

may have been hollows in the [Pliocene] sea bottom; in any event, the former are on higher terraces than the latter, and older.

Lake Okeechobee, one of the larger lakes in North America, is from 25 to 31 miles across. The lake is very shallow, and was not more than 15 to 20 feet deep before canals and dikes were built. Its principal outlet is now the Caloosahatchee River, which drains westward to the Gulf at Fort Myers. In former times during the rainy season it often overflowed its southern bank, which was only a few inches higher than the surrounding country, and flowed south over the Everglades.

ST. JOHNS RIVER SYSTEM. — The St. Johns River is unique among the rivers of the United States, as it flows from south to north for nearly 200 miles, and its headwaters are less than 20 feet above sea level. It is a relatively new river — its upper valley above Lake Harney did not come into existence until the late Pleistocene when a barrier island, now the east bank of the river, accumulated in the Pamlico Sea. From Lake Hellen Blazes the river wanders through grassy marshes broken by the expansions of Lakes Sawgrass, Washington, Winder, and Poinsett. Between Lakes Harney and George the river channel is little more than 100 yards wide and is 8 to 20 feet deep, broken by the expansions of Lake Monroe about 8 feet deep, Lake Beresford 5 to 10 feet deep, and Lake Dexter 2 to 10 feet deep. At Lake George the river expands to a width of 6 to 7 miles and maintains a remarkably uniform depth of 9 to 11 feet for all of its 11-mile length. Tidal effects are still felt over 103 miles from the mouth. At Palatka the tidal range is still 2.5 feet. Beck (1965: 118) pointed out that the degree of salinity varies in the river unexpectedly from the discharge of mesohaline springs in Marion County and further noted that, "this stream cannot be included in any of the designated types, as it has reaches of swamp-and-bog characteristics, others that have sand-bottomed characteristics, and stretches not comparable to either. The chemical characteristics of this river defy summarizing, for anything reported for one reach would be untrue of reaches a few miles upstream or downstream." In any event, the salinity is sufficient for a brackish water nautilus bivalve, *Rangia cuneata* (J. E. Gray), to live as far upstream as Lake Harney, Seminole County. *Elliptio jayensis* (Lea) and *Unio merus tetralasmus* (Say) attain great size in the big shallow lakes. Many of the species of *Elliptio* show considerable ecophenotypic variation. Among the springs that flow directly into the St. Johns River are Benson's mineral spring and Blue Springs, both in Volusia County, and Alexander Springs in Lake County. All contain endemic species of Hydrobiidae.

WEKIVA RIVER DRAINAGE. — Among the smaller rivers that drain into the St. Johns River is the Wekiva River of Orange and Seminole Counties. This small system has its sources in Seminole and Rock Springs in Orange County and in Wekiwa [*sic*] and Sanlando Springs in Seminole County. These are all sulphur springs, and each supports endemic species of Hydrobiidae. Specimens of *Elliptio icterina* (Conrad) from these springs