

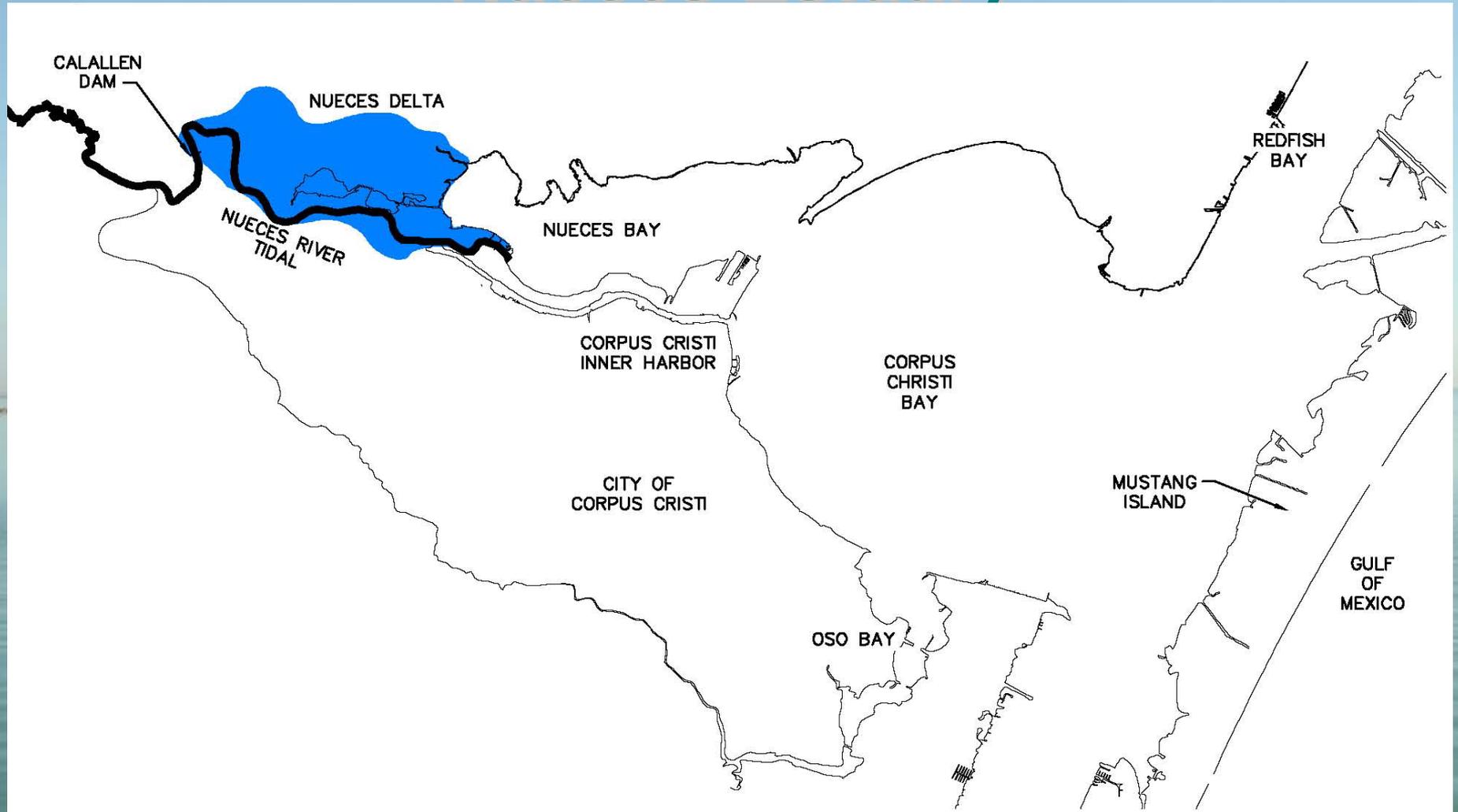
Rincon Bayou, Nueces Delta Study History of Delta Projects



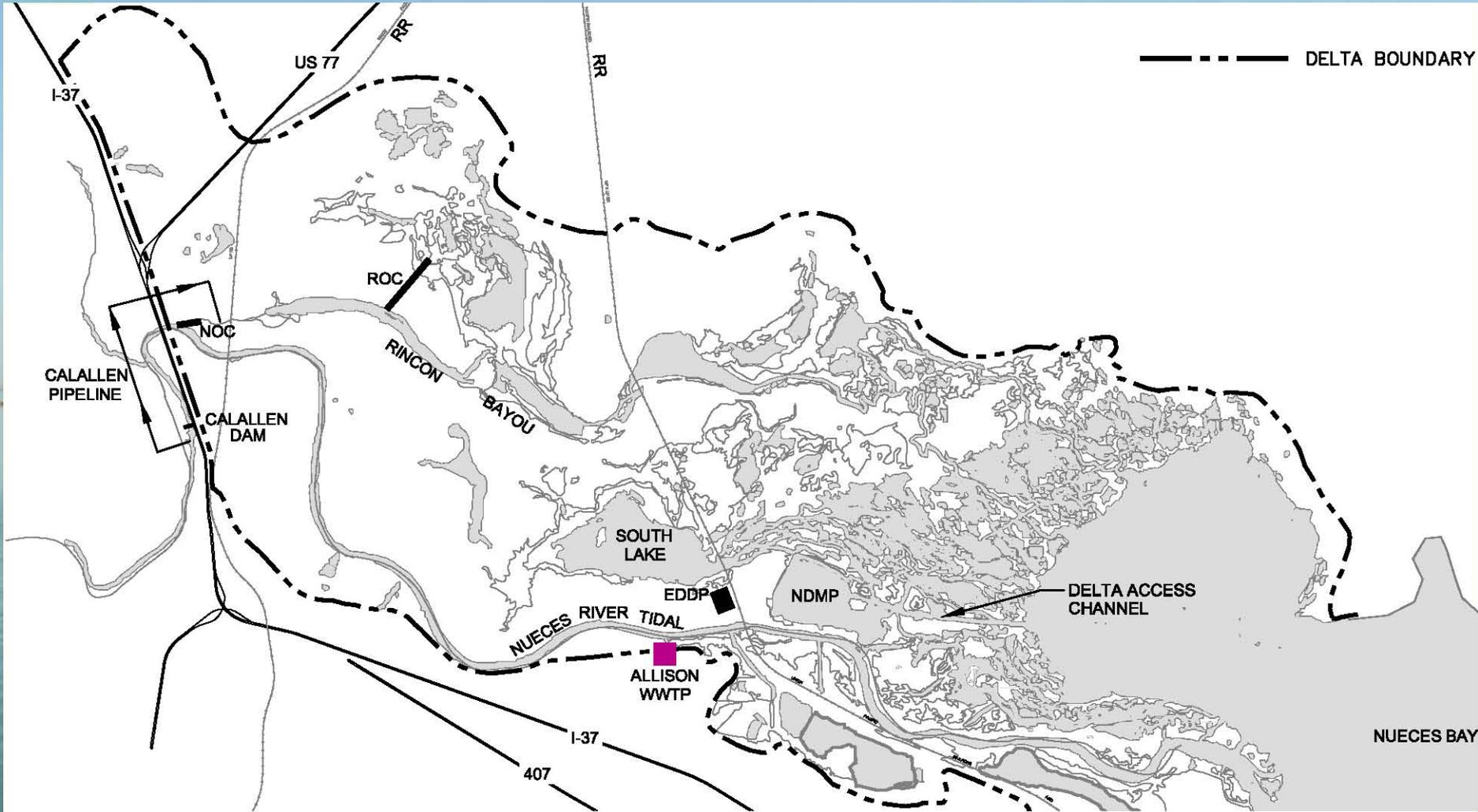
**Peggy W. Glass
Alan Plummer Associates, Inc.**

**December 17, 2007
Corpus Christi, Texas**

Nueces Estuary



Nueces Delta



Nueces Delta Features

Pre-Project

- **No interchange between Nueces River and Delta until river flow reached 2,100 cubic feet per second (5.4 feet mean sea level).**
- **Limited to nonexistent tidal exchange in upper Delta most times.**
- **“Reverse estuary” during extended dry periods.**



Orders Issued Pursuant to Construction of Choke Canyon Reservoir for Estuary Inflows

1992 Texas Water Commission Interim Order set “pass-through” requirements for Lake Corpus Christi and Choke Canyon Reservoir.

1995 Texas Natural Resource Conservation Commission Agreed Order modified pass-through requirements.



Orders Issued Pursuant to Construction of Choke Canyon Reservoir for Estuary Inflows (Continued)

**2001 Texas Commission on Environmental
Quality amended Agreed Order.**



2001 Agreed Order

Factors Determining Pass-Through Requirements

- **Month**
- **Percent of reservoir capacity (both reservoirs combined) containing water. Trigger points are 70%, 40%, and 30%.**
- **Return flow volume – set at 54,000 acre-feet per year until increase is demonstrated.**
- **Salinity of upper Nueces Bay.**
- **Implementation of watering restrictions during drought.**



2001 Agreed Order

Other Requirements

- **Re-open Nueces Overflow Channel and Rincon Overflow Channel.**
- **Construct Calallen Pipeline to deliver up to 3,000 acre-feet per month to Rincon Bayou.**
- **Implement on-going monitoring program to facilitate an adaptive management program for freshwater inflows into the Nueces Estuary.**



Nueces Delta Mitigation Project



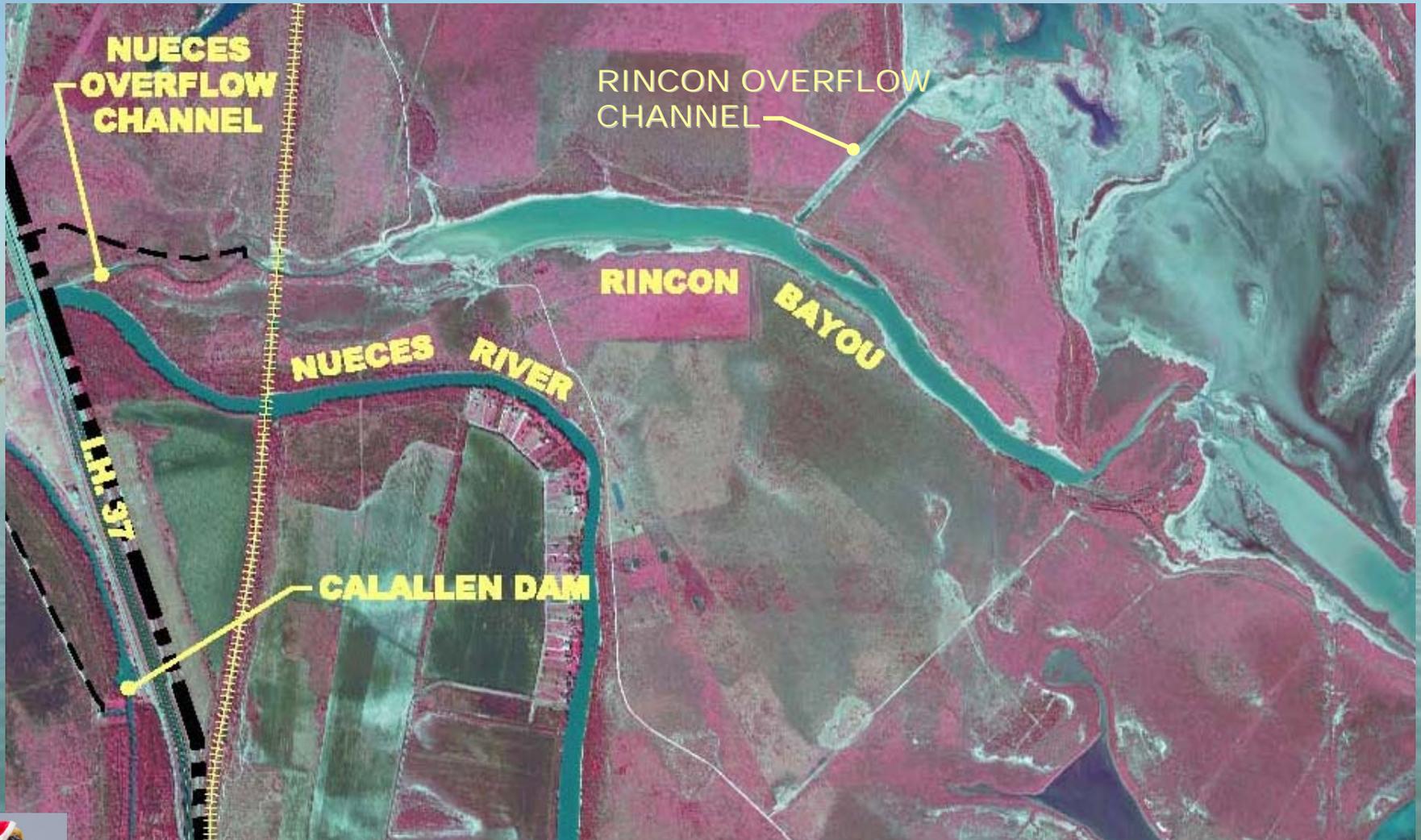
Previous Projects

Nueces Delta Mitigation Project

- **Objective: Create a self-sustaining and persistent salt marsh that would provide wetland habitat for diverse group of species.**
- **Conducted by U.S. Army Corps of Engineers.**
- **Mitigation for wetland losses due to dredging in Corpus Christi Ship Channel.**
- **Initiated 1987; Successfully Completed 1997.**
- **Results monitored by TAMU-CC Center for Coastal Studies.**



Rincon Bayou Demonstration Project



Previous Projects

Rincon Bayou Demonstration Project

- **Objective: Improve management of freshwater resources by improving freshwater inflows to the Upper Nueces Delta.**
- **Conducted by Bureau of Reclamation.**
- **Constructed Nueces Overflow Channel and Rincon Overflow Channel.**
- **Initiated 1995; Completed 1999.**



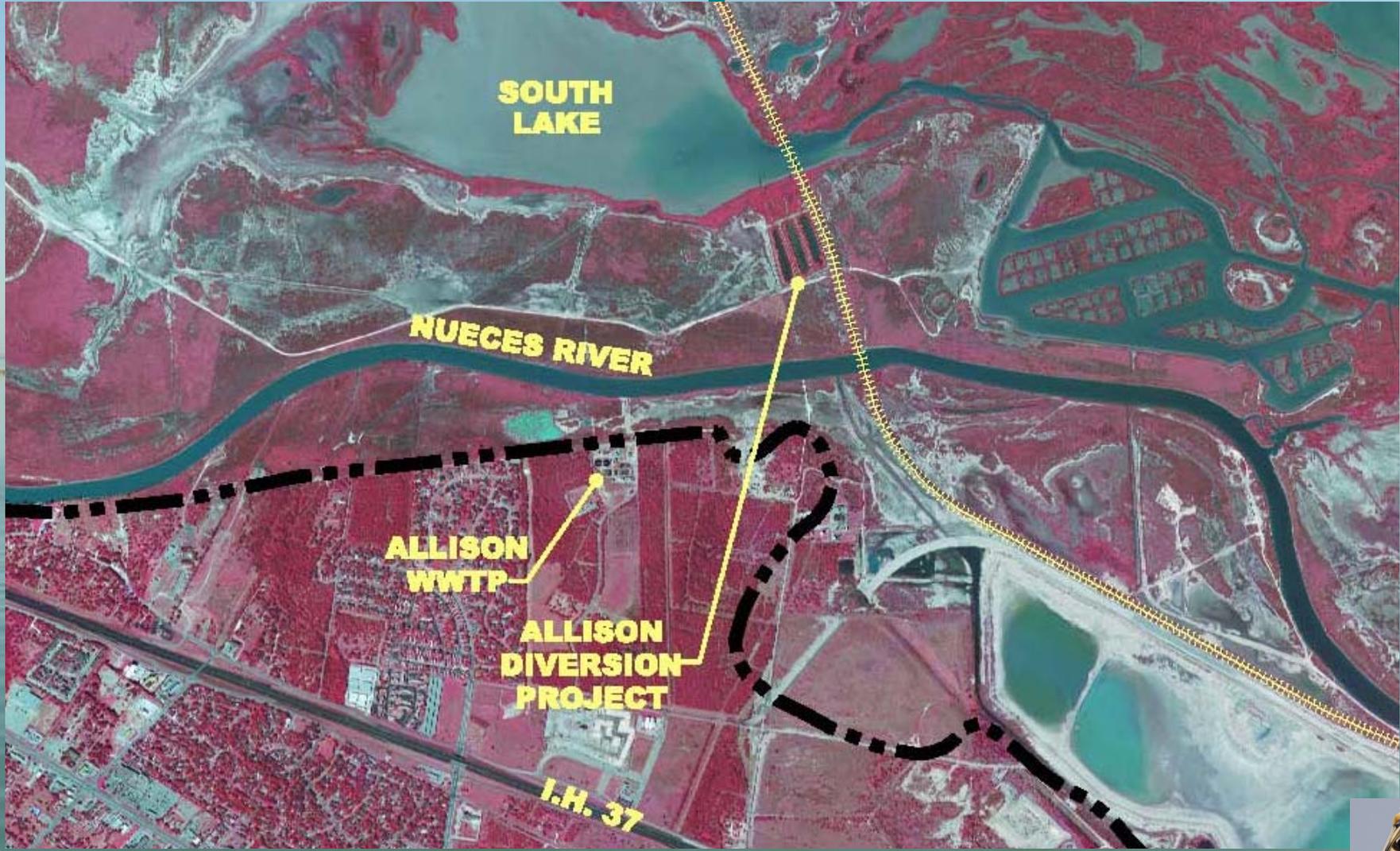
Previous Projects

Rincon Bayou Demonstration Project (Continued)

- **Concluded water diverted to Upper Nueces Delta was increased by 732% as a result of the Nueces Overflow Channel.**
- **Nueces Overflow Channel filled in at completion of study.**
- **Monitoring by UTMSI.**



Allison Effluent Diversion Demonstration Project



Previous Projects

Allison Effluent Diversion Demonstration Project

Objective: Improve management of freshwater resources by improving freshwater inflows to the Nueces Delta.

- **Conducted by City of Corpus Christi.**
- **Diverted 2 MGD of effluent from Allison WWTP to mud flat by South Lake.**
- **Initiated data collection 1996; diversion began 1998; intensive study completed 2003.**



Previous Projects

Allison Effluent Diversion Demonstration Project (Continued)

- **Converted approximately 17 acres of mud flat to emergent vegetation.**
- **Limited sampling required annually now.**
- **Monitoring by UTMSI, TAMU-CC Center for Coastal Studies, and TAMU-CC Conrad Blucher Institute.**



Rincon Bayou, Nueces Delta Study



Current Project

Rincon Bayou, Nueces Delta Study

Objective: Improve management of freshwater resources by improving freshwater inflows to the Nueces Delta.

- **Conducted by City of Corpus Christi.**
- **Pipeline constructed to deliver up to 3,000 acre-feet per month from the Calallen Pool to Rincon Bayou.**
- **Monitoring initiated FY 2003. Initially scheduled to be 4-year sampling period with final report prepared in fifth year (FY 2007).**



Current Project

Rincon Bayou, Nueces Delta Study

- **Construction of pipeline not complete until FY 2008; so, no data yet on post-pipeline conditions. Original date for completion of pipeline was December 31, 2002.**
- **Monitoring by UTMSI, TAMU-CC Center for Coastal Studies, TAMU-CC Conrad Blucher Institute, U.S. Geological Survey, TAMU-CC Harte Research Institute, and Bureau of Economic Geology.**

