The Nature Conservancy
Protecting nature. Preserving life.™

Laguna Madre

"Mother Lagoon" nurtures coastal and marine life in Texas and Mexico

conservation profile

Ecoregion: Gulf Coast Prairies and Marshes and Tamaulipan Thornscrub.

Conservation Elements: Coastal lagoon system; thornscrub; grasslands; commercially important fish species; Kemp's Ridley sea turtle; jaguarundi; ocelot; redhead duck; peregrine falcon; piping plover; reddish egret; brown pelican; neotropical migratory songbirds.

Stresses: Large-scale coastal development; overfishing; seagrass destruction; incompatible agricultural practices; polluted run-off; erosion; population growth.

Strategies: Strengthen partner organizations; complete conservation planning; establish and manage protected areas; promote sustainable fishing; work with private landowners; acquire key sites; secure conservation agreements.

Partners: Pronatura Noreste, private landowners.

Top photo: Laguna Madre (© TNC)

Laguna Madre (© Glenn Hayes)

Cradling young aquatic life in its rich seagrass meadows and providing a nurturing home for a variety of coastal species, the Laguna Madre, or "mother lagoon," is a rare marine treasure. This vast bi-national region encompasses the largest hypersaline lagoon in North America and the longest barrier island system in the world.

The Laguna Madre stretches more than 250 miles along the coast of Texas and Mexico. From Corpus Christi Bay, it extends 125 miles south to the mouth of the Rio Grande, then another 125 miles along the Mexican Gulf Coast to the Rio Soto la Marina in Tamaulipas, Mexico.

Barrier islands, wind tidal flats, wetlands, lagoons, sandy beaches, thornscrub, grasslands and brush-lands make up the entire Laguna Madre system. The lagoon itself is only five miles across at its widest point, with an average depth of less than three feet. Under the constant heat of the tropical sun, these shallow waters have a high evaporation rate, resulting in hypersaline water.

Laguna Madre (© TNC)

Meadows of seagrass thrive in the lagoon's briny waters – one of only five hypersaline lagoons on Earth – and serve as a nursery for fragile young finfish, shrimp and shellfish. The Laguna Madre produces thousands of tons of shrimp and finfish and provides spawning grounds for 60 percent of the Gulf of Mexico's fish species. It is home to a variety of commercial and sportfish species, including speckled sea trout, redfish and flounder.

The Laguna Madre's wealth of biological diversity includes 3,100 species of plants and animals, more than a third of which are migratory bird species. Kemp's Ridley sea turtles, considered the rarest of all sea turtles, nest along the same beaches in the Laguna Madre every year. The coastal region also provides crucial habitat for two imperiled wildcats – the ocelot and jaguarundi.

During the winter months, the Laguna Madre hosts more shorebirds, ducks and geese than any other lagoon system in Texas, Mexico and the Caribbean. Eighty percent of all redhead ducks winter in the region, and large populations of peregrine falcons, reddish egrets, piping plovers, brown pelicans and neotropical migratory songbirds depend on the resources of the lagoon for survival.

Mother Lagoon Under Threat

Worth millions of dollars to the Texas and Mexico economy for its commercial and recreational value, the Laguna Madre attracts anglers, beach-lovers and bird-watchers from around the world. The Mexican portion of the Laguna Madre generates about 3,600 tons of shrimp each year, and the Texas system provides more than 50 percent of the state's yearly fish catch.

In addition, the Laguna Madre produces $225 million in annual revenue for the Texas economy from sportfishing and recreational tourism activities. Agriculture and cattle ranching, primarily on privately owned lands in the Mexican Laguna Madre, also are principle economic activities in the region.

This vital resource, however, is being pushed to its limits by haphazard development, pollution and rapid population growth. Large-scale resort development on the Texas side is fragmenting habitat important to terrestrial and marine species. Incompatible agricultural and ranching practices in Mexico are resulting in rapid habitat loss, agrochemical run-off and the sedimentation of the lagoon system. Overexploitation of fisheries, increasing commercial boat traffic and dredging, erosion and pressures from population growth also threaten the lagoon's rich biodiversity.

Working Across Country Boundaries

The Nature Conservancy is working to protect critical lands across the bi-national Laguna Madre region through land acquisition, conservation agreements with private landowners and collaboration with other conservation organizations. In March 2000, the Conservancy acquired nearly 25,000 acres on South Padre Island in Texas, most of which was added to Laguna Atascosa National Wildlife Refuge.

In Mexico, the Laguna Madre was declared a National Protected Area in 2003. The Conservancy and its Mexican partner, Pronatura Noreste, were pivotal in making this a reality. To strengthen the declaration, the Conservancy is investing in a comprehensive protection strategy characterized by cooperation and sensitivity to local concerns. Conducted by the Conservancy and Pronatura Noreste, a series of work-shops for local coastal communities explored ways this resource could be managed better. Efforts are also underway to protected critically threatened lands in the coastal region.

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