

An Attempt to Sustain the Choctawhatchee Coastal Dune Lakes of Florida from Natural and Anthropogenic Perils: A Collaborative Approach.

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Coastal dune lakes are fresh water basins that are delicately perched above the coastal salt water fringe, making them wonderfully unique locations all over the world. For thousands of years these lakes have withstood natural processes such as hurricanes and land subsidence. However, with an ever increasing demand for coastal beachfront properties, the few lakes that exist today are under the constant threat from human activities like urban development, nutrient loading and recreational over use. Over the past decade, a series of such lakes in the Choctawhatchee basin of Florida's panhandle has attracted vast urban development. With changing land-use practices, these lakes are under a constant threat of deteriorating water quality and loss of a diverse ecosystem. In an attempt to preserve these lakes from degradation, we pose (a) to survey these lakes so as to produce a baseline against which any future anthropogenic impacts may be compared; (b) based on the survey, suggest alternative management/land-use practice strategies that strikes a balance between the natural ecosystem and the communities that live around it. Surveying will include tasks such as identify and map the lakes; locate sources of potential water pollutants, and collect data, including hydrology, water quality, soil/sediment, vegetation, animal habitation, and land-use practices. Evaluating the results will help prepare a project design. This will include suggestions for implementation of alternative urban building products, such as grass-pavements; landscaping strategies, including introducing native aquatic vegetation; and land management practices, such as constructing wetlands or water retention ponds. These are only a few ideas that future Choctawhatchee basin communities can embrace to help restore the balance between urbanization and sustaining the natural dune lakes.