

The Coastal Dune Lakes

(examples from Walton County)

What are they?

Along the coast of the panhandle of Florida are the dune lakes, unusual and interesting. Coastal dune lakes are found within about two miles of the coast. They're typically shallow and irregularly shaped. They are usually permanent water bodies, but their water levels fluctuate substantially since they create transitory interchanges with the Gulf of Mexico. An aerial view shows the relationship of one of them to the Gulf of Mexico.



The lake-water is composed of both fresh and saltwater that comes from tributaries, groundwater seepage (from uplands *and* from the Gulf), rainfall, exchange with the Gulf, and coastal storm surges. The lake-water is generally colored (e.g., tea or black colored) due to the dissolved organic matter it contains. You can see it in this photo.

Photo courtesy of Tracy Howell.



Photos courtesy of Hal Rhodes.



Photo courtesy of *Moon Creek Studios*

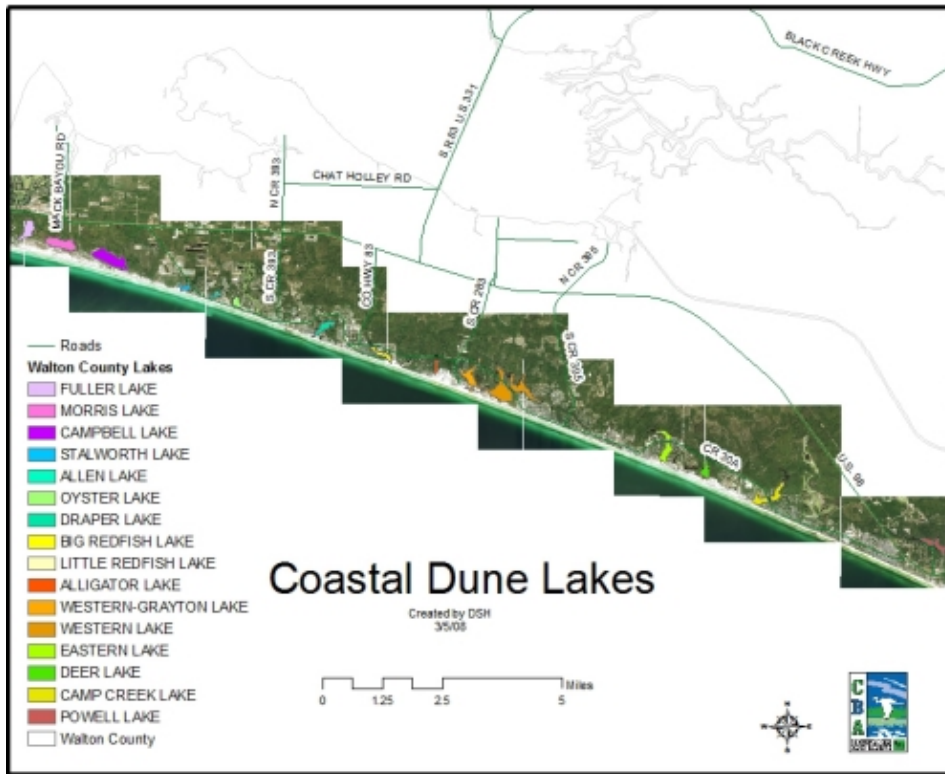


Photo courtesy of *Moon Creek Studios*

Where are they?

Coastal dune lakes are reportedly found in limited numbers throughout the world along the coasts of New Zealand, Australia, Madagascar, and in the United States along the coasts of Oregon, South Carolina, and Northwest Florida, including 26 miles of Walton County coastline.

Each of Walton County's coastal dune lakes has its own personality, based on the combination of its size, watershed features, surrounding land uses, and outlet characteristics. Outlet openings vary greatly in length, frequency and duration. They are driven by



each lake's critical high water level as well as prevailing climatic conditions (e.g., droughts and rain). As a result, some of the dune lakes can be completely freshwater, some brackish, and some salty, with varying degrees of salinity occurring between different lake stages. The changing condition of water chemistry in the coastal dune lakes makes them dynamic, biologically diverse ecosystems.

Read the interesting article about Florida dune lakes by UF hydrologists A. Yaquian and J. Jawitz: *Lakeline*, Vol 33(4):26-29. 2013. (Publ. by North American Lake Management Society).