

1.13 COASTAL STREAMS

The following coastal streams in region I have been identified by the TPWD as meeting one or more of the criteria for designation as Ecologically Unique as defined by Senate Bill 1 (1997):

Big Hill Bayou
Hillebrandt Bayou
Salt Bayou
Taylor Bayou
Texas Bayou

A brief characterization of these streams and a description of the criteria they meet follows.

1.13.1 Big Hill Bayou

Big Hill Bayou begins eight miles southwest of Port Arthur in eastern Jefferson County and flows easterly and northerly eight miles into Taylor's Bayou about five miles west of Port Arthur. The bayou traverses marshy terrain through the J. D. Murphree Wildlife Management Area (WMA) and provides habitat for coastal waterfowl, shrimp, blue crab, and finfish. The WMA is located on the Texas portion of the Chenier Plain, which is the westernmost geologic delta of the Mississippi River (Hodge 2000). Vegetative communities within the area include extensive freshwater, intermediate, and brackish wetlands, as well as saline wetlands to a smaller extent (Moulton and Jacob 2001). The WMA is a key nesting and brooding area for mottled ducks as well as other species of waterfowl and the marshlands support one of the densest populations of American alligators (*Alligator mississippiensis*) in Texas (Hodge 2000, TPWD 2004). The Big Hill Unit (8,312-acres) of the WMA is basically a freshwater marsh that has been impounded with levees and divided into compartments in order to control water levels and prevent dewatering of the marsh (Hodge 2000). The ecologically significant stream segment is from the confluence with Taylor Bayou on the J.D. Murphree Wildlife Management Area upstream to the headwaters eight miles southwest of Port Arthur in east Jefferson County.

- **Biological function**– displays significant overall habitat value considering the biodiversity and uniqueness observed in the extensive freshwater and intermediate wetlands (Moulton and Jacob 2001, Hodge 2000).
- **Riparian conservation area**- fringed by the 24,366-acre J.D. Murphree Wildlife Management Area.

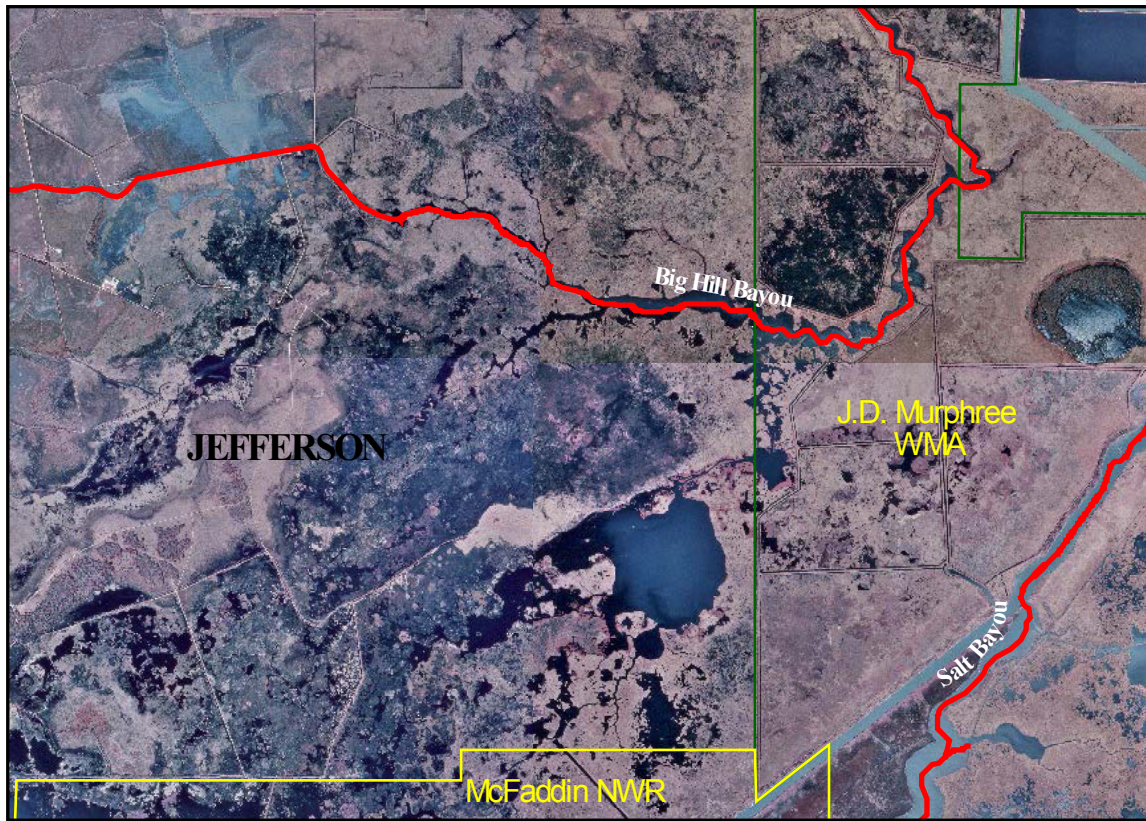


Figure 55. Big Hill Bayou at J.D. Murphree WMA in Jeffesron County. Source: Big Hill Bayou DOQ, 1996, 1m CIR (TNRIS, 1995-1997).