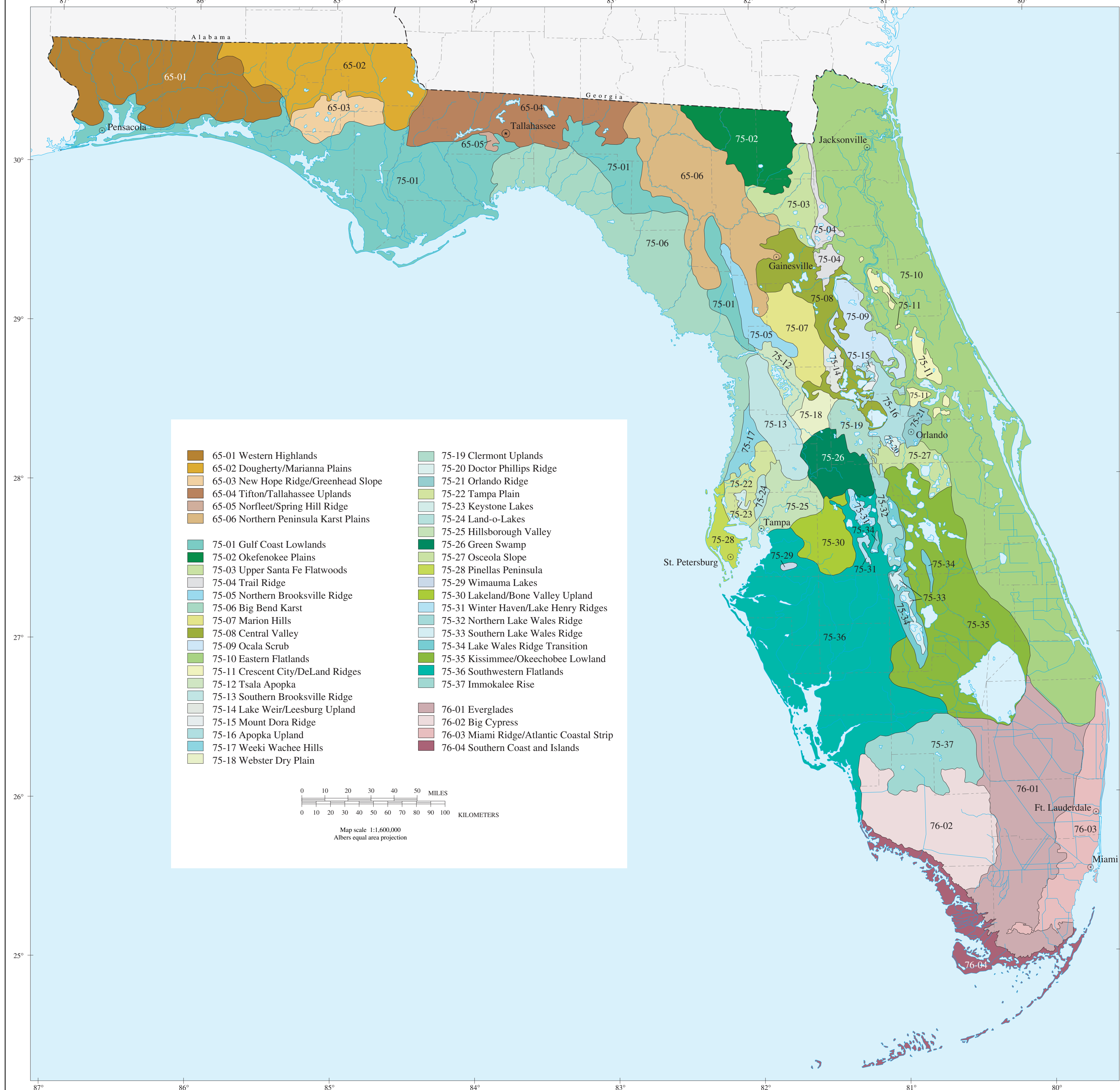


# Lake Regions of Florida

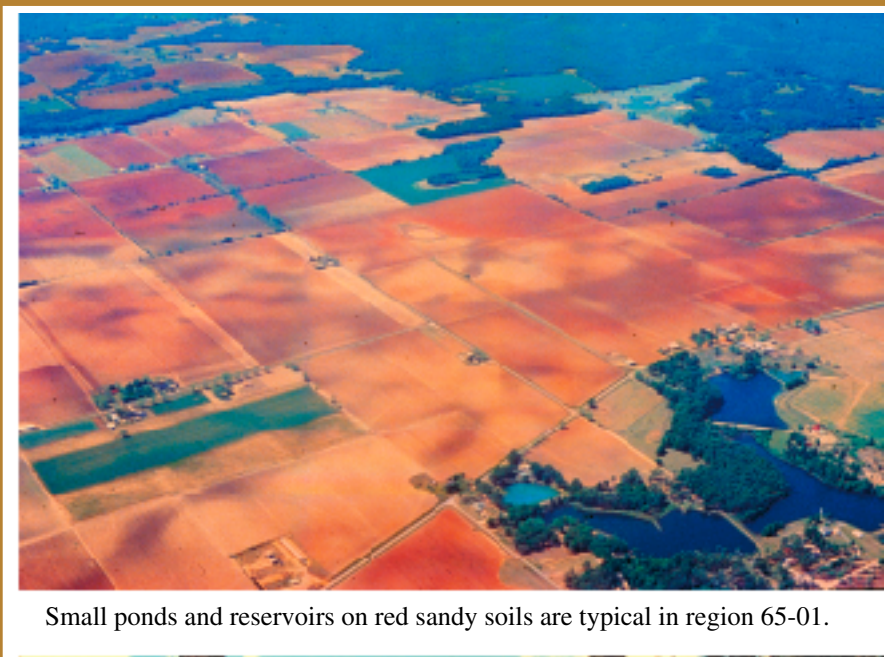
Florida's lakes provide important habitats for plants, birds, fish, and other animals, and comprise a valuable resource for human activities and enjoyment. More than 7,000 lakes are found in Florida, and they occur in a variety of ecological settings. The physical, chemical, and biological diversity of these lakes complicates lake assessment and management. In many states, it has been shown that water resources can be managed more effectively if they are viewed within a regional framework that reflects differences in their quality, quantity, hydrology, and their sensitivity or resilience to ecological disturbances. To develop cost-effective lake management strategies that protect or restore water quality in Florida, lakes, regional differences in the capabilities and potentials of lakes must be considered. Hydrologic unit or basin frameworks are often used for water quality assessments and ecosystem management activities, but these units or basins do not correspond to the spatial patterns of characteristics that influence the physical, chemical, or biological nature of Florida lakes.

General patterns of geology and physiography have been used previously to explain regional differences in Florida lake water chemistry (Canfield and Hoyer 1988; Polman and Canfield 1991), and ecosystem characteristics of Florida lakes have been summarized (Brenner et al.

1990). Building on this work, as well as on a Florida ecoregion framework (Griffith et al. 1994), we have defined these forty-seven lake regions as part of the Florida Department of Environmental Protection's (FL DEP) Lake Bioassessment/Regionalization Initiative. The spatial framework was developed by mapping and analyzing water quality data sets in conjunction with information on soils, physiography, geology, hydrology, vegetation, climate, and land use/cover data, as well as relying on the expert judgment of local limnologists and resource managers. This framework delineates regions within which there is homogeneity in the types and quality of lakes and their association with landscape characteristics, or where there is a particular mosaic of lake types and quality. More detailed descriptions of methods, materials, and lake region characteristics can be found in Griffith et al. (1997). The identifier for each lake region consists of two numbers: the first number (65, 75, or 76) relates to the United States Environmental Protection Agency (US EPA) ecoregion number (Omernik 1987; US EPA 1997), and the second number refers to the Florida lake regions within an ecoregion. The Florida lake regions and associated maps and graphs of lake chemistry are intended to provide a framework for assessing lake characteristics, calibrating predictive models, guiding lake management, and framing expectations by lake users and lakeshore residents.



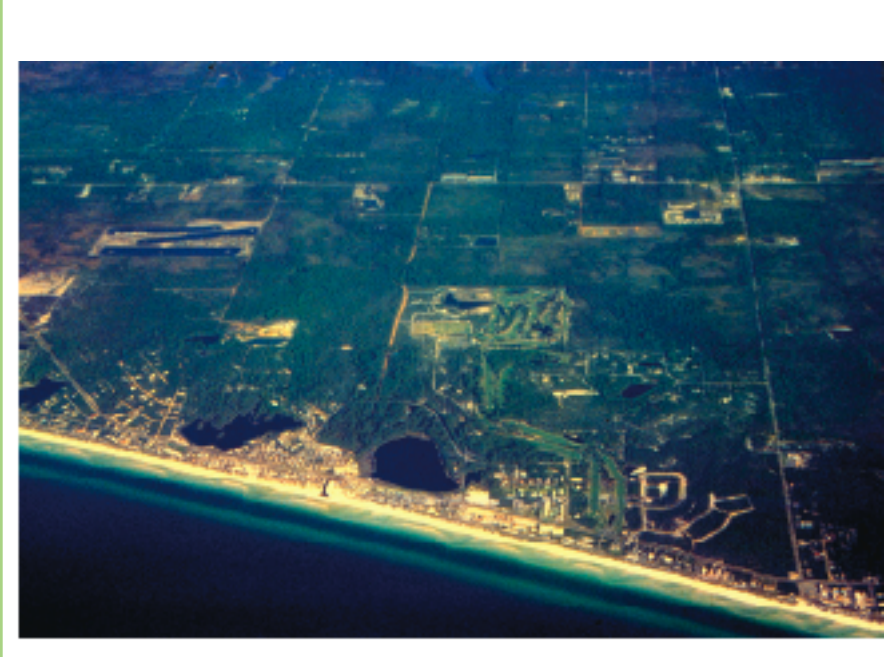
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The rolling hills of the Western Highlands lake region are covered by mixed hardwood and pine forest, with some cropland and pasture. It is a region of streams, but very few natural lakes. The region contains some oxbow lakes and other lowland lakes of the river floodplains. A few ponds and small reservoirs for cattle or recreation have been created by damming up small drainage. Similar to the streams of the region that feed these small reservoirs, they would generally provide softwater, low to moderate nutrient lakes, if lake management inputs were low. However, most lakes in this region, including Karst, Hurricane, and Bear Lakes, are being artificially limed and fertilized in an attempt to increase fish production. Phosphorus values have increased for some of these lakes from the 10-20 µg/L range in the 1970s to more than 70 µg/L in the 1980s.



Small ponds and reservoirs on soil sandy soils are typical in region 65-01.



The New Hope Ridge/Greenhead Slope is an upland sand ridge region, 100-300 feet in elevation, with a relatively high density of solution lakes for the Florida Panhandle. Similar to other well-drained upland sand ridge areas in Florida, the region is a high recharge area for the Florida aquifer. It contains clear, acidic, softwater lakes of extremely low mineral content. The lakes are very low in magnesium and phosphorus, low in chlorophyll *a*, and are among the most oligotrophic lakes in the United States. Many of the lakes in the Trail Ridge region (75-04), these are among the most acid-sensitive lakes in Florida. Lakes connected to stream drainages, such as Black Double Lake and Lighter Log Lake in Washington County are more colored.



Some coastal dune lakes in 75-01 contain freshwater fish, with saltwater fish in the more saline bottom layers.



Sporadic for largemouth bass, bluegill, and black crappie as an important recreational activity on Florida lakes. (Lake Crosby, 75-03)



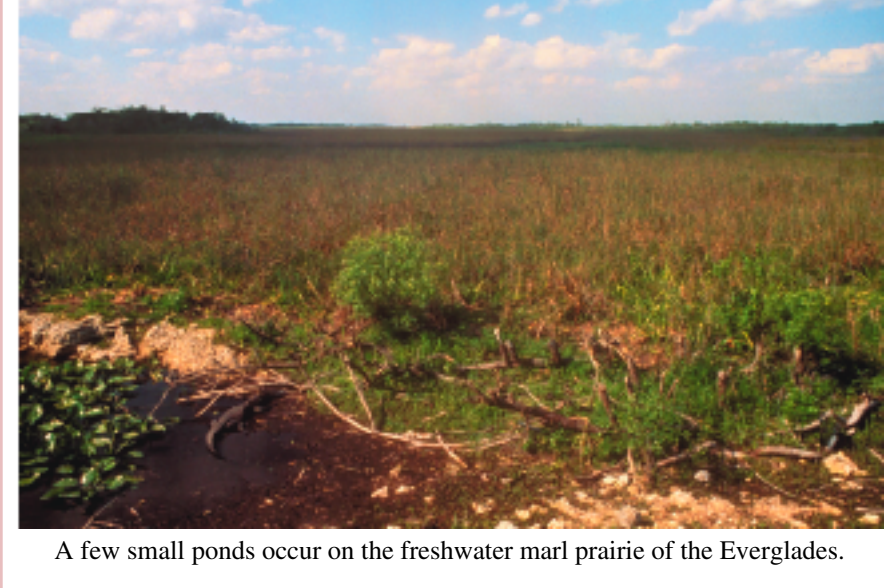
White quartz sand surrounds crystal-clear Shear Lake and other acidic lakes in the Trail Ridge region, 75-04.



Aquatic plants and algal mats are found on many of the eutrophic lakes of the Central Valley, 75-08. (Lochsnoo Lake)



Marshes near Lake Apopka and Lake Griffin in region 76-01, were channelized and drained, as well as near Lake Okeechobee in region 76-01, were channelized and drained for use as cropland on the dark, muck soils.



Sellers Lake is one of many acidic, clear lakes in the Ocala National Forest, 75-09.

**65-01** The rolling hills of the Western Highlands lake region are covered by mixed hardwood and pine forest, with some cropland and pasture. It is a region of streams, but very few natural lakes. The region contains some oxbow lakes and other lowland lakes of the river floodplains. A few ponds and small reservoirs for cattle or recreation have been created by damming up small drainage. Similar to the streams of the region that feed these small reservoirs, they would generally provide softwater, low to moderate nutrient lakes, if lake management inputs were low. However, most lakes in this region, including Karst, Hurricane, and Bear Lakes, are being artificially limed and fertilized in an attempt to increase fish production. Phosphorus values have increased for some of these lakes from the 10-20 µg/L range in the 1970s to more than 70 µg/L in the 1980s.

**65-02** The Dougherty/Marianna Plains lake region is an eroded limestone area that is generally more flat than the regions to the east and west, with agriculture as a dominant land use. Elevations range generally 100 to 200 feet, but include Florida's high point of 345 feet in northwest Walton County. The Florida aquifer is at or near the surface in much of the region. The solution activity on the limestone bedrock has formed numerous sinks, caverns, springs, and other sink features. Many of these sink features are associated with upland bays, dune swamps, or gum ponds, contain ponds or small lakes surrounded by cypress trees and other hydrophytic vegetation. The limestone is exposed in some areas, but in other areas, sands and clayey sands reach thicknesses over 200 feet. The chemical characteristics of the solution lakes are generally softwater, low to moderate nutrient, with variable nutrients, color, and clarity. Many of these lakes are more acidic and dark. The limestone is exposed in some areas, but in other areas, sands and clayey sands reach thicknesses over 200 feet. The chemical characteristics of the solution lakes are generally softwater, low to moderate nutrient, with variable nutrients, color, and clarity. Many of these lakes are more acidic and dark. The limestone is exposed in some areas, but in other areas, sands and clayey sands reach thicknesses over 200 feet. The chemical characteristics of the solution lakes are generally softwater, low to moderate nutrient, with variable nutrients, color, and clarity. Many of these lakes are more acidic and dark.

**65-03** The New Hope Ridge/Greenhead Slope is an upland sand ridge region, 100-300 feet in elevation, with a relatively high density of solution lakes for the Florida Panhandle. Similar to other well-drained upland sand ridge areas in Florida, the region is a high recharge area for the Florida aquifer. It contains clear, acidic, softwater lakes of extremely low mineral content. The lakes are very low in magnesium and phosphorus, low in chlorophyll *a*, and are among the most oligotrophic lakes in the United States. Many of the lakes in the Trail Ridge region (75-04), these are among the most acid-sensitive lakes in Florida. Lakes connected to stream drainages, such as Black Double Lake and Lighter Log Lake in Washington County are more colored.

Many clearwater lakes are found in region 65-03, and a few clearwater lakes, such as Lake Cassidy, occur in 65-02.

**75-01** Several types of lakes occur in the Gulf Coast Lowlands lake region, including coastal dune lakes, flatwood lakes, "edge lakes", river floodplains or oxbow lakes (Dead Lake), and reservoirs (Deer Point Lake). Most of the lakes tend to be darkwater, acidic, softwater lakes with low to moderate nutrients. Coastal dune lakes have higher sulfate, sodium, and chloride levels than inland lakes, and can freshen or turn salty depending on rainfall, saltwater input, or salt spray. Flatwood lakes receive the majority of their water from direct rainfall and runoff from surrounding poorly drained soils. Sag ponds or "edge lakes" are found at the foot of relict marine terraces spurs or where soluble limestone that is near the surface abuts an upland of thick insoluble sands. An example is Chunky Pond near the western edge of the Northern Brooksville Ridges (75-05).

**75-02** The Okefenokee Plains lake region consists of flat plains and terraces with pine flatwoods and swamp forests over peat, muck, clayey sand, and phosphatic deposits. The few lakes in the region are primarily in the southern part, and include Ocean Pond, Palestine Lake, Swift Creek Pond, and Lake Fisher. These are highly acidic, darkly colored, softwater lakes. The region's median pH value of 4.7 is the lowest of all the Florida lake regions. Although Ocean Pond is one of Florida's most acidic lakes, it supports a sustained sport fishery for largemouth bass, black crappie, bluegill, and other centrarchids. Phosphorus values for the lakes are generally in the 10-20 µg/L range, but Swift Creek Pond has higher phosphorus values and there may be other phosphatic areas surrounding limestone plains areas. Several ponds are located west of Archer and another group of lakes in the southern end in the Rainbow Lakes Estates area. These lakes are generally acidic, with moderately low nutrients and color.

**75-03** The Upper Santa Fe Flatwoods region, with elevations generally 120-180 feet, is an area of pine flatwoods with some swamp forests. Lakes in this region include Alto, Butler, Crosby, Hampton, Hickory Pond, Little Santa Fe, Punchbowl, Rowell, Sampson, and Santa Fe. The lakes occur on thin Plio-Pleistocene sediments that overlie the deeply weathered sand and kaolinitic clay of the Miocene Hawthorn Group. The lakes of the region are slightly acidic, colored, with low to moderate nutrients. The pH and alkalinity levels are slightly higher than the Okefenokee Plains (75-02) to the north, and phosphorus levels of the lakes are relatively low, averaging in the 10-15 µg/L range. Lakes Rowell and Sampson have different water chemistry values due to wastewater treatment plant discharges from the city of Starke via Alligator Creek.

**75-04** From a narrow ridge in the north, the Trail Ridge lake region broadens to the south, becoming a karstic landscape with numerous solution depressions and lakes. The region is dominated by well-drained, nutrient-poor upland soils, such as the Candler, Apopka, Astutula, and Tavares series, with longleaf pine-xerophytic oak vegetation. Lakes in the Trail Ridge region are mostly small, acid, clear, oligotrophic lakes. To the south, conductance and macrophytes in the lakes tend to increase. Atmospheric deposition might be contributing to some acidification of lakes in this region. Kingsley Lake is one of the largest lakes in the region and one of the deeper lakes in Florida. It differs from other Trail Ridge lakes, with higher pH, alkalinity, and a different cation/anion mix that reflects groundwater inputs.

**75-05** The Northern Brooksville Ridge region has an irregular land surface, with elevations varying over short distances from about 75 feet to 150 feet, with rolling hills and small depressions. The natural vegetation of longleaf pine and turkey oak. Soils are of the Candler-Apopka-Astutula association. The thick sand sequence is underlain by clayey phosphatic sediments of the Alachua Formation. It is this underlying relatively insoluble Miocene-age clastics that provide the rock's resistance to solution and lowering of elevation compared to surrounding limestone plains areas. Several ponds are located west of Archer and another group of lakes in the southern end in the Rainbow Lakes Estates area. These lakes are generally acidic, with moderately low nutrients and color.

**75-06** In the Big Bend Karst region, Miocene to Eocene-age limestone is at or near the surface from eastern Wakulla County south to Pasco County. The inland parts of the region are typified by pine flatwoods and swamp forest on poorly drained Spodosol soils. The Big Bend coast is characterized by coastal salt marshes and mangrove, rather than the barrier islands or beaches of the Gulf Coast Lowlands (75-01). Reflecting the limestone influence, pH, alkalinity, and conductivity values in lakes are very high for this part of Florida. Nutrients are moderately low and lake color is variable but often low. Lake Rousseau is a large reservoir on the Whiteoaks River at the Levy/Citrus county line, and generally has an abundance of hydrilla plant growth.

**75-07** The Marion Hills lake region, generally 75-180 feet in elevation, is an area of horse farms, pasture for cattle, cropland and mixed evergreen and deciduous hardwood forests. Miocene-age Hawthorn Group sediments of clayey sands compose much of the hills system, with the Eocene-age Ocala Limestone near the surface in much of the intervening karst terrain. The region has few if any lakes, but contains about a dozen small ponds and some wet prairie areas. Pond chemistry is likely to be alkaline in locations influenced by the near-surface limestone, and less so for lakes in the hilly Hawthorn sands.

**75-08** Central Valley lakes tend to be large, shallow, and eutrophic, although lake size and type are variable. The lakes tend to have abundant macrophytes or are green with algae. Total phosphorus values are mostly in the 20-80 µg/L range, alkalinity values range widely, and pH values are generally greater than 6.5. The northern lakes in sandy deposits, such as Lake Eaton, Lochsnoo Lake, Newnans Lake, Orange Lake, and Lake Wauberg, are characterized as softwater eutrophic lakes, and tend to have lower pH and darker water than the southern lakes. The southern lakes, such as Apopka, Carrizo, Egan, Harris, Estis, Yale and Griffin, have higher nutrients and receive mineralized groundwater as well as surface inflows through nutrient-rich soils, and are eutrophic to hypertrophic hardwater lakes. Canals have altered the natural flow patterns for many of these southern lakes in the Oklawaha chain, and agricultural activities at the muck soils, along with municipal and industrial wastes, have added chemicals and nutrients to the connected surface water system.

**75-09** The Ocala Scrub is a region of ancient dunes with excessively dried, sandy soils (Candler and Astutula series) and sand pine scrub forests. The western two-thirds of the region is underlain by deeply weathered Miocene-age Hawthorn Group deposits, and contains more clayey sand with areas of longleaf pine and turkey oak. Elevations range from 75-180 feet. The eastern portion is lower in elevation and contains medium to fine sand and silt developed on Pleistocene-age sand dunes. The Ocala Scrub contains acid, moaly, clearer, low-nutrient lakes. The clear lakes are generally on the highly sandy ridges, moderate color lakes are in lower positional areas, and some prairie lakes can have darker water.

**76-01** Due to landform variety and latitudinal extent, the Eastern Flatlands forms a diverse lake region. It is ribbed by low sand ridges, intervening valleys, and swampy lowlands that parallel the coast. The St. Johns River and its associated large lakes are the dominant physical features of the area. There are a mix of different lake types in the region. The St. Johns River lakes tend to be alkaline, hardwater, eutrophic, colored lakes. To the south, the upper St. Johns marsh lakes are also alkaline, mesotrophic to eutrophic, darkwater lakes, but the chemical characteristics are somewhat lower than in the north. Flatwoods lakes in the region are acid to slightly acid, colored, softwater lakes of moderate mineral content, with variable trophic states. Coastal ridge lakes and dredged "build" ponds are found along the more populated seaboard area.

**76-02** The Crescent City/Deland Ridges lake region includes several upland ridges such as Palatka Hill, Crescent City Ridge, Deland Ridge, and the Geneva-Chulotoa-Oviedo Sandhills. Thick sandy soils of the Candler and Astutula series are typical, with natural vegetation of longleaf pine/xerophytic oak forests and some sand pine scrub forests. Many lakes in the region are clear, oligotrophic lakes of low mineral content that obtain the majority of water from direct rainfall and surface/subsurface inflows through well-drained sandy soils. More mesotrophic lakes of moderate mineral content that receive inputs of groundwater also occur. Some lakes at the edge of the ridges receive water inputs from poorly-drained soils, and are included with the darker, small shallow of the Eastern Flatlands (75-10).

**75-11** The Lake Weir/Leesburg Upland region, with elevations generally 75-125 feet, stretches from Lake Weir Lake to the north to the city of Leesburg in the south. Soils are mostly sandy, well-drained Candler, Apopka, and Astutula series, and the underlying material consists of deeply weathered clayey sand of the Miocene Hawthorn Group. The natural vegetation was primarily longleaf pine and xerophytic oaks. Lake Weir is the largest lake in the region and there are numerous small lakes among citrus groves. These are generally clear, to neutral, low nutrient lakes.

**75-12** Tslala Apopka is an erosional valley with thin surficial sands over Eocene-age Ocala Limestone. Limestone is at the surface on the east side of the Whiteoaks River within the region. Tslala Apopka Lake to the west of the Whiteoaks River is an area of clear, oligotrophic lakes, marshes, ponds and lakes. There are generally three open-water pool areas: the Floral City Pool, the Inverness Pool, and the Hernando Pool. The "lake" gets shallower and turns to marsh as one moves east. Tslala Apopka water bodies are alkaline, hardwater, eutrophic and eutrophic. The average lake pH is often greater than 7.5. Color decreases and conductivity increases as one moves from the Floral City Pool in the south to Hernando Pool in the north.

**75-13** The Southern Brooksville Ridge region has a very irregular surface, similar to the Northern Brooksville Ridge (75-05), but reaches higher elevations, with several hills between 200 and 300 feet. These hills, known as the hills are often covered by hammock, turkey oak, and longleaf pine vegetation communities, and drainage is generally internal to the Florida aquifer. Orange to reddish-orange clayey sands occur the length of the ridge and cap many of the hills in the central Brooksville region. The lakes tend to have higher pH, alkalinity, conductivity and nitrogen than lakes in the Northern Brooksville Ridge. Although a few lakes are acidic, most are neutral to alkaline, slightly colored, mesotrophic or meso-eutrophic lakes. Some lake phosphorus values appear low due to dense aquatic macrophyte growth.

**75-14** The Lake Weir/Leesburg Upland region, with elevations generally 75-125 feet, stretches from Lake Weir Lake to the north to the city of Leesburg in the south. Soils are mostly sandy, well-drained Candler, Apopka, and Astutula series, and the underlying material consists of deeply weathered clayey sand of the Miocene Hawthorn Group. The natural vegetation was primarily longleaf pine and xerophytic oaks. Lake Weir is the largest lake in the region and there are numerous small lakes among citrus groves. These are generally clear, to neutral, low nutrient lakes.

**75-15** The Mount Dora Ridge lake region is composed of high sand hills, 75-180 feet in elevation, with well-drained acid soils of the tamlia and Apopka series. There are many small, circumneutral, clear lakes of low color, low nutrient, low chlorophyll *a*, and moderate alkalinity. Nutrient and color values tend to be slightly less than the adjacent Apopka Upland (75-16), and pH, alkalinity, and conductivity are higher than the Lake Weir/Leesburg Upland (75-14).

**75-16** The Apopka Upland region consists of residual sand hills modified by karst processes, with many small, 75-16 lakes and scattered flatwoods. Candler, Apopka, and Tavares are typical well-drained upland soils, and elevations range from 70-150 feet. The physical and chemical characteristics of the lakes are varied, and lake water levels can fluctuate during drought periods. There are a few acidic, acid, softwater lakes of low mineral content, but most are neutral to alkaline, clear lakes with low to moderate nutrients. Some of the higher nutrient lakes may lack macrophytes. Darker water lakes that are circumneutral to alkaline also occur.

**75-17** The Weeki Wache Hills area is an area of Pleistocene sand dunes, 20-80 feet in elevation, with numerous solution basins. The region includes mostly upland-type, well-drained sandy soils, such as Candler, Astutula, and Tavares series and natural vegetation of longleaf pine/turkey oak and sand pine scrub. The lakes have circumneutral pH, with moderately low alkalinity and nutrients, and low chlorophyll *a* values. Nutrient values are slightly lower than the adjacent Southern Brooksville Ridge (75-13). Although some have slight color, these are mostly clearwater lakes.

**76-01** The Everglades lake region begins south of Lake Okeechobee to include the Everglades Agricultural Water, tree-lands, and marsh prairies, with cropland in the north, ranges in elevation from sea level to twenty feet. Peat, muck, and some clay are the main surficial materials over the limestone. Wide sloughs, marshes, and some small ponds contain most of the surface water in this "River of Grass" region. Canals drain much of the water in some areas.

**76-02** The Big Cypress is a flat region, 5 to 30 feet in elevation and slightly higher than the Everglades, covered by pine flatwoods, open scrub cypress, prairie type grasslands, and extensive marsh and woodlands. Poorly drained soils overlie limestone, calcareous sandstones, muck, swamp deposit mucks, and algal muds. Lakes are generally absent in the region.

**76-03** The Miami Ridge/Atlantic Coastal Strip is a heavily urbanized region, sea level to 25 feet in elevation, with coastal ridges on the east and flatter terrain to the west (Everglades). The western side originally had wet and dry prairie marshes and oak and sawgrass marshes, but much of that is now covered by cropland, pasture, and suburbs. To the south, the Miami Ridge extends from near Hollywood south to Homestead and west into Long Pine Key Everglades National Park. It is a gently rolling rock ridge of oolitic limestone that once supported more extensive southern slash pine forests and islands of tropical hardwood mangroves. The northern part of the region is a plain of pine flatwoods and wet prairie, and coastal sand ponds with scrub vegetation and sand pine. There are very few natural lakes in the region, but three types of ponded surface waters occur: 1) This deep input into underlying "rock" containing water that is clear, high pH and alkaline, with moderate nutrients. Lake Trufford is the largest lake in the region. It is an oligotrophic lake with minimal content and high nutrients. There are a few other lakes in the region, and these tend to be small, swampy, and seasonal.

**76-04** The Southern Coast and Islands region includes the Ten Thousand Islands and Cape Sable, the islands of Florida Bay, and the Florida Keys. It is an area of mangrove swamps and coastal marshes, coral reefs, various coastal strand type vegetation on beach ridge deposits and limestone rock islands. Although freshwater habitats are limited or non-existent in this region, any freshwater that does occur for periods of time may have great ecological significance. Coastal rockland lakes are small in size and number, occurring primarily in the Florida Keys. These waters are alkaline, with high mineral content and highly variable salinity levels. The rockland lakes provide important habitat for several kinds of fish, mammals, and birds of the Keys. Reductions in the fresh groundwater lens that flows on the denser sand ground-water can severely affect these lakes.

**65-04** The characteristics of the Titton/Tallahassee Uplands region change distinctly from west to east. The region contains a heterogeneous mosaic of mixed forest, pasture, and agricultural land. The dissected Titton Upland in the western part of the region has few if any natural lakes, but many small ponds and reservoirs created on stream channels. The southwest part of the region consists of thick sand delta deposits and contains one small reservoir, Lake Myrtle (Levy County), and a large reservoir, Lake Talquin (impounded in 1929), the second-oldest large reservoir in Florida. To the east of the Ocklawaha River, in Leon County, karst features are more evident with many solution basins, swampy depressions and some large swamp lakes. Some lakes, such as James and Hooked Island drain periodically when their karst drainage system becomes impinged. Lakes in this region tend to be slightly acidic to neutral, colored, softwater lakes with moderate nutrient levels. Some lakes have high pH and conductivity values because groundwater is pumped in to counteract draining.

**65-05** The Norfle/Spring Hill Ridge lake region contains small upland, clear, low-nutrient, acidic lakes that differ from the darker, swampy, moderate nutrient lakes of the Titton/Tallahassee Uplands (65-04) and Gulf Coast Lowlands (75-01). The region has an erosional area of acidic lakes, and the hills of the Gulf Coast Lowlands, with elevations generally 60-120 feet. Acid-tolerant aquatic plants are found here, as most of the lakes have pH levels less than 5.5. Some lakes and ponds show some color associated with rain events, especially Moore Lake and Lofton Ponds.

**65-06** The Northern Peninsula Karst Plains region is generally a well-drained flat to rolling karst upland containing a diverse group of small lakes. The natural vegetation consists of broadleaf mixed hardwood or hardwood forests on the richer soils, but agriculture is now extensive in much of the region. With some areas underlain by the geologically diverse Miocene Hawthorn Group or by undifferentiated Quaternary sediments, nutrient levels are variable, but many lakes have high phosphorus. The region's nutrient values are some of the highest in northern Florida. Many of the lakes are located in an area between Live Oak and Lake City. Groundwater connections as well as human activities elevate the conductivity and phosphorus in some lakes around Lake City. The mosaic of lake types in this region has a wide-ranging distribution of chemical and physical characteristics, but in general the lakes tend to be slightly acidic, with low to moderate alkalinity, high nutrients, and some color.

Lake conditions vary in this suburbanized residential area north of Tallahassee, occur in 65-04.

**75-18** The low-relief Webster Dry Plain, with elevations generally 75-125 feet, has only a thin veneer of sand or clayey sand over the Ocala Limestone and contains few lakes. The drainage is primarily internal, and during wet years and high water tables shallow, temporary lakes exist in the solution depressions. The small shallow lakes can vary widely in their characteristics; some having high pH, alkalinity, and conductivity with variable nutrients, color, and clarity, while other prairie lakes are more acidic and dark.

**75-19** The Clermont Uplands is a region of prairies, swampy solution lakes, and low to high sand hills covered by citrus groves. Elevations range from 100 feet in the lower swamp and prairie areas to 300 feet on the highest hills of the Sugar Loaf Mountains. The natural vegetation consists of pine flatwoods, water-tolerant grasses, and hardwood swampy forests in the lowlands, and longleaf pine/xerophytic oaks on the well-drained uplands. Lakes of this region tend to be slightly acidic, softwater lakes that are oligotrophic to slightly mesotrophic. Some lakes have low color and high Secchi values, while other lakes that receive drainage from the Green Swamp (75-26, such as Lake Lousia, are very dark.

**75-20** Doctor Phillips Ridge is a small ridge of thick sands with elevations of 100-170 feet, and contains over 30 solution depression lakes. The sandy soils of the Tavares-Zolfo-Milho Formation are predominant. The lakes in this region are generally clear, circumneutral, and low in nutrients. As a group, these are some of the clearest lakes in central Florida. The clearer lakes tend to be deeper than those in the region, and the slightly darker lakes, such as Lake Sheen, are lower in elevation or have wetter, lowland-type soils near the lake. Lake Floy is