

= Laguna Madre (United States) =

The Laguna Madre is a long , shallow , hypersaline lagoon along the western coast of the Gulf of Mexico in Nueces , Kenedy , Kleberg , Willacy and Cameron Counties in Texas , United States . It is separated by the roughly 20 @-@ mile (32 km) long Saltillo Flats land bridge into Upper and Lower lagoons . The two are joined by the Intracoastal Waterway , which has been dredged through the lagoon . Cumulatively , Laguna Madre is approximately 130 miles (209 km) long , the length of Padre Island . The main extensions include Baffin Bay in Upper Laguna Madre , Red Fish Bay just below the Saltillo Flats , and South Bay near the Mexican border .

The lagoon 's ecosystem is protected by the Laguna Atascosa National Wildlife Refuge and the Padre Island National Seashore , as well as the privately owned King Ranch . The human history predates the formation of the Laguna Madre , and settlements have been established at Port Isabel and Port Mansfield on the lagoon 's shores .

= = History = =

Laguna Madre was formed about 3 @,@ 000 years ago , after the stabilization of the sea level on the Texas Coast , culminating in the rise of Padre Island . The Baffin Bay extension is considerably older than Laguna Madre , and formed as a river valley during the Pleistocene epoch , over 12 @,@ 000 years ago . Early peoples obtained oysters from the bay , which were eliminated due to changes in salinity after the full formation of Laguna Madre . The first people to encounter the new lagoon were most likely the nomadic Karankawa and Coahuiltecan Indians . The Spanish explorer Alonso Álvarez de Pineda is believed to be the first European to come in contact with Laguna Madre in the early 16th century , and is credited with giving it the name , which is Spanish for " mother lagoon " .

Several land grants were handed out by the Spanish government for ranching near the lagoon . The first was believed to have been given to José Nicolás Cabazos in 1792 , which included 500 @,@ 000 acres (2 @,@ 000 km2) in the area south of Baffin Bay to the Rio Grande . Cabazos stocked the land with 900 cattle . American ranching settlements developed following the Mexican War , including the King Ranch , which was established in 1847 by Richard King . The area near present @-@ day Port Isabel was used as a resort for Spaniards after watersellers came ashore in the late 18th century looking for freshwater supplies . A settlement known as Point Isabel was established at the location in the 1830s , and in 1853 , the Point Isabel Lighthouse was constructed to overlook the lagoon . The city was named Port Isabel in 1928 , and in 1954 , the Queen Isabella Causeway , the longest bridge in Texas , was constructed across Laguna Madre to South Padre Island . A newer bridge was built in 1974 , but part of it collapsed on September 15 , 2001 after being hit by a barge , causing eight people to plunge to their deaths and significantly hindering the economy of South Texas . It was rebuilt and reopened in November of that year . Port Isabel had 4 @,@ 865 residents during the 2000 census . To the north , Port Mansfield was established in 1950 , at the old fishing community of Red Fish Landing . It was named after United States Congressman Joseph J. Mansfield (D @-@ TX) , who introduced the bill that extended the Intracoastal Waterway from Corpus Christi to Brownsville in the 1940s . The Port Mansfield Ship Channel was dredged in 1957 across Padre Island and redredged in 1962 after work was done to improve the jetties . The cut allows an influx of seawater into the Lower Laguna Madre to improve the fishing and shipping industry of Port Mansfield . The community had 415 residents in 2000 .

= = Features = =

Laguna Madre is found between the mainland of South Texas and Padre Island . At this location between the Nueces River and the Rio Grande , the climate is dry and it is sometimes referred to as the Wild Horse Desert . The western shore , a large part of which is included in the King Ranch , is usually marked by sand dunes , yucca , prickly pear , century plants and an occasional oak tree bent by the wind . The lagoon is split by a 20 @-@ mile (32 km) expanse of sand flats , named the

Saltillo Flats , which are located about 40 miles (64 km) from the northern extreme near the John F. Kennedy Memorial Causeway in Corpus Christi . This part of the lagoon is known as the Upper Laguna Madre and includes the extension of Baffin Bay near Kingsville , and Bird Island on the eastern Padre Island shore , northeast of the opening of Baffin Bay . The Lower Laguna Madre includes the area south of the Saltillo Flats to the extension of South Bay near Port Isabel , and is crossed by the Queen Isabella Causeway . Included in the Lower Laguna Madre is Red Fish Bay , which is found along the shoreline of the King Ranch , south to Port Mansfield .

The lagoon is shallow and narrow , averaging only 3 @. @ 6 feet (1 @. @ 1 m) in depth and 4 miles (6 @. @ 4 km) to 6 miles (9 @. @ 7 km) in width . The depth is only 0 @. @ 66 feet (20 cm) to 1 @. @ 1 feet (34 cm) in the areas not dredged to form the 12 @- @ foot (3 @. @ 7 m) deep , 138 @- @ foot (42 m) wide Gulf Intracoastal Waterway , which runs the bay 's length and joins the upper and lower stretches . Two types of hard reef are found in the lagoon bed and on the shoreline , including beach rock reefs (shell and sand bound by calcium carbonate cement) common south of Baffin Bay due to the occasional shifts in the Laguna Madre coastal shoreline ; and Serpulid reefs , common in Baffin Bay , and elsewhere in the system , formed between 300 and 3 @, @ 000 years ago by the annelid 's calcareous tubes .

Laguna Madre has a salinity of 36 parts per thousand (ppt) , which is above the seawater average of 35 ppt . Because of the high salinity , it holds the distinction as one of the Earth 's six hypersaline lagoons / bays , the others being Sivash in Ukraine , Laguna Ojo de Liebre on the west coast of Baja California , Spencer Gulf and Shark Bay in Australia , and the Laguna Madre of Tamaulipas , which is sometimes grouped with the Laguna Madre of Texas as one system . The reasons for its hypersalinity include shallowness , the lack of a significant river source , dry climate , high evaporation and the isolation from other bodies of water . Its salinity was even greater before the Port Mansfield Gulf Channel was dredged on Padre Island , which allowed a larger amount of seawater exchange . However , very little water exchange occurs at all , every second only 25 cubic metres (6 @, @ 600 US gal) of water flows into the lagoon . Rainwater from tropical storms and hurricanes is the only significant fresh water the bay receives . The salinity is greatest in the Lower Laguna Madre , where it averages around 45 ppt .

= = Ecosystem = =

The Laguna Madre is one of the most important and unspoiled lagoon ecosystems in Texas . It is also one of the most protected in the United States ; 75 % of its shores are protected by the Laguna Atascosa National Wildlife Refuge to the west and the Padre Island National Seashore on the east . Fish , shrimp and crab , which feed the bird populations , depend on the lagoon and its plentiful beds of seagrass for survival . The seagrass of Laguna Madre accounts for 80 % of all seagrass found off the Texas Coast ; however , it is threatened by brown tides caused by poor circulation and dredging . An influx of seawater can sometimes replace the vital seagrass with oyster beds .

Laguna Madre is home to more finfish than anywhere else on the Texas coast , with such species as blue catfish , hardhead catfish , Atlantic croaker , black drum , red drum , southern flounder , alligator gar , houndfish , crevalle jack , southern kingfish , ladyfish , Atlantic midshipman , mojarras , striped mullet , pinfish , Florida pompano , smooth butterfly ray , spotted seatrout , blacktip shark , sheepshead , bigmouth sleeper , gray snapper , common snook , southern stargazer , southern stingray and tripletail . Many fowl migrate and live around the lagoon including 75 % of all redhead ducks . Other birds in the area include the peregrine falcon , piping plover , roseate spoonbill , long @- @ billed curlew , crane , egret and the brown pelican . Sea turtles and dolphins can be found in the bay , while cattle , white @- @ tailed deer , nilgai and bobcats can sometimes be seen near the shore .

= = Industry = =

The ports of Port Isabel and Port Mansfield rely on the fishing and shrimping industries . In the 1960s , Port Isabel averaged a catch of 3 @, @ 600 @, @ 000 tonnes (3 @, @ 500 @, @ 000 long

tons ; 4 @, @ 000 @, @ 000 short tons) of shrimp annually , which accounted for 65 % of the entire production in Texas . In Port Mansfield , the fishing industry has greatly expanded with the opening of the Port Mansfield Channel , allowing a steady accumulation of red fish , brown shrimp , and flounder . Because of the bay 's environmental protections , very few manufacturing plants have been constructed in the area . Following an environmental campaign , the Valero Energy Corporation constructed an oil and gas pipeline from Corpus Christi to the Rio Grande Valley to decrease the shipment of oil and gas along the Intracoastal Waterway , greatly diminishing the chance of a spill . Activists have likewise railed against a proposed wind turbine farm off Baffin Bay , due to the potential harm to the scenic shores and the bird populations .

The tourism industry is also a mainstay for communities on the lagoon . Beach @-@ goers must pass the Laguna Madre to reach the prime beaching destination at both North and South Padre Islands . Fishing has drawn tourists to Port Isabel , where the Texas International Fishing Tournament has been held since 1934 . Visitors also flock to Bird Island off the western coast of Padre Island , for windsurfing , kayaking , and other water sports .