

Figure 25. Location of the ecologically significant tidal segment of the Rio Grande (TNRCC segment 2301) between the Rio Grande Wier downstream of the International Bridge in Brownsville and the Gulf of Mexico (Scale 0.25": 1 mi.; Base map source: TxDOT county files).

### Rio Grande Tidal

The TNRCC stream segment 2301 of the Rio Grande runs from the Rio Grande Wier, downstream of the International Bridge in Brownsville, to its confluence with the Gulf of Mexico in Cameron County (Fig. 24). The ecological significance of this segment is based upon the following criteria:

1. Biological function- extensive riparian freshwater wetland habitat including subtropical resaca woodlands and brushland of thicket-forming, thorny shrubs and small trees<sup>12</sup> (Figs. 25 - 27). Extensive estuarine habitats include wind tidal salt flats, lomas, emergent saltmarsh, black mangrove, and seagrass beds in South Bay.
2. Hydrologic functions - Freshwater flow along this segment helps prevent saltwater intrusion upstream to Brownsville.
3. Riparian conservation area - Unique habitat<sup>13</sup>. The lower extent of the Rio Grande was once bordered by 40,000 acres of Texas sabal palm forest. Now reduced to less than 100 acres, the Audubon Sanctuary represents the largest remnant sabal palm grove in Texas. In addition to its magnificent palms, many species of plants found only rarely in the Valley thrive in this small preserve. Sabal Palm Audubon Center and Sanctuary also is site LTC042 on the Great Texas Coastal Birding Trail (GTCBT). Boca Chica SP., LRGNWR Boca Chica tract, and South Bay Coastal Preserve are of major importance to the area. The Boca Chica complex is also LTC 043.
4. High water quality/exceptional aquatic life/high aesthetic value- Overall use<sup>17</sup>; Benthic macroinvertebrates<sup>4</sup>. From 1992-97, the Coastal Fisheries Division of the Texas Parks & Wildlife Department (TPWD) conducted a study of the fishery resources of the Rio Grande estuary from the mouth to 30 river miles upstream. Catches included striped mullet, gulf menhaden, white mullet, white shrimp, Atlantic croaker, blue crab. Over 100 other species were also sampled. The

presence of juvenile common snook, an important marine sportfish, in the study area is evidence of the importance of this estuary to the success of common snook populations in deep south Texas<sup>18</sup>.

5. Threatened (T) or endangered (E) species/unique communities- The following rare species associated with aquatic or riparian habitats occur in or along this segment: the black spotted newt (St. T), Mexican treefrog (St. T), sheep frog (St. T), South Texas siren (St. T) (large form), and white-lipped frog (St. T); the Audubon's oriole, brown pelican (Fed. E & St. E), Brownsville common yellowthroat, cactus ferruginous pygmyowl (St. T), common black hawk (St. T), white-tailed hawk (St. T), northern beardless-tyrannulet (St. T), piping plover (Fed. T & St. T), snowy plover (St. T), reddish egret (St. T), rose-throated becard (St. T), Sennett's hooded oriole, tropical parula (St. T), and wood stork (St. T); Coues' rice rat (St. T), ocelot (Fed. & St. E), jaguarundi (Fed. & St. E), southern yellow bat (St. T), and white-nosed coati (St. T); indigo snake (St. T), speckled racer (St. T), keeled earless lizard, and Texas tortoise (St. T). Also, the estuarine fish, opossum pipefish (St. T), blackfin goby (St. T), river goby (St. T); and the plant Texas ayenia (Fed. E & St. E) as well as sabal palm grove remnant and black mangrove (considered rare habitats)<sup>19</sup>.



Figure 26. Forested riparian habitat along the Rio Grande near Brownsville, Texas.

Source: Southmost DOQ; 1995; 1m, CIR.





Figure 27. Riparian forest habitat fringing the resaca at Sabal Palm Audubon Center and Sanctuary on the Rio Grande near Brownsville.



Figure 28. Remnant grove of riparian sabal palms on Sabal Palm Audubon Center and Sanctuary southeast of Brownsville on the Rio Grande.



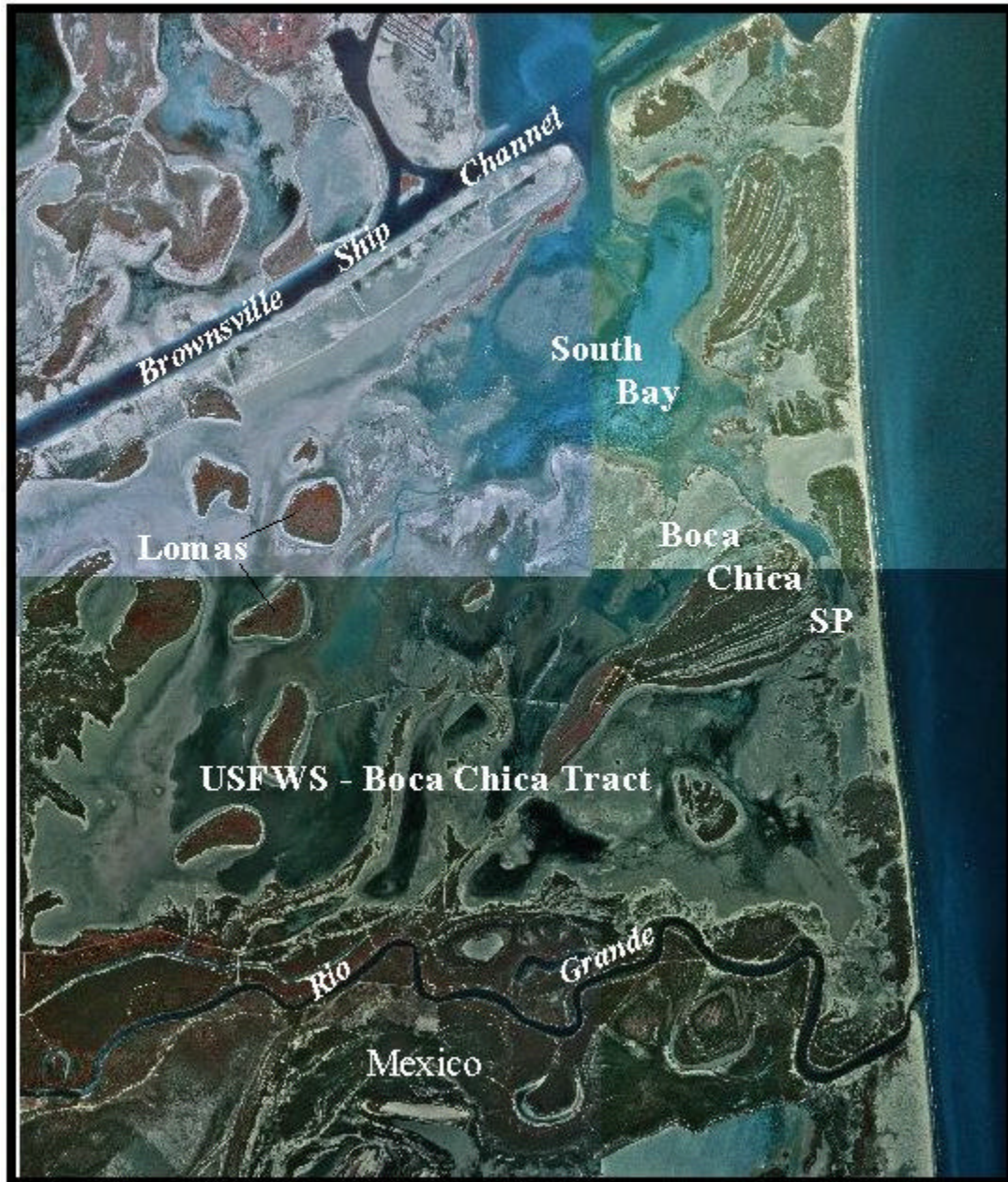


Figure 29. Extensive estuarine and riparian habitat (TNRCC segment 2301) near the mouth of the Rio Grande. Source: Mouth of the Rio Grande & Port Isabel DOQs, 1995, 1m CIR.

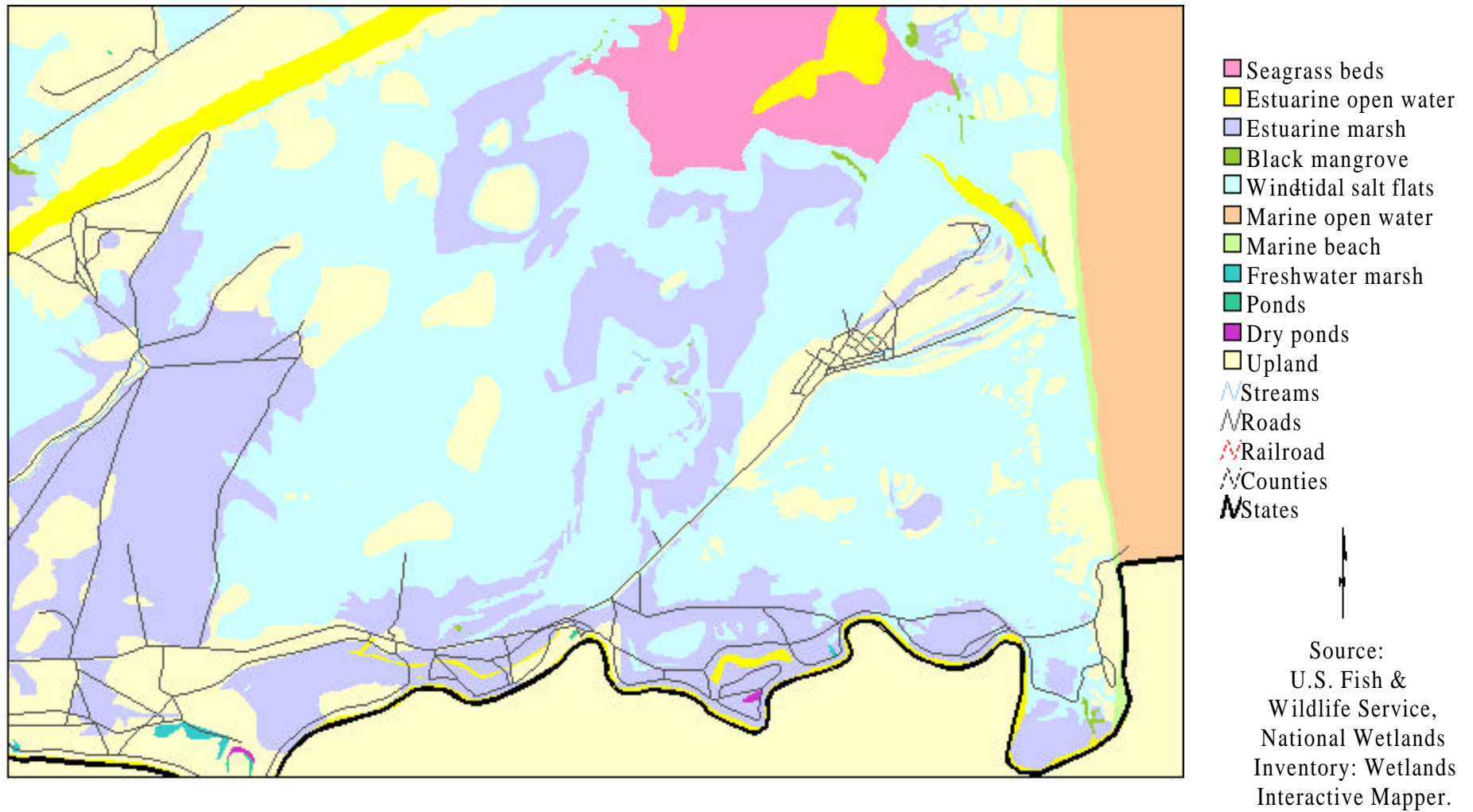


Figure 30. Mapped wetland habitat of the Rio Grande Tidal





Figure 31. Riparian brush along the Rio Grande near the mouth of the river.



Figure 32. Roseate spoonbills feeding in black mangrove habitat on South Bay near Boca Chica State Park.

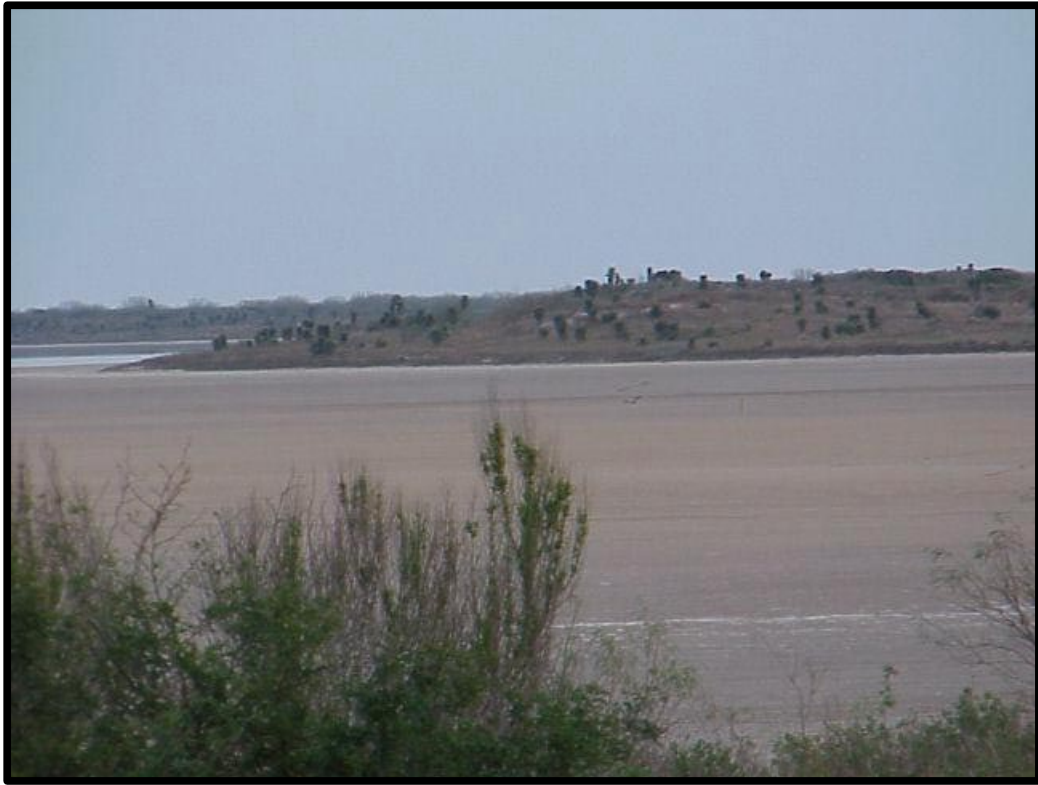


Figure 33. A large brush and tree covered loma (clay dune) surrounded by wind tidal salt flats on the USFWS Boca Chica tract of LRGV NWR.