

turkey oak. Soils are of the Candler-Apopka-Astatula association. The thick sand sequence is underlain by clayey phosphatic sediments of the Alachua Formation (Scott et al 1980). It is these underlying relatively insoluble clastics that provide the ridge's resistance to solution and lowering of elevation compared to surrounding limestone plains areas (Knapp 1978; Scott et al. 1980). Brooks (1981a) mapped these Miocene-age clastics as Hawthorn Formation of the Statenville type.

Several ponds are located west of Archer (Horseshoe, Watermelon, Barrel, Gossman, Cubberly, Jake White) and another group of lakes is located in the southern end in the Rainbow Lakes Estates area (Sand Pond, Little Bonable Lake, Bonable Lake, Tiger Lake, Lindsley Lake, Turner Lake, Section Sixteen Lake). Brooks (1981a,b) puts these southern lakes on Plio-Pleistocene "terrace deposits" in the Waccasassa Flats flatwoods physiographic subdistrict. Data from Bonable, Dinner, Section Sixteen, Tiger, and Watermelon Pond indicate generally acidic lakes with moderately low nutrients and moderate color. Bonable Lake has the darkest color, highest nutrients, and highest alkalinity in the region, but is still slightly acidic.

75-05 Northern Brooksville Ridge Lake Values

Mean Value	pH (lab) n=5	Total Alkalinity (mg/l) n=5	Conductivity (μ S/cm @ 25°C) n=5	Total phosphorus (μ g/l) n=5	Total Nitrogen (μ g/l) n=5	Chlorophyll_a (μ g/l) n=5	Color (pcu) n=5	Secchi (m) n=3
minimum	4.8	0.0	31	5	293	1.7	21	0.5
25th %	4.8	0.0	33	8	573	2.1	23	-
median	5.0	0.0	49	31	660	12	26	0.9
75th %	5.8	0.6	49	34	840	24	35	-
maximum	6.1	1.1	54	42	953	26	85	2.4

75-06 Big Bend Karst

In this 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, with some areas of mixed pine and hardwood forest. 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 generally low. Lake Rousseau is a large reservoir located on the Withlacoochee River at the Levy/Citrus county line. Sediments, nutrients, and bacteria are added to this lake from human activities, and abundant hydrilla growth occurs (Hand et al. 1994).

75-06 Big Bend Karst Lake Values

Mean Value	pH (lab) n=6	Total Alkalinity (mg/l) n=6	Conductivity ($\mu\text{S}/\text{cm}@25^\circ\text{C}$) n=6	Total phosphorus ($\mu\text{g}/\text{l}$) n=9	Total Nitrogen ($\mu\text{g}/\text{l}$) n=7	Chlorophyll_a ($\mu\text{g}/\text{l}$) n=7	Color (pcu) n=6	Secchi (m) n=7
minimum	7.1	29	81	7	260	1	14	1.1
25th %	7.5	91	201	12	378	1.2	19	1.8
median	7.9	105	230	18	480	1.4	29	2.0
75th %	8.4	136	280	32	517	2.2	62	2.2
maximum	11.7	234	468	48	863	11	105	3.6

75-07 Marion Hills

This lake region corresponds closely with Brooks' (1981b; 1982) Marion Hills region that includes the Fairfield Hills, Anthony Hills, Kendrick Hills, Ocala Hills, and Cotton Plant Hills. Elevations are generally 75-180 feet with some higher hills, and the natural vegetation was primarily mixed evergreen and deciduous hardwood forests. Miocene-age Hawthorn Group sediments of clayey sands compose much of the hill systems, with the Eocene-age Ocala Limestone (or Crystal River Formation) near the surface in much of the intervening karst terrain (Knapp 1978a; Brooks 1981a).

The region has few if any lakes, but contains about a dozen small ponds and some wet prairie areas. Many of the small ponds are located in the area between Blichton and Cotton Plant. These appear to be associated with soils of the Sparr-Lochloosa-Tavares association that are not as well drained as other upland soils in the area. Bird Pond near Cotton Plant was sampled in the ELS (Kanciruk 1986). Influenced by the near-surface limestone, it had high pH and alkalinity, with low to moderate total phosphorus and color. Small ponds located on the hilly Hawthorn sands would likely have a different chemistry, although there appear to be fewer of these. Thus, while lake resources are not an important characteristic of this region, the pond chemistry types may show a bi-modal distribution. Lillian is a Lakewatch lake in Marion County that shows higher nutrient levels.

75-07 Marion Hills Lake Values

Lake	pH (lab)	Total Alkalinity (mg/l)	Conductivity ($\mu\text{S}/\text{cm}@25^\circ\text{C}$)	Total phosphorus ($\mu\text{g}/\text{l}$)	Total Nitrogen ($\mu\text{g}/\text{l}$)	Chlorophyll_a ($\mu\text{g}/\text{l}$)	Color (pcu)	Secchi (m)
Bird Pond	8.5	166	313	11	-	-	30	1.2
Lillian	-	-	-	137	2088	101	-	0.6

75-08 Central Valley

This lake region is more similar to the physiographic divisions made by White (1970) than those of Brooks (1981b), but it includes several physiographic areas and geologic types. Our intent was to enclose an area where the lake types, chemistry, and productivity were similar, but the lakes' sites and situations are variable, and they may have reached their conditions for different physical reasons. In general, lakes of this region tend to be large, shallow, and eutrophic: nitrogen, phosphorus, and chlorophyll-a levels are high, and

Secchi disk transparency is low. The lakes tend to have abundant macrophytes or are green with algae. The wide range of values shown in the table below underscores the fact that lake water characteristics within the region, as well as lake size and type, are variable. Most of the phosphorus values are in the 20 to 80 $\mu\text{g/l}$ range with a median of 40 $\mu\text{g/l}$, but the range is extreme. Alkalinity values are generally greater than 10 mg/l , but can range from less than 5 to greater than 100 mg/l ; pH values are mostly greater than 6.5. Canfield (1981) found that much of the variability could be explained by dividing the lakes into two groups: low mineral content and high mineral content. This relates to geologic influences, although anthropogenic inputs and watershed size to lake volume ratios need to be considered. The northern lakes in sandy deposits, such as Lake Eaton, Lochloosa Lake, Newnans Lake, Orange Lake, and Lake Wauberg, were characterized as the softwater eutrophic lakes, and tend to have lower pH and darker water than the southern lakes. The southern lakes, such as Apopka, Dora, Eustis, Griffin, Harris, and Yale, often receive mineralized groundwater as well as surface inflows through nutrient-rich soils, and were classified as eutrophic hardwater lakes.

In the north, the lakes and marshes in the Alachua Prairies/Gainesville area occur on either a limestone plain of the Eocene-age Ocala Limestone, on some clayey sand and pebbles of the Hawthorn Group, or on fine to medium sands, silts and clays of Plio-Pleistocene age. The small to medium scale geology references show different interpretations of the spatial extent of these geologic formations in this area (Brooks 1981a; Knapp 1978a; Thomas et al. 1983; Scott et al. 1986; Pirkle and Brooks 1959). The prairies and lakes are around 60 feet in elevation and are associated with groundwater levels. Several of the relatively large drainage lakes, such as Newnans, Orange, and Lochloosa in the north, are structurally controlled. Structural controls on these lakes can increase the accumulation of sediment and nutrient-rich detritus, affecting the lake ecosystem's depth, clarity, plant communities, and productivity (Gottgens and Crisman 1993).

In the south, lakes Apopka, Carlton, Beauclair, Dora, Harris, Eustis, Yale and Griffin, are part of the Oklawaha chain of lakes. In this part of the Central Valley the water table is within a few feet of the land surface and the potentiometric surface of the Floridan Aquifer can be above the land surface (Bush 1974). Canals have altered the natural flow patterns and agricultural activities on the muck soils have added chemicals and nutrients to the connected surface water system. Lake Apopka has historically received large amounts of industrial, agricultural, and urban wastes, and with lakes Dora, Eustis, and Griffin are considered hypereutrophic and of poor quality (Hand and Paulic 1992).

We have extended the lake region westward across the Lake Harris Cross Valley (White 1970), to include lakes Deaton, Miona, and Panasoffke in Sumter County. Lake Panasoffke, with aquifer-fed springs, has high pH, hardness, and low to moderate nutrients. It is sometimes included with the Tsala Apopka chain (region 75-12). Panasoffke has stabilized water levels due to a dam on the outlet, and it also receives limestone mining discharges (James Hulbert, FL DEP, personal communication).

75-08 Central Valley Lake Values

Value	pH (lab) n=44	Total Alkalinity (mg/l) n=44	Conductivity (μS/cm @ 25°C) n=44	Total phosphorus (μg/l) n=46	Total Nitrogen (μg/l) n=45	Chlorophyll_a (μg/l) n=46	Color (pcu) n=44	Secchi (m) n=42
minimum	4.3	0.0	36	6	373	1	7	0.2
25th %	6.5	6.8	64	20	900	6	24	0.4
median	7.0	16.1	98	40	1400	22	40	0.7
75th %	8.6	105.1	276	77	2462	80	100	1.3
maximum	9.7	129	590	384	4393	382	700	2.9

75-09 Ocala Scrub

This is a region of ancient dunes with excessively drained deep sandy soils and sand pin 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 (Brooks 1981a, 1982; Scott 1979). Elevations range from 75-180 feet. The eastern portion is lower in elevation and contains medium to fine sand and silt developed on the Pleistocene sand dunes. Common soil series across the region are Candler and Astatula. The Ocala Scrub contains acid, mostly clearwater, low-nutrient lakes. The clear lakes are generally on the higher sandy ridges, moderate color lakes are in lower transitional areas, and some prairie lakes can have darker water.

75-09 Ocala Scrub Lake Values

Mean Value	pH (lab) n=57	Total Alkalinity (mg/l) n=57	Conductivity (μS/cm @ 25°C) n=57	Total phosphorus (μg/l) n=61	Total Nitrogen (μg/l) n=57	Chlorophyll_a (μg/l) n=57	Color (pcu) n=57	Secchi (m) n=61
minimum	4.1	0.0	22	1	108	0.5	0	0.6
25th %	4.5	0.8	35	10	310	1.0	7	1.7
median	4.7	1.3	43	10	480	1.4	18	2.8
75th %	5.0	2.0	51	11	687	3.2	27	3.5
maximum	8.5	114.5	252	29	2040	11.0	369	5.8

75-10 Eastern Flatlands

Due to a variety of landform features and its latitudinal extent, the Eastern Flatlands forms a diverse lake region. The landform features tend to be coast-parallel, reflecting the marine forces that controlled their shape and formation. Ancient barrier islands, lagoons, dune ridges, spits, and bars have left the current region ribbed by low sand ridges and intervening valleys and swampy lowlands. The geology is a complex mix of Pleistocene sand, shell, and clay deposits, as well as areas of peats. The St. Johns River and its associated large lakes, formed in an ancient coastal lagoon system, are the dominant, physical features of the region. River vegetation changes to hardwood swamp forests north of Lake Harney from wet grassland prairies in the south (Davis 1967)

There are a mix of different lake types in the region. St. Johns River lakes tend to be alkaline, hardwater, eutrophic, colored lakes. These include lakes Harney, Jessup, Monroe, Dexter, and George, among others. To the south, the St. Johns Wet Prairie

contains marshes, grass prairie and clumps of cabbage palms. The lake basins, according to Brooks (1982), are controlled by structures in the Eocene-age Ocala limestone that underlie the fine sand, silty sand, and clayey sand of the Pleistocene lagoonal deposits. The upper St. Johns marsh lakes are also alkaline, mesotrophic to eutrophic, darkwater lakes, but the chemical concentrations are somewhat lower than in the north. These include Blue Cypress, Lake Hellen Blazes, Little Sawgrass and Sawgrass Lakes, Lake Washington, Lake Winder, Lake Poinsett. Once the St. Johns River passes north of Sawgrass Lake, inputs of mineralized water derived from marine sediments and salt springs increase in importance (McLane 1955, Canfield 1981). Brooks (1981a) shows geology changes from Ft. Thompson Group clastic and shell deposits to Princess Ann beach and dune sand and shell deposits between Lake Winder and Lake Poinsett.

Flatwoods lakes in the region are acid to slightly acid, colored softwater lakes of moderate mineral content, with variable trophic states. Other lake types include coastal ridge lakes and dredged "build" ponds that are found along the more populated seaboard area.

75-10 Eastern Flatlands Lake Values

Mean Value	pH (lab) n=39	Total Alkalinity (mg/l) n=39	Conductivity (μ S/cm@25°C) n=39	Total phosphorus (μ g/l) n=85	Total Nitrogen (μ g/l) n=84	Chlorophyll_a (μ g/l) n=84	Color (pcu) n=39	Secchi (m) n=75
minimum	4.1	0.0	36	4	101	1	3	0.3
25th %	5.0	0.5	76	17	621	4	85	0.6
median	6.6	3.4	102	26	777	9	106	0.9
75th %	7.6	46.0	420	46	1102	18	236	1.3
maximum	8.5	120.0	1111	165	2440	85	546	3.9

75-11 Crescent City/DeLand Ridges

We have included several sandy upland ridges in this lake region including, from north to south, Palatka Hill, Crescent City Ridge, Deland Ridge, and the Geneva-Chuluota-Oviedo Hills area. The parent material for the thick sand soils of these upland areas is deeply weathered Plio-Pleistocene coastal sand deposits (Brooks 1981a). Candler and Astatula are the typical soil series, and natural vegetation consisted of longleaf pine/xerophytic oak forests and some areas of sand pine scrub forests.

Our boundaries are sometimes different from physiographic boundaries in an attempt to exclude some of the lakes at the edge of the ridges that receive water inputs from poorly-drained soils, such as Lake Margaret. These lakes that have lowland-type soils may be more characteristic of the smaller darkwater lakes of the Eastern Flatlands, region 75-10. Many lakes in region 75-11 are clear, acid, oligotrophic lakes of low mineral content that obtain the majority of water from direct rainfall and surface/subsurface inflows through well-drained sandy soils (e.g., Lake Broward). Canfield (1981) proposed that other lake types on the Crescent City Ridge included mesotrophic lakes of moderate mineral content that receive inputs of groundwater (e.g., Lake Stella). In general, color values tend to increase from north to south.

75-11 Crescent City/DeLand Ridges Lake Values

Mean Value	pH (lab) n=29	Total Alkalinity (mg/l) n=29	Conductivity (µS/cm@25°C) n=29	Total phosphorus (µg/l) n=51	Total Nitrogen (µg/l) n=50	Chlorophyll_a (µg/l) n=50	Color (pcu) n=28	Secchi (m) n=46
minimum	4.2	0.0	52	0.1	118	1	1	0.4
25th %	5.7	1.3	74	7	453	3	16	1.6
median	6.8	11.0	144	12	632	5	31	2.2
75th %	7.1	16.7	167	16	825	7	56	2.7
maximum	7.8	40.7	349	124	1300	38	296	5.7

75-12 Tsala Apopka

This is an erosional valley with thin surficial sands over Eocene-age Ocala limestone. Some medium fine sand and silt cover the Tsala Apopka Lake area, but limestone is at the surface on the other side of the Withlacoochee River within the region (Deuerling and MacGill 1981). Swamps, marshes, and lakes cover much of the west side of the region, with flatwood vegetation types found on firmer ground. Tsala Apopka Lake to the west of the Withlacoochee River is a large area of interconnected ponds and wetlands that may be a relict of a larger former lake that occupied the Tsala Apopka Plain (White 1970). Many of the interconnected water bodies are intermittent. 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. Canals and flow control structures regulate water movement northward toward the Withlacoochee River. Tsala Apopka water bodies are alkaline, hard-water, and mesotrophic to eutrophic. The average pH shown by Canfield (1981) and Hand and Paulic (1992) was 7.3, and our values are all greater than 7.1. Nutrient levels appear to be variable. Color decreases and conductivity increases as one moves from the Floral City Pool in the south to Hernando Pool in the north.

75-12 Tsala Apopka Lake Values

Mean Value	pH (lab) n=16	Total Alkalinity (mg/l) n=16	Conductivity (µS/cm@25°C) n=16	Total phosphorus (µg/l) n=17	Total Nitrogen (µg/l) n=12	Chlorophyll_a (µg/l) n=18	Color (pcu) n=16	Secchi (m) n=14
minimum	7.1	34.0	113	8	600	1	17	0.7
25th %	7.4	40.9	120	12	905	2	30	0.9
median	7.6	46.0	134	22	1042	9	36	1.2
75th %	7.7	60.3	171	35	1176	27	110	1.5
maximum	8.5	185.1	376	168	1763	48	172	2.7

75-13 Southern Brooksville Ridge

Similar to the Northern Brooksville Ridge (75-05), this region has a very irregular surface, but reaches higher elevations, with several hills between 200 and 300 feet. These hills are often covered by mixed evergreen and deciduous hardwood forests, as well as areas of pine (hammock, turkey oak sandhill, and longleaf pine sandhill communities).

The region is characterized by thick sands, and drainage is generally internal to the Floridan aquifer. Oligocene-age Suwannee Limestone is found near the surface in areas just north of Brooksville and in Citrus County, although Alachua Formation or Hawthorn Group deposits cover much of the region (Brooks 1981a; Deuerling and MacGill 1981). Orange to reddish-orange clayey sands occur the length of the ridge and cap many of the hills in the limestone area near Brooksville (Deuerling and MacGill 1981). Soils include the Arredondo-Sparr-Kendrick, Lake-Candler, and Blichton-Flemington-Kanapaha associations. The lake region includes the Hernando Hammock, Brooksville Hills and Dade City Hills physiographic subdistricts designated by Brooks (1981b, 1982).

The lakes tend to have higher pH, alkalinity, conductivity, and nitrogen than the Northern Brooksville Ridge (75-05). Although a few lakes are acidic, most are neutral to alkaline, slightly colored, mesotrophic or meso-eutrophic lakes. Some lake phosphorus values appear low, as the nutrients are taken up by dense aquatic macrophyte growth. Canfield (1981) divided Brooksville Ridge lakes into two groups: acidic, softwater, mesotrophic lakes; and alkaline, relatively hard, softwater, mesotrophic lakes.

75-13 Southern Brooksville Ridge Lake Values

Mean Value	pH (lab) n=18	Total Alkalinity (mg/l) n=18	Conductivity (μ S/cm@25°C) n=18	Total phosphorus (μ g/l) n=18	Total Nitrogen (μ g/l) n=17	Chlorophyll_a (μ g/l) n=17	Color (pcu) n=18	Secchi (m) n=17
minimum	4.6	0.0	33	8	447	2	9	0.5
25th %	6.5	9.9	59	17	737	5	26	0.8
median	7.2	18.2	113	30	1100	10	59	1.3
75th %	8.0	30.2	141	62	1290	21	103	1.9
maximum	8.6	123.3	463	1221	1470	93	204	2.8

75-14 Lake Weir/Leesburg Upland

This upland region with elevations generally 75-125 feet stretches from Lake Weir in the north to the city of Leesburg in the south. Lake Weir is the largest lake in the region and there are numerous small lakes among citrus groves. The natural vegetation was primarily longleaf pine/xerophytic oak (Davis 1967). Soils are primarily in the sandy, well-drained Candler-Apopka-Astatula association (Thomas et al. 1979; Furman et al. 1975), and the underlying material consists of deeply weathered clayey sand of the Hawthorn Group. Lakes in 75-14 are generally clear, acidic to neutral, low nutrient lakes.

75-14 Lake Weir/Leesburg Upland Lake Values

Mean Value	pH (lab) n=13	Total Alkalinity (mg/l) n=13	Conductivity (μ S/cm@25°C) n=13	Total phosphorus (μ g/l) n=17	Total Nitrogen (μ g/l) n=14	Chlorophyll_a (μ g/l) n=14	Color (pcu) n=13	Secchi (m) n=16
minimum	5.2	0.0	37	5	403	1	3	0.3
25th %	6.1	2.1	112	10	538	2	8	1.4
median	7.1	12.0	136	10	804	4	10	2.0
75th %	7.3	17.9	153	12	1076	6	15	3.4
maximum	7.9	38.3	178	25	1522	12	68	4.5

75-15 Mount Dora Ridge

The Mount Dora Ridge lake region extends from near the Lake County / Marion County border near Altoona, south to the towns of Eustis and Mount Dora. It is composed of high sand hills, 75-180 feet in elevation, with excessively-drained to well-drained acid soils of the Astatula and Apopka series, developed over coarse sands of Upper Miocene age (Brooks 1981a, 1982). There are many small, circumneutral, clear lakes of low color, low nutrients, low chlorophyll_a, and moderate to moderately-high 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). Steeply sloping sand hills and old orange groves surround the lakes.

75-15 Mount Dora Ridge Lake Values

Mean Value	pH (lab) n=14	Total Alkalinity (mg/l) n=14	Conductivity (μ S/cm @ 25°C) n=14	Total phosphorus (μ g/l) n=18	Total Nitrogen (μ g/l) n=16	Chlorophyll_a (μ g/l) n=16	Color (pcu) n=14	Secchi (m) n=16
minimum	6.9	8.5	161	5	433	0.8	4	0.7
25th %	7.1	16.0	184	7	482	2	5	1.9
median	7.5	31.6	247	10	524	3	10	3.0
75th %	7.8	40.4	330	12	605	5	15	3.5
maximum	8.5	58.0	449	235	990	25	26	4.9

75-16 Apopka Upland

This is a region of residual sand hills modified by karst processes, with many small lakes and scattered sinkholes. The lake region contains the southern part of White's (1970) Mt. Dora Ridge region, and the Apopka Hills region of Brooks (1981b; 1982). Elevations range from 70-150 feet. Candler-Apopka-Astatula and Tavares-Zolfo-Millhopper are the most common soil associations, developed over more silt and clay than the coarser clastics of the Mount Dora Ridge (Brooks 1981b; 1982). Longleaf pine/xerophytic oak was the natural vegetation, although the current cover consists of citrus, pasture, and urban and residential development. The physical and chemical characteristics of the lakes are varied, and lake water level can be highly fluctuating through drought periods. There are some acidic, clear, softwater lakes of low mineral content; some clear lakes with moderate nutrients (some may lack macrophytes); and some darker water lakes that still have circumneutral pH values. The high nutrient, darkwater data for Orange County's Lake Wekiva stands out, as it once received sewage wastewater. Because of some of the surrounding flatwoods soils, there is some debate that Lake Wekiva might have historically had slightly higher nutrients compared to the upland lakes on the well-drained sandy soils of the region.

The southwest boundary of the region is uncertain, as there was little distinct evidence for the break. Portions of that boundary are similar to Brooks' (1981b) physiographic boundary, but there was some debate among the authors on the placement of the line around Johns Lake.

75-16 Apopka Upland Lake Values

Mean Value	pH (lab) n=47	Total Alkalinity (mg/l) n=47	Conductivity (µS/cm@25°C) n=47	Total phosphorus (µg/l) n=66	Total Nitrogen (µg/l) n=58	Chlorophyll_a (µg/l) n=58	Color (pcu) n=47	Secchi (m) n=65
minimum	6.0	1.3	107	4	330	1	4	0.4
25th %	7.0	16.5	157	12	621	5	20	1.2
median	7.4	32.2	208	20	790	8	40	1.5
75th %	7.9	48.9	268	41	1089	20	59	2.3
maximum	9.0	125.4	543	131	2433	62	183	5.8

75-17 Weeki Wachee Hills

This is an area of Pleistocene sand dunes, with elevations generally 20-80 feet, and numerous solution basins (Brooks 1981a,b; 1982). The region includes mostly upland-type well-drained sandy soils, such as the Candler, Astatula, and Tavares series. The natural vegetation is longleaf pine/xerophytic oak and sand pine scrub (Davis 1967). The named lakes include Whitehurst Pond, Tooke Lake, Great Hope Pond, Weekiwachee Prairie Lake, Hog Pond, Lane Pond, Long Pond, and Hunters Lake. The lakes have circum-neutral 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.

75-17 Weeki Wachee Hills Lake Values

Mean Value	pH (lab) n=6	Total Alkalinity (mg/l) n=6	Conductivity (µS/cm@25°C) n=6	Total phosphorus (µg/l) n=8	Total Nitrogen (µg/l) n=8	Chlorophyll_a (µg/l) n=8	Color (pcu) n=6	Secchi (m) n=5
minimum	6.1	1.1	57	7	440	1	8	1.3
25th %	6.4	3.0	82	9	627	2	17	1.5
median	6.9	9.8	105	14	781	4	25	1.6
75th %	7.2	19.5	126	16	904	7	37	1.6
maximum	7.6	48.3	192	37	1623	20	45	2.0

75-18 Webster Dry Plain

This low-relief plain, with elevations generally 75-125 feet, has only a thin veneer of sand or clayey sand over the Ocala Limestone. The drainage is primarily internal, and only during wet years and high water tables do shallow temporary lakes exist in the solution depressions (Brooks 1982). The small shallow lakes are likely to vary widely in their characteristics, with great temporal differences, as well as differences associated with land use and hydrologic modifications. Many are likely to be alkaline with variable nutrients, color, and clarity, but some prairie lakes are more acidic with high color values. Data for three small, shallow ponds were collected in this region, Big Gant in Sumter County, Bugg Springs in Lake County, and Indian Prairie in Hernando County. While Big Gant and Bugg Spring have high pH, alkalinity, and conductivity, and Bugg Spring is very clear, Indian Prairie is more acidic and dark.

75-18 Webster Dry Plain Lake Values

Lake	pH (lab)	Total Alkalinity (mg/l)	Conductivity ($\mu\text{S}/\text{cm}@25^\circ\text{C}$)	Total phosphorus ($\mu\text{g}/\text{l}$)	Total Nitrogen ($\mu\text{g}/\text{l}$)	Chlorophyll_a ($\mu\text{g}/\text{l}$)	Color (pcu)	Secchi (m)
Big Gant	7.6	149.0	351	46	773	10	42	4.7
Bugg Spr.	7.6	121.5	271	83	670	3	3	3.4
Indian Pr.	6.1	5.9	59	11	2520	11	170	0.9

75-19 Clermont Uplands

The Clermont Uplands is a region of prairies, swamps, 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. The lake region includes the Groveland Karst and Sugar Loaf Mountains regions of Brooks (1981b). The natural vegetation consisted of pine flatwoods and hardwood swamp forests on Myakka-Placid-Swamp association soils in the lowlands, and longleaf pine/xerophytic oaks on the well-drained Astatula-Apopka soils of the uplands. Water-tolerant grasses grow in the shallow ponds and marshes (Furman et al. 1975; Davis 1967). Deeply weathered clayey sands of the Hawthorn Group make up the geological material on the western part, while the Sugarloaf Mountains are underlain by the quartz sands, gravels, and clayey sands (Brooks 1981a). There are some small areas of peat, especially between lakes Minneola and Minnehaha west of Clermont (Scott 1978). Surface and subsurface waters from the Green Swamp (75-26) flow into this region and parts of the region are drained by the Palatlahaha River.

Lakes of this region are acidic, softwater lakes of low mineral content that are oligotrophic to slightly mesotrophic. Some lakes have low color and high Secchi depth values, such as Crescent, Emma, Hickorynut, and Trout, while other lakes are very dark. Of the larger lakes in the region, the ones that receive drainage from the Green Swamp, such as Lake Louisa are darkwater, and with distance to the north they tend to lighten: Lake Minnehaha has less color than Louisa, while Minneola is clearer and deeper, and Cherry Lake is clear.

75-19 Clermont Uplands Lake Values

Mean Value	pH (lab) n=33	Total Alkalinity (mg/l) n=33	Conductivity ($\mu\text{S}/\text{cm}@25^\circ\text{C}$) n=33	Total phosphorus ($\mu\text{g}/\text{l}$) n=39	Total Nitrogen ($\mu\text{g}/\text{l}$) n=32	Chlorophyll_a ($\mu\text{g}/\text{l}$) n=32	Color (pcu) n=33	Secchi (m) n=36
minimum	4.7	0.0	49	5	347	1	5	0.2
25th %	6.3	2.0	101	10	608	2	17	1.0
median	6.6	4.4	122	12	885	3	50	1.6
75th %	7.0	14.0	168	16	1084	5	90	2.4
maximum	8.5	77.0	268	28	1557	21	471	4.6

75-20 Doctor Phillips Ridge

This ridge of thick sands ranges in elevation from 100-170 feet within the region and contains many solution depression lakes. Soils of the ridge are primarily of the sandy Tavares-Zolfo-Millhopper association (Orange County soil survey) or Candler-Astatula (STATSGO), but there are also some wetter, lowland-type soils. The soils are underlain by clayey sands and fine sands and silt of the Hawthorn Group (Brooks 1981a), or by other formations of uncertain identity (Scott 1978; Doolittle and Schellentrager 1989).

There are over 30 lakes in this lake region; they are generally clear with circumneutral pH, and are low in nutrients. As a group, these are some of the clearest lakes in central Florida. The clearest lakes tend to be deeper than the others 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 darker with unusually high nutrients, but is heavily impacted by road and stormwater drainage.

75-20 Doctor Phillips Ridge Lake Values

Mean Value	pH (lab) n=9	Total Alkalinity (mg/l) n=9	Conductivity (μ S/cm @ 25°C) n=9	Total phosphorus (μ g/l) n=15	Total Nitrogen (μ g/l) n=15	Chlorophyll_a (μ g/l) n=16	Color (pcu) n=9	Secchi (m) n=15
minimum	6.9	12.0	129	6	363	1.6	7	1.2
25th %	7.1	14.3	195	7	464	2.7	13	2.5
median	7.2	15.3	217	10	501	3.2	16	3.2
75th %	7.3	24.0	255	11	523	4.6	17	3.5
maximum	8.4	27.0	266	243	1735	66.6	20	5.2

75-21 Orlando Ridge

This is an urbanized karst area of low relief, with elevations from 75-120 feet. Longleaf pine and xerophytic oaks were the dominant trees of the natural vegetation. Soils are primarily the Tavares, Smyrna, and Pomello series. An unnamed unit of non-marine coarse clastic sediments of Miocene age (poorly sorted quartz sands and pebbles imbedded in kaolinitic clay) form the ridge (Scott et al. 1980). Phosphatic sand and clayey sand are at a shallow depth according to Brooks (1982).

Lakes in this region can be characterized as clear, alkaline, hardwater lakes of moderate mineral content. They are mesotrophic to eutrophic (Canfield 1981), but it is difficult to distinguish between effects of urbanization and natural phosphatic levels. Lakes are more phosphatic and green than the Crescent City/DeLand Ridges (75-11), and only slightly more than the Apopka Upland (75-16). The water of clear, low nutrient Lake Conway is somewhat anomalous, possibly related to lake depth.

The area around Cassleberry could be included with the Geneva-Choluota Hills as depicted by Brooks' (1981b) physiographic region, but, perhaps because of the urban influence, it appears to fit with the Orlando Ridge lakes.

75-21 Orlando Ridge Lake Values

Mean Value	pH (lab) n=40	Total Alkalinity (mg/l) n=40	Conductivity (μS/cm@25°C) n=40	Total phosphorus (μg/l) n=89	Total Nitrogen (μg/l) n=89	Chlorophyll_a (μg/l) n=89	Color (pcu) n=40	Secchi (m) n=85
minimum	5.7	1.6	13	6	118	0.5	0	0.4
25th %	7.7	29.8	169	21	650	14	10	1.0
median	7.8	48.1	183	31	761	22	14	1.3
75th %	8.1	56.6	205	47	940	35	17	1.9
maximum	9.3	88.7	267	179	2177	116	68	8.1

75-22 Tampa Plain

The low-relief Tampa Plain has elevations ranging from 5 to 90 feet and contains some karst features. Medium to fine sand and silt cover the Quaternary Ft. Thompson Formation clastics and shell deposits, and the Miocene Tampa Member of the Arcadia Formation. The lake region includes the Odessa Flats, Lake Tarpon Basin, and parts of the Land-o-Lakes physiographic subdistricts of Brooks (1981b). Common soil associations include Smyrna-Sellers-Myakka (Pasco County) and Myakka-Bassinger-Holopaw (Hillsborough County). Pine flatwood vegetation was dominant in this area. The region has slightly acidic, darkwater, mesotrophic lakes, in contrast to the clearer lakes of the bordering Keystone Lakes (75-23) and Land-o-Lakes (75-24) regions.

75-22 Tampa Plain Lake Values

Mean Value	pH (lab) n=6	Total Alkalinity (mg/l) n=6	Conductivity (μS/cm@25°C) n=6	Total phosphorus (μg/l) n=8	Total Nitrogen (μg/l) n=5	Chlorophyll_a (μg/l) n=5	Color (pcu) n=6	Secchi (m) n=8
minimum	6.6	3.5	39	11	635	4	45	0.4
25th %	6.7	4.2	52	21	807	9	52	0.9
median	6.8	11.1	106	27	812	9	70	1.3
75th %	7.4	24.9	203	38	1319	16	85	1.6
maximum	7.8	69.3	596	136	1450	43	174	2.0

75-23 Keystone Lakes

The Keystone Lakes region is a small, well-drained, sandy upland area within the Tampa Plain, with elevations generally 30 to 60 feet and numerous lakes. Zolfo fine sand soils are common on the better-drained upland areas, with Myakka and Basinger soils in more poorly-drained depressional areas. The lakes of the region are slightly acidic, low nutrient, mostly clearwater lakes. The Keystone Lakes region has lower pH, alkalinity, and nitrogen values than in the nearby Land-o-Lakes region (75-24), and there is also less citrus and residential development.

75-23 Keystone Lakes Lake Values

Mean Value	pH (lab) n=19	Total Alkalinity (mg/l) n=19	Conductivity ($\mu\text{S}/\text{cm}@25^\circ\text{C}$) n=19	Total phosphorus ($\mu\text{g}/\text{l}$) n=32	Total Nitrogen ($\mu\text{g}/\text{l}$) n=33	Chlorophyll_a ($\mu\text{g}/\text{l}$) n=32	Color (pcu) n=19	Secchi (m) n=25
minimum	4.6	0.0	100	3	103	1	2	0.7
25th %	6.3	2.2	134	8	413	2	13	1.7
median	6.7	7.2	162	13	567	5	26	2.3
75th %	6.8	10.1	175	18	692	10	34	2.9
maximum	7.6	34.0	248	27	1078	21	75	4.5

75-24 Land-o-Lakes

This is a sandy upland region that separates the Tampa Plain (75-22) and Hillsborough Valley (75-25). Elevations of the region are mostly 30-80 feet, and there is a high density of lakes. Soils are generally similar to those in region 75-23. Natural vegetation was dominated by longleaf pine and turkey oaks, now mostly removed for citrus groves and residential development. The lakes are neutral to slightly alkaline, low to moderate nutrient, clearwater lakes. Some lakes are occasionally augmented with groundwater.

75-24 Land-o-Lakes Lake Values

Mean Value	pH (lab) n=20	Total Alkalinity (mg/l) n=20	Conductivity ($\mu\text{S}/\text{cm}@25^\circ\text{C}$) n=20	Total phosphorus ($\mu\text{g}/\text{l}$) n=39	Total Nitrogen ($\mu\text{g}/\text{l}$) n=38	Chlorophyll_a ($\mu\text{g}/\text{l}$) n=38	Color (pcu) n=20	Secchi (m) n=31
minimum	6.1	2.1	56	6	260	1	12	0.4
25th %	7.0	12.3	126	11	537	3	17	1.5
median	7.3	23.0	178	14	734	6	21	2.3
75th %	7.6	40.1	211	21	921	12	33	3.4
maximum	8.4	93.7	257	42	1960	35	93	4.0

75-25 Hillsborough Valley

This is a plain of low-relief containing relatively sluggish surface drainage of the Hillsborough River watershed. Natural vegetation is varied, including longleaf pine/turkey oak, pine flatwoods, and hardwood swamp forests (Davis 1967). There are karst features, but almost no lakes in this region. Data for three lakes indicate that generally alkaline, moderate to high nutrient, darkwater lakes are found in this region. Lake Thonotosassa is the largest, and is alkaline and hypereutrophic (Brenner et al. 1996). High nutrient loadings from urban and industrial sources also enter the lake, and algae blooms and fish kills have been observed (Hand and Paulic 1992, Hand et al. 1994).

75-25 Hillsborough Valley Lake Values

Lake	pH (lab)	Total Alkalinity (mg/l)	Conductivity ($\mu\text{S}/\text{cm}@25^\circ\text{C}$)	Total phosphorus ($\mu\text{g}/\text{l}$)	Total Nitrogen ($\mu\text{g}/\text{l}$)	Chlorophyll_a ($\mu\text{g}/\text{l}$)	Color (pcu)	Secchi (m)
no name	7.1	7.1	91	29	-	-	105	1.3
Ten Mile	-	-	-	40	1094	43	-	0.9
Thonoto- sassa	8.3	47.9	214	834	1452	67	82	0.7

75-26 Green Swamp

The Green Swamp is a distinctive feature of the central Florida peninsula. It is an extensive area of flatland and swampland at a relatively high elevation, 75-150 feet, and it contains the headwaters of the Withlacoochee, Oklawaha, Hillsborough, Peace, and Kissimmee rivers. It is not a continuous expanse of swamp, but a composite of many swamps interspersed with low ridges, hills, and flatlands (Pride et al. 1966). Our Green Swamp region includes the Webster Limestone Wet Plain in the west that overlies the Eocene Ocala limestone, as well as the Green Swamp area to the east above the Miocene Hawthorn Group sediments. The overlying layer of clastic deposits of sand and clay are thinner to the west (Pride et al. 1966). The vegetation includes cypress in the swampy areas, pine flatwoods, and some pine and oak in the upland, better-drained areas.

The water table is at or near the surface in much of the region, with large areas of standing water after heavy rainfall. Surface waters are generally colored and acidic, but there are few, if any, natural lakes. Mill Stream Swamp was sampled under the Lakewatch program.

75-26 Green Swamp Lake Values

Lake	pH (lab)	Total Alkalinity (mg/l)	Conductivity ($\mu\text{S}/\text{cm}@25^\circ\text{C}$)	Total phosphorus ($\mu\text{g}/\text{l}$)	Total Nitrogen ($\mu\text{g}/\text{l}$)	Chlorophyll_a ($\mu\text{g}/\text{l}$)	Color (pcu)	Secchi (m)
Mill Stream Swamp	-	-	-	46	1346	33	-	-

75-27 Osceola Slope

This region is composed of Pleistocene lagoonal deposits with a top layer of medium to fine sands and silts. Elevations are generally 60-90 feet, and somewhat higher than the Lake Toho area lakes to the west, and the soils are more heterogeneous as well. Smyrna, Myakka, and Tavares soils are on the better-drained low ridges and knolls, and Basinger and Samsula soils are found in the wet and swampy areas adjacent to parts of some lakes. Vegetation is primarily pine flatwoods (Davis 1967), but some low, dry ridges have turkey oak and sand scrub. Osceola Slope lakes are acidic, relatively low nutrient, colored lakes. The lakes have lower color, pH, alkalinity, conductivity, and nutrient values than lakes in the Kissimmee/Okeechobee Lowland (75-35).

75-27 Osceola Slope Lake Values

Mean Value	pH (lab) n=17	Total Alkalinity (mg/l) n=17	Conductivity ($\mu\text{S}/\text{cm}@25^\circ\text{C}$) n=17	Total phosphorus ($\mu\text{g}/\text{l}$) n=18	Total Nitrogen ($\mu\text{g}/\text{l}$) n=16	Chlorophyll_a ($\mu\text{g}/\text{l}$) n=16	Color (pcu) n=16	Secchi (m) n=15
minimum	4.5	0.0	56	10	389	2	22	0.2
25th %	5.6	0.5	88	14	637	4	64	0.6
median	5.8	2.2	101	17	847	7	135	1.1
75th %	6.1	3.1	116	23	985	9	219	1.6
maximum	7.1	11.5	152	84	1280	11	300	2.6

75-28 Pinellas Peninsula

The coastal geology changes in this region from the exposed limestone in regions to the north to a covering of clastic sediments. The northern part of the Pinellas Peninsula is underlain by deeply weathered sand hills of the Miocene Hawthorn Group, with Pleistocene sand, shell, and clay deposits covering the southern part. Besides the coastal strand, the natural vegetation consisted of longleaf pine/xerophytic oak on the north and west, and pine flatwoods on the southeast (Davis 1967). The dominant characteristic of the region now is the Clearwater/St. Petersburg urbanization.

Several small lakes are found in this region, with sampling done at Cliff Stephens Park, Harbor, Loch Haven, Maggiore, Moccasin, and Seminole. They are high nutrient lakes, and this may be a result of phosphoritic pebbles in the Hawthorn Group sediments, as well as due to anthropogenic impacts. Alkalinity and pH values also appear high, although this is based on data only from lakes Maggiore and Seminole.

75-28 Pinellas Peninsula Lake Values

Mean Value	pH (lab) n=2	Total Alkalinity (mg/l) n=2	Conductivity (μ S/cm@25°C) n=2	Total phosphorus (μ g/l) n=6	Total Nitrogen (μ g/l) n=6	Chlorophyll_a (μ g/l) n=6	Color (pcu) n=2	Secchi (m) n=6
minimum	8.6	90.4	404	14	545	4	27	0.3
25th %	-	-	-	78	930	45	-	0.4
median	8.7	100.2	706	87	1370	49	29	0.9
75th %	-	-	-	98	1837	61	-	1.2
maximum	8.8	109.9	1008	122	2330	67	32	3.2

75-29 Wimauma Lakes

This very small region includes only Lake Wimauma and Carlton Lake. These are clear, acidic, low nutrient, small water bodies. No lake data were collected from this region for this project. The soils in this area are a complex mosaic of alkaline and acid sands. The extent of these relatively anomalous clear, acidic, oligotrophic lakes within the Southwestern Flatlands (75-36) region is not known, although there are probably very few other lakes similar to Wimauma and Carlton.

75-30 Lakeland/Bone Valley Upland

The lake region includes the Lakeland Ridge, the Bone Valley Uplands, and part of the Bartow Embayment physiographic subdistricts of Brooks (1981b; 1982). The Lakeland Ridge consists of sand hills near 200 feet in elevation with many solution depression lakes; the Bone Valley Uplands and the Bartow Embayment, within White's (1970) Polk Upland physiographic region, tend to be more poorly drained flatwoods areas. All of these areas are covered by phosphatic sand or clayey sand from the Miocene-Pliocene Bone Valley Member of the Peace River Formation in the Hawthorn Group (Scott 1992; Scott and

MacGill 1981). The region generally encompasses the area of most intensive phosphate mining, but phosphate deposits and mining activities are also found south of this region.

As one might expect, the dominant characteristic of all lakes in this region is high phosphorus, along with high nitrogen and chlorophyll-*a* values. The lakes are alkaline, with some receiving limestone-influenced groundwater.

75-30 Lakeland/Bone Valley Upland Lake Values

Mean Value	pH (lab) n=17	Total Alkalinity (mg/l) n=17	Conductivity (μS/cm@25°C) n=17	Total phosphorus (μg/l) n=18	Total Nitrogen (μg/l) n=18	Chlorophyll_a (μg/l) n=18	Color (pcu) n=17	Secchi (m) n=13
minimum	7.3	22.7	101	59	1276	40	15	0.3
25th %	7.5	24.0	152	120	1703	79	18	0.6
median	8.0	50.8	163	344	1852	91	28	0.7
75th %	9.1	66.0	197	526	2420	136	33	0.9
maximum	9.8	143.7	408	965	4493	252	40	1.0

75-31 Winter Haven/Lake Henry Ridges

This upland karst area, 130-170 feet in elevation, has an abundance of small to medium sized lakes. Candler-Tavares-Apopka is the dominant soil association of the well-drained upland areas, with longleaf pine and xerophytic oak natural vegetation. Pliocene quartz pebbly sand and the phosphatic Bone Valley Member (Peace River Formation) of the Hawthorn Group comprise the underlying geology. The lakes can be characterized as alkaline, moderately hardwater lakes of relatively high mineral content, and are eutrophic.

75-31 Winter Haven/Lake Henry Ridges Lake Values

Mean Value	pH (lab) n=25	Total Alkalinity (mg/l) n=25	Conductivity (μS/cm@25°C) n=25	Total phosphorus (μg/l) n=44	Total Nitrogen (μg/l) n=43	Chlorophyll_a (μg/l) n=44	Color (pcu) n=26	Secchi (m) n=40
minimum	6.6	3.2	147	8	358	1.5	8	0.3
25th %	7.5	31.0	191	21	695	13	12	0.8
median	7.8	37.6	275	26	870	24	20	1.1
75th %	8.0	59.4	331	39	1312	40	26	1.8
maximum	9.0	87.0	417	470	1997	105	57	3.7

75-32 Northern Lake Wales Ridge

This narrow ridge forms the topographic crest of central Florida, with our lake region extending south from the Clermont Uplands in Lake County to the Livingston Creek drainage in Highlands County. Elevations are generally 100-300 feet. An unnamed unit of non-marine coarse clastic sediments of Miocene age (poorly sorted quartz sands and pebbles imbedded in kaolinitic clay) form the ridge (Scott 1980). Although the Iron Mountains (Brooks 1981b) are shown as the Miocene Hawthorn Formation, Interlachen facies, other parts of this region are classified as Pleistocene beach and dune sand and Pliocene undifferentiated sand (Brooks 1981a). The well-drained sandy soils are dominated by the Candler-Tavares-Apopka association, covered by citrus groves, pasture,

and urban and residential development. The lakes are mostly alkaline, low to moderate nutrient, clearwater lakes. Nitrogen values tend to be high. These lakes are richer in nutrients than lakes in the Southern Lake Wales Ridge (75-33), although the cause of this is not readily apparent. Citrus production and land cover appear similar in both regions.

75-32 Northern Lake Wales Ridge Lake Values

Mean Value	pH (lab) n=15	Total Alkalinity (mg/l) n=15	Conductivity ($\mu\text{S}/\text{cm}@25^\circ\text{C}$) n=15	Total phosphorus ($\mu\text{g}/\text{l}$) n=20	Total Nitrogen ($\mu\text{g}/\text{l}$) n=18	Chlorophyll_a ($\mu\text{g}/\text{l}$) n=18	Color (pcu) n=15	Secchi (m) n=16
minimum	6.0	0.2	79	3	331	1	6	0.5
25th %	7.2	15.2	125	8	632	4	7	1.0
median	7.9	35.0	192	16	1015	11	10	1.9
75th %	8.3	56.5	291	22	1760	20	17	2.6
maximum	8.9	130.6	425	38	5970	52	96	7.5

75-33 Southern Lake Wales Ridge

This lake region contains parts of the southern ridge and the Intraridge Valley where there are mostly clearwater lakes. Elevations range from 70-150 feet, and soils are generally in the sandy, well-drained Astatula-Paola-Tavares association. The landcover is primarily citrus groves, with rapidly expanding urban and residential areas. The lakes in the region range from acidic to alkaline, but almost all are clear with low color and low nutrients.

75-33 Southern Lake Wales Ridge Lake Values

Mean Value	pH (lab) n=35	Total Alkalinity (mg/l) n=35	Conductivity ($\mu\text{S}/\text{cm}@25^\circ\text{C}$) n=35	Total phosphorus ($\mu\text{g}/\text{l}$) n=42	Total Nitrogen ($\mu\text{g}/\text{l}$) n=31	Chlorophyll_a ($\mu\text{g}/\text{l}$) n=29	Color (pcu) n=35	Secchi (m) n=41
minimum	5.0	0.0	36	2	233	1	2	0.8
25th %	6.3	1.9	132	5	418	3	5	2.0
median	7.3	14.3	161	8	517	4	9	3.1
75th %	7.7	22.6	233	12	882	6	11	4.8
maximum	9.4	37.1	367	125	4803	35	28	7.2

75-34 Lake Wales Ridge Transition

This lake region includes the ridge margin or transition lakes that are darker-colored with higher nutrients than the lakes found on the Southern Lake Wales Ridge (75-33). Elevations are 70-130 feet, and there are more extensive areas of poorly-drained soils, such as the Satellite and Basinger series. Peaty muck Samsula soils border many of the lakes. The lake region also includes the narrow Bombing Range Ridge on the east. This is a narrow, 20 mile long sand ridge located in the Avon Park Bombing Range between Lake Kissimmee and Lake Istokpoga. Elevations reach near 150 feet. The ridge may have been an offshore sand bar associated with and created together with the Lake Wales Ridge (Lane et al. 1980). The sand pine and scrub covered ridge contains soils of the Satellite-Archbold-Pomello association, similar to the edges of the Lake Wales Ridge where the

more colored lakes are located. There are several very small lakes on this ridge, but little is known about them. About ten small lakes are shown within Bombing Range Ridge on the Bartow 1:100, 000-scale topographic map with two named lakes: Submarine Lake and Little Lake. The lake region also includes a small area of upland soils near Lake Buffum on the west. Most of the lakes in the region are acidic, although about one-third of them tend to be alkaline. They have low to moderate nutrients, and are slightly to moderately colored.

75-34 Lake Wales Ridge Transition Lake Values

Mean Value	pH (lab) n=28	Total Alkalinity (mg/l) n=28	Conductivity (μ S/cm@25°C) n=28	Total phosphorus (μ g/l) n=27	Total Nitrogen (μ g/l) n=25	Chlorophyll_a (μ g/l) n=25	Color (pcu) n=28	Secchi (m) n=30
minimum	4.4	0.0	50	0	279	4	5	0.1
25th %	5.8	2.3	76	14	517	6	22	0.8
median	6.6	4.9	93	19	810	11	41	1.1
75th %	7.8	26.6	189	42	977	23	68	1.5
maximum	8.9	96.0	346	148	2940	75	250	3.4

75-35 Kissimmee/Okeechobee Lowland

This region includes the Kissimmee Valley, a lowland with prairie type grasslands, flatwoods, and some swamp forest. The regional boundaries also enclose most of the Fisheating Creek drainage to capture the hydrologic inputs to Lake Okeechobee. The wet prairies of this region are seasonally flooded, and dry prairies on seldom-flooded flatland have mostly been converted to pasture (Davis 1967). Pleistocene lagoonal deposits of coastal sand and shelly silty sand characterize the geology (Brooks 1981a). Lakes are alkaline, eutrophic, and colored. The shallow, subtropical Lake Okeechobee is one of the largest lakes in the United States, and historically formed the direct link between waters of the Kissimmee basin and the Everglades (76-01). Now encircled by a flood-control dike, with regulated inflows and outflows, the lake serves as a water supply for urban and agricultural areas, as well as supporting habitat for migratory waterfowl and a valuable fishery (Havens et al. 1996).

75-35 Kissimmee/Okeechobee Lowland Lake Values

Mean Value	pH (lab) n=13	Total Alkalinity (mg/l) n=13	Conductivity (μ S/cm@25°C) n=13	Total phosphorus (μ g/l) n=13	Total Nitrogen (μ g/l) n=13	Chlorophyll_a (μ g/l) n=13	Color (pcu) n=13	Secchi (m) n=13
minimum	6.9	8.4	76	17	455	2	42	0.5
25th %	7.0	14.7	102	34	847	10	53	0.6
median	7.3	21.7	118	43	1063	15	91	0.7
75th %	7.8	25.9	126	57	1111	18	116	1.0
maximum	8.5	100.3	443	146	1276	44	216	1.2