay and Bar delta.



Profile IBS 1-1 from Ibis Island in the Atchafalaya River delta.



Profile IBS 2-1from Ibis Island in the Atchafalaya River delta.