The Laguna Madre

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| The Laguna Madre seen from the island's western shore a few miles southwest of the Malaquite Visitor CenterThe Laguna Madre (Spanish for "Mother Lagoon") is a rare hypersaline ecosystem.  NPS photo  The Laguna Madre is a rarity: one of perhaps six hypersaline (i.e. saltier than the ocean) lagoons in the world. It is perhaps one of the most overlooked natural wonders in North America. If one stands on its shore and simply gazes at it, the Laguna has no obvious physical attributes to distinguish from any other body of water in the world. To be appreciated, the Laguna's unseen side, the life hidden under its surface, must be studied and revealed.  To help enrich your understanding of the Laguna, the following article is quoted from the Corpus Christi Caller-Times. It is written by Dr. Wes Tunnell, a man who has spent many years studying the Laguna. The links to the right lead to other authoritative sources on the Laguna.  Thursday, July 19, 2001  **Protect the Laguna Madre**  Uniqueness of this complex and beautiful ecosystem cannot be overstated.  The recent proposal to establish a naval bombing range in South Texas stirred much emotion about three South Texas treasures: Padre Island, Laguna Madre, and Kenedy Ranch. Most Coastal Bend residents are familiar with Padre Island. Many others learned about the special characteristics and "natural treasures" of the Kenedy Ranch in recent weeks, and especially with Jason Ma's article in the Sunday, July 15, Caller-Times. Few citizens, however, know of the significance of Laguna Madre.  The Laguna Madre of Texas is one of six hypersaline coastal lagoons worldwide. With the Laguna Madre de Tamaulipas, a similar system just to the south in Mexico, it is the largest and most famous of hypersaline lagoons in the world. The scientific uniqueness and significance of Laguna Madre is, unfortunately, known only in scientific circles. Because of its remoteness, and because it is protected along over 70 percent of its shoreline by federal entities (Padre Island National Seashore and Laguna Atascosa National Wildlife Refuge) and private lands (large ranches, primarily King and Kenedy), there is not yet broad public awareness of the international significance of this unique and valuable ecosystem.  Well-known Laguna Madre characteristics, or natural treasures, include its hypersalinity - most studied and most often referenced hypersaline lagoon in the world.  It is home to approximately 77 percent of the North American wintering population of redhead ducks.  It accommodates numerous protected (threatened and endangered) species, such as piping and snowy plovers, reddish egret, brown pelican, peregrine falcon, and white-tail hawk.  For migrating and wintering shorebirds, the wind-tidal flats and barrier island beaches represent the largest continuous expanse of suitable habitats in North America between the northern breeding grounds and more distant wintering grounds in South America.  Some of the most extensive colonial water bird rookeries in Texas are there. The Laguna Madre accounts for almost 80 percent of all Texas seagrass beds.  Historically, it is the most productive Texas bay fishery; currently, it is one of the best places for recreational fishing for red drum, black drum and spotted sea trout in North America.  It has the most extensive wind-tidal flats and clay dunes in North America.  Conservation is essential.  It is home to the only strain of high-salinity-adapted oysters in North America.  It has the only natural rocky shoreline in Texas, and the only serpulid worm reefs in Texas.  It is the only locality of oolite (calcium carbonate) and gypsum crystal formation in Texas.  These characteristics of Laguna Madre and many more on the surrounding land prompted The Nature Conservancy in 1998 to designate it a high-priority conservation area.  To start their ecoregional and site planning processes, research scientists in the Center for Coastal Studies at Texas A&M University-Corpus Christi compiled a list of over 1,200 pieces of literature, spanning 70 years of time, and wrote a book about the Laguna Madre of Texas and Tamaulipas. This book, due out in several months from Texas A&M University Press [note: this book was published in 2002.], contains 18 chapters and covers all the unique aspects and qualities of Laguna Madre.  In our estimation, this highly interesting and significant ecosystem should be considered for protected status, rather than further development or consumptive use. Like adjacent Padre Island, the longest barrier island in the world, Laguna Madre is of international, not just local, state, or national significance.  Unwise use could be ruinous  Furthermore, due to its location in semi-arid South Texas, its waters generally evaporate more than freshwater flows into it, hence its hypersalinity. Ecologically, this is a negative estuary, one which seawater flows in, rather than out. Environmentally, this is problematic because perturbations to the system can take years to heal since flushing rates are measured in years, rather than days, weeks, or months like other normal or positive estuaries.  From this overview, one can easily see that Laguna Madre is a unique and sensitive ecological system. Inappropriate use or development of Laguna Madre and adjacent lands would be unwise.  Science-based management of natural resources is a national trend today, and Texas A&M University-Corpus Christi is in the forefront of that movement, collaborating and cooperating with state and federal natural resources management agencies on campus to protect and conserve South Texas treasures.  *John W. 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