LAKE COUNTY
FLORIDA

CONSERVATION ELEMENT

Data, Inventory & Analysis

2030 Planning Horizon

TABLE OF CONTENTS

INTRODUCTION **7**
GENERAL LOCATION AND PHYSIOGRAPHY **7**
AIR INVENTORY AND ANALYSIS **7**
INTRODUCTION **7**
NON POINT SOURCE AIR POLLUTANT **8**
Attributes and Sources 8
POINT SOURCE AIR POLLUTION **10**
WATER INVENTORY AND ANALYSIS **11**
GROUNDWATER AND WELLHEAD PROTECTION **11**
Wellhead Protection in Florida 11
GROUNDWATER RESOURCE CONSUMPTION **12**
Potable Water Demand 14
Agricultural Water Demand 14
Industrial Water Demand 15
SURFACE WATER **20**
Point Source Discharges 20
Nonpoint Source Discharges 20
Total Maximum Daily Loads (TMDLs) 20
Basin Management Action Plan (BMAP) 21
LAKES **21**
Surface Water Quality 22
The Clermont Chain of Lakes 27
Aquatic Plant Management 27
Cooperative Aquatic Plant Control Program 28
Major Exotic Invasive Aquatic Plant Management Program 30
Minor Exotic Invasive Aquatic Plant Management Program 31
Projected Trends for Aquatic Plant Management in Lake County 32
RECHARGE AREAS **32**
SPRINGS INVENTORY AND ANALYSIS **34**
FLORIDA AQUIFER VULNERABILITY ASSESSMENT (FAVA) **35**
WEKIVA AQUIFER VULNERABILITY ASSESSMENT (WAVA) **36**
Wekiva Conceptual Model: 38

RIVERS AND STREAMS **39**
FLOODPLAINS **39**
COMPREHENSIVE PROTECTION OF WETLANDS **40**
WETLAND CLASSIFICATION SYSTEMS **40**
WETLAND DEVELOPMENT **41**
HABITAT AND DESIGNATED SPECIES PRESERVATION **42**
Clermont Chain of Lakes 49
Ocklawaha Chain of Lakes 50
MANAGED AREAS **51**
Ocala National Forest 51
Lower Wekiva River State Preserve 52
Wekiva River Aquatic Preserve 52
WILDLIFE CORRIDORS **52**
AREAS OF ECOLOGICAL SIGNIFICANCE **53**
LAKE WALES RIDGE **53**
THE WEKIVA RIVER PROTECTION AREA **53**
WEKIVA PARKWAY **53**
THE GREEN SWAMP AREA OF CRITICAL STATE CONCERN **54**
EMERALDA MARSH **55**
ROCK SPRINGS RUN STATE RESERVE **55**
LAKE GRIFFIN STATE PARK **55**
MINING AND BORROW PITS **56**
MINERALS **56**
SOILS **57**
Soil Erosion 57
APPENDIX A – TABLES: PUBLIC WATER SUPPLY USE, PUBLIC WATER USE, CONSUMPTIVE USE PERMITS **60**
APPENDIX B - MAPS **195**
APPENDIX C - RECOMMENDATIONS FOR MAINTAINING CONNECTIVITY BETWEEN THE WEKIVA RIVER BASIN AND OCALA NATIONAL FOREST FOR FLORIDA BLACK BEAR AND FLORIDA SCRUB-JAY **205**
I. INTRODUCTION **209**
II. METHODS **210**
FLUCCS Code 212
FLUCCS Code 213

FLUCCS Code 214
III. RESULTS 225
IV. DISCUSSION 259
V. LITERATURE CITED 264
Appendix A: Euclidean Distance Analysis of Habitat Use of Black Bears in the Greater Ocala (Wekiva Area), Florida 267
Appendix B: Wekiva – Ocala Corridor Project - Impacts of Roads on Landscape Connectivity 270
Wekiva – Ocala Corridor Project 271
Study Area and Methods 272
Brief Literature Review 308
Literature Cited 311
Appendix C: Recommendations for Maintaining Connectivity Between the Wekiva River Basin and Ocala National Forest for Black Bear and other Wildlife, and the Identification of Critical Parcels 315
The Florida Scrub-Jay 315
Dispersal buffer analysis 318
Corridors and Stepping stones 318
Parcels 318
Results 318
Habitat Model 318
Dispersal buffer analysis 319
Corridors and Stepping Stones 319
Parcels 319
Appendix A 324

LIST OF TABLES

Table 1 - US EPA 2004 National Ambient Air Quality Standards 9
Table 2 - Summary of Permitted Point Source Air Polluters 2004 11
Table 3 - Lake County Municipal Potable Water Use Projections 14
Table 4 - Estimated 2025 Agricultural Water Use 15
Table 5 - Estimated 2025 Total Water Use from All Sources 16
Table 6 – Gross per Capita Values and Percent of CUP Allocated Water Use by Category for Public Supply Utilities, 2030 18
Table 7 – Lake County Lakes 1,000 Acres and Greater 22
Table 8 - Trophic State Index 22
Table 9 - Trophic State Indices 2002/03 – 2008 for Lake County Lakes. 23
Table 10 - Cooperative Aquatic Plant Control Program: Total Acres Treated Costs for Inter-County Water Bodies 28
Table 11 - Cooperative Aquatic Plant Control Program: Total Acres Treated and Costs for Intra-County Water Bodies 29
Table 12 - Major Exotic Invasive Aquatic Plant Management Program: Total acres treated and associated costs for public water bodies located in Lake County, Florida. 30
Table 13 - Minor Exotic Invasive Aquatic Plant Management Program: Total acres treated and associated costs for public water bodies located in Lake County, Florida. Lake County encumbers all costs for management activities under this program 31
Table 14 - Historic Spring Flows 34
Table 15 - Land Cover Acreage, Lake County 43
Table 16 – Natural Species found in Lake County, FL and Designation Status 44
Table 17 - LMB results (CPUE in fish per minute) 2004 electro-fishing samples. 51
Table 18 – Other Designated Species in Ocala National Forest 51
Table -19 - NRCS Soil Classification System 57
Table 20 – Public Supply Water Use for 1995, 2005, 2030 63
Table 21 – Water Use by Type for 1995, 2005 and 2030 65
Table 22 – Active Consumptive Use Permits 67
Table 23 – Active Public Supply Wells 131
Table 24 – Active Well Points 145

LIST OF FIGURES

Figure 1 – Facility/Monitor Locator Map 10
Figure 2 – Reported Water Use 2005-2009 (Gallons) 16
Figure 3 – Reported Water Use 2005-2009 (Percentages) 17
Figure 4 – Conceptual Diagram 26
Figure 5 – Relative Vulnerability 36
Figure 6 – Wekiva Conceptual Model 38
Figure 7 – Buffer Distance by Function 41

INTRODUCTION

The purpose of the conservation element is to provide a guide for the conservation, use, and protection of the natural resources located within the County. The element provides a means to protect the beneficial qualities of the natural environment and thereby enhance the public health, safety, welfare and quality of life of its citizens.

The element includes inventories of the quality and quantity of Lake County's natural resource base, and will provide a basis for decision making by County officials as an integral part of the Comprehensive Plan. The element has been developed within the context of the legislative mandate provided by the State.

Lake County has experienced population growth through in-migration caused by the expansion of the Orlando Metropolitan Area. The purpose of the Conservation Element is to seek a balance between accommodating the growth of man-made urban systems and maintaining and improving the rural and natural systems that have traditionally characterized Lake County.

GENERAL LOCATION AND PHYSIOGRAPHY

Lake County lies within the St Johns River Basin region of Central Florida. A portion of the southern and western parts of the County contain the headwaters of the Withlacoochee River, while the extreme southeastern portion of the County contains the headwaters of the Kissimmee River. The Ocklawaha and Palatlakaha Rivers drain the majority of the County. The middle of the County is precisely half way between the cities of Ocala and Orlando to the north and south, and Daytona Beach and Tampa to the east and west.

Lake County is comprised of 1,156 square mile areas which consist of ridges, uplands, and valleys. The County is divided into eight major geohydrologic provinces: St. Johns River Valley, Marion Upland, Mount Dora Ridge, Ocklawaha Chain of Lakes, Sumter Upland, Lake Wales Ridge, Palatlakaha Upland, and Green Swamp. Land surface altitudes range from near sea level in the St. Johns River Valley to 312 feet above sea level in the Lake Wales Ridge.

There are four river chains of large lakes in Lake County. The County also possesses a tremendous number of small solitary lakes, significant wetlands acreage in the Blackwater Creek and Green Swamp, and substantial sandhill and scrub natural communities located within the Ocala National Forest.

AIR INVENTORY AND ANALYSIS

INTRODUCTION

The Florida Department of Environmental Protection (FDEP) and the United States Environmental Protection Agency (USEPA) monitor air quality data in Lake County. Lake County does not have an established program dedicated to monitoring air quality. The data contained in this report is limited to the sampling events, parameters, and reporting limitations associated with those respective agencies.

The air quality monitoring program of the State of Florida provides measures of pollutant concentration levels in ambient air, the portion of the atmosphere near ground level. The Environmental Protection Agency and the State of Florida establish primary standards and legal limitations of pollution concentration levels for ambient air. Amendments to the Clean Air Act have changed the measurement criteria since the 1991 Comprehensive Plan; historic data is no longer

comparable and has not been included. Chapter 62-204 of the Florida Administrative Code outlines rules and regulations concerning air pollution.

A geographic area that meets or exceeds the primary standard is called an attainment area. Lake County has attainment status for clean air. This is documented in a letter dated July 15, 2003 from Secretary David B. Struhs of the Florida Department of Environmental Protection. The following information describes the fundamental information for understanding air quality and Lake County's current air quality status.

NON POINT SOURCE AIR POLLUTANT

Attributes and Sources

There are six major air pollutants that can cause health problems if they are at high concentrations in the ambient air. The pollutants are Carbon Monoxide(CO), Nitrogen Oxides (NOx), Ozone (O3), Lead (Pb), Sulfur Dioxide (SO2) and Particulate Matter (PM-2.5 and PM-10). These pollutants are referred to as "criteria pollutants" and a National Ambient Air Quality Standard (NAAQS) has been established for each based on health related criteria and data.

- **Carbon monoxide, or CO**, is a colorless, odorless gas that is formed when carbon in fuel is not burned completely. Higher levels of CO generally occur in areas with heavy traffic congestion. In cities, 85 to 95 percent of all CO emissions may come from motor vehicle exhaust. High levels of CO in the air are poisonous to healthy people. The level of CO can be of major concern to people with heart disease and affects the central nervous system. (USEPA)

- **Nitrogen oxides, or NOx**, are the generic term for a group of highly reactive gases, which contain nitrogen and oxygen in varying amounts. Many nitrogen oxides are colorless and odorless. Nitrogen oxides form when fuel is burned at high temperatures, as in a combustion process. The primary sources of NOx are motor vehicles, electric utilities, and other industrial, commercial, and residential sources that burn fuels. Nitrogen oxides contribute to the formation of acid rain and contribute to nutrient overload that deteriorates water quality. (USEPA)

- **Ozone (O_3)** is a gas composed of three oxygen atoms. This compound is formed by the combination of nitrogen oxides, volatile organic compounds, heat, and sunlight. As a result, it is known as a summertime air pollutant. Ozone has the same chemical structure whether it occurs miles above the earth or at ground level and can be "good" or "bad," depending on its location in the atmosphere. "Good" ozone occurs naturally in the stratosphere approximately 10 to 30 miles above the earth's surface and forms a layer that protects life on earth from the sun's harmful rays. In the earth's lower atmosphere, ground-level ozone is considered "bad." The primary cause of concern is that it can trigger a variety of health problems at low levels and may cause permanent lung damage after long-term exposure. Elevated ozone levels are detrimental to plants and the ecosystem. (USEPA) Many urban areas tend to have high levels of "bad" ozone, but even rural areas are also subject to increased ozone levels because the wind can carry ozone and pollutants that form it hundreds of miles away from their original sources. Elevated ozone levels are detrimental to plants and the ecosystem. (USEPA)

- **Lead (Pb)**, a metal which is found naturally in the environment as well as in manufactured products. The major sources of lead emissions have been historically from motor vehicles (such as cars and trucks) and industrial sources. Due to the phase out of leaded gasoline,

metals processing is the major source of lead emissions to the air today. The highest levels of lead in air are generally found near lead smelters. Other stationary sources are waste incinerators, utilities, and lead-acid battery manufacturers. Since the 1980's, USEPA and it's federal partners have phased out lead in gasoline, reduced lead in drinking water and industrial air pollution, and banned or limited lead used in consumer products, including residential paint.

- **Particulate matter, or PM-2.5 and PM -10**, the term for particles found in the air, including dust, dirt, soot, smoke, and liquid droplets. Particles can be suspended in the air for long periods of time. Some particles are large or dark enough to be seen as soot or smoke. Others are so small that individually they can only be detected with an electron microscope. The particles come from a variety of sources such as cars, trucks, buses, factories, construction sites, tilled fields, unpaved roads, stone crushing, and burning of wood. Particulate matter is associated with serious health effects and is a major source of haze that reduces visibility. (USEPA) Particulate matter is categorized by the following sizes:
  - *Particulate matter 2.5, or PM 2.5,* is the measurement of particulate matter smaller than 2.5 micrometers in size. By comparison, the thickness of a human hair is approximately 90 micrometers.
  - *Particulate matter 10, or PM 10,* is the measurement of particulate matter smaller than 10 micrometers in size.

Total Suspended Particulate (TSP) was broken into two classifications PM 10 and PM 2.5. The air quality of Lake County will be analyzed based on national ambient air quality standards. Those standards and Lake County's measurable standards are listed in the table below.

Only two criteria pollutants are actively monitored in Lake County, Ozone and PM10. According to the USEPA Air Data, there were 282 "good" days, 21 "moderate" days, and 1 "unhealthy for sensitive groups" day in 2003. The "unhealthy for sensitive groups" day was attributed to Ozone. The year-to-date three-year running average of Ozone is .077.

Table 1 - US EPA 2004 National Ambient Air Quality Standards

POLLUTANT	PRIMARY STDS.	AVERAGING TIMES	SECONDARY STDS.	LAKE COUNTY
Carbon Monoxide	9 ppm (10 mg/m^3)	8-hour[1]	None	NA
	35 ppm (40 mg/m^3)	1-hour[1]	None	NA
Lead	1.5 µg/m^3	Quarterly Average	Same as Primary	NA
Nitrogen Dioxide	0.053 ppm (100 µg/m^3)	Annual (Arithmetic Mean)	Same as Primary	NA
Particulate Matter (PM_{10})	50 µg/m^3	Annual[2] (Arith. Mean)	Same as Primary	18µg/m^3
	150 ug/m^3	24-hour[1]		38 ug/m^3
Particulate Matter ($PM_{2.5}$)	15 µg/m^3	Annual[3] (Arith. Mean)	Same as Primary	NA
	65 ug/m^3	24-hour[4]		NA
Ozone	0.08 ppm	8-hour[5]	Same as Primary	0.079 ppm

POLLUTANT	PRIMARY STDS.	AVERAGING TIMES	SECONDARY STDS.	LAKE COUNTY
	0.12 ppm	1-hour[6]	Same as Primary	0.090 ppm
Sulfur Oxides	0.03 ppm	Annual (Arith. Mean)	-------	NA
	0.14 ppm	24-hour[1]	-------	NA
	-------	3-hour[1]	0.5 ppm (1300 ug/m^3)	NA

1 Not to be exceeded more than once per year.
2 To attain this standard, the expected annual arithmetic mean PM_{10} concentration at each monitor within an area must not exceed 50 ug/m3.
3 To attain this standard, the 3-year average of the annual arithmetic mean $PM_{2.5}$ concentrations from single or multiple community-oriented monitors must not exceed 15 ug/m3.
4 To attain this standard, the 3-year average of the 98th percentile of 24-hour concentrations at each population-oriented monitor within an area must not exceed 65 ug/m3.
5 To attain this standard, the 3-year average of the fourth-highest daily maximum 8-hour average ozone concentrations measured at each monitor within an area over each year must not exceed 0.08 ppm.
6 (a) The standard is attained when the expected number of days per calendar year with maximum hourly average concentrations above 0.12 ppm is <= 1, as determined by appendix H. (b) The 1-hour standard is applicable to all areas notwithstanding the promulgation of 8-hour ozone standards under Sec. 50.10. On June 2, 2003, (68 FR 32802) EPA proposed several options for when the 1-hour standard would no longer apply to an area.

POINT SOURCE AIR POLLUTION

The map below shows the permitted point source air polluters (2003) and the locations of the PM10 and Ozone monitors. The number of point source air polluters that report to the USEPA declined from 38 to 15 facilities since the 1991 Comprehensive Plan. Listed below, in the table, are the 15 facilities arranged by industry. These facilities are monitored by the FDEP.

Figure 1 – Facility/Monitor Locator Map

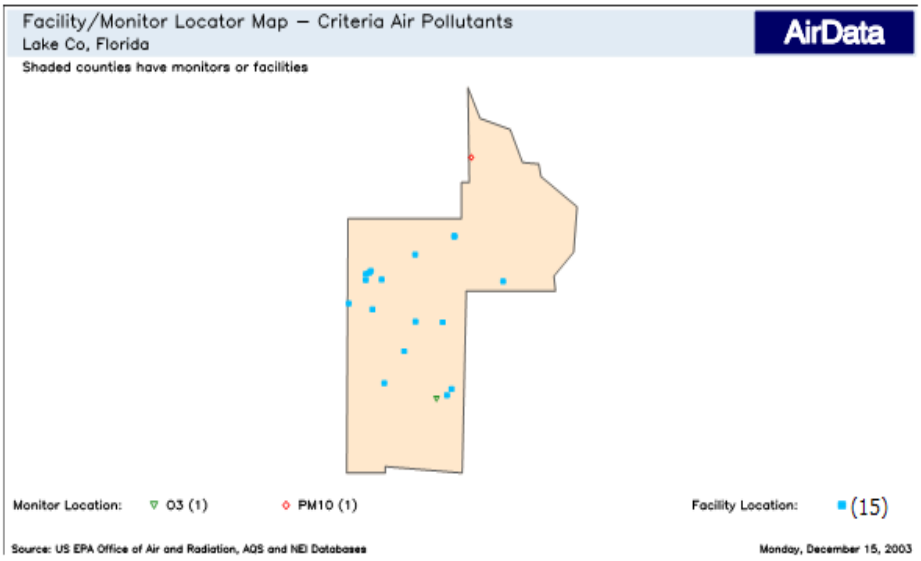


Table 2 - Summary of Permitted Point Source Air Polluters 2004

FACILITY TYPE	NUMBER	PERCENT
Citrus Processing	2	13.3%
Concrete Plants	1	6.6%
Soil Cement Plants	0	0%
Asphalt Plants	4	26.6%
Pathological Incinerators	1	6.6%
Other industries	7	46.6%
Total	15	100%

Emissions data are available for each permitted facility in the Air Quality Index Summary (AQI) Report from the USEPA. The AQI report identifies each facility's owner, location, types of emissions, and their estimated and allowable amounts. The report also identifies any emissions tests that have been performed at these facilities.

WATER INVENTORY AND ANALYSIS

GROUNDWATER AND WELLHEAD PROTECTION

The federal Safe Drinking Water Act (SDWA), as amended in 1986, established a new program for the States to delineate and manage Wellhead Protection Areas (WHPAs) for the protection of public ground water supplies. The Wellhead Protection (WHP) Program is the first resource based approach at the federal level for ensuring that ground water supplies are protected from a wide range of potential contaminating sources. The U.S. Environmental Protection Agency is the principal federal agency for implementing the Wellhead Protection Program with the states.

Wellhead protection areas are the surface and subsurface area surrounding a water well or well field supplying a public water system, through which contaminants are reasonably likely to move toward and reach the water well or well field. Factors to consider in developing wellhead protection include: delineating protection areas around well fields, assessing the locations and threats to the well(s), developing management approaches and educational outreach programs, and regulatory or non-regulatory tools to reduce contamination threats.

Wellhead Protection in Florida

Over 90% of Florida's population depends on ground water as the source of drinking water for public and private wells. Much of this resource is especially vulnerable to contamination because of the karst (an irregular limestone region with sinks, underground streams, and caverns.) geology in many parts of the state, a high water table, rapid land use changes, and a growing population. The Florida Department of Environmental Protection has several ground water protection programs which bolster a separate wellhead protection rule. The collective implementation of these programs, with the addition of technical assistance to the local governments, frames the statewide Wellhead Protection Program. This approach to managing public ground water supplies focuses on preventing contamination from entering the water source of supply wells.

The Department of Environmental Protection implements the wellhead rule to provide the most stringent protection to the ground water in close proximity to potable water wells. To heighten

attention to the significance of human health issues and threats adjacent to wellhead areas, the Florida Wellhead Protection Program recommends local governments identify potential sources of contamination outside a 500 foot setback from the well. To assist the local governments in this endeavor, the Department provides technical assistance in identifying the five or ten year ground water hydraulic time of travel around the wells. The dimension of the outer zone will be subject to local hydrogeologic conditions and local policies.

GROUNDWATER RESOURCE CONSUMPTION

Meeting long term water supply needs, while protecting water resources, is an important issue for local governments and water supply utilities in the St. Johns River Water Management District. Defining the roles of the various entities involved in the process requires careful consideration.

The District Governing Board is in the process of defining its role in water resource and water supply development, and particularly its role in funding water resource development and water supply development projects.

In order to evaluate the projected impact of the cost of alternative water upon the cost of delivered potable water, the District contracted with Burton & Associates to conduct an analysis of cost impacts for a typical, moderately sized water supply utility. The results of the analysis should be representative of the impact of the cost of alternative water facilities upon the cost of delivered water.

Ground water from the Floridan aquifer is the primary source of water for potable, agricultural and industrial use in Lake County. In 2000, the top five municipalities with the highest rate of water consumption were, in descending order, Leesburg, Mount Dora, Eustis, Tavares, and Clermont. According to 2030 projections, water consumption for Clermont, Eustis, Fruitland Park, Groveland, Mascotte, Minneola, Montverde, and Tavares will more than double. County wide, projected total potable water consumption will increase from 29.53 MGD to 77.68 MGD, an increase of about 163 percent. Lake County and St. Johns River Water Management District 2030 population projections vary.

Lake County Division of Water -Quality Services samples approximately 45 sites primarily along the Palatlakaha and Ocklawaha chains. A report was issued in 1995 on the results of this sampling and an update is in progress. Lake County also works with the St. Johns River Water Management District, the Florida Department of Environmental Protection, Lake Watch and other concerned groups in monitoring and sampling various sites within Lake County.

The mission of the Lake County Division of Water -Quality Services is to manage, protect, conserve, and restore water resources of Lake County. Water –Quality Services monitors all ground and surface water within Lake County. The Division works closely with the St. Johns River Water Management District for surface and ground water monitoring, and with the Florida Department of Environmental Protection.

The Division also provides hydrological and geological support to the various divisions within Growth Management. Water –Quality Services checks all permitted discharges to surface waters. In addition, the Storage Tank program seeks to protect the waters and soils through appropriate inspections and compliance actions.

Water –Quality Services Division Programs:

- Underground and Storage Tanks
- Surface Water Monitoring Program
- Water Quality Laboratory
- Mining Program
- Industrial Waste Program
- Ground Water Monitoring Program
- Golf Course Management Program

Lake County partnered with the Lake County Water Authority and The St. Johns River Water Management District to develop a Water Resource Atlas, a "One-Stop" site for all of Lake County's water resource related data. With the aid of a grant from the (former) Department of Commerce, Lake County contracted with the University of South Florida's Center for Design and Research (CDR) to develop the site, which provides citizens and environmental professionals with current and historical water data and information. The Atlas is a dynamic resource with constant updates to water quality information and is available to and used by the general public and other interested parties.

Atlas Details:

- The atlas is a web-based application allowing for the browsing of spatial data such as aerial photographs, location of water resources, watershed or basin boundaries, recreation sites, boat ramps and other important GIS datasets and local water resource information.
- Provides a mapping interface allowing users to view multiple themes such as hydrography, ecology, wetlands, political boundaries, watershed boundaries and aerial photography.
- Water resource data pages are summarized by topic and displays key indices and parameters to determine the current conditions of a watershed, lake or river.
- Built-in computing tools allow users to determine current water quality of any given water body in the database.
- Built-in graphing tools provide graphs of all data in the database.
- Numerous query components allow users to discern meaning from the data presentations.
- Advanced data access tools allow users to query, graph, and download sampling location specific data.
- A document catalog system displays web links and Adobe Acrobat documents related to water resource issues.
- Information and functionality related to Total Maximum Daily Loads program, National Pollutant Discharge Elimination System, stormwater management, and other regulatory programs are integrated into the atlas.

Table 3 - Lake County Municipal Potable Water Use Projections

Utility Provider	1995 Average Daily Usage (MGD)	2000 Average Daily Usage (MGD)	2025 Projection (MGD)	Percent Change 1995 - 2025
Astor - Astor Park Water Association	0.27	0.31	0.44	63
Clermont, City of	1.63	2.00	9.62	490
Eustis, City of	2.33	2.95	5.01	115
Fruitland Park, City of	0.59	0.77	2.15	497
Groveland, City of	0.44	0.80	2.95	570
Howey In The Hills, Town of	0.21	0.33	0.35	67
Lady Lake Central	0.26	0.38	0.49	88
Leesburg, City of	4.87	6.82	7.74	59
Mascotte, Town of	0.25	0.32	1.32	428
Minneola, City of	0.39	0.60	3.63	831
Montverde, Town of	0.15	0.26	0.33	120
Mount Dora, City of	2.72	3.94	5.05	86
Tavares, City of	1.49	2.74	5.21	250
Umatilla, City of	0.44	0.47	0.59	34
Municipality Subtotal	16.04	22.69	44.88	169
Total County*	29.53	44.82	77.68	163

Source: Technical Publication SJ2006-1, Water Supply Assessment 2003, St. Johns River Water Management District, Palatka, Florida, 2006

* Total County includes domestic self-supply and other small public supply uses.

Potable Water Demand

Table 3 shows the demand for potable water for the years 1995, 2000, and 2025. The 2025 projection is based on an average rainfall year. Drought years will use rates about five to ten percent higher. Potable water use was estimated as the product of the projected County population plus seasonal demand and average per capita daily demand coefficients. Based on the estimates of the consulting firm Post, Buckley, Shuh and Jernigan, per capita consumption was expected to decline through the year 2005. The 1986 SJRWMD per capita value of 189 gallons per day was proportionately reduced over 5 year increments to 150 gallons per day by 2005 as the County changes from an agricultural setting to an urban/suburban setting. Total average annual potable water demand is projected to reach 28.4 billion gallons by the year 2025 reflecting a consumption rate of nearly 78 million gallons per day.

Agricultural Water Demand

According to the St. Johns River Water Management District, irrigation accounts for 98.8% of water withdrawn for agricultural purposes. Total daily agricultural water use estimates for 2025 in an average rainfall year anticipate 21.05 MGD from ground water and 3.04 MGD from surface water for a total of 24.09 MGD for agriculture use.

Improved pasture accounts for 91.5% of all non-irrigated farmlands. Citrus grove irrigation, on a 2025 estimate of 10,000 acres, accounts for 8.10 MGD, reflecting an expected 41% decrease in grove acreage from 1995.

Table 4 - Estimated 2025 Agricultural Water Use

CROP	1995 WATER USE(MGD)			2025 WATER USE(MGD) AVERAGE RAINFALL YEAR				2025 WATER USE(MGD) 1-IN-10 RAINFALL YEAR			ACRES		
	GROUND	SURFACE	TOTAL	GROUND	SURFACE	TOTAL	PERCENT CHANGE	GROUND	SURFACE	TOTAL	1995	2025	PERCENT CHANGE
Citrus	33.91	5.07	38.98	6.89	1.21	8.10	-79%	8.61	1.51	10.12	16,842	10,000	-41%
Fern	1.31	0.15	1.46	1.67	0.19	1.86	27%	2.15	0.24	2.39	550	700	27%
Field Crops	0.25	0.25	.50	0.23	0.23	0.46	-8%	0.28	0.28	0.56	650	585	-10%
Other Fruits and Nuts	0.33	0.01	0.34	0.69	0.02	0.71	109%	0.81	0.02	0.83	552	1,156	109%
Pasture	2.06	0.10	2.16	1.68	0.08	1.76	-19%	1.78	0.08	1.86	1,886	1,535	-19%
Greenhouse/ Nursery	4.85	0.23	5.08	9.23	0.44	9.67	90%	9.94	0.47	10.41	1,050	2,000	90%
Sod	0.08	0.49	0.57	0.09	0.55	0.64	12%	0.09	0.56	0.65	250	279	12%
Turf grass	0.11	0.02	0.13	0.19	0.04	0.23	77%	0.20	0.04	0.24	120	202	68%
Vegetables, Melons, Berries	1.01	0.74	1.75	0.38	0.28	0.66	-62%	0.47	0.34	0.81	2,670	995	-63%
Total	43.91	7.06	50.97	21.05	3.04	24.09	-53%	24.33	3.54	27.87	24,570	17,452	-29%

Source: Technical Publication SJ2006-1, Water Supply Assessment 2003, St. Johns River Water Management District, Palatka, Florida, 2006

Disclaimer: Please note that the decision to use 1995 as the base year by SJRWMD was based on the availability of suitable regional groundwater flow models calibrated to 1995 conditions.

Industrial Water Demand

Water use for the County's four major food processors has held fairly constant. Water use for mining operations is projected to increase in the short term (7% rate) given the proposed local highway projects expected to be built over the next ten years. As manufacturing employment projections for Lake County are unavailable, projections will be based upon a ratio of 38 industrial employees per 1,000 persons. Total average daily industrial and commercial demand is projected to reach 17.06 MGD by the year 2025.

There are ten large industrial users located within Lake County as well as several campgrounds and commercial/industrial small users. Food processing accounted for about 30 percent of industrial water use in 2000 and it is expected to remain about the same. The largest industrial user is a mine, Tarmac America, at 5.39 MGD in 2000. This is expected to increase to around 8.28 MGD in 2025. The food processors use 29% of the groundwater while the mines use about 56%, with the remaining 15% used by the smaller users. Most of this is ground water. Industrial surface water use is projected to be less than one million gallons per day by 2025.

Summary of Projected Groundwater Demand

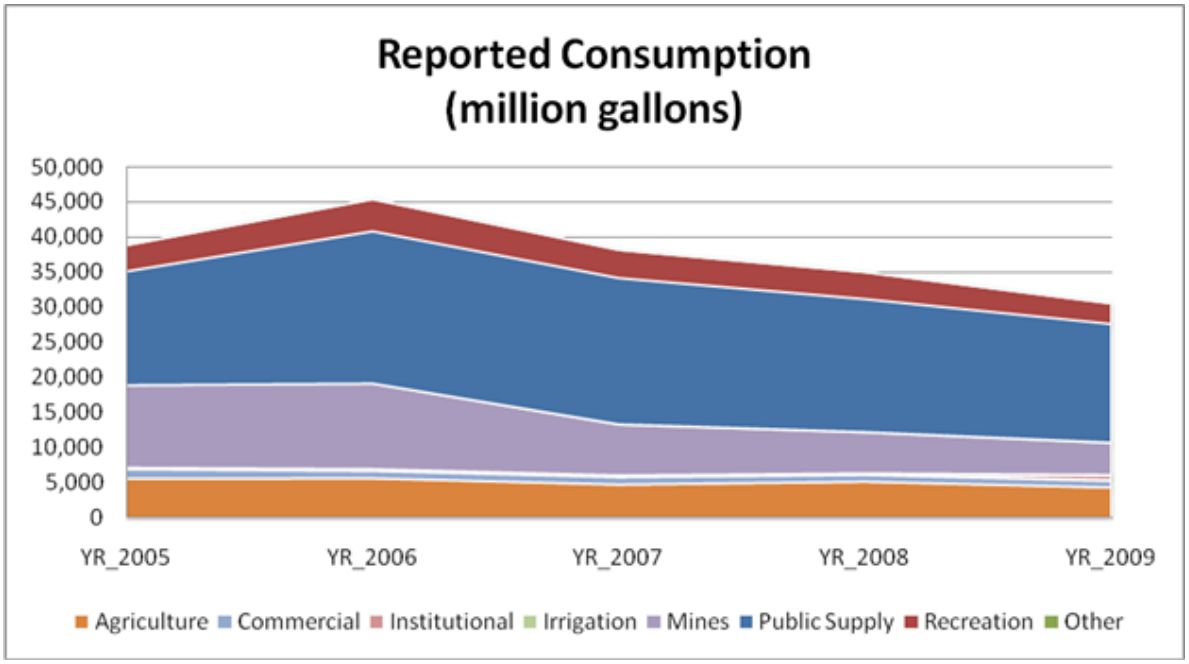
The County will probably continue to rely almost exclusively on the Floridian aquifer for future water needs. If not used wisely, the projected demand may exceed the Aquifer's capacity. The potential for drawdown of the Floridian aquifer will increase in the next fifteen years.

Table 5 - Estimated 2025 Total Water Use from All Sources

Use Category	1995			2000			2025			Percent Change 2000-2025
	Ground	Surface	Total	Ground	Surface	Total	Ground	Surface	Total	
Public Supply	23.51	0	23.51	37.76	0	37.76	63.18	0	63.18	168.7%
Domestic Self Supply	6.02	0	6.02	7.06	0	7.06	14.5	0	14.5	140.9%
Agriculture	43.91	7.06	50.97	28.85	5.16	34.01	21.05	3.04	24.09	-52.1%
Recreation	9.27	7.59	16.86	5.36	3.87	9.23	15.58	12.74	28.32	68.1%
Com/Ind/Inst	10.23	1.14	11.37	10.44	0.6	11.04	16.14	0.92	17.06	57.8%
TOTAL	92.94	15.79	108.73	89.47	9.63	99.1	130.45	16.7	147.15	40.4%

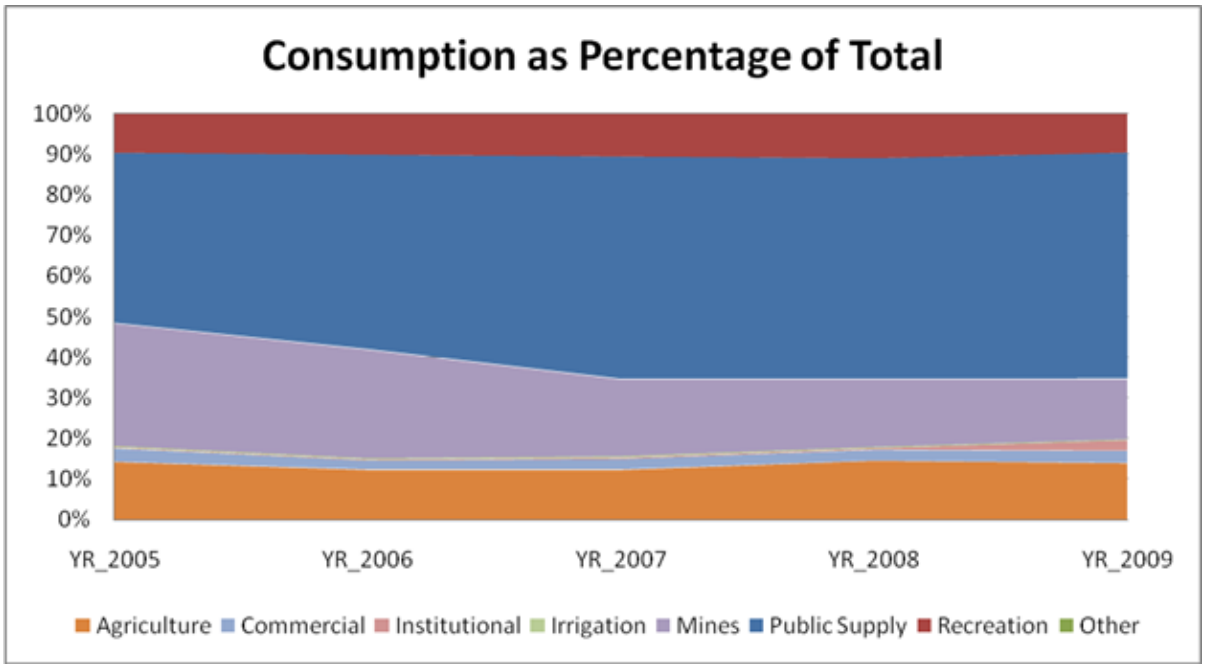
Source: Technical Publication SJ2006-1, Water Supply Assessment 2003, St. Johns River Water Management District, Palatka, Florida, 2006.
NOTE: All quantities in million gallons per day (MGD).

Figure 2 – Reported Water Use 2005-2009 (Gallons)



Source: St. John's River Water Management District – E-Permitting Website

Figure 3 – Reported Water Use 2005-2009 (Percentages)



Source: St. John's River Water Management District – E-Permitting Website

Table 6 – Gross per Capita Values and Percent of CUP Allocated Water Use by Category for Public Supply Utilities, 2030

Utility Name	Gross per Capita* (gpd)	Household ** (%)	Commercial Industrial (%)	Irrigation ***(%)	Water Utility (%)	Unaccounted Use (%)
Aqua Source Inc.—Kings Cove Subdivision	188	93.01	0	0	0	6.99
Aqua Utilities of Florida, Inc.—Carlton Village†	172	89	0	0	11	0
Aqua Utilities of Florida, Inc.—Fern Terrace†	172	100	0	0	0	0
Aqua Utilities of Florida, Inc.—Grand Terrace†	172	94.58	0	0	5.42	0
Aqua Utilities of Florida, Inc.—Hobby Hills†	172	100	0	0	0	0
Aqua Utilities of Florida, Inc.—Imperial Terrace†	172	100	0	0	0	0
Aqua Utilities of Florida, Inc.—Morning View†	172	100	0	0	0	0
Aqua Utilities of Florida, Inc.—Palms Mobile Home Park†	172	100	0	0	0	0
Aqua Utilities of Florida, Inc.—Piccola Island†	172	100	0	0	0	0
Aqua Utilities of Florida, Inc.—Piney Woods/Spring Lake Manor†	172	100	0	0	0	0
Aqua Utilities of Florida, Inc.—Quail Ridge Estates†	172	94	0	0	6‡	
Aqua Utilities of Florida, Inc.—Skycrest†	172	100	0	0	0	0
Aqua Utilities of Florida, Inc.—Stone Mountain†	172	100	0	0	0	0
Aqua Utilities of Florida, Inc.—Valencia Terrace†	172	100	0	0	0	0
Aqua Utilities of Florida, Inc —Venetian Village†	172	100	0	0	0	0
Clerbrook Golf and RV Resort	148	89.01	0	2.09	0	8.9
Clermont, City of	216	89.7	4.7	0	5.6	0
Eustis, City of	124	98.11	0	1.89	0	0
Fruitland Park, City of	200	100	0	0	0	0

Groveland, City of	112	82	10	1.6	1.7	3.8
Hawthorne at Leesburg	259	75.99	13.47	8.9	1.65	0
Howey-in-the-Hills, Town of	253	78	6	7	9	0
Lady Lake, Town of	117	89	4.5	1.5	5	0
Lake Griffin Isles	119	89.96	0	0.04	0	10
Lake Utility Services Inc.	373	58.15	1.15	1.06	34.43	5.22
Leesburg, City of	230	55.42	42.49	1.43	0.66	0
Macscotte, City of	69	94.24	0	0	5.76	0
Mid Florida Lakes	250	83.53	6.96	4.64	4.64	0.23
Minneola, City of	155	74	13	0	13	0
Montverde, Town of	152	70	27	0	0	3
Mount Dora, City of	194	78	9	10.01	0	2.99
Plantation at Leesburg	305	93.43	2.1	0	4.47	0
St. Johns River Water —Astor Water Park Assoc.	129	84	9	7	0	0
Southlake Utilities Inc.†	268	87.02	5.96	0	7.02‡	
Sunlakes Estates±	607	81.95	0	15.95	2.1	0
Tavares, City of	178	70	18	3	2	7
Umatilla, City of	155	100	0	0	0	0
Utilities Inc of Pennbrook	104	82.16	4.63	6.61	6.61	0
Village Center Community Development	233	74.47	8.72	7.32	0.45	9.05
Water Oak Utilities Inc.	307	86.66	0	2.54	0.61	10.18
Wedgewood Homeowners Association Inc.	227	87	4.1	0	1.3	7.6

*Gross per capita is not strictly a residential per capita. All water use types served by the utility are included (e.g., commercial, industrial, residential). This is the gross per capita for year 2030.

** Household (%) includes residential customer irrigation

*** Irrigation (%) does not include residential customer irrigation

†Gross per capita value represents the utility as a whole

The percent water use by category was obtained from information provided in the CUP, technical staff report.

The most current percent water use by category may not be reflected for permits that are pending.

Source: Source: St. John's Water Management District's draft Water Supply Assessment (WSA) 2008, 1/23/2009.

The Public Water Supply Use for 1995, 2005, and projected 2030 Table, Public Supply Water Use by Type for 1995, 2005, and projected 2030 Lake County Table and Active Consumptive Use Permits Table are attached under Appendix A. Maps showing the Active Public Supply Consumptive Use Permits and Wellhead Protection Zones, Active Well Points Consumptive Use Permits No Public Supply, Domestic Self Supply and Irrigation Wells, and Consumptive Use Permit Boundarie are attached unde Appendix B.

SURFACE WATER

Point Source Discharges

Point sources generally have a human-made discharge point such as a pipe or channel. These are discharged into water bodies at discrete points. A point source permitting program has been implemented for domestic and industrial wastewater facilities that discharge either to surface or ground water. The Department of Environmental Protection maintains a listing of these permitted point source pollution discharges to surface waters located within Lake County. This list, when combined with the inventory of marinas, use of chemical sprays, traffic activity, acid rain, and other storm water runoff issues, gives a fairly complete inventory of all surface water pollution sources in the County.

Nonpoint Source Discharges

Land use coverage is a significant indicator of nonpoint source pollution. Nonpoint source pollution is difficult to monitor because of the diffuse and intermittent nature of discharges. The fact that most nonpoint source pollution occurs during the "first flush" of rainfall following a storm event adds to the difficulty of nonpoint source monitoring.

Though an exact definition of nonpoint source pollution is difficult, it is generally associated with runoff water from the surface which carries with it sediment, organic material, nutrients, and toxins into receiving waters. Under some circumstances ground water can become contaminated by water percolating down through the soil or through karst formations. The nonpoint source discharges in Lake County are from agricultural and urban land uses.

The Department of Environmental Protection, Florida's water management districts, Department of Agriculture and Consumer Services, Department of Health, local governments, and the public implement the State of Florida's Nonpoint Source Management Program. Their goal is to mitigate nonpoint source pollution from new land use activities and to reduce pollution from existing activities. The Nonpoint Source Management Section administers the following programs:

- State Stormwater Management Program Coordination
- State Nonpoint Source Management Program
- Clean Lakes Program

The conversion of many of Lake County's muck farms into restoration areas has helped to lower phosphorous levels, but nutrient-heavy farmland still contributes to the degradation of lakes. Systematic gizzard shad removal also has increased the reduction of algae (see Fisheries section for further data). The restoration process will continue to make progress and continue to decrease phosphorous run off.

Total Maximum Daily Loads (TMDLs)

A Total Maximum Daily Load (TMDL) is the maximum amount of a given pollutant that a water body can absorb and still maintain its designated uses (e.g., drinking, fishing, swimming, shellfish harvesting). Under Section 303(d) of the federal Clean Water Act and the Florida Watershed Restoration Act, TMDLs must be developed for all waters that are not meeting their designated uses and, consequently, are defined as "impaired waters."

Through the TMDL program, the following goals are expected to be accomplished: (1) Cleaner water through more collaborative restoration efforts with increased public involvement; (2) Better use of Science to understand the human activities affecting water resources in specific locations

and cumulatively throughout our watersheds; (3) Better Protection for water bodies, as people give more attention to preventing and reducing human impacts on water resources; and (4) TMDLs will be developed, allocated, and implemented through a watershed-based management approach (managing water resources within their natural hydrological boundaries) that addresses the state's 52 major hydrologic basins which are organized into five groups.

Lake County currently does not use TMDL's in the regulatory or land use process. The County is using TMDL's to justify the priority of our basin studies for stormwater management. Regulatory changes are being looked at for the future.

Basin Management Action Plan (BMAP)

The Basin Management Action Plan (BMAP) serves as the total maximum daily loads implementation plan. The sole purpose of this plan is for equitable reduction of pollutant loadings to meet the TMDLs established for an impaired water body. The minimum elements of a BMAP, one of which is established for the Upper Ocklawaha River Basin, are as follows: (1) Description of the impaired water/identification of pollutants of concern; (2) Identification of stakeholders; (3) listing of applicable TMDL and allocations for each pollutant of concern; (4) Description of loading sources and estimate of loading contributions; (5) Listing of structural and nonstructural management actions and where applicable; (6) Their estimated load reductions; (7) Implementation roles and responsibilities; (8) Timetables and funding for implementation of management actions, monitoring, evaluation, and reporting strategy; and (9) Adaptive management measures.

As for the BMAP process, Lake County is the first BMAP to be developed in the state. The BMAP has not been adopted by the BCC yet. The anticipated benefit is improved water quality in the Upper Ocklawaha Basin through retrofit projects, improved regulations, and public education by the County, the Water Authority, and surrounding municipalities.

LAKES

The origin of most lakes in the County is sinkhole related subsidence in the covered karst terrain. The number and type of lakes vary with the geohydrologic area. In the Green Swamp and St. Johns River Valley, depressions are shallow, leading to the creation of swamps rather than lakes. The Palatlakaha Upland contains small shallow lakes that are landlocked at medium and low water stages, and they have good hydraulic connection with the Floridian aquifer. The Lake Wales Ridge has deep sink-lakes that are, for the most part, entirely landlocked and have good hydraulic connection with the Floridian aquifer. Landlocked lakes also predominate in the Sumter Upland and Mt. Dora Ridge, but they are generally deeper due to greater relief. The Marion Upland area has a variety of small, shallow lake types.

Lake levels fluctuate naturally in response to variations in rainfall, evaporation, and surface and ground water inflow and outflow. Differences in the magnitude of lake level fluctuations relate primarily to variability in the subsurface thickness and permeability of the watershed. This determines the extent to which rainfall runs off the land surface or percolates down to the water table. It also determines the extent to which water from the surficial aquifer moves down to the Floridan aquifer. Lakes in recharge areas generally fluctuate more widely than lakes in discharge areas. Lake County has 46 lakes whose surface areas are over 200 acres.

Lake County has fifteen lakes over a thousand acres in size located entirely within the County's boundaries. In addition, the County shares Lake Apopka with Orange County and Lakes Dexter and George with Volusia County. The County contains an estimated 129,900 acres of open water lakes, some of which are quite shallow such as Emeralda Marsh and Mill Stream Swamp.

Many of the shallower and smaller lakes will dry or nearly up during the dry season which typically begins in October and lasts through the middle or end of May. Conversely, the wet season usually begins late in May and runs through the end of September, although late season hurricanes in October and even November can bring in large amounts of rainfall.

Table 7 – Lake County Lakes 1,000 Acres and Greater

NAME OF LAKE	SIZE	NAME OF LAKE	SIZE
Mill Stream Swamp	1,100	Little Lake Harris	3,359
Lake Norris	1,104	Lake Yale	4,013
Lake Beauclair	1,140	Lake Dora	4,382
Lake Dorr	1,705	Lake Eustis	7,802
Lake Minneola	1,883	Lake Griffin	9,327
John's Lake	2,183	Lake Harris	15,087
Lake Minnehaha	2,298	Lake Dexter	16,511
Lake Louisa	3,161	Lake Apopka	30,173
Emeralda Marsh	3,322	Lake George	43,761

SOURCE: Lake County GIS, File: WA_LAKES_05

All lakes naturally age in a process known as eutrophication. The timeframe for this process may be hundreds or thousands of years. However, increasing the rate at which nutrients and organic matter enter aquatic ecosystems typically accelerates this process. The citrus industry has lead to the acceleration of eutrophication.

Surface Water Quality

Lake County maintains the Lake County Water Resources Atlas, available on the Internet at http://wateratlas.co.lake.fl.us/, in which water quality data is given for the county's watersheds, lakes, and rivers. Water quality is measured by the Trophic State Index (TSI). The Florida Trophic State Index (TSI) is a measure of water quality that uses algae and nutrient content to categorize lakes into four categories (see table listed below).

Table 8 - Trophic State Index

Oligotrophic	**0 - 49**	Clear waters with little organic matter or sediment and minimum biological activity
Mesotrophic	**50 - 60**	Waters with more nutrients, and therefore, more biological activity
Eutrophic	**61 - 69**	Waters extremely rich in nutrients, with high biological productivity. Some species may be choked out.
Hypereutrophic	**70 - 100**	Murky, highly productive waters, closest to the wetland status. Many clear water species cannot survive.

Source: EPA Lake County Water Resource Management Division ranked lakes in the county using the TSI in 2002 and 2003.

Table 9 - Trophic State Indices 2002/03 – 2008 for Lake County Lakes.

RANK	LAKE	2003 TSI	2004 TSI	2005 TSI	2006 TSI	2007 TSI	2008 TSI	Avg. TSI	TSI Description
1	Clear Lake (Eustis)					17		17	Oligotrophic
1	North Twin Lake					18	16	17	Oligotrophic
2	Lake Melton	23						23	Oligotrophic
2	Lake Sellers	15	33		26		19	23	Oligotrophic
3	Lake Cooley	28		21		27		25	Oligotrophic
4	Lake Dalhousie	35	27	24		36	16	28	Oligotrophic
4	South Boat Lake					28		28	Oligotrophic
5	Lake Owen					29		29	Oligotrophic
6	Lake Junietta					28	**31**	30	Oligotrophic
6	Lake Gibson	28		21		41	29	30	Oligotrophic
7	South Twin Lake	34		24			34	31	Oligotrophic
7	Lake Blanchester	31				42	19	31	Oligotrophic
7	Lake Idamere	38		37	**23**	**33**	**25**	31	Oligotrophic
8	Lake Pearl	32		27		44	25	32	Oligotrophic
8	Palatlakaha River @ Haw.						**32**	32	Oligotrophic
8	Lake Schimmerhorn	28	32		27		42	32	Oligotrophic
8	Lake Dorr	40	39	35			15	32	Oligotrophic
9	Island Lake	33		24	38	38		33	Oligotrophic
9	Lake Swatara	47		31	23	32		33	Oligotrophic
9	Lake Joanna	36	**39**	**31**	**29**	**32**	**33**	33	Oligotrophic
9	Lake Woodward	46	34	40	**24**	30	26	33	Oligotrophic
10	Lake Moon	30				37		34	Oligotrophic
10	Lake Grasshopper South	42	37				22	34	Oligotrophic
10	Lake Lucy	43	**24**	36	32			34	Oligotrophic
10	Sawgrass Lake	40	34	24	38			34	Oligotrophic
11	Trout Lake (Clermont)	41	43		42	14		35	Oligotrophic
12	Lake Myrtle					37	34	36	Oligotrophic
12	Lake Gertrude	40		40	**32**	**32**	**34**	36	Oligotrophic
12	Plum Lake	32		32	43			36	Oligotrophic
12	Lake Nellie	43			37		27	36	Oligotrophic
13	Jacks Lake			34	39			37	Oligotrophic
13	Lake Holly	44		31		**37**		37	Oligotrophic
13	Lake Wilson	46	**34**	**17**	37	53		37	Oligotrophic
14	Big Creek	43	**40**	**32**	**39**	**40**	**31**	38	Oligotrophic

RANK	LAKE	2003 TSI	2004 TSI	2005 TSI	2006 TSI	2007 TSI	2008 TSI	Avg. TSI	TSI Description
15	Wildcat Lake	36	49		28			38	Oligotrophic
15	Lake Hammond	66	62		12	31	18	38	Oligotrophic
15	Bear Lake (Paisley)	38						38	Oligotrophic
16	East Crooked Lake	31	**48**	34	**66**	**20**	**32**	39	Oligotrophic
16	Lake Eldorado	34	31	57		49	24	39	Oligotrophic
17	Church Lake				39	40		40	Oligotrophic
17	East Lake (Umatilla)	48				31		40	Oligotrophic
17	Lake Saunders	43		**39**	**34**	**47**	**35**	40	Oligotrophic
17	Pine Island Lake	44	51		17	47		40	Oligotrophic
17	Lake Etowah				40			40	Oligotrophic
17	Lake Nettie				40			40	Oligotrophic
17	Loch Leven	43		40	**39**	39		40	Oligotrophic
18	West Crooked Lake	28			53			41	Oligotrophic
18	Lady Lake	45	48		30		39	41	Oligotrophic
18	Lake Gary	50			31			41	Oligotrophic
18	Cresent Lake	53	35		39	35		41	Oligotrophic
18	Lake Beakman	36	50				36	41	Oligotrophic
19	Blue Lake					42		42	Oligotrophic
19	Lake Dixie	36	58		46	37	33	42	Oligotrophic
19	Lake Emma	44	**48**	**50**	**39**	**30**		42	Oligotrophic
20	Fish Lake				25	60		43	Oligotrophic
20	Grassy Lake			44	41			43	Oligotrophic
20	Lake Minnehaha	44	**43**	**37**	**48**	**44**	**40**	43	Oligotrophic
20	Lake Umatilla	49	39	34		45	47	43	Oligotrophic
20	Lake Akron	43		43				43	Oligotrophic
20	Palatlakaha River @ SR50	45	**51**	**42**	**39**	**47**	**35**	43	Oligotrophic
21	Lake Bracy	53		39		42		45	Oligotrophic
21	Lake Hancock	53	53		32	46	40	45	Oligotrophic
21	Turkey Lake					45		45	Oligotrophic
21	Lake Ella	45		45				45	Oligotrophic
21	North Grasshopper Lake						45	45	Oligotrophic
21	Erie Lake			41	47	48		45	Oligotrophic
22	Cherry Lake	44	**50**	**52**	**43**	**40**		46	Oligotrophic
22	Lake Irma (Eustis)	46						46	Oligotrophic
22	Lake Minneola	51	**50**	**50**	**46**	**42**	**37**	46	Oligotrophic
23	Lake Seneca	56		57	31	42		47	Oligotrophic

RANK	LAKE	2003 TSI	2004 TSI	2005 TSI	2006 TSI	2007 TSI	2008 TSI	Avg. TSI	TSI Description
23	Sawmill Lake	52				41		47	Oligotrophic
23	Lake Sumner	47						47	Oligotrophic
23	Palatlakaha River @ CR48	45	**50**	**46**	**47**		**47**	47	Oligotrophic
23	Lake Kirkland	48	53	53	47	35		47	Oligotrophic
23	Lake Arthur	38			72	32		47	Oligotrophic
23	Johns Lake	53		**45**	**33**	**53**	**53**	47	Oligotrophic
24	Lake Dexter	39	56					48	Oligotrophic
24	Lake Norris	47			48			48	Oligotrophic
24	Lake Louisa	48	**58**	**55**	**39**	**43**	**42**	48	Oligotrophic
24	Lake Hiawatha	43	**54**	**51**	**46**	**48**	**44**	48	Oligotrophic
24	Silver Lake	50	**54**	**46**	**44**	**45**		48	Oligotrophic
24	Lake St. Clair					48		48	Oligotrophic
24	Lake Mack	47	49					48	Oligotrophic
25	Lake Florence	58	65		28			50	Mesotrophic
26	Little Creek	48	**43**	**40**	**61**	**59**	**53**	51	Mesotrophic
26	Lake of the Woods					51	51	51	Mesotrophic
27	Stagger Mud Lake	43	61					52	Mesotrophic
27	Indianhouse Lake	54			59	44		52	Mesotrophic
28	Lake Lulu (Paisley)	53						53	Mesotrophic
28	Flat Lake				53			53	Mesotrophic
29	Lake Felter				54			54	Mesotrophic
29	Lake Francis	54						54	Mesotrophic
30	Lake Catherine (Groveland)	46	50		51	64	62	55	Mesotrophic
31	Sunset Pond	56						56	Mesotrophic
31	Lake Unity	60	59		49			56	Mesotrophic
32	Lake Hermosa					57		57	Mesotrophic
32	Lake Palatlakaha						**57**	57	Mesotrophic
33	Lake Glona	59	54	80	50	49		58	Mesotrophic
34	Lake Yale	64	**56**	**57**	**54**	**57**	**69**	60	Mesotrophic
35	Schoolhouse Lake					61		61	Eutrophic
36	Lake Harris	60	**63**	**57**	**63**	**67**	**67**	63	Eutrophic
37	Little Lake Harris		**60**	**53**	**68**	**65**	**72**	64	Eutrophic
37	Green Lake						64	64	Eutrophic
38	Lake Victoria						65	65	Eutrophic
38	Trout Lake (Eustis)	64		56	**74**	**73**	60	65	Eutrophic
39	Lake Carlton					71	62	67	Eutrophic

RANK	LAKE	2003 TSI	2004 TSI	2005 TSI	2006 TSI	2007 TSI	2008 TSI	Avg. TSI	TSI Description
39	Haynes Creek		**68**	**65**	**66**	**65**	**71**	67	Eutrophic
39	Lake Eustis	67	**72**	**69**	**58**	**68**	**68**	67	Eutrophic
40	Dora Canal						**68**	68	Eutrophic
41	Lake Griffin	73	**70**	**65**	**61**	**75**	76	70	Hypereutrophic
42	Lake Enola					73		73	Hypereutrophic
43	Lake Dora	79	**74**	**73**	**70**	**75**	**80**	75	Hypereutrophic
44	Lake Beauclaire	75	**83**	**79**	**78**	**77**	**75**	78	Hypereutrophic
45	Lake Denham		79					79	Hypereutrophic

Numbers in bold lettering indicate that calculation was performed on multiple samples and/or sampling events. All other results were calculated on one sample/event.

High phosphorous levels, which make a water body conducive to algae growth, have been of primary concern. The Ocklawaha Basin, according to recent data, has seen remarkable improvement in many of its lakes, with phosphorous levels close to those established by the Department of Environmental Protection.

Lake Griffin has made the biggest improvement and may soon reach target levels (see Fisheries section for further data). The phosphorous concentration for Lake Apopka is 80 parts per billion, which is less than half of the 175 parts per billion averages from 1991 to 2000. Lake Beauclaire has also achieved a significant decrease, reporting less than half its 1991-2000 phosphorous levels. Still, at more than 75 parts per billion, there is still work to do to reach the target 32 parts per billion.

Lake Yale and several other lakes are still posting phosphorous levels higher than from 1991-2000. Lake Harris has also had increased phosphorous levels, but has seen a decrease in chlorophyll levels. A spike in phosphorous levels due to the deluge of storm water following hurricanes Charley, Francis, and Jeanne, is expected to show up in the monitoring results.

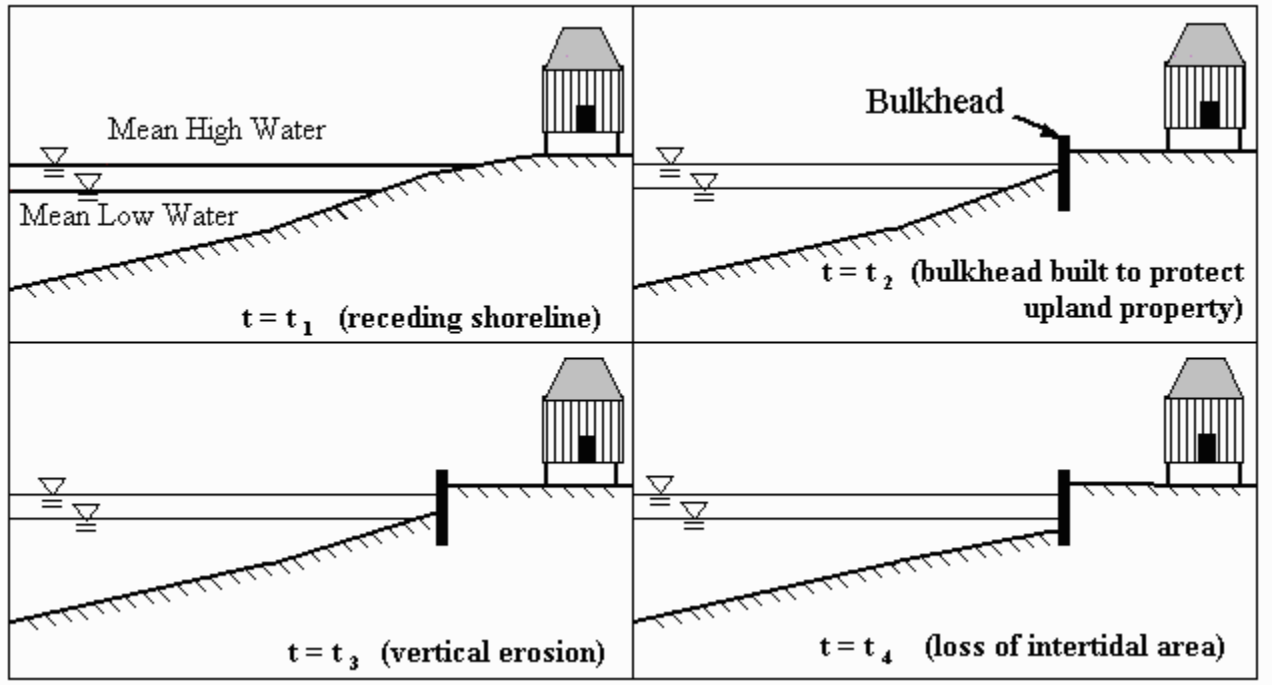
Shoreline Protection

The many water bodies are one of the things that attract people to move to Lake County. As more homes are built along rivers, lakes, and streams, shoreline erosion is a growing concern. Homeowners are often fearful of losing some of their property to shoreline erosion and chose to put manmade structures, such as seawalls and bulkheads, to combat the problem.

Seawalls eliminate the natural vegetation and slope that separates the water from the uplands. The wave action off seawalls increases the amount of sediment movement and causes a decrease in vegetation growth. Studies have shown that seawalls increase the amount of sediment downstream. In addition, seawalls prevent the natural movement of water in storm events that increases flooding.

Figure 4 – Conceptual Diagram

How a bulkhead built on a naturally receding shoreline modifies the nearshore coastal processes as it protects upland property. Landward recession is converted to vertical erosion and areas in front of the wall that were dry beach or intertidal habitat begin to disappear and eventually become underwater



The Clermont Chain of Lakes

The Clermont Chain of Lakes - consisting of Lakes Louisa, Susan, Crescent, Minnehaha, Winona, Palatlakaha, Hiawatha, Minneola, Wilson, Cook, Cherry, Stewart, Lucy, and Emma, and the waterways that connect these lakes - were designated as Outstanding Florida Waters (OFW). The state of Florida defines an OFW as water designated worthy of special protection because of its natural attributes. The chain is connected by the Palatlakaha River and is a Zone of High Recharge for the Floridian Aquifer. A map showing the Recharge Areas of the Floridan Auqifer is attached under Appendix B.

The designation as an OFW prohibits the issuing of permits which would allow the degradation of the water's quality. Any new pollutant discharge would be subject to requirements that must be met for direct and indirect discharges. New direct pollutant discharges must not lower existing ambient water quality. New indirect pollutant discharges (discharges to waters which influence OFW's but not placed directly into an OFW) must not significantly degrade nearby Outstanding Florida Waters.

Aquatic Plant Management

Lake County Mosquito and Aquatic Plant Management (LCMAPM) assume the responsibility of managing invasive aquatic plants within Lake County. Aquatic plant management activities are performed on approximately 78,700 acres of public waters. The St. John's River, including Lake George, is under the jurisdiction of the U.S. Army Corps of Engineers. However, management activities for minor invasive aquatic plants on the residential canals off the St. John's River located within Lake County, as well as Alexander Springs Run, are the responsibility of LCMAPM. Aquatic

plant management on Lake Apopka and the Apopka-Beauclair Canal up to the water control structure are the responsibility of the St. John's River Water Management District.

Aquatic plant management activities performed by LCMAPM are separated into three programs. The Florida Fish and Wildlife Conservation commission' Cooperative Aquatic Plant Control Program (Chapter 68F-54, F.A.C.) provides state funding for the management of major exotic and invasive aquatic plants on water bodies that meet strict eligibility requirements. The Major Exotic and Invasive Aquatic Plant Management Program (Chapter 68F-20, F.A.C.) is funded at the County level for the management of major exotic and invasive aquatic plants on public water bodies that do not meet the requirements for inclusion in the Cooperative Program. The County also funds the Minor Exotic and Invasive Aquatic Plant Management Program and management activities are performed primarily on residential canals.

Cooperative Aquatic Plant Control Program

Water Hyacinth, Water Lettuce, Hydrilla, and other exotic and invasive aquatic plants that interfere with navigation or adversely impact the ecological diversity of natural aquatic flora are considered for management activities under the Cooperative Program. Only those water bodies that meet the eligibility requirements as defined in Chapter 68F-54, F.A.C. are included in this program. The cost of management activities performed on inter-county water bodies are reimbursed at 100% from the State while those on intra-county water bodies are reimbursed at 50%.

A severe drought during FY1999-2000 and FY2000-2001 significantly lowered water levels. Aquatic plant growth declined and the total treated acres were less than previous years. Increasing water levels during FY2001-2002, FY2002-2003, and FY2003-2004 stimulated aquatic plant growth and management activities intensified.

Table 10 - Cooperative Aquatic Plant Control Program: Total Acres Treated Costs for Inter-County Water Bodies

	FY2003-2004		FY2004-2005		FY2005-2006		FY2006-2007		FY2007-2008	
Water Body	Acres Treated	Cost	Acres Treated	Cost	Acres Treated	Cost	Acres Treated	Cost	Acres Treated	Cost
Alexander Spring Run	-	-	-	-	-	-	-	-	125	19338.42
Apopka-Beauclair Canal	32.00	3894.58	44.77	6278.21	58.32	13088.61	40.90	15422.34	42.26	7926.04
Bugg Springs Run	10.00	580.73	20.68	6771.59	23.25	4045.31	18.06	1811.41	12.19	1565.41
Cherry Lake	15.50	1807.07	0.50	207.61	2.00	358.39	0.50	780.50	0.00	316.82
Cook Lake	3.13	357.27	0.50	50.11	1.00	171.65	0.75	302.66	0.00	129.42
Crescent Lake	0.00	24.86	2.75	429.58	0.50	176.37	0.60	588.15	0.45	746.93
Dead River	9.52	3024.92	23.21	9077.53	21.79	10781.66	1.20	3187.41	1.26	1257.01
Dora Canal	4.43	1342.98	5.50	2386.23	26.52	11593.06	3.31	3283.84	1.18	1439.00
Haines Creek	32.41	23367.97	4.26	2123.65	12.93	9172.14	4.80	2226.77	8.99	3601.53
Helena Run	18.66	4427.60	26.41	13776.40	49.34	21674.75	12.50	2691.25	22.53	6556.35
Johns Lake	302.37	35108.83	108.01	15604.26	375.45	211775.44	357.96	144170.23	238.87	71722.55
Lake Beauclair	9.59	1330.41	17.75	7664.79	11.91	5974.17	2.54	1257.10	5.40	2768.28

	FY2003-2004		FY2004-2005		FY2005-2006		FY2006-2007		FY2007-2008	
Water Body	Acres Treated	Cost	Acres Treated	Cost	Acres Treated	Cost	Acres Treated	Cost	Acres Treated	Cost
Lake Carlton	0.00	144.13	1.00	346.95	0.00	56.04	0.00	305.12	0.06	127.46
Lake Denham	0.25	185.13	0.00	182.41	1.00	248.58	0.00	150.51	1.25	512.26
Lake Dora	0.14	453.52	2.85	1351.84	0.85	838.60	0.00	1087.24	0.75	1470.93
Lake Ella	3.90	3727.33	3.59	2905.86	7.10	7149.89	6.71	1671.69	11.77	1905.71
Lake Emma	0.00	0.00	0.00	210.36	0.25	73.23	0.00	526.19	0.01	429.48
Lake Eustis	542.08	270190.12	124.75	60831.64	465.80	263890.88	627.28	344223.14	20.45	8188.69
Lake Griffin	519.48	173113.28	306.39	138901.51	261.62	129293.23	280.65	129718.15	52.79	24094.75
Lake Harris	301.67	262698.35	917.01	694460.06	1161.58	705412.73	53.60	30620.19	55.68	26692.49
Lake Hiawatha	1.25	281.58	1.00	257.75	4.13	736.65	6.00	1831.24	5.69	1755.29
Lake Holly	0.00	0.00	0.00	267.01	0.00	315.65	2.81	1702.04	2.47	966.03
Lake Louisa	158.33	10441.78	5.00	1063.50	3.25	832.21	1.13	1870.98	0.03	1304.15
Lake Lucy	0.00	0.00	0.00	286.63	0.25	92.58	0.00	457.68	0.25	568.22
Lake Minnehaha	12.00	1245.05	2.56	663.44	5.59	1526.76	6.36	1928.96	1.32	1287.64
Lake Minneola	20.50	1873.70	2.50	1528.30	0.13	152.08	0.01	656.30	0.32	838.18
Lake Norris	0.00	93.08	2.50	1336.52	1.50	321.78	0.00	341.19	6.25	1278.14
Lake Palatlakaha	12.13	535.76	1.50	260.21	3.31	573.87	6.12	2050.74	1.10	1119.97
Lake Susan	1.50	232.54	2.19	391.10	2.50	669.58	8.54	2347.58	1.13	559.74
Lake Wilson	0.88	328.72	0.00	0..00	0.00	77.81	0.38	223.33	0.00	170.09
Lake Winona	9.50	859.62	2.78	780.20	0.81	1034.93	0.79	901.65	1.84	1229.96
Lake Yale	7.14	1921.32	17.83	5321.69	8.55	2533.35	9.22	5384.69	9.21	2851.04
Palatlakaha River	29.58	3896.96	9.67	3321.56	49.28	11671.65	63.00	22409.89	38.91	12800.86
Sellers Lake	0.00	0.00	0.00	448.14	0.00	56.19	0.25	358.36	0.00	576.99
St Johns River	-	-	-	-	-	-	-	-	16.75	5159.59
Trout Lake	7.72	1592.34	12.76	2405.06	14.95	1966.44	9.55	3708.38	20.27	3754.75
Totals	2065.66	565910.53	1668.22	981891.07	2575.46	140049.93	1525.38	730196.70	564.68	208110.17

SOURCE: Lake County Aquatic Plant Management, 2008

NOTE: All costs are 100% reimbursed from the State.

Note: Cost is in US dollars

Table 11 - Cooperative Aquatic Plant Control Program: Total Acres Treated and Costs for Intra-County Water Bodies

	FY2003-2004		FY2004-2005		FY2005-2006		FY2006-2007		FY2007-2008	
Water Body	Acres Treated	Cost	Acres Treated	Cost	Acres Treated	Cost	Acres Treated	Cost	Acres Treated	Cost
Grasshopper Lake	0.00	62.05	0.00	80.92	0.00	146.35	0.00	485.56	0.00	444.28
Lake Dalhousie	0.00	46.54	0.00	161.06	0.00	64.67	0.00	185.82	1.21	2123.87
Lake David	0.00	85.50	0.00	36.27	0.00	0.00	0.00	359.63	0.00	369.60
Lake Dorr	0.05	228.77	2.13	864.61	0.00	113.13	10.12	2302.32	4.31	1565.74
Lake Umatilla	0.00	76.28	0.13	219.57	0.00	136.98	0.00	352.73	0.00	381.66
Wildcat Lake	0.00	62.05	0.00	105.71	0.00	201.25	0.12	612.13	0.00	489.77
Totals	0.05	561.19	2.26	1226.16	0.00	662.38	10.24	4298.16	5.52	5374.92

SOURCE: Lake County Aquatic Plant Management, 2008 NOTE: All activities are funded at a 50/50 cost share between the State and Lake County. * No treatment acres reported. Cost is for survey activities only. Note: Cost is in US Dollars

Major Exotic Invasive Aquatic Plant Management Program

Public water bodies that do not meet the eligibility requirements for inclusion in the Cooperative Program are considered for the Major Exotic Invasive Aquatic Plant Management Program. Only Water Hyacinth and Water Lettuce are managed to prevent possible infestation to other water bodies and to promote the growth of desirable native aquatic vegetation. Hydrilla management is excluded due to the costs associated with these activities. Lake County assumes all expenses. Table 10 summarizes the acres treated and associated costs for this program.

Table 12 - Major Exotic Invasive Aquatic Plant Management Program: Total acres treated and associated costs for public water bodies located in Lake County, Florida.

	FY2003-2004		FY2004-2005		FY2005-2006		FY2006-2007		FY2007-2008	
Water Body	**Acres Treated**	**Cost**	**Acres Treated**	**Cost**	**Acres Treated**	**Cost**	**Acres Treated**	**Cost**	**Acres Treated**	**Cost**
Big Bear Lake	34.66	2694.34	0.00	74.87	0.00	0.00	0.00	0.00	0.00	0.00
Dukes Lake	0.00	33.00	0.00	73.44	0.00	0.00	0.00	71.66	0.00	0.00
Lake Catherine	0.00	13.73	0.00	0.00	0.00	0.00	0.00	249.89	0.00	0.00
Lake Erie	4.75	724.81	3.50	260.93	4.50	556.49	5.50	1395.12	0.00	440.51
Lake Junietta	1.50	363.46	0.00	0.00	0.06	92.07	0.00	31.19	2.00	233.47
Lake Lulu	0.00	0.00	1.75	499.24	4.00	569.96	1.00	381.42	3.25	1072.04
Pretty Lake	5.16	685.75	46.00	2966.68	23.00	2964.89	21.00	3323.10	.01	409.04
Lake Saunders			0.00	69.36	0.00	0.00	0.00	139.50	0.00	265.03
Sawgrass Lake	0.00	0.00	0.00	0.00	0.00	0.00	0.00	228.47	0.00	0.00
Lake Unity			0.00	18.15	0.00	0.00	0.00	0.00	0.00	81.96
Totals	46.07	4515.09	51.25	3962.67	31.56	4183.41	27.50	5820.35	5.26	2502.05

SOURCE: Lake County Aquatic Plant Management, 2008

Lake County encumbers all costs for management activities under this program. Note: Cost is in US Dollars

Minor Exotic Invasive Aquatic Plant Management Program

Duckweed, Salvinia, Pennywort, and other minor exotic invasive aquatic plants that interfere with navigation or potentially create flooding situations are considered for management activities under the Minor Exotic Invasive Aquatic Plant Management Program. These activities are conducted on residential canals connected to public water bodies and on navigational channels. In FY1992-93, state funding for this program was discontinued. Lake County continues to fund this program to maintain lake access and reduce potential flooding. Table 11 summarizes the acres treated and associated costs for this program.

Table 13 - Minor Exotic Invasive Aquatic Plant Management Program: Total acres treated and associated costs for public water bodies located in Lake County, Florida. Lake County encumbers all costs for management activities under this program

	FY2003-2004		FY2004-2005		FY2005-2006		FY2006-2007		FY2007-2008	
Water Body	Acres Treated	Cost	Acres Treated	Cost	Acres Treated	Cost	Acres Treated	Cost	Acres Treated	Cost
Apopka-Beauclair Canal	10.09	649.53	1.50	174.10	8.31	2492.56	12.58	1817.38	16.00	1458.58
Crescent Lake	0.00	46.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dead River	10.82	2607.35	16.75	2865.61	9.12	1724.02	6.00	1273.97	15.25	2532.78
Dora Canal	0.89	209.28	0.00	19.17	2.00	162.42	5.50	757.23	3.56	504.45
Haines Creek	0.00	47.32	3.25	434.99	4.50	611.92	0.50	106.08	14.25	1653.86
Helena Run	0.50	77.64	4.00	313.60	6.00	429.94	2.00	201.40	6.00	695.81
Lake Beauclair	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	101.62
Lake Denham	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.50	167.14
Lake Dora	0.50	89.41	2.00	227.86	0.00	28.09	0.00	30.08	0.00	18.76
Lake Ella	0.00	0.00	0.00	0.00	0.00	46.82	0.00	0.00	0.00	0.00
Lake Emma	0.00	27.44	2.00	343.47	2.00	364.33	0.00	0.00	0.00	0.00
Lake Eustis	52.58	7271.07	71.44	12295.23	36.51	5953.07	41.58	7117.16	54.84	5980.98
Lake Griffin	12.83	1817.99	22.67	2255.73	29.95	3618.29	11.03	1693.55	18.78	3525.22
Lake Harris	7.74	1308.53	25.24	2628.43	27.38	5987.05	15.21	2172.10	14.43	2797.88
Lake Hiawatha	1.00	103.00	3.50	367.72	4.75	488.69	0.00	0.00	2.00	78.73
Lake Holly	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lake Idamere	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lake Louisa	5.75	585.04	1.00	122.36	2.00	115.15	0.00	0.00	0.12	38.66
Lake Minnehaha	0.00	0.00	0.00	0.00	1.25	120.65	0.00	0.00	0.00	0.00
Lake Minneola	2.25	302.30	4.00	536.57	3.25	427.87	0.00	0.00	0.50	159.65
Lake Susan	0.16	20.11	0.50	66.59	0.00	0.00	0.00	0.00	1.00	122.08
Lake Willson	0.00	46.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lake Winona	1.00	208.09	1.00	286.49	3.25	317.34	0.00	0.00	0.00	65.65
Lake Yale	4.50	734.18	10.33	1142.23	5.66	590.04	7.00	1049.99	6.00	492.16
Palatlakaha River	2.25	461.20	0.50	41.61	0.00	11.69	0.12	60.56	0.50	77.57

Water Body	FY2003-2004		FY2004-2005		FY2005-2006		FY2006-2007		FY2007-2008	
	Acres Treated	Cost	Acres Treated	Cost	Acres Treated	Cost	Acres Treated	Cost	Acres Treated	Cost
St Johns River	23.17	4848.19	51.07	7515.35	38.10	5675.98	84.48	17465.46	132.00	28084.44
Trout Lake	7.25	501.80	4.00	419.99	7.83	629.23	2.67	277.80	7.25	478.65
Totals	143.28	21962.55	224.75	32057.10	191.86	29795.15	188.67	34022.76	294.98	49034.67

Projected Trends for Aquatic Plant Management in Lake County

Growth of Water Hyacinth, particularly on Lake Louisa and John's Lake, significantly increased during FY2002-2003 as compared to the three previous fiscal years. Management activities were targeted for those water bodies with the greatest potential for infestation and Water Hyacinth populations started declining toward the end of FY2003-2004. Survey results for Hydrilla indicate expanding populations in Lakes Harris, Griffin, and Eustis. Management activities were scheduled for these three lakes in FY2003-2004 and FY2004-2005. Such activities are expected to continue as needed.

Minor exotic invasive aquatic plant management will continue in residential canals. Salvinia has shown some resistance to previously used herbicides in certain locations. However, this problem has been resolved by using different herbicide formulations, but the cost has increased accordingly. A less dominant species of Duckweed (*Landoltia* spp.) has emerged in certain residential canals due to a lack of competition from previously managed more dominant species. *Landoltia* spp. is not affected by currently available herbicide formulations. Consultation with research institution staff and technical representatives on appropriate management strategies will continue.

RECHARGE AREAS

A map showing the Recharge Areas of the Floridan Auqifer is attached under Appendix B.

The following reports are references that were prepared in cooperation with the St. John's River Water Managemnt District (SJRWMD)::

1. Evapotranspiration from Successional Vegetation in a Deforested Area of the Lake Wales Ridge, Florida (USGS Water-Resources Investigations Report 96–4244)

This is a USGS report on a study of measured evapotranspiration (ET) from a location on one of the WCII RIB sites. This report concentrates on the successional vegetation that is now characteristic of much of the former citrus acreage in Lake and Orange Counties. The ET rates for the various forms of land cover are used to calculate recharge in various groundwater assessments and modeling studies by consideration of the mass balance between rainfall, ET, runoff and recharge.

In the last paragraph of the Summary and Conclusions (page 36), the report concludes that for the successional vegetation areas of the Lake Wales Ridge:

> "Measured precipitation over the study period (1,320 mm) was about equal to mean annual precipitation for the area (1,300 mm). Neglecting changes in storage of water above the water table and assuming negligible surface runoff, the measured data imply that about 570 to 700 mm of recharge to the surficial aquifer occurred over the 1-year study period."

The official abstract presents the same conclusion with conversion to non-metric units:

> "These data indicate that of the 1,320 millimeters (52 inches) of precipitation during the 1-year event, about 570 to 700 millimeters (22 to 28 inches) recharged the surficial aquifer."

2. Hydrogeology and Simulation of the Effects of Reclaimed-Water Application in West Orange and Southeast Lake Counties, Florida (USGS Water-Resources Investigations Report 97–4199)

This is a report on a groundwater model of the WCII area developed by a USGS staff member. Groundwater recharge rates in the WCII are shown in Figure 26 on page 45.

3. Simulation of Ground-Water Flow in the Intermediate and Floridan Aquifer Systems in Peninsular Florida (USGS Water-Resources Investigations Report 02–4009)

This is a report on a very large regional groundwater model of north and central Florida by USGS staff member Nicasio Sepúlveda. This model is generally referred to as "the Mega Model", and it includes the WCII area. Groundwater recharge rates are shown in Figure 55 on page 78. The high recharge rates in the WCII area can be seen by using the county boundary lines and the discharge/low recharge zones of Lake Apopka as geographic reference marks.

4. Hydrogeology and Simulated Effects of Ground-Water Withdrawals from the Floridan Aquifer System in Lake County and in the Ocala National Forest and Vicinity, North-Central Florida (USGS Water-Resources Investigations Report 02–4207)

This report documents another USGS groundwater modeling study by USGS staff members that includes the WCII area. The high recharge conditions in the WCII area on the southwest side of Lake Apopka are clearly visible in Figure 44 on page 88.

5. Hydrogeology and Quality of Ground Water in Orange County, Florida (USGS Water-Resources Investigations Report 03–4257)

This report documents a USGS study of groundwater conditions in Orange County by a USGS staff member that includes the WCII area. The recharge rates relevant to the WCII area are discussed in pages 35 through 38. The recharge rates in the Lake County portion of the WCII area are included in Figure 27 on page 38, using data largely derived from the earlier work by a USGS staff member (Water-Resources Investigations Report 97–4199).

6. Simulation of the Effects of Groundwater Withdrawals on the Floridan Aquifer System in East Central Florida: Model Expansion and Revision (SJRWMD Technical Publication SJ2002-3)

This report documents the updated version of the ECF groundwater model by SJRWMD staff members. There is an extensive discussion of the basis for calculation of recharge numbers on pages 72 through 87, with Figure 41 on page 87 showing the resulting estimates of recharge to the surficial aquifer including the WCII area. Note that most of the WCII area consists of closed watersheds with no surface water discharge, and in these areas net recharge to the Floridan aquifer is essentially the same as net recharge to the surficial aquifer. Unfortunately, Figure 41 shows a very broad color block range of 15 – 45 inches of recharge per year which makes it less evident that most of the WCII area has significantly higher recharge rates than surrounding areas. This becomes more evident if the model files are used and the net recharge rates are re-contoured at a finer interval.

SPRINGS INVENTORY AND ANALYSIS

Spring flow occurs at points where the potentiometric surface of the Floridian aquifer is above the land surface and where the confining bed overlying the aquifer has been breached. According to the FDEP, the major issues impacting the health of the springs include population growth, urban sprawl, growing demand for groundwater, and introduction of fertilizers, pesticides, and other pollutants into the spring sheds. Lake County has a total of thirty-three springs. The table below shows the historic and 2004 mean spring flows for Lake County's nine largest springs.

Table 14 - Historic Spring Flows

NAME	USGS ID NUMBER	MEAN SPRING FLOW FOR PERIOD OF RECORD (FT3/S)	MEAN SPRING FLOW FOR MOST RECENT YEAR (FT3/S)
Alexander Springs	02236095	104.0 1970-2008	93.6 for 2008
Apopka Springs	283400081405100	30.6 1971-2005	33.0 for 2005
Seminole Springs	02235250	35.2 1931-1995	40.0 for 1995
Messant Springs	02235255	14.7 1946-1995	18.0 for 1995
Bugg Springs	02237322	11.5 1943-2005	12.0 for 2005
Holiday Springs	02237400	3.4 1946-2005	4.5 for 2005
Blue Springs	284455081494100	2.7 1991-2005	2.8 for 2005
Helene Springs	28585027	1.1 2008 only	1.1 for 2008
Camp-La-No-Che Springs	285702081322400	0.7 1954-2001	1.1 for 2001

Source: Summary Statistics of Spring flows, USGS, 2004
St. John's River Water Management District on-line Data, 2008.

A map showing watersheds and springsheds in Lake County is attached under Appendix B.

FLORIDA AQUIFER VULNERABILITY ASSESSMENT (FAVA)

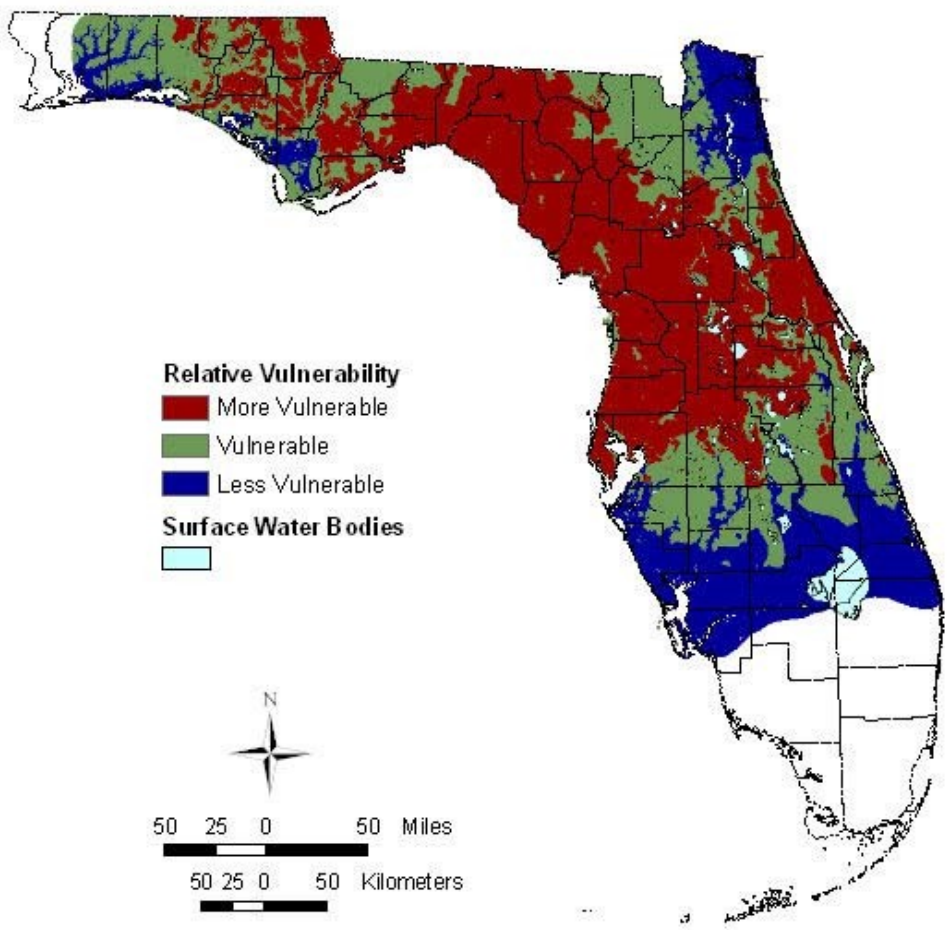
An analytical method adapted for GIS-based mineral-potential mapping has been applied to assess contamination potential of Florida's aquifer systems. The method, known as Weights of Evidence (WofE), combines evidence from known occurrences of a phenomenon with spatial data to calculate a predictive response based on Bayesian theory with an assumption of conditional independence. Prior probabilities are calculated by dividing the number of known occurrences (training points) by the study area producing a probability of occurrence without the benefit of relevant data. Weights are calculated for independent different GIS data coverage (evidential themes) based on the spatial relation between each evidential theme and training points. Results are reflected as posterior probabilities on an output map known as the response theme.

The Florida Aquifer Vulnerability Assessment (FAVA) applies the WofE method to the three principal aquifer systems in Florida through the use of the Arc Spatial Data Modeler within the ArcView 3.x platform. This extension facilitates assessment of spatial datasets, conditional independence, response theme uncertainty and validation, and provides other modeling techniques and statistical tools.

In FAVA models, training points consist of data from wells reflecting background water quality. Parameters used in the models to reflect known occurrences of aquifer vulnerability in the natural hydrogeologic system include dissolved oxygen and total dissolved nitrogen. Evidential themes include combinations of several improved or newly created statewide coverage: depth to water table, hydraulic head difference, thickness of confinement, distance to karst features, soil permeability, and aquifer system overburden. To maximize scientific defensibility of the response themes (relative vulnerability maps), models were validated using independent training data sets, training-point subsets, and by demonstrating lack of correlation between land use and posterior probability.

Aquifer vulnerability maps are an important resource for planners, developers, resource-management professionals and policy makers to facilitate protection of Florida's ground-water resources.

Figure 5 – Relative Vulnerability



WEKIVA AQUIFER VULNERABILITY ASSESSMENT (WAVA)

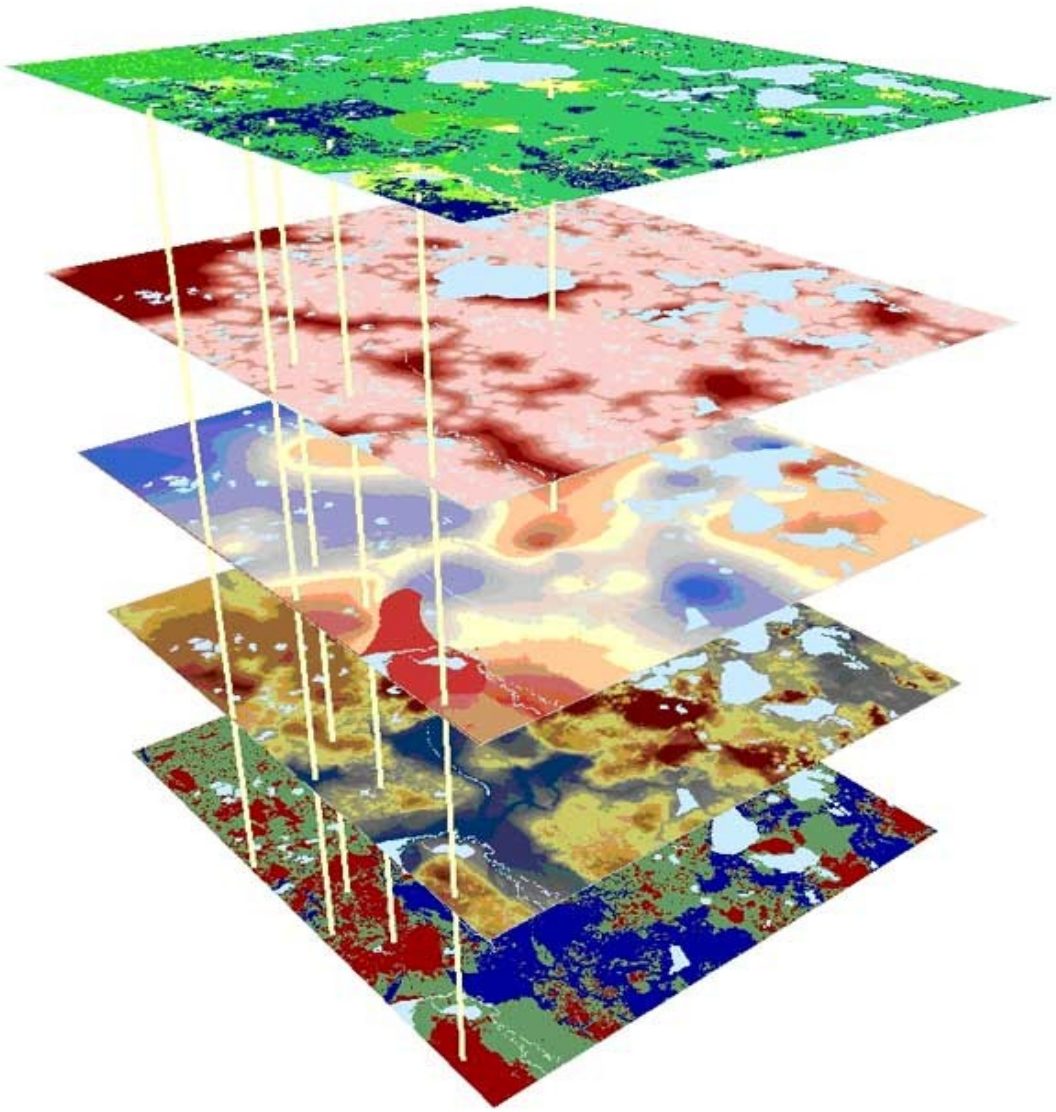
The hydrogeology of the Wekiva River study area is characterized by moderate to no confinement and a multitude of karst features. Groundwater recharges the Floridan Aquifer System (FAS) by infiltration through these sediments or directly through sinkholes. The Wekiva River Coordinating Committee Final Report identifies numerous studies by Florida's water management districts and the United States Geological Survey (USGS) that clearly demonstrate contamination attributable to changes in land use. Therefore, the FGS was authorized under the Springs Initiative and the Wekiva River Coordinating Committee to identify zones of aquifer vulnerability, for the Floridan Aquifer System, within the Wekiva River study area.

The Wekiva Aquifer Vulnerability Assessment (WAVA) is a model that uses existing geographic information system data for the prediction of vulnerability zones and is based on the weights of evidence (WofE) modeling technique used in the statewide Florida Aquifer Vulnerability Assessment (FAVA). Use of WofE requires the combination of diverse spatial data which are used to describe and analyze interactions and generate predictive models. Additional information

about the WofE technique can be found in FGS Bulletin 67, Florida Aquifer Vulnerability Assessment: Contamination potential of Florida's principal aquifer systems (in preparation).

In WAVA the spatial data is composed of a training point theme and evidential themes. The training point theme consists of locations of known occurrences. In WAVA these are wells that exceed a certain concentration of dissolved oxygen. Wells with high dissolved oxygen concentrations are indicative of areas where a good connection exists between the top of the aquifer and land surface. The evidential themes include soil permeability, buffered effective karst features, Intermediate Aquifer System (IAS) thickness, and head difference between the Surficial Aquifer System and the Floridan Aquifer System. These themes act as evidence in the model by either protecting the aquifer from contamination or allowing contamination to move quickly from land surface to the top of the aquifer system (i.e., areas of thick IAS sediments versus areas of thin IAS sediments). The WofE technique quantifies relationships between these evidential themes and the training point theme in order the predict zones of vulnerability. These zones are classified into a primary protection zone, a secondary protection zone, and a tertiary protection zone. These protection zones will be used in decision making and development of rules or policies regarding environmental conservation, protection, growth management and planning.

Figure 6 – Wekiva Conceptual Model



Wekiva Conceptual Model:

Vertical lines are training point wells. Spatial geologic layers from top down include soil permeability, proximity to karst, thickness of confinement, and head difference between the water table and the Florida Aquifer potentiometric surface. The bottom layer is the response theme or relative vulnerability model output.

RIVERS AND STREAMS

Lake County contains three river basins: the St. Johns, the Kissimmee, and the Withlacoochee. The St. Johns River basin contains both the Ocklawaha and Palatlakaha river basins. Almost one-half of the County is drained by the Ocklawaha River basin which extends across the center of the County. The northeast portion of the County drains into the St Johns River basin either directly or by way of Blackwater Creek and the Wekiva River. The remaining one-sixth of the County is drained by the headwaters of the Withlacoochee and Kissimmee Rivers.

There are a total of six rivers within or along the boundaries of Lake County. Listed below are the rivers:

- St. Johns River is the largest river in the County and is located along the northeastern boundary. The river flows north from St. Lucie County to the Atlantic Ocean near Jacksonville.
- The Ocklawaha River originates from Lake Apopka and the Lake Harris Chain of Lakes. It is the principal tributary of the St Johns River and drains the Florida central valley. It has been designated an Outstanding Florida Water.
- The Palatlakaha River is a water course connecting a series of lakes rather than a true river. It originates in Lake Lowery in Polk County and flows north through the Clermont Chain of Lakes before entering Lake Harris near Okahumpka.
- The Wekiva River begins at the confluence of Wekiva Springs Run and Rock Springs Run and flows into the St. Johns River. The river constitutes about eight miles of Lake County's eastern border. Much of the river has been protected as a state aquatic preserve and is designated an Outstanding Florida Water and a Wild and Scenic River.
- The Withlacoochee River's headwaters are located in the Green Swamp in the southwest corner of Lake County. The Withlacoochee has been designated an Outstanding Florida Water west of State Road 33.
- The Kissimmee River's headwaters are located in the southeastern portion of Lake County, in the Sawgrass Marsh area.

FLOODPLAINS

Floodplains are areas inundated during a 100-year flood event, as determined by the Federal Emergency Management Agency's (FEMA) flood insurance rate maps. The 100-year flood has been adopted by the Federal Insurance Administration (FIA) as the base flood for purposes of floodplain management. Floodplains slow the velocity of storm water run-off and are valuable as wildlife habitats and groundwater recharge zones.

Flooding may occur throughout the year but it is most common during the rainy season, from June to October. The potential for the most severe flooding is from rainfall associated with hurricanes and tropical storms or when the ground has been saturated from previous rainfall. The worst flooding in Lake County occurs within closed lake basins that depend on subsurface drainage.

Statistical analyses are used when estimating the rainfall associated with 100-year floods. Within the duration of 1 day, approximately 12 inches of rain falls, 3 days has approximately 13.6 inches, and 31 days has 21 inches.

Most floodplains occur within wetlands and around surface waters. Therefore, they are substantially protected from development. Lake County also has a floodplain ordinance that requires development in the 100-year flood plain to use strict construction standards and site plan guidelines.

Control structures are in place to regulate stream flows and are monitored by comparing the monthly mean discharges on Haines Creek and the Palatlakaha River. The pattern of daily discharges indicates that the base flow of the regulated streams is reduced.

COMPREHENSIVE PROTECTION OF WETLANDS

Estimates of wetland areas may vary greatly depending upon the methodologies used. The 1990 existing land use analysis performed by the Water Management Districts estimated the County's total wetland acreage to be around 181, 224 acres with forested and mixed forested wetlands comprising some 111,607 acres, about 62 percent of the wetland areas, and non-forested wetlands comprising about 69,613 acres, or about 38 percent of the wetland areas. The County's 2002 existing land use analysis estimated wetland acreage to be about 129,039 acres with only about 26 percent identified as non-forested wetlands. The difference probably is due to a different evaluation of open water lakes by the County which apparently did not include emergent wetlands which typically fringe lakeshores, as well as wet prairies which probably were defined as other types of open areas. During this period, Florida was undergoing a serious drought which severely impacted shallow lakes and herbaceous wetlands. This could account for a lower estimate of wetland areas, as well.

The proposed Future Land Use Map's wetland layer shows the County's total wetland acreage as 166,144 acres or 22.3% of the total land area. The areas of the County with the greatest extent of wetlands include: the Green Swamp, the lower Palatlakaha River Basin, the Blackwater Creek Basin, the Okahumpka Swamp, the St Johns River valley, Emeralda Marsh, and Double Run Swamp.

Wetlands are defined as transitional land between terrestrial and aquatic systems where the water table is usually at or near the surface or the land is covered by shallow water. They provide habitat for many species of birds, fish, and animals, and contain Aquifer Recharge Zones that allow the groundwater to be replenished. Wetlands are protected by local, regional, state, and federal regulations because of the numerous benefits they provide.

Water Quality Enhancement is provided through a natural filtration process where sediments, nutrients, agricultural and stormwater runoff and other pollutants are assimilated by the wetland vegetation, resulting in an improved water quality and shoreline protection.

Water Quantity Management is accomplished through absorption and storage of water during wet seasons and during flood conditions. Wetlands reduce flooding by providing for the slow release of stored waters into natural surface water bodies and maintaining the hydrologic balance between aquatic and terrestrial ecosystems.

WETLAND CLASSIFICATION SYSTEMS

Florida uses the Florida Land Use and Forms Classification System (FLUCCS) for classifying wetland types. FLUCCS is written for all land uses. All wetlands as described in the FLUCCS can be further described using the U.S. Fish and Wildlife Service Wetland Classification System once detailed field visits are made.

WETLAND DEVELOPMENT

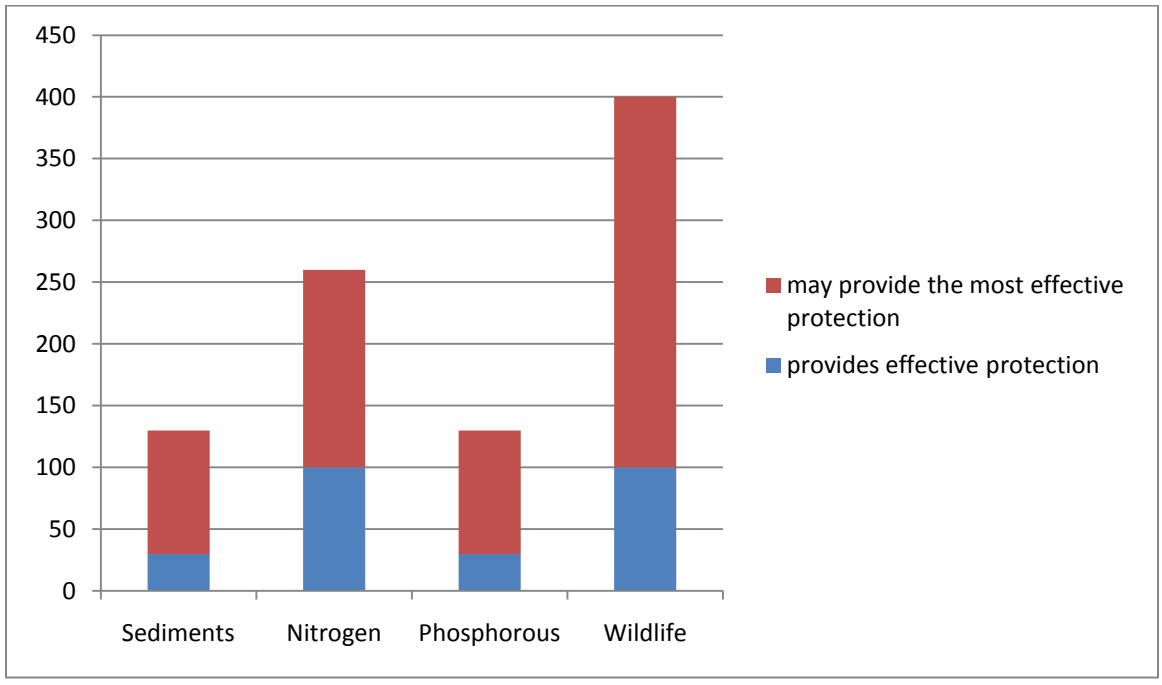
Changes in wetland quality may be brought about from natural succession, enhancement through conservation and restoration programs, or degradation through development activities such as excavating (dredging), filling, ditching/draining, clearing or edge encroachment, and peat mining. Off-site activities that cause indirect effects upon wetlands include the discharging of wastewaters and the artificial alteration of runoff flow in areas near wetlands. Edge Effects result from the lack of protective buffer areas between developing uplands and adjoining wetlands.

Wetland buffers provide a natural filter to wetlands and surface waters by absorbing pollutants and capturing debris before they are able to contaminate the wetland system. In addition, the root systems of vegetation located in the buffer provides protection from the erosion of sediments from being deposited into the wetland

Wetland buffers provide habitat for many species that rely on both upland and wetland systems for nesting, feeding, and protection from predators. Wetland buffers provide creatures with critical habitat corridors allowing them to move safely between vital habitats for their survival.

Wetland buffers also serve as an added protection to storm water management by protecting property from flooding in cases of severe storms.

Figure 7 – Buffer Distance by Function



Source: Environmental Law Institute "Planner's Guide to Wetland Buffers for Local Governments" March 2008

Wetland types vary in their ability to accept development activities without diminishing wetland functions. For this reason the compatibility of development impacts must be defined in terms of wetland type, function and significance. The compatibility of each development impact is determined by comparing the effects of the activity on each wetland function and type.

Channelization, or ditching of wetlands for the purpose of surface drainage improvements, can dewater the wetland. Another form of physical alteration of wetlands is mining or excavation. This process alters wetland biological functional values by replacing vegetative communities with open water. This can lead to degradation of water quality as the filtration processes of the wetland are removed. There has been significant excavation activity throughout the County in the form of peat mining and the creation of man-made lakes.

HABITAT AND DESIGNATED SPECIES PRESERVATION

Natural communities provide a variety of important ecological functions and provide many benefits to human society. They are a distinct population of plants, animals, fungi, and microorganisms that are naturally associated with their environment and each other, serve as noise barriers, reduce pollutants, provide habitat, and provide resources for recreation and scientific research. They are named for their most characteristic biological or physical feature.

The forms of development on Lake County's natural areas include the construction of residential and commercial structures, roads and bridges, agricultural production, mining, and timber harvesting.

In 1990, the Florida Fish and Wildlife Conservation Commission (FWC) completed a project to map Florida vegetation and land cover using 1985-89 Landsat Thematic Mapper satellite imagery. The resulting digital database contained 17 natural and semi-natural land cover types, 4 land cover types indicative of human disturbance, and 1 water class. Over the last decade, this digital database has been put to many uses. For example, staff of many state and local programs who make decisions concerning the Florida environment often have used the FWC vegetation and land cover data as indicative of current conditions on the ground. In addition, FWC staff used the vegetation data to create potential habitat models for over 130 rare and imperiled species of wildlife. In turn, the potential habitat models of rare and imperiled wildlife formed the basic information set used to identify strategic habitats for biodiversity conservation in Florida (Cox et al. 1994, Kautz and Cox 2001).

The results of the FWC strategic habitat modeling project have been widely used in Florida to help guide land acquisition, land use planning, development regulation, and land management programs. However, over time, the 1985-89 vegetation and land cover data set became increasingly out of date. Since completion of the earlier data set, Florida's resident and tourist populations have continued to grow, converting both natural and disturbed areas of the Florida landscape to human uses. By 2003 (the year of the imagery used in this project), the earlier data set (comprised mostly of 1986-87 imagery) was about 16-17 years old, and could no longer be considered current. Not only was the earlier vegetation and land cover data set becoming out of date, but so were the wildlife and strategic habitat models that were based on that data. In order to keep our vegetation, land cover, and wildlife habitat models current, FWC staff realized the need to develop a new, updated vegetation and land cover map for Florida.

Table 15 - Land Cover Acreage, Lake County

LAND COVER	ACREAGE	PERCENT OF TOTAL COUNTY ACREAGE
Xeric Oak Scrub	8,653.6	1.17%
Sand Pine Scrub	18,432.0	2.49%
Sandhill	17,123.1	2.31%
Dry Prairies	16,832.3	2.27%
Mixed Hardwood-Pine Forests	21,980.2	2.97%
Hardwood Hammocks and Forests	8,755.7	1.18%
Pinelands	55,690.2	7.52%
Freshwater Marsh and Wet Prairie	53,043.8	7.17%
Shrub Swamp	18,298.9	2.47%
Bay Swamp	3,949.7	0.53%
Cypress Swamp	27,120.8	3.66%
Mixed Wetland Forest	32,422.6	4.38%
Hardwood Swamp	62,607.6	8.46%
Open Water	103,673.8	14.01%
Shrub and Brush land	33,408.4	4.51%
Grassland	141.4	0.02%
Bare soil/ Clear-cut	9,173.4	1.24%
Improved Pasture	90,393.5	12.21%
Unimproved/Woodland Pasture	4,491.2	0.61%
Citrus	32,567.7	4.40%
Row/Field Crops	31,657.1	4.28%
High Impact Urban	19,317.4	2.61%
Low Impact Urban	63,056.7	8.52%
TOTAL	**740,109.0**	**100.00%**

SOURCE: Florida Fish and Wildlife Conservation Commission, March 2004

In addition to the data and mapping conducted by FFWCC, the Florida Natural Areas Inventory (FNAI) provides vital information used by the county to identify and protect essential habitat and species. The Florida Natural Areas Inventory begun in 1981 and runs as a non-profit organization funded by grants and contracts by various state and federal agencies. In June of 2009, FNAI updated their website to include a list that includes all the species and natural communities that occur within Lake County.

Table 16 – Natural Species found in Lake County, FL and Designation Status

COMMON NAME	FEDERAL LISTING	STATE LISTING
Plants & Lichens		
Florida Bonamia	Threatened	Endangered
Chapmans Sedge	Not Listed	Endangered
Sand Butterfly	Not Listed	Endangered
Pygmy Fringe Tree	Endangered	Endangered
Scrub Pigeon-wing	Threatened	Endangered
Piedmont Jointgrass	Not Listed	Threatened
Okeechobee Gourd	Endangered	Endangered
Spoon-leaved Sundew	Not Listed	Threatened
Scrub Buckwheat	Threatened	Endangered
Hartwrightia	Not Listed	Threatened
Florida Hasteola	Not Listed	Endangered
Star Anise	Not Listed	Endangered
Pinesap	Not Listed	Endangered
Narrowleaf Naiad	Not Listed	Threatened
Celetial Lily	Not Listed	Endangered
Britton's Beargrass	Endangered	Endangered
Cutthroat Grass	Not Listed	Endangered
Paper-like Nailwort	Threatened	Endangered
Lewton's Polygala	Endangered	Endangered
Small's Jointweed	Endangered	Endangered
Scrub Plum	Endangered	Endangered
Giant Orchid	Not Listed	Threatened
Florida Willow	Not Listed	Endangered
Silver Buckthorn	Not Listed	Endangered

COMMON NAME	FEDERAL LISTING	STATE LISTING
Scrub Stylisma	Not Listed	Endangered
Ocala Vetch	Not Listed	Endangered
Clasping Warea	Endangered	Endangered
Carter's Warea	Endangered	Endangered
Gastropods		
Dense Hydrobe Snail	Not Listed	Not Listed
Alexander Siltsnail	Not Listed	Not Listed
Flatwood Siltsnail	Not Listed	Not Listed
Seminole Spring Siltsnail	Not Listed	Not Listed
Spiders		
McCrone's Burrowing Wolf Spider	Not Listed	Not Listed
Red Widow Spider	Not Listed	Not Listed
Workman's Jumping Spider	Not Listed	Not Listed
Blue Purse-web Spider	Not Listed	Not Listed
Decapods		
Big-cheeked Cave Crayfish	Not Listed	Not Listed
Grasshoppers & Allies		
Ocala Claw-Cercus	Not Listed	Not Listed
Rosemary Grasshopper	Not Listed	Not Listed
Beetles		
Pygmy Anomala Scarab Beetle	Not Listed	Not Listed
Small Pocket Gopher Aphodius Beetle	Not Listed	Not Listed
Large Pocket Gopher Aphodius Beetle	Not Listed	Not Listed
Sand Pine Scrub Ataenius Beetle	Not Listed	Not Listed
Gopher Tortiose Copris Beetle	Not Listed	Not Listed
Scaly Anteater Scarab Beetle	Not Listed	Not Listed

COMMON NAME	FEDERAL LISTING	STATE LISTING
Red Diplotaxis Beetle	Not Listed	Not Listed
Relictual Tiny Sand-loving Scarab	Not Listed	Not Listed
Florida Hypotrichia Scarab Beetle	Not Listed	Not Listed
Three Spotted Pleasing Fungus Beetle	Not Listed	Not Listed
Punctate Gopher Tortiose Onthophagus Beetle	Not Listed	Not Listed
Florida Deepdigger Scarab Beetle	Not Listed	Not Listed
Elongate June Beetle	Not Listed	Not Listed
Diurnal Scrub June Beetle	Not Listed	Not Listed
Skelley's June Beetle	Not Listed	Not Listed
Round-Necked Romulus Long-Horned Beetle	Not Listed	Not Listed
Florida Cebrionid Beetle	Not Listed	Not Listed
Large-Jawed Cebrionid Beetle	Not Listed	Not Listed
Pygmy Silky June Beele	Not Listed	Not Listed
Scrub Palmetto Flower Scarab Beetle	Not Listed	Not Listed
Yellow-banded Typocerus Long-horned Beetle	Not Listed	Not Listed
Caddisflies		
Florida Cernotinan Caddisfly	Not Listed	Not Listed
Floridian Finger-net Caddisfly	Not Listed	Not listed
Berner's Microcaddisfly	Not listed	Not listed
Wakulla Springs Vari-colored Microcaddisfly	Not listed	Not listed
Tavares White Miller Caddisfly	Not listed	Not listed
Rasmussen's neotrichia Caddisfly	Not listed	Not listed
Little Oecetis Longhorned Caddisfly	Not listed	Not listed
Little-entrance Oxyethiran Microcaddisfly	Not listed	Not listed

COMMON NAME	FEDERAL LISTING	STATE LISTING
Pescador's Bottle-Cased Caddisfly	Not listed	Not listed
Floridian Triaenode	Not listed	Not listed
Little-fork Triaenode	Not listed	Not listed
Butterflies & Moths		
Lace-winged Roadside Skipper	Not listed	Not listed
Eastern Pine Elfin	Not listed	Not listed
Berry's Skipper	Not listed	Not listed
Zabulon Skipper	Not listed	Not listed
Fish		
Snail Bullhead	Not listed	Not listed
Lake Eustis Pupfish	Not listed	Species of Special Concern
Blackbanded Sunfish	Not listed	Not listed
Sea Lamprey	Not listed	Not listed
Bluenose Shiner	Not listed	Species of Special Concern
Amphibians		
Striped Newt	Not listed	Not listed
Gopher Frog	Not listed	Species of Special Concern
Reptiles		
American Alligator	Threatened	Species of Special Concern
Spotted Turtle	Not listed	Not listed
Eastern Diamondback Rattlesnake	Not listed	Not listed
Eastern Indigo Snake	Threatened	Threatened
Gopher Tortoise	Not listed	Threatened
Southern Hognose Snake	Not listed	Not listed
Mole Snake	Not listed	Not listed
Common Kingsnake	Not listed	Not listed
Sand Skink	Threatened	Threatened

COMMON NAME	FEDERAL LISTING	STATE LISTING
Florida Pine Snake	Not listed	Species of Special Concern
Suwannee Cooter	Not listed	Species of Special Concern
Florida Scrub Lizard	Not listed	Not listed
Short-tailed Snake	Not listed	Threatened
Birds		
Cooper's Hawk	Not listed	Not listed
Bachman's Sparrow	Not listed	Not listed
Florida Scrub-jay	Threatened	Threatened
Limpkin	Not listed	Species of special concern
Great Egret	Not listed	Not listed
Florida Burrowing Owl	Not listed	Species of Special Concern
Short-tailed Hawk	Not listed	Not listed
Little Blue Heron	Not listed	Species of Special Concern
Snowy Egret	Not listed	Species of Special Concern
Tricolored Heron	Not listed	Species of Special Concern
Swallow-tailed Kite	Not listed	Not listed
White Ibis	Not listed	Species of Special Concern
Merlin	Not listed	Not listed
Peregrine Falcon	Not listed	Endangered
Southeastern American Kestrel	Not listed	Threatened
Florida Sandhill Crane	Not listed	Threatened
Bald Eagle	Not listed	Not listed
Least Bittern	Not listed	Not listed
Black Rail	Not listed	Not listed
Wood Stork	Endangered	Endangered
Yellow-crowned Night-heron	Not listed	Not listed
Black-crowned Night-heron	Not listed	Not listed

COMMON NAME	FEDERAL LISTING	STATE LISTING
Osprey	Not listed	Species of Special Concern
Red-cockaded Woodpecker	Endangered	Species of Special Concern
Hairy Woodpecker	Not listed	Not listed
Glossy Ibis	Not listed	Not listed
Least Tern	Not listed	Threatened
Mammals		
Rafinesque's Big-eared Bat	Not listed	Not listed
Southeastern Weasel	Not listed	Not listed
Florida Long-tailed Weasel	Not listed	Not listed
Round-tailed Muskrat	Not listed	Not listed
Florida Mouse	Not listed	Species of Special Concern
Sherman's Fox Squirrel	Not listed	Species of Special Concern
Manatee	Endangered	Endangered
Florida Black Bear	Not listed	Threatened

FISHERIES

Lake County contains two fish management areas, one located at Lake Griffin and one for the Clermont Chain of Lakes. The Florida Fish and Wildlife Conservation Commission annually samples fisheries within Lake County to evaluate water quality and trends.

Clermont Chain of Lakes

The fifteen lakes within the Clermont Chain of Lakes range in size from 20 to 3,634 acres. In 1991, there was a large fish kill and the Clermont Chain of Lakes fishery collapsed. It has taken over a decade for the chain to recover, but tests have shown encouraging signs of improvement and evidence that reducing phosphorous levels and other pollutants within Lake County's numerous lakes and streams enables the fish population to increase.

Bass, bluegill, shellcracker, an abundant supply of channel catfish, and various other fish can be found within the chain. Many of the lakes have fish attractors attached to buoys to facilitate fishing.

Ocklawaha Chain of Lakes

The Ocklawaha Chain of Lakes includes lakes Apopka (the headwater lake), Beauclair, Carlton, Dora, Eustis, Griffin (headwater for the Ocklawaha River), Harris, Little Lake Harris, and Yale.

Lakes Apopka and Griffin were two of Central Florida's main fisheries through the early 1940s. The effects of nonpoint source pollution (agricultural stormwater runoff), with high levels of plant nutrients, became evident in the late 1940s. Shoreline marshes were diked and drained for vegetable farms on the rich muck soils. Excess stormwater with high levels of phosphorous was pumped into the lakes causing algal blooms. The dying algal blooms reduced the water's oxygen and destroyed the fish population which affected all of the lakes within the chain. These conditions favored increases in rough fish and a decrease in game fish.

The St. Johns River Water Management District, following the enactment of the 1985 Lake Apopka Restoration Act and the 1987 Surface Water Improvement and Management (SWIM) Act, was directed to find "environmentally sound and economically feasible" means to restore the water quality of the Ocklawaha Chain of Lakes in cooperation with other state and local governments and resource management agencies. Improvements include:

- Removing phosphorous runoff from farms and decreasing algal blooms which will allow more light to reach the lake bottom
- Planting beneficial vegetation in appropriate areas
- Fluctuating lake levels to encourage natural establishment of desirable vegetation which helps to stabilize sediments and improve water clarity
- Constructing marsh flow-ways to filter suspended sediment and phosphorous from circulated lake water
- Harvesting rough fish thereby reducing phosphorous recycling and re-suspension in the water from their feeding activities.

Since 2002, the St. Johns River Water Management District has harvested more than 1.25 million pounds of gizzard shad from Lake Griffin, reducing the cycling and re-suspension of phosphorous-laden sediments associated with the feeding behavior of these fish. Furthermore, there is now a fourteen-inch minimum when catching game fish. This new law has helped increase the number of large fish in the chain.

Lake Apopka began showing signs of improvement in 1995 and by 2003, there was a 30% reduction in phosphorous levels. Beginning in 2000, Lake Griffin began showing signs of improvement in water quality and a decrease in phosphorous and aquatic vegetation, with significant and sustained improvements in 2002. Lakes Beauclair, Dora, and Eustis have also shown signs of improvement. Lakes Eustis, Yale, and Harris have the highest percentage of shoreline in good shape, and had the largest fish yields during the 2004 electro-fishing tests.

Table 17 - LMB results (CPUE in fish per minute) 2004 electro-fishing samples.

LAKE	MEAN TOTAL CPUE (S.E.)	MEAN CPUE > 20CM (S.E.)	MEAN HARVESTABLE CPUE (S.E.)
Apopka	0.34 (0.06)	0.33 (0.06)	0.14 (0.03)
Beauclair	0.44 (0.07)	0.32 (0.07)	0.16 (0.04)
Carlton	0.94 (0.11)	0.71 (0.12)	0.38 (0.08)
Dora	0.89 (0.08)	0.69 (0.07)	0.31 (0.04)
Eustis*	2.77 (0.22)	1.50 (0.09)	0.50 (0.04)
Griffin	0.96 (0.10)	0.59 (0.06)	0.23 (0.04)
Harris*	1.62 (0.14)	1.28 (0.11)	0.67 (0.07)
Yale*	2.69 (0.30)	1.13 (0.12)	0.17 (0.03)

NOTE: Indicates high fish yield in Lakes Eustis, Harris, and Yale

Note: LMB- Large Mouth Bass

CPUE: Catch Per Unit Effort

S.E: Standard Error

MANAGED AREAS

Managed Areas are managed and/or regulated by various local, state, and federal agencies for recreation and conservation purposes. The Lake County Recreation and Open Space Element provides a detailed inventory of the recreational aspects of these facilities. This section will discuss the conservational aspects of the major areas.

Ocala National Forest

The 383,573 acres Ocala National Forest is located in Lake, Marion, and Putnam Counties. Approximately one-fourth of the forest is situated north of SR 42 in northern Lake County. Lakes found in the Lake County portion include: Dorr, Sellers, Schimmerhorn, Wildcat, North and South Grasshopper, Beakman, Stagger Mud, Dexter, and George. A wide variety of vegetation thrives in the Forest, as well as the vast majority of the Sand Pine Scrub, Sandhill, and Pine Flatwoods natural communities occurring in the County.

The U.S. Government has banned phosphate mining in the National Forest. Most of the forest is designated as a Wildlife Management Area. A large area surrounding Alexander Springs and parts of Silver Glen Springs is closed to hunting. A designated species management plan has been established for the red-cockaded woodpecker in upland yellow pine vegetative communities.

Table 18 – Other Designated Species in Ocala National Forest

FLORA	FLORA ACREAGE	FAUNA	HABITAT ACREAGE
Harper's Beauty	Not Available	Florida Black Bear	17,731
Ocala Vetch	Not Available	Florida Manatee	Not Available
Curtis Milkweed	Not Available	Grey Bat	Not Available
Flora	Flora Acreage	Fauna	Habitat Acreage

FLORA	FLORA ACREAGE	FAUNA	HABITAT ACREAGE
Florida Bonamia	Not Available	Florida Mouse	3,281
Ashe's Savory	Not Available	Florida Burrowing Owl	7,700
Star-Anis	Not Available	Sherman's Fox Squirrel	4,816
Small Lewton's Milkwort	Not Available	Wood Stork	6,042
		Bald Eagle	3,721
		Florida Sandhill Crane	1,755
		Scrub Jay	172
		Southeastern Kestrel	686
		American Alligator	18,039
		Eastern Indigo Snake	25,746
		Short-tailed Snake	1,382
		Sand Skink	Not Available
		Bluestripe Shiner	Not Available
		Shortnose Sturgeon	Not Available

Wekiva

Lower Wekiva River State Preserve

Lower Wekiva River State Preserve is located in Lake and Seminole counties and contains almost 18,000 acres of environmentally significant land bordering six miles of the St. Johns River, the lower four and one-half miles of the Wekiva River, and four miles of Blackwater Creek. The Preserve has a variety of plant and animal communities that provide great species diversity and biological richness.

The Florida Department of Environmental Protection, Division of Recreation and Parks, manages the Preserve. Management programs involve ecological burning, removal of exotic species of plants and animals, reforestation of pine and cypress, and elimination of man-caused disturbances to the greatest extent possible.

Wekiva River Aquatic Preserve

The Office of Coastal and Aquatic Managed Areas manages the Wekiva River Aquatic Preserve (WRAP). The WRAP totals 19,000 acres and includes one mile of Rock Springs Run, three miles of the Little Wekiva River, the Wekiva River, the lower portion of Blackwater Creek, and 20 miles of the St. Johns River. The aquatic preserve supports a productive and diverse array of aquatic and upland natural systems and is a refuge for many endangered, threatened and rare species.

WILDLIFE CORRIDORS

Wildlife corridors are strips of land, wetlands or water that connect larger preserves, parks, and other habitat areas. The corridors are important for many species that require large areas to roam. The corridors allow species to travel without the interference of human development, such as roads, subdivisions and agricultural uses, to find food, shelter, and to reproduce. Wildlife corridors allow animals to find mates from different metapopulations to prevent inbreeding and create a healthier offspring.

The following reports, which provide detail on Wildlife Corridors, are copied under Appendix C of this document:

Recommendations for Maintaining Connectivity Between the Wekiva River Basin and Ocala National Forest for Florida Black Bear and Florida Scrub-Jay, By: Tom Hoctor, Ph.D., University of Florida, Dan Smith, Ph.D., University of Central Florida, Brad Stith, Ph.D., Florida Scrub-Jay recovery team, John Cox, Ph.D., University of Kentucky, Dave Maehr, Ph.D., University of Kentucky, and Betsy Roznik, University of Florida.

Euclidean Distance Analysis of Habitat Use of Black Bears in the Greater Ocala (Wekiva Area), Florida, By: John J. Cox, Department of Forestry, University of Kentucky.

Wekiva – Ocala Corridor Project - Impacts of Roads on Landscape Connectivity, By: Daniel J. Smith, Ph.D., A.I.C.P., Research Ecologist.

Recommendations for Maintaining Connectivity Between the Wekiva River Basin and Ocala National Forest for Black Bear and other Wildlife, and the Identification of Critical Parcels

AREAS OF ECOLOGICAL SIGNIFICANCE

LAKE WALES RIDGE

Over a million years ago, most of Florida was underwater and the high, sandy land that remained is what we now refer to Ridges. The ancient Lake Wales ridge was a chain of islands, detached from the mainland, comprised of over 80,000 acres. Today approximately 85% of the land has been disturbed, mostly by citrus, pasture, and houses. The Lake Wales Ridge follows the east side of Highway 27 south from Lake Apopka through Polk County and ending in Highlands County. The ridge consists of an ecosystem known as scrub and is currently home to 53 rare, indigenous and endangered plant and animal species including the Florida scrub jay, sand skink, and scrub mint.

THE WEKIVA RIVER PROTECTION AREA

The Wekiva Basin is an area of biological transition between the northern limits of numerous tropical plants and the southern limits of temperate zone plants. The extensive wetlands in the basin provide habitat for many designated species. The Wekiva River is designated as an Aquatic Preserve and the lower three miles have been designated a Wild and Scenic River.

In 1988, the legislature enacted the Wekiva River Protection Act providing for review of local comprehensive plans, land development regulations, and certain development. The Act declared the Wekiva River Protection Area a natural resource of state and regional importance. The following flora is considered rare and endangered: Butterfly Orchid, Cardinal Flower, Cinnamon Fern, Royal Fern, Hand Fern, and Needle Palm. The listed fauna is considered rare and endangered: Bluenose Shiner Fish, American Alligator, Limpkin, Little Blue Heron, Snowy Egret, Tricolored Heron, White Ibis, Southeastern American Kestrel, Florida Sandhill Crane, Bald Eagle, Wood Stork, Least Tern, West Indian Manatee, and the Florida Black Bear.

WEKIVA PARKWAY

In 2002, Governor Bush created the Wekiva River Basin Coordinating Committee to find an expressway route that connects SR 429 to I-4 with the least disruption to the Wekiva Basin. In

August, 2003, the committee established the Wekiva Study Area that includes land areas that contribute surface and ground water. The committee eliminated the NW Extension of SR 429, which would have extended 429 through the Wekiva Basin and into northeast Lake County, and replaced it with the Apopka Bypass—which extends Maitland Boulevard west to link SR 429 and US 441—and the SR 46 Bypass—which brings SR 46 around the communities of Mt. Plymouth and Sorrento.

Governor Jeb Bush signed the Wekiva Parkway and Protection Act in June of 2004. The Act approved a plan to complete the Orlando Beltway, connecting State Road 429 in Apopka with Interstate 4 in Sanford. The legislation requires the State to preserve thousands of acres of wildlife habitat in Lake, Orange, and Seminole Counties and protect regional waterways.

Each local government within the Wekiva Study Area will be required to develop a master storm water management plan, an up-to-date 10-year water supply facility work plan to serve new and existing developments, and, where central wastewater facilities are not available, a wastewater facility plan, an infrastructure work plan, and a financially feasible schedule of improvements.

Local governments also will be required to establish a water reuse and irrigation program to minimize groundwater pumping. It is recommended that this program include improved conservation efforts and better utilization of resources.

Local governments will help reduce nitrogen in the Wekiva Basin to levels required by the Florida Department of Environmental Protection (FDEP) by phasing out existing on-site septic tank systems where central facilities are available and up-grading facilities elsewhere. The communities of Sorrento and Mt. Plymouth are of concern due to the large number of pre-1982 septic tanks in use which are more prone to polluting; however, moving to central sewer and water may be difficult as the area is already developed. The potential for getting grants to enable residents to up-grade their systems will be included in the initial assessment the Lake County Department of Health will send to the state office in Tallahassee. Lake County Environmental -Utilities is - pursuing federal assistance to replace older septic systems currently along the river.

Local governments will establish strategies that optimize open space and protect recharge areas, karst features, and sensitive natural habitats, and they should require the use of best management practices for landscaping, construction, and golf course siting, design, and management. A model landscape code is currently being developed in Lake County, in conjunction with - St. Johns River Water Management District.

Comprehensive Plan amendments required by the Wekiva legislation will be exempt from the two amendments per year rule and funding will be limited to $125,000. Comprehensive Plan amendments recommended by the Committee had to be adopted by January 1, 2006, and land development regulations had to be adopted by January 1, 2007.

THE GREEN SWAMP AREA OF CRITICAL STATE CONCERN

The Green Swamp is a 560,000-acre region that lies in portions of Lake, Polk, Sumter, Pasco, and Hernando counties. It is the headwater for the Hillsborough, Withlacoochee, Ocklawaha, and Peace rivers, and recharges the Floridan Aquifer which provides most of the area's water supply. It is a diverse ecological environment containing numerous plant species and 330 animal species, of which 30 are either threatened or endangered. In 1974, the Florida Legislature designated 189,000 acres of Polk County and 106,000 acres of Lake County as the Green Swamp Area of Critical State Concern. There are about 172,988 acres of the Green Swamp in public ownership with an additional 27,300 acres of private land protected through the purchase of conservation

easements. The 4,000-plus acre Lake Louisa State Park is one of the protected areas within the Green Swamp Area of Critical State Concern located in Lake County.

The Floridian Aquifer is close to the surface in the Green Swamp allowing water to easily percolate through the sand and porous rock. Pressure caused by the high groundwater elevation (Florida's highest) forces water throughout the aquifer, dispersing it underground for hundreds of miles, preventing saltwater intrusion, and sustaining the four major rivers in the region, and numerous streams, springs, ponds, and lakes. Because of the Green Swamp's elevation, the water table remains higher than the Floridian Aquifer's potentiometric surface (the altitude at which water in the aquifer stands) throughout the year, supplying recharge to the area.

EMERALDA MARSH

There are 6,779 protected acres in the Emeralda Marsh Conservation Area. The area provides habitat for rare and endangered species such as the bald eagle, limpkin, and snowy egret, and many other species of plants and animals. Emeralda Marsh also has one of the highest alligator populations in Central Florida. Emeralda Marsh was purchased and is managed by the St. Johns River Water Management District, which plans to restore and protect floodplain and upland ecosystems.

ROCK SPRINGS RUN STATE RESERVE

Rock Springs Run State Reserve borders more than 12 miles of the Wekiva River and Rock Springs Run. The Reserve is comprised of nearly 14,000 acres of a variety of plant communities representative of central Florida's original domain. These communities include sand pine scrub, pine flatwoods, bayheads, hammocks, and swamps. The river system is formed from the discharge of several artesian springs together with tannic runoff from the surrounding watershed. The wetlands and uplands provide habitat for a variety of rare and endangered species native to Florida. The Florida black bear, Florida scrub jay, wood stork, Florida sandhill crane, indigo snake, and a variety of more common species are often seen throughout the Reserve. Rock Springs Run State Reserve is located within parts of Lake and Orange Counties.

The Reserve is managed under a cooperative agreement between the Florida Department of Environmental Protection (FDEP), the Florida Fish and Wildlife Conservation Commission, the Department of Agriculture's Division of Forestry, and the St. Johns River Water Management District. The FDEP Division of Recreation and Parks is the agency providing on-site resource management and protection.

LAKE GRIFFIN STATE PARK

Lake Griffin State Recreation Area (SRA) is over 460 acres located approximately 3.5 miles north of Leesburg. It offers a picnicking and interpretive program area situated in a mature live oak hammock. The park has 40 campsites and a public boat ramp providing access to Lake Griffin via a canal and the Dead River.

Lake Griffin SRA contains elements of sandhill, upland hardwood forest, and bayhead swamp plant communities. Floating islands of peat sometimes form in the lake, often acquiring a carpet of rooted plants. The park has a 50 acre tract of sandhill habitat in its northern section.

Wildlife species which have been noted at the park include the white-tailed deer, gray fox, fox squirrel, raccoon, glossy ibis, anhinga, common moorhen, least bittern, black-crowned night heron, belted kingfisher, boat-tailed grackle, gopher tortoise, coral snake, and American alligator. The park contains no known archaeological or historical sites.

MINING AND BORROW PITS

As of 2009, Lake County has approximately 32 active mining operations, including one peat mine, fourteen hydraulic sand mines, and seventeen clay pits.

Mining operations must follow certain procedures in order to obtain approval from the County before beginning operations. During the permitting process, Lake County staff reviews the proposed mining operation and its feasibility is projected. As part of this procedure, the following items must be submitted: mining site plan and reclamation plan for approval by the BCC. Following BCC approval, the Operating Permit is reviewed and approved by the Development Review Staff before mining activity begins. The hydraulic sand mines and the peat mines leave a man-made lake to reclaim the mine area. The applicants for mining operations must address many factors, including the following:

- Ground and surface water level
- Slopes and runoff
- Maintenance of natural drainage patterns after reclamation
- Reclamation of vegetation
- Waste contamination
- Ground water quality and recharge capability

A bond valued at 100 percent of the cost of the proposed reclamation plan must be posted for small operations. This bond is forfeited in case of non-compliance, allowing the County to undertake the reclamation of the site.

Requirements in the Lake County Zoning Ordinance define and limit mining operations. The County mining ordinance was adopted on May 8, 1990. This revised ordinance instituted more stringent standards regarding the operations and reclamation requirements of a given mine.

The life expectancy of a mine operation is dependent upon both the size of the property and the viability of the market for the product. Slow production would extend the life of the mine. In an extreme instance of low demand, the life of the mine could last indefinitely.

MINERALS

There are three commercially valuable minerals utilized in Lake County: sand, clay, and peat. A large amount of fill dirt is also removed.

Lake County has extensive deposits of clay and sand that cover the majority of Lake County and major deposits of peat located near lakes Apopka, Griffin, and Minnehaha and the Okahumpka Marsh. These deposits were utilized as muck farms but they have since been purchased for conservation or urban development. The County possesses two limestone deposits along its western border at Okahumpka and the Green Swamp Area of Critical State Concern. Mining within the Green Swamp Area of Critical State Concern is prohibited with the exception of sand mining. There are also substantial phosphate deposits in the far northern portion of Lake County along Lake George. However, the Ocala National Forest has land use policies that strictly forbid the mining of phosphates in the Forest.

SOILS

There are 41 soil types in Lake County, twenty-five of which are hydric soils and are not ideal for development. There are six soils that are floodable and another thirteen that tend to pond. It is possible to build on these soils; however, it is more expensive to do so and it often requires the developer to de-muck to create a stable ground for construction.

Other soils in the county tend to be droughty and are sometimes unstable when weight is added to their surface. Droughty soils or soils with steep slopes allow water to pass through or over them rapidly and thus, they do not function well with septic tanks or de-nitrification fields due to the possibility of contamination to groundwater or nearby lakes and streams.

The Natural Resources Conservation Service (NRCS, formerly the Soil Conservation Service-SCS) has developed a hydrological classification system for soils that can be used to estimate runoff and soil erosion potential. The classification system is as follows:

Table -19 - NRCS Soil Classification System

Hydrologic Group	Description
Group A	Low runoff potential: Soils that have high infiltration rates even when thoroughly wetted and a high rate of water transmission
Group B	Moderately low runoff potential: Soils that have moderate infiltration rates when thoroughly wetted and a moderate rate of water transmission
Group C	Moderately high runoff potential: Soils that have slow infiltration rates when thoroughly wetted and a slow rate of water transmission
Group D	High runoff potential: Soils having very slow infiltration rates when thoroughly wetted and a very slow rate of water transmission

The majority of soil types in Lake County are group D soils and account for 237,151 acres, or 43 percent of lands outside the Ocala National Forest. These soils are either hydric or are associated with flood plains.

Soil Erosion

Development in Lake County has significantly grown in the past two decades. The recent down turn in the economy has left countless lots disturbed, but not constructed. This break in development has increased the potential of soil erosion within the county. Many of the disturbed areas are the high, dry regions of the county such as Clermont, Howey-in-the-Hills, and Montverde. The soils in these regions are loose sands that easily erode once vegetation and root systems are removed from the ground.

Land areas that have slopes of more than 10 percent are considered unsuitable for septic tank drain fields. These slopes generally correspond with the ridge and upland regions of the County, where the soils have some potential for erosion when denuded of vegetation and are usually classified in Group A.

The 1991 Lake County Comprehensive Plan identified the loss of organic soils in muck farms as the most significant soil conservation issue. Muck farm acreage has since declined from 11,360 acres in 1988 to the current 1,515 acres.

APPENDIX A – TABLES: PUBLIC WATER SUPPLY USE, PUBLIC WATER USE, CONSUMPTIVE USE PERMITS

PUBLIC WATER SUPPLY USE FOR 1995, 2005 AND 2030 TABLE

PUBLIC SUPPLY WATER USE BY TYPE FOR 1995, 2005 AND 2030 TABLE

LAKE COUNTY CONSUMPTIVE USE PERMIT TABLES

Table 20 – Public Water Supply Use for 1995, 2005, 2030

UTILITY	GROUND 1995 WATER USE	SURFACE 1995 WATER USE	TOTAL 1995 WATER USE	GROUND 2005 WATER USE	SURFACE 2005 WATER USE	TOTAL 2005 WATER USE	GROUND 2030 PROJECTED WATER USE – AVERAGE RAINFALL YEAR	SURFACE 2030 PROJECTED WATER USE – AVERAGE RAINFALL YEAR	TOTAL 2030 PROJECTED WATER USE – AVERAGE RAINFALL YEAR	PERCENT CHANGE 1995-2030
Aqua Source Inc.	0.06	0.00	0.06	0.00	0.00	0.00	0.13	0.00	0.13	117
Aqua Utilities Florida Inc.	1.43	0.00	1.43	1.47	0.00	1.47	1.95	0.00	1.95	36
Clerbrook Golf and RV Resort	0.14	0.00	0.14	0.21	0.00	0.21	0.21	0.00	0.21	50
Clermont, City of	1.63	0.00	1.63	5.21	0.00	5.21	9.86	0.00	9.86	505
Eustis, City of	2.33	0.00	2.33	3.01	0.00	3.01	5.09	0.00	5.09	118
Fruitland Park, City of	0.59	0.00	0.59	0.51	0.00	0.51	1.10	0.00	1.10	86
Groveland, City of	0.36	0.00	0.36	0.79	0.00	0.79	4.40	0.00	4.40	1,122
Harbor Hills Utilities Ltd.	0.19	0.00	0.19	0.49	0.31	0.80	0.98	0.00	0.98	416
Hawthorne at Leesburg	0.42	0.00	0.42	0.39	0.00	0.39	0.50	0.00	0.50	19
Howey-in-the-Hills, Town of	0.21	0.00	0.21	0.27	0.00	0.27	0.58	0.00	0.58	176
Lady Lake, Town of	0.28	0.00	0.28	0.56	0.00	0.56	0.86	0.00	0.86	207
Lake Griffin Isles	0.09	0.00	0.09	0.10	0.00	0.10	0.11	0.00	0.11	22
Lake Utility Services Inc.	0.53	0.00	0.53	5.32	0.00	5.32	14.13	0.00	14.13	2,566
Leesburg, City of	4.87	0.00	4.87	6.35	0.00	6.35	12.93	0.00	12.93	166
Mascotte, Town of	0.25	0.00	0.25	0.43	0.00	0.43	1.49	0.00	1.49	496
Mid-Florida Lakes	0.31	0.00	0.31	0.34	0.00	0.34	0.46	0.00	0.46	48
Minneola, City of	0.39	0.00	0.39	1.49	0.00	1.49	2.90	0.00	2.90	645
Monteverde, Town of	0.15	0.00	0.15	0.25	0.00	0.25	0.81	0.00	0.81	439
Mount Dora, City of	2.72	0.00	2.72	2.81	0.00	2.81	6.47	0.00	6.47	138

UTILITY	GROUND 1995 WATER USE	SURFACE 1995 WATER USE	TOTAL 1995 WATER USE	GROUND 2005 WATER USE	SURFACE 2005 WATER USE	TOTAL 2005 WATER USE	GROUND 2030 PROJECTED WATER USE – AVERAGE RAINFALL YEAR	SURFACE 2030 PROJECTED WATER USE – AVERAGE RAINFALL YEAR	TOTAL 2030 PROJECTED WATER USE – AVERAGE RAINFALL YEAR	PERCENT CHANGE 1995-2030
Plantation at Leesburg	0.40	0.00	0.40	0.82	0.00	0.82	1.22	0.00	1.22	205
Southlake Utilities Inc.	0.07	0.00	0.07	2.18	0.00	2.18	6.78	0.00	6.78	9,586
St. Johns River Water (a.k.a. Astor Park Water)	0.27	0.00	0.27	0.44	0.00	0.44	0.69	0.00	0.69	156
Sunlake Estates	0.28	0.00	0.28	0.28	0.00	0.28	0.47	0.00	0.47	68
Tavares, City of	1.48	0.00	1.48	2.40	0.00	2.40	4.53	0.00	4.53	205
Umatilla, City of	0.44	0.00	0.44	0.41	0.00	0.41	1.14	0.00	1.14	159
Utilities Inc. of Pennbrooke	0.11	0.00	0.11	0.45	0.00	0.45	0.30	0.00	0.30	170
Village Center Community Development District	1.75	0.00	1.75	2.44	0.00	2.44	2.63	0.00	2.63	50
Water Oak Utilities Inc.	0.34	0.00	0.34	0.48	0.00	0.48	0.45	0.00	0.45	34
Wedgewood Homeowners Assoc. Inc.	0.16	0.00	0.16	0.14	0.00	0.14	0.22	0.00	0.22	38
Total	22.22	0.00	22.22	40.05	0.31	40.36	83.39	0.00	83.39	275

Source: St. John's Water Management District's draft WSA 2008, 1/23/2009.

Table 21 – Public Supply Water Use by Type for 1995, 2005 and 2030 Lake County

	1995 Water Use			2005 Water Use			2030 Projected Water Use Average Rainfall Year				2030 Projected Water Use 1 - 10 Rainfall Year					
	Ground	Surface	Total	Ground	Surface	Total	Ground	Surface	Total	% Change	Ground	Surface	Total	Acreage		
Public supply	22.22	0.00	22.22	40.05	0.31	40.36	83.39	0.00	83.39	275	88.39	0.00	88.39			
Domestic self supply and small utility	5.99	0.00	5.99	10.85	0.00	10.85	33.50	0.00	33.50	460	35.51	0.00	35.51	1995	2030	% Change
Agriculture	43.91	7.06	50.97	14.61	4.43	19.04	12.78	3.88	16.66	-67	14.78	4.51	19.29	32,613	27,852	-15
Recreational (golf course)	1.53	1.25	2.79	2.67	2.19	4.86	4.91	4.02	8.92	220	5.03	4.12	9.15	2,065	3,504	70

	Percent Change 1995-2030		
	Ground	Surface	Total
Commercial/industrial /institutional self-supply	179.76	-100	151.71

Source: St. John's Water Management District's draft WSA 2008, 1/23/2009.

All water use in million gallons per day (mgd) Percent change from 1995

Totals and percentages shown may not be exact due to rounding; commas have been added to figures for percent change, to assist with readability

Note: Public water supply utility service areas often include residences that derive their water supplies from privately owned (domestic self supply) wells. Typically, these domestic self supply water uses existed prior to their locations becoming part of public water supply service areas. For public water supply service areas, SJRWMD does not have sufficient information to separate the populations served by public supply systems from those served by domestic self supply wells. Therefore, public water supply populations estimated by SJRWMD often include some domestic self supply populations. Public supply populations reported by SJRWMD for 2005 are greater than for 1995, because many public supply service areas increased in size substantially from 1995 to 2005. Conversely, many domestic self supply populations and water use estimates reported from 2005 are lower than for 1995.

Table 22 – Active Consumptive Use Permits

PERMIT NUMBER	PERMIT TYPE	APPLICANT NAME	PROJECT NAME	PROJECT DESCRIPTION	RECEIVED DATE	DECISION DATE	EXPIRATION DATE	RECOMMENDATION	STATUS
20-069-79-4	CUP General	Kuharske Properties Inc	Kuharske Properties	The applicant proposes to withdraw 0.045 million gallons per day of ground water for pasture irrigation and livestock needs.	8/1/2007	9/10/2007	9/10/2027	Approval	Issued
20-069-81-3	CUP General	Bay Lake Groves Inc	Bay Lake Groves	Use of groundwater from the Floridan aquifer for irrigation of 45 acres of pasture and 10 acres of citrus, using a traveling gun irrigation system. USE STATUS: This is a renewal of a previously issued permit, with a modification for a decrease in allocation and a change in use. The use has been reviewed as an existing use pursuant to Chapter 373.226, F.S. ASSOCIATED PERMITS: This permit was formerly issued as CUP no. 2-069-0036.	4/10/1997	6/6/1997	6/6/2007	Approval	Issued
20-069-88-4	CUP General	Flower Tree Nursery	Flowertree Nursery	The applicant proposes to withdraw 0.24 million gallons per day of water to irrigate 83 acres of ornamental and cut flower nursery type use and 26.3 mgy of water for freeze protection use.	9/25/2008	7/30/2009	7/30/2029	Approval	Issued
20-069-92-4	CUP General	Ryan and Amanda Eshbaugh	Ryan Eshbaugh	The use of ground water from the Floridan aquifer for irrigation and freeze protection of 45.3 acres of citrus using a microjet irrigation system.	1/12/2004	1/26/2004	11/9/2018	Approval	Issued
2-069-94-12	CUP Individual	City of Leesburg	City of Leesburg Public Supply	The applicant proposes to withdraw 16.40 million gallons per day average of ground water for public supply, commercial and industrial, landscape irrigation and utility type uses.	7/7/2004	No Date	No Date	Pending	Pending
2-069-94-11	CUP Individual	City of Leesburg	City of Leesburg Public Supply	The applicant proposes to withdraw 8.39 million gallons per day (mgd) average in 2003 and, 9.13 million gallons per day (mgd) average in 2004 of ground water for public supply, commercial and industrial, landscape irrigation and utility type uses. This is a modification of a previously existing permit to add an additional well (C-RH3) to provide for back-up, fire flow and system reliability assurance at the Royal Highlands Water Treatment Facility with no change in currently permitted allocations.	2/14/2003	6/10/2003	7/10/2004	Approval	Issued
20-069-98-4	CUP General	Chandardat & Pantchwaltie Singh	Chandardat & Pantchwaltie Singh	The use of ground water from the Floridan aquifer for irrigation and freeze protection of 30 acres citrus using a micro-jet irrigation system. The District authorizes the use of 7.200 MGY for Citrus irrigation.	1/8/2004	2/6/2004	9/3/2007	Approval	Issued
20-069-99-3	CUP General	Knight Lake LLC	Knight Lake LLC	The use of ground water from the Floridan aquifer for irrigation and freeze protection of 16 acres of citrus using a microjet system	9/23/2005	10/20/2005	8/5/2012	Approval	Issued
20-069-100-3	CUP	Green Valley	Green Valley	The applicant proposes to withdraw 0.27 million gallons	8/31/2007	6/25/2008	6/25/2028	Approval	Issued

PERMIT NUMBER	PERMIT TYPE	APPLICANT NAME	PROJECT NAME	PROJECT DESCRIPTION	RECEIVED DATE	DECISION DATE	EXPIRATION DATE	RECOMMENDATION	STATUS
	General	Country Club	Country Club	per day of reclaimed water to irrigate 95 acres of golf course turf, and up to 0.05 million gallons per day of ground water for irrigation pond augmenattion for backup irrigation.					
20-069-101-2	CUP General	D & D GROVES	Dale Warren	The use of groundwater from the Floridan aquifer for irrigation and freeze protection of 12 acres of citrus using a micro-jet irrigation system. USE STATUS: This is a renewal of a previously issued permit with a request for a decrease in allocation. The use has been reviewed as an existing use for the period commencing with the issuance of the original permit. ASSOCIATED PERMITS: This permit was formerly issued as CUP no. 2-069-1058.	4/16/1997	6/6/1997	6/6/2012	Approval	Issued
20-069-102-4	CUP General	Bert and Linda McDonald	McDonald	The applicant proposes to withdraw 0.048 million gallons per day of ground water to irrigate and freeze protect 9 acres of ferns	9/15/2005	9/22/2005	6/4/2022	Approval	Issued
20-069-271-10	CUP General	La Viance Property Acquisition LLC	Lake Emma Road	The applicant proposes to withdraw 0.025 million gallons per day of surface water for the irrigation of 44 acres of vegetables.	1/8/2008	5/19/2008	5/19/2013	Approval	Issued
20-069-277-4	CUP General	Clermont Scapes Inc	Store #6 Grove	The use of ground water from the Floridan aquifer for irrigation of 30 acres of citrus using an over head irritation system.	12/14/2001	12/14/2001	12/27/2012	Approval	Issued
2-069-279-7	CUP Individual	Harbor Hills Utilities Ltd	Harbor Hills	The applicant proposes to withdraw 0.817 million gallons per day of water for public supply use, household, commercial/industrial, urban landscape, and water utility type uses and 0.647 million gallons per day of surface water for the irrigation of a 136 acre golf course.	12/28/2006	No Date	No Date	Substantive Denial	Pending
2-069-279-6	CUP Individual	Harbor Hills Utilities	Harbor Hills	The applicant proposes to withdraw 0.817 million gallons per day of water for public supply use, household, commercial/industrial, urban landscape, and water utility type uses and 0.647 million gallons per day of surface water from Lake Griffin for the irrigation of a 136 acre golf course.	3/18/2003	4/12/2005	4/12/2007	Approval	Issued
20-069-282-7	CUP General	Water Oak Utility	Water Oak	The applicant proposes to withdraw 0.367 million gallons per day of ground water for public supply type use.	7/14/2008	No Date	No Date	Pending	Pending
20-069-282-6	CUP General	Water Oak Golf Course	Water Oak	The applicant proposes to withdraw 0.318 million gallons per day of water for public supply type use.	9/14/2004	4/19/2005	4/19/2010	Approval	Issued
20-069-284-3	CUP General	M & J Groves, Inc.	Baker Road Block	The use of ground water from the Floridan aquifer for irrigation and freeze protection of 43 acres of citrus using a microjet system. USE STATUS: This is a renewal of a previously-issued permit with a	6/5/1997	8/5/1997	8/5/2012	Approval	Issued

PERMIT NUMBER	PERMIT TYPE	APPLICANT NAME	PROJECT NAME	PROJECT DESCRIPTION	RECEIVED DATE	DECISION DATE	EXPIRATION DATE	RECOMMENDATION	STATUS
				request for a decrease in allocation. The use has been reviewed as an existing use pursuant to Chapter 373.226, F.S. ASSOCIATED PERMITS: This permit was previously issued as CUP no. 2-069-0366.					
20-069-286-5	CUP General	Lake County Bd Of Cty Commissioners	North Lake Park	The applicant proposes to withdraw 0.101 million gallons per day of ground water for the irrigation of 35 acreas of recreational turf and 10 acres of citrus.	8/29/2007	6/24/2008	6/24/2028	Approval	Issued
2-069-288-3	CUP Individual	Lake Joanna Estates Assoc Inc	Lake Joanna Estates	The applicant proposes to withdraw 0.063 milliion gallons per day of surface water for urban landscape irrigation, cooling and air conditioning and for essential use (fire protection) and 0.007 million gallons per day of ground water for the household use of 140 people and water utility use.	8/24/2007	5/13/2008	5/14/2013	Approval	Issued
20-069-289-5	CUP General	Harbor Oaks Homeowners Co-op	Harbor Oaks	The applicant proposes to withdraw 0.083 million gallons per day of ground water for household and urban landscape irrigation use.	6/20/2005	1/19/2006	11/11/2025	Approval	Issued
20-069-290-2	CUP General	Midway Manor MHP	Midway Manor	Use of groundwater from the Floridan aquifer for public supply and general household use at a 40 lot RV park and 26 lot mobile home park. Formerly known as 2-069-1050AUV. The District authorizes the use of 0.047 MGD for Household.	6/11/1997	9/29/1997	9/29/2012	Approval	Issued
20-069-291-2	CUP General	Faryna Grove Care & Harvesting	Osborne	Use of ground water from Floridan aquifer to irrigate 20 acres of citrus using a microspray irrigation system.	6/2/1997	8/26/1997	8/26/2012	Approval	Issued
20-069-292-3	CUP General	Citrus Circle Water Systems Inc	Citrus Circle Mobile Home Pk	The applicant proposes to withdrawal of 0.0158 million gallons per day of ground water from the Floridan Aquifer for household use and 0.22 million gallons per day of ground water from the Floridan Aquifer for essential use as fire protection.	11/15/2000	6/4/2001	6/4/2011	Approval	Issued
20-069-293-4	CUP General	Michael Graham	Graham Groves	The applicant proposes to withdraw 0.08 million gallons per day of surface and ground water for irrigation and freeze protection of 47 acres of citrus.	5/17/2004	1/12/2005	1/12/2025	Approval	Issued
20-069-295-2	CUP General	Thomas Hanson	THOMAS HANSON	Use of groundwater from the Floridan aquifer for irrigation and freeze protection of 22 acres of citrus using a micro-jet system. Formerly known as 2-069-1057AN. USE STATUS: This is a renewal of a previously issued permit with a request for a decrease in allocation. The use has been reviewed as an existing use for the period commencing with the issuance of the original permit.	6/26/1997	4/13/1998	4/13/2018	Approval	Issued
20-069-296-2	CUP General	Sun Valley Nursery Inc	SUN VALLEY NURSERY	Use of ground water from the Floridan aquifer for irrigation and frost/freeze protection of a 6.3-acre of container nursery.	7/7/1997	9/16/1997	9/16/2007	Approval	Issued

PERMIT NUMBER	PERMIT TYPE	APPLICANT NAME	PROJECT NAME	PROJECT DESCRIPTION	RECEIVED DATE	DECISION DATE	EXPIRATION DATE	RECOMMENDATION	STATUS
				USE STATUS: This is a modification of previously issued permit with a request for an increase in acreage and allocation. The portion which was an existing use has been reviewed as existing and the requested increase in allocation has been reviewed as a new use.					
20-069-298-5	CUP General	Spruce Creek Development Co of Ocala Inc	Spruce Creek South (Landscape)	The applicant proposes to withdraw 0.04 million gallons per day of ground water to irrigate 13.7 acres of urban landscape.	10/31/2005	6/15/2006	6/13/2026	Approval	Issued
20-069-1665-3	CUP General	S T Brown	S. T. BROWN NURSERY	This permit authorizes the use of ground water from the Floridan aquifer for irrigation of 78 acres of citrus using a microjet system, and 12 acres of citrus nursery using an overhead irrigation system.	4/29/1996	10/9/1998	10/9/2008	Approval	Issued
20-069-1666-5	CUP General	Green Hollow Nursery	Green Hollow Nursery	The applicant proposes to withdraw 0.007 million gallons per day of ground water to irrigate 2.5 acres of nursery and household use.	10/29/2007	11/14/2008	11/14/2028	Approval	Issued
20-069-1667-3	CUP General	Mr Larry Phillips	Larry M Phillips	The applicant proposes to withdraw 0.002 million gallons per day of ground water for livestock watering for 30 beef cattle.	3/13/2006	5/2/2006	4/5/2026	Approval	Issued
20-069-1668-7	CUP General	Robert and Phillip Stokes	80 ACRES	The applicant proposes to withdraw 0.09 million gallons per day (mgd) of ground water and 0.05 mgd of surface water to irrigate 50.0 acres of fern. The applicant proposes to withdraw .08 mgd of ground water and0.04 mgd os surface water to freeze protect 50.0 acres of fern.	12/14/2006	3/23/2007	3/23/2027	Approval	Issued
20-069-1669-3	CUP General	LD Plante Inc	Reddy Ice	The applicant proposes to withdraw 0.099 million gallons per day of ground water for commercial/industrial, urban landscape, and household use	6/1/2006	8/29/2006	6/9/2026	Approval	Issued
20-069-1670-5	CUP General	Lake Jackson Ridge at Mascotte LLC	Odis Fenders Citrus Nursery	Permit Transfer	10/10/2007	11/6/2007	7/3/2011	Approval	Issued
20-069-2387-13	CUP General	Cemex Construction Materials Florida LLC	474 Sand Mine	The applicant proposes to replace Well 1 with Well 2 for household type use at the mine's office and Well 1 willl be abandoned. There will be no changes to any allocations.	8/18/2008	1/15/2009	3/8/2026	Approval	Issued
20-069-2389-3	CUP General	Eloise Pinkerton	Pinkerton Grove #462	This is a permit for the use of ground water from the Floridian aquifer to irrigate 35 acres of citrus using a microjet irrigation system. USE STATUS This is a renewal of a previously-issued permit with a modification for a reduction in allocation and acreage. The use has been reviewed as an existing use pursuant to Chapter 373.226, F.S. ASSOCIATED PERMITS This permit was previously issued as CUP no. 2-069-0006	12/6/1996	4/17/1997	4/17/2012	Approval	Issued
2-069-2391-9	CUP	Florida Rock	Florida Rock	The District issued a permit November 8, 2000 for the use	8/22/2005	3/7/2006	11/8/2020	Approval	Issued

PERMIT NUMBER	PERMIT TYPE	APPLICANT NAME	PROJECT NAME	PROJECT DESCRIPTION	RECEIVED DATE	DECISION DATE	EXPIRATION DATE	RECOMMENDATION	STATUS
	Individual	Industries Inc	Industries Inc	of 13,000 gallons per minute of surface water for commercial/industrial use and 0.06 million gallons per year of groundwater for household type use. This is a 5-year Compliance Report review.					
2-069-2392-8	CUP Individual	Southlake Utilities Inc	Southlake Utilities	The applicant proposes to withdraw 2.80 million gallons per day of ground water to provide water and wastewater services to Southlake Utilities 4.5 square mile service area.	12/31/2008	No Date	No Date	Pending	Pending
2-069-2392-6	CUP Individual	Southlake Utilities Inc	Southlake Utilities	The applicant proposes to withdraw 2.73 million gallons per day of water to provide water and wastewater services to Southlake Utilities 4.5 square mile service area.	4/7/2003	7/11/2006	1/1/2009	Approval	Issued
20-069-2394-4	CUP General	Summer Lake-Grace Groves Parrtnership	Lake Pretty	The applicant proposes to withdraw 0.24 million gallons per day of ground water for citrus irrigation and 0.09 million gallons per day for freeze protection of citrus.	9/18/2006	12/4/2006	8/26/2018	Approval	Issued
20-069-2403-4	CUP General	Winn-Dixie Scout Reservation	Winn Dixie Scout Reservation	The District authorizes the use of 7.300 MGY for Household.	11/11/1998	4/28/1999	4/28/2019	Approval	Issued
20-069-2407-4	CUP General		Southlake Land	The applicant proposes to withdraw 0.053 million gallons per day of ground water for irrigation and freeze protection of citrus and persimmons.	10/27/2005	10/27/2005	6/25/2022	Approval	Issued
20-069-2408-4	CUP General		Southlake Land	The applicant proposes to withdraw 0.034 million gallons per day of water to irrigate and freeze protect 26 acres of citrus.	10/27/2005	10/27/2005	12/16/2022	Approval	Issued
20-069-2410-3	CUP General	Live Oaks Ranch & Nursery, Inc	Live Oaks Ranch & Nursery	The applicant proposes to withdraw 0.037 million gallons per day of water to irrigate 50 acres of pasture.	3/21/2002	5/14/2002	5/14/2022	Approval	Issued
20-069-2412-3	CUP General	North Lake Groves	NORTH LAKE GROVES	The use of 0.013 million gallons per day of ground water for 10 acres of citrus irrigation.	12/6/2000	2/15/2001	2/15/2021	Approval	Issued
20-069-2416-5	CUP General	MVC Real Estate Services	Oak Springs MHP	The applicant proposes to withdraw 0.149 million gallons per day of groundwater for household, water utility, urban landscape, and water based recreation type uses.	8/29/2003	7/7/2004	7/7/2024	Approval	Issued
2-069-2419-4	CUP Individual	Silver Springs Citrus Inc.	Silver Springs Citrus	The applicant proposes to withdraw 0.800 million gallons per day of water for commercial / industrial use.	1/31/2000	5/7/2002	5/7/2022	Approval	Issued
20-069-2430-5	CUP General	Long Farms North Inc	ECRU	The applicant proposes withdraw 0.082 million gallons per day of ground water to irrigate and frost/freeze protect 33 acres of citrus .	1/16/2008	5/27/2008	5/27/2018	Approval	Issued
20-069-2433-4	CUP General	Green Swamp Grove Inc	Green Swamp Groves	The applicant proposes to withdraw 0.256 million gallons per day of water for 195 acres of citrus irrigation.	12/18/2000	4/16/2001	4/16/2021	Approval	Issued
20-069-2436-3	CUP General	Mr Harvey Fender	Ridge Grove	The applicant proposes to withdraw 0.136 million gallons per day of ground water for irrigation and freeze protection of 80 acres of citrus.	6/10/2002	2/18/2003	2/18/2023	Approval	Issued
20-069-2439-5	CUP General	Seneca Partners Inc	Seneca Partners	The applicant proposes to withdraw .013 million gallons per day of water for 10 acres of citrus.	6/18/2005	6/18/2005	10/12/2021	Approval	Issued
2-069-2440-8	CUP	Florida	MerryGroFarms	The applicant proposes to use 350 mgy to irrigate 75	1/14/2008	3/4/2008	10/11/2010	Approval	Issued

PERMIT NUMBER	PERMIT TYPE	APPLICANT NAME	PROJECT NAME	PROJECT DESCRIPTION	RECEIVED DATE	DECISION DATE	EXPIRATION DATE	RECOMMENDATION	STATUS
	Individual	Conservation-RAAB LLC		acres of flowering plants.					
2-069-2445-4	CUP Individual	Florida Food Products Inc	Florida Food Products		6/8/1998	11/10/1998	11/10/2018	Approval	Issued
20-069-2447-4	CUP General	Beauclaire Homeowners Association	Lake Beauclair	The applicant proposes to withdraw 0.025 million gallons per day of groundwater for Household use.	11/18/2002	3/11/2004	3/11/2024	Approval	Issued
2-069-2453-6	CUP Individual	City of Mascotte	City of Mascotte	The applicant proposes to withdraw 1.216 million gallons per day of ground water to supply an estimated population of 8,852 in 2013 with water for household, commercial/industrial, common area landscape irrigation, essential, water utility and unaccounted type uses.	4/29/2003	10/9/2007	10/9/2013	Approval	Issued
20-069-2454-4	CUP General	Community Sun Lake Joint Venture	Sunlakes Estates	The applicant proposes to withdraw 0.314 million gallons per day of ground water for household, water utility, golf course, and recreation area uses, and 1.65 million gallons day of ground water for fire protection use.	5/10/2000	9/19/2006	8/30/2026	Approval	Issued
20-069-2459-5	CUP General	Florida Rock Industries Inc	Astatula Sand Plant	This is a modification of the existing permit to abandon the household type use identified as Well #3 and install a new replacement well for household type use appoximately 450 feet east with no change in allocation and or duration. The new well will be identified as Well #2.	7/20/2009	10/1/2009	6/22/2018	Approval	Issued
20-069-2460-7	CUP General	Flagship Harb LLC	7L Howey-in-the-Hills	Permit Transfer	9/14/2007	11/1/2007	5/19/2018	Approval	Issued
20-069-2462-6	CUP General	Centex Homes	Lakeside at Sunrise		11/2/2007	No Date	No Date	Pending	Pending
20-069-2462-5	CUP General	Centex Homes	Villa City	The use of 0.246 million gallons per day of surface water and ground water for irrigation and freeze protection of 144 acres iof citrus	7/18/2007	7/18/2007	4/23/2021	Approval	Issued
20-069-2464-7	CUP General	Citrus World, Inc.	Citrus World	The applicant proposes to withdraw 0.364 million gallons of ground water per day, annual average, for commercial and industrial type use associated with a juice processing facility.	2/9/2009	11/20/2009	11/20/2029	Approval	Issued
20-069-2465-4	CUP General	Lykes Bros. Inc.	Orange Blossom Road Griffin Road	The District authorizes the use of ground water from the Floridan aquifer for irrigation and freeze protection of 36 acres of citrus.	2/4/1998	5/19/1998	5/19/2018	Approval	Issued
20-069-2466-3	CUP General	Mr Edward Herman Zellman	Zellman		12/22/1998	2/17/1999	2/17/2019	Approval	Issued
20-069-2471-3	CUP General	BLR - Villa City C LLC	BLR Villa City C LLC	The applicant proposes to withdraw 0.0024 million gallons per day of groundwater to supply water for 200 head of beef cattle.	2/12/2003	3/10/2003	3/10/2023	Approval	Issued
20-069-2472-4	CUP General	Springs Park Area Inc	Springs Park Area, Inc.	The applicant proposes to withdraw 0.082 million gallons per day of water for household use and landscape	4/22/2002	2/12/2003	2/12/2023	Approval	Issued

PERMIT NUMBER	PERMIT TYPE	APPLICANT NAME	PROJECT NAME	PROJECT DESCRIPTION	RECEIVED DATE	DECISION DATE	EXPIRATION DATE	RECOMMENDATION	STATUS
				irrigation.					
20-069-2473-3	CUP General	Century Estates Utilities Inc	Century Estates	The applicant proposes to withdraw 0.0367 million gallons per day (annual average) of water for public supply type use for serving an estimated population of 250 residents over a 40-acre service area.	7/10/2001	4/26/2002	4/26/2022	Approval	Issued
20-069-2475-4	CUP General	Liner Source Inc	Liner Source Inc	The applicant proposes to withdraw 0.040 million gallons per day of ground water for irrigation and freeze proetction of 80 acres of containerized ornamentals	10/21/2009	11/20/2009	10/16/2019	Approval	Issued
20-069-2477-4	CUP General	Fisherman's Wharf	Fisherman's Wharf	The applicant proposes to withdraw 0.007 million gallons per day of ground water for household use for 50 residents.	4/9/2008	8/21/2008	8/21/2028	Approval	Issued
2-069-2478-9	CUP Individual	City of Clermont	City of Clermont	The applicant proposes to withdraw 7.9 million gallons per day of ground water for household, commercial/industrial, urban landscape, unaccounted for water and essential type uses in 2022.	1/24/2007	No Date	No Date	Pending	Pending
2-069-2478-8	CUP Individual	City of Clermont	City of Clermont	The applicant proposes to use 8.882 million gallons per day of ground water for household, commercial/industrial, urban landscape, unaccounted for water and essential type uses to serve a population of 33,703 people in 2010.	7/7/1999	9/10/2002	9/10/2022	Approval	Issued
20-069-2479-5	CUP General	Holiday Foliage	Holiday Foliage	This permit authorizes the use of ground water from the Floridan aquifer and surface water from Lake Templehof for the irrigation of 54 acres of fern, and freeze protection of 50 acres of fern.	3/12/1998	6/9/1998	6/9/2018	Approval	Issued
22-069-2481-5	CUP Fire Flow	Packing House By Products Inc	Packing House By Products	Permit Transfer	9/14/2005	10/21/2005	7/26/2019	Approval	Issued
2-069-2482-5	CUP Individual	City of Fruitland Park	City of Fruitland Park	The applicant proposes to withdraw 4.798 million gallons per day of ground water for household, utility, commercial/industrial and urban landscape use.	5/23/2008	No Date	No Date	Approval	Pending
2-069-2482-4	CUP Individual	City of Fruitland Park	City of Fruitland Park	The applicant proposes to withdraw 2.491 million gallons per day of ground water for household, utility, commercial/industrial and urban landscape use.	3/2/2005	6/13/2006	6/13/2008	Approval	Issued
20-069-2483-10	CUP General	Country Life LLC	Country Life Park	The applicant proposes to withdraw 0.03 million gallons per day of groundwater for household use for an estimated population of 245 in 5 years at a mobile home park.	5/20/2003	8/29/2003	8/29/2008	Approval	Issued
20-069-2484-3	CUP General	The Links at Village Green	Links at Village Green	The use of surface water from Lake Diane and 2 unnamed canals for irrigation of 49 acres of golf turf using a low-volume system, and 56 acres of citrus using an overhead system	5/11/1999	7/1/1999	7/1/2019	Approval	Issued
20-069-2485-4	CUP General	Packing House by-Products Co	Gorgeous Groves	The applicant proposes to withdraw 0.23 million gallons per day of water to irrigate 172 acres of citrus.	5/9/2002	4/15/2003	4/15/2023	Approval	Issued

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20-069-2487-5	CUP General	Florida Fish and Wildlife Conservation Comm	Hlochee WMA - Riddick Trust Grove	The applicant proposes to withdraw 0.333 million gallons per day of ground water for irrigation and freeze protection of 195 acres of citrus	12/27/2000	4/23/2001	4/23/2021	Approval	Issued
20-069-2488-6	CUP General	Aqua Utilities Florida	Grand Terrace	The applicant proposes to withdraw 0.04 million gallons per day of water for household use and fire protection.	7/2/2004	7/2/2004	2/8/2022	Approval	Issued
20-069-2489-6	CUP General	L F Austin Inc	Lake Fern Inc	This permit authorizes the use of ground water from the Floridan aquifer for the irrigation and freeze protection of 40 acres of fern at two sites.	10/6/1998	11/9/1998	11/9/2018	Approval	Issued
20-069-2492-4	CUP General	T Hampton Inc	Mount Plymouth Golf Club	The applicant proposes to continue to withdraw 0.26 million gallons per day of ground water for irrigation of 83 acres of golf turf	7/18/2008	8/11/2008	10/27/2020	Approval	Issued
20-069-2493-4	CUP General	Hugh C Kent	King Groves	The applicant proposes to withdraw 0.088 million gallons per day of water to irrigate 67 acres of citrus.	8/26/2004	8/26/2004	5/8/2022	Approval	Issued
20-069-2496-3	CUP General	Charles Fern Foliage	Charles Foliage	The applicant proposes to withdraw .0034 million gallons per day of water to irrigate 3.5 acres of indoor containerized plants.	12/12/2001	8/27/2002	8/27/2022	Approval	Issued
20-069-2497-3	CUP General	Phillips Groves Inc	Williams		6/1/1998	7/9/1998	7/9/2018	Approval	Issued
20-069-2498-5	CUP General	Victor & Karen Roye	Parsram & Lall	The applicant proposes to withdraw 0.025 million gallons per day of water to irrigate 15 acres of citrus.	6/4/2008	8/15/2008	12/16/2022	Approval	Issued
20-069-2499-3	CUP General	Central Florida Grove Services	CENTRAL FLA GROVE	This is a permit for the use of groundwater from the Floridan aquifer to irrigate and freeze protect 52 acres of citrus using a micro-jet system. USE STATUS: This application was received after a previously issued permit expired, therefore, the application has been reviewed as a new use. ASSOCIATED PERMITS: This permit was previously issued as CUP no. 2-069-0218AUM.	5/6/1996	5/19/1997	5/19/2007	Approval	Issued
20-069-2501-4	CUP General	Martin Bros LLC	Hwy 448	Permit Transfer	3/26/2009	3/26/2009	2/8/2022	Approval	Issued
20-069-2502-3	CUP General	Leesburg Fruit Co	Holloway Tree		1/13/1999	2/24/1999	2/24/2019	Approval	Issued
2-069-2504-6	CUP Individual	Orange County Utilities Water Reclamation Div, City of Orlando	Water Conserv II Reuse Facilities	The applicant proposes to witdraw 0.36 million gallons per day of ground water for backup irigation of 4343 acres of citrus, nursery and pasture and 1.56 millon gallons per day of ground water for backup for freeze protection of 4309 acres of citrus and nursery.	11/30/2004	9/13/2005	9/13/2015	Approval	Issued
20-069-2508-6	CUP General	OJ Partnership	OJ Partnership	Use of surface water from Lake Yale for irrigation and freeze protection of 90 acres of citrus.	12/2/1998	4/28/1999	4/28/2019	Approval	Issued
20-069-2512-4	CUP	May and Whitaker	Givens Block	The applicant proposes to withdraw 0.026 million gallons	6/19/2006	2/8/2007	12/20/2011	Approval	Issued

PERMIT NUMBER	PERMIT TYPE	APPLICANT NAME	PROJECT NAME	PROJECT DESCRIPTION	RECEIVED DATE	DECISION DATE	EXPIRATION DATE	RECOMMENDATION	STATUS
	General	Family Partnership		per day of ground water for the irrigation and freeze protection of 15 acres of citrus.					
20-069-2513-6	CUP General	Molokai Co-op	Molokai Co-op	This is a 5 year compliance report. The applicant proposes to withdraw 0.088 million gallons per day of ground water for household use for a population of 350 and irrigation of 27.81 acres of landscape.	12/30/2008	2/19/2009	8/17/2018	Approval	Issued
20-069-2517-3	CUP General	Ed Koch	Koch Grove	This permit authorizes the use of ground water from the Floridan aquifer for irrigation and freeze protection of 10 acres of citrus using a microspray irrigation system.	5/27/1998	9/7/1998	9/7/2018	Approval	Issued
20-069-2519-3	CUP General	May & Whitaker Family Partnership	May and Whitaker Family Partnership	The applicant proposes to withdraw 0.02 million gallons per day of groundwater for irrigation and freeze protection of citrus.	7/1/2002	12/16/2002	12/16/2022	Approval	Issued
20-069-2520-3	CUP General	May & Whitaker Family Partnership	Farm grove	The applicant proposes to withdraw 0.017 million gallons per day of ground water for irrigation and protection of 10 acres of citrus.	7/1/2002	12/16/2002	12/16/2022	Approval	Issued
20-069-2522-3	CUP General	Evergreen Ferneries	Evergreen Ferneries	The applicant proposes to withdraw 0.025 million gallons per day of ground water for the irrigation of 6 acres of nursery planst, and household use for 15 employees.	8/7/2006	4/4/2007	4/4/2027	Approval	Issued
20-069-2524-3	CUP General	Mr Zebulon Teeter	Flying Bar Z	The applicant proposes to withdraw 0.0007 million gallons of ground water per day for livestock watering and irrigation of a small vegetable garden.	3/28/2006	5/2/2006	4/7/2026	Approval	Issued
20-069-2527-3	CUP General	Central Florida Nursery & Landscaping	Central Fla Nursery & Landscaping Inc.	The applicant proposes to withdraw 0.175 million gallons per day of water to irrigate 20 acres of nursery.	2/8/2002	9/23/2002	9/23/2022	Approval	Issued
20-069-2528-3	CUP General	Little Creek Farm	Little Creek Farm	The applicant proposes to withdraw 0.07 million gallons per day of water to irrigate 61.5 acres of pasture.	11/4/2002	12/16/2002	12/16/2022	Approval	Issued
20-069-2529-3	CUP General	Ms Marilyn D Bainter	Bainter Grove	The District authorizes, as limited by the attached permit conditions, the use of 14.02 million gallons per year of ground water from the Floridan aquifer for irrigation and freeze protection of 22.5 acres of citrus.	10/16/2000	11/15/2000	11/15/2020	Approval	Issued
20-069-2530-4	CUP General	Blue Parrot RV Resort	Blue Parrot RV Resort	The applicant proposes to withdraw 0.08 million gallons per day of ground water for an 87 acre RV & Manufactured Home Community.	5/18/2006	12/1/2006	10/18/2016	Approval	Issued
20-069-2531-3	CUP General	Thousand Trails Inc	Thousand Trails	The applicant proposes to withdraw 0.15 million gallons per day of ground water for a public supply source and household needs to include urban landscape irrigation and fire protection at an 850 lot RV Park to be expanded in 2007 to 1100 lots.	5/26/2005	8/2/2006	8/2/2026	Approval	Issued
20-069-2532-3	CUP General	Royal R Taylor Land Trust	Taylor Ranch	The applicant proposes to withraw 0.0018 million gallons per day of groundwater for livestock watering.	9/13/2002	2/18/2003	2/18/2023	Approval	Issued
20-069-2535-3	CUP General	Lake Yale Treatment Assoc Inc	Lake Yale Estates/Sandpiper Mobile Home	The applicant proposes to withdraw 0.032 million gallons per day of water for household, essential and urban landscape type uses.	1/14/1999	7/16/2001	7/16/2016	Approval	Issued

PERMIT NUMBER	PERMIT TYPE	APPLICANT NAME	PROJECT NAME	PROJECT DESCRIPTION	RECEIVED DATE	DECISION DATE	EXPIRATION DATE	RECOMMENDATION	STATUS
			Manor						
20-069-2536-4	CUP General	Charles and Judith Tracy	Peru Road	The use of ground water from the Floridan aquifer for irrigation and freeze protection of 31 acres of citrus using a microjet irrigation system	11/17/2003	11/17/2003	3/8/2019	Approval	Issued
20-069-2537-3	CUP General	Gissy Groves LLC	Gissy Groves	The applicant proposes to withdraw 0.11 million gallons per day of groundwater to irrigate 70 acres of citrus.	6/9/2003	7/25/2003	7/25/2023	Approval	Issued
20-069-2538-3	CUP General	Edward James	J & R Grove	The applicant proposes to withdraw 0.05 million gallons per day of ground water to irrigate 30 acres of citrus.	2/2/2004	5/26/2004	5/26/2024	Approval	Issued
20-069-2539-3	CUP General	Hill Barker & Rea Groves	Hill, Barker, & Rea	The applicant proposes to witdraw 0.046 million gallons per day of ground water to irrigate 35 acres of citrus.	10/7/2003	2/10/2004	2/10/2024	Approval	Issued
20-069-2541-6	CUP General	Roy & Tracy Bowling	Roy & Tracy Bowling	Transfer Permit	8/28/2006	9/8/2006	2/28/2021	Approval	Issued
20-069-2542-3	CUP General	Bryan Groves Fern Division	Rusty	The applicant proposes to withdraw 0.03 million gallons per day of ground water for fern irrigation and freeze protection.	3/9/2004	5/26/2004	5/26/2024	Approval	Issued
20-069-2544-4	CUP General	Boykin Construction Inc	Home Block	The applicant proposes to withdraw .029 million gallons per day of ground water for irrigation and freeze protection of 17 acres of citrus.	5/2/2002	9/13/2001	9/13/2021	Approval	Issued
20-069-2546-6	CUP General	Iris Robuck	Cushing Grove		11/12/2009	No Date	No Date	Pending	Pending
20-069-2546-5	CUP General	Iris H Robuck	Cushing Grove	The use of ground water from the Floridan aquifer for irrigation and freeze protection of 15 acres of citrus using a microjet system	6/15/2007	6/18/2007	11/17/2009	Approval	Issued
20-069-2549-5	CUP General	City of Mount Dora	Amberleigh	Ownership Transfer	7/10/2009	10/21/2009	12/27/2020	Approval	Issued
20-069-2552-4	CUP General	Charlie Johnson Builder Inc	Charlie Johnson Builder	The use of ground water from the Floridan aquifer for irrigation and freeze protection of 35 acres of citrus using a microjet irrigation system	11/30/2005	12/29/2005	1/28/2019	Approval	Issued
20-069-2555-5	CUP General	Arnold Groves & Ranch Ltd	North Boggy Marsh	The applicant proposes to withdraw 0.09 million gallons per day of ground water for irrigation and freeze protection of 52 acres of citrus.	3/22/2004	2/16/2005	2/16/2025	Approval	Issued
20-069-2560-5	CUP General	Wolfstone Development LLC	Dye/Cooper Block	The applicant proposes to withdraw 0.12 million gallons per day of groundwater to irrigate 86 acres of citrus.	12/26/2007	2/21/2008	3/24/2023	Approval	Issued
20-069-2561-3	CUP General	Mr H James Simpson Jr	BEEMON BLOCK	The use of ground water from the Floridan aquifer for irrigation and freeze protection of 16 acres of citrus using a microjet system	7/28/1999	8/24/1999	8/24/2019	Approval	Issued
20-069-2562-3	CUP General	Mr H James Simpson Jr	Javens Block	AUTHORIZED USE: The use of ground water from the Floridan aquifer for irrigation and freeze protection of 27 acres of citrus using a microjet system	7/28/1999	8/24/1999	8/24/2019	Approval	Issued
20-069-2563-4	CUP General	Green Acres Fernery	Mid Florida Ferns		3/26/1998	7/30/1998	7/30/2018	Approval	Issued
20-069-2564-4	CUP	John Whitaker	Nelson	The use of 0.044 million gallons per day of ground water	5/7/2001	8/13/2001	8/13/2021	Approval	Issued

PERMIT NUMBER	PERMIT TYPE	APPLICANT NAME	PROJECT NAME	PROJECT DESCRIPTION	RECEIVED DATE	DECISION DATE	EXPIRATION DATE	RECOMMENDATION	STATUS
	General			for irrigation and freeze protection of citrus					
20-069-2565-4	CUP General	Chateau Communities Inc	Orange Lake Mobile Home Park	The applicant proposes to withdraw 0.096 million gallons per day of groundwater to serve a population of 610 people in 2012.	9/25/2003	5/26/2005	5/26/2015	Approval	Issued
20-069-2567-5	CUP General	Loma Linda Corp	Loma Linda Corp	The applicant proposes to use 0.20 million gallons per day for irrigation of 150 acres of citrus	9/13/2001	11/30/2001	11/30/2021	Approval	Issued
20-069-2570-4	CUP General	Stone Mountain Properties Partnership LLP	Stone Mountain Nursery	The applicant proposes to withdraw 0.028 million gallons per day of water to irrigate 10.0 acres of fern and the use of 0.023 million gallons per day of water to freeze protect 10.0 acres of fern.	6/27/2005	6/27/2005	2/8/2022	Approval	Issued
20-069-2571-3	CUP General	James H Simpson	Howey Block	The applicant proposes to withdraw .162 million gallons of ground water per day for irrigation and freeze protection of 95 acres of citrus.	4/26/2001	5/31/2001	5/31/2021	Approval	Issued
20-069-2575-5	CUP General	Brendenwood Water Systems	Brendenwood Water System	The applicant proposes to withdraw 0.033 million gallons per day of groundwater for public supply type use.	10/12/2004	1/10/2005	1/10/2025	Approval	Issued
20-069-2578-4	CUP General	P H Freeman & Sons Inc	Clements Grove		5/22/2002	11/23/1998	11/23/2018	Approval	Issued
20-069-2580-3	CUP General	Hartle Groves Inc	Hartle Groves	The applicant proposes to withdraw 0.023 million gallons per day of ground water for the irrigation of 15 acres of citrus and livestock use.	5/1/2001	9/4/2001	9/4/2021	Approval	Issued
2-069-2581-6	CUP Individual	Marian Farms Inc	Marian Gardens	The applicant proposes to withdraw 3.45 million gallons per day of water for the irrigation of a 950.2 acre tree farm and 0.195 million gallons per day for freeze protection of 300 acres.	7/31/2009	No Date	No Date	Pending	Pending
2-069-2581-5	CUP Individual	Marian Farms Inc	Marian Gardens	The applicant proposes to withdraw 3.45 million gallons per day of water for the irrigation of a 950.2 acre tree farm and 0.195 million gallons per day for freeze protection of 300 acres.	8/5/2002	9/7/2004	9/7/2024	Approval	Issued
20-069-2585-5	CUP General	Hezedean A Smith	Hezedean Smith	the use of 0.043 million gallons per day of ground water for irrigation and protection of 25 acres of citrus	9/22/2005	9/22/2005	8/1/2021	Approval	Issued
20-069-2586-3	CUP General	Raymond Walton	Walton Grove	The applicant proposes to withdraw 0.079 million gallons per day of ground water for irrigation and freeze protection of 12 acres of Citrus.	9/4/2001	10/12/2001	10/12/2021	Approval	Issued
22-069-2589-3	CUP Fire Flow	Fiddlers Green	Fiddlers Green	The District authorizes, as limited by the attached permit conditions, the use of 0.745 million gallons per year of ground water from the Floridan aquifer for household and livestock use at a guest ranch, and 0.289 million gallons per day maximum of ground water from the Floridan aquifer for fire protection	10/28/1996	1/13/2000	1/13/2020	Approval	Issued
20-069-2592-3	CUP General	Kilbert Groves Inc	Kilbert #360	The applicant proposes to use 0.09 million gallons per day of ground water for irrigation and freeze protection of 30 acres of citrus	9/19/2001	11/16/2001	11/16/2021	Approval	Issued
20-069-2593-3	CUP	Mr Richard Gandy	Richard Gandy	The applicant proposes to withdraw .04 million gallons	7/5/2001	3/29/2002	3/29/2022	Approval	Issued

PERMIT NUMBER	PERMIT TYPE	APPLICANT NAME	PROJECT NAME	PROJECT DESCRIPTION	RECEIVED DATE	DECISION DATE	EXPIRATION DATE	RECOMMENDATION	STATUS
	General			per day of water to irrigate 30 acres of citrus.					
2-069-2594-12	CUP Individual	Cherry Lake Tree Farm Inc	Cherry Lake Tree Farm, Inc.	The applicant proposes to withdraw 2.15 million gallons per day of ground water and 1.44 million gallons per day of surface water to irrigate 792 acres of container nursery and 57 acres of citrus.	6/7/2004	6/13/2006	6/13/2026	Approval	Issued
2-069-2596-6	CUP Individual	Town of Howey in the Hills	Town Of Howey-In-The-Hills	The applicant proposes to withdraw no less than 0.352 million gallons per day for household, commercial/industrial, urban lanscape irrigation, water utility, and unaccounted for types of use.	10/9/2009	No Date	No Date	Pending	Pending
20-069-2596-5	CUP General	Town of Howey in the Hills	Town Of Howey-In-The-Hills	The applicant proposes to withdraw 0.342 million gallons per day of ground water for household, commercial & industrial use.	5/31/2006	10/11/2007	10/11/2009	Approval	Issued
20-069-2597-3	CUP General	Faryna Grove Care & Harvesting	Home & Hillside	The applicant proposes to withdraw .02 million gallons per day of water to irrigate 17 acres of citrus.	7/11/2001	9/13/2001	9/13/2021	Approval	Issued
20-069-2598-4	CUP General	Haines Creek RV Village	Haines Creek RV Village	This is a permit for the use of ground water from the Floridan aquifer to supply potable water to an estimated maximum population of 130 in 10 years in an 86-unit campground, and for irrigation of 0.25 acres of landscape with a pop-up system.	6/26/2006	12/1/2006	10/9/2026	Approval	Issued
20-069-2599-3	CUP General	Mr Frank Wright	Wright Grove	The applicant proposes to withdraw 0.036 million gallons per day of ground water for irrigation and freeze protection of 21 acres of citrus.	5/9/2002	6/28/2002	6/28/2022	Approval	Issued
20-069-2602-3	CUP General	Fender Citrus Nursery	Fender Citrus Nursery	The applicant proposes to withdraw 0.07 million gallons per day of groundwater to irrigate and freeze protect 35 acres of citrus.	1/8/2003	6/3/2003	6/3/2023	Approval	Issued
20-069-2603-3	CUP General	Britt Transport Inc, Britt Transport Inc	Britt Transport Inc	The applicant proposes to use 0.001 million gallons per day of ground water for household use at a trucking company office.	4/17/2002	2/10/2004	2/10/2024	Approval	Issued
20-069-2604-4	CUP General	Aqua Utilities Florida Inc	Piney Woods/Spring Lake Manor	The use of 0.06 million gallons per day for the household use of 478 people and 0.6 million gallons per day for essential fire protection.	8/23/2004	8/23/2004	5/17/2021	Approval	Issued
20-069-2605-5	CUP General	Aqua Utilities Florida	Carlton Village	District authorizes Florida Water Services Corporation (Carlton Village), as limited by the attached permit conditions, to use 42.93 million gallons per year of ground water from the Floridan aquifer to serve an estimated population of 966 people with water for household use and unaccounted for water uses.	8/9/2004	8/9/2004	12/8/2020	Approval	Issued
20-069-2606-4	CUP General	Aqua Utilities Florida Inc	Stone Mountain	The applicant proposes to withdraw 0.01 million gallons per day for the household use of 61 people and 0.1 million gallons per day for essential fire protection.	8/23/2004	8/23/2004	7/24/2022	Approval	Issued
20-069-2607-4	CUP General	Aqua Utilities Florida	East Lake Harris	The District authorizes, as limited by the attached permit conditions, the use of 12.031 million gallons per year of ground water from the Floridan aquifer for household	8/9/2004	8/9/2004	3/7/2020	Approval	Issued

PERMIT NUMBER	PERMIT TYPE	APPLICANT NAME	PROJECT NAME	PROJECT DESCRIPTION	RECEIVED DATE	DECISION DATE	EXPIRATION DATE	RECOMMENDATION	STATUS
				type uses.					
20-069-2608-4	CUP General	Aqua Utilities Florida	Venetian Village	The applicant proposes to withdraw 0.05 million gallons per day of groundwater for household type uses in the year 2020.	7/15/2003	8/10/2004	2/18/2020	Approval	Issued
20-069-2609-5	CUP General	Aqua Utilities Florida Inc	Piccola	The District authorizes, as limited by the attached permit conditions, the use of 18.89 million gallons per year of ground water from the Floridan aquifer for household type uses.	8/19/2004	8/19/2004	12/7/2019	Approval	Issued
20-069-2610-4	CUP General	Aqua Utilities Florida	Morningview	The use of 5.2 million gallons per year of ground water from the Floridan aquifer to serve a projected population of 119 people in the year 2019, with water for household and water utility type uses.	8/24/2004	8/24/2004	11/17/2019	Approval	Issued
20-069-2611-4	CUP General	Aqua Utilities Florida	Fern Terrace	The District authorizes, as limited by the attached permit conditions, the use of up to 17.7 million gallons per year of ground water from the Floridan aquifer for household type uses.	8/10/2004	8/10/2004	2/18/2020	Approval	Issued
20-069-2612-4	CUP General	Aqua Utilities Florida Inc	Palms Mobile Home Park	The use of 7.857 million gallons per year of ground water from the Floridan aquifer to serve a projected population of 192 people in the year 2019, with water for household and water utility type uses.	8/19/2004	8/19/2004	11/17/2019	Approval	Issued
20-069-2613-4	CUP General	Aqua Utilities Florida	Hobby Hills	The District authorizes, as limited by the attached permit conditions, the use of 9.855 million gallons per year of ground water from the Floridan aquifer for household type uses.	8/12/2004	8/12/2004	12/7/2019	Approval	Issued
20-069-2614-4	CUP General	Aqua Utilities Florida Inc	Skycrest	The District authorizes, as limited by the attached permit conditions, the use of 10.13 million gallons per year of ground water from the Floridan aquifer for household type uses.	8/23/2004	8/23/2004	2/23/2020	Approval	Issued
20-069-2617-5	CUP General	Betty & Henry Fender	Fender Nursery	The applicant proposes to withdraw 0.08 million gallons per day of water to irrigate an 18 acre nursery.	11/19/2002	12/16/2002	12/16/2022	Approval	Issued
20-069-2620-3	CUP General	May & Whitaker Partnership	KAUFFMAN	The applicant proposes to use 0.085 million gallons per day of surface water for irrigation and freeze proetction of 50 acres of citrus	10/5/2000	9/4/2001	9/4/2021	Approval	Issued
20-069-2621-3	CUP General	Astatula Estates	Meadows of Astatula	The applicant proposes to withdraw 0.073 million gallons per day of groundwater for Household, Essential and Urban Landscape Irrigation uses at the Meadows of Astatula developement.	5/13/1999	3/16/2006	1/25/2011	Approval	Issued
20-069-2622-5	CUP General	Brittany Estates Residents Owners Assoc Inc	Brittany Estates	The applicant proposes to withdraw 0.05 million gallons per day of ground water for household, water utility, and urban landscape irrigation for 426 people.	6/8/2005	12/9/2005	10/27/2025	Approval	Issued
20-069-2623-3	CUP General	John Beck	JOHN BECK	This is a permit for the use of ground water from the Floridian aquifer for irrigation and freeze protection of 76 acres of citrus using a micro-jet irrigation system.	12/30/1996	3/18/1997	3/18/2012	Approval	Issued

PERMIT NUMBER	PERMIT TYPE	APPLICANT NAME	PROJECT NAME	PROJECT DESCRIPTION	RECEIVED DATE	DECISION DATE	EXPIRATION DATE	RECOMMENDATION	STATUS
				USE STATUS This is a renewal of a previously-issued permit. The use has been reviewed as an existing use pursuant to Ch. 373.226, F.S. ASSOCIATED PERMITS This permit was formerly issued as CUP no. 2-069-0491					
20-069-2627-3	CUP General	Wolverine Gasket Company	Wolverine Gasket Co	The District authorizes, as limited by the attached permit conditions, the use of 2.0 million gallons per year of ground water from the Floridan aquifer for commercial/industrial use in a gasket manufacturing facility, household use for approximately 50 employees, irrigation of approximately 0.6 acres of urban landscape, and for testing and maintaining the fire protection system; and the use of 2.16 million gallons per day (mgd) surface water from the lined fire pond for essential (fire prote	7/28/1999	3/16/2000	3/16/2020	Approval	Issued
20-069-2628-4	CUP General	LAKESIDE VILLAGE LTD	Lakeside Village Ltd	The applicant proposes to withdraw 0.07 million gallons per day of ground water for household type use and irrigation.	3/23/2009	No Date	No Date	Pending	Pending
20-069-2628-3	CUP General	Lakeside Village Ltd	Lakeside Village Ltd	The applicant proposes to withdraw 0.07 million gallons per day of ground water for household type use and irrigation.	10/16/2002	2/10/2004	2/10/2009	Approval	Issued
20-069-2629-6	CUP General	Monarch Golf Club Inc	Monarch Golf Club at Royal Highlands	The applicant proposes to withdraw 0.292 million gallons per day of water for irrigating 82.5 acres of golf course turf and 10.76 acres of buffer in a 120-acre golf course.	7/19/2006	4/24/2007	4/24/2027	Approval	Issued
20-069-2630-3	CUP General	E L M Groves	E.L.M. Groves	The applicant proposes to withdraw 0.038 million gallons per day of groundwater to irrigate 26 acres of citrus.	3/17/2003	4/17/2003	4/17/2023	Approval	Issued
2-069-2631-3	CUP Individual	Long Farms Inc	Lust Farms	Use of reclaimed water from the Water Conserv II project, with ground water from the Floridan Aquifer as back-up to irrigate 100 acres of leatherleaf fern under shade cloth using an overhead irrigation system.	12/20/2005	12/29/2005	6/13/2015	Approval	Issued
20-069-2632-5	CUP General	Aqua Utilities Florida Inc	Aqua Utilities Florida - Valencia Terrace	Letter Modification for replacement well	11/8/2006	11/30/2006	8/11/2020	Approval	Issued
20-069-2634-6	CUP General	City of Eustis	City of Eustis (Ltr Mod)	The applicant proposes to withdraw 13.130 million gallons per day of water to supply an estimated population of 22,135 people with water for household, commercial/industrial, irrigation, water utility and unaccounted water (utility losses) uses.	8/31/2007	10/3/2007	3/13/2012	Approval	Issued
20-069-2635-4	CUP General	Jack R Amon	Amon's Groves	The applicant proposes to withdraw .034 million gallons per day of ground water for irrigation and freeze protection of 21 acres of citrus.	5/3/2001	6/4/2001	6/4/2021	Approval	Issued
20-069-2636-4	CUP	Lake County	Treadway	The applicant proposes to withdraw 0.025 million gallons	6/22/2006	12/1/2006	11/13/2026	Approval	Issued

PERMIT NUMBER	PERMIT TYPE	APPLICANT NAME	PROJECT NAME	PROJECT DESCRIPTION	RECEIVED DATE	DECISION DATE	EXPIRATION DATE	RECOMMENDATION	STATUS
	General	School Board	Elementary	per day of ground water for the irrigation of 8.5 acres of urban landscape use.					
20-069-2637-4	CUP General	Carl Smith	Carl Smith	The applicant proposes to withdraw 0.03 million gallons per day of ground water to irrigate and freeze protect 20 aces of citrus, and for livestock use.	1/29/2003	3/4/2003	3/4/2023	Approval	Issued
20-069-2638-5	CUP General	J Patrick Schirard Premarital Assets Trust	Hill Top Grove	The applicant proposes to withdraw 0.02 million gallons per day of ground water for irrigation and 0.0008 million gallons per day of ground water for freeze protection of 20 acres of citrus.	9/11/2009	9/23/2009	9/23/2029	Approval	Issued
20-069-2642-3	CUP General	Ms Rebecca S Austin	Bacon Block	The applicant proposes to withdraw 0.01 million gallons per day of water to irrigate 8 acres of citrus.	12/17/2001	3/14/2002	3/14/2022	Approval	Issued
20-069-2643-3	CUP General	William Condermann	Conderman Grove	The applicant proposes to withdraw .016 million gallons per day of ground water for irrigation of citrus	5/4/2001	5/31/2001	5/31/2021	Approval	Issued
2-069-2644-10	CUP Individual	Aqua Utilities Florida Inc	Silver Lakes/Western Shores	The applicant proposes to withdraw 1.0 million gallons per day for Public Supply, Water Utility, Commercial/Industrial and Essential uses.	5/6/2005	5/9/2006	5/9/2011	Approval	Issued
20-069-2645-5	CUP General	Thomas J & Paula Bloomer	Kentucky Bluff Inc	The use of 0.051 million gallons per day of ground water for irrigation of 25 acres of citrus and 2 acres of grapes, and freeze protection of 15 acres of citrus	9/24/2009	12/9/2009	3/30/2021	Approval	Issued
2-069-2646-5	CUP Individual	City Of Umatilla	Umatilla Municipal Water System	The applicant proposes to withdraw 1.5 million gallons per day of water for household type use.	2/13/2006	9/17/2009	9/8/2014	Approval	Issued
20-069-2647-3	CUP General	Mr Brannan T Collins	Baker Road	The applicant proposes to withdraw 0.02 million gallons per day of ground water for the irrigation of 16 acres of citrus.	10/3/2002	12/16/2002	12/16/2022	Approval	Issued
20-069-2648-3	CUP General	Ophelia Phillips	Montverde		5/11/1999	10/6/1999	10/6/2019	Approval	Issued
20-069-2650-3	CUP General	Cassia Fern	Cassia Fern	The District authorizes, as limited by the attached permit conditions, the use of 18.6 million gallons per year of surface water from Owens Pond for irrigation of 18.0 acres of fern.	7/12/2000	11/22/2000	11/22/2020	Approval	Issued
20-069-2651-7	CUP General	Serenby LLC	Serenby	The applicant proposes to withdraw 0.065 million gallons per day of water to irrigate 23.0 acres of fern and 0.053 million gallons per day of water to freeze protect of 23.0 acres of fern. Also, the applicant proposes to withdraw 0.053 million gallons per day of water to irrigate 40.0 acres of citrus trees and 0.1 million gallons per day of water from a retention pond to freeze protect 25.0 acres of citrus trees.	12/15/2006	12/21/2006	8/27/2022	Approval	Issued
20-069-2653-4	CUP General	Twin Lakes- Cherry Lake Partnership LLP	Maguire 455	The applicant proposes to withdraw 0.239 million gallons per day of ground water to irrigate and freeze proetct 140 acres of citrus.	10/3/2008	12/8/2008	8/13/2021	Approval	Issued
20-069-2654-3	CUP	Lennon Grove	Hilltop 27	The applicant proposes to withdraw .032 million gallons	7/5/2001	8/1/2001	8/1/2021	Approval	Issued

PERMIT NUMBER	PERMIT TYPE	APPLICANT NAME	PROJECT NAME	PROJECT DESCRIPTION	RECEIVED DATE	DECISION DATE	EXPIRATION DATE	RECOMMENDATION	STATUS
	General	Service Inc		per day of ground water for irrigation and freeze proetction of 20 acres of citrus.					
20-069-2656-4	CUP General	Robert and Tracy Seidle, Robert Seidle	Cherry Lake G & B	The application proposes to withdraw 0.06 million gallons per day of water to irrigate and freeze protect 57 acres of citrus.	3/31/2003	11/17/2003	11/17/2023	Approval	Issued
20-069-2659-3	CUP General	Haselton Village Mobile Home Park	Haselton Village MHP	The applicant proposes to withdraw 0.0583 million gallons per day of ground water for the household use of 584 people for water utility use.	12/12/2006	7/23/2007	7/23/2012	Approval	Issued
20-069-2661-3	CUP General	Mr Ralph Darden	Darden Fernery	The District authorizes, as limited by the attached permit conditions, the use of 3.3 million gallons per year of ground water from the Floridan aquifer for irrigation and freeze protection of 2.5 acres of leatherleaf fern	5/10/2000	6/9/2000	6/9/2020	Approval	Issued
2-069-2662-8	CUP Individual	Mission Golf & Tennis Resort	Las Colinas	The District authorizes, as limited by the attached permit conditions, the use of 73.7 million gallons per year of ground water from the Floridan aquifer, via one existing and two proposed wells, to supply the household and commercial needs of 1,200 people by 2011. The District also authorizes, as limited by the attached permit conditions, the use of 9.0 million gallons per year of ground water from the Floridan aquifer via one existing and two proposed wells to irrigate 11 acres of urban lan	5/10/1999	4/11/2000	4/10/2020	Approval	Issued
20-069-2663-3	CUP General	Center Lake Properties LLLP	19-acre grove	The use of 0.032 million gallons per day of ground water for irrigation and freeze proetction of 18.5 acres of citrus	5/10/2001	6/27/2001	6/27/2021	Approval	Issued
20-069-2664-5	CUP General	Estate of C M Bouis	Coleman Cline	The applicant proposes to withdraw .344 million gallons per day of water for 262 acres of citrus.	8/24/2001	10/12/2001	10/12/2021	Approval	Issued
20-069-2665-3	CUP General	Florida Fruit Co	Drake Point	The applicant proposes to withdraw .12 million gallons per day of ground water for irrigation and freeze protection of 70 acres of citrus	2/26/2001	4/23/2001	7/17/2021	Approval	Issued
20-069-2666-3	CUP General	Florida Fruit Company	Cathye Bouis Grove	The applicant proposes to withdraw .01 million gallons per day for irrigation and freeze protection of 10 acres of citrus.	2/26/2001	4/23/2001	4/23/2021	Approval	Issued
20-069-2667-3	CUP General	Ray Kemp Trust	Ray Kemp	The applicant is requesting 0.058 million gallons per day of ground water for irrigation and feeze protectiuon of 44 acres of citrus	6/13/2007	7/23/2007	7/23/2027	Approval	Issued
20-069-2668-5	CUP General	Mr Robert Sullivan	Robert Sullivan	The applicant proposes to withdraw 0.130 million gallons per year of groundwater to irrigate 5 acres of landscape.	5/1/2003	10/10/2003	10/10/2023	Approval	Issued
2-069-2669-2	CUP Individual	Edward James	William R Hancock	The District authorizes the use of ground water from the Floridan aquifer to irrigate 20 acres of citrus using a micro-jet irrigation system.	3/4/1994	9/13/1994	9/13/2001	Approval	Issued
20-069-2670-3	CUP General	Law & Leininger Partnerhsip	L & E Grove	The applicant proposes to withdraw 0.112 million gallons per day of ground water for irrigation and freeze	3/24/2004	9/20/2004	9/20/2024	Approval	Issued

PERMIT NUMBER	PERMIT TYPE	APPLICANT NAME	PROJECT NAME	PROJECT DESCRIPTION	RECEIVED DATE	DECISION DATE	EXPIRATION DATE	RECOMMENDATION	STATUS
				protection of 65.84 acres of Citrus.					
20-069-2671-5	CUP General	Town of Montverde	Town of Montverde	This applicant proposes to withdraw 0.322 million gallons per day of water for household use, commercial/industrial use and utility type use to supply an estimated population of 1831people in the year 2014.	3/9/2009	No Date	No Date	Pending	Pending
20-069-2671-4	CUP General	Town of Montverde	Town of Montverde	This applicant proposes to withdraw 0.933 million gallons per day of water for household use, commercial/industrial use and utility type use to supply an estimated population of 4547 people in the year 2024.	3/4/2005	2/8/2007	2/8/2009	Approval	Issued
20-069-2672-3	CUP General	Lake County Citrus Sales	Parker	The applicant proposes to withdraw 0.21 million gallons per day of ground water for irrigation and freeze protection of 110 acres of citrus.	5/11/2004	6/15/2005	3/24/2025	Approval	Issued
20-069-2674-4	CUP General	Ramlee Holdings Limited Parnership	Sharp's Trees	The applicant proposes to withdraw 0.00135 million gallons per day of water for nursery irrigation of 3.0 acres of trees and 0.000192 million gallons per day of water for 16 head of beef cattle .	8/31/2007	5/28/2008	5/27/2028	Approval	Issued
20-069-2676-5	CUP General	Packing House by-Products Co	Yalaha Nurseries	Permit Transfer of Ownership	4/1/2009	6/18/2009	1/23/2022	Approval	Issued
20-069-2678-6	CUP General	Eric Coe	Oak Grove Fernery	Ownership Transfer/split	6/3/2009	10/26/2009	11/16/2021	Approval	Issued
20-069-2679-3	CUP General	Rubin Sheldon	Haley Grove	The application proposes to withdraw 74 million gallons per day of water for agricultural Citrus irrigation on 135 acres. irrigate 20.2 inches per year	6/11/2009	No Date	No Date	Pending	Pending
20-069-2680-3	CUP General	Mr William C Davis	William C Davis	The applicant proposes to withdraw 0.026 million gallons per day of water to irrigate 20 acres of Citrus.	5/13/2002	8/7/2002	8/7/2022	Approval	Issued
20-069-2682-5	CUP General	Knisht Lake LLC	Knight Lake	The use of ground water from the Floridan aquifer for irrigation and freeze protection of 24 acres of citrus using a microjet irrigation system	11/16/2009	No Date	No Date	Pending	Pending
20-069-2682-4	CUP General	Knight Lake LLC	Knight Lake	The use of ground water from the Floridan aquifer for irrigation and freeze protection of 24 acres of citrus using a microjet irrigation system	12/16/2005	2/2/2006	11/17/2009	Approval	Issued
20-069-2684-4	CUP General	Free Sal Groves Inc	Howey Grove	The applicant proposes to continue using up to 0.016 million gallons per day of ground water for irrigation and freeze protection of 40 acres of citrus	10/24/2003	8/21/2006	12/4/2018	Approval	Issued
20-069-2685-3	CUP General	P H Freeman & Sons Inc	Coolidge Grove	The applicant proposes to withdraw 0.060 million gallons per day of ground water to irrigate 35.0 acres of citrus using a micro-jet irrigation system.	9/6/2002	12/3/2002	12/3/2022	Approval	Issued
20-069-2686-3	CUP General	Loel Groves	Loel Groves	The applicant proposes to withdraw 0.026 million gallons per day of water for irrigation and freeze protection of 15 acres of citrus.	2/13/2001	4/16/2001	4/16/2021	Approval	Issued
20-069-2688-6	CUP	Stewarts	Heritage	The applicant proposes to withdraw 0.032 million gallons	1/24/2008	2/28/2008	1/19/2026	Approval	Issued

PERMIT NUMBER	PERMIT TYPE	APPLICANT NAME	PROJECT NAME	PROJECT DESCRIPTION	RECEIVED DATE	DECISION DATE	EXPIRATION DATE	RECOMMENDATION	STATUS
	General	Greenhouse Inc		per day of water for irrigation of 6.5 acres of nursery.					
20-069-2689-3	CUP General	Mr Homer Allen	Wilma Grove	The applicant proposes to withdraw 0.023 million gallons per day of ground water to irrigate and freeze protect 20 acres of citrus.	10/28/2002	12/16/2002	12/16/2022	Approval	Issued
20-069-2692-4	CUP General	Sorrento Oaks Farm	Sorrento Oaks Farm	The applicant proposes to withdraw 0.017 million gallons per day of ground water for irrigation of landscape, dust control, and livestock use	11/20/2001	3/4/2003	3/4/2023	Approval	Issued
20-069-2695-3	CUP General	Florida Brace Corporation	Blue Sink	The District authorizes, as limited by the attached permit conditions, the use of 22.74 million gallons per year of ground water from the Floridan aquifer for irrigation and freeze protection of 36.5 acres of citrus	10/27/1999	12/8/2000	12/8/2020	Approval	Issued
20-069-2698-3	CUP General	Baker Grove Inc	Trust Grove	The applicant proposes to withdraw 0.014 million gallons per day of groundwater for the irrigation and freeze protection of 20 acres of citrus.	2/3/2003	3/6/2003	3/6/2023	Approval	Issued
2-069-2700-29	CUP Individual	Lake Utility Services Inc	Lake Utility Services Inc.	The applicant proposes to withdraw 9.76 million gallons per day of ground water for household, commercial/industrial, urban landscape irrigation, water utility, and essential type uses by 2013.	11/29/2006	No Date	No Date	Pending	Pending
2-069-2700-28	CUP Individual	Lake Utility Services Inc	Lake Utility Services	The applicant proposes to withdraw 3.887 million gallons per day of water to serve an estimated population of 11,890 in 2011.	4/20/2006	4/24/2006	4/12/2011	Approval	Issued
20-069-2701-3	CUP General	Aqua Source Inc	Kings Cove Subdivision	The applicant proposes to withdraw 0.1363 million gallons per day of water to serve an estimated domestic population of 725 in twenty years.	7/25/2003	4/21/2006	4/21/2026	Approval	Issued
20-069-2703-4	CUP General	Seneca Cut Foliage Partnership	Seneca Cut Foliage	The applicant proposes to withdraw 0.036 million gallons per day of ground water for the irrigation and freeze protection of up to 13 acres of foliage.	9/28/2006	1/29/2007	11/30/2026	Approval	Issued
20-069-2704-10	CUP General	Green Acres Fernery & Citrus Inc	Greenacres Fernery & Citrus	The applicant proposes to withdraw 0.07 million gallons per day of water for the irrigation of 26 acres of ferns, and 0.010 million gallons per day of water for the irrigation of 7.5 acres of citrus.	5/22/2001	7/18/2001	7/18/2021	Approval	Issued
20-069-2706-3	CUP General	Floral Trace Inc	Floral Trace	The applicant proposes to withdraw .02 million gallons per day of ground water for irrigation of up to 3 acres of nursery and up to 6.75 acres of urban landscape.	7/9/2001	8/13/2001	8/13/2021	Approval	Issued
20-069-2708-3	CUP General	John Veldhuis	Veldhuis Grove	The applicant proposes to withdraw .02 million gallons per day of ground water to irrigate 9 acres of citrus.	5/22/2001	6/27/2001	6/27/2021	Approval	Issued
20-069-2709-3	CUP General	Mr Richard Davis	Food Basics	The applicant proposes to withdraw 0.017 milllion gallons per day of ground water for irrigation and freeze protection of 10 acres of citrus .	1/20/2004	4/7/2004	4/7/2024	Approval	Issued
20-069-2712-4	CUP General	Thomas Fuqua	Fuqua Groves	The District authorizes, as limited by the attached permit conditions, the use of 25.01 million gallons per year of ground water from the Floridan aquifer for irrigation and	6/26/2000	8/22/2000	8/22/2020	Approval	Issued

PERMIT NUMBER	PERMIT TYPE	APPLICANT NAME	PROJECT NAME	PROJECT DESCRIPTION	RECEIVED DATE	DECISION DATE	EXPIRATION DATE	RECOMMENDATION	STATUS
				freeze protection of 6 acres of citrus nursery and 11.5 acres of leatherleaf ferns					
20-069-2714-3	CUP General	Sunset Hill Groves Partnership	Sunset Hill Groves Partnership	The applicant proposes to withdraw 0.131 million gallons per day of ground water for irrigation of 78 acres of citrus.	5/16/2002	9/23/2002	9/23/2022	Approval	Issued
2-069-2716-6	CUP Individual	Benchmark Farms Inc	Umatilla Sod Farm	The applicant proposes to withdraw 0.835 million gallons per day of water to irrigate 330 acres of sod and beef cattle watering.	6/27/2007	2/12/2008	2/12/2013	Approval	Issued
20-069-2717-5	CUP General	Utilities Inc of Pennbrooke	Pennbrooke Utilities Inc	The applicant proposes to withdraw 0.454 million gallons per day of water for commercial and industrial, essential, household, water based recreation, irrigation and other type uses.	3/27/2003	9/14/2005	9/14/2025	Approval	Issued
2-069-2718-10	CUP Individual	City of Leesburg	City of Leesburg, Plantation	Transfer of ownership, with split of irrigation of common areas.	3/2/2007	3/5/2007	8/13/2022	Approval	Issued
20-069-2720-4	CUP General	Dale and Lisa West	Dale & Lisa West	The applicant proposes to withdraw .011 million gallons per day of ground water to irrigate and freeze protect 7 acres of citrus.	2/6/2004	2/6/2004	8/13/2021	Approval	Issued
20-069-2721-4	CUP General	Jack L Cassell	Cassell	The applicant proposes to withdraw .025 million gallons per day of water to irrigate 20 acres of citrus.	3/23/2004	3/23/2004	11/30/2021	Approval	Issued
20-069-2722-3	CUP General	Thomas L Knight	Thomas Knight	This is a permit for the use of ground water to irrigate and frost protect 31 acres of citrus with a micro-jet system. USE STATUS This application was received after a previously-issued expired. Therefore, it has been reviewed as a new use. ASSOCIATED PERMITS This permit was formerly 2-069-0733US	4/27/2005	4/27/2005	6/24/2006	Approval	Issued
20-069-2723-6	CUP General	Journey Circle M Ranch LLC	J&J Homes	Ownership Transfer	10/20/2009	12/31/2009	9/30/2019	Approval	Issued
20-069-2724-4	CUP General	Center Lake Properties LLLP	Black Still Rd	The applicant proposes to use 0.03 million gallons per day of ground water for irrigation and freeze protection of 16 acres of citrus.	5/3/2002	6/25/2002	4/16/2022	Approval	Issued
20-069-2725-5	CUP General	Dewitt Enterprises Inc	C A Meyer Paving & Construction	Permit Transfer	6/26/2009	8/10/2009	2/22/2022	Approval	Issued
20-069-2726-4	CUP General	May & Whitaker Family Partnership	Stanley	The applicant proposes to withdraw 0.077 million gallons per day of groundwater for the irrigation and freeze protection of 45 acres of citrus.	5/9/2003	7/1/2003	6/25/2022	Approval	Issued
2-069-2728-6	CUP Individual	Record Buck Farms Inc	Record Buck Farms	The applicant proposes to withdraw 0.53million gallons per day of ground water for the irrigation of up to 67.62 acres of nursery plants	6/6/2008	12/15/2009	11/30/2021	Approval	Issued
20-069-2728-5	CUP General		Record Buck Farms	The applicant proposes to withdraw 0.21 million gallons per day of ground water for irrigation of up to 35 acres of nursery plants	4/22/2002	6/4/2002	11/30/2021	Approval	Issued
20-069-2729-5	CUP	Hartman Golf	Silver Lake Golf	The applicant proposes to withdraw 0.18 milllion gallons	3/22/2006	6/6/2006	5/15/2011	Approval	Issued

PERMIT NUMBER	PERMIT TYPE	APPLICANT NAME	PROJECT NAME	PROJECT DESCRIPTION	RECEIVED DATE	DECISION DATE	EXPIRATION DATE	RECOMMENDATION	STATUS
	General	Management Inc	Course	per day of ground water for the irrigation of golf turf and landscape.					
20-069-2734-6	CUP General	Mr James A Lee	Mr James A Lee	The applicant is requesting 0.06 million gallons per day of ground water for irrigation and freeze protection of 40 acres of citrus	10/3/2001	11/16/2001	11/16/2021	Approval	Issued
20-069-2735-5	CUP General	Estate of Nancy D Gaskill	Gaskill Grove	The applicant proposes to withdraw 0.05 million gallons per day of surface water for irrigation and freeze protection of 31 acres of citrus.	5/7/2002	6/4/2002	6/4/2022	Approval	Issued
20-069-2736-5	CUP General	Robert Stokes	Paisley	The applicant proposes to withdraw 0.028 million gallons per day of water to irrigate 10.0 acres of fern and 0.023 million gallons per day of water to freeze protet 10.0 acres of fern.	12/11/2001	2/8/2002	2/8/2022	Approval	Issued
20-069-2737-3	CUP General	Mr Bob Leininger	Home Grove	The applicant proposes to withdraw 0.08 million gallons per day of ground water for irrigation and freeze protection of 50 acres of citrus.	12/3/2003	10/12/2004	10/12/2024	Approval	Issued
20-069-2739-3	CUP General	Ms Kathy McCaffrey	Sand Hill Fernery	Use of surface water from an unnamed pond to irrigate 5 acres of fern and groundwater from the Floridan aquifer for freeze protection using an overhead irrigation system.	1/10/1996	11/5/1997	11/5/2007	Approval	Issued
20-069-2741-4	CUP General	Squirrel Point Homeowners Assoc	Squirrel Point	The applicant proposes to withdraw 0.028 million gallons per day of water for household use and urban landscape irrigation.	6/30/2006	8/15/2006	3/8/2024	Approval	Issued
20-069-2742-9	CUP General	Wekiva Falls Resort and RV Park LLC	Wekiva Falls Resort @ Mastodon Springs	Transfer of Ownership	12/5/2008	12/23/2008	5/12/2024	Approval	Issued
20-069-2752-4	CUP General	Albin Hagstrom & Son Inc	Cassia	The applicant proposes to withdraw 0.042 million gallons per day of water to irrigate 15.0 acres of fern.	12/5/2001	1/23/2002	1/23/2022	Approval	Issued
20-069-2753-4	CUP General	May and Whitaker Family Partnership	May and Whitaker	The District authorizes, as limited by the attached permit conditions, the use of 13.61 million gallons per year of ground water from the Floridan aquifer for dairy use and washing and cooling of 150 head of dairy cattle.	7/11/2005	7/11/2005	6/21/2021	Approval	Issued
20-069-2754-4	CUP General	Pine Ridge Dairy	Pine Ridge Dairy Inc	The District authorizes, as limited by the attached permit conditions, the use of 69.54 million gallons per year of ground water from the Floridan aquifer for water needs of up to 1000 dairy cattle and irrigation of 120 acres of pasture	6/6/2000	11/16/2000	11/16/2020	Approval	Issued
20-069-2755-4	CUP General	Mr Victor G Roepke	Water Hole Fern	The applicant proposes to withdraw 0.04 million gallons per day of water to irrigate 14 acres of fern.	11/21/2002	6/19/2003	6/19/2023	Approval	Issued
20-069-2756-4	CUP General	Syble L Doud & Raymond J Sullivan	Doud & Sullivan	The applicant proposes to withdraw 0.01 million gallons per day of ground water to irrigate 4 acres of urban landscape.	5/7/2005	5/7/2005	4/5/2024	Approval	Issued
20-069-2757-5	CUP General	Malibu Quality Greens Inc	Malibu Ferns	The applicant proposes to withdraw 0.085 million gallons per day of water to irrigate 30.0 acres of fern and 0.069	2/8/2001	5/17/2001	5/17/2021	Approval	Issued

PERMIT NUMBER	PERMIT TYPE	APPLICANT NAME	PROJECT NAME	PROJECT DESCRIPTION	RECEIVED DATE	DECISION DATE	EXPIRATION DATE	RECOMMENDATION	STATUS
				million gallons per day for freeze protection of fern.					
20-069-2758-3	CUP General	Florida Made Door Co	Florida Made Door	The District authorizes, as limited by the attached permit conditions, the use of 2.86 million gallons per year of ground water from the Floridan aquifer for irrigation of 1.5 acres of landscape, and essential use, for fire protection	2/8/2000	3/30/2000	3/30/2020	Approval	Issued
20-069-2759-5	CUP General	La Viance Property Acquisition LLC	LaViance Property	The applicant proposes to withdraw 0.053 million gallons per day of water to irrigate 40 acres of citrus.	5/12/2006	7/21/2006	4/16/2022	Approval	Issued
20-069-2760-3	CUP General	Osgood Groves Inc	Osgood Home Block	The applicant proposes to withdraw 0.004 million gallons per day to irrigate and freeze protect 2.5 acres of citrus.	11/29/2001	12/20/2001	12/20/2021	Approval	Issued
20-069-2761-3	CUP General	Hammock Citrus Corp	Hammock Grove	The applicant proposes to withdraw 0.04 million gallons per day of water to irrigate 27 acres of citrus.	12/3/2001	1/11/2002	1/11/2022	Approval	Issued
20-069-2762-4	CUP General	Don M Buckner	American Manufacturing & Machine	The applicant proposes to withdraw 0.001 million gallons per day of ground water for household use and irrigation of 0.5 acre at a small manufacturing facility	9/28/2006	7/1/2008	7/1/2028	Approval	Issued
20-069-2763-3	CUP General	Senninger Irrigation Inc	Senninger Irrigation	The applicant proposes to withdraw 0.21 million gallons per day of ground water for commercial/industrial type use, irrigation of the surrounding landscape and household use of the employees.	1/3/2002	6/28/2002	6/28/2022	Approval	Issued
22-069-2764-3	CUP Fire Flow	Mr CHARLES E FIELDS Jr	Fields Equipment Co	Noticed General for Fire Flow Well	12/2/2003	2/19/2004	2/19/2024	Approval	Issued
2-069-2765-7	CUP Individual	City of Tavares	City of Tavares Public Water Supply	The applicant proposes to withdraw 5.046 million gallons per day, annual average, for household, commercial/industrial, landscape irrigation, unaccounted for, essential, and water utility types of use.	10/30/2009	No Date	No Date	Pending	Pending
2-069-2765-6	CUP Individual	City of Tavares	City of Tavares Public Water Supply	The applicant proposes to withdraw 3.537 million gallons per day of ground water for public supply use for serving a population of 17,964 in the year 2010 and 0.028 million gallons per day of ground water for irrigating 10 acres of turf at the Woodlea Road Sports Complex.	12/5/2007	6/10/2008	10/7/2010	Approval	Issued
20-069-2766-5	CUP General	Pastime Fernery Inc	Pastime Fernery, Inc.	The applicant proposes to withdraw 0.020 million gallons per day of ground water for the irrigation of 6.1 acres of ferns and 15 acres of citrus.	8/7/2002	12/3/2002	12/3/2022	Approval	Issued
20-069-2767-3	CUP General	Mr Gene Smith	Triangle Industrial Park	The applicant proposes to withdraw 0.0123 million gallons per day of water for household and urban landscape irrigation, and 2.16 million gallons per day of water for fire protection.	7/27/2000	10/19/2001	10/19/2021	Approval	Issued
20-069-2768-3	CUP General	Pleasant Farms Inc	Pleasant Farms	The use of ground water from the Floridan aquifer for irrigation and freeze protection of 19 acres of citrus using a microjet system	1/28/1999	4/28/1999	4/28/2019	Approval	Issued
20-069-2770-3	CUP General	Jimmy Sloan	Swango Grove	The applicant proposes to withdraw .013 million gallons per day of ground water for irrigation and freeze	5/23/2001	9/4/2001	9/4/2021	Approval	Issued

PERMIT NUMBER	PERMIT TYPE	APPLICANT NAME	PROJECT NAME	PROJECT DESCRIPTION	RECEIVED DATE	DECISION DATE	EXPIRATION DATE	RECOMMENDATION	STATUS
				protection of 10 acres of citrus.					
20-069-2771-7	CUP General	Lakeview Terrace Retirement Services Inc	Lakeview Terrace	The applicant proposes to withdraw 0.13 million gallons per day of ground water for the irrigation of approximately 9 acres of landscape, and hosuehold use for an estimated population of 950.	9/16/2005	12/8/2005	2/14/2020	Approval	Issued
20-069-2772-4	CUP General	Lake County	Lake County	The applicant proposes to withdraw .06 million gallons per day of ground water for irrigation and freeze protection of 38 acres of citrus.	12/15/2006	1/11/2007	7/30/2021	Approval	Issued
20-069-2773-3	CUP General	Mr James H Hanks	Hanks Grove	The applicant proposes to withdraw .04 million gallons per day of water to irrigate 9.5 acres of Citrus.	1/4/2002	12/16/2002	12/16/2022	Approval	Issued
20-069-2774-3	CUP General	Jack Strickland Citrus	Jack Strickland	The applicant proposes to withdraw 0.03 million gallons per day of water to irrigate 22.5 acres of citrus.	9/12/2001	10/12/2001	10/12/2021	Approval	Issued
20-069-2775-4	CUP General	Ridgecrest Village	Ridgecrest Village	The applicant proposes to withdraw 0.07 million gallons per day of ground water for household type use and irrigation of 1 acre of urban landscape.	12/29/2009	No Date	No Date	Pending	Pending
20-069-2775-3	CUP General	Ridgecrest Village	Ridgecrest Village	The applicant proposes to withdraw 0.07 million gallons per day of ground water for household type use and irrigation of 1 acre of urban landscape.	10/16/2002	2/10/2004	2/10/2009	Approval	Issued
22-069-2776-3	CUP Fire Flow	Classic Manufacturing Inc	Classic Manufacturing Inc		9/18/2000	10/23/2000	10/23/2020	Approval	Issued
20-069-2778-3	CUP General	Waterwood Community Assoc Inc	Waterwood	The applicant proposes to withdraw .088 million gallons per day of water for household, landscape irrigation and essential uses.	11/5/2001	6/20/2002	6/20/2022	Approval	Issued
22-069-2779-3	CUP Fire Flow	Okahumpka Holdings Inc.	Rogers Industrial park	The maximum use of 1.44 million gallons per day of ground water for fire protection needs at an industrial park	3/7/2001	3/30/2001	3/30/2021	Approval	Issued
2-069-2780-4	CUP Individual	E R Jahna Industries Inc	Clermont East Sand Mine	The applicant proposes to withdraw 4.6 million gallons per day (annual average) of surface water and 2.0 million gallons per day (annual average) of ground water for industrial applications for sand mining and processing operations at a 459-acre mine.	4/12/2001	10/9/2001	10/9/2021	Approval	Issued
20-069-2782-5	CUP General	Raintree Utilities Inc	Raintree Harbor	The applicant proposes to withdraw 0.062 million gallons per day of ground water for household, commercial, landscape irrigation, water utlity, unaccounted and essential type uses.	2/15/2008	9/8/2008	9/8/2028	Approval	Issued
20-069-2786-3	CUP General	Mr Forrest Banks	ANB Inc	The applicant proposes to withdraw 0.056 million gallons per day of ground water to irrigate 20 acres of fern.	8/17/2004	3/15/2005	2/17/2025	Approval	Issued
20-069-2787-3	CUP General	Douglas Hill	Douglas Hill Farm	The applicant proposes to withdraw 0.065 million gallons per day of water to irrigate 20 acres of agricultural.	3/6/2002	5/8/2002	5/8/2022	Approval	Issued
20-069-2790-3	CUP General	Simpson Training Center Inc	Simpson Training Center	Applicant proposes to use 0.010 million gallons per day of ground water for livestock, household use, and dust control	6/26/2001	9/4/2001	9/4/2021	Approval	Issued

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20-069-2791-4	CUP General	Eagles Landing at Ocoee Inc	Eagles Landing	The applicant proposes to withdraw .39 million gallons per day of water to irrigate 150 acres of citrus.	4/20/2005	11/18/2005	2/8/2022	Approval	Issued
20-069-2792-5	CUP General	G Gilbert Trustee	G Gilbert	The use of 0.001 mgd of ground water for irrigation of 13 acres of citrus	11/9/2004	11/10/2004	4/23/2021	Approval	Issued
20-069-2793-6	CUP General	Crothall Laundry Services Inc	Crothall Laundry Services	The applicant proposes to withdraw 0.111 million gallons per day of groundwater for industrial, potable and irrigation type uses.	4/29/2004	5/12/2004	7/25/2013	Approval	Issued
20-069-2795-5	CUP General	USDA Forest Service Seminole Ranger District	USDA Forest Service Seminole Ranger District		7/26/1999	8/24/1999	8/24/2019	Approval	Issued
2-069-2796-4	CUP Individual	City of Groveland	Groveland Water System	The applicant proposes to withdraw 1.6 million gallons per day of ground water for public supply and essential type uses.	7/12/2005	2/12/2008	12/8/2014	Approval	Issued
20-069-2797-5	CUP General	Edmund Faryna	East Lake Grove	The applicant proposes to withdraw 0.041 million gallons per day of ground water for the irrigation and freeze proetction of 24 acres of citrus.	5/30/2006	9/14/2006	6/23/2026	Approval	Issued
20-069-2798-3	CUP General	Underhill Ferneries	Pine Lakes	The use of 0.3 million gallons per day to irrigate and freeze protect 57 acres of fern.	12/13/2001	1/11/2002	1/11/2022	Approval	Issued
20-069-2800-3	CUP General	JPH Industries	JPH Industries	The use of .033 million gallons per day of ground water for irrigation and freeze proetction of 40 acres of citrus.	1/5/2001	2/15/2001	2/15/2021	Approval	Issued
20-069-2806-3	CUP General	Faryna Grove Care	Osborne Grove	The applicant proposes to withdraw 0.052 million gallons per day of water for the irrigation of 40 acres of agricultural type uses and freeze protection use.	5/24/2002	6/25/2002	6/25/2022	Approval	Issued
20-069-2807-3	CUP General	Charles Rogers Citrus	C R Groveland Farms	The applicant proposes to withdraw 0.066 million gallons per day of water to irrigate 50 acres of Citrus.	9/12/2002	12/16/2002	12/16/2022	Approval	Issued
20-069-2809-8	CUP General	Gladys S Biggers	Gladys S Biggers Groves	Transfer/Split	3/18/2009	3/27/2009	8/7/2022	Approval	Issued
20-069-2810-4	CUP General	Lake Griffin Isles	Lake Griffin Isles	The applicant proposes to withdraw 0.133 million gallons per day of groundwater for public supply use.	4/14/2008	12/12/2008	12/12/2028	Approval	Issued
20-069-2812-3	CUP General	Howard J Simpson Sr Revocable Trust	Lane Park Block	The applicant proposes to withdraw 0.05 million gallons per day of water to irrigate 40 acres for agricultural and freeze protection.	5/20/2002	6/25/2002	6/25/2022	Approval	Issued
20-069-2813-3	CUP General	Mt Dora Groves	Ball Grove	The applicatn proposed to withdraw 0.05 million gallons per day of water to irrigate 40 acres for agricultural and freeze protection.	5/20/2002	6/20/2002	6/20/2022	Approval	Issued
20-069-2814-3	CUP General	Mr William F Polk	Dewey & Orange	The applicant proposes to withdraw 0.059 million gallons per day of water for the irrigation of 45 acres of agricultural type uses and freeze protection use.	5/24/2002	6/25/2002	6/25/2022	Approval	Issued
20-069-2815-3	CUP General	Estate of Thomas F Fuqua	Lake King Nursery	The applicant proposes to withdraw 0.025 million gallons	5/28/2003	2/4/2004	2/4/2024	Approval	Issued

PERMIT NUMBER	PERMIT TYPE	APPLICANT NAME	PROJECT NAME	PROJECT DESCRIPTION	RECEIVED DATE	DECISION DATE	EXPIRATION DATE	RECOMMENDATION	STATUS
				per day of water to irrigate 16 acres of citrus.					
20-069-2816-3	CUP General	Florida Rock Industries Inc	Clermont Ready-Mixed Concrete Plant	The applicant proposes to withdraw 0.006 million gallons per day of water to operate a concrete transit mix, batching plant.	6/11/2002	3/10/2003	3/10/2023	Approval	Issued
20-069-2817-4	CUP General	Seavin Inc	Lakeridge Winery	The applicant proposes to withdraw 0.064 million gallons per day of ground water to irrigate 73 acres of grapes and 2 acres of urban landscape.	3/27/2008	6/3/2008	6/3/2028	Approval	Issued
20-069-2818-3	CUP General	Ruby P Herlong Family Trust	Highway 33 Grove	The applicant proposes to withdraw 0.02 million gallons per day of ground water for irrigation of 10 acres of citrus	7/16/2002	8/27/2002	8/27/2022	Approval	Issued
2-069-2819-3	CUP Individual	Bruce & Joann Laughman	Owen Conner Block	The District authorizes the use of ground water from the Floridan aquifer to irrigate 20 acres of citrus with a micro-jet system.	5/1/1995	7/11/1995	7/11/2002	Approval	Issued
20-069-2821-3	CUP General	Shaw Groves	Shaw Groves	The applicant proposes to withdraw 0.012 million gallons per day of water for irrigation and freeze protection of 7 acres of citrus	9/12/2002	10/30/2002	10/30/2022	Approval	Issued
20-069-2822-3	CUP General	Northside Christian Church	Northside Christian Church	The applicant proposes to withdraw 0.02 millions gallons per day of ground water for landscape irrigation use on a 4 acre church site, and up to 1.15 million gallons per day for essential use.	9/6/2005	12/8/2005	10/19/2025	Approval	Issued
20-069-2823-4	CUP General	Lake County School Board	Seminole Springs Elementary	The applicant proposes to withdraw 0.30 million gallons per day of groundwater for the irrigation of a 7.1 acrse recreation area.	3/27/2003	7/1/2003	7/1/2023	Approval	Issued
20-069-2824-4	CUP General	Richard W Davis I	Howey Block	The applicant proposes to withdraw 0.05 million gallons per day of ground water to irrigate and freeze protect 30 acres of citrus.	10/8/2002	3/4/2003	3/4/2023	Approval	Issued
20-069-2826-3	CUP General	Twin Lakes Grove	Twin Lakes	The applicant proposes to withdraw 0.22 million gallons per day of ground water to irrigate and freeze protect 130 acres of Citrus.	10/23/2002	3/4/2003	3/4/2023	Approval	Issued
2-069-2827-7	CUP Individual	Crosland Britt Road LLC	Crosland Britt	The applicant proposes to withdraw 1.324 million gallons per day of water for nursery irrigation, freeze protection, urban landscape irrigation, and household types of use.	5/21/2008	8/31/2009	9/8/2013	Approval	Issued
20-069-2829-3	CUP General	Mr Frederick Elliott	E-76 CPL	The applicant proposes to withdraw 0.03 million gallons per day of water to irrrigate and freeze protect 18 acres of Citrus.	2/13/2003	7/1/2003	7/1/2023	Approval	Issued
20-069-2830-4	CUP General	Richard & Elizabeth Shook	Richard Shook	The applicant proposes to withdraw 0.038 million gallons per day of groundwater for the irrigation and freeze protection of 22 acres of citrus.	9/14/2005	9/14/2005	4/15/2023	Approval	Issued
20-069-2831-4	CUP General	Faryna Grove Care	Skyline Grove	The applicant proposes to withdraw 0.077 million gallons per day of groundwater to irrigate and freeze protect 45	3/7/2003	4/17/2003	4/17/2023	Approval	Issued

PERMIT NUMBER	PERMIT TYPE	APPLICANT NAME	PROJECT NAME	PROJECT DESCRIPTION	RECEIVED DATE	DECISION DATE	EXPIRATION DATE	RECOMMENDATION	STATUS
				acres of citrus.					
20-069-2832-3	CUP General	Mr Neal Watson	Neal Watson Grove		11/8/1995	12/7/1999	12/7/2019	Approval	Issued
20-069-2834-4	CUP General	Covanta Lake ll Inc	Lake County Resource Recovery	The District issued a permit in September 2003 for the use of 0.342 million gallons per day for Commercial Industrial, Landscape Irrigation, and Household types of use. The permittee has submitted a 5-year compliance report with a request to continue the use of 0.321 million gallons per day for Commercial Industrial, Landscape Irrigation, and Household types of use.	2/1/2008	5/27/2008	9/19/2023	Approval	Issued
20-069-2837-3	CUP General	Lake Groves Utilities Inc	CITRUS VALLEY CAMPGROUND	Use of groundwater from the Floridan aquifer for household use, irrigation of 2 acres urban landscape, fire protection (essential) and water utility type uses. USE STATUS: This is a renewal of a previously issued permit with a modification to add two uses (urban landscape irrigation and water utility) and for a reduction in allocation. PRESENT 10 YEARS Population Served 360 360	1/30/2002	2/11/1997	2/11/2012	Approval	Issued
22-069-2839-3	CUP Fire Flow	Mr RICHARD CARLTON	FLORIDA TWIN MARKETS		4/25/1996	4/26/1996	4/26/2016	Approval	Issued
20-069-2840-4	CUP General	Woodlands Church Lake LLC	Woodland Heritage M.H.P.	The applicant has requested to use .154 mgd of groundwater to serve an estimated population of 813, .0076 mgd for landscape irrigation and 1.44 mgd for fire protection uses.	4/28/2004	5/11/2004	7/10/2023	Approval	Issued
20-069-2843-4	CUP General	Crescendo Management Inc	Crescendo Management Inc		6/22/2006	7/26/2006	3/8/2009	Approval	Issued
22-069-2845-2	CUP Fire Flow	Mr Joseph Michael	Novelty Crystal		4/22/1996	9/4/1996	9/4/2016	Approval	Issued
20-069-2847-4	CUP General	Vacation Village Condominium Assoc	Vacation Village	The applicant proposes to withdraw 0.079 million gallons per day of ground water for public supply type use for serving an estimated population of 386 residents and 0.504 million gallons per day of water for essential type use over a service area of 44.00 acres.	3/13/2007	10/17/2007	10/17/2027	Approval	Issued
20-069-2849-5	CUP General	City of Groveland	Waterside Pointe Development	Ownership Transfer	4/23/2009	6/12/2009	10/12/2027	Approval	Issued
20-069-2850-3	CUP General	Glenn Beck	Beck Grove	The applicant proposes to withdraw 0.16 million gallons per day of ground water to irrigate and freeze protect 95 acres of citrus.	2/19/2004	6/23/2004	6/23/2024	Approval	Issued
20-069-2851-6	CUP General	Howard C Nichols	Peru Grove	The applicant proposes to withdraw 0.039 million gallons per day of ground water for the irrigation and freeze protection of 23 acres of citrus.	11/3/2006	12/15/2006	11/21/2026	Approval	Issued
20-069-2852-5	CUP	Stone Mountain	Stone Mountain	The applicant proposes to withdraw a combined 0.191	2/5/2002	3/6/2003	3/6/2023	Approval	Issued

PERMIT NUMBER	PERMIT TYPE	APPLICANT NAME	PROJECT NAME	PROJECT DESCRIPTION	RECEIVED DATE	DECISION DATE	EXPIRATION DATE	RECOMMENDATION	STATUS
	General	Nursery Inc	Nursery	million gallons per day for irrigating 128 acres of nursery and citrus, and 0.016 million gallons per day for freeze protecting 40 acres of citrus on a 165-acre nursery.					
20-069-2853-4	CUP General	Eckman Farms	Wiygul Rd Block	The applicant proposes to withdraw .06 million gallons per day of water to irrigate 50 acres of citrus.	7/16/2001	9/13/2001	9/13/2021	Approval	Issued
20-069-2854-3	CUP General	City of Eustis	EUSTIS GROVE	Use of ground water from the Floridian aquifer for irrigation and freeze protection of 7.0 acres of citrus. USE STATUS This is a renewal of a previously issued permit with a modification for a decrease in acreage and allocation and has been reviewed as existing. ASSOCIATED PERMITS Downgraded from 2-069-1023 UV	10/17/1996	12/18/1996	12/18/2011	Approval	Issued
20-069-2855-2	CUP General	Camilla Grove	CAMILLA GROVE	This is a permit for the use of surface water from Erie Lake for irrigation of 40 acres of citrus using a microjet system, and ground water from the Floridan aquifer for irrigation of a 1-acre citrus nursery using a low-volume irrigation system.	10/28/1996	3/5/1997	3/5/2012	Approval	Issued
20-069-2856-2	CUP General	William C Davis	VILLA CITY GROVE	This is a permit for the use of ground water from the Florida aquifer for irrigation of 23 acres of citrus using an overhead irrigation system. USE STATUS: This is a renewal of a previous-issued permit with a recommendation for a decrease in allocation. This use has been reviewed as an existing use pursuant to Chapter 373.336, F.S.	1/6/1997	4/21/1997	4/21/2012	Approval	Issued
20-069-2858-4	CUP General	Pine Island Fish Camp	Pine Island Fish Camp	The applicant proposes to withdraw 0.88 million gallons per day of ground water for household use for an estimated population of 20.	8/5/2008	12/16/2008	12/16/2028	Approval	Issued
20-069-2859-3	CUP General	Good Shepherd Farms Inc	Good Shepherd Farms	The applicant proposes to use 0.014 million gallons per day of ground water to irrigate 12 acres of tree ferns	4/6/2009	4/17/2009	4/17/2029	Approval	Issued
2-069-2860-5	CUP Individual	Hawthorne Residents Cooperative Association, Inc.	Hawthorne at Leesburg	The applicant proposes to withdraw 0.47 million gallons per day of ground water for household, commercial, urban landscape irrigation, recreational, and golf course irrigation use; plus 0.005 million gallons per day of surface water for golf course irrigationl.	6/29/2007	No Date	No Date	Approval	Pending
2-069-2860-4	CUP Individual		Hawthorne at Leesburg	The applicant proposes to withdraw 0.47 million gallons per day of ground water for household, commercial, urban landscape, recreational, and golf course use; plus 0.05 million gallons per day for a ground water heat pump system to heat a swimming pool.	1/27/2006	6/13/2006	7/25/2007	Approval	Issued
20-069-2862-3	CUP General	Lady Lake Mobile Home Park Inc	Lady Lake Mobile Home Park	The applicant proposes to use 0.044 million gallons per day of ground water for household use for a population	5/24/2007	7/23/2007	7/23/2027	Approval	Issued

PERMIT NUMBER	PERMIT TYPE	APPLICANT NAME	PROJECT NAME	PROJECT DESCRIPTION	RECEIVED DATE	DECISION DATE	EXPIRATION DATE	RECOMMENDATION	STATUS
				of 294 and irrigation of 0.6 acres of landscape					
20-069-2863-3	CUP General	Bonfire Cooperative Assoc Inc	BONFIRE COOP	Use of ground water from the Floridian aquifer for the domestic use of an estimated 430 people, irrigation of 4.83 acres of urban landscape in 2002, and dewatering of stormwater, as needed, for flood protection. USE STATUS This is a renewal of a previously issued permit with a modification to add one use (urban landscape irrigation) and for a decrease in overall allocation. PRESENT 15 YEARS Population Served	12/11/1996	9/16/1997	9/16/2012	Approval	Issued
2-069-2865-2	CUP Individual	Community of Christ	Deerhaven Camp	Use of ground water from the Floridan aquifer for the household use of 70 people and surface water from Deerhaven Lake for fire protection. This is a renewal of a previously issued permit with a modification for a decrease in allocation and a new source. The existing use has been reviewed as existing pursuant to chapter 373.226, F.S. and the modification has been reviewed as a new use.	1/9/1997	2/11/1997	2/11/2012	Approval	Issued
20-069-2866-3	CUP General	Dayne A & Lisa A Jones	Dayne & Lisa Jones	Use of ground water from Floridan aquifer as a backup source to irrigate 37 acres of citrus using a microspray irrigation system.	11/17/2004	12/21/2004	8/26/2017	Approval	Issued
20-069-2867-4	CUP General	T & T Inc dba Country Squire Mobile Home Village	Country Squire	The applicant proposes to withdraw 0.06 million gallons per day of ground water for potable use for a maximum of 488 residents.	5/24/2004	6/15/2005	5/12/2015	Approval	Issued
20-069-2883-3	CUP General	Waterman Communities Inc	Sunshine State Christian Homes	The applicant proposes to withdraw 0.058 million gallons per day of ground water to irrigate 22.5 acres of landscape.	3/4/2008	3/4/2008	6/23/2024	Approval	Issued
2-069-2886-5	CUP Individual	City of Minneola	City of Minneola - Public Supply	The applicant proposes to withdraw 4.908 million gallons per day of groundwater to provide potable water for residential and commercial/industrial uses within its service area.	8/31/2005	9/22/2005	2/9/2010	Approval	Issued
20-069-2888-4	CUP General	Mid-Florida Lakes	Mid Florida Lakes	The applicant proposes to withdraw 0.431 million gallons per day (mgd) average of groundwater for household, common area landscape irrigation, commercial, essential and unaccounted for type uses to supply an estimated population of 2,452 .	10/9/2008	8/27/2009	8/27/2014	Approval	Issued
20-069-2890-2	CUP General	Montverde Mobile Home Subd Assn Inc	Montverde Mobile Home Subdivision		6/10/1998	10/8/1998	10/8/2013	Approval	Issued
20-069-2891-3	CUP	Corley Island	Corley Island	The use of ground water for public supply for an	4/9/1998	7/23/1998	7/23/2018	Approval	Issued

PERMIT NUMBER	PERMIT TYPE	APPLICANT NAME	PROJECT NAME	PROJECT DESCRIPTION	RECEIVED DATE	DECISION DATE	EXPIRATION DATE	RECOMMENDATION	STATUS
	General	Mobile Manor	Mobile Manor	estimated population of 200 at a mobile home park					
20-069-2892-4	CUP General	Church of God	Church of God Youth & Retreat Center	The use of 0.008 million gallons per day of ground water for public supply at a Church camp	12/7/1999	10/12/2001	10/12/2021	Approval	Issued
20-069-2893-3	CUP General	Torch Lite MHP LLC	Torchlite MHP	Ownership Transfer	10/20/2009	12/29/2009	6/1/2018	Approval	Issued
20-069-2894-2	CUP General	Florida Conference United Methodist Church	United Methodist Church Camp	The use of ground water from the Floridan aquifer for household use at a church camp and irrigation of 2.7 acres of landscape	6/11/1998	11/5/1999	11/5/2019	Approval	Issued
20-069-2897-2	CUP General	Thomas Senninger	Senninger Grove		5/27/1998	7/15/1998	7/15/2018	Approval	Issued
20-069-2898-4	CUP General	Florida Department of Corrections	Lake Correctional Institution	: District authorizes, as limited by the attached permit conditions, the use of 66.51 million gallons per year of ground water from the Floridan aquifer system for household use, agricultural irrigation and urban landscape irrigation.	4/13/2000	11/16/2000	11/16/2020	Approval	Issued
20-069-2899-2	CUP General	AdvoServ	Au Clair Palms	This permit authorizes use of ground water from the Floridan aquifer for household use and 2 acres of urban landscape irrigation and the use of surface water from Lake Carlton for 5 acres of urban landscape irrigation and essential use at a private school.	9/25/1998	12/23/1998	12/23/2018	Approval	Issued
2-069-2900-5	CUP Individual	Ginn-LA Pine Island LTD LLLP	Hillcrest PUD	The applicant proposes to withdraw 0.72 million gallons per day of water for household, golf course, essential, landscape irrigation and other type uses on 428.55 acres.	1/5/2004	6/10/2008	6/10/2028	Approval	Issued
20-069-2901-2	CUP General	Pine Harbour Water Utilities	Pine Harbour Water Utilities	This permit authorizes the use of ground water from the Floridan aquifer to supply water for household use for a population of 158 people in 20 years.	11/5/1998	12/30/1998	12/30/2018	Approval	Issued
20-069-2902-2	CUP General	Albin Hagstrom & Son Inc	New Cassia		10/12/1998	1/11/1999	1/11/2019	Approval	Issued
20-069-2904-4	CUP General	Camp Challenge	Camp Challenge	The applicant proposes to withdraw 0.011 million gallons per day of ground water for houshold use and landscape irrigation on a 63 acre property.	12/15/2003	4/14/2004	4/14/2024	Approval	Issued
20-069-2908-2	CUP General	Jon's Nursery, Inc.	Britt Farm		1/11/1999	3/8/1999	3/8/2019	Approval	Issued
20-069-2910-2	CUP General	Knight Farms	Knight Farms		7/1/1999	8/24/1999	8/24/2019	Approval	Issued
20-069-2911-2	CUP General	Mr Robert Blair	Linda Block	The use of ground water from the Floridan aquifer for irrigation and freeze protection of 10 acres of citrus using a microjet irrigation system	6/8/1999	7/6/1999	7/6/2019	Approval	Issued
20-069-2912-3	CUP General	Sandra Pendergraft	Moss Grove	AUTHORIZED USE: The use of ground water from the Floridan aquifer for irrigation and freeze protection of 18 acres of citrus using a microjet irrigation system	7/5/2007	7/18/2007	7/26/2019	Approval	Issued

PERMIT NUMBER	PERMIT TYPE	APPLICANT NAME	PROJECT NAME	PROJECT DESCRIPTION	RECEIVED DATE	DECISION DATE	EXPIRATION DATE	RECOMMENDATION	STATUS
2-069-2913-13	CUP Individual	City of Groveland	City of Groveland	The applicant proposes to use 1.429 million gallons per day of water for public supply uses to serve a projected population of 2,689 in 2014.	6/24/2008	No Date	No Date	Pending	Pending
2-069-2913-10	CUP Individual	City of Groveland	City of Groveland	The applicant proposes to withdraw 3.27 million gallons per day of ground water for public supply uses to serve a projected population of 6,778 in 2015.	3/8/2005	5/8/2007	12/7/2014	Approval	Issued
20-069-2916-3	CUP General	Addam Masri	Addam Masri		1/9/2004	1/9/2004	1/18/2020	Approval	Issued
20-069-2919-5	CUP General	Carlos & Elizabeth Vaz and Manuel & Auria Martins	Manuel Vaz	The use of ground water from the Floridan aquifer for irrigation and freeze protection of 12 acres of citrus using a microjet irrigation system	1/19/2007	2/6/2007	10/7/2019	Approval	Issued
20-069-2921-6	CUP General	Good Earth LLC	Good Earth	The District authorizes, as limited by the attached permit conditions, the use of 138.9 million gallons per year of ground water from the Floridan aquifer and surface water from Lykes Pond to irrigate and freeze protect 74 acres of fern.	2/7/2006	3/15/2006	10/5/2020	Approval	Issued
20-069-2922-2	CUP General	KBK Groves	KBK Groves	The use of 10.90 million gallons per year of ground water for irrigation and freexe protection of 30.7 acres of citrus	9/16/1999	11/17/1999	11/17/2019	Approval	Issued
20-069-2923-3	CUP General	Dura-Stress Inc	Dura-Stress Inc.	This is a 5-year Compliance Report for the continued withdrawal of 0.197 gallons per day of groundwater for Commercial/Industrial, Household and Urban Landscape Irrigation type uses.	12/30/2008	10/20/2009	5/31/2021	Approval	Issued
22-069-2924-2	CUP Fire Flow	North Lake Presbyterian Church	North Lake Presbyterian Church		11/10/1999	11/10/1999	11/10/2019	Approval	Issued
20-069-2926-3	CUP General	John J & Vicki L Mantione	Mantione Grove		10/5/1999	12/16/1999	12/16/2019	Approval	Issued
20-069-2927-2	CUP General	Lutheran Church-Missouri Synod	Woodlands Lutheran Campgrounds	The District authorizes, as limited by the attached permit conditions, the use of 12.16 million gallons per year of ground water from the Floridan aquifer for household and commercial use at a church campground, irrigation of 3.5 acres of landscape, and livestock use by 38 horses	12/27/1999	7/14/2000	7/14/2020	Approval	Issued
20-069-2928-3	CUP General	Nick D & Sharon Y Faryna	Peanut Pond	The District authorizes, as limited by the attached permit conditions, the use of 19.94 million gallons per year of ground water from the Floridan aquifer for irrigation and freeze protection of 32 acres of citrus	5/11/2001	4/20/2000	4/20/2020	Approval	Issued
20-069-2930-2	CUP General	Providence of Central Florida	Fakih Grove	The District authorizes, as limited by the attached permit conditions, the use of 49.85 million gallons per year of ground water from the Floridan aquifer for irrigation and freeze protection of 80 acres of citrus	2/7/2000	8/11/2000	8/11/2020	Approval	Issued
22-069-2932-2	CUP Fire Flow	Mr & Mrs Ward J. Griner	Ward Griner	The applicant proposes to withdraw a maximum of 1.08 million gallons per day of ground water for fire protection, as needed.	9/28/2006	5/16/2007	5/16/2027	Approval	Issued

PERMIT NUMBER	PERMIT TYPE	APPLICANT NAME	PROJECT NAME	PROJECT DESCRIPTION	RECEIVED DATE	DECISION DATE	EXPIRATION DATE	RECOMMENDATION	STATUS
20-069-2933-2	CUP General	Grass Root Nurseries Inc	Grass Roots Nurseries, Inc.	District authorizes, as limited by the attached permit conditions, the use of 45.5 million gallons per year of ground water from the Floridan aquifer for irrigation and freeze protection of 21.5 acres of containerized nursery.	12/2/1999	3/3/2000	3/3/2020	Approval	Issued
20-069-2937-2	CUP General	Lake County School Board	South Lake High School	The District authorizes, as limited by the attached permit conditions, the use of 25 million gallons per year of ground water from the Floridan aquifer system for urban landscape irrigation.	4/13/2000	10/3/2000	10/3/2020	Approval	Issued
20-069-2938-4	CUP General	M & V LLC	LAKE COUNTY TREE FARM	The District authorizes, as limited by the attached permit conditions, the use of 24 million gallons per year of ground water from the Floridan aquifer for irrigation of 22 acres of outdoor tree nursery	5/30/2007	7/19/2007	12/15/2020	Approval	Issued
20-069-2939-3	CUP General	Tuscanooga Lakes LLC	Tuscanooga Lakes LLC	The District authorizes, as limited by the attached permit conditions, the use of 57.61 million gallons per year of ground water from the Floridan aquifer system for irrigation and freeze protection of 120 acres of citrus.	10/31/2005	10/31/2005	11/16/2020	Approval	Issued
20-069-2940-2	CUP General	BCL Ferns	BCL Ferns	The applicant proposes to withdraw 0.069 million gallons per day of ground water to irrigate 25 acres of tree fern.	3/9/2004	5/26/2004	5/26/2024	Approval	Issued
20-069-2941-2	CUP General	C C Dockery	Dockery Farms	The District authorizes, as limited by the attached permit conditions, the use of 102.2 million gallons per year of ground water from the Floridan aquifer for irrigation and freeze protection of 10 acres of citrus, irrigation of 170 acres of pasture, and watering needs for 200 beef cattle	9/29/2000	11/15/2000	11/15/2020	Approval	Issued
20-069-2942-2	CUP General	Mr NICK D FARYNA	Webster	The District authorizes, as limited by the attached permit conditions, the use of 10.77 million gallons per year of ground water from the Floridan aquifer for irrigation and freeze protection of 17.3 acres of citrus	7/25/2000	9/8/2000	9/8/2020	Approval	Issued
20-069-2943-2	CUP General	Mr STEWART G WELCH	Salltsdale Road Block	The District authorizes, as limited by the attached permit conditions, the use of 6.23 million gallons per year of ground water from the Floridan aquifer for irrigation and freeze protection of 10 acres of citrus	7/26/2000	9/8/2000	9/8/2020	Approval	Issued
20-069-2944-3	CUP General	Ben and Ann Williams	Williams Grove	The applicant proposess to withdraw 0.016 million gallons per day of ground water for the irrigation and freeze protection of 12 acres of citrus.	10/4/2005	1/19/2006	11/14/2025	Approval	Issued
20-069-2945-4	CUP General	Royal Brothers	Home Grove	The applicant proposes to withdraw 0.032 million gallons per day of ground water for irrigation and freeze protection of citrus.	2/9/2006	5/2/2006	3/17/2026	Approval	Issued
2-069-2946-3	CUP Individual	C & C Peat Company	C & C Peat Mine	The applicant proposes to withdraw 1.03 million gallons per day of ground water for dewatering to facilitate excavation of peat from mining areas 2 (29.80 acres), 6 (23.59 acres), and 8 (23.33 acres) to bottom elevations not to exceed plus (+) 75, 73, and 76 ft NGCD, respectively; and ground water for household use at the	4/6/2005	10/11/2005	10/11/2011	Approval	Issued

PERMIT NUMBER	PERMIT TYPE	APPLICANT NAME	PROJECT NAME	PROJECT DESCRIPTION	RECEIVED DATE	DECISION DATE	EXPIRATION DATE	RECOMMENDATION	STATUS
				mine office building.					
20-069-2949-2	CUP General	Knight Farms	Heidia	Withdrawal of 0.056 million gallons per day of ground water for nursery and freeze protection type use irrigation.	1/2/2001	6/1/2001	6/1/2021	Approval	Issued
20-069-2950-2	CUP General	Ms MELANIE LANIER	Sand Hill Ferns	The applicant proposes to withdraw 0.028 million gallons per day of water to irrigate 10.0 acres of fern. The applicant proposes to withdraw 0.023 million gallons per day to freeze protect 10.0 acres of fern.	2/12/2001	5/17/2001	5/17/2021	Approval	Issued
20-069-2952-3	CUP General	E & M Enterprises	Marsh Grove	The applicant proposes to withdraw 0.124 million gallons per day of water for citrus and ornamental plant irrigation and 0.0137 million gallons per day for citrus freeze protection.	9/5/2007	10/29/2007	5/31/2021	Approval	Issued
20-069-2953-3	CUP General	May and Whitaker Family Partnership	East Forest	The District authorizes, as limited by the attached permit conditions, the use of 26.79 million gallons per year of ground water from the Floridan aquifer for irrigation and freeze protection of 16 acres of leatherleaf fern	1/17/2008	5/2/2008	3/16/2020	Approval	Issued
20-069-2954-2	CUP General	INGRAMS FERNERY	Ingrams Fernery	The applicant proposes to withdraw 0.037 million gallons per day of water for irrigation of 13.0 acres of fern and 0.036 million gallons per day of water for freeze protection of 13.0 acres of fern.	5/2/2001	10/12/2001	10/12/2021	Approval	Issued
20-069-2955-6	CUP General	Mr Russell Bryan	Bryan Ferns	The applicant proposes to withdraw 0.15 milion gallons per day of groundwater for irrigation of 38 acres of ferns and 10 acres of citrus.	2/25/2003	4/15/2003	4/15/2023	Approval	Issued
2-069-2958-6	CUP Individual	Vulcan Material Co Florida Rock Div	Turnpike Sand Plant	The applicant proposes to withdraw 13.107 million gallons per day, annual average, for commercial/industrial type use associated with a sand plant.	12/23/2008	7/14/2009	3/8/2025	Approval	Issued
2-069-2959-4	CUP Individual	Rapid Retrieval Inc	Upson Downs	The applicant proposes to withdraw 0.342 million gallons per day of water for public water supply and urban landscape irrigation for residential development on 650 acres.	5/21/2003	10/12/2004	10/12/2024	Approval	Issued
20-069-2960-2	CUP General	Dan-Wre Acres	Dan-Wre Acres	The applicant proposes to withdraw 0.03 million gallons per day of ground water to irrigate 22.5 acres of citrus.	12/19/2003	3/11/2004	3/11/2024	Approval	Issued
22-069-2962-2	CUP Fire Flow	Town of Astatula	Astatula Fire Protection System	The applicant proposes the use of ground water from the Floridan aquifer to provide water supply for essential use (fire protection) for the Town of Astatula. THIS IS NOT REQUIRED FOR THIS RULE TYPE.	8/9/2004	10/12/2004	10/12/2024	Approval	Issued
20-069-2963-2	CUP General	Rivendell Ranch	Boys Ranch	The applicant proposes to withdraw 0.008 million gallons per day of ground water for household type use and urban landscape irrigation of 1.5 acres.	4/21/2004	2/9/2005	2/9/2025	Approval	Issued
20-069-2965-2	CUP General	LESTER DONLEY & SONS GROVES	Lake County Pasture	The applicant proposes to withdraw 0.0014 million gallons per day of ground water for livestock watering.	2/5/2002	5/8/2002	5/8/2022	Approval	Issued

PERMIT NUMBER	PERMIT TYPE	APPLICANT NAME	PROJECT NAME	PROJECT DESCRIPTION	RECEIVED DATE	DECISION DATE	EXPIRATION DATE	RECOMMENDATION	STATUS
20-069-2967-3	CUP General	P H Freeman & Sons Inc	Gator Central	5-yr compliance report	10/24/2003	8/23/2005	12/4/2018	Approval	Issued
20-069-2971-2	CUP General	Foliage Farms Inc	Foliage Farms	The applicant proposes to withdraw 0.0197 million gallons per day of ground water for nursery irrigation and 0.11 million gallons per day of surface water for blueberry crop irrigation.	5/2/2008	12/19/2008	12/19/2028	Approval	Issued
20-069-2973-5	CUP General	Lakes of Lady Lake Homeowners Associationc Inc	The Lakes of Lady Lake	The applicant proposes to withdraw 0.05 million gallons per day of ground water for household type use and urban landscape irrigation.	7/15/2005	11/21/2005	9/26/2015	Approval	Issued
20-069-2974-3	CUP General	Jeffrey Sargent	Sargent Grove	Theapplicant proposes to withdraw 0.068 million gallons per day of ground water for the irrigation of 43 acres of pasture.	5/10/2002	8/27/2002	8/27/2022	Approval	Issued
20-069-2975-3	CUP General	Mr Gene A Batson	Batson's Greenhouse	The applicant proposes to withdraw 0.039 million gallons per day of ground water for the irrigation and freeze protection of 7 acres of indoor containerized foilage.	5/26/2004	10/12/2004	3/6/2023	Approval	Issued
22-069-2977-2	CUP Fire Flow	Wilkinson Auction & Estate Liquidators Inc.	Wilkinson Auction	The applicant proposes to withdraw a maximum of 1.73 million gallons per day iof ground water for essential use, for fire protection	4/4/2002	5/14/2002	5/14/2022	Approval	Issued
20-069-2978-2	CUP General	Estate of H. James Simpson	IGOU	The applicant proposes to withdraw 0.11 million gallons per day of ground water for irrigation and freeze protection of 75 acres of citrus	5/20/2002	6/25/2002	6/25/2022	Approval	Issued
20-069-2980-2	CUP General	Mr Lee Jerane	Jerane Block	The applicant proposes to withdraw 0.034 million gallons per day of ground water to irrigate and freeze protect 20 acres of Citrus.	10/8/2002	1/28/2003	1/28/2023	Approval	Issued
20-069-2981-2	CUP General	Baker Groves, Inc.	Highway 27 Grove	The applicant proposes to withdraw 0.05 million gallons per day of ground water for citrus irrigation.	7/5/2002	9/23/2002	9/23/2022	Approval	Issued
20-069-2983-4	CUP General	Ashley Fields LLC	Blackbear Golf Course	This permit authorizes the use of 150.0 mgy of surface/storm water from an adjacent development wet retention basin/lake via one surface water pump (IR-2) for irrigation of a 145.5 acre golf course. This permit authorizes the use of 12.5 mgy of ground water from the Floridan aquifer via one existing well (IR-1) as an emergency backup source due to temporary unavailability of the surface/storm water source.	7/25/2005	7/25/2005	12/16/2018	Approval	Issued
22-069-2984-2	CUP Fire Flow	Whitney Baptist Church	Whitney Baptist Church	The applicant proposes to withdraw a maximum of 0.72 million gallons per day of water for fire flow.	4/15/2002	9/23/2002	9/23/2022	Approval	Issued
2-069-2985-4	CUP Individual	ER Jahna Industries Inc	Independent North Sand Mine	The applicant proposes to withdraw 0.071 million gallons per day of ground water (if necessary) and use 17.52 million gallons per day of surficial aquifer groundwater as recirculation water and essential water for industrial use at a 435-acre sand mine.	1/26/2005	7/12/2005	7/13/2015	Approval	Issued
20-069-2986-2	CUP General	Yalaha Grove	Yalaha Grove	The applicant proposes to withdraw 0.03 million gallons per day of water to irrigate 16 acres of Citrus.	11/25/2002	7/25/2003	7/25/2023	Approval	Issued

PERMIT NUMBER	PERMIT TYPE	APPLICANT NAME	PROJECT NAME	PROJECT DESCRIPTION	RECEIVED DATE	DECISION DATE	EXPIRATION DATE	RECOMMENDATION	STATUS
22-069-2987-2	CUP Fire Flow	Mr Guenter Herold	Yalaha Country Bakery		6/30/1995	3/4/1999	3/4/2019	Pending	Issued
20-069-2988-2	CUP General	David A Jedziniak	Marquette Road Grove	The applicant proposes to allocate 0.046 million gallons per day of ground water and surface water for irrigation and freeze protection of 27 acres of citrus.	9/21/2007	11/19/2007	11/19/2027	Approval	Issued
20-069-2989-3	CUP General	Citrus Cove Homeowners Association	Citrus Cove Homeowners Association Water System	The applicant proposes to withdraw 0.54 million gallons per day of ground water for household use and for irrigation of 5 acres.	2/17/2005	5/2/2006	3/28/2011	Approval	Issued
2-069-2991-4	CUP Individual	Kings Ridge Community Association Inc.	Kings Ridge	The applicant proposes to withdraw 1.535 million gallons per day of water for golf course and landscape irrigation use on 513 acres.	10/8/2004	5/8/2007	5/8/2027	Approval	Issued
20-069-2992-2	CUP General	Mr HARRY STAUDERMAN	Oak Haven Strawberries	The applicant proposes to withdraw 0.03 million gallons per day of groundwater to irrigate 7 acres of strawberries.	5/14/2003	9/22/2003	9/22/2023	Approval	Issued
2-069-3004-6	CUP Individual	Florida Rock Industries	Fla Rock Industries Marion Plant	Letter Modification	12/12/2005	2/9/2006	12/7/2024	Approval	Issued
2-069-3312-5	CUP Individual	Long & Scott Farms Inc	Long and Scott Farm	The applicant is requesting 5.12 mgd of ground water for irrigation of vegetables and household use, and 0.14 mgd of surface water for irrigation of vegetables	7/29/2009	10/12/2009	1/12/2019	Approval	Issued
20-069-4484-5	CUP General	Mr WILLIAM PUCKETT	CASSIA PROPERTY	This is a permit for the use of groundwater from the Floridan aquifer for irrigation of 25 acres of ferns, and surface water from Owens Pond for freeze protection of 25 acres of ferns. USE STATUS: This is a renewal of a previously issued permit. The use has been reviewed as an existing use for the period commencing with the issuance of the original permit.	5/14/1996	5/29/1996	5/29/2011	Approval	Issued
20-069-4486-3	CUP General	Mr JOSEPH ARBORIO	Crabb Grove	The applicant proposes to withdraw 0.136 million gallons per day of ground water for irrigation and freeze protection of 83 acres of citrus.	5/4/2006	6/6/2006	5/31/2026	Approval	Issued
20-069-4487-3	CUP General	EDGEWATER BEACH HOMEOWNERS ASSOC	EDGEWATER BEACH	The applicant proposes to use 0.007 million gallons per day of ground water for household use for a population of 25 persons.	5/23/2006	9/14/2006	8/25/2016	Approval	Issued
20-069-4490-4	CUP General	Nicholas D & Sharon Y Faryna	Lake Beasley Grove	The applicant proposes to withdraw 0.017 million galllons per day of ground water for the irrigation and freeze protection of 10 acres of citrus.	9/16/2009	10/27/2009	10/27/2029	Approval	Issued
20-069-4491-4	CUP General	Earl M Huddleston Jr Family Partnership	St Clair Groves	Ownership Transfer	10/16/2009	12/17/2009	8/14/2026	Approval	Issued

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20-069-4492-4	CUP General	Mr David Miksa	Miksa Farms	The applicant proposes to withdraw 0.051 million gallons per day of ground water for irrigation and freeze protection of 30 acres of citrus.	5/26/2006	9/14/2006	7/31/2026	Approval	Issued
20-069-4493-5	CUP General	Aqua Utilities Florida Inc	Imperial Mobile Terrace	The Applicant proposes to withdraw 0.05 million gallons per day of groundwater for household use.	8/18/2006	10/17/2007	10/17/2027	Approval	Issued
20-069-4494-3	CUP General	Tower Groves of Orlando Inc	Grove 33	The applicant proposes to withdraw 0.02 million gallons per day of water for irrigation and freeze protection on 18 acres of citrus.	5/18/2006	9/14/2006	7/27/2026	Approval	Issued
20-069-4496-4	CUP General	Ba-Sher Development Inc	Serenity Farms	The applicant proposes to withdraw 0.066 million gallons per day of ground water to irrigate a 50-acre citrus grove and 0.020 million gallons per day for citrus freeze protection.	4/2/2007	5/16/2007	5/16/2010	Approval	Issued
20-069-4499-4	CUP General	James Grove	James Grove	The applicant proposes to withdraw 0.013 million gallons per day of ground water for the irrigation and freeze protection of 7.5 acres of citrus and the occasional watering needs of up to 10 beef cattle.	12/5/2006	2/8/2007	12/18/2026	Approval	Issued
20-069-4500-2	CUP General	Hickory Point Groves Inc.	HICKORY POINT	Use of ground water from the Floridan aquifer to irrigate 35 acres of citrus with a micro-jet system.	5/30/1996	6/12/1996	6/13/2011	Approval	Issued
20-069-4505-3	CUP General	Barna and Daniela Becsek	BECSEK GROVE	The applicant proposes to withdraw 0.026 million gallons per day of ground water for the irrigation and freeze protection of 18 acres of citrus and 0.003 million gallons per day of surface water for irrigation of 1 acre of landscape.	9/22/2006	12/15/2006	11/16/2026	Approval	Issued
20-069-4507-3	CUP General	B S & T Properties	Brooks	The applicant proposes to withdraw 0.010 million gallons per day of ground water for irrigation of 8 acres of citrus and 0.003 million gallons per day of ground water for freeze protection of 8 acres of citrus.	9/17/2007	4/1/2008	4/1/2028	Approval	Issued
20-069-4508-5	CUP General	Poole Farms LC	Poole Farms	The applicant proposes to withdraw 0.077 million gallons per day of ground water for the irrigation and freeze protection of 43 acres of citrus and 2 acres of blueberries.	11/3/2006	4/4/2007	4/4/2027	Approval	Issued
20-069-4511-2	CUP General	JACK'S FARMS	JACK'S FARMS	Use of groundwater from the Floridan aquifer to irrigate 6 acres of blueberries and one acre of persimmons with a micro-jet irrigation system. USE STATUS: This is a renewal of a previously issued permit with a request for a decrease in allocation. The use has been reviewed as existing for the period commencing with the issuance of the original permit. ASSOCIATED PERMITS: This permit was formerly CUP no. 2-069-1012N.	6/24/1996	7/29/1996	7/29/2011	Approval	Issued
20-069-4512-3	CUP General	Cypress Creek Mobile Home Park	Cypress Creek	The District authorizes, as limited by the attached permit conditions, the use of up to 14.248 million gallons per year of ground water from the Floridan aquifer for	1/21/1999	10/25/2000	10/25/2020	Approval	Issued

PERMIT NUMBER	PERMIT TYPE	APPLICANT NAME	PROJECT NAME	PROJECT DESCRIPTION	RECEIVED DATE	DECISION DATE	EXPIRATION DATE	RECOMMENDATION	STATUS
				household and recreational type uses.					
20-069-4513-3	CUP General	McCollough Citrus Groves Inc	ALTOONA Grove	The applicant proposes to withdraw 0.017 million gallons per day of ground water for the irrigation and freeze protection of 10 acres of citrus.	10/25/2006	3/12/2007	3/12/2017	Approval	Issued
20-069-4514-3	CUP General	Golden Triangle YMCA	Golden Triangle YMCA	The applicant proposes to withdraw 0.02 million gallons per day of ground water for the irrigation of 6 acres of athletic field turf and landscaping.	12/1/2006	6/5/2007	6/5/2027	Approval	Issued
20-069-4517-4	CUP General	Montverde Investments LLC	Osgood Grove	This is for the use of 36.0 mgy of water from the Floridan aquifer to irrigate 75.0 acres of citrus and 11.0 mgy ground water from the Floridan aquifer to frost and freeze protect 75 acres of citrus. The District authorizes the use of 36.000 MGY for Citrus irrigation.	2/4/2008	3/4/2008	7/29/2011	Approval	Issued
20-069-4519-4	CUP General	Whistling Pines Foliage Inc	Whistling Pines Foliage	The applicant proposes to withdraw 0.01 million gallons per day of ground water for irrigation of indoor containerized foliage	8/21/2008	11/14/2008	11/14/2028	Approval	Issued
20-069-4522-3	CUP General	LCT Transportation Services Inc	LCT Transportation Services	The applicant proposes to withdraw 0.008 million gallons per day of ground water to supply an estimated 250 employees and truckers for domestic purposes, for commercial/industrial use and for fire protection.	7/24/2006	10/23/2006	8/3/2026	Approval	Issued
20-069-4524-3	CUP General	Lake David Groves Inc	Lake David Groves	The applicant proposes to withdraw 0.020 million gallons per day of ground water for the irrigation of 16 acres of citrus.	8/22/2006	9/14/2006	9/8/2026	Approval	Issued
20-069-4526-3	CUP General	Silver Springs Citrus	Silver Springs Citrus sprayfield	The applicant proposes to withdraw 0.009 million gallons per day of ground water for the irrigation of 1 acre of landscape and form flushing reclaimed water lines.	10/3/2006	4/4/2007	4/4/2027	Approval	Issued
20-069-4529-2	CUP General	US DEPT OF AGRICULTURE	A H Whitmore Foundation	Use of ground water from the Floridan Aquifer to irrigate 105 acres of citrus trees and surface water from the Palatlakaha River to irrigate 45 acres of citrus trees; ground water from the Floridan Aquifer to freeze protect 3.0 acres of citrus trees and surface water from the Palatlakaha River to freeze protect 20 acres of citrus trees. Formerly Known as 2-069-1005AUV.	8/1/1996	10/9/1996	10/9/2011	Approval	Issued
20-069-4531-2	CUP General	BUSBEE WILKENS & SEALY INC	BUSBEE, WILKENS AND SEALY	This is a permit for the use of groundwater from the Floridan aquifer for irrigation and freeze protection of 45 acres of citrus using a micro-jet irrigation system. USE STATUS: This is a renewal of a previously issued permit. The use has been reviewed as an existing use for the period commencing with the issuance of the original permit. ASSOCIATED PERMITS: This permit was formerly issued as CUP no. 2-069-1019,	8/12/1996	12/27/1996	12/27/2011	Approval	Issued
20-069-4532-3	CUP	Mr Charles E Davis	Charles E Davis	The applicant is requesting 0.0004 million gallons per day	9/17/2007	7/2/2008	7/2/2028	Approval	Issued

PERMIT NUMBER	PERMIT TYPE	APPLICANT NAME	PROJECT NAME	PROJECT DESCRIPTION	RECEIVED DATE	DECISION DATE	EXPIRATION DATE	RECOMMENDATION	STATUS
	General			of ground water for indoor household use and livestock use for 20 horses.					
20-069-4533-4	CUP General	Goney's Nursery Inc	Goney's Nursery	The applicant proposes to withdraw 0.039 million gallons per day of ground water to irrigate 2 acres of foilage and 5 acres of landscape container plants.	3/19/2004	6/16/2004	6/16/2024	Approval	Issued
22-069-4534-3	CUP Fire Flow	J A Croson LLC	J.A. Croson	This is a permit for the use of ground water from the Floridan aquifer for commercial/industrial use at a newspaper printing plant, household use for 50 employees, and irrigation of 3.5 acres of landscape.	8/31/2007	7/28/2008	7/28/2028	Approval	Issued
20-069-4535-3	CUP General	Mt Dora Golf Assoc	Mt Dora Golf Assoc	The applicant proposes to withdraw 0.110 million gallons per day of reclaimed water and 0.110 million gallons per day of ground water for back-up for the irrigation of an 80 acre golf course.	6/26/2006	9/14/2006	4/26/2025	Approval	Issued
20-069-4536-2	CUP General	Scott Taylor	Taylor Home Grove	The applicant proposes to withdraw 0.080 million gallons per day of ground water for irrigation and freeze protection of citrus, irrigation of pasture, and livestock use.	8/27/2007	10/17/2007	10/17/2027	Approval	Issued
20-069-4537-2	CUP General	BS GROVES INC	BS GROVES, INC.	This is a permit for the use of ground water from the Floridian aquifer to irrigate 12 acres of citrus using a microjet irrigation system. Formerly Known as 2-069-1025AN	9/3/1996	11/19/1996	11/20/2011	Approval	Issued
20-069-4538-3	CUP General	Ms Agnes May	Agnes May Grove	The applicant proposes to withdraw 0.0077 million gallons per day of ground water for irrigation and freeze protection of 4.5 acres of citrus.	12/18/2006	10/17/2007	10/17/2027	Approval	Issued
20-069-4542-4	CUP General	Journey Circle M Ranch LLC	Journey Circle M Ranch	The applicant proposes to withdraw 0.066 million gallons per day of ground water for the irrigation of 50 acres of citrus, 0.020 million gallons per day of ground water for freeze protection of 50 acres of citrus, 0.139 million gallons per day of ground water for irrigation of 127 acres of pasture, and 0.005 million gallons per day of ground water for watering needs of up to 400 beef cattle.	12/8/2006	4/4/2007	4/4/2027	Approval	Issued
20-069-4544-3	CUP General	Baker Groves Inc	Dalhousie Block	The applicant requests an allocation of 0.072 million gallons per day of ground water for irrigation and freeze protection of 50 acres of citrus	10/17/2006	12/20/2006	11/28/2026	Approval	Issued
20-069-4545-4	CUP General	Aqua Utilities Florida	Quail Ridge Estates	The applicant proposes to withdraw 0.033 million gallons per day of ground water to provide public supply and fire protection to an estimated 233 residents.	11/6/2006	10/17/2007	10/17/2027	Approval	Issued
20-069-4551-2	CUP General	Raymond Pierie	PIERIE GROVE	Use of ground water from the Floridan aquifer for irrigation and freeze protection of 20.0 acres of citrus. USE STATUS: This is a renewal of a previously issued permit with a modification for a decrease in acreage and allocation and has been reviewed as an existing use.	10/30/1996	12/27/1996	12/27/2011	Approval	Issued

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20-069-4552-3	CUP General	Palmer Homes Inc	Palmer Homes	The use of ground water from the Floridan aquifer to irrigate and freeze protect 35.0 acres of citrus.	4/8/2005	4/8/2005	11/26/2011	Approval	Issued
20-069-4553-4	CUP General	Mr William Popp	CR 44A	The applicant proposes to withdraw 0.094 million gallons per day of ground water for irrigation and freeze protection of 55 acres of citrus	11/9/2006	12/21/2006	11/28/2026	Approval	Issued
20-069-4555-3	CUP General	Aqua Utilities Florida Inc	Tavares Ridge	The applicant proposes to withdraw 0.060 million gallons per day of ground water for public supply for an estimated population of 561, and for irrigation of one acre of urban landscape.	3/13/2008	5/1/2009	5/1/2029	Approval	Issued
20-069-4565-2	CUP General	TARA VILLAGE	TARA VILLAGE	Use of groundwater from the Floridan aquifer for the household use of 150 people and for water utility use. USE STATUS: This is a renewal of a previously issued permit with a modification for a decrease in allocation. The existing use has been reviewed as existing pursuant to Chapter 373.226, F.S. and the modification has been reviewed as a new use. ASSOCIATED PERMIT: 2-069-1032UV	12/27/1996	1/23/1997	1/23/2012	Approval	Issued
20-069-4568-4	CUP General	GREEN SWAMP GROVE INC	GREEN SWAMP GROVE, INC.	This is a permit for the use of ground water from the Floridan aquifer for irrigation of 27 acres of citrus using a microjet system.	1/7/1997	2/3/1997	2/3/2012	Approval	Issued
20-069-4738-2	CUP General	Lake County School Board	Eustis Ball Park	The applicant proposes to withdraw 0.018 million gallons per day of ground water for the irrigation of 7 acres of athletic turf.	8/16/2007	4/25/2008	4/25/2028	Approval	Issued
20-069-5709-7	CUP General	Silver Springs Citrus Inc	Silver Springs Citrus	The applicant proposes to withdraw 0.64 million gallons per day of water for citrus processing, juice production, urban landscape irrigation, and fire protection.	2/1/2005	2/1/2005	2/24/2007	Approval	Issued
2-069-5736-6	CUP Individual	Tarmac America LLC	Center Sand Mine	The applicant proposes to withdraw 7.7 million gallons per day of ground water for a sand mining/processing system, including 0.001 million gallons per day of ground water for household type use.	10/9/2006	7/13/2009	7/13/2029	Approval	Issued
20-069-5753-4	CUP General	WBB Utilities Inc	Lake Idlewild	The applicant proposes to withdraw 0.06 million gallons per day of gorundwater for household, landscape irrigation and water utility type uses.	10/16/2009	No Date	No Date	Pending	Pending
20-069-5753-3	CUP General	WBB Utilities Inc	Lake Idlewild	Use of 20.1 million gallons per year of ground water from the Floridan aquifer system for public supply type uses to serve an estimated population of 277 people in 2009.	1/27/1999	10/29/1999	10/29/2009	Approval	Issued
20-069-5773-4	CUP General	Holly Hill Fruit Products Co Inc	Holly Hill Fruit Co	The applicant proposes to withdraw 0.029 million gallons per day of ground water for the irrigation and feeze protection of 17 acres of citrus.	10/26/2006	12/15/2006	11/16/2026	Approval	Issued
20-069-5774-5	CUP General	Franklin Pond Inc	Franklin Pond Inc		10/22/1999	7/8/2003	11/17/2019	Approval	Issued

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20-069-5817-4	CUP General	Mr Steve Knowles	Bugg Springs Grove	The Applicant proposes to withdraw .014 million gallons per day of ground water for irrigation and freeze protection of 8 acres of citrus	5/10/2001	7/30/2001	7/30/2021	Approval	Issued
20-069-5905-3	CUP General	J F Nelson Trust	J F Nelson Home		6/10/1998	11/23/1998	11/23/2018	Approval	Issued
20-069-5928-4	CUP General	Stokes Groves of Eustis Inc	Stokes Groves of Eustis	The applicant proposes to withdraw .098 million gallons per day of water to irrigate 40 acres of citrus.	12/28/2001	2/8/2002	2/8/2022	Approval	Issued
20-069-5965-7	CUP General	Groveland Inc	Groveland Inc.		9/29/1999	1/18/2000	1/18/2020	Approval	Issued
20-069-6124-3	CUP General	Ms Delores Commins	Dolores Commins Grove	The applicant proposes to withdraw 0.030 million gallons per day of ground water for the irrigation and freeze protection of 23 acres of citrus.	10/3/2006	6/5/2007	6/5/2027	Approval	Issued
2-069-6207-5	CUP Individual	Cutrale Citrus Juices USA Inc	Cutrale Citrus Juices USA, Inc.	This is a 5 year compliance report. The District issued a permit on November 11, 2003, for the use of 1.30 million gallons per day of ground water for industrial purposes associated with juice production, fruit processing, and irrigation of 4.4 acres of landscape. The 5-year compliance review modifies the groundwater allocation by reducing the allocation from 1.3 million gallons per day to 0.90 million gallons per day.	1/24/2008	5/12/2009	11/11/2023	Approval	Issued
20-069-6271-3	CUP General	Edward James	Triple Lakes Grove	The applicant proposes to withdraw 0.05 million gallons per day of ground water to irrigate 35 acres of citrus.	3/31/2004	6/15/2005	6/15/2025	Approval	Issued
20-069-6292-4	CUP General	Cutrale Citrus Juice USA Inc	Leesburg Plant	The use of ground water from the Floridan aquifer for irrigation of 23 acres of perimeter area around an industrial sprayfield and for line flushing, chemical spraying and domestic/shop uses.	6/11/1999	9/7/1999	9/7/2019	Approval	Issued
20-069-6316-3	CUP General	FARYNA GROVE INC	East 450 Grove	The applicant proposes to withdraw .037 million gallons per day of ground water for irrigation and freeze protection of 22 acres of citrus.	3/1/2001	4/16/2001	4/16/2021	Approval	Issued
20-069-6320-6	CUP General	Deer Island GCC Inc	Deer Island Golf & Lake Club	The District issued a permit on August 1, 2001 for the use of 126.04 million gallons per day of water for golf course irrigation. This is a 5-year compliance report.	10/30/2007	2/21/2008	8/1/2021	Approval	Issued
20-069-6398-6	CUP General	Clerbrook LLC Dba Clerbrook Golf And RV Resort	Clerbrook Resort	The applicant proposes to withdraw 0.149 million gallons per day of ground water for household type use and 0.116 million gallons per day of surface water for golf course irrigation.	2/27/2007	9/10/2007	9/10/2017	Approval	Issued
20-069-6455-3	CUP General	Pine Meadows Golf Club	Pine Meadows Golf Course	The District authorizes the use of 91.6 mgy of ground water from the Floridan aquifer for irrigation of 86 acres of golf course.	6/16/1998	12/2/1998	12/2/2018	Approval	Issued
20-069-6527-4	CUP General	Mr Michael & Virginia Moore	Section #3	The District authorizes the use of ground water from the Floridan aquifer to irrigate and freeze protect 7.0 acres of assorted ferns and woody ornamentals using an overhead sprinkler system. Formerly known as 2-069-0761.	7/15/1997	9/3/1997	9/3/2012	Approval	Issued

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20-069-6543-4	CUP General	Albin Hagstrom & Son Inc	Morgan Lanier	This permit authorizes the use of ground water from the Floridan aquifer and surface water from pond D and the marsh to irrigate and freeze protect 23 acres of fern. Ground water from the Floridan aquifer is authorized to be used for 48 hours per year for backup fern freeze protection.	1/20/1999	2/24/1999	2/24/2019	Approval	Issued
20-069-6691-4	CUP General	Rocking Horse/Sharpton Stables	Sharpton Stables	The use of ground water from the Floridan aquifer for irrigation of 3.4 acres of pasture and equestrian athletic field areas, for watering and bathing needs of up to 140 horses, and for essential use, for fire protection	8/26/1998	4/28/1999	4/28/2019	Approval	Issued
20-069-6765-3	CUP General	Mr Hershell Hall	Hall Grove	The applicant proposes to withdraw 0.0167 million gallons per day of ground water and surface water for the irrigation of 15 acres of citrus using a microspray irrigation system.	8/30/2007	2/21/2008	2/21/2028	Approval	Issued
20-069-6781-6	CUP General	Shangri-La by the Lake Utilities Inc	Shangri-La by the Lake	The applicant proposes to withdraw 0.089 million gallons per day of ground water for household, water utility and unaccounted for type uses in 2028.	9/2/2008	11/10/2009	11/10/2029	Approval	Issued
20-069-10377-6	CUP General	Blake G & Lucille A Rowe	Rowe Groves	The District authorizes, as limited by the attached permit conditions, the use of 40.51 million gallons per year of ground water from the Floridan aquifer for irrigation and freeze protection of 65 acres of citrus	6/30/2000	8/11/2000	8/11/2020	Approval	Issued
20-069-10846-6	CUP General	Presco Associates, LLC	Barrington Estates Wells	The applicant proposes to withdraw 0.224 million gallons per day of ground water for water utility and public supply type uses.	11/4/2005	8/14/2006	8/14/2011	Approval	Issued
20-069-11146-4	CUP General	Groveland Estates LLC	Groveland Estates	The applicant proposes to withdraw 0.08 million gallons per day of water to irrigate 30 acres of urban landscape.	4/6/2005	4/6/2005	11/9/2018	Approval	Issued
2-069-50000-3	CUP Individual	Lake-Sumter Community College	Lake Sumter Community College	The applicant proposes to withdraw 0.03 million gallons per day of ground water for the irrigation of 33.00 acres of athletic and landscape turf, and for use in a cooling tower.	3/27/2009	9/29/2009	8/16/2027	Approval	Issued
22-069-50038-1	CUP Fire Flow	Select Lumber Inc	Select Lumber Inc		7/10/1997	7/18/1997	7/18/2017	Pending	Issued
20-069-50048-5	CUP General	Gary Holmes Golf Inc	Country Club of Mount Dora	The applicant proposes to withdraw 0.329 million gallons per day of water for 103 acres of golf course and urban landscape irrigation.	7/9/2004	12/1/2006	11/1/2011	Approval	Issued
2-069-50049-5	CUP Individual	Town of Lady Lake	Town of Lady Lake	The appliant proposes to withdraw 1.33 million gallons per day of ground water for household, commerical and industrial type use.	11/2/2004	7/11/2006	7/11/2026	Approval	Issued
20-069-50051-3	CUP General	Florida Hospital Waterman	Florida Hospital Waterman	The applicant proposes to withdraw 0.063 million gallons per day of ground water to irrigate 20.3 acres of urban landscape.	6/2/2008	7/28/2008	7/28/2028	Approval	Issued
20-069-50081-4	CUP General	Ryan Langley	Piney Island		5/24/2007	No Date	No Date	Pending	Pending

PERMIT NUMBER	PERMIT TYPE	APPLICANT NAME	PROJECT NAME	PROJECT DESCRIPTION	RECEIVED DATE	DECISION DATE	EXPIRATION DATE	RECOMMENDATION	STATUS
20-069-50081-3	CUP General	Mr Brad Blanton	Chris Blanton	This permit authorizes the use of groundwater from the Floridan aquifer for irrigation and freeze protection of 20 acres of citrus and watering needs for approximately 160 head of beef cattle and surface water from an unnamed lake for irrigation and freeze protection of 25 acres of ferns in a shade house. USE STATUS: This is a renewal of a previously issued permit with a modification for a decrease in allocation. The use has been reviewed as an existing use pursuant to Chapter 373.239, F.S.	8/15/1997	9/25/1998	9/25/2003	Approval	Issued
20-069-50082-2	CUP General	Bartlett Groves Inc	Mowery	The use of groundwater from the Floridan aquifer for irrigation and freeze protection of 33 acres of citrus, 10 acres of miscellaneous fruits and vegetables, and livestock needs for 50 beef cattle. USE STATUS: This is a modification of a previously issued permit with a request for an increase in allocation and a change of land use. The portion of the use which was existing has been reviewed as an existing use for the period commencing with the date of the original permit, and the modificat	8/18/1997	1/8/1998	1/8/2008	Approval	Issued
20-069-50085-2	CUP General	Mr Russell G Bryan	Russell Bryan	Use of surface water from Lake Bryan to irrigate and frost/freeze protect 15 acres of fern using an overhead sprinkler system.	8/18/1997	1/8/1998	1/8/2008	Approval	Issued
20-069-50086-2	CUP General	Faryna Grove Care & Harvesting	CR 450	The applicant proposes to withdraw 0.014 million gallons of water per day to irrigate and freeze protect 11 acres of citrus.	1/9/2009	2/27/2009	2/27/2029	Approval	Issued
20-069-50091-4	CUP General	Mr Kevin Torman	Austin Grove	Use of ground water from the Floridan aquifer to irrigate and freeze protect 14 acres of citrus using micro-spray irrigation.	8/20/1997	11/4/1997	11/4/2012	Approval	Issued
20-069-50094-4	CUP General	Lake Utility Services Inc.	Lake Saunders	The District authorizes the use of groundwater from the Floridan aquifer for public supply use to serve an estimated population of 115 in 20 years. Formerly known as 2-069-0096.	8/6/1997	5/1/1998	5/1/2018	Approval	Issued
20-069-50097-3	CUP General	Ashish Karve	Mid Florida	The applicant proposes to withdraw	9/5/2008	No Date	No Date	Pending	Pending
20-069-50097-2	CUP General	Mr Ashish N Karve	Mid Florida		8/25/1997	9/24/1998	9/23/2008	Approval	Issued
20-069-50109-5	CUP General	RL Ferns	RL Ferns	The District authorizes the use of 12.380 MGY for Leatherleaf fern from 05-dec-1997 to 04-dec-2012.	9/3/1997	12/5/1997	12/4/2012	Approval	Issued
20-069-50110-6	CUP General	Ruby Lee Grove LLC	STOSBERG GROVE	Ownership Transfer	10/22/2008	11/10/2008	1/27/2013	Approval	Issued

PERMIT NUMBER	PERMIT TYPE	APPLICANT NAME	PROJECT NAME	PROJECT DESCRIPTION	RECEIVED DATE	DECISION DATE	EXPIRATION DATE	RECOMMENDATION	STATUS
20-069-50113-5	CUP General	Jeffrey Boykin Et Al	Jeff Boykin	The use of ground water from the Floridan aquifer for irrigation and freeze protection of 65 acres of citrus using a microjet system, and for watering needs of approximately 275 beef cattle	10/4/2006	12/1/2006	4/17/2011	Approval	Issued
2-069-50115-13	CUP Individual	Ginn-LA Pine Island Ltd, LLLP	Pine Island PUD	The applicant proposes to withdraw 0.962 million gallons per day of surface water and groundwater for essential, household, water utility, and landscape irrigation types of use.	6/9/2008	1/13/2010	1/12/2030	Approval	Issued
20-069-50128-4	CUP General	Bartlett Groves Inc	Bartlett Groves	This permit authorizes the use of ground water from the Floridan aquifer for irrigation and freeze protection of 110 acres of citrus using a microjet irrigation system.	9/12/1997	6/11/1998	6/11/2018	Approval	Issued
2-069-50135-9	CUP Individual	Palisades Orlando Inc	Palisades Golf Course	The applicant proposes to withdraw 0.822 million gallons per day of surface water and ground water for the irrigation of 177 acres of golf course turf.	1/7/2002	3/12/2002	8/11/2018	Approval	Issued
20-069-50137-4	CUP General	Packing House by-Products Co	Yalaha Hill	The District authorizes the use of 6.200 MGY for Leatherleaf fern from 04-dec-1997 to 04-dec-2012.	9/12/1997	12/4/1997	12/4/2012	Approval	Issued
20-069-50138-5	CUP General	Larry D. & Gwendolyn D. Mott	Yalaha Office	The District authorizes the use of 6.200 MGY for Leatherleaf fern from 04-dec-1997 to 04-dec-2012.	4/8/2009	10/21/2009	12/4/2012	Approval	Issued
20-069-50145-5	CUP General	Mr Glenn Beck	Groveland Grove	The applicant proposes to withdraw 0.145 million gallons per day of ground water and 0.017 million gallons per day of surface water to irrigate and freeze proetct 95 acres of citrus.	2/19/2004	8/10/2004	8/10/2024	Approval	Issued
2-069-50147-8	CUP Individual	City of Mount Dora	City of Mount Dora	The applicant proposes to use 9.66 million gallons per day, annual average (mgd) for household, commercial/industrial, landscape irrigation, water utility, and unaccounted for types of use associated with a municipal public supply system.	11/19/2009	No Date	No Date	Pending	Pending
2-069-50147-7	CUP Individual	City of Mount Dora	City of Mount Dora	The applicant proposes to withdraw 5.048 million gallons per day of groundwater to serve an estimated population of 39,663 people in 2024.	5/23/2003	12/13/2005	12/13/2025	Approval	Issued
20-069-50152-7	CUP General	Wedgewood Homeowners Association, Inc	Wedgewood Homeowners Association, Inc	The applicant proposes to withdraw 0.183 million gallons per day of groundwater for for household, common area landscape irrigation, essential and unaccounted for type uses to supply an estimated population of 936 people in 2023.	1/7/2003	8/29/2003	8/29/2023	Approval	Issued
20-069-50159-4	CUP General	Lake Trimbey Groves, Inc.	Hi Acres Nursery	The applicant proposes to withdraw 0.48 million gallons per day of ground water for the irrigation of 80.5 acres of woody ornamentals	3/9/2006	6/6/2006	3/31/2026	Approval	Issued
20-069-50176-3	CUP General	WFR Inc	WFR Lake Jem	The District authorizes the use of 21.700 MGY for Leatherleaf fern from 30-dec-1997 to 29-feb-2012.	10/6/1997	12/30/1997	2/29/2012	Approval	Issued

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20-069-50178-4	CUP General	Astor-Astor Park Water Association	Astor-Astor Park Water Assoc.	The District authorizes the use of 161.400 MGY to supply the needs of 3018 people in the year 2013.	10/7/1997	5/7/1998	5/7/2013	Approval	Issued
2-069-50183-5	CUP Individual	Joanna Park Place Homeowner s Association, Inc.	Joanna Park Place	The District issued a permit August 10, 2004. The applicant has submitted a 5 year compliance report for the use of 0.18 million gallons per day of ground water for irrigation if 66.8 acres of landscape turf.	7/21/2009	No Date	No Date	Approval	Pending
20-069-50186-4	CUP General	Swiss Fairways Inc	Swiss Fairways	The applicant proposes to withdraw 0.143 million gallons per day of groundwater and 0.233 million gallons per day of surface water for golf course irrigation.	6/4/2009	No Date	No Date	Approval	Pending
20-069-50186-3	CUP General	Swiss Fairways Inc	Swiss Fairways	The applicant proposes to withdraw 0.144 million gallons per day of groundwater and 0.233 million gallons per day of surface water for golf course irrigation.	4/23/2001	7/17/2002	6/7/2009	Approval	Issued
20-069-50195-4	CUP General	Walter Dabbelt	Theo K. Carson	Permit Transfer	4/13/2007	5/25/2007	3/13/2013	Approval	Issued
20-069-50201-4	CUP General	May and Whitaker Family Partnership	Bowen Grove	The applicant proposes to withdraw 0.034 million gallons per day of ground water for the irrigation and freeze protection of 20 acres of citrus using a microjet irrigation system.	8/25/2009	10/22/2009	10/1/2029	Approval	Issued
20-069-50205-2	CUP General	LAKE REGION PACKING ASSOCIATION	Boardman Grove		10/27/1997	7/9/1998	7/9/2018	Approval	Issued
20-069-50207-6	CUP General	CEMEX Construction Materials Florida LLC	Tulley Dura-Rock	Ownership Transfer	11/13/2008	11/24/2008	10/11/2016	Approval	Issued
20-069-50214-7	CUP General	McKinnon Groves	McKinnon Groves	The use of 73.87 mgy of reclaimed water from the CONSERV II project for irrigation of 170 acres of citrus using a microjet irrigation system, and 24.31 mgy of ground water from the Floridan aquifer for freeze protection of 170 acres of citrus	10/31/1997	3/13/1998	3/13/2018	Approval	Issued
22-069-50215-3	CUP Fire Flow	Sunny South Groves, Inc.	Sunny South Groves, Inc.	Not applicable due to rule type.	11/4/1997	11/4/1997	11/4/2017	Approval	Issued
20-069-50216-4	CUP General	Randa Williams Exempt Trust	Randa Williams Exempt Trust	The District authorizes the use of 14.400 MGY for Citrus, Fruit crops from 27-jan-1998 to 27-jan-2013.	4/25/2003	5/30/2003	1/27/2013	Approval	Issued
20-069-50218-2	CUP General	Highlands MHP and Sales Inc	Highlands MHP	The District authorizes the use of ground water from the Floridan aquifer to supply the needs associated with a residential mobile home park.	11/11/1997	2/13/1998	1/17/2013	Approval	Issued
2-069-50220-6	CUP Individual	Jon's Nursery Inc	Jon's Nursery	If chemicals are injected into the irrigation system, the well or surface pump must be euqipped with backflow prevention devices installed pursuant to Section 5E-2.030, Florida Administrative Code.	11/12/1997	2/10/1998	2/10/2013	Approval	Issued

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20-069-50226-5	CUP General	Simpson Fruit Co	Simpson Fruit Co.	The applicant proposes to withdrw 0.40 million gallons per day of ground water for irrigation and freeze protection of 233 acres of citrus and 0.03 milion gallons per day of ground water for irrigation of 44 acres of pasture.	1/8/2008	2/21/2008	2/21/2028	Approval	Issued
20-069-50238-2	CUP General	Mr Robert Hart	Robert Hart	This permit authorizes the use of ground water from the Floridan aquifer for irrigation and freeze protection of 65 acres of citrus using a microjet irrigation system	11/19/1997	9/24/1998	9/24/2018	Approval	Issued
20-069-50239-3	CUP General	Lake Trimbey Groves, Inc.	Lake Trimbey Groves	This permit authorizes the use of ground water from the Floridan aquifer for irrigation of sod using an impact irrigation system	11/24/1997	5/13/1998	5/13/2018	Approval	Issued
20-069-50243-2	CUP General	Lake County Water Authority	Hickory Point	This permit authorizes the use of ground water from the Floridan aquifer to irrigate 60.0 acres of recreational area until October 13, 1999, thereafter, the use of surface water from Lake Harris is authorized from October 14, 1999 until October 13, 2018 to irrigate 60 acres of recreational area.	12/1/1997	6/7/1999	6/7/2019	Approval	Issued
20-069-50251-5	CUP General	William C. Davis and Carolyn Dixon	Boggy Marsh	The applicant proposes to withdraw 0.031 million gallons per day of ground water for irrigation and freeze proetction of 18 acres of citrus	1/29/2008	4/15/2008	4/15/2028	Approval	Issued
20-069-50254-2	CUP General	Treasure Island Estates Inc	Treasure Cove Homeowners Association	The applicant proposes to withdraw 0.017 million gallons per day of ground water for public supply to serve an estimated population of 130 and for essential use (fire protection).	3/13/2006	8/2/2006	6/7/2026	Approval	Issued
20-069-50265-3	CUP General	Lake Yale Landing Homeowner Association	Lake Yale Landing	This permit authorizes the use of ground water from the Floridan aquifer for irrigation of 15.84 acres of urban landscape in a residential subdivision	12/11/1997	5/15/1998	5/16/2018	Approval	Issued
20-069-50273-4	CUP General	Lake Hermosa Village LLC	Lake Hermosa Village	Transfer of ownership	5/4/2005	5/4/2005	2/22/2021	Approval	Issued
20-069-50277-3	CUP General	Lake County School Board	Spring Creek Elementary	This permit authorizes the use of ground water from the Floridan aquifer for the household needs of Spring Creek Elementary School, the irrigation 14 acres of landscape, the irrigation of a 0.5 acre vegetable garden, and for the watering needs of the animals at the school's agricultural farm.	5/5/2009	7/17/2009	7/17/2029	Approval	Issued
2-069-50279-6	CUP Individual	Village Center Community Development District	Village Center Community Development District	The applicant requests the use of 5.89 million gallons per day of reclaimed water, stormwater, and ground water from the Floridan aquifer for public supply type use, commercial / industrial type use, fire protection, golfcourse irrigation, and urban landscape irrigation.	12/8/2003	7/12/2005	7/12/2025	Approval	Issued
2-069-50280-7	CUP Individual	Villages of Lake-Sumter, Inc	VLS Irrigation	A 5-year compliance report was submitted in 2005 for the continued use of 133.3 million gallons per year of groundwater from the Floridan aquifer via three (3) wells	4/29/2005	8/9/2005	6/13/2020	Approval	Issued

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				and 200.8 million gallons per year of storm water via three surface water pumps for 453 acres of golf course irrigation by 2008, and the use of 115.0 million gallons per year of reclaimed water from VCCD wastewater treatment plant for 453 acres of golf course irrigation.					
20-069-50287-3	CUP General	Mr Harvey Fender	Harvey Fender	This permit authorizes the use of ground water from the Floridan aquifer for irrigation and freeze protection of 50 acres of citrus using a micro jet irrigation system.	1/7/1998	8/14/1998	8/14/2018	Approval	Issued
20-069-50288-7	CUP General	Caldwell Citrus Groves LLC	Caldwell Citrus Groves	This permit authorizes the use of ground water from the Floridan aquifer for the irrigation and freeze protection of 25 acres of citrus.	4/28/2005	10/26/2005	6/6/2018	Approval	Issued
20-069-50289-2	CUP General	S J Porrello	Porrello Grove	This permit authorizes the use of ground water from the Floridan aquifer for irrigation and freeze protection of 20 acres of citrus using a microjet irrigation system.	1/7/1998	7/17/1998	7/17/2018	Approval	Issued
20-069-50290-3	CUP General	Mr David Sellers	Sellers Fern		1/2/1998	6/6/1998	6/6/2018	Approval	Issued
20-069-50291-6	CUP General	Yale Lodge LLC	Home Grove	This permit authorizes the use of ground water from the Floridan aquifer for the irrigation and freeze protection of 70 acres of citrus.	7/2/2001	10/9/2001	6/6/2018	Approval	Issued
20-069-50307-3	CUP General	Lake-Ulmerton Corporation	Bee's RV Resort	Permit Transfer	8/17/2004	6/14/2005	3/24/2013	Approval	Issued
20-069-50318-5	CUP General	Stowe Family Partners Ltd	Lake Kirkland Nursery	The applicant proposes to withdraw 0.186 million gallons per day of surface water for irrigation and freeze protection of citrus, and 0.148 million gallons per day of ground water for irrigation of tree nursery.	2/20/2007	7/2/2007	3/7/2020	Approval	Issued
20-069-50334-3	CUP General	Park at Wolf Branch Oaks HOA	Park At Wolf Branch Oaks	The applicant proposes to withdraw 0.1373 million gallons per day of water for public supply type use for a population of 406 in 2026 and landscape irrigation of 12 acres.	6/8/2007	6/18/2007	1/19/2026	Approval	Issued
20-069-50430-1	CUP General	Mr G. Martin Stephens	Umatilla Grove	The use of ground water from the Floridan aquifer for irrigation and freeze protection of 14 acres of citrus using a microjet irrigation system	3/30/1998	11/11/1998	11/11/2018	Approval	Issued
22-001-50501-6	CUP Dewatering	Jensen Civil Construction Inc	Jensen Civil Construction	Short Term Construction Dewatering	10/14/2009	10/14/2009	10/14/2012	Approval	Issued
20-069-50598-2	CUP General	Alan Bradley	Alan Bradley		6/15/1998	9/24/1998	9/24/2018	Approval	Issued
22-001-50621-4	CUP Dewatering	Wharton Smith Inc.	Wharton-Smith Inc	This is not required for this rule type Chapter 40C-22 Notice General Construction Dewatering Permit.	5/10/2007	5/10/2007	5/10/2010	Approval	Issued
20-069-50651-1	CUP General	City of Clermont	Oak Hill Cemetary	Use of 15.28 MGY of ground water from the Floridan aquifer for 15.5 acres of urban landscape irrigation type use.	7/14/1998	9/11/1998	9/11/2018	Approval	Issued

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20-069-50720-1	CUP General	Lake County Schools	Astatula Elementary School	The use of ground water from the Floridan aquifer for household use at a new school with an estimated population of 962 students, faculty, and staff, and for irrigation of 1.34 acres of landscape	8/18/1998	1/21/1999	1/21/2019	Approval	Issued
2-069-50736-10	CUP Individual	Hi-Acres Inc	O'Brien 1-6	The District authorizes, as limited by the attached permit conditions, the use of 265.10 million gallons per year of ground water from the Floridan aquifer and surface water from unnamed lakes for irrigation and freeze protection of 416 acres of citrus and 6 acres of urban landscape	6/20/2000	9/12/2000	9/12/2019	Approval	Issued
20-069-50780-2	CUP General	Cove Water System Incorporated	Cove Water System	The applicant proposes to withdraw 0.015 million gallons per day of ground water for household and water utility use.	9/26/2003	8/10/2004	8/10/2024	Approval	Issued
2-069-50807-4	CUP Individual	SRGC LLC	Sanctuary Ridge Golf Course	The applicant proposes to withdraw 0.3274 million gallons per day of ground water for 134 acres of golf course turf and landscape.	6/1/2009	No Date	No Date	Approval	Pending
22-001-50860-4	CUP Dewatering	White's Site Development Inc	White's Site Development, Inc.	This is not required for this rule type Chapter 40C-22 Notice General Construction Dewatering Permit.	5/14/2007	5/14/2007	5/14/2010	Approval	Issued
20-069-51014-1	CUP General	AMR Groves	AMR Groves	The use of ground water from the Floridan aquifer for irrigation and freeze protection of 39 acres of citrus using a microjet irrigation system.	1/13/1999	3/8/1999	3/8/2019	Approval	Issued
2-069-51056-6	CUP Individual	Spring of Life Spring Water Company	Spring of Life Spring Water	The applicant proposes to withdraw 0.27 million gallons per day of water for commercial and industrial use.	10/10/2006	5/8/2007	9/11/2022	Approval	Issued
20-069-51099-1	CUP General	Worthwhile Development II Ltd	Sarah's Place		3/4/1999	4/23/1999	4/23/2019	Approval	Issued
20-069-51119-1	CUP General	Mr Bernard L Du Frene	Du Frene Grove	The use of ground water from the Floridan aquifer for irrigation and freeze protection of 20 acres of citrus using a microjet system	3/15/1999	4/23/1999	4/23/2019	Approval	Issued
22-001-51277-4	CUP Dewatering	R.A. Scott Construction Company	R.A. Scott Construction Company	Short Term Construction Dewatering	3/3/2009	3/3/2009	3/3/2012	Approval	Issued
20-069-62666-1	CUP General	Lake County School Board	Round Lake Elementary	The District authorizes, as limited by the attached permit conditions, the use of 13.65 million gallons per year of ground water from the Floridan aquifer for household use for an estimated 835 students, faculty, and staff at a new elementary school, and for irrigation of 13.3 acres of landscape and recreational areas	10/11/1999	12/7/1999	12/7/2019	Approval	Issued
20-069-62724-3	CUP General	Aqua Utilities Florida Inc	Fairways at Mt. Plymouth	Permit Transfer	12/2/2008	3/26/2009	4/28/2010	Approval	Issued
22-001-62743-4	CUP Dewatering	Derrico Construction Corporation	Derrico Construction	Short Term Construction Dewatering	6/9/2008	6/9/2008	6/9/2011	Approval	Issued

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22-001-63329-5	CUP Dewatering	Hubbard Construction Co.	Hubbard Construction Company	Short Term Construction Dewatering	7/28/2008	7/28/2008	7/28/2011	Approval	Issued
20-069-63398-1	CUP General	David Hudson	Hudson Tree Farm	The District authorizes, as limited by the attached permit conditions, the use of 56.58 million gallons per year of ground water from the Floridan aquifer for irrigation and freeze protection of 22 acres of outdoor containerized tree nursery	12/9/1999	1/18/2000	1/18/2020	Approval	Issued
22-001-63566-3	CUP Dewatering	Watson Paving, Inc	Watson Paving	Short Term Construction Dewatering	5/13/2008	5/13/2008	5/13/2011	Approval	Issued
20-069-63669-1	CUP General	International Tournament Skiing	Sunset Landing	The District authorizes, as limited by the attached permit conditions, the use of 7.85 million gallons per year of surface water from an unnamed lake for irrigation of 6 acres of golf course turf and 1.8 acres of urban landscape; 1.57 million gallons per year of ground water from the Floridan aquifer for backup irrigation of golf course and urban landscape turf; and 2.01 million gallons per year of ground water from the Floridan aquifer for commercial use at a water ski school and indoor househ	1/5/2000	6/14/2000	6/14/2020	Approval	Issued
20-069-63827-1	CUP General	Lennon Grove Service Inc	Triple Crown	The District authorizes, as limited by the attached permit conditions, the use of 18.69 million gallons per year of ground water from the Floridan aquifer for irrigation and freeze protection of 30 acres of citrus	1/14/2000	4/26/2000	4/26/2020	Approval	Issued
22-001-64027-3	CUP Dewatering	Southland Construction, Inc.	Southland Construction	40C-22 NOTICE GENERAL CONSTRUCTION DEWATERING PERMIT.	6/25/2007	6/25/2007	6/25/2010	Approval	Issued
20-069-64152-2	CUP General	CEMEX Construction Materials Florida LLC	CSR Rinker Leesburg	Ownership Transfer	11/13/2008	11/24/2008	6/20/2020	Approval	Issued
2-069-64455-8	CUP Individual	Hutchinson Island Irrigation Company Inc	ACME Lake County	The applicant proposes to withdraw 1.07 million gallons per day of ground water to irrigate 181.1 acres of golf course turf and 171.5 acres of common area urban landscape and residential urban landscape in 2025.	1/7/2005	8/13/2009	8/13/2012	Approval	Issued
22-001-64647-4	CUP Dewatering	Don Luchetti Construction Inc.	Don Luchetti Construction	Short Term Construction Dewatering	12/8/2008	12/8/2008	12/8/2011	Approval	Issued
22-001-64954-3	CUP Dewatering	Benko Construction Co Inc	Benko Construction Company, Inc.	short term dewatering	6/4/2007	6/4/2007	6/4/2010	Approval	Issued
20-069-65277-1	CUP General	Reier Enterprises	Reier Enterprises	The District authorizes, as limited by the attached permit conditions, the use of 6.92 million gallons per year of surface water from Lake Gibson for irrigation and freeze protection of 5 acres of ferns, and essential use, for fire protection.	5/11/2000	11/16/2000	11/16/2020	Approval	Issued

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20-069-65302-1	CUP General	Tower Groves of Orlando Inc	Tower Groves	The District authorizes, as limited by the attached permit conditions, the use of 24.92 million gallons per year of surface water from an unnamed canal for irrigation and freeze protection of 40 acres of citrus, and 4.98 million gallons per year of ground water from the Floridan aquifer for backup irrigation and freeze protection of citrus.	5/10/2000	6/2/2000	6/2/2020	Approval	Issued
20-069-65432-3	CUP General	James Clinton Lowe	Lake Catherine Blueberries	The applicant proposes to withdraw allocate 0.034 million gallons per day of ground water for the irrigation and freeze protection of 17 acres of blueberries; 0.014 million gallons per day of ground water for the irrigation and freeze protection of 10 acres of citrus and 0.034 million gallons per day of ground water for irrigation and freeze protection of 17 acres of blueberries.	7/15/2009	7/30/2009	6/20/2020	Approval	Issued
2-069-65573-2	CUP Individual	Lake Jem Farms	Hurley Peat Mine	The applicant proposes to dewater 1.85 million gallons per day of water for a 372 acre peat mine and withdraw 0.23 million gallons per day of water for irrigation of a sod farm.	12/5/2005	4/11/2006	11/16/2020	Approval	Issued
20-069-65616-2	CUP General	Golf South Inc Lakes of Lady Lake	The Lakes of Lady Lake Golf Course	The applicant proposes to withdraw 0.216 million gallons per day of surface water and 0.0195 million gallons per day of ground water for irrigation of 72 acres of golf turf and 0.5 acre of urban landscape.	7/28/2006	4/24/2007	4/24/2027	Approval	Issued
20-069-65762-1	CUP General	The Village at East Lake LTD Partnership	Village at East Lake	The District authorizes, as limited by the attached permit conditions, the use of 11.64 million gallons per year of ground water from the Floridan aquifer system for urban landscape irrigation.	6/14/2000	9/25/2000	9/25/2020	Approval	Issued
20-069-66695-1	CUP General	City of Clermont	Hancock Park	The District authorizes, as limited by the attached permit conditions, the use of 42.744 million gallons per year of ground water from the Floridan aquifer system for urban landscape irrigation.	6/27/2000	10/23/2000	10/23/2020	Approval	Issued
20-069-66701-1	CUP General	Tillery Groves	Lake Norris	The use of 14.33 million gallons per year of ground water from the Floridan aquifer for irrigation and freeze protection of 23 acres of citrus	6/26/2000	2/15/2001	2/15/2021	Approval	Issued
20-069-66848-1	CUP General	Florida Rock Properties Inc	Astatula Grove	The District authorizes, as limited by the attached permit conditions, the use of 14.89 million gallons per year of surface water from an unnamed dredge pond for irrigation and freeze protection of 23.9 acres of citrus	7/17/2000	8/30/2000	8/30/2020	Approval	Issued
22-001-67160-4	CUP Dewatering	Garney Companies Inc	Garney Companies, Inc.	This is a Noticed General Permit for Short-Term Construction Dewatering	9/9/2009	9/9/2009	9/9/2012	Approval	Issued
20-069-67197-1	CUP General	Jerry Hatfield	East Lake	The District authorizes, as limited by the attached permit conditions, the use of 8.10 million gallons per year of ground water from the Floridan aquifer for irrigation and freeze protection of 13 acres of citrus	8/9/2000	9/8/2000	9/8/2020	Approval	Issued

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22-001-68721-4	CUP Dewatering	Prime Construction Group Inc	Prime Construction Group, Inc.	Chapter 40C-22 Notice General Construction Dewatering Permit.	8/31/2009	8/31/2009	8/31/2012	Approval	Issued
22-001-69055-3	CUP Dewatering	Cathco Inc	Cathco Inc	This is not required for this rule type Chapter 40C-22 Notice General Construction Dewatering Permit.	3/21/2007	3/21/2007	3/21/2010	Approval	Issued
20-069-69472-2	CUP General	Summer Bay Partnership	Summer Bay	The applicant purposes to withdraw 0.07 million gallons per day of surface water for 26.4 acres of urban landscape irrigation with ground water as a back-up supply.	5/19/2004	4/26/2005	5/2/2015	Approval	Issued
20-069-70266-1	CUP General	Lee Williams	Lee Williams Fernery	The use of 0.009 million gallons per day of ground water for irrigation of 3 acres of tree fern	2/26/2001	6/27/2001	6/27/2021	Approval	Issued
22-001-71109-3	CUP Dewatering	Slaughter Construction Co Inc	Slaughter Construction Co.	This is not required for this rule type Chapter 40C-22 Notice General Construction Dewatering Permit.	4/4/2007	4/4/2007	4/4/2010	Approval	Issued
20-069-71411-3	CUP General	Chloe LLC	Chloe L.L.C.	The applicant proposes to withdraw 0.033 million gallons per day of ground water for household use and 0.060 million gallons per day of surface water for urban landscape irrigation.	5/7/2009	10/1/2009	9/18/2029	Approval	Issued
22-001-71504-2	CUP Dewatering	Ashley Laney	The Laney Company	Short Term Construction Dewatering	10/22/2009	10/22/2009	10/22/2012	Approval	Issued
20-069-71658-1	CUP General	The Gary L & Rhonda L Fitzwater Trust	Gary L and Rhonda L Fitzwater Trust	The applicant proposes to withdraw 0.01 million gallons per day of water for irrigation and freeze protection of 5 acres of citrus.	6/4/2001	8/1/2001	8/1/2021	Approval	Issued
20-069-71718-1	CUP General	Charles Gross Dorothy Gross	Charles and Dorothy Gross	Applicant proposes to use 0.015 million gallons per day of ground water for irrigation of 20 acres of pasture and livestock use	6/7/2001	10/1/2001	10/1/2021	Approval	Issued
22-001-72055-3	CUP Dewatering	John Allen	John Allen - VJ Usina Contracting, Inc.	Short Term Construction Dewatering	5/11/2009	5/11/2009	5/11/2012	Approval	Issued
22-001-72317-3	CUP Dewatering	Mark Hickinbotham	Mark Hickinbotham (Sawcross, Inc.)	Chapter 40C-22 Notice General Construction Dewatering Permit.	3/22/2007	3/22/2007	3/22/2010	Approval	Issued
22-001-80872-3	CUP Dewatering	Brevard Excavating & Landclearing Inc	Brevard Excavating and Landclearing, Inc	This is not required for this rule type Chapter 40C-22 Notice General Construction Dewatering Permit.	6/20/2007	6/20/2007	6/20/2010	Approval	Issued
20-069-81093-2	CUP General	Lake County School Board	East Ridge High School	The applicant proposes to withdraw 0.11 million gallons per day of ground water for the irrigation of 34 acres of athletic field turf and 12 acres of landscape turf,	8/16/2007	5/5/2008	5/5/2028	Approval	Issued
20-069-81906-2	CUP General	Heathrow Land Company LLC	Heathrow Country Estates	This is a 5 year compliance review on permit 81906. The District issued a permit August 2003 for the use of 15.30 million gallons per year (mgy) of ground water, 15.30 mgy surface water, and 139.38 mgy of reclaimed water for	10/16/2008	6/30/2009	8/13/2023	Approval	Issued

PERMIT NUMBER	PERMIT TYPE	APPLICANT NAME	PROJECT NAME	PROJECT DESCRIPTION	RECEIVED DATE	DECISION DATE	EXPIRATION DATE	RECOMMENDATION	STATUS
				golf course irrigation.					
22-001-81978-2	CUP Dewatering	Edwin Upthegrove	Driveways Inc	Short Term Dewatering -	10/6/2008	10/6/2008	10/6/2011	Approval	Issued
22-001-82356-3	CUP Dewatering	County of Volusia	Volusia County	40C-22 notice General Construction Dewatering Permit.	4/19/2007	4/19/2007	4/19/2010	Approval	Issued
22-001-82452-2	CUP Dewatering	Mercon Construction Company	Mercon Construction Company	This is a Noticed General Permit for Short-Term Construction Dewatering	7/8/2009	7/8/2009	7/8/2012	Approval	Issued
22-001-82661-3	CUP Dewatering	W R Townsend Contracting, Inc	WR Townsend Contracting	Maximum daily withdrawals for any dewatering activity shall not exceed four million gallons per day (MGD), except during the first 120 hours of dewatering when the daily and instantaneous pumpage rates shall not exceed six MGD. Average daily withdrawal shall not exceed two MGD for the first 60 days of the dewatering activity and shall not exceed one MGD over a 180 day duration.	10/24/2007	10/24/2007	10/24/2010	Approval	Issued
20-069-83231-3	CUP General	Central Florida Golf Properties, LLC	Eagle Dunes Golf Club	The applicant proposes to withdraw 0.31 million gallons per day of reclaimed water from the City of Eustis for golf course and common area irrigation, 0.05 million gallons per day of ground water from the Floridan aquifer for backup irrigation, and 0.002 million gallons per day of ground water from the Floridan aquifer for household use.	6/1/2004	6/10/2004	6/28/2022	Approval	Issued
22-001-83798-3	CUP Dewatering	Superior Construction	Superior Construction Company	Chapter 40C-22(29) Notice General Constuction Dewatering Permit	12/9/2009	12/9/2009	12/9/2012	Approval	Issued
20-069-84607-1	CUP General	Alan T Jackson	Jackson 1	The applicant proposes to withdraw 0.055 million gallons per day of water for the irrigation and freeze protection of 32 acres of citrus.	7/15/2002	12/3/2002	12/3/2022	Approval	Issued
22-001-84630-3	CUP Dewatering	Jax Utilites Construction	Jax Utilities Construction	Short Term Construction Dewatering	8/11/2009	8/11/2009	8/11/2012	Approval	Issued
20-069-84879-3	CUP General	The City of Eustis	City of Eustis Eastern Service Area	The applicant proposes to withdraw 0.361million gallons per day of ground water for household, commercial and industrial, common area irrigation, essential and unaccounted for type uses to supply an estimated population of 2441 people in 2029.	8/7/2009	No Date	No Date	Approval	Pending
20-069-84879-2	CUP General	City of Eustis	City of Eustis Eastern Service Area	The applicant proposes to withdraw 0.97 million gallons per day of ground water for household, commercial and industrial, common area irrigation, essential and unaccounted for type uses to supply an estimated population of 1,763 people in 2023.	11/3/2005	9/5/2007	9/5/2009	Approval	Issued
22-001-85153-3	CUP Dewatering	Hazen Construction	Hazen Construction	Short term construction dewatering	7/10/2008	7/10/2008	7/10/2011	Approval	Issued
20-069-85167-1	CUP	City of Clermont	Lost Lake Reserve	The applicant proposes to withdraw 0.02 million gallons	8/21/2002	3/4/2003	3/4/2023	Approval	Issued

PERMIT NUMBER	PERMIT TYPE	APPLICANT NAME	PROJECT NAME	PROJECT DESCRIPTION	RECEIVED DATE	DECISION DATE	EXPIRATION DATE	RECOMMENDATION	STATUS
	General			per day of groundwater to irrigate 12 acres of urban landscape.					
20-069-85182-1	CUP General	Far Reach Ranch	Far Reach Ranch	The applicant proposes to withdraw 0.146 million gallons per day of ground water for irrigation of blueberries.	8/22/2002	12/18/2003	12/18/2023	Approval	Issued
20-069-85195-2	CUP General	The City of Eustis	Heathrow Country Estates	The applicant proposes to withdraw 0.235 million gallons per day of water to serve 1163 people for public supply type use.	7/1/2009	No Date	No Date	Pending	Pending
20-069-85195-1	CUP General	The City of Eustis	Heathrow Country Estates	The applicant proposes to withdraw 0.437 million gallons per day of water to serve 483 acres for household type, unaccounted for water, commercial & industrial use.	8/23/2002	7/2/2003	7/2/2009	Approval	Issued
20-069-85298-2	CUP General	Village Community Development District Number 4	Village Community Development District No 4	The applicant proposes to withdraw 0.08 million gallons per day of ground water from the lower Floridan Aquifer and 0.06 million gallons per day of storm water from on-site retention areas for the irrigation of 59 acres of urban landscape recreation area.	12/30/2002	2/19/2004	2/19/2024	Approval	Issued
22-001-85431-2	CUP Dewatering	A.J. Johns, Inc.	Marty Adams	Marty Adams	10/1/2008	10/2/2008	10/2/2011	Approval	Issued
22-001-85806-2	CUP Dewatering	Master Site Development Inc.	Master Site Developemnt	This is a Noticed General Permit for Short-Term Construction Dewatering	4/10/2008	4/10/2008	4/10/2011	Approval	Issued
20-069-86582-1	CUP General	Piney Island Ferns Inc	Howey Leatherleaf	The applicant proposes to withdraw 0.028 million gallons per day of water to irrigate 10 acres of fern.	11/18/2002	5/19/2003	5/19/2023	Approval	Issued
2-069-86742-3	CUP Individual	The Scotts Miracle-Grow Company	Hyponex Peat Mine	The applicant proposes to withdraw 0.685 million gallons per day of water for commercial/industrial type uses associated with dewatering a peat mine.	2/19/2009	No Date	No Date	Approval	Pending
2-069-86742-2	CUP Individual	Hyponex Corporation	Hyponex Peat Mine	The applicant proposes to withdraw 1.56 million gallons per day for commercial/industrial type uses associated with dewatering a peat mine.	12/21/2004	7/12/2005	4/8/2009	Approval	Issued
20-069-87112-1	CUP General	Lawain M Bass	Bass Farms - Blueberries	The applicant proposes to withdraw 0.044 million gallons per day of water to irrigate 16 acres of blueberries.	1/9/2003	3/6/2003	3/6/2023	Approval	Issued
22-001-87323-3	CUP Dewatering	The Briar Team LLC	The Briar Team	This is a Noticed General Permit for Short Term Construction Dewatering	6/26/2009	6/30/2009	6/30/2012	Approval	Issued
20-069-87418-2	CUP General	City of Leesburg	Sleepy Hollow Recreation Facility	The applicant proposes to withdraw 0.12 million gallons per day of groundwater to irrigate 44.5 acres of recreational turf.	4/18/2003	5/12/2003	3/24/2023	Approval	Issued
20-069-88103-2	CUP General	The Club at Pennbrooke Fairways	Pennbrooke Fairways	The applicant proposes to withdraw 0.03 million gallons per day of groundwater as back-up to reuse water/surface water for golf course irrigation.	2/18/2005	2/18/2005	11/17/2010	Approval	Issued
20-069-88884-1	CUP General	Beverly Ohnstad	Ohnstad	The applicant proposes to withdraw 0.05 million gallons per of groundwater to irrigate 16.5 acres of citrus.	5/16/2003	7/25/2003	7/25/2023	Approval	Issued
20-069-88885-1	CUP General	Orange Bend Harvesting Inc	Caldwell Block	The applicant proposes to withdraw 0.05 million gallons per day of groundwater to irrigate 12 acres of citrus.	5/16/2003	7/25/2003	7/25/2023	Approval	Issued
22-001-90197-2	CUP Dewatering	R. B. Baker Construction Inc.	R B Baker Construction Inc.	CHAPTER 40C-22 (29) NOTICE GENERAL CONSTRUCTION DEWATERING.	3/7/2007	3/7/2007	3/7/2010	Approval	Issued

PERMIT NUMBER	PERMIT TYPE	APPLICANT NAME	PROJECT NAME	PROJECT DESCRIPTION	RECEIVED DATE	DECISION DATE	EXPIRATION DATE	RECOMMENDATION	STATUS
22-001-90317-3	CUP Dewatering	Blue Ox Enterprise Inc	Blue Ox Enterprise Inc	Noticed Genral Permit for Short Term Construction Dewatering	7/20/2009	7/30/2009	7/30/2012	Approval	Issued
22-001-90848-3	CUP Dewatering	Watson Construction Company Inc	Watson Construction Company, Inc.	This is not required for this rule type Chapter 40C-22 Notice General Construction Dewatering Permit.	9/30/2009	9/30/2009	9/30/2012	Approval	Issued
20-069-91079-2	CUP General	MHC Grand Island Resort LLC	Grand Island Resort	The applicant proposes to withdraw 0.004 million gallons per day of surface water to augment a storage pond used for fire flow protection.	4/20/2004	7/7/2004	7/7/2024	Approval	Issued
2-069-91867-2	CUP Individual	DOT Clay LLC	DOT Clay LLC	The applicant proposes to withdraw 0.274 million gallons per day, annual average, of groundwater from the Floridan aquifer and 2.56 million gallons per day of surface water, annual average, from the dredge pit for commercial/industrial type use associated with operation of a sand mine.	11/22/2005	12/28/2005	6/8/2012	Approval	Issued
22-001-92336-2	CUP Dewatering	Florida Roads Contracting, Inc.	Florida Roads Contracting (fka Baker Construction)	Maximum daily withdrawals for any dewatering activity shall not exceed four million gallons per day (MGD), except during the first 120 hours of dewatering when the daily and instantaneous pumpage rates shall not exceed six MGD. Average daily withdrawal shall not exceed two MGD for the first 60 days of the dewatering activity and shall not exceed one MGD over a 180 day duration.	1/29/2007	1/29/2007	1/29/2010	Approval	Issued
20-069-92526-1	CUP General	Alex Howell	Libby Road LLC	The applicant proposes to withdraw 0.05 million gallons per day of ground water to irrigate 20 acres of watermelons.	2/12/2004	3/11/2004	3/11/2009	Approval	Issued
22-001-92596-2	CUP Dewatering	The Robins & Morton Group	The Robins & Morton Group	This is not required for this rule type Chapter 40C-22 Notice General Construction Dewatering Permit.	2/15/2007	2/15/2007	2/15/2010	Approval	Issued
22-001-92963-2	CUP Dewatering	Specialized Services Inc	Daniel Copeland	This is not required for this rule type Chapter 40C-22 Notice General Construction Dewatering Permit.	3/8/2007	3/8/2007	3/8/2010	Approval	Issued
22-001-92978-2	CUP Dewatering	John Carlo Inc.	John Carlo Inc.	District Wide short term dewatering	2/14/2007	2/14/2007	2/14/2010	Approval	Issued
22-001-92992-2	CUP Dewatering	Paul Howard Construction Company Inc.	Paul Howard Construction Company Inc.	This is not required for this rule type Chapter 40C-22 Notice General Construction Dewatering Permit.	3/8/2007	3/8/2007	3/8/2010	Approval	Issued
22-001-93175-2	CUP Dewatering	R.A. Connor Paving, Inc.	R.A. Connor Paving	This is not required for this rule type Chapter 40C-22 Notice General Construction Dewatering Permit.	3/30/2007	3/30/2007	3/30/2010	Approval	Issued
2-069-93176-2	CUP Individual	Lake Cogen Ltd	Lake Cogen	The applicant proposes to withdraw 1.095 million gallons per day of water for citrus processing.	8/18/2004	3/8/2005	3/8/2025	Approval	Issued
22-001-93260-2	CUP Dewatering	Robert Klem	Robert Klem (4-K Construction)	This is not required for this rule type Chapter 40C-22 Notice General Construction Dewatering Permit.	1/26/2007	1/26/2007	1/26/2010	Approval	Issued
22-001-93536-2	CUP Dewatering	Brasfield & Gorrie	Brasfield & Gorrie	This is not required for this rule type Chapter 40C-22 Notice General Construction Dewatering Permit.	4/26/2007	4/26/2007	4/26/2010	Approval	Issued
22-001-93938-2	CUP	Gator Sitework Inc	Gator Sitework	This is not required for this rule type Chapter 40C-22	3/22/2007	3/22/2007	3/22/2010	Approval	Issued

PERMIT NUMBER	PERMIT TYPE	APPLICANT NAME	PROJECT NAME	PROJECT DESCRIPTION	RECEIVED DATE	DECISION DATE	EXPIRATION DATE	RECOMMENDATION	STATUS
	Dewatering		Inc	Notice General Construction Dewatering Permit.					
22-001-94245-2	CUP Dewatering	Archer Western Contractors, LTD	Archer Western Contractors, LTD		4/12/2007	4/12/2007	4/12/2010	Approval	Issued
22-001-94297-2	CUP Dewatering	RayMar & Sons	Raymar & Sons Inc	This is not required for this rule type Chapter 40C-22 Notice General Construction Dewatering Permit.	2/21/2007	2/21/2007	2/21/2010	Approval	Issued
22-001-94470-2	CUP Dewatering	P & S Paving	P&S Paving Inc.	This is not required for this rule type Chapter 40C-22 Notice General Construction Dewatering Permit.	2/15/2007	2/15/2007	2/15/2010	Approval	Issued
2-069-94701-2	CUP Individual	Sugarloaf Mountain Golf & Town Club LLC	Sugarloaf Mountain Golf Course - Irrigation	The applicant proposes to withdraw 0.278 million gallons per day of water, annual average, for golf course and urban landscape irrigation.	12/27/2007	No Date	No Date	Approval	Pending
2-069-94701-1	CUP Individual	SLDC, LLC, Sugarloaf Mountain, LLC	Sugarloaf Mountain Development - Irrigation	The applicant proposes to withdraw 0.278 million gallons per day of water, annual average, for golf course and urban landscape irrigation.	7/14/2004	12/13/2005	12/13/2025	Approval	Issued
20-069-95439-1	CUP General	Thomas Lee Bryan	Lee Bryan Fernery	The applicant proposes to withdraw 0.03 million gallons per day of ground water to irrigate and freeze protect 11 acres of ferns.	8/27/2004	12/16/2004	12/16/2024	Approval	Issued
22-001-95583-2	CUP Dewatering	Clyde Cross	Clyde Cross	Short Term Construction Dewatering	5/22/2008	5/22/2008	5/22/2011	Approval	Issued
22-001-95586-2	CUP Dewatering	Hall Company, Inc.	Hall Company	Noticed General Permit for Short Term Construction Dewatering	9/14/2007	9/14/2007	9/14/2010	Approval	Issued
20-069-95654-2	CUP General	Sun Water Oak Golf	Water Oaks Golf Course	The applicant proposes to withdraw 0.212 million gallons per day of water to irrigate a 76 acre golf course.	7/14/2008	8/27/2009	8/27/2016	Approval	Issued
22-001-95949-2	CUP Dewatering	Patrick Callaway	Callaway Contracting	This is not required for this rule type Chapter 40C-22 Notice General Construction Dewatering Permit.	5/3/2007	5/3/2007	5/3/2010	Approval	Issued
22-001-96036-2	CUP Dewatering	Hewitt Contracting Co Inc	Hewitt Contracting	This is not required for this rule type Chapter 40C-22 Notice General Construction Dewatering Permit.	2/1/2007	2/1/2007	2/1/2010	Approval	Issued
22-003-96549-2	CUP Dewatering	Donald Hart	Donald Hart (Florida Topsoil Inc)	The applicant proposes to withdraw a maximum daily volume not to exceed four million gallons per day (MGD), except during the first 120 hours of dewatering when the daily and instantaneous pumpage rates shall not exceed six MGD. Average daily withdrawal shall not exceed two MGD for the first 60 days of the dewatering activity and shall not exceed one MGD over a 180 day duration.	2/2/2007	2/2/2007	2/2/2010	Approval	Issued
22-001-97236-2	CUP Dewatering	Archer Western Contractors Ltd	Archer Western, Ltd.	Maximum daily withdrawals for any dewatering activity shall not exceed four million gallons per day (MGD), except during the first 120 hours of dewatering when the daily and instantaneous pumpage rates shall not exceed six MGD. Average daily withdrawal shall not exceed two MGD for the first 60 days of the dewatering activity and shall not exceed one MGD over a 180 day duration.	2/26/2008	2/26/2008	2/26/2011	Approval	Issued
22-001-98056-2	CUP Dewatering	BGCO Inc	BGCO Inc	This is not required for this rule type Chapter 40C-22 Notice General Construction Dewatering Permit.	1/11/2008	1/11/2008	1/11/2011	Approval	Issued

PERMIT NUMBER	PERMIT TYPE	APPLICANT NAME	PROJECT NAME	PROJECT DESCRIPTION	RECEIVED DATE	DECISION DATE	EXPIRATION DATE	RECOMMENDATION	STATUS
22-001-98380-2	CUP Dewatering	J B Coxwell Contracting Inc	J B Coxwell Contracting Inc	Short Term Construction Dewatering - Not applicable for this rule type.	4/2/2008	4/2/2008	4/2/2011	Approval	Issued
20-069-98980-1	CUP General	Raintree Utilities Inc	Bentwood	The applicant proposes to withdraw 0.070 million gallons per day of water for public supply to serve 99 single-family homes and approximately 2 acres of common area irrigation.	5/11/2005	7/13/2005	6/17/2010	Approval	Issued
22-001-99186-2	CUP Dewatering	CDS Sitework & Trucking, Inc.	CDS Sitework & Trucking	Short term dewatering	4/10/2008	4/10/2008	4/10/2011	Approval	Issued
20-069-100086-1	CUP General	Bright Lake Utilities LLC	Clearwater Reserve	The applicant proposes to withdraw 0.161 million gallons per day of ground water for urban landscape irrigation.	7/8/2005	10/23/2006	8/29/2026	Approval	Issued
22-001-100772-2	CUP Dewatering	KT Carter Contracting, Inc.	K T Carter Contracting	This is not required for this rule type Chapter 40C-22 Notice General Construction Dewatering Permit.	8/8/2008	8/8/2008	8/8/2011	Approval	Issued
22-001-100806-2	CUP Dewatering	Jon M Hall Company	Jon M Hall Co	Short Term Construction Dewatering	7/23/2008	7/24/2008	7/24/2011	Approval	Issued
22-001-101384-2	CUP Dewatering	Utility Systems Construction Inc	Utility Systems Construction	Short term construction dewatering	6/4/2008	6/4/2008	6/4/2011	Approval	Issued
22-001-101752-2	CUP Dewatering	W. Jackson & Sons Construction Co.	W Jackson & Sons Construction	Short term Construction Dewatering	9/10/2008	9/10/2008	9/10/2011	Approval	Issued
22-001-102586-2	CUP Dewatering	Sitewerks, Inc.	Sitewerks, Inc.	Short-term Construction Dewatering	9/18/2008	9/18/2008	9/18/2011	Approval	Issued
2-069-102732-2	CUP Individual	Lakes of Mt Dora Property Owners Association	Lakes of Mount Dora	The applicant proposes to withdraw 0.552 million gallons per day of water for urban landscape irrigation serving 187.62 acres.	5/30/2008	4/14/2009	4/14/2029	Approval	Issued
2-069-103264-1	CUP Individual	Reliable Peat Company JV	Youth Camp Peat Mine	998.4 million gallons per year (mgy) (3.840 million gallons per day (mgd) average based on 260 working days per year) of surface water dewatering associated with a peat mine.	1/13/2006	2/13/2007	2/13/2017	Approval	Issued
22-001-103685-2	CUP Dewatering	J D Weber Construction Co	J D Weber Construction	Short Term Construction Dewatering	1/26/2009	2/12/2009	1/26/2012	Approval	Issued
20-069-103822-1	CUP General	Colina Bay Water Company	Colina Bay	The applicant proposes to withdraw 0.138 million gallons per day of water for essential, household, irrigation and other type uses to serve a 73 single family home housing development.	2/15/2006	2/21/2007	2/21/2027	Approval	Issued
2-069-104559-1	CUP Individual	Plantation Residents Golf Club Inc	Plantation Residents Golf Club Inc	The applicant proposes the use of 0.737 million gallons per day of a combination of reclaimed water, surface water and ground water for golf course irrigation through the year 2022.	2/7/2003	3/27/2006	8/13/2022	Approval	Issued
20-069-105004-1	CUP General	Cary Freeman	Cary R Freeman	The applicant is requesting to irrigate lawn and landscape three days per week for 0.5-acres at 1838 Lake Terrace Dr.	4/11/2006	4/26/2006	4/26/2016	Approval	Issued
2-069-105008-1	CUP Individual	City of Minneola	City of Minneola - Reclaimed Water Supplement	The applicant proposes to withdraw 0.39 million gallons per day of ground water to supplement reclaimed water supplies.	4/13/2006	No Date	No Date	Pending	Pending

PERMIT NUMBER	PERMIT TYPE	APPLICANT NAME	PROJECT NAME	PROJECT DESCRIPTION	RECEIVED DATE	DECISION DATE	EXPIRATION DATE	RECOMMENDATION	STATUS
22-069-105135-1	CUP Fire Flow	Pickett Engineering	Hamilton Gardens	The applicant proposes to withdraw up to 1.44 million gallons per day of ground water for essential use, for fire protection	4/19/2006	5/11/2006	5/3/2026	Approval	Issued
20-069-105263-1	CUP General	Rowe Groves	Hwy 33 Grove	The applicant proposes to withdraw 0.06 million gallons per day of ground water for irrigation and freeze protection of 36 acres of citrus.	4/27/2006	5/11/2006	5/5/2026	Approval	Issued
20-069-105276-1	CUP General	Blake G & Lucille A Rowe	Home Grove	The applicant proposes to withdraw 0.008 million gallons per day of water to irrigate 6 acres of citrus.	4/27/2006	5/11/2006	5/9/2026	Approval	Issued
20-069-105467-2	CUP General	City of Groveland	Cascades at Groveland	Ownership Transfer	1/5/2010	1/14/2010	1/30/2010	Approval	Issued
2-069-105589-1	CUP Individual	Lennar Land Partners Inc	Kings Ridge Golf Courses	The applicant proposes to withdraw 0.74 million gallons per day of surface water to irrigate a total of 255.0 acres of turf grass on two golf courses.	5/17/2006	5/8/2007	5/8/2027	Approval	Issued
22-001-106098-2	CUP Dewatering	Barry D Denk	Barry Denk	Not required for Chapter 40C-22 Noticed General Construction Dewatering Permit.	5/1/2009	5/1/2009	5/1/2012	Approval	Issued
22-001-106351-2	CUP Dewatering	T B Landmark Construction, Inc.	Robin Thigpen	NOTICING IS NOT REQUIRED FOR THIS RULE TYPE - CHAPTER 40C-22 (29) NOTICED GENERAL PERMIT FOR SHORT TERM CONSTRUCTION DEWATERING.	9/3/2009	9/3/2009	9/3/2012	Approval	Issued
22-001-106667-2	CUP Dewatering	William Lorenzo	William Lorenzo	This is not required for this rule type Chapter 40C-22 Notice General Construction Dewatering Permit.	1/28/2008	1/28/2008	1/28/2011	Approval	Issued
22-001-106982-3	CUP Dewatering	JMHC Inc	JMHC, Inc	Short-Term Construction Dewatering	8/27/2009	8/27/2009	8/27/2012	Approval	Issued
22-001-107180-2	CUP Dewatering	Sean Ireland, Prince Contracting LLC	Prince Contracting LLC	This is a Noticed General Permit for Short-Term Construction Dewatering	10/26/2009	10/26/2009	10/26/2012	Approval	Issued
20-069-107839-1	CUP General	Leesburg Associates, Ltd. Dba Holiday Travel Resort	Holiday Travel Resort	The applicant proposes to allocate 0.164 million gallons per day of ground water for household and irrigation use.	9/29/2006	6/26/2007	6/26/2017	Approval	Issued
22-001-107946-2	CUP Dewatering	Groundwater and Environmental Services, Inc.	Groundwater and Environmental Services	Short Term Construction Dewatering	8/27/2009	9/21/2009	9/21/2012	Approval	Issued
22-001-108595-2	CUP Dewatering	J.W.Cheatham, LLC	JW Cheatham LLC	Short Term Construction Dewatering - Notice of Receipt is not required for this rule type and use.	11/9/2009	11/9/2009	11/9/2012	Approval	Issued
2-069-108674-1	CUP Individual	ValleyCrest Landscape Development Inc	ValleyCrest Landscape	The applicant proposes to withdraw 0.27 million gallons per day of ground water for Household and Nursery uses.	11/22/2006	9/11/2007	9/11/2027	Approval	Issued
22-001-109488-1	CUP Dewatering	Charles Clayton Construction	Charles Clayton Construction	Short Term Construction Dewatering	1/23/2007	1/23/2007	1/25/2010	Approval	Issued
22-001-109617-1	CUP Dewatering	Johnson Bros Corp	Johnson Bros. Corp.	This is a Noticed General Permit for short-term construction dewatering	1/26/2007	1/26/2007	1/26/2010	Approval	Issued
22-001-109700-1	CUP Dewatering	Fred Hames	Fred Hames (Skanska USA	This is not required for this rule type Chapter 40C-22 Notice General Construction Dewatering Permit.	2/2/2007	2/2/2007	2/2/2010	Approval	Issued

PERMIT NUMBER	PERMIT TYPE	APPLICANT NAME	PROJECT NAME	PROJECT DESCRIPTION	RECEIVED DATE	DECISION DATE	EXPIRATION DATE	RECOMMENDATION	STATUS
			Building Inc)						
22-001-109750-1	CUP Dewatering	Michael Vallencourt	M Vallencourt Dewatering	Short Term Construction Dewatering	2/1/2007	2/1/2007	2/1/2010	Approval	Issued
22-001-109771-1	CUP Dewatering	Banana River Constructors, Inc.	Banana River Constructors, Inc.	Short Term Construction Dewatering	2/5/2007	2/5/2007	2/5/2010	Approval	Issued
22-001-109992-1	CUP Dewatering	Alfredo Bacci	Sun Road Inc	Short Term Construction Dewatering Permit	2/22/2007	2/22/2007	2/22/2010	Approval	Issued
22-001-110039-1	CUP Dewatering	Handex Consulting and Remediation - Southeast LLC	Handex Consulting & Remediation - Southeast	Short Term Construction Dewatering	2/26/2007	2/26/2007	2/26/2010	Approval	Issued
22-001-110077-1	CUP Dewatering	Integra Commercial Construction	Integra Commercial Construction	Short Term Construction Dewatering	2/26/2007	3/1/2007	3/1/2010	Approval	Issued
22-001-110110-1	CUP Dewatering	Master Excavators, Inc	Master Excavators	Short Term Dewatering - City of Sebastian - Phase 1,Phase 11. Phase 111, Phase IV, Phase V, V1, V11 Re-installation of flocculation. First Step: is to clean the areea that has bee disturbed between Sta. 10+00 and 14+00. Second Step: is to install sock for dewatering. Third Step: Begin dewatering with sock (clean water) into ditch. Foruth Step: After completing section 14 to 18. Fifth Step: Excavation 18+00 to 22+00 Sixth Step: Installation of dewatering sock for next phase. Seventh Step: Rock check Dam.	3/5/2007	3/5/2007	3/5/2010	Approval	Issued
20-069-110116-1	CUP General	The Plantation at Leesburg	Plantation at Leesburg	Transfer/split of the common area irrigation at Plantation at Leesburg.	3/2/2007	3/5/2007	8/13/2022	Approval	Issued
22-001-110320-1	CUP Dewatering	VA Paving, Inc.	VA Paving	Short Term Construction Dewatering	3/14/2007	3/14/2007	3/14/2010	Approval	Issued
22-001-110334-1	CUP Dewatering	Kiewit Southern	Kiewit Southern	Short Term Construction Dewatering	3/16/2007	3/16/2007	3/16/2010	Approval	Issued
22-001-110777-1	CUP Dewatering	Eclipse Construction Co Inc	Eclipse Construction Co Inc	Noticed General Permit for Short-Term Construction Dewatering	4/12/2007	4/12/2007	4/12/2010	Approval	Issued
20-069-110807-1	CUP General	Lake County Acreage LLC	Wolf Branch Meadows	The applicant proposes to withdraw 0.012 million gallons per day of water for household, urban landscape irrigation and essential uses.	4/13/2007	11/19/2007	11/19/2027	Approval	Issued
22-001-110973-1	CUP Dewatering	Frank Burkes	Frank Burkes	Short Term Construction Dewatering	4/24/2007	4/25/2007	4/25/2010	Approval	Issued
22-001-111110-1	CUP	American Bridge	American Bridge	Noticed General Permit for Short-Term Construction	5/3/2007	5/3/2007	5/3/2010	Approval	Issued

PERMIT NUMBER	PERMIT TYPE	APPLICANT NAME	PROJECT NAME	PROJECT DESCRIPTION	RECEIVED DATE	DECISION DATE	EXPIRATION DATE	RECOMMENDATION	STATUS
	Dewatering	Co	Co	Dewatering					
22-001-111117-1	CUP Dewatering	Henry Fischer & Sons, Inc	Henry Fischer & Sons	Short term construction dewatering	5/3/2007	5/3/2007	5/3/2010	Approval	Issued
22-001-111258-1	CUP Dewatering	Hearndon Construction	Hearndon Construction	Short Term Dewatering	5/10/2007	5/10/2007	5/10/2010	Approval	Issued
22-001-111341-1	CUP Dewatering	Atlantic Development Of Cocoa, Inc.	Atlantic Development of Cocoa, Inc	Short term construction dewatering	5/16/2007	5/16/2007	5/16/2010	Approval	Issued
22-069-111514-1	CUP Fire Flow	Florida Fish and Wildlife Conservation Comm	Hilochee WMA	The applicant proposes to withdraw a maximum of 0.54 million gallons per day of ground water for fire protection, as needed.	5/29/2007	8/16/2007	8/16/2027	Approval	Issued
22-001-111947-1	CUP Dewatering	JEA	Robert McManaway (JEA)	This is not required for this rule type Chapter 40C-22 Notice General Construction Dewatering Permit.	6/22/2007	6/22/2007	6/22/2010	Approval	Issued
22-001-112178-1	CUP Dewatering	Stately Contractors Corp.	Stately Contractors	Short Term Dewatering	7/5/2007	7/5/2007	7/5/2010	Approval	Issued
22-001-112630-1	CUP Dewatering	E Scape	E Scape Inc	This is a Noticed General Permit for Short-Term Construction Dewatering	8/1/2007	8/1/2007	8/1/2010	Approval	Issued
22-001-112669-1	CUP Dewatering	Southern Site Works	Southern Site Works	Short Term Construction Dewatering	8/3/2007	8/3/2007	8/3/2010	Approval	Issued
22-001-112760-1	CUP Dewatering	Underground Utilities, Inc.	Underground Utilities, Inc.	Short Term Dewatering	8/9/2007	8/9/2007	8/9/2010	Approval	Issued
22-001-112875-1	CUP Dewatering	Florida Design Contractors Inc	Florida Design Contractors	Noticed General Permit for Short-Term Construction Dewatering	8/16/2007	8/16/2007	8/16/2010	Approval	Issued
22-001-112885-1	CUP Dewatering	?	Universal Petroleum Services	40C-22 Short Term Construction Dewatering	8/17/2007	8/17/2007	8/17/2010	Approval	Issued
22-001-112888-1	CUP Dewatering	CH2M Hill Constructors Inc	CH2M Hill Constructors	Noticed General Permit for Short-Term Construction Dewatering	8/16/2007	8/16/2007	8/16/2010	Approval	Issued
22-001-112924-1	CUP Dewatering	George Sayar	Southern Development Corp	The applicant has requested the use of a maximum daily withdrawals for dewatering activity shall not exceed four million gallons per day (MGD), except during the first 120 hours of dewatering when the daily and instantaneous pumpage rates shall not exceed six MGD. Average daily withdrawal shall not exceed two MGD for the first 60 days of the dewatering activity and shall not exceed one MGD over a 180 day duration.	8/17/2007	8/17/2007	8/17/2010	Approval	Issued
22-001-113148-1	CUP Dewatering	Michael Scribbins	Michael Scribbins	Short Term Construction Dewatering	9/4/2007	9/10/2007	9/10/2010	Approval	Issued
22-001-113390-1	CUP Dewatering	Jeremy Rowell	Jeremy Rowell	This is a noticed general dewatering permit. Maximum daily withdrawals for any dewatering activity	9/17/2007	9/28/2007	9/28/2010	Approval	Issued

PERMIT NUMBER	PERMIT TYPE	APPLICANT NAME	PROJECT NAME	PROJECT DESCRIPTION	RECEIVED DATE	DECISION DATE	EXPIRATION DATE	RECOMMENDATION	STATUS
				shall not exceed four million gallons per day (MGD), except during the first 120 hours of dewatering when the daily and instantaneous pumpage rates shall not exceed six MGD. Average daily withdrawal shall not exceed two MGD for the first 60 days of the dewatering activity and shall not exceed one MGD over a 180 day duration.					
22-001-113497-1	CUP Dewatering	DGC Environmental	DGC Environmental	40C-22 Short Term Construction Dewatering	9/24/2007	9/24/2007	9/24/2010	Approval	Issued
22-001-113527-1	CUP Dewatering	Encore Construction Company	Encore Construction Company	This is not required for this rule type Chapter 40C-22 Notice General Construction Dewatering Permit.	9/26/2007	9/26/2007	9/26/2010	Approval	Issued
22-001-113532-1	CUP Dewatering	Burton Commercial Development	Burton Commercial Development	Short term construction dewatering	9/28/2007	9/28/2007	9/28/2010	Approval	Issued
22-001-113552-1	CUP Dewatering	Apex Companies, LLC	Apex Companies LLC	Short term construction dewatering	10/1/2007	10/11/2007	10/11/2010	Approval	Issued
22-001-113669-1	CUP Dewatering	Giannetti Contracting Corp.	Giannetti Contracting Corp.	Short Term Dewatering	10/9/2007	10/11/2007	10/11/2010	Approval	Issued
22-001-113681-1	CUP Dewatering	Cary J Malever Construction	Cary J Malever Construction	This is a Noticed General Permit for Short-Term Construction Dewatering	10/9/2007	10/9/2007	10/9/2010	Approval	Issued
22-001-113775-1	CUP Dewatering	Sheltra & Son Construction Co Inc	Sheltra and Son	Short Term Construction Dewatering	10/15/2007	10/15/2007	10/15/2010	Approval	Issued
22-001-113859-1	CUP Dewatering	Phillip Williams	Professional Site Work Inc	Short Term Construction Dewatering	10/23/2007	10/23/2007	10/23/2010	Approval	Issued
22-001-113930-1	CUP Dewatering	Stormwater & Underground Inc	Stormwater & Underground Inc	Short Term Construction Dewatering	10/29/2007	10/29/2007	10/29/2010	Approval	Issued
22-001-113986-1	CUP Dewatering	Florida Power And Light Co	Florida Power & Light	Short term construction dewatering	11/1/2007	11/1/2007	11/1/2010	Approval	Issued
20-069-114037-2	CUP General	Celebration Golf Management LLC	Legends Golf Course	The applicant proposes to withdraw 0.45 million gallons per day of surface water from an irrigation pond to irrigate 181.1 acres of golf course turf in 2027. This application is for a secondary use permit related to CUP No. 64455.	11/7/2007	8/19/2009	8/12/2012	Approval	Issued
22-001-114165-1	CUP Dewatering	Alann Engineering Group Inc	Alann Engineering	Thjis is a Noticed General Permit for Short-Term Construction Dewatering	11/15/2007	11/15/2007	11/15/2010	Approval	Issued
22-001-114281-1	CUP Dewatering	JEM Equipment Corp	JEM Equipment Corp	Short Term Construction Dewatering	11/28/2007	11/28/2007	11/28/2010	Approval	Issued
22-001-114414-1	CUP Dewatering	Champion Contr Of Central Fla LLC	Champion Contracting of Central Florida LLC	This is a Noticed General Permit for Short-Term Construction Dewatering	12/10/2007	12/10/2007	12/10/2010	Approval	Issued
22-001-114417-1	CUP	Tony Withens	Tony Withens		12/10/2007	12/17/2007	12/17/2010	Approval	Issued

PERMIT NUMBER	PERMIT TYPE	APPLICANT NAME	PROJECT NAME	PROJECT DESCRIPTION	RECEIVED DATE	DECISION DATE	EXPIRATION DATE	RECOMMENDATION	STATUS
	Dewatering								
TCUP-069-114536-1026	Temporary CUP	Lake County Board of County Commissioners	South Umatilla Water System	The applicant proposes to withdraw 0.08 million gallons per day of ground water for household type use.	1/15/2010	No Date	No Date	Approval	Pending
20-069-114536-1	CUP General	Lake County Board of County Commissioners, Lake County Board of County Commissioners	South Umatilla Water System	The applicant proposes to withdraw 0.08 million gallons per day of ground water for household type use.	12/18/2007	No Date	No Date	Approval	Pending
22-001-114559-1	CUP Dewatering	Rex D Huffman	Gibbs & Register Inc	This is not required for this rule type Chapter 40C-22 Notice General Construction Dewatering Permit.	12/19/2007	12/19/2007	12/19/2010	Approval	Issued
22-001-114796-1	CUP Dewatering	Tom Sandice	Tom Sandice	short term construction dewatering	1/17/2008	1/17/2008	1/17/2011	Approval	Issued
22-001-114814-1	CUP Dewatering	Advanced Underground, Inc.	Advanced Underground, Inc.	Short Term Construction Dewatering	1/17/2008	1/17/2008	1/17/2011	Approval	Issued
22-001-114930-1	CUP Dewatering	H & J Contracting	H & J Contracting	Short Term Construction Dewatering	1/28/2008	1/28/2008	1/28/2011	Approval	Issued
22-001-114932-1	CUP Dewatering	Phillips And Jordon, Inc.	Phillips & Jordon Inc	Short term construction dewatering	1/28/2008	1/18/2008	1/18/2011	Approval	Issued
22-001-114971-1	CUP Dewatering	W G Johnson and Son Inc	WG Johnson and Son Inc	This is not required for this rule type Chapter 40C-22 Notice General Construction Dewatering Permit.	2/1/2008	2/1/2008	2/1/2011	Approval	Issued
22-001-115056-1	CUP Dewatering	Olney Earthworks, Inc.	Olney Earthworks, Inc.	Short-Term Construction Dewaterig	2/6/2008	2/6/2008	2/6/2011	Approval	Issued
22-001-115202-1	CUP Dewatering	Pinnacle Construction of the Treasure Coast, LLC	Pinnacle Construction of the Treasure Coast	Short Term Construction Dewatering	2/20/2008	2/20/2008	2/20/2011	Approval	Issued
22-001-115481-1	CUP Dewatering	Doug McGough	Doug McGough	Short Term Construction Dewatering	3/7/2008	3/14/2008	3/14/2011	Approval	Issued
22-001-115520-1	CUP Dewatering	Iron Horse Trucking, Inc.	Iron Horse Trucking	This is a Noticed General Permit for Short-term Construction Dewatering	3/12/2008	3/12/2008	3/12/2011	Approval	Issued
22-001-115624-1	CUP Dewatering	Sean Ely	The Murray Company	This is not required for this rule type Chapter 40C-22 Notice General Construction Dewatering Permit.	3/24/2008	3/24/2008	3/24/2011	Approval	Issued
22-001-115787-1	CUP Dewatering	The Lane Construction Corporation	Lane Construction	Short Term Construction Dewatering	3/31/2008	3/31/2008	3/31/2011	Approval	Issued
22-001-115809-1	CUP Dewatering	Sean Sullivan	Sean Sullivan	Short Term Construction Dewatering	3/28/2008	3/28/2008	3/28/2011	Approval	Issued
22-001-115810-1	CUP Dewatering	Reynolds Inc	Reynolds Inc	Short Term Construction Dewatering	4/2/2008	4/2/2008	4/2/2011	Approval	Issued
22-001-115863-1	CUP Dewatering	City of Palm Bay	City of Palm Bay	Short Term Construction Dewatering	4/10/2008	4/10/2008	4/10/2011	Approval	Issued

PERMIT NUMBER	PERMIT TYPE	APPLICANT NAME	PROJECT NAME	PROJECT DESCRIPTION	RECEIVED DATE	DECISION DATE	EXPIRATION DATE	RECOMMENDATION	STATUS
22-001-115921-2	CUP Dewatering	Wade Gibby	Wade Gibby	Short Term Construction Dewatering	10/27/2009	10/27/2009	10/27/2012	Approval	Issued
20-069-115943-1	CUP General	F D & C Land Company, LLC	Horvath Grove/ F D & C Land Company, LLC	The applicant proposes to withdraw 0.13 million gallons per day of ground water for citrus irrigation.	4/11/2008	6/25/2008	6/25/2028	Approval	Issued
22-001-115962-1	CUP Dewatering	Richard A Fender	Richard Fender	Short Term Construction Dewatering	4/18/2008	4/18/2008	4/18/2011	Approval	Issued
22-001-116092-1	CUP Dewatering	Warden Construction	JoBear/ Warden Construction	Short Term Dewatering	5/1/2008	5/1/2008	5/1/2011	Approval	Issued
22-001-116215-1	CUP Dewatering	Jeff Henry	Jeff Henry	Short Term Construction Dewatering Permit.	5/7/2008	5/7/2008	5/7/2011	Approval	Issued
22-001-116273-1	CUP Dewatering	William B Dawson	William Dawson	Short Term Construction Dewatering	5/14/2008	5/14/2008	5/14/2011	Approval	Issued
22-001-116371-1	CUP Dewatering	Gary Wilson	Gary Wilson	Short Term Construction Dewatering	5/19/2008	5/19/2008	5/19/2011	Approval	Issued
22-001-116433-1	CUP Dewatering	TMS Enterprises Of Central Florida, Inc.	TMS Enterprise of Central Florida Inc	Short Term Construction Dewatering	5/27/2008	5/27/2008	5/27/2011	Approval	Issued
22-001-116533-1	CUP Dewatering	HCR	Thomas Nicolaos	Short Term Construction Dewatering	6/4/2008	6/4/2008	6/4/2011	Approval	Issued
22-001-116760-1	CUP Dewatering	Atlantic Site Dev Service	Atlantic Site Development	Noticed General Short-Term Construction Dewatering	6/19/2008	6/19/2008	6/19/2011	Approval	Issued
22-001-116815-1	CUP Dewatering	Earl Leiffer	Earl Leiffer	Short Term Construction Dewatering	6/23/2008	6/23/2008	6/23/2011	Approval	Issued
22-001-117695-1	CUP Dewatering	Community Asphalt Corp.	Community Asphalt Corp	Short Term Dewatering	7/11/2008	7/11/2008	7/11/2011	Approval	Issued
22-001-117801-1	CUP Dewatering	United Brothers Development	United Brothers Development	Short Term Construction Dewatering	7/14/2008	7/14/2008	7/14/2011	Approval	Issued
22-001-117825-1	CUP Dewatering	Michael Stokes	Michael Stokes		7/18/2008	7/18/2008	7/18/2011	Approval	Issued
22-001-117949-1	CUP Dewatering	Petticoat - Schmitt Civil Contractors Inc	Petticoat - Schmitt Civil Contractors Inc	This is not required for this rule type Chapter 40C-22 Notice General Construction Dewatering Permit.	8/1/2008	8/1/2008	8/1/2011	Approval	Issued
22-001-117950-1	CUP Dewatering	Hunt Construction Group - Rey Group	Hunt Construction Group	This is a Noticed General Permit for Short-Term Construction Dewatering	7/31/2008	7/31/2008	7/31/2011	Approval	Issued
22-001-117997-1	CUP Dewatering	Stephen R Schwarz	Stephen Schwarz	This is not required for this rule type Chapter 40C-22 Notice General Construction Dewatering Permit.	8/6/2008	8/6/2008	8/6/2011	Approval	Issued
20-069-118066-1	CUP General	G & L Farms, Inc.	G & L Farms, Inc.	The applicant is requesting 0.104 million gallons per day of ground water for irrigation of 35 acres of blueberries, and 0.014 million gallons per day of surface water for freeze protection of 35 acres of blueberries	8/11/2008	3/18/2009	3/18/2029	Approval	Issued
22-001-118232-1	CUP	B-Con Site	Lamar Brooks	Noticed General Permit for Short-term Construction	8/20/2008	8/20/2008	8/20/2011	Approval	Issued

PERMIT NUMBER	PERMIT TYPE	APPLICANT NAME	PROJECT NAME	PROJECT DESCRIPTION	RECEIVED DATE	DECISION DATE	EXPIRATION DATE	RECOMMENDATION	STATUS
	Dewatering	Development, Inc.		Dewatering					
22-001-118236-1	CUP Dewatering	April Capps	April Capps	Short Term Construction Dewatering	8/27/2008	9/8/2008	9/8/2011	Approval	Issued
22-001-118252-1	CUP Dewatering	Case Contracting	Case Contracting	This is a Noticed General Permit for Short Term Construction Dewatering	8/26/2008	8/26/2008	8/26/2011	Approval	Issued
22-003-118327-1	CUP Dewatering	Timothy Foster	Envirotrac	Short Term Dewatering	9/2/2008	9/2/2008	9/2/2011	Approval	Issued
22-001-118555-1	CUP Dewatering	Mora Engineering Contractors, Inc	Mora Engineering Contractors, Inc		9/19/2008	9/19/2008	9/19/2011	Approval	Issued
22-001-118579-1	CUP Dewatering	Posen Construction Inc	Posen Construction Inc	Short term dewatering	9/23/2008	9/23/2008	9/23/2011	Approval	Issued
22-001-118822-1	CUP Dewatering	ThadCon, LLC	ThadCon, LLC	Short Term Dewatering	10/16/2008	11/11/2008	10/16/2011	Approval	Issued
22-001-118889-1	CUP Dewatering	Truman Williard	Truman Willard	This is a Noticed General Permit for Short-Term Construction Dewatering	10/21/2008	10/21/2008	10/21/2011	Approval	Issued
22-001-118923-1	CUP Dewatering	Steve Parr	Steve Parr	Short Term Construction Dewatering	10/24/2008	10/24/2008	10/24/2011	Approval	Issued
22-001-118924-1	CUP Dewatering	Croy Pumping Technologies	Croy Pumping Technologies	Short Term Construction Dewatering	10/24/2008	10/24/2008	10/24/2011	Approval	Issued
22-001-119162-1	CUP Dewatering	D & D Site Work, Inc.	D & D Site Work, Inc.	This is not required for this rule type Chapter 40C-22 Notice General Construction Dewatering Permit.	11/14/2008	11/14/2008	11/14/2011	Approval	Issued
22-001-119202-1	CUP Dewatering	Gregori Construction & Engineering	Gregori Construction and Engineering Inc.	Short Term Dewatering	11/20/2008	11/20/2008	11/20/2011	Approval	Issued
22-001-119256-1	CUP Dewatering	PV Dirt Work Contracting, Inc.	PV Dirt Work Contracting	This is not required for this rule type Chapter 40C-22 Notice General Construction Dewatering Permit.	11/25/2008	11/25/2008	11/25/2011	Approval	Issued
22-001-119307-1	CUP Dewatering	Expertech Network Installation	Expertech Network Installation	This is a Noticed General Permit for Short-Term Construction Dewatering	12/2/2008	12/4/2008	12/4/2011	Approval	Issued
20-069-119375-1	CUP General	Faryna Grove Care	Baker Rd	The applicant proposes to withdraw 0.02 million gallons per day of water to irrigate 8.97 acres of citrus.	12/10/2008	12/29/2008	12/29/2028	Approval	Issued
22-001-119480-1	CUP Dewatering	Southern Design Consultants, Inc	Southern Design Consultants	This is a Noticed General Permit for short-term construction dewatering	12/23/2008	12/23/2008	12/23/2011	Approval	Issued
22-001-119493-1	CUP Dewatering	Bobby Walker	Bobby Walker		12/24/2008	12/24/2008	12/24/2011	Approval	Issued
22-001-119497-1	CUP Dewatering	Dannie E Jordan	Dannie Jordan	Short term dewatering	12/23/2008	12/23/2008	12/23/2011	Approval	Issued
22-001-119523-1	CUP Dewatering	Pelican Pete Construction Co., Inc	Pelican Pete Construction Co, Inc	Short Term Construction Dewatering	12/30/2008	1/13/2009	12/30/2011	Approval	Issued
2-069-119566-2	CUP Individual	WW Leach Family LLC	WW Leach	The applicant proposes to withdraw 0.026 million gallons per day of ground water to irrigate 20 acres of Citrus.	7/20/2009	9/29/2009	2/20/2029	Approval	Issued
22-001-119620-1	CUP	Randy Tyo	Short Term	Short Term Dewatering	1/12/2009	1/12/2009	1/12/2012	Approval	Issued

PERMIT NUMBER	PERMIT TYPE	APPLICANT NAME	PROJECT NAME	PROJECT DESCRIPTION	RECEIVED DATE	DECISION DATE	EXPIRATION DATE	RECOMMENDATION	STATUS
	Dewatering		Construction Dewatering						
22-001-119678-1	CUP Dewatering	Shawn Riley	Coral Pools Inc	Short Term Dewatering	1/21/2009	1/21/2009	1/21/2012	Approval	Issued
22-001-119757-1	CUP Dewatering	Progressive Contractors Inc	Progressive Contractors	This is not required for this rule type Chapter 40C-22 Noticed General Constuction Dewatering Permit.	1/29/2009	1/29/2009	1/29/2012	Approval	Issued
22-003-119773-1	CUP Dewatering	David Stalowy	Central Florida Environmental Corporation	Noticed General Short Term Construction Dewatering Permit application.	1/30/2009	1/30/2009	1/30/2012	Approval	Issued
22-001-119801-1	CUP Dewatering	JEL Site Development, Inc.	JEL Site Development, Inc.	This is a Noticed General Permit for Short-Term Construction Dewatering	2/3/2009	2/3/2009	2/3/2012	Approval	Issued
22-001-119943-1	CUP Dewatering	Thad Harty	Harty Tractor Service Inc.	Short Term Dewatering	2/18/2009	2/18/2009	2/18/2012	Approval	Issued
20-069-119989-1	CUP General	Gwendolyn McLin	McLin	The applicant proposes to withdraw	2/18/2009	5/15/2009	5/15/2029	Approval	Issued
22-001-120111-1	CUP Dewatering	C & C Powerline, Inc.	C & C Powerline Inc	Short Term Construction Dewatering	3/6/2009	3/6/2009	3/6/2012	Approval	Issued
20-069-120156-2	CUP General	Merritt and Snook Farms	Merritt and Snook	The applicant proposes to withdraw 0.10 million gallons per day of surface water for the irrigation and freeze protection of 24 acres of blueberries.	6/9/2009	9/16/2009	4/17/2029	Approval	Issued
22-001-120244-1	CUP Dewatering	Integrated Environmental Solutions, Inc	Integrated Environmental Solutions, Inc.	Short Term Construction Dewatering	3/19/2009	3/19/2009	3/19/2012	Approval	Issued
22-001-120267-1	CUP Dewatering	B&T Trucking	B&T Trucking	Dewatering	3/18/2009	3/26/2009	3/18/2012	Approval	Issued
20-069-120325-1	CUP General	Stephen Erstad	Stephen Erstad	Transfer/Split	5/28/2002	3/27/2009	8/7/2022	Approval	Issued
20-069-120333-1	CUP General	Aqua Utilities Florida Inc	Ravenswood CUP	The applicant proposes to withdraw 0.017 million gallons per day of water for household type use.	3/26/2009	No Date	No Date	Pending	Pending
22-001-120334-1	CUP Dewatering	SMW GeoSciences, Inc.	SMW Geoscience	This is a Noticed General Permit for Short-Term construction dewatering	3/25/2009	3/25/2009	3/25/2012	Approval	Issued
22-001-120981-1	CUP Dewatering	David Nelson Construction Company	David Nelson Construction Co.	Short Term Dewatering	5/19/2009	5/19/2009	5/19/2012	Approval	Issued
22-001-121015-1	CUP Dewatering	Howard R Shaw	Howard R Shaw	Short Term Construction Dewatering	5/20/2009	5/20/2009	5/20/2012	Approval	Issued
22-001-121117-1	CUP Dewatering	JBDAD, LLC	JBDAD,LLC	Short term dewatering	6/3/2009	6/3/2009	6/3/2012	Approval	Issued
22-001-121368-1	CUP Dewatering	WPC Industrial Contractors LLC	WPC Industrial Contractors	Short Term Construction Dewatering	6/16/2009	6/16/2009	6/16/2012	Approval	Issued
22-001-121460-1	CUP Dewatering	Masci Corporation	Masci Corporation	Short Term Dewatering	6/24/2009	7/13/2009	6/24/2012	Approval	Issued
22-001-121612-1	CUP	W.W. Daniels	W.W. Daniels	Noticed General Permit for Short-Term Construction	7/2/2009	7/9/2009	7/9/2012	Approval	Issued

PERMIT NUMBER	PERMIT TYPE	APPLICANT NAME	PROJECT NAME	PROJECT DESCRIPTION	RECEIVED DATE	DECISION DATE	EXPIRATION DATE	RECOMMENDATION	STATUS
	Dewatering	Company	Company	Dewatering					
22-001-121687-1	CUP Dewatering	Joe Contois	Joe Contois	Short Term Construction Dewatering	7/13/2009	7/13/2009	7/13/2012	Approval	Issued
22-001-121705-1	CUP Dewatering	Mark Porter	Mark Porter	Short Term Dewatering	7/7/2009	7/7/2009	7/7/2012	Approval	Issued
22-001-121707-1	CUP Dewatering	Leslie K Mosley	Leslie K Mosley	Short Term Dewatering	7/7/2009	7/30/2009	7/30/2012	Approval	Issued
22-001-122094-1	CUP Dewatering	Lake Markham Preserve	Lake Markham Preserve HOA	This is a Noticed General Permit for Short-Term Construction Dewatering	8/17/2009	8/17/2009	8/17/2012	Approval	Issued
22-001-122135-1	CUP Dewatering	Turn Lane Inc	Turn Lane, Inc.	Noticed General Permit for Short-Term Construction Dewatering	8/21/2009	8/21/2009	8/21/2012	Approval	Issued
22-001-122231-1	CUP Dewatering	Arthur W Allen	Arthur Allen	Short Term Construction Dewatering	9/2/2009	9/2/2009	9/2/2012	Approval	Issued
22-001-122245-1	CUP Dewatering	Environmental Consulting & Technology Inc	Environmental Consulting & Technology, Inc.	Chapter 40C-22 Notice General Construction Dewatering Permit	9/4/2009	9/4/2009	9/4/2012	Approval	Issued
22-001-122272-1	CUP Dewatering	Conway Underground	Robert Gomer		9/9/2009	No Date	No Date	Pending	Pending
22-001-122392-1	CUP Dewatering	Conpilog International Company	Conpilog International Company	This is a Noticed General Permit for Short-Term Construction Dewatering	9/25/2009	9/25/2009	9/25/2012	Approval	Issued
22-001-122411-1	CUP Dewatering	Clay County Public Works	Clay County Public Works	This is not required for this rule type - Chapter 40C-22 (29) Noticed General Construction Dewatering Permit	9/29/2009	9/29/2009	9/29/2012	Approval	Issued
22-001-122583-1	CUP Dewatering	Built-Rite Construction of Central Florida Inc	Built - Rite Construction Of Central Florida Inc	This is a Noticed General Permit for Short-term Construction Dewatering	10/5/2009	10/5/2009	10/5/2012	Approval	Issued
22-001-122622-1	CUP Dewatering	Yancey's Inc	Yancey's, Inc.	This is a Noticed General Permit for Short-Term Constuction Dewatering	10/8/2009	10/8/2009	10/8/2012	Approval	Issued
22-001-122629-1	CUP Dewatering	Nation Mart Inc	Nation Mart Inc	This is a Noticed General Permit for Short-Term Construction Dewatering	10/8/2009	10/8/2009	10/8/2012	Approval	Issued
20-069-122736-1	CUP General	Joyce & Charles Caldwell	Orange Bend Harvesting	Ownership Transfer/split from 2678	6/3/2009	10/26/2009	11/16/2021	Approval	Issued
22-001-122936-1	CUP Dewatering	C W Roberts Contracting, Inc	C W Roberts Contracting	This is not required for this rule type Chapter 40C-22 Notice General Construction Dewatering Permit.	11/16/2009	11/16/2009	11/16/2012	Approval	Issued
22-001-122937-1	CUP Dewatering	Giovana Drausal	Jackson Land Development LLC	Short Term Construction Dewatering	11/17/2009	11/17/2009	11/17/2012	Approval	Issued
22-001-122953-1	CUP Dewatering	Russell Morgan	Russell Morgan		11/20/2009	12/4/2009	12/4/2012	Approval	Issued
22-001-123151-1	CUP Dewatering	WM Turnbaugh Construction Inc	Wm Turnbaugh Construction Inc.	Short Term Dewatering	12/10/2009	12/10/2009	12/10/2012	Approval	Issued
22-001-123168-1	CUP Dewatering	Royal American Construction	Royal American Construction Co		12/8/2009	1/15/2010	1/15/2013	Approval	Issued
22-001-123172-1	CUP	RaceTrac	RaceTrac	Short Term Construction Dewatering	12/14/2009	12/14/2009	12/14/2012	Approval	Issued

PERMIT NUMBER	PERMIT TYPE	APPLICANT NAME	PROJECT NAME	PROJECT DESCRIPTION	RECEIVED DATE	DECISION DATE	EXPIRATION DATE	RECOMMENDATION	STATUS
	Dewatering	Petroleum Inc	Petroleum						
22-001-123177-1	CUP Dewatering	City of Gainesville	City of Gainesville	Short Term Construction Dewatering	12/14/2009	12/14/2009	12/14/2012	Approval	Issued
22-001-123213-1	CUP Dewatering	Shaw Environmental Inc	Shaw Environmental Inc	Short Term Construction Dewatering	12/15/2009	12/15/2009	12/15/2012	Approval	Issued
22-001-123251-1	CUP Dewatering	Dave Foote Environmental Construction Inc.	Dave Foote Environmental	Short Term Construction Dewatering	12/22/2009	12/22/2009	12/22/2012	Approval	Issued
22-001-123254-1	CUP Dewatering	Terra-Com Environmental Consulting, Inc.	Terra-Com Environmental Consulting Inc	Short Term Construction Dewatering	12/23/2009	12/23/2009	12/23/2012	Approval	Issued
22-001-123316-1	CUP Dewatering	Billco Construction Inc	Billco Construction Inc	Short Term Construction Dewatering	1/4/2010	No Date	No Date	Pending	Pending
22-001-123321-1	CUP Dewatering	Harty Tractor Service Inc	Harty Tractor Service	This is a Noticed General Permit for Short-Term Construction Dewatering	12/31/2009	12/31/2009	12/31/2012	Approval	Issued
22-001-123387-1	CUP Dewatering	Kenneth E Olson	Kenneth Olson	NOTICING IS NOT REQUIRED FOR THIS RULE TYPE - CHAPTER 40C-22 (29) NOTICE GENERAL CONSTRUCTION DEWATERING PERMIT	1/12/2010	1/15/2010	1/15/2013	Approval	Issued

Source: St. John’s River Water Management District E-Permitting Website

Table 23 – Active Public Supply Wells

OFFICL PERMIT	STN ID	STN ALIAS	PERMIT PROJECT	GPS	STNHDR DET	STN TP	WELL CSNG I	WELL CUR D	WELL CLSNG 2	QA CODE	SECTION ID	TWNSHP ID	RANGE ID	SOURCE	MAX CAP QT	DEC LAT	DEC LONG	OFFCL PR 1
2392	38853	B-R (Replacement B)	Southlake Utilities	N	Digitize	well	265	650	24	0	35	24S	26E	Floridan Aquifer System - Upper	2400.00000000	28.36003190	-81.67821181	2392.000000
2392	24965	E Southlake Util	Southlake Utilities	N	Digitize	well	1700	1700	12	0	35	24S	26E	Floridan Aquifer	2400.00000000	28.36032032	-81.67774526	2392.000000
2392	8875	D Southlake Util	Southlake Utilities	Y	Digitize	well	293	448	12	0	35	24S	26E	Floridan Aquifer	1500.00000000	28.36038685	-81.67818961	2392.000000
2392	8872	A Southlake Util	Southlake Utilities	Y	Digitize	well	171	465	12	0	26	24S	26E	Floridan Aquifer	2500.00000000	28.36104555	-81.68070123	2392.000000
2531	18972	B	Thousand Trails	N	Digitize	well	0	376	10	0	26	24S	26E	Floridan Aquifer	450.00000000	28.37472692	-81.67613708	2531.000000
2700	10501	Lake Grove #1	Lake Utility Services Inc.	Y	Digitize	well	278	738	18	0	22	24S	26E	Upper Floridan Aquifer	2000.00000000	28.38158541	-81.69192485	2700.000000
2700	34784	Lake Groves #3	Lake Utility Services Inc.		Digitize	well	1050	1550	18	0	23	24S	26E	Floridan Aquifer	3000.00000000	28.38273155	-81.68808128	2700.000000
2700	10502	Lake Grove #2	Lake Utility Services Inc.	Y	Digitize	well	270	750	18	0	22	24S	26E	Upper Floridan Aquifer	2000.00000000	28.38348526	-81.69237525	2700.000000
10846	8860	2	Barrington Estates Wells	N	Digitize	well	300	500	8	0	15	23S	25E	Floridan Aquifer	1600.00000000	28.49166683	-81.79451788	10846.000000
10846	8859	1	Barrington Estates Wells	N	Digitize	well	300	500	8	0	10	23S	25E	Floridan Aquifer	1600.00000000	28.49250010	-81.79257341	10846.000000
2893	10527	A	Torchlite MHP	N	Digitize	well	250	250	6	0	9	23S	26E	Floridan Aquifer	360.00000000	28.49555610	-81.71812743	2893.000000
2847	18880	1	Vacation Village	N	Digitize	well	0	0	10	0	9	23S	26E	Floridan Aquifer	300.00000000	28.49666984	-81.72284600	2847.000000
2847	18881	2	Vacation Village	N	Digitize	well	808	970	8	0	9	23S	26E	Floridan Aquifer	350.00000000	28.49760023	-81.72302338	2847.000000
2700	9930	Lake Louisa/Vistas #1	Lake Utility Services Inc.	N	Digitize	well	103	346	10	0	8	23S	26E	Floridan Aquifer	1000.00000000	28.49955538	-81.72631491	2700.000000
2700	10154	Vistas #2	Lake Utility Services Inc.	N	Digitize	well	120	316	8	0	31	22S	26E	Floridan Aquifer	750.00000000	28.49963402	-81.72527251	2700.000000
2700	22643	Lake Louisa/Vistas # 3	Lake Utility Services Inc.	N	Other/Unknown	well	281	499	12	0	7	23S	26E	Floridan Aquifer	625.00000000	28.50166923	-81.72545844	2700.000000
2700	9931	Oranges #1	Lake Utility Services Inc.	N	Digitize	well	237	392	10	0	7	23S	26E	Floridan Aquifer	550.00000000	28.50578338	-81.74464271	2700.000000
2700	10132	Crescent West #1	Lake Utility Services Inc.	Y	Digitize	well	105	400	10	0	2	23S	25E	Floridan Aquifer	600.00000000	28.50804028	-81.78055244	2700.000000
2700	10133	Lake Crescent Hills/CR 561 #1	Lake Utility Services Inc.	Y	Digitize	well	0	500	10	0	2	23S	25E	Floridan Aquifer	600.00000000	28.50851075	-81.78053372	2700.000000
2700	10134	Crescent Bay #1	Lake Utility Services Inc.	Y	Digitize	well	64	210	10	0	1	23S	25E	Floridan Aquifer	550.00000000	28.51117797	-81.76990323	2700.000000
2700	10131	Highland Point/CR 561 #1	Lake Utility Services Inc.	Y	Digitize	well	71	520	10	0	2	23S	25E	Floridan Aquifer	600.00000000	28.51807158	-81.77949765	2700.000000
2478	10366	4-Hancock Rd.	City of Clermont	Y	Digitize	well	0	1200	16	0	3	23S	26E	Floridan Aquifer	1800.00000000	28.52028530	-81.70534107	2478.000000
2478	33695	8-Sunburst Ln	City of Clermont	N	Other/Unknown	well	338	880	30	0	3	23S	26E	Floridan	105.00000000	28.52158343	-81.70416528	2478.000000

OFFICL PERMIT	STN ID	STN ALIAS	PERMIT PROJECT	GPS	STNHDR DET	STN TP	WELL CSNG I	WELL CUR D	WELL CLSNG 2	QA CODE	SECTION ID	TWNSHP ID	RANGE ID	SOURCE	MAX CAP QT	DEC LAT	DEC LONG	OFFCL PR 1
														Aquifer				
2700	9454	LAKE RIDGE CLUB/CR 561 #1	Lake Utility Services Inc.	Y	Digitize	well	140	540	10	0	6	23S	26E	Floridan Aquifer	650.00000000	28.52152235	-81.74380755	2700.000000
2700	9451	Amber Hill	Lake Utility Services Inc.	Y	Digitize	well	160	600	10	0	31	22S	26E	Floridan Aquifer	750.00000000	28.52180552	-81.74363201	2700.000000
2700	9452	Clermont I No. 2	Lake Utility Services Inc.	Y	Digitize	well	159	387	4	0	32	22S	26E	Floridan Aquifer	54.00000000	28.52834277	-81.73606481	2700.000000
2700	9453	Clermont 1 No. 1	Lake Utility Services Inc.	Y	Digitize	well	125	445	8	0	32	22S	26E	Floridan Aquifer	236.00000000	28.52959402	-81.73607652	2700.000000
2700	18914	Clermont II No. 2	Lake Utility Services Inc.	Y	Digitize	well	206	243	4	0	31	22S	26E	Floridan Aquifer	45.00000000	28.53558109	-81.74030375	2700.000000
2700	18915	Clermont II No. 1	Lake Utility Services Inc.	Y	Digitize	well	212	332	6	0	31	22S	26E	Floridan Aquifer	75.00000000	28.53558266	-81.74157775	2700.000000
2989	10713	A	Citrus Cove Homeowners Association Water System		Digitize	well	0	475	6	0	25	22S	26E	Floridan Aquifer	125.00000000	28.54194377	-81.66146006	2989.000000
4487	18828	1	EDGEWATER BEACH		Digitize	well	0	0	6	0	25	22S	26E	Floridan Aquifer	0.00000000	28.54280447	-81.66021873	4487.000000
2565	9473	1	Orange Lake Mobile Home Park	Y	Digitize	well	300	447	6	0	27	22S	26E	Floridan Aquifer	650.00000000	28.54442558	-81.69088780	2565.000000
2478	9168	2-Fourth St.	City of Clermont	Y	Digitize	well	605	840	12	0	25	22S	25E	Floridan Aquifer	1500.00000000	28.54751112	-81.76222115	2478.000000
2478	33694	7-Elevated Tank Site	City of Clermont	N	Other/Unknown	well	350	900	24	0	3	23S	26E	Floridan Aquifer	2000.00000000	28.54779220	-81.71565455	2478.000000
2478	9167	1-Seminole Ave.	City of Clermont	Y	Digitize	well	600	918	12	0	26	22S	25E	Floridan Aquifer	1500.00000000	28.54810987	-81.77584399	2478.000000
2478	10365	5-Greater Hills South	City of Clermont	Y	Digitize	well	0	750	18	0	22	22S	26E	Floridan Aquifer	1400.00000000	28.55198563	-81.69790576	2478.000000
2913	10236	Pomello WTP Well 1	City of Groveland - North Potable Supply Service Area	Y	Digitize	well	160	825	10	0	24	22S	24E	Floridan Aquifer	550.00000000	28.55179474	-81.86081968	2913.000000
2478	10364	6-Greater Hills North	City of Clermont	Y	Digitize	well	0	885	16	0	22	22S	26E	Floridan Aquifer	1500.00000000	28.55680929	-81.69855750	2478.000000
103822	39527	Well 1	Colina Bay	N	Other/Unknown	well	223	440	18	0	23	22S	26E	Floridan Aquifer	200.00000000	28.56039964	-81.67785483	103822.000000
2913	39038	Well # 7	City of Groveland - North Potable Supply Service Area	N	Other/Unknown	well	180	800	10	0	21	22S	25E	Floridan Aquifer	1000.00000000	28.56161382	-81.82104615	2913.000000
2478	9169	3-Grand Hwy.	City of Clermont	Y	Digitize	well	517	840	10	0	19	22S	26E	Floridan Aquifer	1500.00000000	28.56300213	-81.74605311	2478.000000
2886	10515	8	City of Minneola - Public Supply	N	Digitize	well	344	702	16	0	17	22S	26E	Floridan Aquifer	2000.00000000	28.56504936	-81.72379807	2886.000000
2886	10514	7	City of Minneola - Public Supply	N	Digitize	well	344	702	16	0	17	22S	26E	Floridan Aquifer	2000.00000000	28.56527589	-81.72368359	2886.000000
2913	10239	Sampy WTP Well 5	City of Groveland - North Potable Supply Service Area	Y	Digitize	well	90	600	10	0	18	22S	25E	Floridan Aquifer	500.00000000	28.56746073	-81.84311956	2913.000000
2913	10237	Sampy WTP Well	City of Groveland	Y	Digitize	well	157	600	10	0	18	22S	25E	Floridan	500.00000000	28.56825340	-81.84374240	2913.000000

OFFICL PERMIT	STN ID	STN ALIAS	PERMIT PROJECT	GPS	STNHDR DET	STN TP	WELL CSNG I	WELL CUR D	WELL CLSNG 2	QA CODE	SECTION ID	TWNSHP ID	RANGE ID	SOURCE	MAX CAP QT	DEC LAT	DEC LONG	OFFCL PR 1
		3	- North Potable Supply Service Area											Aquifer				
50115	34772	Well 2R	Pine Island PUD	N	Other/Unknown	well	240	430	12	0	13	22S	26E	Floridan Aquifer	1500.00000000	28.57055385	-81.67146036	50115.000000
2453	19797	Well 1 (A Midway)	City of Mascotte	Y	Other/Unknown	well	180	290	8	0	14	22S	24E	Floridan Aquifer	300.00000000	28.57577087	-81.88482495	2453.000000
2453	105692	Well 2B (2B Knight St)	City of Mascotte	N	Other/Unknown	well	320	700	16	0	15	22S	24E	Floridan Aquifer	700.00000000	28.57613359	-81.89246657	2453.000000
2453	19798	Well 2 (B Knight St)	City of Mascotte	Y	Other/Unknown	well	164	450	10	0	15	22S	24E	Floridan Aquifer	700.00000000	28.57641548	-81.89250390	2453.000000
2900	38542	8	Hillcrest PUD	N	Other/Unknown	well	490	490	18	0	10	22S	26E	Floridan Aquifer	0.00000000	28.58594199	-81.69634890	2900.000000
2900	10549	4 WTP	Hillcrest PUD	N	Digitize	well	490	850	24	0	10	22S	26E	Floridan Aquifer	1000.00000000	28.58598918	-81.69769805	2900.000000
2900	35903	5	Hillcrest PUD	N	Digitize	well	490	850	24	0	10	22S	26E	Floridan Aquifer	2200.00000000	28.58599186	-81.69717693	2900.000000
2900	10546	2	Hillcrest PUD	N	Digitize	well	139	160	18	0	10	22S	26E	Floridan Aquifer	1200.00000000	28.58616624	-81.69215597	2900.000000
50115	35470	Well 17	Pine Island PUD	N	Digitize	well	151	171	6	0	12	22S	26E	Floridan Aquifer	200.00000000	28.58666821	-81.66567798	50115.000000
50115	35471	Well 18	Pine Island PUD	N	Digitize	well	120	300	4	0	12	22S	26E	Floridan Aquifer	40.00000000	28.58741831	-81.66102907	50115.000000
50115	34771	Well 1R	Pine Island PUD	N	Other/Unknown	well	252	450	12	0	12	22S	26E	Floridan Aquifer	1500.00000000	28.58813063	-81.66633921	50115.000000
2671	19923	3	Town of Montverde	Y	Digitize	well	377	607	12	0	11	22S	26E	Floridan Aquifer	1400.00000000	28.59297606	-81.68053883	2671.000000
2890	10522	B	Montverde Mobile Home Subdivision	Y	Digitize	well	0	205	6	0	1	22S	26E	Floridan Aquifer	400.00000000	28.59361984	-81.66745265	2890.000000
2890	10521	A	Montverde Mobile Home Subdivision	Y	Digitize	well	0	205	6	0	1	22S	26E	Floridan Aquifer	400.00000000	28.59362005	-81.66742944	2890.000000
2671	19922	2	Town of Montverde	Y	Digitize	well	191	465	10	0	1	22S	26E	Floridan Aquifer	600.00000000	28.60066521	-81.67164186	2671.000000
2886	23386	9	City of Minneola - Public Supply	N	Digitize	well	280	702	12	0	1	22S	25E	Floridan Aquifer	1600.00000000	28.60350261	-81.76020765	2886.000000
2886	23387	10	City of Minneola - Public Supply	N	Digitize	well	280	702	12	0	1	22S	25E	Floridan Aquifer	2000.00000000	28.60352594	-81.75877345	2886.000000
50218	687	Well 1	Highlands MHP	Y	Digitize	well	140	200	6	0	6	22S	26E	Floridan Aquifer	0.00000000	28.60407475	-81.75457711	50218.000000
6398	9863	2	Clerbrook Resort	Y	Digitize	well	0	150	4	0	27	21S	25E	Floridan Aquifer	200.00000000	28.63339581	-81.79062284	6398.000000
6398	1990	SW-1 storm water pond	Clerbrook Resort	N	Digitize	pump	0	0	0	0	27	21S	25E	Storm Water Pond	60.00000000	28.63416187	-81.78951908	6398.000000
6398	9861	1	Clerbrook Resort	Y	Digitize	well	0	295	8	0	26	21S	25E	Floridan Aquifer	400.00000000	28.63702923	-81.78925786	6398.000000
2913	18908	D	City of Groveland - North Potable Supply Service Area	N	Digitize	well	119	400	8	0		0	0	Floridan Aquifer	800.00000000	28.63957996	-81.80028882	2913.000000
50307	1016	Well 1	Bee's RV Resort	N	Other/Unknown	well	170	212	6	0	22	21S	25E	Floridan Aquifer	200.00000000	28.64082822	-81.79368583	50307.000000
2913	9414	1	City of Groveland	Y	Digitize	well	126	337	10	0		0	0	Floridan	1000.00000000	28.64356596	-81.80330594	2913.000000

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			- North Potable Supply Service Area											Aquifer				
2913	9415	2	City of Groveland - North Potable Supply Service Area	Y	Digitize	well	126	337	10	0		0	0	Floridan Aquifer	1000.00000000	28.64383174	-81.80325159	2913.000000
2913	10569	A	City of Groveland - North Potable Supply Service Area	N	Digitize	well	263	500	12	0	12	22S	25E	Floridan Aquifer	800.00000000	28.64424644	-81.80127245	2913.000000
2840	32899	2	Woodland Heritage M.H.P.	N	Digitize	well	156	378	8	0	20	21S	25E	Floridan Aquifer	500.00000000	28.64814874	-81.83705329	2840.000000
2886	35255	13 East WTP	City of Minneola - Public Supply	N	Other/Unknown	well	901	1300	36	0	20	21S	26E	Floridan Aquifer	2000.00000000	28.64945134	-81.73391777	2886.000000
2840	10378	1	Woodland Heritage M.H.P.		Digitize	well	133	310	6	0	20	21S	25E	Floridan Aquifer	500.00000000	28.64916092	-81.83507601	2840.000000
94	22440	B-RH2	City of Leesburg Public Supply	Y	Digitize	well	150	400	12	0	13	21S	24E	Floridan Aquifer	700.00000000	28.66180258	-81.86652908	94.000000
94	22437	A-RH1	City of Leesburg Public Supply	Y	Digitize	well	150	265	12	0	13	21S	24E	Floridan Aquifer	700.00000000	28.66445783	-81.86658142	94.000000
94	35294	RH3	City of Leesburg Public Supply	N	Other/Unknown	well	700	1200	18	0	13	21S	24E	Lower Floridan Aquifer	3000.00000000	28.66512596	-81.86657299	94.000000
2612	9599	A	Palms Mobile Home Park		Digitize	well	150	340	8	0	36	20S	24E	Floridan Aquifer	500.00000000	28.70749203	-81.85979958	2612.000000
2621	9638	B	Meadows of Astatula	N	Digitize	well	542	542	16	0	28	20S	26E	Floridan Aquifer	50.00000000	28.71166752	-81.72080287	2621.000000
2621	9637	A	Meadows of Astatula	N	Digitize	well	0	325	6	0	28	20S	26E	Floridan Aquifer	200.00000000	28.71332627	-81.72118453	2621.000000
2596	9557	2	Town Of Howey-In-The-Hills	Y	Digitize	well	191	334	12	0	26	20S	25E	Floridan Aquifer	1000.00000000	28.71304813	-81.77610693	2596.000000
2718	39545	Well W1	City of Leesburg, Plantation		Other/Unknown	well	0	275	10	0				Floridan Aquifer	0.00000000	28.71267243	-81.87678472	2718.000000
2718	39549	Well W5	City of Leesburg, Plantation	N	Other/Unknown	well	0	405	12	0	26	20S	24E	Floridan Aquifer	0.00000000	28.71285015	-81.87669257	2718.000000
2718	39546	Well W2	City of Leesburg, Plantation	N	Other/Unknown	well	0	380	12	0				Floridan Aquifer	0.00000000	28.71285012	-81.87686301	2718.000000
2662	9816	IR1	Las Colinas	N	Digitize	well	120	300	10	0	26	20S	25E	Floridan Aquifer	750.00000000	28.72193665	-81.77618608	2662.000000
2662	23908	LC-2	Las Colinas	N	Other/Unknown	well	80	350	10	0	27	20S	25E	Floridan Aquifer	750.00000000	28.72267347	-81.79264318	2662.000000
2662	23907	LC-1	Las Colinas	N	Other/Unknown	well	80	300	10	0	27	20S	25E	Floridan Aquifer	750.00000000	28.72393814	-81.79246698	2662.000000
2662	9815	PS1	Las Colinas		Digitize	well	120	300	6	0	26	20S	25E	Floridan Aquifer	300.00000000	28.72415881	-81.77785277	2662.000000
2607	9592	A	East Lake Harris		Digitize	well	200	350	6	0	20	20S	26E	Floridan Aquifer	180.00000000	28.72527018	-81.73507390	2607.000000
2596	9558	3	Town Of Howey-In-The-Hills	Y	Digitize	well	162	350	12	0	23	20S	25E	Floridan Aquifer	1000.00000000	28.72537988	-81.77803312	2596.000000
2662	9817	IR2	Las Colinas	N	Digitize	well	120	300	8	0	23	20S	25E	Floridan Aquifer	1000.00000000	28.72554755	-81.78424195	2662.000000
2662	1985	SW1	Las Colinas	N	Other/Unknown	pump	0	0	0	0	26	20S	25E	Lake #4	2500.00000000	28.72704766	-81.79585910	2662.000000

OFFICL PERMIT	STN ID	STN ALIAS	PERMIT PROJECT	GPS	STNHDR DET	STN TP	WELL CSNG I	WELL CUR D	WELL CLSNG 2	QA CODE	SECTION ID	TWNSHP ID	RANGE ID	SOURCE	MAX CAP QT	DEC LAT	DEC LONG	OFFCL PR 1
2775	10152	1	Ridgecrest Village		Digitize	well	0	280	6	0	24	20S	24E	Floridan Aquifer	200.00000000	28.72773010	-81.86494192	2775.000000
2775	10153	2 ganged with 1	Ridgecrest Village	N	Digitize	well	148	260	10	0	24	20S	24E	Floridan Aquifer	650.00000000	28.72784232	-81.86495245	2775.000000
2662	9818	IR3	Las Colinas	N	Digitize	well	120	300	10	0	23	20S	25E	Floridan Aquifer	1200.00000000	28.72969816	-81.79323462	2662.000000
94	10354	B-Highland Lakes 2	City of Leesburg Public Supply	N	Other/Unknown	well	200	600	12	0	24	20S	24E	Floridan Aquifer	1500.00000000	28.73082448	-81.86229988	94.000000
2843	10383	A	Crescendo Management Inc	N	Digitize	well	0	320	6	0	22	20S	25E	Floridan Aquifer	550.00000000	28.73610274	-81.79090889	2843.000000
94	10353	A-Highland Lakes 1	City of Leesburg Public Supply	Y	Digitize	well	355	650	12	0	24	20S	24E	Floridan Aquifer	1500.00000000	28.73600942	-81.86700152	94.000000
94	34530	C-Highland Lakes 3	City of Leesburg Public Supply	N	Other/Unknown	well	550	900	12	0	24	20S	24E	Floridan Aquifer	1500.00000000	28.73755531	-81.86831555	94.000000
2843	2045	B	Crescendo Management Inc	N	Digitize	pump	0	0	0	0	22	20S	25E	Lake Harris	1400.00000000	28.73804709	-81.79007550	2843.000000
94	22488	A-Legacy	City of Leesburg Public Supply	N	Other/Unknown	well	250	450	10	0				Floridan Aquifer	1500.00000000	28.73764532	-81.86983799	94.000000
2778	10168	1	Waterwood	N	Digitize	well	81	180	10	0	17	20S	25E	Floridan Aquifer	700.00000000	28.74082446	-81.82257650	2778.000000
2459	9109	Well 1	Astatula Sand Plant	N	Digitize	well	0	0	8	0	17	20S	26E	Floridan Aquifer	800.00000000	28.74193630	-81.72868494	2459.000000
2459	19895	1 Pond Pump	Astatula Sand Plant	N	Digitize	pump	0	0	0	0	8	20S	26E	Dredge Lake	2000.00000000	28.74404452	-81.72817920	2459.000000
2459	19896	2 Transfer Pump	Astatula Sand Plant	N	Digitize	pump	0	0	0	0	9	20S	26E	Dredge Lake	10000.00000000	28.74815063	-81.72847579	2459.000000
2472	9154	well 2 ganged w/1	Springs Park Area, Inc.	Y	Digitize	well	0	0	8	0	17	20S	25E	Floridan Aquifer	475.00000000	28.74876854	-81.82821904	2472.000000
2472	9153	well 1	Springs Park Area, Inc.	Y	Digitize	well	138	160	8	0	17	20S	25E	Floridan Aquifer	475.00000000	28.74880040	-81.82836677	2472.000000
2860	19023	F	Hawthorne at Leesburg	Y	Digitize	well	0	0	4	0	13	20S	24E	Floridan Aquifer	120.00000000	28.75162268	-81.86496336	2860.000000
2606	9591	1	Stone Mountain	N	Digitize	well	106	270	8	0	18	20S	25E	Floridan Aquifer	500.00000000	28.75333540	-81.84102426	2606.000000
2860	19019	B	Hawthorne at Leesburg	Y	Digitize	well	0	805	8	0	12	20S	24E	Floridan Aquifer	310.00000000	28.75576808	-81.87136057	2860.000000
2860	19024	G	Hawthorne at Leesburg	Y	Digitize	well	0	0	4	0	11	20S	24E	Floridan Aquifer	180.00000000	28.75582733	-81.87322773	2860.000000
107839	105552	3	Holiday Travel Resort	N	Other/Unknown	well	181	500	10	0	11	20S	24E	Floridan Aquifer	0.00000000	28.75613626	-81.88930834	107839.000000
2860	19018	A	Hawthorne at Leesburg	Y	Digitize	well	0	820	8	0	12	20S	24E	Floridan Aquifer	310.00000000	28.75630067	-81.87133591	2860.000000
2483	18895	Well 2	Country Life Park	N	Digitize	well	97	123	6	0	11	20S	24E	Floridan Aquifer	325.00000000	28.75642102	-81.87937585	2483.000000
107839	104504	1	Holiday Travel Resort	N	Other/Unknown	well	298	350	8	0	11	20S	24E	Floridan Aquifer	520.00000000	28.75658506	-81.88901995	107839.000000
2608	9594	B	Venetian Village	N	Digitize	well	0	280	6	0	11	20S	26E	Floridan Aquifer	500.00000000	28.75776942	-81.68590627	2608.000000
2608	9593	A	Venetian Village	N	Digitize	well	0	230	8	0	11	20S	26E	Floridan Aquifer	180.00000000	28.75804715	-81.68590624	2608.000000
2483	354	Well 1	Country Life Park		Digitize	well	123	138	10	0	11	20S	24E	Floridan Aquifer	300.00000000	28.75721225	-81.88452306	2483.000000

OFFICL PERMIT	STN ID	STN ALIAS	PERMIT PROJECT	GPS	STNHDR DET	STN TP	WELL CSNG I	WELL CUR D	WELL CLSNG 2	QA CODE	SECTION ID	TWNSHP ID	RANGE ID	SOURCE	MAX CAP QT	DEC LAT	DEC LONG	OFFCL PR 1
2860	19020	C	Hawthorne at Leesburg	Y	Digitize	well	0	800	12	0	11	20S	24E	Floridan Aquifer	1010.00000000	28.75732479	-81.87499985	2860.000000
2860	3226	H	Hawthorne at Leesburg	N	Digitize	pump	0	0	0	0	11	20S	24E	Palatlakaha River	200.00000000	28.75776792	-81.87285599	2860.000000
2860	19021	D	Hawthorne at Leesburg	Y	Digitize	well	0	0	4	0	11	20S	24E	Floridan Aquifer	65.00000000	28.75826227	-81.87766120	2860.000000
2860	19022	E	Hawthorne at Leesburg	Y	Digitize	well	0	0	4	0	12	20S	24E	Floridan Aquifer	160.00000000	28.76085188	-81.86814066	2860.000000
4512	18875	A	Cypress Creek	N	Digitize	well	0	140	6	0	11	20S	24E	Floridan Aquifer	200.00000000	28.76804520	-81.88396752	4512.000000
120333	243347	Ravens Wood	Ravenswood CUP	N	Other/Unknown	well	84	104	6	0				Floridan Aquifer	65.00000000	28.77209962	-81.88623426	120333.000000
2741	35917	C	Squirrel Point	N	Digitize	well	258	358	4	0	3	20S	26E	Floridan Aquifer	0.00000000	28.77872674	-81.69607640	2741.000000
2610	9597	A	Morningview	N	Digitize	well	0	285	8	0	2	20S	24E	Floridan Aquifer	425.00000000	28.77776706	-81.88535656	2610.000000
2741	10058	B	Squirrel Point	N	Digitize	well	264	405	6	0	3	20S	26E	Floridan Aquifer	275.00000000	28.77943511	-81.69590660	2741.000000
2765	10114	WELL 7/SLIM HAYWOOD #4	City of Tavares Public Water Supply	Y	Digitize	well	320	850	16	0	6	20S	26E	Floridan Aquifer	2000.00000000	28.78318604	-81.75461900	2765.000000
4555	18950	1	Tavares Ridge		Digitize	well	0	320	8	0	31	19S	26E	Floridan Aquifer	600.00000000	28.78613332	-81.75257695	4555.000000
4555	18951	2	Tavares Ridge	N	Digitize	well	0	278	6	0	31	19S	26E	Floridan Aquifer	80.00000000	28.78613539	-81.75304815	4555.000000
2416	8968	1	Oak Springs MHP	Y	Digitize	well	84	458	8	0	32	19S	28E	Floridan Aquifer	375.00000000	28.79015928	-81.53182394	2416.000000
2416	8969	2	Oak Springs MHP	Y	Digitize	well	76	410	8	0	32	19S	28E	Floridan Aquifer	500.00000000	28.79022249	-81.53183942	2416.000000
2765	10109	WELL 1/WOODLEA SPORT	City of Tavares Public Water Supply	Y	Digitize	well	0	0	10	0	31	19S	26E	Floridan Aquifer	478.00000000	28.78944043	-81.75742881	2765.000000
62724	22819	2	Fairways at Mt. Plymouth	N	Digitize	well	100	250	8	0	32	19S	28E	Floridan Aquifer	750.00000000	28.79229147	-81.53775665	62724.000000
62724	22818	1	Fairways at Mt. Plymouth	N	Digitize	well	100	250	6	0	32	19S	28E	Floridan Aquifer	150.00000000	28.79250017	-81.53749436	62724.000000
62724	38874	WWTP - well 3	Fairways at Mt. Plymouth	N	Other/Unknown	well	100	250	4	0	32	19S	28E	Floridan Aquifer	0.00000000	28.79251584	-81.53471433	62724.000000
50780	20185	1	Cove Water System	N	Other/Unknown	well	196	196	6	0	36	19S	25E	Floridan Aquifer	120.00000000	28.79790497	-81.76569567	50780.000000
2765	10113	WELL 6/DEAD RIVER #3	City of Tavares Public Water Supply	Y	Digitize	well	198	447	12	0	31	19S	26E	Floridan Aquifer	1200.00000000	28.80012185	-81.75096538	2765.000000
2765	10111	WELL 4/DISSTON #1	City of Tavares Public Water Supply	Y	Digitize	well	226	417	12	0	28	19S	26E	Floridan Aquifer	1100.00000000	28.80274732	-81.72424544	2765.000000
2765	10110	WELL 3/DISSTON #1	City of Tavares Public Water Supply	Y	Digitize	well	98	223	12	0	28	19S	26E	Floridan Aquifer	2221.00000000	28.80276268	-81.72461249	2765.000000
2765	10112	WELL 5/INGRAHAM #2	City of Tavares Public Water Supply	Y	Digitize	well	254	489	12	0	29	19S	26E	Floridan Aquifer	950.00000000	28.80533093	-81.73532215	2765.000000
94	22443	G-Main	City of Leesburg	Y	Digitize	well	851	938	8	0	25	19S	24E	Floridan	1350.00000000	28.80642112	-81.86831955	94.000000

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			Public Supply											Aquifer				
94	22444	F-Main	City of Leesburg Public Supply	Y	Digitize	well	83	321	16	0	26	19S	24E	Floridan Aquifer	1350.00000000	28.80649035	-81.87541903	94.000000
94	22449	E-Main	City of Leesburg Public Supply	Y	Digitize	well	90	94	16	0	26	19S	24E	Floridan Aquifer	1600.00000000	28.80654212	-81.87756401	94.000000
94	22445	D-Main	City of Leesburg Public Supply	Y	Digitize	well	98	272	12	0	26	19S	24E	Floridan Aquifer	900.00000000	28.80728323	-81.87444755	94.000000
94	22442	H-Main	City of Leesburg Public Supply	Y	Digitize	well	230	840	24	0	25	19S	24E	Floridan Aquifer	2100.00000000	28.80771206	-81.85886759	94.000000
94	22446	A-Main	City of Leesburg Public Supply	Y	Digitize	well	57	390	12	0	26	19S	24E	Floridan Aquifer	900.00000000	28.80806735	-81.87307100	94.000000
50094	327	Well 2	Lake Saunders	N	Other/Unknown	well	105	324	6	0	27	19S	26E	Floridan Aquifer	300.00000000	28.80943392	-81.69979569	50094.000000
50094	326	Well 1	Lake Saunders		Other/Unknown	well	105	324	6	0	27	19S	26E	Floridan Aquifer	300.00000000	28.80971174	-81.69979571	50094.000000
2522	18870	2	Evergreen Ferneries	Y	Digitize	well	0	0	4	0	30	19S	25E	Floridan Aquifer	0.00000000	28.80918442	-81.84634078	2522.000000
2522	18869	1	Evergreen Ferneries	Y	Digitize	well	0	0	6	0	30	19S	25E	Floridan Aquifer	0.00000000	28.80930905	-81.84599976	2522.000000
94	22448	B-Main	City of Leesburg Public Supply	Y	Digitize	well	94	352	12	0	26	19S	24E	Floridan Aquifer	935.00000000	28.80923008	-81.87707344	94.000000
4493	20505	2	Imperial Mobile Terrace	N	Digitize	well	160	260	8	0	25	19S	25E	Floridan Aquifer	400.00000000	28.81110209	-81.76161799	4493.000000
4493	18841	1	Imperial Mobile Terrace	N	Digitize	well	175	365	8	0	35	24S	26E	Floridan Aquifer	400.00000000	28.81144361	-81.75954680	4493.000000
94	22438	I-Main	City of Leesburg Public Supply	Y	Digitize	well	322	738	24	0	25	19S	24E	Floridan Aquifer	2100.00000000	28.81190366	-81.85614162	94.000000
2611	9598	A	Fern Terrace	N	Digitize	well	60	100	8	0	41	4S	26E	Floridan Aquifer	180.00000000	28.81393781	-81.84640666	2611.000000
110807	105243	1	Wolf Branch Meadows	N	Other/Unknown	well	265	550	14	0	19	19S	28E	Floridan Aquifer	600.00000000	28.81611290	-81.55273455	110807.000000
50147	450	Well 1-2	City of Mount Dora	Y	Digitize	well	160	430	12	0	20	19S	27E	Floridan Aquifer	1200.00000000	28.81653240	-81.64226510	50147.000000
50147	449	Well 1-1	City of Mount Dora	Y	Digitize	well	230	412	10	0	20	19S	27E	Floridan Aquifer	500.00000000	28.81655668	-81.64251121	50147.000000
50147	451	Well 1-3	City of Mount Dora	Y	Digitize	well	130	752	20	0	20	19S	27E	Floridan Aquifer	2650.00000000	28.81714454	-81.64222765	50147.000000
50147	452	Well 1-4	City of Mount Dora	Y	Digitize	well	130	752	20	0	20	19S	27E	Floridan Aquifer	2650.00000000	28.81759046	-81.64227630	50147.000000
50334	19920	well 3	Park At Wolf Branch Oaks	N	Digitize	well	145	240	4	0	24	19S	27E	Floridan Aquifer	80.00000000	28.81811154	-81.57121951	50334.000000
50334	19772	Well 1	Park At Wolf Branch Oaks	N	Other/Unknown	well	90	260	6	0	24	19S	27E	Floridan Aquifer	500.00000000	28.82134735	-81.57021810	50334.000000
50334	19773	Well 2	Park At Wolf Branch Oaks		Other/Unknown	well	90	280	6	0	24	19S	27E	Floridan Aquifer	500.00000000	28.82135152	-81.56922908	50334.000000
2622	9640	B	Brittany Estates		Digitize	well	0	0	6	0	19	19S	25E	Floridan Aquifer	0.00000000	28.81998802	-81.84146661	2622.000000
2622	9639	A	Brittany Estates		Digitize	well	0	0	8	0	19	19S	25E	Floridan Aquifer	500.00000000	28.81998796	-81.84229993	2622.000000
2717	9986	1	Pennbrooke Utilities Inc	Y	Digitize	well	240	550	12	0	19	19S	24E	Floridan Aquifer	600.00000000	28.82362629	-81.95314164	2717.000000
2717	9987	2	Pennbrooke	Y	Digitize	well	200	594	12	0	19	19S	24E	Floridan	600.00000000	28.82362627	-81.95345177	2717.000000

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			Utilities Inc											Aquifer				
2717	22435	Pump #3	Pennbrooke Utilities Inc	N	Other/Unknown	pump	0	0	0	0	19	19S	24E	Retention Pond 28	800.00000000	28.82449923	-81.94238729	2717.000000
2717	22434	Pump #2	Pennbrooke Utilities Inc	N	Other/Unknown	pump	0	0	0	0	19	19S	24E	Pennbrook Lined Irrigation Pon	750.00000000	28.82467734	-81.94778210	2717.000000
94	22439	B-Mall	City of Leesburg Public Supply	Y	Digitize	well	350	555	24	0	23	19S	25E	Floridan Aquifer	1500.00000000	28.82595653	-81.78203850	94.000000
94	22441	A-Airport	City of Leesburg Public Supply	Y	Digitize	well	236	368	12	0	22	19S	25E	Floridan Aquifer	1000.00000000	28.82655786	-81.80736361	94.000000
2628	9696	LSV1	Lakeside Village Ltd		Digitize	well	65	252	6	0	20	19S	25E	Floridan Aquifer	225.00000000	28.82764352	-81.83474505	2628.000000
2634	9709	Ardice 1	City of Eustis (Ltr Mod)	Y	Digitize	well	167	1001	20	0	14	19S	26E	Floridan Aquifer	4000.00000000	28.82898766	-81.68998872	2634.000000
2717	22433	Pump #1	Pennbrooke Utilities Inc	N	Other/Unknown	pump	0	0	0	0	19	19S	24E	Pennbrook Lined Irrigation pond	750.00000000	28.82782638	-81.94511394	2717.000000
2634	9710	Ardice 2	City of Eustis (Ltr Mod)	Y	Digitize	well	241	532	16	0	15	19S	26E	Floridan Aquifer	2000.00000000	28.82949852	-81.69340516	2634.000000
2628	9697	LSV2	Lakeside Village Ltd	N	Digitize	well	64	85	6	0	20	19S	25E	Floridan Aquifer	167.00000000	28.82980367	-81.83543313	2628.000000
2513	9298	B - irrigation	Molokai Co-op	N	Digitize	well	0	40	6	0	14	19S	25E	Floridan Aquifer	225.00000000	28.83279937	-81.77849403	2513.000000
2513	9297	A - main	Molokai Co-op	N	Digitize	well	198	300	6	0	14	19S	25E	Floridan Aquifer	300.00000000	28.83454687	-81.77494750	2513.000000
2473	9157	2 (B)	Century Estates	N	Digitize	well	120	240	6	0	16	19S	24E	Floridan Aquifer	150.00000000	28.83637567	-81.91508013	2473.000000
2473	9156	1 (A)	Century Estates	N	Digitize	well	120	240	8	0	16	19S	24E	Floridan Aquifer	300.00000000	28.83693120	-81.91535795	2473.000000
2644	9755	4SL	Silver Lakes/Western Shores	Y	Digitize	well	0	327	12	0	14	19S	25E	Floridan Aquifer	900.00000000	28.83949494	-81.78884640	2644.000000
2644	9754	3SL	Silver Lakes/Western Shores	Y	Digitize	well	0	366	10	0	14	19S	25E	Floridan Aquifer	900.00000000	28.83954857	-81.78868874	2644.000000
288	3227	Pump 1	Lake Joanna Estates	Y	Digitize	pump	0	0	0	0	18	19S	27E	Lake Joanna	100.00000000	28.84036313	-81.64919902	288.000000
288	19030	1	Lake Joanna Estates	Y	Digitize	well	0	380	12	0	18	19S	27E	Floridan Aquifer	100.00000000	28.84090957	-81.65237640	288.000000
84879	34862	2	City of Eustis Eastern Service Area	N	Other/Unknown	well	385	611	12	0	12	19S	27E	Lower Floridan Aquifer	1500.00000000	28.84398155	-81.57053790	84879.000000
2634	9712	Haselton 2	City of Eustis (Ltr Mod)	Y	Digitize	well	191	476	16	0	13	19S	26E	Floridan Aquifer	1800.00000000	28.84373807	-81.67179936	2634.000000
84879	34861	1	City of Eustis Eastern Service Area	N	Other/Unknown	well	275	409	12	0	12	19S	27E	Floridan Aquifer	500.00000000	28.84424093	-81.57343435	84879.000000
2609	9596	Well #2	Piccola	N	Digitize	well	0	164	6	0	13	19S	24E	Floridan Aquifer	100.00000000	28.84304248	-81.86757871	2609.000000
2609	9595	Well #1	Piccola	N	Digitize	well	0	175	6	0	13	19S	24E	Floridan Aquifer	175.00000000	28.84304248	-81.86757871	2609.000000

OFFICL PERMIT	STN ID	STN ALIAS	PERMIT PROJECT	GPS	STNHDR DET	STN TP	WELL CSNG I	WELL CUR D	WELL CLSNG 2	QA CODE	SECTION ID	TWNSHP ID	RANGE ID	SOURCE	MAX CAP QT	DEC LAT	DEC LONG	OFFCL PR 1
2634	9711	Haselton 1	City of Eustis (Ltr Mod)	Y	Digitize	well	300	591	20	0	12	19S	26E	Floridan Aquifer	2000.00000000	28.84653611	-81.66946966	2634.000000
2644	9753	2WS	Silver Lakes/Western Shores	Y	Digitize	well	0	440	8	0	7	19S	26E	Floridan Aquifer	230.00000000	28.84799181	-81.75728038	2644.000000
2632	9707	2	Aqua Utilities Florida - Valencia Terrace	Y	Digitize	well	190	350	8	0	10	19S	24E	Floridan Aquifer	250.00000000	28.84819535	-81.89342197	2632.000000
2632	9706	1	Aqua Utilities Florida - Valencia Terrace	Y	Digitize	well	285	285	8	0	10	19S	24E	Floridan Aquifer	0.00000000	28.84829396	-81.89364660	2632.000000
2482	9186	5 Shiloh Steet	City of Fruitland Park	Y	Digitize	well	150	300	12	0	9	19S	24E	Floridan Aquifer	500.00000000	28.84818933	-81.91106516	2482.000000
292	10472	A	Citrus Circle Mobile Home Pk	N	Digitize	well	0	380	6	0	10	19S	24E	Floridan Aquifer	200.00000000	28.85137532	-81.88924608	292.000000
50254	866	Well 1	Treasure Cove Homeowners Association		Digitize	well	279	350	8	0	9	19S	25E	Floridan Aquifer	214.00000000	28.85295652	-81.81235088	50254.000000
289	19014	1	Harbor Oaks	N	Digitize	well	0	140	4	0	11	19S	24E	Floridan Aquifer	55.00000000	28.85359743	-81.88702382	289.000000
2634	9714	6 CR 44A	City of Eustis (Ltr Mod)	Y	Digitize	well	280	760	16	0	7	19S	27E	Floridan Aquifer	1800.00000000	28.85502019	-81.65061023	2634.000000
2634	9713	5 CR 44A	City of Eustis (Ltr Mod)	Y	Digitize	well	275	750	16	0	7	19S	27E	Floridan Aquifer	1800.00000000	28.85505512	-81.65247893	2634.000000
289	19015	2	Harbor Oaks	N	Digitize	well	0	181	6	0	11	19S	24E	Floridan Aquifer	190.00000000	28.85387528	-81.88646827	289.000000
2482	9183	1 Seminole	City of Fruitland Park	Y	Digitize	well	70	250	10	0	9	19S	24E	Floridan Aquifer	360.00000000	28.85688339	-81.90870831	2482.000000
2482	9185	4 Olive Street	City of Fruitland Park	Y	Digitize	well	145	300	8	0	9	19S	24E	Floridan Aquifer	500.00000000	28.85704885	-81.90855812	2482.000000
2482	9184	3 Seminole	City of Fruitland Park	Y	Digitize	well	126	201	12	0	9	19S	24E	Floridan Aquifer	500.00000000	28.85737859	-81.90879310	2482.000000
2701	9935	2	Kings Cove Subdivision	Y	Digitize	well	90	204	6	0	1	19S	24E	Floridan Aquifer	225.00000000	28.85897707	-81.86956082	2701.000000
2701	9934	1	Kings Cove Subdivision	Y	Digitize	well	90	204	6	0	1	19S	24E	Floridan Aquifer	300.00000000	28.85900187	-81.86956349	2701.000000
98980	38760	1	Bentwood	N	Other/Unknown	well	251	375	18	0	2	19S	25E	Floridan Aquifer System - Upper	200.00000000	28.85993889	-81.78132106	98980.000000
6781	10430	1	Shangri-La by the Lake	N	Digitize	well	200	350	6	0	6	19S	26E	Floridan Aquifer	225.00000000	28.86163945	-81.75280369	6781.000000
6781	10431	2	Shangri-La by the Lake	N	Digitize	well	191	330	8	0	6	19S	26E	Floridan Aquifer	850.00000000	28.86202760	-81.75272179	6781.000000
2527	9351	A	Central Fla Nursery & Landscaping Inc.	N	Digitize	well	0	300	6	0	6	19S	24E	Floridan Aquifer	300.00000000	28.86328825	-81.94779043	2527.000000
2482	9187	6 Wingspread Dr	City of Fruitland Park	Y	Digitize	well	175	400	12	0	4	19S	24E	Floridan Aquifer	500.00000000	28.86466383	-81.90790858	2482.000000
2527	9353	C	Central Fla Nursery & Landscaping Inc.	N	Digitize	well	0	150	8	0	6	19S	24E	Floridan Aquifer	150.00000000	28.86503015	-81.94835722	2527.000000
2863	23364	C	BONFIRE COOP	Y	Other/Unknown	pump	0	0	0	0	2	19S	25E	Lake Tammi	160.00000000	28.87061474	-81.78745918	2863.000000

OFFICL PERMIT	STN ID	STN ALIAS	PERMIT PROJECT	GPS	STNHDR DET	STN TP	WELL CSNG I	WELL CUR D	WELL CLSNG 2	QA CODE	SECTION ID	TWNSHP ID	RANGE ID	SOURCE	MAX CAP QT	DEC LAT	DEC LONG	OFFCL PR 1
2863	18966	1	BONFIRE COOP	Y	Digitize	well	0	0	6	0	2	19S	25E	Floridan Aquifer	250.00000000	28.87165661	-81.78678865	2863.000000
2863	18967	2	BONFIRE COOP	Y	Digitize	well	0	0	4	0	2	19S	25E	Floridan Aquifer	0.00000000	28.87166909	-81.78683109	2863.000000
2888	10518	2	Mid Florida Lakes	Y	Digitize	well	172	420	12	0	1	19S	25E	Floridan Aquifer	1700.00000000	28.87188132	-81.77167960	2888.000000
2888	10517	1	Mid Florida Lakes	Y	Digitize	well	172	419	12	0	1	19S	25E	Floridan Aquifer	1700.00000000	28.87188452	-81.77153114	2888.000000
2598	18866	1	Haines Creek RV Village	N	Digitize	well	0	265	6	0	2	19S	25E	Floridan Aquifer	300.00000000	28.87220871	-81.78868761	2598.000000
2901	10550	A	Pine Harbour Water Utilities	N	Digitize	well	250	450	6	0	6	19S	26E	Floridan Aquifer	300.00000000	28.87304226	-81.75285310	2901.000000
4565	18973	1	TARA VILLAGE	Y	Digitize	well	0	420	8	0	2	19S	25E	Floridan Aquifer	55.00000000	28.87324205	-81.78107971	4565.000000
2810	10292	B	Lake Griffin Isles	Y	Digitize	well	0	126	4	0	35	18S	24E	Floridan Aquifer	70.00000000	28.87306461	-81.88483710	2810.000000
2810	10291	A	Lake Griffin Isles	Y	Digitize	well	273	437	8	0	35	18S	24E	Floridan Aquifer	400.00000000	28.87312350	-81.88481781	2810.000000
290	10469	A	Midway Manor	N	Digitize	well	140	530	6	0	35	18S	25E	Floridan Aquifer	120.00000000	28.87387537	-81.78285408	290.000000
2959	19878	2	Upson Downs		Digitize	well	100	200	10	0	31	18S	28E	Floridan Aquifer	800.00000000	28.87748762	-81.55145840	2959.000000
2604	9587	2	Piney Woods/Spring Lake Manor	N	Digitize	well	0	420	6	0	33	18S	24E	Floridan Aquifer	300.00000000	28.87609634	-81.91924721	2604.000000
2810	10293	C	Lake Griffin Isles	Y	Digitize	well	342	470	10	0	35	18S	24E	Floridan Aquifer	1000.00000000	28.87658158	-81.88637846	2810.000000
2959	19879	1	Upson Downs	N	Digitize	well	80	240	4	0	31	18S	28E	Floridan Aquifer	70.00000000	28.87848713	-81.54978436	2959.000000
2959	10655	3	Upson Downs		Digitize	well	100	200	8	0	31	18S	28E	Floridan Aquifer	500.00000000	28.87869424	-81.55074427	2959.000000
2659	18944	2	Haselton Village MHP	N	Digitize	well	139	310	8	0	34	18S	26E	Floridan Aquifer	500.00000000	28.87895094	-81.69313644	2659.000000
2659	18943	1	Haselton Village MHP	N	Digitize	well	100	310	6	0	34	18S	26E	Floridan Aquifer	280.00000000	28.87930035	-81.69310824	2659.000000
2488	9205	1	Grand Terrace		Digitize	well	680	840	8	0	32	18S	26E	Floridan Aquifer	600.00000000	28.87915327	-81.73563040	2488.000000
50152	461	Well 1	Wedgewood Homeowners Association, Inc	Y	Digitize	well	89	310	10	0	31	18S	26E	Floridan Aquifer	540.00000000	28.88065486	-81.74721744	50152.000000
50152	462	Well 2	Wedgewood Homeowners Association, Inc	Y	Digitize	well	90	300	10	0	31	18S	26E	Floridan Aquifer	500.00000000	28.88070194	-81.74706139	50152.000000
2575	9501	A	Brendenwood Water System	N	Digitize	well	121	141	6	0	32	18S	26E	Floridan Aquifer	150.00000000	28.88165321	-81.73118593	2575.000000
5753	8934	B	Lake Idlewild		Digitize	well	152	252	8	0	35	18S	24E	Floridan Aquifer	640.00000000	28.88196281	-81.88408219	5753.000000
5753	8933	A	Lake Idlewild	N	Digitize	well	100	210	6	0	35	18S	24E	Floridan Aquifer	180.00000000	28.88387681	-81.88584859	5753.000000
2782	18971	C	Raintree Harbor	N	Digitize	well	180	250	4	0	33	18S	26E	Floridan Aquifer	40.00000000	28.88506035	-81.72335038	2782.000000
2782	18969	A	Raintree Harbor		Digitize	well	0	200	8	0	33	18S	26E	Floridan	600.00000000	28.88517192	-81.72322784	2782.000000

OFFICL PERMIT	STN ID	STN ALIAS	PERMIT PROJECT	GPS	STNHDR DET	STN TP	WELL CSNG I	WELL CUR D	WELL CLSNG 2	QA CODE	SECTION ID	TWNSHP ID	RANGE ID	SOURCE	MAX CAP QT	DEC LAT	DEC LONG	OFFCL PR 1
														Aquifer				
2782	18970	B	Raintree Harbor	N	Digitize	well	0	160	4	0	33	18S	26E	Floridan Aquifer	40.00000000	28.88523237	-81.72335158	2782.000000
2614	9604	1	Skycrest	N	Digitize	well	0	260	6	0	34	18S	24E	Floridan Aquifer	175.00000000	28.88470722	-81.90313569	2614.000000
2614	9605	2	Skycrest	N	Digitize	well	0	410	8	0	34	18S	24E	Floridan Aquifer	500.00000000	28.88470725	-81.90341349	2614.000000
2604	9586	1	Piney Woods/Spring Lake Manor		Digitize	well	0	480	8	0	33	18S	24E	Floridan Aquifer	450.00000000	28.88609597	-81.91980289	2604.000000
2477	18963	1	Fisherman's Wharf	N	Digitize	well	0	170	6	0	25	18S	24E	Floridan Aquifer	0.00000000	28.88733759	-81.86928673	2477.000000
2613	9602	1	Hobby Hills	N	Digitize	well	0	280	6	0	28	18S	24E	Floridan Aquifer	90.00000000	28.89165145	-81.90646916	2613.000000
2613	9603	2	Hobby Hills	N	Digitize	well	0	320	6	0	28	18S	24E	Floridan Aquifer	180.00000000	28.89220690	-81.90674699	2613.000000
50049	118	2	Town of Lady Lake	Y	Digitize	well	214	419	8	0	28	18S	24E	Floridan Aquifer	370.00000000	28.89746015	-81.91891550	50049.000000
4545	35304	Well A	Quail Ridge Estates	N	Other/Unknown	well	131	340	10	0				Floridan Aquifer System - Upper	650.00000000	28.90026335	-81.76868713	4545.000000
2535	9389	3 - Lk Yale	Lake Yale Estates/Sandpiper Mobile Home Manor	N	Digitize	well	200	400	10	0	25	18S	25E	Floridan Aquifer	650.00000000	28.90075907	-81.76271063	2535.000000
2535	33719	2 - Lk Yale	Lake Yale Estates/Sandpiper Mobile Home Manor	N	Other/Unknown	well	200	300	4	0	25	18S	25E	Floridan Aquifer	80.00000000	28.90219860	-81.76425595	2535.000000
2535	9388	1 - Sandpiper	Lake Yale Estates/Sandpiper Mobile Home Manor	N	Digitize	well	200	300	6	0	24	18S	25E	Floridan Aquifer	100.00000000	28.90470761	-81.76535372	2535.000000
50049	116	1	Town of Lady Lake	Y	Digitize	well	189	312	12	0	20	18S	24E	Floridan Aquifer	825.00000000	28.90555666	-81.92422853	50049.000000
2862	18968	AAH6749	Lady Lake Mobile Home Park	N	Digitize	well	203	270	6	0	21	18S	24E	Floridan Aquifer	270.00000000	28.90682013	-81.90409462	2862.000000
279	9001	2	Harbor Hills	Y	Digitize	well	250	650	16	0	24	18S	24E	Floridan Aquifer	1200.00000000	28.90940291	-81.86517221	279.000000
50049	120	3	Town of Lady Lake	Y	Digitize	well	201	403	14	0	17	18S	24E	Floridan Aquifer	1000.00000000	28.91835248	-81.92921439	50049.000000
50279	20571	IR-5LL	Village Center Community Development District	N	Digitize	pump	0	0	0	0	18	18S	24E	Laguna Lake	3500.00000000	28.92526181	-81.94771800	50279.000000
50279	926	WS-5	Village Center Community Development District	Y	Digitize	well	110	310	20	0	18	18S	24E	Floridan Aquifer	2250.00000000	28.92601823	-81.95345806	50279.000000
50279	925	IR-4	Village Center Community Development	Y	Digitize	well	190	700	20	0	17	18S	24E	Floridan Aquifer	2400.00000000	28.92764274	-81.93714234	50279.000000

OFFICL PERMIT	STN ID	STN ALIAS	PERMIT PROJECT	GPS	STNHDR DET	STN TP	WELL CSNG I	WELL CUR D	WELL CLSNG 2	QA CODE	SECTION ID	TWNSHP ID	RANGE ID	SOURCE	MAX CAP QT	DEC LAT	DEC LONG	OFFCL PR 1
			District															
50279	924	WS-3	Village Center Community Development District	Y	Digitize	well	128	310	20	0	18	18S	24E	Floridan Aquifer	2250.00000000	28.92858926	-81.95357782	50279.000000
279	9000	1	Harbor Hills	Y	Digitize	well	250	650	16	0	18	18S	25E	Floridan Aquifer	1200.00000000	28.93020652	-81.85450980	279.000000
282	9369	A	Water Oak Country Club Estates	Y	Digitize	well	367	700	6	0	9	18S	24E	Floridan Aquifer	650.00000000	28.93091094	-81.91788466	282.000000
282	9371	C	Water Oak Country Club Estates	Y	Digitize	well	154	270	8	0	9	18S	24E	Floridan Aquifer	1000.00000000	28.93125066	-81.91821544	282.000000
2605	9590	2	Carlton Village	N	Digitize	well	180	350	12	0	11	18S	24E	Floridan Aquifer	200.00000000	28.93165005	-81.88480215	2605.000000
2605	9588	1	Carlton Village	N	Digitize	well	170	350	8	0	11	18S	24E	Floridan Aquifer	200.00000000	28.93192783	-81.88507988	2605.000000
2646	33891	3 Hatfield Site	Umatilla Municipal Water System	N	Other/Unknown	well	273	510	12	0	7	18S	27E	Floridan Aquifer	1000.00000000	28.93447006	-81.64398157	2646.000000
2454	26975	3-Golf Course	Sunlakes Estates	Y	Digitize	well	177	280	4	0	11	18S	25E	Upper Floridan Aquifer	60.00000000	28.93534417	-81.77449112	2454.000000
2454	9098	2-Potable	Sunlakes Estates	Y	Digitize	well	250	615	12	0	12	18S	25E	Upper Floridan Aquifer	300.00000000	28.93557380	-81.77178508	2454.000000
2454	9097	1-Potable	Sunlakes Estates	Y	Digitize	well	550	770	12	0	12	18S	25E	Upper Floridan Aquifer	588.00000000	28.93561939	-81.77195635	2454.000000
2646	9767	1 Bulldog Way	Umatilla Municipal Water System	Y	Digitize	well	150	450	12	0	12	18S	26E	Floridan Aquifer	1000.00000000	28.94111014	-81.66623177	2646.000000
2646	9768	2 Bulldog Way	Umatilla Municipal Water System	Y	Digitize	well	150	500	12	0	12	18S	26E	Floridan Aquifer	1000.00000000	28.94204713	-81.66573273	2646.000000
2530	18862	2	Blue Parrot RV Resort	N	Digitize	well	107	264	10	0	8	18S	24E	Floridan Aquifer	600.00000000	28.94137156	-81.92730349	2530.000000
2530	18861	1	Blue Parrot RV Resort	N	Digitize	well	75	170	6	0	8	18S	24E	Floridan Aquifer	150.00000000	28.94137153	-81.92785909	2530.000000
50279	927	IR-3	Village Center Community Development District	Y	Digitize	well	180	330	16	0	6	18S	24E	Floridan Aquifer	1100.00000000	28.94811819	-81.95186542	50279.000000
50279	20570	IR-4GL	Village Center Community Development District	N	Digitize	pump	0	0	0	0	6	18S	24E	Golfview Lake	500.00000000	28.94817173	-81.94695495	50279.000000
2973	10686	4	The Lakes of Lady Lake	N	Digitize	well	0	0	4	0	5	18S	24E	Floridan Aquifer	90.00000000	28.94895352	-81.92996166	2973.000000
2973	10685	2	The Lakes of Lady Lake	N	Digitize	well	0	0	8	0	5	18S	24E	Floridan Aquifer	435.00000000	28.95013955	-81.93286923	2973.000000
50279	923	WS-2	Village Center Community Development District	Y	Digitize	well	130	250	16	0	6	18S	24E	Floridan Aquifer	2250.00000000	28.95185130	-81.94663307	50279.000000
50279	922	WS-1A	Village Center	N	Digitize	well	118	266	24	0	6	18S	24E	Floridan	4000.00000000	28.95644698	-81.94579006	50279.000000

OFFICL PERMIT	STN ID	STN ALIAS	PERMIT PROJECT	GPS	STNHDR DET	STN TP	WELL CSNG I	WELL CUR D	WELL CLSNG 2	QA CODE	SECTION ID	TWNSHP ID	RANGE ID	SOURCE	MAX CAP QT	DEC LAT	DEC LONG	OFFCL PR 1
			Community Development District											Aquifer				
2771	10137	1	Lakeview Terrace	N	Digitize	well	104	368	8	0	31	17S	27E	Floridan Aquifer	250.00000000	28.96435315	-81.65820487	2771.000000
2867	10465	2	Country Squire		Digitize	well	0	339	4	0	20	17S	28E	Floridan Aquifer	70.00000000	28.99063681	-81.53796184	2867.000000
2867	10464	1	Country Squire	N	Digitize	well	0	336	6	0	20	17S	28E	Floridan Aquifer	266.00000000	28.99065607	-81.53783896	2867.000000
2865	3221	1Surface-C	Deerhaven Camp	Y	Digitize	pump	0	0	0	0	1	17S	28E	Deerhaven Lake	750.00000000	29.04682848	-81.46839732	2865.000000
2865	18977	1MAIN WELL	Deerhaven Camp	Y	Digitize	well	0	208	6	0	1	17S	28E	Floridan Aquifer	60.00000000	29.04771795	-81.46720995	2865.000000
50178	580	Well D	Astor-Astor Park Water Assoc.	Y	Digitize	well	147	315	10	0	37	15S	27E	Floridan Aquifer	530.00000000	29.14965824	-81.57164077	50178.000000
50178	578	Well B	Astor-Astor Park Water Assoc.	Y	Digitize	well	82	390	10	0	37	15S	27E	Floridan Aquifer	425.00000000	29.15045612	-81.57125613	50178.000000
50178	577	Well A	Astor-Astor Park Water Assoc.	Y	Digitize	well	120	285	10	0	37	15S	27E	Floridan Aquifer	380.00000000	29.15072243	-81.57107294	50178.000000

Source: St. John's River Water Management District E-Permitting Website

Table 24 – Active Well Points

OFFICL PERMIT	STN ID	PERMIT PROJECT	DETERMINAT	GPS	STNHDR DET	WELL CSNG I	WELL CUR D	WELL CLSNG 2	SECTION ID	TWNSHP ID	RANGE ID	SOURCE	MAX CAP QT	DEC LAT	DEC LONG	OBJECT ID 1
69472	33274	Summer Bay	3	N	Digitize	184	480	12	36	24S	26E	Floridan Aquifer	623.00000000	28.34867116	-81.65837675	2495
2956	10639	BLACKHAWK, PH 1	3		Digitize	0	0	6	32	24S	26E	Floridan Aquifer	0.00000000	28.35972741	-81.73257122	3202
2392	38853	Southlake Utilities	3	N	Digitize	265	650	24	35	24S	26E	Floridan Aquifer System - Upper	2400.00000000	28.36003190	-81.67821181	3026
2392	24965	Southlake Utilities	3	N	Digitize	1700	1700	12	35	24S	26E	Floridan Aquifer	2400.00000000	28.36032032	-81.67774526	7783
2392	8875	Southlake Utilities	0	Y	Digitize	293	448	12	35	24S	26E	Floridan Aquifer	1500.00000000	28.36038685	-81.67818961	5707
2956	10640	BLACKHAWK, PH 1	3		Digitize	0	0	4	32	24S	26E	Floridan Aquifer	0.00000000	28.36056069	-81.73229347	4835
2392	8872	Southlake Utilities	0	Y	Digitize	171	465	12	26	24S	26E	Floridan Aquifer	2500.00000000	28.36104555	-81.68070123	415
2679	24802	Haley Grove	3		Other/Unknown	251	455	10				Floridan Aquifer	500.00000000	28.36250541	-81.68534831	12672
2389	18964	Pinkerton Grove #462	3	N	Digitize	0	459	12	27	24S	26E	Floridan Aquifer	1100.00000000	28.36361634	-81.69895969	6317
2658	18985	ALL SEASONS RESORT	3		Digitize	110	950	8	26	24S	26E	Floridan Aquifer	350.00000000	28.36972733	-81.68840394	3336
91867	35858	DOT Clay LLC	3	N	Other/Unknown	141	460	10				Floridan Aquifer	3950.00000000	28.37264225	-81.70197713	6233
2531	18972	Thousand Trails	3	N	Digitize	0	376	10	26	24S	26E	Floridan Aquifer	450.00000000	28.37472692	-81.67613708	6954
2467	9130	474 Independent	3	N	Digitize	110	160	4	22	24S	25E	Floridan Aquifer	150.00000000	28.37805979	-81.80007264	1152
2681	9869	JOHN LOWNDES TRUSTEE	3	N	Digitize	0	500	10	22	24S	26E	Floridan Aquifer	550.00000000	28.37889367	-81.69090402	1159
2681	9868	JOHN LOWNDES TRUSTEE	3		Digitize	0	500	10	22	24S	26E	Floridan Aquifer	550.00000000	28.37889367	-81.69090402	3953
2497	9242	Williams Grove	3	N	Digitize	270	500	12	21	24S	26E	Floridan Aquifer	1718.00000000	28.37889355	-81.70729320	11670
2681	9867	JOHN LOWNDES TRUSTEE	3	N	Digitize	0	500	10	22	24S	26E	Floridan Aquifer	550.00000000	28.37917138	-81.69534855	2586
2467	1921	474 Independent	3	N	Digitize	0	0	0	22	24S	25E	Mine Lake	8000.00000000	28.38000418	-81.79646152	1959
2700	10501	Lake Utility Services Inc.	0	Y	Digitize	278	738	18	22	24S	26E	Upper Floridan Aquifer	2000.00000000	28.38158541	-81.69192485	13626
2700	34784	Lake Utility Services Inc.	3		Digitize	1050	1550	18	23	24S	26E	Floridan Aquifer	3000.00000000	28.38273155	-81.68808128	13628
2387	23375	474 Sand Mine	3	N	Digitize	0	0	0	199	24S	25E	Mine Pit	8500.00000000	28.38293746	-81.76143476	817
2700	10502	Lake Utility Services Inc.	0	Y	Digitize	270	750	18	22	24S	26E	Upper Floridan Aquifer	2000.00000000	28.38348526	-81.69237525	13627
2837	18936	CITRUS VALLEY CAMPGROUND	3	N	Digitize	0	390	10	23	24S	26E	Floridan Aquifer	500.00000000	28.38639347	-81.68201511	8951
2837	18937	CITRUS VALLEY CAMPGROUND	3	N	Digitize	0	412	8	23	24S	26E	Floridan Aquifer	650.00000000	28.38667121	-81.68201505	7300
50251	824	Boggy Marsh	3	N	Digitize	150	500	10	16	24S	26E	Floridan Aquifer	550.00000000	28.39111532	-81.70868216	10552
2391	24932	Florida Rock Industries Inc	3	N	Other/Unknown	0	0	0	18	24S	26E	dredge lake #3	4000.00000000	28.39113215	-81.74546574	2318
2391	1887	Florida Rock Industries Inc	3		Digitize	0	0	0	18	24S	26E	dredge lake #2	1500.00000000	28.39128193	-81.74213606	4963

OFFICL PERMIT	STN ID	PERMIT PROJECT	DETERMINAT	GPS	STNHDR DET	WELL CSNG I	WELL CUR D	WELL CLSNG 2	SECTION ID	TWNSHP ID	RANGE ID	SOURCE	MAX CAP QT	DEC LAT	DEC LONG	OBJECT ID 1
2387	38838	474 Sand Mine	3	N	Other/Unknown	189	470	8	199	24S	25E	Floridan Aquifer	500.00000000	28.39138208	-81.76306576	8555
2387	34528	474 Sand Mine	3	N	Other/Unknown	90	90	2	199	24S	25E	Surficial Aquifer	25.00000000	28.39150859	-81.76322981	874
2387	21323	474 Sand Mine	3	N	Digitize	150	150	4	199	24S	25E	Floridan Aquifer	100.00000000	28.39192643	-81.76296905	1028
2391	1886	Florida Rock Industries Inc	3	N	Digitize	0	0	0	18	24S	26E	dredge lake #2	1500.00000000	28.39204941	-81.74321797	9778
2391	8871	Florida Rock Industries Inc	3	N	Digitize	148	301	4	18	24S	26E	Floridan Aquifer	50.00000000	28.39215057	-81.74096990	2543
2387	39344	474 Sand Mine	3	N	Other/Unknown	60	80	4	199	24S	25E	Surficial Aquifer	25.00000000	28.39234356	-81.76181881	8466
2387	8862	474 Sand Mine	3	N	Digitize	150	150	4	199	24S	25E	Floridan Aquifer	100.00000000	28.39250388	-81.76284977	265
2391	8870	Florida Rock Industries Inc	3	N	Digitize	135	400	8	18	24S	26E	Floridan Aquifer	1000.00000000	28.39314935	-81.74206088	6661
2387	24891	474 Sand Mine	3	N	Digitize	0	0	0	199	24S	25E	Mine Pit	7500.00000000	28.39355538	-81.76249137	9850
2387	1882	474 Sand Mine	3	N	Digitize	0	0	0	199	24S	25E	Mine Pit	5000.00000000	28.39361491	-81.76201643	1862
2397	8888	Grove 223 Well 13	3	N	Digitize	168	610	12	15	24S	26E	Floridan Aquifer	1016.00000000	28.39528196	-81.69312643	2359
2391	24931	Florida Rock Industries Inc	3		Other/Unknown	0	0	0	18	24S	26E	dredge lake #2	6000.00000000	28.40034186	-81.74602048	5671
2985	34856	Independent North Sand Mine	3	N	Other/Unknown	0	0	0	15	24S	25E	Mine Pit	3810.00000000	28.40040701	-81.79994600	8971
5716	8867	Triple Crown	3	N	Digitize	0	600	12	15	24S	26E	Floridan Aquifer	700.00000000	28.40111511	-81.69951544	8138
2555	9793	North Boggy Marsh	3	N	Digitize	100	380	5	16	24S	26E	Floridan Aquifer	260.00000000	28.40135470	-81.71313831	1442
2555	9792	North Boggy Marsh	3	N	Digitize	120	380	10	16	24S	26E	Floridan Aquifer	1300.00000000	28.40157407	-81.71459459	7708
2555	9439	North Boggy Marsh	3	N	Digitize	120	400	8	16	24S	26E	Floridan Aquifer	1500.00000000	28.40278156	-81.71340460	924
2985	10707	Independent North Sand Mine	3	N	Digitize	107	400	12	10	24S	25E	Floridan Aquifer	3000.00000000	28.40528104	-81.79951735	3767
2985	34857	Independent North Sand Mine	3	N	Other/Unknown	0	0	0	15	24S	25E	Mine Pit	4110.00000000	28.40541073	-81.80196813	8294
2985	34858	Independent North Sand Mine	3	N	Other/Unknown	0	0	0	15	24S	25E	Mine Pit	6830.00000000	28.40541607	-81.80149301	8969
2487	33243	Hlochee WMA - Riddick Trust Grove	3	N	Digitize	0	315	10	7	24S	26E	Floridan Aquifer	0.00000000	28.41053524	-81.74323895	2147
2487	9198	Hlochee WMA - Riddick Trust Grove	3	N	Digitize	0	595	10	7	24S	26E	Floridan Aquifer	1800.00000000	28.41396729	-81.74573662	2146
2985	38556	Independent North Sand Mine	3	N	Other/Unknown	0	0	0	9	24S	25E	Mine Pit	10540.00000000	28.41414041	-81.80799354	8974
2794	10221	SMP Ranch	3	N	Digitize	0	100	6	9	24S	25E	Floridan Aquifer	620.00000000	28.41472502	-81.81673997	8419
2794	10222	SMP Ranch	3	N	Digitize	0	0	4	9	24S	25E	Floridan Aquifer	0.00000000	28.41474285	-81.81790531	241
50113	8992	Jeff Boykin	3	N	Digitize	0	0	8	10	24S	25E	Floridan Aquifer	0.00000000	28.41635677	-81.79835444	3450
50113	826	Jeff Boykin	3	N	Digitize	0	0	6	10	24S	25E	Floridan Aquifer	0.00000000	28.41723395	-81.79537878	3639
2971	241579	Foliage Farms	3	N	Other/Unknown	0	0	0	4	24S	25E	Jahna Sand Mine	3372.00000000	28.41810927	-81.81012186	13814
2486	9193	Lake Louisa/Green Swamp Regional Mitigation	3	N	Digitize	0	300	12	12	24S	25E	Floridan Aquifer	1500.00000000	28.41889176	-81.77007231	7439
105263	39767	Hwy 33 Grove	3	N	Other/Unknown	252	600	10	5	24S	25E	Floridan Aquifer	0.00000000	28.41979707	-81.82823322	9707
2388	1884	MONTE VISTA	3	N	Digitize	0	0	0	6	24S	26E	UNKNOWN	158.00000000	28.42111408	-81.74423849	1012

OFFICL PERMIT	STN ID	PERMIT PROJECT	DETERMINAT	GPS	STNHDR DET	WELL CSNG I	WELL CUR D	WELL CLSNG 2	SECTION ID	TWNSHP ID	RANGE ID	SOURCE	MAX CAP QT	DEC LAT	DEC LONG	OBJECT ID 1
		GROVES, INC.										(REMOVE)				
2971	10680	Foliage Farms	3	N	Digitize	93	93	12	4	24S	25E	Floridan Aquifer	90.00000000	28.42248131	-81.80854210	9975
2971	10679	Foliage Farms	3	N	Digitize	93	93	4	4	24S	25E	Floridan Aquifer	90.00000000	28.42255957	-81.80757211	9897
2486	9194	Lake Louisa/Green Swamp Regional Mitigation	3		Digitize	0	300	12	1	24S	25E	Floridan Aquifer	2000.00000000	28.42305832	-81.76173882	4673
2971	10678	Foliage Farms	3	N	Digitize	93	165	4	4	24S	25E	Floridan Aquifer	90.00000000	28.42309209	-81.80743946	9976
2971	10677	Foliage Farms	3	N	Digitize	93	165	4	4	24S	25E	Floridan Aquifer	90.00000000	28.42320094	-81.80742661	9895
2486	9192	Lake Louisa/Green Swamp Regional Mitigation	3		Digitize	0	300	12	2	24S	25E	Floridan Aquifer	2000.00000000	28.42472490	-81.77701696	5337
2388	8863	MONTE VISTA GROVES, INC.	3	N	Digitize	0	345	8	6	24S	26E	Floridan Aquifer	515.00000000	28.42750274	-81.74646081	9937
2965	10666	Blue Berries	3	N	Digitize	0	0	12	2	24S	25E	Floridan Aquifer	0.00000000	28.42750256	-81.78229493	8462
2388	1885	MONTE VISTA GROVES, INC.	3	N	Digitize	0	0	0	6	24S	26E	UNKNOWN (REMOVE)	70.00000000	28.42861371	-81.75368316	8544
2404	1893	BIRDLAND	3	N	Digitize	0	0	0	5	24S	26E	Hammond Lake	3500.00000000	28.43055837	-81.72451600	4272
2388	8864	MONTE VISTA GROVES, INC.	3	N	Digitize	0	345	8	6	24S	26E	Floridan Aquifer	515.00000000	28.43055825	-81.74201626	9471
2897	10538	Senninger Grove	3	N	Digitize	76	390	12	6	24S	26E	Floridan Aquifer	1500.00000000	28.43222480	-81.74729420	10001
2388	1883	MONTE VISTA GROVES, INC.	3	N	Digitize	0	0	0	6	24S	26E	UNKNOWN (REMOVE)	515.00000000	28.43222480	-81.74729420	10710
2486	9195	Lake Louisa/Green Swamp Regional Mitigation	3		Digitize	0	300	12	1	24S	25E	Floridan Aquifer	2000.00000000	28.43222468	-81.77062801	6752
2897	10537	Senninger Grove	3	N	Digitize	72	225	4	6	24S	26E	Floridan Aquifer	19.00000000	28.43250254	-81.74757195	1006
2897	2076	Senninger Grove	3	N	Digitize	0	0	0	6	24S	26E	Dudes Lake	1500.00000000	28.43278028	-81.74757196	7124
2404	1892	BIRDLAND	3	N	Digitize	0	0	0	5	24S	26E	Lake Dixie	3500.00000000	28.43389151	-81.73423846	1897
50318	105119	Lake Kirkland Nursery	3	N	Other/Unknown	187	187	4	33	23S	25E	Floridan Aquifer	80.00000000	28.43637838	-81.80450821	13390
2486	9196	Lake Louisa/Green Swamp Regional Mitigation	3	N	Digitize	0	300	10	35	23S	25E	Floridan Aquifer	1500.00000000	28.43722441	-81.78340607	12052
50318	19744	Lake Kirkland Nursery	3	N	Other/Unknown	0	0	0				unnamed canal	800.00000000	28.43712120	-81.80576466	13389
50318	19741	Lake Kirkland Nursery	3	N	Other/Unknown	110	150	4	33	23S	25E	Floridan Aquifer	250.00000000	28.43740184	-81.80838012	12804
10377	31882	Rowe Groves	3	N	Digitize	0	143	8	33	23S	25E	Floridan Aquifer	500.00000000	28.43752275	-81.81538367	458
10377	31923	Rowe Groves	3	N	Digitize	0	0	4	33	23S	25E	Floridan Aquifer	0.00000000	28.43761943	-81.81821139	2651
2826	10322	Twin Lakes	3	N	Digitize	0	425	14	36	23S	25E	Floridan Aquifer	2500.00000000	28.43805779	-81.76257229	8318
50318	105118	Lake Kirkland Nursery	3	N	Other/Unknown	168	168	4				Floridan Aquifer	80.00000000	28.43816854	-81.81225015	13388
10377	8890	Rowe Groves	3	N	Digitize	0	80	8	33	23S	25E	Floridan Aquifer	500.00000000	28.43855764	-81.81548474	8298
50318	105120	Lake Kirkland	3	N	Other/Unknown	100	191	4	33	23S	25E	Floridan Aquifer	125.00000000	28.43911467	-81.80919727	13387

OFFICL PERMIT	STN ID	PERMIT PROJECT	DETERMINAT	GPS	STNHDR DET	WELL CSNG I	WELL CUR D	WELL CLSNG 2	SECTION ID	TWNSHP ID	RANGE ID	SOURCE	MAX CAP QT	DEC LAT	DEC LONG	OBJECT ID 1
		Nursery														
105276	39768	Home Grove	3	N	Other/Unknown	210	400	6	34	23S	25E	Floridan Aquifer	0.00000000	28.43958855	-81.79224122	9708
50318	19739	Lake Kirkland Nursery	3	N	Other/Unknown	110	250	10	33	23S	25E	Floridan Aquifer	770.00000000	28.43982513	-81.80924734	12799
6254	9670	Southern Lake Co Acreage	3	N	Digitize	0	0	12	35	23S	26E	Floridan Aquifer	0.00000000	28.44064019	-81.68719091	8628
10377	8891	Rowe Groves	3	N	Digitize	0	133	8	33	23S	25E	Floridan Aquifer	500.00000000	28.44127509	-81.81917881	7065
50318	19740	Lake Kirkland Nursery	3	N	Other/Unknown	70	110	4	33	23S	25E	Floridan Aquifer	100.00000000	28.44221836	-81.80852843	12808
50318	19743	Lake Kirkland Nursery	3	N	Other/Unknown	0	0	0	33	23S	25E	Kirkland Lake	1600.00000000	28.44359583	-81.80929838	12802
2556	9443	Pilling Grove	3		Digitize	0	456	12	36	23S	26E	Floridan Aquifer	700.00000000	28.44528043	-81.66451511	3715
50318	19738	Lake Kirkland Nursery	3	N	Other/Unknown	110	250	10	33	23S	25E	Floridan Aquifer	770.00000000	28.44523704	-81.81219246	12807
2433	33231	Green Swamp Groves	3	N	Digitize	100	350	10	36	23S	25E	Floridan Aquifer	1200.00000000	28.44705161	-81.76349853	1740
50318	19742	Lake Kirkland Nursery	3	N	Other/Unknown	0	0	0	33	23S	25E	Kirkland Lake	1600.00000000	28.44723623	-81.81133655	12805
2433	9023	Green Swamp Groves	3		Digitize	0	500	12	36	23S	25E	Floridan Aquifer	1500.00000000	28.44833515	-81.77229485	5783
2504	9275	Water Conserv II Reuse Facilities	3	N	Digitize	0	660	16	27	23S	26E	Floridan Aquifer	2075.00000000	28.44944667	-81.70312692	6427
2433	9024	Green Swamp Groves	3		Digitize	0	387	8	26	23S	25E	Floridan Aquifer	900.00000000	28.44916851	-81.77368371	13578
2504	9276	Water Conserv II Reuse Facilities	3	N	Digitize	0	655	16	27	23S	26E	Floridan Aquifer	2160.00000000	28.44972450	-81.69784899	6643
2404	8924	BIRDLAND	3		Digitize	0	397	12	29	23S	26E	Floridan Aquifer	1450.00000000	28.45086336	-81.73740098	4347
2631	9705	Lust Farms	3	N	Digitize	0	900	16	26	23S	26E	Floridan Aquifer	900.00000000	28.45472446	-81.68034878	2357
2504	9277	Water Conserv II Reuse Facilities	3	N	Digitize	0	1002	16	26	23S	26E	Floridan Aquifer	2075.00000000	28.45500217	-81.68257106	2469
2504	9283	Water Conserv II Reuse Facilities	3	N	Digitize	0	822	16	27	23S	26E	Floridan Aquifer	2200.00000000	28.45527986	-81.69368233	7812
4537	18930	BS GROVES, INC.	3		Digitize	0	500	8	28	23S	25E	Floridan Aquifer	495.00000000	28.45554967	-81.81128312	5742
2404	8923	BIRDLAND	3		Digitize	0	400	12	29	23S	26E	Floridan Aquifer	2000.00000000	28.45836341	-81.72573168	4916
6254	9674	Southern Lake Co Acreage	3	N	Digitize	0	669	12	26	23S	26E	Floridan Aquifer	1100.00000000	28.46027976	-81.68562666	9635
4568	18976	GREEN SWAMP GROVE, INC.	3	N	Digitize	0	400	6	25	23S	25E	Floridan Aquifer	250.00000000	28.46000151	-81.76173910	714
2517	19987	Koch Grove	3		Digitize	180	310	6	26	23S	25E	Floridan Aquifer	300.00000000	28.46111252	-81.77507275	4735
2504	9282	Water Conserv II Reuse Facilities	3		Digitize	0	690	16	22	23S	26E	Floridan Aquifer	2340.00000000	28.46361282	-81.70673813	5461
5965	9162	Groveland Inc.	3	N	Digitize	0	1300	10	12	3S	27E	Floridan Aquifer	783.00000000	28.46413867	-81.69924545	13688
2914	10573	DIANE FISCHER	3	N	Digitize	0	0	4	21	23S	25E	Floridan Aquifer	0.00000000	28.46361218	-81.80951800	1176
2914	10572	DIANE FISCHER	3	N	Digitize	0	0	4	21	23S	25E	Floridan Aquifer	0.00000000	28.46472327	-81.80896243	8150

OFFICL PERMIT	STN ID	PERMIT PROJECT	DETERMINAT	GPS	STNHDR DET	WELL CSNG I	WELL CUR D	WELL CLSNG 2	SECTION ID	TWNSHP ID	RANGE ID	SOURCE	MAX CAP QT	DEC LAT	DEC LONG	OBJECT ID 1
2504	9273	Water Conserv II Reuse Facilities	3	N	Digitize	0	1402	16	24	23S	26E	Floridan Aquifer	2200.00000000	28.46555752	-81.66145960	218
2504	9272	Water Conserv II Reuse Facilities	3	N	Digitize	0	402	16	24	23S	26E	Floridan Aquifer	2200.00000000	28.46555753	-81.66395969	860
2504	9280	Water Conserv II Reuse Facilities	3	N	Digitize	0	590	16	23	23S	26E	Floridan Aquifer	2180.00000000	28.46611295	-81.68201548	11468
6254	9673	Southern Lake Co Acreage	3		Digitize	0	546	12	23	23S	26E	Floridan Aquifer	1100.00000000	28.46639072	-81.68590451	3540
2504	9281	Water Conserv II Reuse Facilities	3	N	Digitize	0	342	16	22	23S	26E	Floridan Aquifer	2260.00000000	28.46639063	-81.69118235	10651
2918	10576	Mahon's Citrus Nursery	3		Digitize	0	0	4	21	23S	25E	Floridan Aquifer	0.00000000	28.46583434	-81.80951808	4901
2918	2083	Mahon's Citrus Nursery	3		Digitize	0	0	0	21	23S	25E	Mud Lake	2200.00000000	28.46611210	-81.80840693	4011
79	8935	Kuharske Properties	3	N	Digitize	0	365	8	20	23S	25E	Floridan Aquifer	550.00000000	28.46608292	-81.83746258	10337
2941	10616	Dockery Farms	3	N	Digitize	150	400	10	20	23S	25E	Floridan Aquifer	1200.00000000	28.46670568	-81.82954144	11760
6254	9675	Southern Lake Co Acreage	3		Digitize	0	650	12	24	23S	26E	Floridan Aquifer	1100.00000000	28.46833518	-81.66590417	5328
5965	9160	Groveland Inc.	3	N	Digitize	0	1300	10	22	23S	26E	Floridan Aquifer	846.00000000	28.46830688	-81.69808351	7542
5965	9161	Groveland Inc.	3	N	Digitize	0	1300	10	22	23S	26E	Floridan Aquifer	750.00000000	28.46833494	-81.69868248	845
2533	9380	CLINTON A. CURTIS	3	N	Digitize	0	401	8	22	23S	25E	Floridan Aquifer	800.00000000	28.47055645	-81.79257322	1017
2406	8938	ROBERT KUHARSKE	3	N	Digitize	0	0	6	19	23S	25E	Floridan Aquifer	550.00000000	28.47032718	-81.84647169	9179
2394	8877	Lake Pretty	3	N	Digitize	0	0	10	21	23S	25E	Floridan Aquifer	1000.00000000	28.47111181	-81.81562938	9187
2504	9279	Water Conserv II Reuse Facilities	3	N	Digitize	0	270	16	22	23S	26E	Floridan Aquifer	2100.00000000	28.47305707	-81.69090457	11676
6254	9672	Southern Lake Co Acreage	3	N	Digitize	0	425	12	22	23S	26E	Floridan Aquifer	1100.00000000	28.47389036	-81.69229354	4078
2528	9356	Little Creek Farm	3	N	Digitize	0	400	8	22	23S	25E	Floridan Aquifer	80.00000000	28.47373157	-81.79559158	11681
119566	243756	WW Leach	3	N	Other/Unknown	0	400	10	23	23S	25E	Floridan Aquifer	400.00000000	28.47527361	-81.78919598	17601
2708	9957	Veldhuis Grove	3	N	Digitize	160	460	6	20	23S	25E	Floridan Aquifer	230.00000000	28.47770223	-81.83633602	1549
4510	18872	Lynn Matthew & Melody Dawn Bishop	0	Y	Digitize	0	0	6	16	23S	25E	Floridan Aquifer	0.00000000	28.47908494	-81.80832293	14062
4510	18871	Lynn Matthew & Melody Dawn Bishop	0	Y	Digitize	0	0	4	16	23S	25E	Floridan Aquifer	0.00000000	28.47991376	-81.80936789	13969
6254	9671	Southern Lake Co Acreage	3	N	Digitize	0	550	12	15	23S	26E	Floridan Aquifer	1100.00000000	28.48083453	-81.69812695	8571
2396	8887	Grove 201	3	N	Digitize	142	480	12	14	23S	25E	Floridan Aquifer	1375.00000000	28.48055625	-81.77757298	11634
2500	9247	GATOR POOL	3	N	Digitize	0	500	12	14	23S	26E	Floridan Aquifer	1200.00000000	28.48166794	-81.68118227	7460
2855	3220	CAMILLA GROVE	3		Digitize	0	0	0	18	23S	25E	Lake Erie	1200.00000000	28.48083349	-81.84590798	2825
2855	18945	CAMILLA GROVE	3	N	Digitize	0	260	4	18	23S	25E	Floridan Aquifer	25.00000000	28.48138907	-81.84285228	3314
5773	18934	Holly Hill Fruit Co	0	Y	Digitize	0	0	6	14	23S	25E	Floridan Aquifer	800.00000000	28.48275709	-81.77777801	13749
2544	9403	Home Block	3		Digitize	0	0	6	14	23S	25E	Floridan Aquifer	348.00000000	28.48305609	-81.78368422	7159

OFFICL PERMIT	STN ID	PERMIT PROJECT	DETERMINAT	GPS	STNHDR DET	WELL CSNG I	WELL CUR D	WELL CLSNG 2	SECTION ID	TWNSHP ID	RANGE ID	SOURCE	MAX CAP QT	DEC LAT	DEC LONG	OBJECT ID 1
4531	18917	BUSBEE, WILKENS AND SEALY	3		Digitize	0	250	8	15	23S	25E	Floridan Aquifer	700.00000000	28.48361155	-81.79896234	6387
83	8937	Juanita Kuharske property	3	N	Digitize	475	475	8	13	23S	25E	Floridan Aquifer	550.00000000	28.49166777	-81.76916301	9214
10846	8860	Barrington Estates Wells	3	N	Digitize	300	500	8	15	23S	25E	Floridan Aquifer	1600.00000000	28.49166683	-81.79451788	7700
10846	8859	Barrington Estates Wells	3	N	Digitize	300	500	8	10	23S	25E	Floridan Aquifer	1600.00000000	28.49250010	-81.79257341	9933
2893	10527	Torchlite MHP	3	N	Digitize	250	250	6	9	23S	26E	Floridan Aquifer	360.00000000	28.49555610	-81.71812743	2668
2847	18880	Vacation Village	3	N	Digitize	0	0	10	9	23S	26E	Floridan Aquifer	300.00000000	28.49666984	-81.72284600	9632
2697	9920	Oswalt Road	3		Digitize	147	400	4	12	23S	25E	Floridan Aquifer	780.00000000	28.49722242	-81.76285047	5159
2847	18881	Vacation Village	3	N	Digitize	808	970	8	9	23S	26E	Floridan Aquifer	350.00000000	28.49760023	-81.72302338	627
2545	9404	WJF BLK	3		Digitize	105	105	4	11	23S	25E	Floridan Aquifer	230.00000000	28.49777772	-81.78507330	6391
2615	9606	LINCOLN GROVES INC.	3		Digitize	0	412	12	10	23S	26E	Floridan Aquifer	0.00000000	28.49833386	-81.70507162	5022
2700	9930	Lake Utility Services Inc.	3	N	Digitize	103	346	10	8	23S	26E	Floridan Aquifer	1000.00000000	28.49955538	-81.72631491	2179
2700	10154	Lake Utility Services Inc.	3	N	Digitize	120	316	8	31	22S	26E	Floridan Aquifer	750.00000000	28.49963402	-81.72527251	7559
6311	9763	WILLIAM D. LESAGE	3	N	Digitize	135	135	4	11	23S	25E	Floridan Aquifer	35.00000000	28.50055549	-81.78451769	1255
5736	21558	Center Sand Mine	3	N	Digitize	0	0	0	2	23S	26E	Man made dredge	8000.00000000	28.50129500	-81.68508816	5849
2866	19013	Dayne & Lisa Jones	3	N	Digitize	0	0	6	12	23S	26E	Floridan Aquifer	300.00000000	28.50194518	-81.66340435	229
2700	22643	Lake Utility Services Inc.	3	N	Other/Unknown	281	499	12	7	23S	26E	Floridan Aquifer	625.00000000	28.50166923	-81.72545844	7565
2991	23730	Kings Ridge	3		Digitize	0	0	0	9	23S	26E	KRS Pond	2500.00000000	28.50251776	-81.71486087	12284
2624	9657	HIGHLAND INDUSTRIES, INC.	3	N	Digitize	0	0	4	12	23S	25E	Floridan Aquifer	685.00000000	28.50277781	-81.75701705	8968
105589	23729	Kings Ridge Golf Courses	3		Digitize	0	0	0	9	23S	26E	KRS Pond	2000.00000000	28.50306856	-81.71497811	12275
2737	10043	Home Grove	3	N	Digitize	0	90	10	8	23S	25E	Floridan Aquifer	0.00000000	28.50409427	-81.82470668	10747
5736	104552	Center Sand Mine	3	N	Other/Unknown	420	420	4	11	23S	26E	Floridan Aquifer	30.00000000	28.50557596	-81.68713178	13506
2700	9931	Lake Utility Services Inc.	3	N	Digitize	237	392	10	7	23S	26E	Floridan Aquifer	550.00000000	28.50578338	-81.74464271	2870
5736	243604	Center Sand Mine	3	N	Other/Unknown	0	0	0				Mine Pit 1, Center Sand Mine	0.00000000	28.50611454	-81.68638601	13507
5736	38422	Center Sand Mine	3	N	Other/Unknown	365	1010	12	11	23S	26E	Floridan Aquifer	0.00000000	28.50725792	-81.68885204	8689
6124	18933	Dolores Commins Grove	0	Y	Digitize	0	0	8	2	23S	25E	Floridan Aquifer	800.00000000	28.50674409	-81.78438646	13737
5736	8900	Center Sand Mine	3	N	Digitize	140	350	12	11	23S	26E	Floridan Aquifer	2200.00000000	28.50727721	-81.68839452	5851
2504	9287	Water Conserv II Reuse Facilities	3		Digitize	0	0	16	1	23S	26E	Floridan Aquifer	0.00000000	28.50750061	-81.65784866	3167
64455	9236	ACME Lake County	3	N	Digitize	0	534	14	5	23S	26E	Floridan Aquifer	2000.00000000	28.50722660	-81.72729103	1658

OFFICL PERMIT	STN ID	PERMIT PROJECT	DETERMINAT	GPS	STNHDR DET	WELL CSNG I	WELL CUR D	WELL CLSNG 2	SECTION ID	TWNSHP ID	RANGE ID	SOURCE	MAX CAP QT	DEC LAT	DEC LONG	OBJECT ID 1
5736	8902	Center Sand Mine	3	N	Digitize	225	933	16	2	23S	26E	Floridan Aquifer	3800.00000000	28.50746628	-81.68895468	5834
64455	9237	ACME Lake County	3		Digitize	0	580	12	5	23S	26E	Floridan Aquifer	1200.00000000	28.50734785	-81.72639008	4728
2737	10042	Home Grove	3	N	Digitize	40	90	6	5	23S	25E	Floridan Aquifer	320.00000000	28.50720649	-81.82621523	10746
2700	10132	Lake Utility Services Inc.	0	Y	Digitize	105	400	10	2	23S	25E	Floridan Aquifer	600.00000000	28.50804028	-81.78055244	2491
64455	24749	ACME Lake County	3	N	Other/Unknown	0	0	0	5	23S	26E	Pond	2000.00000000	28.50853999	-81.72523344	6557
2700	10133	Lake Utility Services Inc.	0	Y	Digitize	0	500	10	2	23S	25E	Floridan Aquifer	600.00000000	28.50851075	-81.78053372	2173
114037	24748	Legends Golf Course	3	N	Other/Unknown	0	0	0	5	23S	26E	Pond	2000.00000000	28.50908398	-81.72523716	9883
50214	690	McKinnon Groves	3		Digitize	0	680	12	1	23S	26E	Floridan Aquifer	1200.00000000	28.51055599	-81.66062649	4579
50110	360	STOSBERG GROVE	3	N	Digitize	0	0	0	2	23S	25E	Ruby Lee Lake	275.00000000	28.50999953	-81.78535119	2153
2745	10070	MICHELONI PROPERTIES INC.	3		Digitize	0	0	8	6	23S	26E	Floridan Aquifer	500.00000000	28.51111096	-81.74618356	4504
2700	10134	Lake Utility Services Inc.	0	Y	Digitize	64	210	10	1	23S	25E	Floridan Aquifer	550.00000000	28.51117797	-81.76990323	2871
4505	18865	BECSEK GROVE	3	N	Digitize	0	0	4	5	23S	25E	Floridan Aquifer	0.00000000	28.51111027	-81.83646351	1518
2504	9285	Water Conserv II Reuse Facilities	3	N	Digitize	0	600	16	1	23S	26E	Floridan Aquifer	2342.00000000	28.51277820	-81.65812645	1116
4505	18864	BECSEK GROVE	3	N	Digitize	0	0	10	6	23S	25E	Floridan Aquifer	440.00000000	28.51333231	-81.84090815	925
2991	23732	Kings Ridge	3		Digitize	0	0	0	4	23S	26E	KRN Pond	2500.00000000	28.51442668	-81.70949264	12286
2828	10343	EDDY GROVE	3	N	Digitize	0	350	4	1	23S	26E	Floridan Aquifer	325.00000000	28.51472245	-81.66701554	4140
2828	10345	EDDY GROVE	3	N	Digitize	0	0	10	1	23S	26E	Floridan Aquifer	20.00000000	28.51472242	-81.67118232	4243
105589	23731	Kings Ridge Golf Courses	3		Digitize	0	0	0	4	23S	26E	KRS Pond	2000.00000000	28.51483017	-81.70904130	12283
2463	9119	KATEY GROVE # 261	3	N	Digitize	0	0	10	5	23S	26E	Floridan Aquifer	0.00000000	28.51499978	-81.73007215	10981
2504	9286	Water Conserv II Reuse Facilities	3	N	Digitize	0	600	16	1	23S	26E	Floridan Aquifer	2343.00000000	28.51555587	-81.65812653	10650
2991	10715	Kings Ridge	0	Y	Digitize	240	980	16	4	23S	26E	Lower Floridan Aquifer	1500.00000000	28.51533908	-81.71005917	12280
2991	33708	Kings Ridge	0	Y	Other/Unknown	330	800	8	4	23S	26E	Lower Floridan Aquifer	0.00000000	28.51535633	-81.71014328	12287
2991	24656	Kings Ridge	0	Y	Digitize	340	800	8	4	23S	26E	Lower Floridan Aquifer	0.00000000	28.51558375	-81.70999601	12278
4494	18842	Grove 33	3	N	Digitize	0	0	10	6	23S	25E	Floridan Aquifer	0.00000000	28.51527671	-81.84090815	6240
2952	137770	Marsh Grove	3	N	Other/Unknown	0	0	4				Floridan Aquifer System - Upper	50.00000000	28.51635872	-81.78364034	9253
2952	137771	Marsh Grove	3	N	Other/Unknown	73	185	4	2	23S	25E	Floridan Aquifer System - Upper	63.00000000	28.51716475	-81.78841911	9254
2952	2105	Marsh Grove	3	N	Digitize	0	0	0	2	23S	25E	Palatlakaha Marsh	450.00000000	28.51781140	-81.78812116	1297
2700	10131	Lake Utility Services Inc.	0	Y	Digitize	71	520	10	2	23S	25E	Floridan Aquifer	600.00000000	28.51807158	-81.77949765	7375
2828	10344	EDDY GROVE	3	N	Digitize	0	172	6	1	23S	26E	Floridan Aquifer	20.00000000	28.51944455	-81.66701562	1979
2478	10366	City of Clermont	0	Y	Digitize	0	1200	16	3	23S	26E	Floridan Aquifer	1800.00000000	28.52028530	-81.70534107	1948

OFFICL PERMIT	STN ID	PERMIT PROJECT	DETERMINAT	GPS	STNHDR DET	WELL CSNG I	WELL CUR D	WELL CLSNG 2	SECTION ID	TWNSHP ID	RANGE ID	SOURCE	MAX CAP QT	DEC LAT	DEC LONG	OBJECT ID 1
50207	641	Tulley Dura-Rock	3	N	Other/Unknown	0	0	4	3	23S	26E	Floridan Aquifer	40.00000000	28.52054224	-81.69014706	12624
66695	31870	Hancock Park	3		Digitize	200	250	10	3	23S	26E	Floridan Aquifer	250.00000000	28.52057476	-81.70655893	5254
1666	18813	Green Hollow Nursery	3		Digitize	0	0	6	2	23S	25E	Floridan Aquifer	0.00000000	28.52027702	-81.78340672	4969
1666	9440	Green Hollow Nursery	3	N	Digitize	0	0	4	2	23S	25E	Floridan Aquifer	0.00000000	28.52027892	-81.78361846	12669
51119	21851	Du Frene Grove	3	N	Digitize	0	80	4	6	23S	25E	Floridan Aquifer	0.00000000	28.52006876	-81.84300305	2270
51119	21849	Du Frene Grove	3	N	Digitize	123	329	10	14	23S	25E	Floridan Aquifer	0.00000000	28.52017295	-81.84377008	9126
51119	21850	Du Frene Grove	3	N	Digitize	0	45	2	6	23S	25E	Surficial Aquifer	0.00000000	28.52041202	-81.84370224	1696
50207	640	Tulley Dura-Rock	3	N	Other/Unknown	128	923	24	3	23S	26E	Floridan Aquifer	100.00000000	28.52133957	-81.69021384	12623
2478	33695	City of Clermont	3	N	Other/Unknown	338	880	30	3	23S	26E	Floridan Aquifer	105.00000000	28.52158343	-81.70416528	4088
2700	9454	Lake Utility Services Inc.	0	Y	Digitize	140	540	10	6	23S	26E	Floridan Aquifer	650.00000000	28.52152235	-81.74380755	2563
2700	9451	Lake Utility Services Inc.	0	Y	Digitize	160	600	10	31	22S	26E	Floridan Aquifer	750.00000000	28.52180552	-81.74363201	2605
108674	104645	ValleyCrest Landscape	3	N	Other/Unknown	0	0	4				Floridan Aquifer	60.00000000	28.52133511	-81.84094578	13282
108674	104648	ValleyCrest Landscape	3	N	Other/Unknown	0	0	2				Floridan Aquifer	90.00000000	28.52182821	-81.84227413	13286
108674	104644	ValleyCrest Landscape	3	N	Other/Unknown	0	0	4				Floridan Aquifer	60.00000000	28.52204543	-81.84092777	13283
108674	104647	ValleyCrest Landscape	3	N	Other/Unknown	63	175	4				Floridan Aquifer	90.00000000	28.52286545	-81.84005920	13284
2938	10611	LAKE COUNTY TREE FARM	3	N	Digitize	150	325	8	31	22S	25E	Floridan Aquifer	400.00000000	28.52305421	-81.84618614	7106
108674	104649	ValleyCrest Landscape	3	N	Other/Unknown	0	0	0				Lake	115.00000000	28.52330890	-81.83928223	13285
50145	8949	Groveland Grove	3	N	Digitize	0	0	8	35	22S	24E	Floridan Aquifer	0.00000000	28.52333167	-81.87868694	2923
108674	104646	ValleyCrest Landscape	3	N	Other/Unknown	63	200	4				Floridan Aquifer	100.00000000	28.52427543	-81.84510807	13287
50145	10697	Groveland Grove	3		Digitize	0	400	8	35	22S	24E	Floridan Aquifer	950.00000000	28.52471070	-81.88339809	5862
5761	8948	ALL AMERICAN NURSERY	3		Digitize	0	0	8	35	22S	24E	Floridan Aquifer	0.00000000	28.52472047	-81.88340931	6767
2554	9438	GORDON BLOCK	3	N	Digitize	0	500	6	34	22S	26E	Floridan Aquifer	360.00000000	28.52583296	-81.70562737	599
2700	9452	Lake Utility Services Inc.	0	Y	Digitize	159	387	4	32	22S	26E	Floridan Aquifer	54.00000000	28.52834277	-81.73606481	1179
50145	435	Groveland Grove	0	Y	Digitize	0	150	6	35	22S	24E	Floridan Aquifer	350.00000000	28.52837369	-81.88325866	13676
2700	9453	Lake Utility Services Inc.	0	Y	Digitize	125	445	8	32	22S	26E	Floridan Aquifer	236.00000000	28.52959402	-81.73607652	1221
2807	10279	C R Groveland Farms	3		Digitize	0	175	6	33	22S	24E	Floridan Aquifer	0.00000000	28.52860899	-81.91618796	3008
2807	10280	C R Groveland Farms	3		Digitize	0	250	8	33	22S	24E	Floridan Aquifer	0.00000000	28.52860896	-81.91702132	13577
5761	8947	ALL AMERICAN NURSERY	3	N	Digitize	0	0	4	35	22S	24E	Floridan Aquifer	0.00000000	28.52916486	-81.87729813	10901
2793	10218	Crothall Laundry	3	N	Digitize	0	600	12	34	22S	26E	Floridan Aquifer	1500.00000000	28.53109486	-81.70389228	1142

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		Services														
2793	33547	Crothall Laundry Services	3		Other/Unknown	0	500	8	34	22S	26E	Floridan Aquifer	400.00000000	28.53109863	-81.70333978	3293
50186	33631	Swiss Fairways	3	N	Other/Unknown	0	0	0	32	22S	25E	Golf Course Pond	1500.00000000	28.53163673	-81.82930682	11786
2801	2031	BLUE LAKE CITRUS INC.	3	N	Digitize	0	0	0	31	22S	25E	Blue Lake	0.00000000	28.53194283	-81.83951938	61
2780	2021	Clermont East Sand Mine	3		Digitize	0	0	0	34	22S	26E	Mine Lake	5000.00000000	28.53277717	-81.69729401	4787
50216	688	Randa Williams Exempt Trust	0	Y	Other/Unknown	0	0	8	33	22S	26E	Floridan Aquifer	0.00000000	28.53337110	-81.72338865	12168
2780	2022	Clermont East Sand Mine	3		Digitize	0	0	0	34	22S	26E	Mine Lake	1600.00000000	28.53388830	-81.69729397	5408
2700	18914	Lake Utility Services Inc.	0	Y	Digitize	206	243	4	31	22S	26E	Floridan Aquifer	45.00000000	28.53558109	-81.74030375	1215
2700	18915	Lake Utility Services Inc.	0	Y	Digitize	212	332	6	31	22S	26E	Floridan Aquifer	75.00000000	28.53558266	-81.74157775	1214
2689	9885	Wilma Grove	3	N	Digitize	0	425	6	29	22S	26E	Floridan Aquifer	255.00000000	28.53638791	-81.72951683	2723
2780	10171	Clermont East Sand Mine	3	N	Digitize	150	500	8	27	22S	26E	Floridan Aquifer	1500.00000000	28.53672346	-81.69554732	3763
2780	10172	Clermont East Sand Mine	3	N	Digitize	150	500	10	27	22S	26E	Floridan Aquifer	1600.00000000	28.53691731	-81.69668019	6207
2763	10103	Senninger Irrigation	3		Digitize	0	0	6	26	22S	26E	Floridan Aquifer	300.00000000	28.53722154	-81.68979382	4189
4501	18857	Banyan Construction	3	N	Digitize	0	0	8	28	22S	25E	Floridan Aquifer	0.00000000	28.53715429	-81.81365802	7050
2683	9874	Warren Grove	3	N	Digitize	0	296	12	25	22S	26E	Floridan Aquifer	600.00000000	28.53833272	-81.67201582	1623
2816	10304	Clermont Ready-Mixed Concrete Plant	3	N	Digitize	120	300	4	27	22S	26E	Floridan Aquifer	200.00000000	28.53888802	-81.70423856	2944
2816	10303	Clermont Ready-Mixed Concrete Plant	3		Digitize	120	450	10	27	22S	26E	Floridan Aquifer	1500.00000000	28.53888802	-81.70423856	8921
81093	34192	East Ridge High School	3	N	Other/Unknown	217	323	4	28	22S	26E	Floridan Aquifer	75.00000000	28.53911507	-81.71700561	9894
50186	583	Swiss Fairways	3	N	Digitize	134	345	8	29	22S	25E	Floridan Aquifer	800.00000000	28.53913885	-81.82610971	11785
2763	10104	Senninger Irrigation	3	N	Digitize	100	280	4	26	22S	26E	Floridan Aquifer	30.00000000	28.53999918	-81.68979393	7533
81093	34193	East Ridge High School	3	N	Other/Unknown	248	380	10	28	22S	26E	Floridan Aquifer	400.00000000	28.53994304	-81.71196808	9891
2976	10693	EDWARD E. HOLMES	3	N	Digitize	90	150	10	28	22S	25E	Floridan Aquifer	200.00000000	28.53999830	-81.81201878	9469
4501	18858	Banyan Construction	3	N	Digitize	0	0	8	28	22S	25E	Floridan Aquifer	0.00000000	28.54015078	-81.81371794	1489
2763	10105	Senninger Irrigation	3	N	Digitize	133	163	12	26	22S	26E	Floridan Aquifer	1500.00000000	28.54138810	-81.68673829	11010
2749	10072	JANE GERACI	3		Digitize	0	0	6	30	22S	24E	Floridan Aquifer	500.00000000	28.53999728	-81.94035546	4749
2989	10713	Citrus Cove Homeowners Association Water System	3		Digitize	0	475	6	25	22S	26E	Floridan Aquifer	125.00000000	28.54194377	-81.66146006	3911

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4487	18828	EDGEWATER BEACH	3		Digitize	0	0	6	25	22S	26E	Floridan Aquifer	0.00000000	28.54280447	-81.66021873	13583
2763	10102	Senninger Irrigation	3	N	Digitize	0	0	6	26	22S	26E	Floridan Aquifer	0.00000000	28.54277687	-81.68673830	6905
2776	10156	Classic Manufacturing Inc	3	N	Digitize	0	170	10	26	22S	26E	Floridan Aquifer	1500.00000000	28.54277686	-81.68868281	7228
4501	18856	Banyan Construction	3		Digitize	0	0	10	28	22S	25E	Floridan Aquifer	0.00000000	28.54262482	-81.80709519	4099
2776	10157	Classic Manufacturing Inc	3	N	Digitize	0	120	4	26	22S	26E	Floridan Aquifer	46.00000000	28.54333244	-81.68812718	1270
2919	10577	Manuel Vaz	3	N	Digitize	120	305	8		0	0	Floridan Aquifer	550.00000000	28.54287349	-81.86404417	11096
2710	9959	Davis Grove	3	N	Digitize	275	510	6	29	22S	26E	Floridan Aquifer	280.00000000	28.54416552	-81.72479450	10776
2565	9473	Orange Lake Mobile Home Park	0	Y	Digitize	300	447	6	27	22S	26E	Floridan Aquifer	650.00000000	28.54442558	-81.69088780	3081
2580	9507	Hartle Groves	3	N	Digitize	100	440	6	26	22S	26E	Floridan Aquifer	800.00000000	28.54472132	-81.68229378	853
6477	9964	V. E. BOURLAND TRUST	3	N	Digitize	84	400	6	25	22S	26E	Floridan Aquifer	300.00000000	28.54527697	-81.66368233	8291
2750	10073	JANE GERACI	3	N	Digitize	0	0	6	30	22S	24E	Floridan Aquifer	500.00000000	28.54388598	-81.94868904	313
2580	1952	Hartle Groves	3	N	Digitize	0	0	0	26	22S	26E	Lake Hill	350.00000000	28.54555469	-81.67923813	10777
2746	2008	JANE GERACI	3		Digitize	0	0	0	29	22S	25E	Sumner Lake	0.00000000	28.54499797	-81.82757483	5909
2725	10008	C A Meyer Paving & Construction	3	N	Digitize	0	0	6	26	22S	26E	Floridan Aquifer	350.00000000	28.54722125	-81.67479362	3863
2725	10009	C A Meyer Paving & Construction	3		Digitize	0	0	12	26	22S	26E	Floridan Aquifer	150.00000000	28.54777685	-81.67534917	7165
2580	9508	Hartle Groves	3	N	Digitize	0	200	6	26	22S	26E	Floridan Aquifer	400.00000000	28.54777676	-81.68062709	8107
2478	9168	City of Clermont	0	Y	Digitize	605	840	12	25	22S	25E	Floridan Aquifer	1500.00000000	28.54751112	-81.76222115	4195
2478	33694	City of Clermont	3	N	Other/Unknown	350	900	24	3	23S	26E	Floridan Aquifer	2000.00000000	28.54779220	-81.71565455	4083
4492	18840	Miksa Farms	3	N	Digitize	50	150	8	25	22S	24E	Floridan Aquifer	1000.00000000	28.54749764	-81.86563134	7631
2478	9167	City of Clermont	0	Y	Digitize	600	918	12	26	22S	25E	Floridan Aquifer	1500.00000000	28.54810987	-81.77584399	4197
2580	9509	Hartle Groves	3		Digitize	0	300	4	26	22S	26E	Floridan Aquifer	0.00000000	28.54916566	-81.68034928	5513
65302	26986	Tower Groves	3	N	Other/Unknown	100	300	8	28	22S	24E	Floridan Aquifer	500.00000000	28.54850647	-81.91935099	2499
2635	9717	Amon's Groves	3	N	Digitize	0	365	6	24	22S	26E	Floridan Aquifer	400.00000000	28.55141411	-81.65884302	3796
2478	10365	City of Clermont	0	Y	Digitize	0	750	18	22	22S	26E	Floridan Aquifer	1400.00000000	28.55198563	-81.69790576	4198
2913	10236	City of Groveland - North Potable Supply Service Area	0	Y	Digitize	160	825	10	24	22S	24E	Floridan Aquifer	550.00000000	28.55179474	-81.86081968	14255
2746	2007	JANE GERACI	3	N	Digitize	0	0	0	20	22S	25E	Black Lake	0.00000000	28.55277554	-81.82868602	1860
50651	20046	Oak Hill Cemetary	3	N	Digitize	90	180	6	19	22S	26E	Floridan Aquifer	140.00000000	28.55346845	-81.75586939	14251
4524	18896	Lake David Groves	0	Y	Digitize	90	300	12	24	22S	24E	Floridan Aquifer	550.00000000	28.55334234	-81.86528129	8667
50807	20189	Sanctuary Ridge Golf Course	3	N	Digitize	220	580	12	22	22S	26E	Floridan Aquifer	1000.00000000	28.55632994	-81.70514773	12610
2478	10364	City of Clermont	0	Y	Digitize	0	885	16	22	22S	26E	Floridan Aquifer	1500.00000000	28.55680929	-81.69855750	4285
2675	9846	Hunt	3	N	Digitize	0	100	6	21	22S	24E	Floridan Aquifer	500.00000000	28.55666358	-81.90868812	8797
65762	27792	Village at East Lake	3		Digitize	0	231	6	20	22S	26E	Floridan Aquifer	100.00000000	28.55822644	-81.72394207	4627
2751	10074	JANE GERACI	3	N	Digitize	0	0	6	20	22S	24E	Floridan Aquifer	500.00000000	28.55721901	-81.93063311	1999
103822	39527	Colina Bay	3	N	Other/Unknown	223	440	18	23	22S	26E	Floridan Aquifer	200.00000000	28.56039964	-81.67785483	7981

OFFICL PERMIT	STN ID	PERMIT PROJECT	DETERMINAT	GPS	STNHDR DET	WELL CSNG I	WELL CUR D	WELL CLSNG 2	SECTION ID	TWNSHP ID	RANGE ID	SOURCE	MAX CAP QT	DEC LAT	DEC LONG	OBJECT ID 1
50229	1910	Gourd Neck Springs	3	N	Digitize	0	0	0	23	22S	26E	Lake Apopka	0.00000000	28.56194302	-81.67479375	11474
2913	39038	City of Groveland - North Potable Supply Service Area	3	N	Other/Unknown	180	800	10	21	22S	25E	Floridan Aquifer	1000.00000000	28.56161382	-81.82104615	14102
2670	9839	L & E Grove	3		Digitize	0	525	12	22	22S	24E	Floridan Aquifer	1400.00000000	28.56110798	-81.90341025	4753
5709	8855	Silver Springs Citrus	3		Digitize	0	0	18	24	22S	24E	Floridan Aquifer	1500.00000000	28.56221939	-81.85618683	3442
100	18990	Green Valley Country Club	3	N	Digitize	0	260	10		0	0	Floridan Aquifer	1760.00000000	28.56249365	-81.81472224	9291
2478	9169	City of Clermont	0	Y	Digitize	517	840	10	19	22S	26E	Floridan Aquifer	1500.00000000	28.56300213	-81.74605311	11841
100	3224	Green Valley Country Club	3	N	Digitize	0	0	0	21	22S	25E	Lake #1	1200.00000000	28.56277523	-81.81451902	5710
5709	8857	Silver Springs Citrus	3	N	Digitize	0	0	8	24	22S	24E	Floridan Aquifer	750.00000000	28.56277495	-81.85674238	10673
5709	8856	Silver Springs Citrus	3	N	Digitize	0	691	10	24	22S	24E	Floridan Aquifer	1500.00000000	28.56277496	-81.85729793	3792
2886	10515	City of Minneola - Public Supply	3	N	Digitize	344	702	16	17	22S	26E	Floridan Aquifer	2000.00000000	28.56504936	-81.72379807	7942
2886	10514	City of Minneola - Public Supply	3	N	Digitize	344	702	16	17	22S	26E	Floridan Aquifer	2000.00000000	28.56527589	-81.72368359	2524
1670	18829	Odis Fenders Citrus Nursery	3	N	Digitize	20	110	12	17	22S	25E	Floridan Aquifer	250.00000000	28.56589341	-81.83672466	3408
4485	18819	Mohan Sawh	3	N	Digitize	150	305	6	17	22S	25E	Floridan Aquifer	400.00000000	28.56610835	-81.83174180	9840
99	18992	Knight Lake LLC	3	N	Digitize	0	200	10	16	22S	24E	Floridan Aquifer	1200.00000000	28.56638556	-81.90646595	11344
4485	18818	Mohan Sawh	3	N	Digitize	150	300	4	17	22S	25E	Floridan Aquifer	85.00000000	28.56721936	-81.83174174	11204
2913	10239	City of Groveland - North Potable Supply Service Area	0	Y	Digitize	90	600	10	18	22S	25E	Floridan Aquifer	500.00000000	28.56746073	-81.84311956	14254
4485	18817	Mohan Sawh	3	N	Digitize	150	300	4	17	22S	25E	Floridan Aquifer	85.00000000	28.56805273	-81.83174175	2714
65432	27693	Lake Catherine Blueberries	3	N	Digitize	126	600	10	13	22S	24E	Floridan Aquifer	900.00000000	28.56807378	-81.85888421	5026
2913	10237	City of Groveland - North Potable Supply Service Area	0	Y	Digitize	157	600	10	18	22S	25E	Floridan Aquifer	500.00000000	28.56825340	-81.84374240	13897
2617	9610	Fender Nursery	3	N	Digitize	0	400	12	17	22S	24E	Floridan Aquifer	1500.00000000	28.56874949	-81.93172884	8978
50115	34772	Pine Island PUD	3	N	Other/Unknown	240	430	12	13	22S	26E	Floridan Aquifer	1500.00000000	28.57055385	-81.67146036	11046
2617	9611	Fender Nursery	3	N	Digitize	0	400	12	17	22S	24E	Floridan Aquifer	1500.00000000	28.56927278	-81.92981132	638
2682	9871	Knight Lake	3	N	Digitize	110	350	8	16	22S	24E	Floridan Aquifer	800.00000000	28.56999648	-81.90591043	1628
2773	10142	Hanks Grove	3		Digitize	155	370	6	13	22S	24E	Floridan Aquifer	250.00000000	28.57058275	-81.86891636	3906
2773	10143	Hanks Grove	3	N	Digitize	0	110	2	13	22S	24E	Floridan Aquifer	15.00000000	28.57064340	-81.86883169	10660
51056	21524	Spring of Life Spring Water	3	N	Digitize	88	120	4	14	22S	26E	Floridan Aquifer	150.00000000	28.57214322	-81.68315374	690
51056	21525	Spring of Life Spring Water	3		Digitize	90	120	6	14	22S	26E	Floridan Aquifer	400.00000000	28.57225436	-81.68291581	4434
2581	34852	Marian Gardens	3	N	Digitize	0	0	12	8	22S	24E	Floridan Aquifer	800.00000000	28.57091249	-81.93628755	7412
65432	242383	Lake Catherine Blueberries	3	N	Digitize	134	400	8	13	22S	24E	Floridan Aquifer	830.00000000	28.57155966	-81.85746165	13821

OFFICL PERMIT	STN ID	PERMIT PROJECT	DETERMINAT	GPS	STNHDR DET	WELL CSNG I	WELL CUR D	WELL CLSNG 2	SECTION ID	TWNSHP ID	RANGE ID	SOURCE	MAX CAP QT	DEC LAT	DEC LONG	OBJECT ID 1
2747	2009	JANE GERACI	3	N	Digitize	0	0	0	15	22S	24E	Sunset Lake	0.00000000	28.57166320	-81.89146558	2058
2744	10068	MICHELONI PROPERTIES INC.	3	N	Digitize	0	0	10	16	22S	24E	Floridan Aquifer	1100.00000000	28.57249640	-81.91257734	2450
2937	10610	South Lake High School	3		Digitize	63	70	6	16	22S	25E	Floridan Aquifer	120.00000000	28.57553686	-81.81769029	4652
2453	19797	City of Mascotte	0	Y	Other/Unknown	180	290	8	14	22S	24E	Floridan Aquifer	300.00000000	28.57577087	-81.88482495	4275
2663	9819	19-acre grove	3	N	Digitize	242	640	8	16	22S	26E	Floridan Aquifer	1200.00000000	28.57694221	-81.71312784	9279
2927	10595	Woodlands Lutheran Campgrounds	3	N	Digitize	0	0	6	14	22S	26E	Floridan Aquifer	0.00000000	28.57722016	-81.68757183	2292
2453	105692	City of Mascotte	3	N	Other/Unknown	320	700	16	15	22S	24E	Floridan Aquifer	700.00000000	28.57613359	-81.89246657	11370
2453	19798	City of Mascotte	0	Y	Other/Unknown	164	450	10	15	22S	24E	Floridan Aquifer	700.00000000	28.57641548	-81.89250390	4315
2748	10071	JANE GERACI	3		Digitize	0	0	8	14	22S	24E	Floridan Aquifer	500.00000000	28.57749638	-81.88229879	4864
2871	10478	AMON GROVE	3		Digitize	67	120	10	15	22S	25E	Floridan Aquifer	0.00000000	28.57805265	-81.79757430	5075
2842	10381	Clergrove	3		Digitize	0	460	8	15	22S	25E	Floridan Aquifer	640.00000000	28.57860812	-81.79979654	4777
50287	9944	Harvey Fender	3	N	Digitize	0	260	12	18	22S	24E	Floridan Aquifer	1200.00000000	28.57832919	-81.95118947	6690
2744	10069	MICHELONI PROPERTIES INC.	3	N	Digitize	0	0	10	16	22S	24E	Floridan Aquifer	1100.00000000	28.57916285	-81.90785505	9960
50135	430	Palisades Golf Course	3		Other/Unknown	0	0	0				Lake Minneola	700.00000000	28.58055271	-81.78007387	5464
2581	9510	Marian Gardens	3	N	Digitize	0	402	8	9	22S	24E	Floridan Aquifer	450.00000000	28.58050843	-81.94227577	10025
50287	9941	Harvey Fender	3	N	Digitize	0	400	12	7	22S	24E	Floridan Aquifer	1200.00000000	28.58138466	-81.94785613	1653
2691	1991	Grove # 1	3	N	Digitize	0	0	0	12	22S	24E	Palatlakaha River	350.00000000	28.58249639	-81.86840954	1932
50135	429	Palisades Golf Course	3	N	Other/Unknown	0	0	0				Lake Minneola	700.00000000	28.58305254	-81.78062947	11904
50135	426	Palisades Golf Course	3		Other/Unknown	115	400	8				Floridan Aquifer	650.00000000	28.58305259	-81.78118503	3822
2656	35369	Cherry Lake G & B	3	N	Other/Unknown	0	0	0	7	22S	25E	Palatlakaha River System	1400.00000000	28.58337155	-81.85264712	7873
50135	427	Palisades Golf Course	3		Other/Unknown	112	165	4				Floridan Aquifer	30.00000000	28.58388593	-81.77896279	3925
2415	8961	Fiaz Ally	3	N	Digitize	0	0	6	9	22S	24E	Floridan Aquifer	310.00000000	28.58305156	-81.91563302	9454
50135	425	Palisades Golf Course	3	N	Other/Unknown	115	400	8				Floridan Aquifer	650.00000000	28.58416368	-81.78007393	6803
2581	9511	Marian Gardens	3	N	Digitize	55	363	10	7	22S	24E	Floridan Aquifer	450.00000000	28.58335610	-81.94335310	3829
50287	9942	Harvey Fender	3	N	Digitize	0	260	12	7	22S	24E	Floridan Aquifer	1200.00000000	28.58332901	-81.94785618	6639
2724	10007	Black Still Rd	3	N	Digitize	180	500	6	10	22S	26E	Floridan Aquifer	300.00000000	28.58538130	-81.70241845	584
2900	38542	Hillcrest PUD	3	N	Other/Unknown	490	490	18	10	22S	26E	Floridan Aquifer	0.00000000	28.58594199	-81.69634890	8430
2900	10549	Hillcrest PUD	3	N	Digitize	490	850	24	10	22S	26E	Floridan Aquifer	1000.00000000	28.58598918	-81.69769805	10245
2900	35903	Hillcrest PUD	3	N	Digitize	490	850	24	10	22S	26E	Floridan Aquifer	2200.00000000	28.58599186	-81.69717693	7417
2581	9513	Marian Gardens	3	N	Digitize	63	302	12	7	22S	24E	Floridan Aquifer	800.00000000	28.58460706	-81.93853489	6123
2900	10546	Hillcrest PUD	3	N	Digitize	139	160	18	10	22S	26E	Floridan Aquifer	1200.00000000	28.58616624	-81.69215597	10239
50115	35470	Pine Island PUD	3	N	Digitize	151	171	6	12	22S	26E	Floridan Aquifer	200.00000000	28.58666821	-81.66567798	1987

OFFICL PERMIT	STN ID	PERMIT PROJECT	DETERMINAT	GPS	STNHDR DET	WELL CSNG I	WELL CUR D	WELL CLSNG 2	SECTION ID	TWNSHP ID	RANGE ID	SOURCE	MAX CAP QT	DEC LAT	DEC LONG	OBJECT ID 1
2696	9913	Underpass Block	3		Digitize	448	600	12	11	22S	24E	Floridan Aquifer	0.00000000	28.58555175	-81.87896545	2097
2581	9514	Marian Gardens	3	N	Digitize	65	305	12	8	22S	24E	Floridan Aquifer	800.00000000	28.58538786	-81.93851014	11267
2602	9580	Fender Citrus Nursery	3	N	Digitize	0	269	12	9	22S	24E	Floridan Aquifer	1500.00000000	28.58582919	-81.91702201	8654
2870	10477	AHMED ELDIFRAWI	3		Digitize	0	0	10	7	22S	25E	Floridan Aquifer	0.00000000	28.58638527	-81.84535340	5950
50115	35471	Pine Island PUD	3	N	Digitize	120	300	4	12	22S	26E	Floridan Aquifer	40.00000000	28.58741831	-81.66102907	1990
2581	9512	Marian Gardens	3	N	Digitize	84	410	8	7	22S	24E	Floridan Aquifer	450.00000000	28.58602282	-81.94234724	3232
50135	428	Palisades Golf Course	3	N	Other/Unknown	150	350	6	11	22S	25E	Floridan Aquifer	300.00000000	28.58721912	-81.78035172	12940
50115	34771	Pine Island PUD	3	N	Other/Unknown	252	450	12	12	22S	26E	Floridan Aquifer	1500.00000000	28.58813063	-81.66633921	1007
2498	9244	Parsram & Lall	3		Digitize	0	107	6	9	22S	24E	Floridan Aquifer	325.00000000	28.58698232	-81.90776504	5116
2602	9579	Fender Citrus Nursery	3	N	Digitize	0	205	12	9	22S	24E	Floridan Aquifer	1500.00000000	28.58694027	-81.91563307	7954
2594	9549	Cherry Lake Tree Farm, Inc.	3		Digitize	114	615	12	7	22S	25E	Floridan Aquifer	650.00000000	28.58860747	-81.84535349	12694
2594	9550	Cherry Lake Tree Farm, Inc.	3	N	Digitize	124	546	12	7	22S	25E	Floridan Aquifer	1300.00000000	28.58860744	-81.84840915	12098
2461	9113	HIGHLAND GROVE PARTNERSHIP	3	N	Digitize	0	0	10	9	22S	26E	Floridan Aquifer	0.00000000	28.59027513	-81.71035020	11597
2917	10575	Britton Barnes	3	N	Digitize	90	300	8	12	22S	24E	Floridan Aquifer	0.00000000	28.59027384	-81.87007641	1783
2648	9779	Montverde	3	N	Digitize	100	549	6	11	22S	26E	Floridan Aquifer	0.00000000	28.59138635	-81.67951626	9364
2581	34847	Marian Gardens	3	N	Digitize	126	402	12	8	22S	24E	Floridan Aquifer	800.00000000	28.59000280	-81.92197132	8601
2594	9551	Cherry Lake Tree Farm, Inc.	3		Digitize	202	725	12	7	22S	25E	Floridan Aquifer	600.00000000	28.59082958	-81.84090890	12729
2581	34849	Marian Gardens	3	N	Digitize	0	0	16	8	22S	24E	Floridan Aquifer	800.00000000	28.59030092	-81.94405238	7449
2671	19923	Town of Montverde	0	Y	Digitize	377	607	12	11	22S	26E	Floridan Aquifer	1400.00000000	28.59297606	-81.68053883	10032
2595	9555	Orange Grove	3		Digitize	200	200	4	10	22S	24E	Floridan Aquifer	389.00000000	28.59194034	-81.89118808	5423
2890	10522	Montverde Mobile Home Subdivision	0	Y	Digitize	0	205	6	1	22S	26E	Floridan Aquifer	400.00000000	28.59361984	-81.66745265	8288
2890	10521	Montverde Mobile Home Subdivision	0	Y	Digitize	0	205	6	1	22S	26E	Floridan Aquifer	400.00000000	28.59362005	-81.66742944	6440
2462	20078	Lakeside at Sunrise	3	N	Digitize	150	450	10	12	22S	24E	Floridan Aquifer	1200.00000000	28.59348703	-81.86895821	1881
2462	9115	Lakeside at Sunrise	3		Digitize	150	450	8	12	22S	24E	Floridan Aquifer	650.00000000	28.59360711	-81.86618739	5426
50430	19885	Umatilla Grove	3	N	Digitize	0	0	10	11	22S	25E	Floridan Aquifer	0.00000000	28.59446585	-81.77331216	1328
2462	1916	Lakeside at Sunrise	3	N	Digitize	0	0	0	12	22S	24E	Lake Lucy	2700.00000000	28.59416269	-81.86035388	137
2581	34848	Marian Gardens	3	N	Digitize	147	400	8	8	22S	24E	Floridan Aquifer	800.00000000	28.59517942	-81.92960989	6056
2594	1958	Cherry Lake Tree Farm, Inc.	3	N	Digitize	0	0	0	5	22S	25E	Lake Melanie	1300.00000000	28.59610721	-81.83840892	11025
2764	10107	Fields Equipment Co	3	N	Digitize	0	0	12	6	22S	26E	Floridan Aquifer	750.00000000	28.59747498	-81.75454285	12015
11146	21342	Groveland Estates	3	N	Digitize	0	0	0	1	22S	24E	Lake Lucy	600.00000000	28.59730554	-81.86188661	2238
2594	9548	Cherry Lake Tree Farm, Inc.	3	N	Digitize	0	0	10	5	22S	25E	Floridan Aquifer	1200.00000000	28.59749614	-81.83257543	12140
11146	20158	Groveland Estates	3		Digitize	300	300	4	1	22S	24E	Floridan Aquifer	0.00000000	28.59734468	-81.86460024	5222

OFFICL PERMIT	STN ID	PERMIT PROJECT	DETERMINAT	GPS	STNHDR DET	WELL CSNG I	WELL CUR D	WELL CLSNG 2	SECTION ID	TWNSHP ID	RANGE ID	SOURCE	MAX CAP QT	DEC LAT	DEC LONG	OBJECT ID 1
2594	1959	Cherry Lake Tree Farm, Inc.	3	N	Digitize	0	0	0	5	22S	25E	Lake Chloe	500.00000000	28.59805167	-81.82507520	1413
11146	34168	Groveland Estates	3	N	Other/Unknown	0	0	0	1	22S	24E	Floridan Aquifer	0.00000000	28.59847503	-81.86731826	3006
2594	9547	Cherry Lake Tree Farm, Inc.	3		Digitize	0	309	10	5	22S	25E	Floridan Aquifer	900.00000000	28.59916278	-81.82868650	12701
2671	19922	Town of Montverde	0	Y	Digitize	191	465	10	1	22S	26E	Floridan Aquifer	600.00000000	28.60066521	-81.67164186	8477
2930	10598	Fakih Grove	3	N	Digitize	200	310	12	3	22S	24E	Floridan Aquifer	1200.00000000	28.59963318	-81.89286763	10656
50721	20122	Mike Linnell	3	N	Digitize	200	375	3	1	22S	24E	Floridan Aquifer	37.00000000	28.60002268	-81.85674988	1247
2525	9340	CONSOLIDATED MINERALS, INC.	3	N	Digitize	0	560	12	5	22S	26E	Floridan Aquifer	1800.00000000	28.60166343	-81.73062842	8373
2525	9338	CONSOLIDATED MINERALS, INC.	3	N	Digitize	0	560	12	4	22S	26E	Floridan Aquifer	1800.00000000	28.60194132	-81.71368368	11085
2594	9552	Cherry Lake Tree Farm, Inc.	3		Digitize	148	309	4	5	22S	25E	Floridan Aquifer	80.00000000	28.60136213	-81.82457581	14268
2581	34850	Marian Gardens	3	N	Digitize	0	0	12	8	22S	24E	Floridan Aquifer	800.00000000	28.60077914	-81.92793280	7493
2594	9553	Cherry Lake Tree Farm, Inc.	3		Digitize	89	150	4	5	22S	25E	Floridan Aquifer	60.00000000	28.60146977	-81.82636781	14267
2581	34851	Marian Gardens	3	N	Digitize	0	0	8	8	22S	24E	Floridan Aquifer	800.00000000	28.60080819	-81.93030923	8603
2886	23386	City of Minneola - Public Supply	3	N	Digitize	280	702	12	1	22S	25E	Floridan Aquifer	1600.00000000	28.60350261	-81.76020765	10243
2886	23387	City of Minneola - Public Supply	3	N	Digitize	280	702	12	1	22S	25E	Floridan Aquifer	2000.00000000	28.60352594	-81.75877345	8842
50218	687	Highlands MHP	0	Y	Digitize	140	200	6	6	22S	26E	Floridan Aquifer	0.00000000	28.60407475	-81.75457711	6680
2594	21977	Cherry Lake Tree Farm, Inc.	3	N	Digitize	110	112	12				Floridan Aquifer	1500.00000000	28.60424783	-81.83091233	8600
2850	10402	Beck Grove	3	N	Digitize	0	460	10	3	22S	24E	Floridan Aquifer	851.00000000	28.60388428	-81.89174377	3322
277	19036	Store #6 Grove	3	N	Digitize	0	180	10	2	22S	24E	Floridan Aquifer	1100.00000000	28.60499542	-81.88229913	8414
2835	10361	JOE MIDDLETON GROVES, INC.	3	N	Digitize	0	0	6	2	22S	26E	Floridan Aquifer	345.00000000	28.60666364	-81.68034964	11915
2525	9339	CONSOLIDATED MINERALS, INC.	3	N	Digitize	0	0	12	4	22S	26E	Floridan Aquifer	200.00000000	28.60749661	-81.72229493	10191
4517	18882	Osgood Grove	0	Y	Digitize	0	320	12	1	22S	26E	Floridan Aquifer	1200.00000000	28.60776364	-81.67296474	7552
70266	33793	Lee Williams Fernery	3	N	Other/Unknown	0	0	3				Floridan Aquifer	0.00000000	28.60810127	-81.84841258	2472
70266	33484	Lee Williams Fernery	3	N	Other/Unknown	0	0	6				Floridan Aquifer	250.00000000	28.60811294	-81.84873894	2468
2594	21994	Cherry Lake Tree Farm, Inc.	3	N	Digitize	17	76	4				Floridan Aquifer	100.00000000	28.60848655	-81.82924398	8597
1665	18806	S. T. BROWN NURSERY	3	N	Digitize	0	395	8	2	22S	24E	Floridan Aquifer	0.00000000	28.60916193	-81.88396583	449
1665	18807	S. T. BROWN NURSERY	3	N	Digitize	0	110	3	2	22S	24E	Floridan Aquifer	0.00000000	28.60916192	-81.88452142	7223
2594	21993	Cherry Lake Tree Farm, Inc.	3	N	Digitize	17	76	4				Floridan Aquifer	100.00000000	28.60971212	-81.82916404	8596
2759	10092	LaViance Property	3	N	Digitize	136	815	12	31	21S	25E	Floridan Aquifer	2000.00000000	28.61027334	-81.84063137	9751
2926	10594	Mantione Grove	3	N	Digitize	0	200	4	33	21S	25E	Floridan Aquifer	50.00000000	28.61055142	-81.81146391	10095

OFFICL PERMIT	STN ID	PERMIT PROJECT	DETERMINAT	GPS	STNHDR DET	WELL CSNG I	WELL CUR D	WELL CLSNG 2	SECTION ID	TWNSHP ID	RANGE ID	SOURCE	MAX CAP QT	DEC LAT	DEC LONG	OBJECT ID 1
2926	10592	Mantione Grove	3		Digitize	0	450	10	33	21S	25E	Floridan Aquifer	700.00000000	28.61055139	-81.81229721	8914
2594	9554	Cherry Lake Tree Farm, Inc.	3		Digitize	23	114	10	5	22S	25E	Floridan Aquifer	800.00000000	28.61054197	-81.82917056	14265
2436	9044	Ridge Grove	3		Digitize	0	0	4	32	21S	24E	Floridan Aquifer	0.00000000	28.61008959	-81.92552035	5470
83686	34626	Lake Trimbey Nursery	3	N	Other/Unknown	235	520	12	31	21S	24E	Floridan Aquifer	1100.00000000	28.61127322	-81.93870359	7999
2623	18974	JOHN BECK	3		Digitize	0	500	12	34	21S	25E	Floridan Aquifer	1000.00000000	28.61221807	-81.79979695	5457
2850	10401	Beck Grove	3	N	Digitize	105	520	12	34	21S	24E	Floridan Aquifer	1800.00000000	28.61166182	-81.89368839	10509
5774	8965	Franklin Pond Inc	3	N	Digitize	150	400	8	36	21S	25E	Floridan Aquifer	0.00000000	28.61249619	-81.76062917	7446
2926	10593	Mantione Grove	3	N	Digitize	0	210	2	33	21S	25E	Floridan Aquifer	40.00000000	28.61221800	-81.81257505	9907
105467	39824	Groveland Reuse and Alternative Water Utility	3	N	Other/Unknown	106	242	4				Floridan Aquifer	60.00000000	28.61254633	-81.79159061	9794
2525	9343	CONSOLIDATED MINERALS, INC.	3	N	Digitize	0	875	12	33	21S	26E	Floridan Aquifer	1500.00000000	28.61360754	-81.72229500	7072
275	3228	Hart Lake #5 Grove	3	N	Digitize	0	0	0	36	21S	24E	Lake Hart	1100.00000000	28.61305084	-81.86674323	2969
2525	9341	CONSOLIDATED MINERALS, INC.	3	N	Digitize	0	660	12	33	21S	26E	Floridan Aquifer	2000.00000000	28.61555194	-81.71646158	11533
2525	9342	CONSOLIDATED MINERALS, INC.	3	N	Digitize	0	740	12	33	21S	26E	Floridan Aquifer	1500.00000000	28.61555189	-81.72201719	6106
2436	9043	Ridge Grove	3		Digitize	0	200	12	32	21S	24E	Floridan Aquifer	0.00000000	28.61481304	-81.92274718	5432
271	237447	Lake Emma Road	3	N	Other/Unknown	0	0	0	12	22S	24E	Lake Desire	750.00000000	28.61548985	-81.83862280	10976
6344	1981	Villa River	3	N	Digitize	0	0	0	36	21S	24E	Palatlakaha River	0.00000000	28.61555077	-81.86118748	11819
2939	10614	Tuscanooga Lakes LLC	3	N	Digitize	0	250	12	33	21S	24E	Floridan Aquifer	1200.00000000	28.61555045	-81.91285560	11372
271	237448	Lake Emma Road	3	N	Other/Unknown	0	0	0	12	22S	24E	Lake Desire	10.00000000	28.61609816	-81.83895313	10975
2944	33119	Williams Grove	3	N	Digitize	0	0	4	31	21S	25E	Floridan Aquifer	0.00000000	28.61621970	-81.84623663	12014
86742	35145	Hyponex Peat Mine	3	N	Other/Unknown	0	0	0	35	21S	25E	Schoolhouse Pond	1600.00000000	28.61702639	-81.78639136	2051
2944	10619	Williams Grove	3	N	Digitize	0	0	4	31	21S	25E	Floridan Aquifer	0.00000000	28.61680198	-81.84652178	9878
271	23158	Lake Emma Road	3	N	Digitize	0	0	0	31	21S	25E	Lake Desire	750.00000000	28.61749538	-81.84007586	3523
4497	18850	Sherman McGregor	3	N	Digitize	0	0	6	31	21S	25E	Floridan Aquifer	0.00000000	28.61777308	-81.84340923	7833
4497	8162	Sherman McGregor	3	N	Other/Unknown	0	0	8	31	21S	25E	Floridan Aquifer	0.00000000	28.61782709	-81.84440766	1796
4497	18851	Sherman McGregor	3	N	Digitize	0	110	4	31	21S	25E	Floridan Aquifer	0.00000000	28.61805084	-81.84452037	1548
2944	10620	Williams Grove	3	N	Digitize	130	450	10	31	21S	25E	Floridan Aquifer	750.00000000	28.61805086	-81.84563154	44
2640	9742	Tuscanooga Lakes LLC	3	N	Digitize	0	300	12	35	21S	24E	Floridan Aquifer	1200.00000000	28.61916157	-81.88813268	7967
1665	18805	S. T. BROWN NURSERY	3		Digitize	0	400	8	35	21S	24E	Floridan Aquifer	160.00000000	28.61943945	-81.87313229	5878
50159	464	Hi Acres Nursery	3	N	Digitize	260	460	12	32	21S	24E	Floridan Aquifer	1100.00000000	28.61916508	-81.93307596	11072
2514	9301	LEONARD C. CARTER TRUSTEE	3	N	Digitize	0	600	6	33	21S	26E	Floridan Aquifer	0.00000000	28.62138503	-81.71951723	1591
2408	8940	Southlake Land	3	N	Digitize	0	0	10	32	21S	24E	Floridan Aquifer	0.00000000	28.62082793	-81.92285592	6553

OFFICL PERMIT	STN ID	PERMIT PROJECT	DETERMINAT	GPS	STNHDR DET	WELL CSNG I	WELL CUR D	WELL CLSNG 2	SECTION ID	TWNSHP ID	RANGE ID	SOURCE	MAX CAP QT	DEC LAT	DEC LONG	OBJECT ID 1
2525	9344	CONSOLIDATED MINERALS, INC.	3	N	Digitize	0	812	12	32	21S	26E	Floridan Aquifer	1500.00000000	28.62249605	-81.72507291	3987
2898	10542	Lake Correctional Institution	3	N	Digitize	150	400	10	36	21S	25E	Floridan Aquifer	300.00000000	28.62297909	-81.76613562	5198
2898	10540	Lake Correctional Institution	3	N	Digitize	190	500	10		0	0	Floridan Aquifer	500.00000000	28.62308774	-81.76724076	5592
2525	9345	CONSOLIDATED MINERALS, INC.	3		Digitize	0	540	12	29	21S	26E	Floridan Aquifer	1500.00000000	28.62499595	-81.72868412	3297
105467	39798	Groveland Reuse and Alternative Water Utility	3	N	Other/Unknown	138	253	4				Floridan Aquifer	60.00000000	28.62616394	-81.78936843	9789
6344	9795	Villa River	3	N	Digitize	0	0	12	25	21S	24E	Floridan Aquifer	0.00000000	28.62582823	-81.85674308	8259
105467	39820	Groveland Reuse and Alternative Water Utility	3	N	Other/Unknown	93	115	4				Floridan Aquifer	0.00000000	28.62631502	-81.78822376	9790
2946	10623	C & C Peat Mine	3		Digitize	0	0	4	29	21S	24E	Floridan Aquifer	32.00000000	28.62554998	-81.92285600	5628
2817	18941	Lakeridge Winery	3	N	Digitize	0	240	8	25	21S	25E	Floridan Aquifer	600.00000000	28.62653699	-81.76823494	1355
105467	39823	Groveland Reuse and Alternative Water Utility	3	N	Other/Unknown	144	240	4				Floridan Aquifer	60.00000000	28.62707257	-81.78210755	9793
2817	18942	Lakeridge Winery	3	N	Digitize	0	200	4	25	21S	25E	Floridan Aquifer	30.00000000	28.62723759	-81.76920253	1346
2856	18975	VILLA CITY GROVE	3	N	Digitize	0	360	10	30	21S	25E	Floridan Aquifer	1000.00000000	28.62749497	-81.84563163	9636
105467	39821	Groveland Reuse and Alternative Water Utility	3	N	Other/Unknown	58	135	4				Floridan Aquifer	60.00000000	28.62804799	-81.78326059	9791
105467	39822	Groveland Reuse and Alternative Water Utility	3	N	Other/Unknown	122	145	4				Floridan Aquifer	60.00000000	28.62807952	-81.78280250	9792
2630	9704	E.L.M. Groves	3		Digitize	84	350	8	27	21S	24E	Floridan Aquifer	550.00000000	28.62789938	-81.89906998	5774
6344	9796	Villa River	3	N	Digitize	0	0	12	25	21S	24E	Floridan Aquifer	0.00000000	28.62860595	-81.86118764	8216
2525	9347	CONSOLIDATED MINERALS, INC.	3	N	Digitize	0	600	12	29	21S	26E	Floridan Aquifer	1500.00000000	28.62944027	-81.72673966	3024
2435	9028	GRANDVIEW GROVE	3	N	Digitize	0	0	12	30	21S	26E	Floridan Aquifer	0.00000000	28.63110668	-81.75146240	12056
2407	8939	Southlake Land	3	N	Digitize	0	0	10	29	21S	24E	Floridan Aquifer	1300.00000000	28.63193855	-81.92980069	2248
6398	9863	Clerbrook Resort	0	Y	Digitize	0	150	4	27	21S	25E	Floridan Aquifer	200.00000000	28.63339581	-81.79062284	10137
6398	1990	Clerbrook Resort	3	N	Digitize	0	0	0	27	21S	25E	Storm Water Pond	60.00000000	28.63416187	-81.78951908	2194
2525	9346	CONSOLIDATED MINERALS, INC.	3	N	Digitize	0	600	12	29	21S	26E	Floridan Aquifer	1500.00000000	28.63499563	-81.72673967	4061
6344	9797	Villa River	3		Digitize	85	250	8	25	21S	24E	Floridan Aquifer	0.00000000	28.63471675	-81.86535451	5422
2645	9765	Kentucky Bluff Inc	3		Digitize	100	500	12	25	21S	25E	Floridan Aquifer	600.00000000	28.63610643	-81.75812924	4549
2655	9801	Moon Lake	3		Digitize	250	400	12	25	21S	24E	Floridan Aquifer	1600.00000000	28.63555015	-81.85535425	4364
50239	810	Lake Trimbey Groves	3	N	Digitize	250	450	12	30	21S	24E	Floridan Aquifer	1250.00000000	28.63499390	-81.94007886	3012

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6398	9861	Clerbrook Resort	0	Y	Digitize	0	295	8	26	21S	25E	Floridan Aquifer	400.00000000	28.63702923	-81.78925786	298
114010	145012	Project Falls Letter Modification	3	N	Other/Unknown	94	130	4				Floridan Aquifer	100.00000000	28.63849879	-81.82804655	12643
50239	809	Lake Trimbey Groves	3		Digitize	365	493	10	30	21S	24E	Floridan Aquifer	0.00000000	28.63802860	-81.94055412	4437
2913	18908	City of Groveland - North Potable Supply Service Area	3	N	Digitize	119	400	8		0	0	Floridan Aquifer	800.00000000	28.63957996	-81.80028882	7200
50307	1016	Bee's RV Resort	3	N	Other/Unknown	170	212	6	22	21S	25E	Floridan Aquifer	200.00000000	28.64082822	-81.79368583	6967
2820	10313	Hwy 33	3		Digitize	0	0	6	22	21S	24E	Floridan Aquifer	500.00000000	28.64027191	-81.89202194	5942
63669	23832	Sunset Landing	3	N	Digitize	0	75	2	22	21S	24E	Floridan Aquifer	0.00000000	28.64188373	-81.89886011	320
63669	26979	Sunset Landing	3	N	Digitize	0	0	0	22	21S	24E	unnamed lake	80.00000000	28.64194700	-81.89901513	3764
2913	9414	City of Groveland - North Potable Supply Service Area	0	Y	Digitize	126	337	10		0	0	Floridan Aquifer	1000.00000000	28.64356596	-81.80330594	7786
2913	9415	City of Groveland - North Potable Supply Service Area	0	Y	Digitize	126	337	10		0	0	Floridan Aquifer	1000.00000000	28.64383174	-81.80325159	7790
2913	10569	City of Groveland - North Potable Supply Service Area	3	N	Digitize	263	500	12	12	22S	25E	Floridan Aquifer	800.00000000	28.64424644	-81.80127245	7703
2690	9887	Ha Eretz	3		Digitize	105	105	10	24	21S	25E	Floridan Aquifer	0.00000000	28.64582826	-81.76868527	4895
2654	9800	Hilltop 27	3	N	Digitize	0	0	10	20	21S	25E	Floridan Aquifer	1000.00000000	28.64721666	-81.82424231	8208
2840	32899	Woodland Heritage M.H.P.	3	N	Digitize	156	378	8	20	21S	25E	Floridan Aquifer	500.00000000	28.64814874	-81.83705329	8442
2886	35255	City of Minneola - Public Supply	3	N	Other/Unknown	901	1300	36	20	21S	26E	Floridan Aquifer	2000.00000000	28.64945134	-81.73391777	7420
2840	10378	Woodland Heritage M.H.P.	3		Digitize	133	310	6	20	21S	25E	Floridan Aquifer	500.00000000	28.64916092	-81.83507601	5497
2471	9147	BLR Villa City C LLC	3		Digitize	0	0	10	20	21S	25E	Floridan Aquifer	0.00000000	28.65027204	-81.83202040	4145
94701	36265	Sugarloaf Mountain Golf Course - Irrigation	3	N	Other/Unknown	436	559	8	17	21S	26E	Floridan Aquifer	1600.00000000	28.65216517	-81.72482538	3375
2829	10347	E-76 CPL	3	N	Digitize	105	435	8	19	21S	26E	Floridan Aquifer	750.00000000	28.65221705	-81.74924027	8136
50276	941	BS Groves	3	N	Digitize	110	325	8	19	21S	24E	Floridan Aquifer	0.00000000	28.65138222	-81.94896817	4251
2505	9290	CONRAD	3	N	Digitize	0	200	6	17	21S	26E	Floridan Aquifer	500.00000000	28.65305055	-81.72868429	8129
2409	8941	Royal Highlands Grove	3		Digitize	600	600	12	24	21S	24E	Floridan Aquifer	1800.00000000	28.65277164	-81.86979925	3165
2960	10656	Dan-Wre Acres	3	N	Digitize	0	400	10	18	21S	26E	Floridan Aquifer	600.00000000	28.65707389	-81.75336928	9366
2734	10295	Mr James A Lee	3	N	Digitize	200	400	8	18	21S	26E	Floridan Aquifer	310.00000000	28.65888351	-81.75229598	11394
2629	20518	Monarch Golf Club at Royal Highlands	3		Digitize	0	0	0	13	21S	24E	Pond	1000.00000000	28.65886313	-81.86736079	5932
2629	9698	Monarch Golf Club at Royal Highlands	3	N	Digitize	225	463	10	13	21S	24E	Floridan Aquifer	3000.00000000	28.65886954	-81.86635904	8281

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50736	18834	O'Brien 1-6	3	N	Digitize	0	317	12	16	21S	25E	Floridan Aquifer	1650.00000000	28.65971630	-81.81007541	11362
2734	10028	Mr James A Lee	3		Digitize	200	400	8	18	21S	26E	Floridan Aquifer	225.00000000	28.66138341	-81.74674026	4449
2592	9540	Kilbert #360	3		Digitize	0	0	6	15	21S	24E	Floridan Aquifer	613.00000000	28.66110448	-81.89952238	3637
2819	10309	Laughman Grove	3		Digitize	110	350	6	13	21S	25E	Floridan Aquifer	400.00000000	28.66228535	-81.75956683	4719
94	22440	City of Leesburg Public Supply	0	Y	Digitize	150	400	12	13	21S	24E	Floridan Aquifer	700.00000000	28.66180258	-81.86652908	6508
2413	8960	LAMAGRI, INC.	3	N	Digitize	0	0	12	14	21S	25E	Floridan Aquifer	0.00000000	28.66304983	-81.77451889	4080
50736	18833	O'Brien 1-6	3		Digitize	0	310	12	16	21S	25E	Floridan Aquifer	900.00000000	28.66332736	-81.80896430	3932
50736	18831	O'Brien 1-6	3		Digitize	0	300	12	15	21S	25E	Floridan Aquifer	900.00000000	28.66443846	-81.80479756	7185
94	22437	City of Leesburg Public Supply	0	Y	Digitize	150	265	12	13	21S	24E	Floridan Aquifer	700.00000000	28.66445783	-81.86658142	7919
2685	24808	Coolidge Grove	3		Other/Unknown	300	350	10				Floridan Aquifer	600.00000000	28.66525429	-81.83675834	7787
94	35294	City of Leesburg Public Supply	3	N	Other/Unknown	700	1200	18	13	21S	24E	Lower Floridan Aquifer	3000.00000000	28.66512596	-81.86657299	9457
50195	599	Theo K. Carson	3	N	Digitize	0	0	0	18	21S	25E	unnamed lake	400.00000000	28.66610473	-81.84257637	6434
2709	9958	Food Basics	3	N	Digitize	150	500	6	12	21S	25E	Floridan Aquifer	350.00000000	28.66682142	-81.77089617	10748
2770	10135	Swango Grove	3	N	Digitize	0	360	6	12	21S	25E	Floridan Aquifer	400.00000000	28.66786675	-81.76968481	1856
50736	3209	O'Brien 1-6	3	N	Digitize	0	0	0	9	21S	25E	Unnamed Lakes	900.00000000	28.66765489	-81.81643077	2268
50195	679	Theo K. Carson	3	N	Digitize	105	345	8	7	21S	25E	Floridan Aquifer	550.00000000	28.66777131	-81.84174306	7376
98	18993	Chandardat & Pantchwaltie Singh	3	N	Digitize	0	0	6	7	21S	26E	Floridan Aquifer	600.00000000	28.66832766	-81.74812932	3276
50736	18835	O'Brien 1-6	3	N	Digitize	0	314	12	9	21S	25E	Floridan Aquifer	1650.00000000	28.66804936	-81.81507559	11835
50736	18832	O'Brien 1-6	3	N	Digitize	0	314	12	9	21S	25E	Floridan Aquifer	0.00000000	28.66832714	-81.81063102	3502
2503	9255	J.E. ODOM CITRUS NURSERY	3		Digitize	0	300	10	11	21S	24E	Floridan Aquifer	0.00000000	28.66804882	-81.87868856	5148
50736	10189	O'Brien 1-6	3		Digitize	0	300	12	10	21S	25E	Floridan Aquifer	2035.00000000	28.66888278	-81.80090853	5237
2585	9528	Hezedean Smith	3	N	Digitize	0	0	8	11	21S	25E	Floridan Aquifer	630.00000000	28.66916077	-81.77257443	10018
2503	9254	J.E. ODOM CITRUS NURSERY	3		Digitize	0	300	4	11	21S	24E	Floridan Aquifer	0.00000000	28.66888205	-81.88591098	5344
2731	10021	The 27th Green Nursery	3	N	Digitize	21	480	4	7	21S	25E	Floridan Aquifer	70.00000000	28.66965894	-81.85355873	7652
2503	9252	J.E. ODOM CITRUS NURSERY	3		Digitize	0	300	10	11	21S	24E	Floridan Aquifer	0.00000000	28.66971540	-81.88591103	4755
2669	24779	William R Hancock	3		Other/Unknown	300	450	10				Floridan Aquifer	1300.00000000	28.66971515	-81.91202292	12668
2503	9253	J.E. ODOM CITRUS NURSERY	3	N	Digitize	0	300	10	11	21S	24E	Floridan Aquifer	0.00000000	28.67027098	-81.88063313	2296
2981	10699	Highway 27 Grove	3		Digitize	0	0	12	7	21S	25E	Floridan Aquifer	1000.00000000	28.67138231	-81.85007672	7792
120156	243316	Merritt and Snook	3	N	Other/Unknown	0	0	0				unnamed lake	4800.00000000	28.67145758	-81.93840197	4699
2818	10308	Highway 33 Grove	3	N	Digitize	0	340	6	10	21S	24E	Floridan Aquifer	320.00000000	28.67443733	-81.89813364	8206
2684	9876	Howey Grove	3	N	Digitize	125	265	10	7	21S	26E	Floridan Aquifer	600.00000000	28.67610506	-81.75340725	474
2653	9798	Maguire 455	3	N	Digitize	150	350	10	12	21S	25E	Floridan Aquifer	1500.00000000	28.67611142	-81.75676810	2434
2728	242404	Record Buck Farms	3	N	Other/Unknown	92	249	4				Floridan Aquifer	70.00000000	28.67626214	-81.76820543	13904
2567	9477	Loma Linda Corp	3		Digitize	225	415	12	8	21S	25E	Floridan Aquifer	1200.00000000	28.67693784	-81.82257592	2999

OFFICL PERMIT	STN ID	PERMIT PROJECT	DETERMINAT	GPS	STNHDR DET	WELL CSNG I	WELL CUR D	WELL CLSNG 2	SECTION ID	TWNSHP ID	RANGE ID	SOURCE	MAX CAP QT	DEC LAT	DEC LONG	OBJECT ID 1
2537	9391	Gissy Groves	3	N	Digitize	0	190	10	10	21S	24E	Floridan Aquifer	1200.00000000	28.67789500	-81.89909032	11583
6271	9700	Triple Lakes Grove	3	N	Digitize	0	375	12	9	21S	25E	Floridan Aquifer	1100.00000000	28.67861130	-81.80635640	2977
2728	242403	Record Buck Farms	3	N	Other/Unknown	130	250	4				Floridan Aquifer	70.00000000	28.67923771	-81.76075608	13903
2567	34152	Loma Linda Corp	3		Other/Unknown	120	120	4	9	21S	25E	Floridan Aquifer	60.00000000	28.67904651	-81.81929522	8518
2958	10650	Turnpike Sand Plant	3		Digitize	187	435	10	12	21S	24E	Floridan Aquifer	2000.00000000	28.67888184	-81.87174405	2955
88884	35482	Ohnstad	3	N	Other/Unknown	147	450	8	7	21S	24E	Floridan Aquifer	0.00000000	28.67853769	-81.95044990	6140
2728	34555	Record Buck Farms	3	N	Other/Unknown	167	430	6	12	21S	25E	Floridan Aquifer	475.00000000	28.67997186	-81.76340029	1613
2728	70	Record Buck Farms	3	N	Digitize	141	300	4	12	21S	25E	Floridan Aquifer	475.00000000	28.68037910	-81.76346288	13495
2728	242401	Record Buck Farms	3	N	Other/Unknown	173	300	4				Floridan Aquifer	70.00000000	28.68051132	-81.76333412	13901
2728	242402	Record Buck Farms	3	N	Other/Unknown	150	210	4				Floridan Aquifer	20.00000000	28.68058292	-81.76369248	13902
2728	242405	Record Buck Farms	3	N	Other/Unknown	253	270	4				Floridan Aquifer	50.00000000	28.68088244	-81.77041376	13905
2958	38499	Turnpike Sand Plant	3	N	Other/Unknown	138	203	4	12	21S	24E	Floridan Aquifer	0.00000000	28.68032339	-81.86680220	7527
2958	38498	Turnpike Sand Plant	3	N	Other/Unknown	0	0	0				Drag Line Pond	3000.00000000	28.68067249	-81.86380191	2875
2728	10014	Record Buck Farms	3	N	Digitize	173	300	6	12	21S	25E	Floridan Aquifer	475.00000000	28.68136241	-81.76628797	13872
2958	38497	Turnpike Sand Plant	3	N	Other/Unknown	0	0	0	12	21S	24E	Drag Line Pond	8500.00000000	28.68137085	-81.86376806	1745
2912	10568	Moss Grove	3	N	Digitize	0	0	8	3	21S	25E	Floridan Aquifer	400.00000000	28.68221564	-81.79868635	854
4529	18912	A H Whitmore Foundation	0	Y	Digitize	0	250	4	2	21S	24E	Floridan Aquifer	90.00000000	28.68175372	-81.88599210	8500
103264	39417	Youth Camp Peat Mine	3	N	Other/Unknown	0	0	0	8	21S	24E	On-site lake	3600.00000000	28.68210251	-81.93592933	7922
4529	3216	A H Whitmore Foundation	0	Y	Digitize	0	0	0	2	21S	24E	Palatlakha River	1500.00000000	28.68268774	-81.88131495	8528
103264	39416	Youth Camp Peat Mine	3	N	Other/Unknown	0	0	0	5	21S	24E	On-site lake	2000.00000000	28.68395615	-81.93661401	7917
2814	10298	Dewey & Orange	3	N	Digitize	105	393	10	4	21S	25E	Floridan Aquifer	1800.00000000	28.68642377	-81.81045858	11631
2774	34052	Jack Strickland	3	N	Digitize	0	175	2		0	0	Floridan Aquifer	0.00000000	28.68639656	-81.91027207	1457
2465	19753	Orange Blossom Road Griffin Road	3	N	Digitize	262	330	10	2	21S	25E	Floridan Aquifer	1000.00000000	28.68721559	-81.78535271	6952
5951	9227	Hi-Acres Cattle & Hay	3	N	Digitize	150	350	12	6	21S	24E	Floridan Aquifer	1742.00000000	28.68665869	-81.94646856	12860
2774	10146	Jack Strickland	3	N	Digitize	0	420	12	4	21S	24E	Floridan Aquifer	1500.00000000	28.68721456	-81.91063417	433
4529	18909	A H Whitmore Foundation	0	Y	Digitize	0	700	12	2	21S	24E	Floridan Aquifer	1100.00000000	28.68763355	-81.88561655	8424
4529	18910	A H Whitmore Foundation	0	Y	Digitize	0	230	4	2	21S	24E	Floridan Aquifer	80.00000000	28.68772773	-81.88584795	7562
2774	10144	Jack Strickland	3	N	Digitize	0	380	8	4	21S	24E	Floridan Aquifer	750.00000000	28.68777013	-81.90535627	11996
4508	18868	Poole Farms	3	N	Digitize	0	0	10	1	21S	25E	Floridan Aquifer	600.00000000	28.68988240	-81.76177913	10585
4551	18946	PIERIE GROVE	3	N	Digitize	0	0	10	5	21S	25E	Floridan Aquifer	332.00000000	28.68943731	-81.83813209	6547
2578	9504	Clements Grove	3	N	Digitize	190	580	12	5	21S	25E	Floridan Aquifer	1250.00000000	28.69039745	-81.82574362	7058
2911	10567	Linda Block	3	N	Digitize	100	200	6	3	21S	25E	Floridan Aquifer	364.00000000	28.69105846	-81.80077181	8365
2967	10669	Gator Central	3	N	Digitize	100	275	8	5	21S	25E	Floridan Aquifer	600.00000000	28.69110398	-81.82590947	1330
2680	24807	William C Davis	3		Other/Unknown	100	500	8				Floridan Aquifer	550.00000000	28.69304838	-81.82424281	12667
2571	9486	Howey Block	3	N	Digitize	0	580	24	2	21S	25E	Floridan Aquifer	2250.00000000	28.69397357	-81.77610581	6449

OFFICL PERMIT	STN ID	PERMIT PROJECT	DETERMINAT	GPS	STNHDR DET	WELL CSNG I	WELL CUR D	WELL CLSNG 2	SECTION ID	TWNSHP ID	RANGE ID	SOURCE	MAX CAP QT	DEC LAT	DEC LONG	OBJECT ID 1
5951	9226	Hi-Acres Cattle & Hay	3	N	Digitize	134	311	12	6	21S	24E	Floridan Aquifer	1742.00000000	28.69360288	-81.94952427	9172
2571	9487	Howey Block	3	N	Digitize	0	0	6	35	20S	25E	Floridan Aquifer	500.00000000	28.69610420	-81.77674146	1751
2667	18879	Ray Kemp	3	N	Digitize	100	330	10	31	20S	25E	Floridan Aquifer	800.00000000	28.69598583	-81.84050128	10165
2824	10320	Howey Block	3		Digitize	115	365	12	33	20S	25E	Floridan Aquifer	2000.00000000	28.69765360	-81.81059534	2896
2568	9479	Hart Farm	3	N	Digitize	0	210	10	31	20S	24E	Floridan Aquifer	1000.00000000	28.69825714	-81.94310940	9889
50081	9518	Piney Island	3		Digitize	0	400	12	34	20S	25E	Floridan Aquifer	2500.00000000	28.69943725	-81.79868655	3544
2568	9480	Hart Farm	3	N	Digitize	0	154	12	31	20S	24E	Floridan Aquifer	1500.00000000	28.69854140	-81.94311195	9893
2673	9844	Pappas Grove	3		Digitize	0	100	8	35	20S	24E	Floridan Aquifer	750.00000000	28.69915889	-81.87702225	5846
50081	300	Piney Island	3	N	Digitize	200	400	10	34	20S	25E	Floridan Aquifer	1800.00000000	28.69974910	-81.79603452	3731
2568	21543	Hart Farm	3	N	Digitize	60	127	2	31	20S	24E	Floridan Aquifer	0.00000000	28.69907502	-81.94268683	9886
5951	26932	Hi-Acres Cattle & Hay	3	N	Other/Unknown	0	0	4	32	20S	24E	Floridan Aquifer	0.00000000	28.70026947	-81.93174610	8448
50081	1953	Piney Island	3	N	Digitize	0	0	0	34	20S	25E	Wholly Pond	2500.00000000	28.70193711	-81.80202002	10916
2460	9111	7L Howey-in-the-Hills	3	N	Digitize	103	728	12	36	20S	25E	Floridan Aquifer	1100.00000000	28.70221512	-81.77063022	4156
2603	9584	Ranch Road Properties	3	N	Digitize	0	150	6	33	20S	26E	Floridan Aquifer	0.00000000	28.70298243	-81.71515667	6179
2539	9393	Hill, Barker, & Rea	3	N	Digitize	0	410	8	33	20S	25E	Floridan Aquifer	1800.00000000	28.70323654	-81.81694951	8821
2538	35938	J & R Grove	3	N	Digitize	0	180	2	32	20S	25E	Floridan Aquifer	0.00000000	28.70402129	-81.83110901	8825
2791	10213	Eagles Landing	3	N	Digitize	0	600	12	35	20S	25E	Floridan Aquifer	2200.00000000	28.70443726	-81.77729706	2432
2791	10210	Eagles Landing	3		Digitize	250	600	12	35	20S	25E	Floridan Aquifer	2000.00000000	28.70471504	-81.78090833	2967
2538	9392	J & R Grove	3	N	Digitize	0	180	6	32	20S	25E	Floridan Aquifer	600.00000000	28.70444355	-81.83205725	3563
4542	104807	Journey Circle M Ranch	3	N	Other/Unknown	0	0	4	31	20S	25E	Floridan Aquifer	0.00000000	28.70493571	-81.84547090	8548
4542	18935	Journey Circle M Ranch	3		Digitize	0	660	12	32	20S	25E	Floridan Aquifer	1500.00000000	28.70638120	-81.83479882	2890
4499	18853	James Grove	0	Y	Digitize	0	404	12	32	20S	25E	Floridan Aquifer	1200.00000000	28.70647705	-81.82531896	5866
2563	19874	Mid Florida Ferns	3	N	Digitize	116	160	4	34	20S	25E	Floridan Aquifer	60.00000000	28.70693701	-81.79757549	7953
2695	9908	Blue Sink	3		Digitize	0	110	12	32	20S	25E	Floridan Aquifer	1000.00000000	28.70675945	-81.83099046	5052
50176	566	WFR Lake Jem	0	Y	Digitize	98	240	12	36	20S	26E	Floridan Aquifer	667.00000000	28.70776472	-81.67143692	12180
2563	19875	Mid Florida Ferns	3		Digitize	105	248	6	34	20S	25E	Floridan Aquifer	530.00000000	28.70721473	-81.79785330	4541
2612	9599	Palms Mobile Home Park	3		Digitize	150	340	8	36	20S	24E	Floridan Aquifer	500.00000000	28.70749203	-81.85979958	5842
110116	39551	Plantation at Leesburg	3	N	Other/Unknown	0	0	4	35	20S	24E	Unknown Aquifer	0.00000000	28.70751217	-81.87562651	4009
50176	564	WFR Lake Jem	0	Y	Digitize	135	420	12	36	20S	26E	Floridan Aquifer	1000.00000000	28.70917042	-81.67110843	12212
2836	12339	A DUDA & SONS INC	3	N	Digitize	0	0	8	36	20S	26E	Floridan Aquifer	732.00000000	28.70943794	-81.66618328	8655
50176	565	WFR Lake Jem	0	Y	Digitize	115	260	12	25	20S	26E	Floridan Aquifer	667.00000000	28.70998231	-81.66931959	12128
104559	20178	Plantation Residents Golf Club Inc	3	N	Digitize	0	0	0	35	20S	24E	Sawgrass Lake	400.00000000	28.71036651	-81.87337735	10427
2621	9638	Meadows of Astatula	3	N	Digitize	542	542	16	28	20S	26E	Floridan Aquifer	50.00000000	28.71166752	-81.72080287	7800

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2723	10003	J&J Homes	3	N	Digitize	0	0	12	29	20S	25E	Floridan Aquifer	3400.00000000	28.71126946	-81.82366962	1162
2723	10004	J&J Homes	3	N	Digitize	125	520	12	29	20S	25E	Floridan Aquifer	3400.00000000	28.71127656	-81.82270182	1177
50720	20118	Astatula Elementary School	3		Digitize	0	0	4	29	20S	26E	Floridan Aquifer	75.00000000	28.71191762	-81.73433326	4367
104559	39548	Plantation Residents Golf Club Inc	3	N	Other/Unknown	0	350	12		0	0	Floridan Aquifer	0.00000000	28.71119981	-81.87369841	2215
50720	20119	Astatula Elementary School	3	N	Digitize	0	0	6	29	20S	26E	Floridan Aquifer	100.00000000	28.71207463	-81.73339203	10940
100086	38930	Clearwater Reserve	3	N	Other/Unknown	95	525	12	28	20S	24E	Floridan Aquifer	0.00000000	28.71138308	-81.90655312	8393
4542	104805	Journey Circle M Ranch	3	N	Other/Unknown	0	137	4	29	20S	25E	Floridan Aquifer	0.00000000	28.71210667	-81.83799281	8556
2590	9536	DANIEL WEEKS CITRUS	3		Digitize	0	0	6	29	20S	25E	Floridan Aquifer	1000.00000000	28.71249207	-81.83063208	4464
2590	9537	DANIEL WEEKS CITRUS	3		Digitize	0	0	4	29	20S	25E	Floridan Aquifer	0.00000000	28.71249210	-81.83146547	4443
2621	9637	Meadows of Astatula	3	N	Digitize	0	325	6	28	20S	26E	Floridan Aquifer	200.00000000	28.71332627	-81.72118453	1590
2949	10627	Heidia	3		Digitize	170	380	10	29	20S	25E	Floridan Aquifer	1000.00000000	28.71267751	-81.83702299	5430
2596	9557	Town Of Howey-In-The-Hills	0	Y	Digitize	191	334	12	26	20S	25E	Floridan Aquifer	1000.00000000	28.71304813	-81.77610693	11286
2718	39545	City of Leesburg, Plantation	3		Other/Unknown	0	275	10				Floridan Aquifer	0.00000000	28.71267243	-81.87678472	4042
2718	39549	City of Leesburg, Plantation	3	N	Other/Unknown	0	405	12	26	20S	24E	Floridan Aquifer	0.00000000	28.71285015	-81.87669257	2213
2718	39546	City of Leesburg, Plantation	3	N	Other/Unknown	0	380	12				Floridan Aquifer	0.00000000	28.71285012	-81.87686301	12631
104559	39547	Plantation Residents Golf Club Inc	3	N	Other/Unknown	0	350	8		0	0	Floridan Aquifer	0.00000000	28.71301124	-81.87689242	2244
100086	38931	Clearwater Reserve	3	N	Other/Unknown	183	430	10	27	20S	24E	Floridan Aquifer	0.00000000	28.71301139	-81.89747149	8394
4486	18823	Crabb Grove	3	N	Digitize	0	0	12	28	20S	25E	Floridan Aquifer	1830.00000000	28.71388107	-81.81896504	479
104559	9994	Plantation Residents Golf Club Inc	0	Y	Digitize	0	0	10	26	20S	24E	Surficial Aquifer	400.00000000	28.71355622	-81.88249956	10428
104559	39553	Plantation Residents Golf Club Inc	3	N	Digitize	0	0	0	26	20S	24E	Surficial aquifer	0.00000000	28.71424770	-81.88165969	3860
4542	104806	Journey Circle M Ranch	3	N	Other/Unknown	0	0	4	30	20S	25E	Floridan Aquifer	0.00000000	28.71460051	-81.84302528	8636
2768	10126	Pleasant Farms	3		Digitize	0	0	8	27	20S	25E	Floridan Aquifer	1200.00000000	28.71499225	-81.80063124	5176
2962	10661	Astatula Fire Protection System	3	N	Digitize	0	200	8	29	20S	26E	Floridan Aquifer	500.00000000	28.71554825	-81.73729607	9398
2949	10626	Heidia	3		Digitize	130	350	10	29	20S	25E	Floridan Aquifer	1000.00000000	28.71582528	-81.83702122	5077
4542	104690	Journey Circle M Ranch	3	N	Other/Unknown	104	104	8	30	20S	25E	Floridan Aquifer	0.00000000	28.71595399	-81.83876051	8546
2419	38940	Silver Springs Citrus	3	N	Other/Unknown	313	710	16	26	20S	25E	Floridan Aquifer	0.00000000	28.71633907	-81.78244949	8767
3312	12268	Long and Scott Farm	3	N	Digitize	130	480	8	25	20S	26E	Floridan Aquifer	900.00000000	28.71721545	-81.66201663	4903

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110116	39550	Plantation at Leesburg	3	N	Other/Unknown	0	0	4	26	20S	24E	Unknown Aquifer	0.00000000	28.71595186	-81.88513973	4010
2419	8980	Silver Springs Citrus	3	N	Digitize	462	905	12	26	20S	25E	Floridan Aquifer	2018.00000000	28.71693680	-81.78174172	10583
2481	9182	Packing House By Products	3	N	Digitize	112	795	18	26	20S	25E	Floridan Aquifer	1000.00000000	28.71749229	-81.78590860	3990
2836	18982	A DUDA & SONS INC	3	N	Digitize	0	325	6	25	20S	26E	Floridan Aquifer	120.00000000	28.72048771	-81.67498832	7883
4542	104804	Journey Circle M Ranch	3	N	Other/Unknown	0	151	4	30	20S	25E	Floridan Aquifer	0.00000000	28.71961961	-81.83835962	7615
11581	18991	Y-10	3	N	Digitize	180	365	4	28	20S	25E	Floridan Aquifer	600.00000000	28.72138373	-81.81932094	14002
2662	9816	Las Colinas	3	N	Digitize	120	300	10	26	20S	25E	Floridan Aquifer	750.00000000	28.72193665	-81.77618608	11353
2758	10091	Florida Made Door	3	N	Digitize	180	300	8	29	20S	26E	Floridan Aquifer	1000.00000000	28.72298222	-81.72956973	2686
2758	10090	Florida Made Door	3	N	Digitize	0	300	4	29	20S	26E	Floridan Aquifer	60.00000000	28.72303297	-81.72842635	8592
2662	23908	Las Colinas	3	N	Other/Unknown	80	350	10	27	20S	25E	Floridan Aquifer	750.00000000	28.72267347	-81.79264318	1552
2722	18859	Thomas Knight	3	N	Digitize	0	500	12	29	20S	25E	Floridan Aquifer	1200.00000000	28.72249175	-81.83285446	940
3312	12266	Long and Scott Farm	3	N	Digitize	125	500	6	24	20S	26E	Floridan Aquifer	430.00000000	28.72443742	-81.66257215	4927
2662	23907	Las Colinas	3	N	Other/Unknown	80	300	10	27	20S	25E	Floridan Aquifer	750.00000000	28.72393814	-81.79246698	8010
2662	9815	Las Colinas	3		Digitize	120	300	6	26	20S	25E	Floridan Aquifer	300.00000000	28.72415881	-81.77785277	4459
2607	9592	East Lake Harris	3		Digitize	200	350	6	20	20S	26E	Floridan Aquifer	180.00000000	28.72527018	-81.73507390	4941
2443	9065	SILVER SPRINGS CITRUS COOPERATIVE	3		Digitize	0	500	12	20	20S	25E	Floridan Aquifer	2000.00000000	28.72471383	-81.83341005	4849
104559	20177	Plantation Residents Golf Club Inc	3	N	Digitize	0	0	0	26	20S	24E	on-site plant	0.00000000	28.72445535	-81.87639989	12632
4496	18846	Serenity Farms	3	N	Digitize	0	250	10	20	20S	25E	Floridan Aquifer	0.00000000	28.72499175	-81.82507648	1212
2596	9558	Town Of Howey-In-The-Hills	0	Y	Digitize	162	350	12	23	20S	25E	Floridan Aquifer	1000.00000000	28.72537988	-81.77803312	6420
2662	9817	Las Colinas	3	N	Digitize	120	300	8	23	20S	25E	Floridan Aquifer	1000.00000000	28.72554755	-81.78424195	6196
65573	27760	Hurley Peat Mine	3	N	Other/Unknown	0	0	0	23	20S	26E	Apopka/Beauclair	1000.00000000	28.72609705	-81.68463730	8801
2662	1985	Las Colinas	3	N	Other/Unknown	0	0	0	26	20S	25E	Lake #4	2500.00000000	28.72704766	-81.79585910	6334
2711	1997	TRUST 1	3	N	Digitize	0	0	0	22	20S	24E	UNKNOWN (REMOVE)	0.00000000	28.72665773	-81.89285631	2259
2711	1996	TRUST 1	3	N	Digitize	0	0	0	22	20S	24E	UNKNOWN (REMOVE)	0.00000000	28.72665776	-81.89341190	164
3312	12267	Long and Scott Farm	3	N	Digitize	130	550	8	24	20S	26E	Floridan Aquifer	900.00000000	28.72804836	-81.66284999	4489
2711	9963	TRUST 1	3	N	Digitize	0	0	6	22	20S	24E	Floridan Aquifer	0.00000000	28.72693548	-81.89424520	1574
2711	9962	TRUST 1	3	N	Digitize	0	0	6	22	20S	24E	Floridan Aquifer	0.00000000	28.72721332	-81.89230072	4240
2775	10152	Ridgecrest Village	3		Digitize	0	280	6	24	20S	24E	Floridan Aquifer	200.00000000	28.72773010	-81.86494192	3374
2664	1988	Coleman Cline	3		Digitize	0	0	0				Little Lake Harris	650.00000000	28.72832540	-81.76701921	2986
3312	12274	Long and Scott Farm	3	N	Digitize	125	480	6	24	20S	26E	Floridan Aquifer	90.00000000	28.72888169	-81.66896124	564
2775	10153	Ridgecrest Village	3	N	Digitize	148	260	10	24	20S	24E	Floridan Aquifer	650.00000000	28.72784232	-81.86495245	11582
118066	243266	G & L Farms, Inc.	3	N	Other/Unknown	0	375	12				Floridan Aquifer	0.00000000	28.72924942	-81.81904590	288
2662	9818	Las Colinas	3	N	Digitize	120	300	10	23	20S	25E	Floridan Aquifer	1200.00000000	28.72969816	-81.79323462	1998
4526	18900	Silver Springs Citrus	3	N	Digitize	0	500	12	19	20S	25E	Floridan Aquifer	1000.00000000	28.73026207	-81.84440271	12800

OFFICL PERMIT	STN ID	PERMIT PROJECT	DETERMINAT	GPS	STNHDR DET	WELL CSNG I	WELL CUR D	WELL CLSNG 2	SECTION ID	TWNSHP ID	RANGE ID	SOURCE	MAX CAP QT	DEC LAT	DEC LONG	OBJECT ID 1
		sprayfield														
118066	243198	G & L Farms, Inc.	3	N	Other/Unknown	126	375	12	21	20S	25E	Floridan Aquifer	0.00000000	28.73057923	-81.81689047	287
118066	243194	G & L Farms, Inc.	3	N	Other/Unknown	0	0	4				Floridan Aquifer	0.00000000	28.73058385	-81.81716927	286
94	10354	City of Leesburg Public Supply	3	N	Other/Unknown	200	600	12	24	20S	24E	Floridan Aquifer	1500.00000000	28.73082448	-81.86229988	2056
118066	243193	G & L Farms, Inc.	3	N	Other/Unknown	0	0	0				unnamed lake	4200.00000000	28.73115527	-81.81956826	283
2664	1987	Coleman Cline	3	N	Digitize	0	0	0	23	20S	25E	Lake Harris	3050.00000000	28.73221397	-81.78424195	1667
2664	1986	Coleman Cline	3	N	Digitize	0	0	0	23	20S	25E	Lake Harris	950.00000000	28.73221403	-81.78563092	1391
2704	9952	Greenacres Fernery & Citrus	3	N	Digitize	70	220	6	21	20S	25E	Floridan Aquifer	220.00000000	28.73276932	-81.81285398	11429
4522	18892	LCT Transportation Services	3	N	Digitize	0	200	4		0	0	Floridan Aquifer	85.00000000	28.73288244	-81.89435768	78
2704	9951	Greenacres Fernery & Citrus	3	N	Digitize	100	150	4	21	20S	25E	Floridan Aquifer	100.00000000	28.73388035	-81.81146499	9093
2499	18837	CENTRAL FLA GROVE	3	N	Digitize	0	0	8	22	20S	26E	Floridan Aquifer	600.00000000	28.73527004	-81.70368436	8049
2704	9950	Greenacres Fernery & Citrus	3	N	Digitize	100	220	6	21	20S	25E	Floridan Aquifer	380.00000000	28.73471366	-81.81340952	3758
2452	9091	# 2 Road Grove	3		Digitize	0	0	6	20	20S	25E	Floridan Aquifer	0.00000000	28.73471353	-81.83396576	4377
2676	24824	Yalaha Nurseries	3		Other/Unknown	160	180	6				Floridan Aquifer	0.00000000	28.73499153	-81.80229809	12657
2499	18836	CENTRAL FLA GROVE	3	N	Digitize	0	343	6	22	20S	26E	Floridan Aquifer	120.00000000	28.73582559	-81.70229536	972
2676	24823	Yalaha Nurseries	3		Other/Unknown	150	200	6				Floridan Aquifer	0.00000000	28.73554702	-81.80285367	12670
2704	9949	Greenacres Fernery & Citrus	3		Digitize	140	222	6	21	20S	25E	Floridan Aquifer	400.00000000	28.73554697	-81.81257615	8890
2704	9948	Greenacres Fernery & Citrus	3		Digitize	180	300	10	21	20S	25E	Floridan Aquifer	1000.00000000	28.73554702	-81.81285398	3643
65573	33062	Hurley Peat Mine	3	N	Other/Unknown	0	0	0	23	20S	26E	Detention Pond	1000.00000000	28.73648342	-81.67821424	7938
2843	10383	Crescendo Management Inc	3	N	Digitize	0	320	6	22	20S	25E	Floridan Aquifer	550.00000000	28.73610274	-81.79090889	8568
2452	9090	# 2 Road Grove	3	N	Digitize	0	400	10	20	20S	25E	Floridan Aquifer	0.00000000	28.73610238	-81.83146562	9922
94	10353	City of Leesburg Public Supply	0	Y	Digitize	355	650	12	24	20S	24E	Floridan Aquifer	1500.00000000	28.73600942	-81.86700152	4153
2704	9947	Greenacres Fernery & Citrus	3	N	Digitize	80	230	6	21	20S	25E	Floridan Aquifer	280.00000000	28.73665815	-81.80590935	8195
2986	10710	Yalaha Grove	3		Digitize	100	150	8	19	20S	25E	Floridan Aquifer	600.00000000	28.73687632	-81.83982566	5856
94	34530	City of Leesburg Public Supply	3	N	Other/Unknown	550	900	12	24	20S	24E	Floridan Aquifer	1500.00000000	28.73755531	-81.86831555	1707
2843	2045	Crescendo Management Inc	3	N	Digitize	0	0	0	22	20S	25E	Lake Harris	1400.00000000	28.73804709	-81.79007550	11628
94	22488	City of Leesburg Public Supply	3	N	Other/Unknown	250	450	10				Floridan Aquifer	1500.00000000	28.73764532	-81.86983799	9463
50137	8977	Yalaha Hill	0	Y	Digitize	0	300	10	22	20S	25E	Floridan Aquifer	1750.00000000	28.73810040	-81.80337061	13898
2587	9531	Clories E. Warner	3	N	Digitize	100	100	6	21	20S	25E	Floridan Aquifer	80.00000000	28.73832466	-81.81674298	1972

OFFICL PERMIT	STN ID	PERMIT PROJECT	DETERMINAT	GPS	STNHDR DET	WELL CSNG I	WELL CUR D	WELL CLSNG 2	SECTION ID	TWNSHP ID	RANGE ID	SOURCE	MAX CAP QT	DEC LAT	DEC LONG	OBJECT ID 1
50290	966	Sellers Fern	3	N	Digitize	0	105	8	15	20S	25E	Floridan Aquifer	350.00000000	28.73971364	-81.80035368	463
2987	2118	Yalaha Country Bakery	3		Digitize	0	0	0	16	20S	25E	UNKNOWN (REMOVE)	120.00000000	28.73971348	-81.81757642	5158
50290	967	Sellers Fern	3		Digitize	0	105	2	15	20S	25E	Floridan Aquifer	0.00000000	28.73993649	-81.79966627	4931
2834	10360	Lake County Resource Recovery	3	N	Digitize	64	285	10	22	20S	24E	Floridan Aquifer	400.00000000	28.73943509	-81.89007858	7258
2987	2119	Yalaha Country Bakery	3	N	Digitize	0	0	0	16	20S	25E	UNKNOWN (REMOVE)	30.00000000	28.73999123	-81.81785417	10851
2834	10359	Lake County Resource Recovery	3		Digitize	133	335	10	22	20S	24E	Floridan Aquifer	400.00000000	28.73971289	-81.88924519	4469
2540	9395	KENNEDY #308	3	N	Digitize	0	200	6	15	20S	25E	Floridan Aquifer	300.00000000	28.74026908	-81.80368703	3896
2987	10711	Yalaha Country Bakery	3	N	Digitize	0	0	8	16	20S	25E	Floridan Aquifer	0.00000000	28.74082453	-81.81813194	2700
2778	10168	Waterwood	3	N	Digitize	81	180	10	17	20S	25E	Floridan Aquifer	700.00000000	28.74082446	-81.82257650	11833
2925	10590	LAKE MARGARITA GROVE	3	N	Digitize	0	0	4	17	20S	25E	Floridan Aquifer	0.00000000	28.74110216	-81.83257682	7890
2459	9109	Astatula Sand Plant	3	N	Digitize	0	0	8	17	20S	26E	Floridan Aquifer	800.00000000	28.74193630	-81.72868494	5062
2925	2088	LAKE MARGARITA GROVE	3	N	Digitize	0	0	0	17	20S	25E	Lake Margarita	300.00000000	28.74137989	-81.83563247	420
2779	10170	Rogers Industrial park	3	N	Digitize	0	97	8	15	20S	24E	Floridan Aquifer	550.00000000	28.74108235	-81.89195914	9972
50138	380	Yalaha Office	0	Y	Digitize	100	300	10	16	20S	25E	Floridan Aquifer	1000.00000000	28.74203519	-81.80706064	12397
2665	1989	Drake Point	3	N	Digitize	0	0	0	15	20S	25E	Lake Harris	550.00000000	28.74221359	-81.78868661	1156
64152	24032	CSR Rinker Leesburg	3	N	Digitize	30	60	4	32	16S	32E	Floridan Aquifer	85.00000000	28.74212685	-81.89522038	9125
64152	24035	CSR Rinker Leesburg	3	N	Other/Unknown	100	300	6	15	20S	24E	Floridan Aquifer	225.00000000	28.74217412	-81.89505648	9177
64152	24034	CSR Rinker Leesburg	3		Digitize	30	40	4	15	20S	24E	Floridan Aquifer	85.00000000	28.74230110	-81.89505756	3046
64152	24033	CSR Rinker Leesburg	3	N	Digitize	30	40	4	15	20S	24E	Floridan Aquifer	85.00000000	28.74238031	-81.89507626	1239
2444	9066	ALPHONSE REITHINGER	3	N	Digitize	0	0	6	13	20S	26E	Floridan Aquifer	0.00000000	28.74388117	-81.66062778	8687
2762	10096	American Manufacturing & Machine	3		Digitize	0	200	6	15	20S	24E	Floridan Aquifer	250.00000000	28.74276013	-81.89658544	3092
2459	19895	Astatula Sand Plant	3	N	Digitize	0	0	0	8	20S	26E	Dredge Lake	2000.00000000	28.74404452	-81.72817920	6842
2651	9791	Serenby	3	N	Digitize	0	0	10	18	20S	25E	Floridan Aquifer	940.00000000	28.74443534	-81.84257722	6675
2501	9248	Hwy 448	3	N	Digitize	110	288	8	15	20S	26E	Floridan Aquifer	1200.00000000	28.74582531	-81.69951764	9952
2666	9823	Cathye Bouis Grove	3	N	Digitize	120	320	8	15	20S	25E	Floridan Aquifer	550.00000000	28.74625495	-81.80149416	7701
2651	9787	Serenby	3		Digitize	0	0	8	18	20S	25E	Floridan Aquifer	760.00000000	28.74665749	-81.84257723	5526
2651	9788	Serenby	3		Digitize	0	0	6	18	20S	25E	Floridan Aquifer	580.00000000	28.74715445	-81.84231586	13930
2651	1979	Serenby	3		Digitize	0	0	0	18	20S	25E	Wholly-owned Pond	371.00000000	28.74721300	-81.84424399	5928
2459	19896	Astatula Sand Plant	3	N	Digitize	0	0	0	9	20S	26E	Dredge Lake	10000.00000000	28.74815063	-81.72847579	6474
66848	31907	Astatula Grove	3		Digitize	0	0	0	17	20S	26E	Dredge Lake	0.00000000	28.74862875	-81.72749428	4191
2479	9178	Holiday Foliage	3	N	Digitize	0	0	2	14	20S	24E	Floridan Aquifer	0.00000000	28.74804593	-81.88396743	529

OFFICL PERMIT	STN ID	PERMIT PROJECT	DETERMINAT	GPS	STNHDR DET	WELL CSNG I	WELL CUR D	WELL CLSNG 2	SECTION ID	TWNSHP ID	RANGE ID	SOURCE	MAX CAP QT	DEC LAT	DEC LONG	OBJECT ID 1
2479	9177	Holiday Foliage	3		Digitize	0	0	4	14	20S	24E	Floridan Aquifer	0.00000000	28.74804592	-81.88757860	4891
50243	800	Hickory Point	3	N	Other/Unknown	108	330	10	13	20S	25E	Floridan Aquifer	1200.00000000	28.74883900	-81.76691894	9948
2472	9154	Springs Park Area, Inc.	0	Y	Digitize	0	0	8	17	20S	25E	Floridan Aquifer	475.00000000	28.74876854	-81.82821904	5699
2472	9153	Springs Park Area, Inc.	0	Y	Digitize	138	160	8	17	20S	25E	Floridan Aquifer	475.00000000	28.74880040	-81.82836677	7625
2852	9782	Stone Mountain Nursery	3		Digitize	0	0	8	17	20S	25E	Floridan Aquifer	0.00000000	28.74943523	-81.83285470	3616
2852	18905	Stone Mountain Nursery	3		Digitize	0	240	4	18	20S	25E	Floridan Aquifer	80.00000000	28.74943514	-81.84146607	4578
2852	18904	Stone Mountain Nursery	3		Digitize	0	240	4	18	20S	25E	Floridan Aquifer	80.00000000	28.74943514	-81.84146607	4820
4500	18854	HICKORY POINT	3		Digitize	0	300	6	13	20S	25E	Floridan Aquifer	200.00000000	28.74999129	-81.77090838	3515
2651	9786	Serenby	3	N	Digitize	0	0	8	18	20S	25E	Floridan Aquifer	760.00000000	28.74971288	-81.84729965	9018
5817	9036	Bugg Springs Grove	3		Digitize	0	0	6	15	20S	24E	Floridan Aquifer	0.00000000	28.74945283	-81.89864433	5504
2479	9176	Holiday Foliage	3	N	Digitize	0	183	12	14	20S	24E	Floridan Aquifer	3000.00000000	28.74971256	-81.88535631	6929
2479	9179	Holiday Foliage	3	N	Digitize	0	0	2	14	20S	24E	Floridan Aquifer	0.00000000	28.74999034	-81.88424517	6573
2852	35154	Stone Mountain Nursery	3	N	Other/Unknown	0	235	4	18	20S	25E	Floridan Aquifer	70.00000000	28.75078021	-81.84456290	12147
2852	34359	Stone Mountain Nursery	3	N	Other/Unknown	0	240	8	18	20S	25E	Floridan Aquifer	210.00000000	28.75087225	-81.84450420	12243
2852	35155	Stone Mountain Nursery	3	N	Other/Unknown	0	299	4	18	20S	25E	Floridan Aquifer	70.00000000	28.75087327	-81.84434074	12242
2852	34356	Stone Mountain Nursery	3	N	Other/Unknown	0	240	4	18	20S	25E	Floridan Aquifer	70.00000000	28.75132267	-81.84412736	12241
2852	9783	Stone Mountain Nursery	3	N	Digitize	0	0	8	17	20S	25E	Floridan Aquifer	0.00000000	28.75137955	-81.83646598	1491
2852	18906	Stone Mountain Nursery	3	N	Digitize	0	240	4	18	20S	25E	Floridan Aquifer	80.00000000	28.75137948	-81.84424401	998
2852	34357	Stone Mountain Nursery	3	N	Other/Unknown	0	240	4	18	20S	25E	Floridan Aquifer	70.00000000	28.75144053	-81.84412831	12240
2479	9175	Holiday Foliage	3	N	Digitize	0	125	12	14	20S	24E	Floridan Aquifer	3000.00000000	28.75137919	-81.88646748	1915
2516	9322	SCHLOTT	3		Digitize	0	0	6	13	20S	25E	Floridan Aquifer	0.00000000	28.75221344	-81.76396375	5037
2860	19023	Hawthorne at Leesburg	0	Y	Digitize	0	0	4	13	20S	24E	Floridan Aquifer	120.00000000	28.75162268	-81.86496336	1500
2570	9482	Stone Mountain Nursery	3	N	Digitize	150	350	10	18	20S	25E	Floridan Aquifer	0.00000000	28.75221284	-81.84118835	4256
2570	9483	Stone Mountain Nursery	3	N	Digitize	0	0	2	18	20S	25E	Floridan Aquifer	0.00000000	28.75249057	-81.83868824	7089
2852	18901	Stone Mountain Nursery	3		Digitize	0	240	8	18	20S	25E	Floridan Aquifer	650.00000000	28.75249053	-81.84452180	3750
2766	10117	Pastime Fernery, Inc.	3	N	Digitize	0	101	4	13	20S	24E	Floridan Aquifer	0.00000000	28.75249029	-81.85857048	3981
2852	9781	Stone Mountain	3		Digitize	0	0	6	17	20S	25E	Floridan Aquifer	0.00000000	28.75276836	-81.83535482	3569

OFFICL PERMIT	STN ID	PERMIT PROJECT	DETERMINAT	GPS	STNHDR DET	WELL CSNG I	WELL CUR D	WELL CLSNG 2	SECTION ID	TWNSHP ID	RANGE ID	SOURCE	MAX CAP QT	DEC LAT	DEC LONG	OBJECT ID 1
		Nursery														
2910	10564	Knight Farms	3	N	Digitize	120	390	8	15	20S	24E	Floridan Aquifer	0.00000000	28.75248530	-81.88904868	11464
2479	9174	Holiday Foliage	3	N	Digitize	0	125	8	14	20S	24E	Floridan Aquifer	3000.00000000	28.75276799	-81.88618977	2917
2852	18902	Stone Mountain Nursery	3		Digitize	0	240	4	18	20S	25E	Floridan Aquifer	80.00000000	28.75304609	-81.84285507	3434
2852	18903	Stone Mountain Nursery	3	N	Digitize	0	240	4	18	20S	25E	Floridan Aquifer	80.00000000	28.75304609	-81.84285507	6658
2479	9180	Holiday Foliage	3	N	Digitize	0	0	2	14	20S	24E	Floridan Aquifer	0.00000000	28.75276801	-81.88730082	10781
2606	9591	Stone Mountain	3	N	Digitize	106	270	8	18	20S	25E	Floridan Aquifer	500.00000000	28.75333540	-81.84102426	6998
2567	9478	Loma Linda Corp	3	N	Digitize	225	610	12	7	20S	26E	Floridan Aquifer	690.00000000	28.75388016	-81.75257447	8061
4483	18811	Givens Farm	3		Digitize	0	0	4	10	20S	26E	Floridan Aquifer	0.00000000	28.75443611	-81.69812880	4928
2479	1926	Holiday Foliage	3	N	Digitize	0	0	0	14	20S	24E	Templehof	900.00000000	28.75360133	-81.88452304	1876
2479	9173	Holiday Foliage	3	N	Digitize	0	315	8	14	20S	24E	Floridan Aquifer	2000.00000000	28.75360133	-81.88452304	7912
2766	10115	Pastime Fernery, Inc.	3		Digitize	120	484	10	13	20S	24E	Floridan Aquifer	1400.00000000	28.75387934	-81.85591100	5217
2766	10116	Pastime Fernery, Inc.	3	N	Digitize	102	120	6	13	20S	24E	Floridan Aquifer	0.00000000	28.75387850	-81.85618599	207
2910	2079	Knight Farms	3	N	Digitize	0	0	0	14	20S	24E	Unnamed	900.00000000	28.75377387	-81.88781815	7630
2429	9011	INGERSOL GROVE	3	N	Digitize	0	0	4	7	20S	26E	Floridan Aquifer	90.00000000	28.75459334	-81.75534953	10119
2899	2077	Au Clair Palms	3		Digitize	0	0	0	12	20S	26E	Lake Carlton	1000.00000000	28.75526968	-81.66201675	5635
2916	10574	Addam Masri	3	N	Digitize	126	400	8	12	20S	26E	Floridan Aquifer	500.00000000	28.75526962	-81.66396129	126
2704	10024	Greenacres Fernery & Citrus	3		Digitize	100	330	12	13	20S	24E	Floridan Aquifer	800.00000000	28.75443478	-81.86007786	6772
2899	10543	Au Clair Palms	3	N	Digitize	0	0	6	12	20S	26E	Floridan Aquifer	100.00000000	28.75582521	-81.66257233	8930
2479	9172	Holiday Foliage	3	N	Digitize	0	160	12	14	20S	24E	Floridan Aquifer	1200.00000000	28.75471238	-81.88480085	1120
2860	19019	Hawthorne at Leesburg	0	Y	Digitize	0	805	8	12	20S	24E	Floridan Aquifer	310.00000000	28.75576808	-81.87136057	473
2860	19024	Hawthorne at Leesburg	0	Y	Digitize	0	0	4	11	20S	24E	Floridan Aquifer	180.00000000	28.75582733	-81.87322773	3204
2800	10253	JPH Industries	3	N	Digitize	190	480	6	7	20S	26E	Floridan Aquifer	800.00000000	28.75693554	-81.75368568	2159
107839	105552	Holiday Travel Resort	3	N	Other/Unknown	181	500	10	11	20S	24E	Floridan Aquifer	0.00000000	28.75613626	-81.88930834	10260
2860	19018	Hawthorne at Leesburg	0	Y	Digitize	0	820	8	12	20S	24E	Floridan Aquifer	310.00000000	28.75630067	-81.87133591	2229
2964	10665	DAVID POWERS	3	N	Digitize	0	0	4	12	20S	24E	Floridan Aquifer	0.00000000	28.75637915	-81.86424463	986
2483	18895	Country Life Park	3	N	Digitize	97	123	6	11	20S	24E	Floridan Aquifer	325.00000000	28.75642102	-81.87937585	1538
107839	104504	Holiday Travel Resort	3	N	Other/Unknown	298	350	8	11	20S	24E	Floridan Aquifer	520.00000000	28.75658506	-81.88901995	13197
2608	9594	Venetian Village	3	N	Digitize	0	280	6	11	20S	26E	Floridan Aquifer	500.00000000	28.75776942	-81.68590627	2337
2608	9593	Venetian Village	3	N	Digitize	0	230	8	11	20S	26E	Floridan Aquifer	180.00000000	28.75804715	-81.68590624	253
2483	354	Country Life Park	3		Digitize	123	138	10	11	20S	24E	Floridan Aquifer	300.00000000	28.75721225	-81.88452306	6011
2860	19020	Hawthorne at Leesburg	0	Y	Digitize	0	800	12	11	20S	24E	Floridan Aquifer	1010.00000000	28.75732479	-81.87499985	962

OFFICL PERMIT	STN ID	PERMIT PROJECT	DETERMINAT	GPS	STNHDR DET	WELL CSNG I	WELL CUR D	WELL CLSNG 2	SECTION ID	TWNSHP ID	RANGE ID	SOURCE	MAX CAP QT	DEC LAT	DEC LONG	OBJECT ID 1
2792	10216	G Gilbert	3	N	Digitize	20	750	8	12	20S	24E	Floridan Aquifer	1000.00000000	28.75749031	-81.85452217	8638
2860	3226	Hawthorne at Leesburg	3	N	Digitize	0	0	0	11	20S	24E	Palatlakaha River	200.00000000	28.75776792	-81.87285599	12022
2947	10624	ROBERT LAWRENCE	3	N	Digitize	150	280	10	10	20S	26E	Floridan Aquifer	40.00000000	28.75888028	-81.70229555	810
2860	19021	Hawthorne at Leesburg	0	Y	Digitize	0	0	4	11	20S	24E	Floridan Aquifer	65.00000000	28.75826227	-81.87766120	10662
4483	18810	Givens Farm	3	N	Digitize	0	0	4	10	20S	26E	Floridan Aquifer	0.00000000	28.75971369	-81.69479541	2075
71411	33803	Chloe L.L.C.	3		Other/Unknown	0	0	0	12	20S	26E	Lake Carlton	208.00000000	28.76086149	-81.66564602	3438
71411	33797	Chloe L.L.C.	3	N	Other/Unknown	189	350	8	12	20S	26E	Floridan Aquifer	0.00000000	28.76096805	-81.66615622	9545
4483	18809	Givens Farm	3	N	Digitize	0	0	4	10	20S	26E	Floridan Aquifer	0.00000000	28.76082471	-81.69701762	914
71411	33802	Chloe L.L.C.	3	N	Other/Unknown	0	0	0	12	20S	26E	Lake Carlton	100.00000000	28.76109111	-81.66566376	1460
71411	33798	Chloe L.L.C.	3	N	Other/Unknown	147	340	8	12	20S	26E	Floridan Aquifer	0.00000000	28.76124531	-81.66622800	9304
2860	19022	Hawthorne at Leesburg	0	Y	Digitize	0	0	4	12	20S	24E	Floridan Aquifer	160.00000000	28.76085188	-81.86814066	5156
5800	9009	ELZERMAN, ALVAH	3	N	Digitize	0	0	6	10	20S	26E	Floridan Aquifer	0.00000000	28.76193573	-81.70368449	11335
2808	23820	Solid Waste Management	3	N	Digitize	218	280	4	8	20S	26E	Floridan Aquifer	110.00000000	28.76218549	-81.74063340	3120
1669	18827	Reddy Ice	3	N	Digitize	148	240	4	8	20S	26E	Floridan Aquifer	77.00000000	28.76318111	-81.72711415	1779
2980	10698	Jerane Block	3	N	Digitize	147	460	10	9	20S	26E	Floridan Aquifer	1200.00000000	28.76333945	-81.71246676	1452
1669	18826	Reddy Ice	3	N	Digitize	146	240	4	8	20S	26E	Floridan Aquifer	77.00000000	28.76329634	-81.72707228	1713
1669	18825	Reddy Ice	3	N	Digitize	144	300	8	8	20S	26E	Floridan Aquifer	1000.00000000	28.76342091	-81.72699841	1642
71411	33799	Chloe L.L.C.	3	N	Other/Unknown	0	0	0	12	20S	26E	Canal	300.00000000	28.76410777	-81.66546480	9467
71411	33773	Chloe L.L.C.	3	N	Other/Unknown	140	400	16	12	20S	26E	Floridan Aquifer	0.00000000	28.76413104	-81.66633133	11780
71411	33800	Chloe L.L.C.	3	N	Other/Unknown	0	0	0	12	20S	26E	Canal	300.00000000	28.76424847	-81.66575198	10052
2420	1897	IDAMERE	3	N	Digitize	0	0	0	7	20S	26E	Lake Idamere	500.00000000	28.76415756	-81.75007455	1562
71411	33801	Chloe L.L.C.	3	N	Other/Unknown	0	0	0	12	20S	26E	Canal	110.00000000	28.76492572	-81.66602633	9963
2591	9539	JOHNSON BLK	3		Digitize	0	0	10	8	20S	26E	Floridan Aquifer	550.00000000	28.76499106	-81.72924072	5869
2591	9538	JOHNSON BLK	3	N	Digitize	0	0	6	8	20S	26E	Floridan Aquifer	417.00000000	28.76499095	-81.73507414	41
2484	1929	Links at Village Green	3		Digitize	0	0	0	11	20S	26E	Lake Diane	500.00000000	28.76665790	-81.68923968	5918
2484	22016	Links at Village Green	3	N	Digitize	0	0	0	11	20S	26E	Lake Diane	600.00000000	28.76701170	-81.68947197	2680
12253	31867	Hospice of Lake & Sumter	3	N	Other/Unknown	100	250	8	7	20S	26E	Floridan Aquifer	0.00000000	28.76850117	-81.75239509	6190
4512	18875	Cypress Creek	3	N	Digitize	0	140	6	11	20S	24E	Floridan Aquifer	200.00000000	28.76804520	-81.88396752	11454
2484	22053	Links at Village Green	3	N	Digitize	0	0	1	2	20S	26E	Floridan Aquifer	0.00000000	28.77008518	-81.68508241	1697
2484	1931	Links at Village Green	3	N	Digitize	0	0	0	2	20S	26E	Canal	648.00000000	28.77266990	-81.68950292	482
2484	1930	Links at Village Green	3	N	Digitize	0	0	0	2	20S	26E	Canal	520.00000000	28.77269746	-81.68408186	10279
120333	243347	Ravenswood CUP	3	N	Other/Unknown	84	104	6				Floridan Aquifer	65.00000000	28.77209962	-81.88623426	512
2719	9997	Richard Bennett,	3	N	Digitize	0	300	8	6	20S	26E	Floridan Aquifer	0.00000000	28.77304621	-81.74201879	6972

OFFICL PERMIT	STN ID	PERMIT PROJECT	DETERMINAT	GPS	STNHDR DET	WELL CSNG I	WELL CUR D	WELL CLSNG 2	SECTION ID	TWNSHP ID	RANGE ID	SOURCE	MAX CAP QT	DEC LAT	DEC LONG	OBJECT ID 1
		Pres.														
2719	9998	Richard Bennett, Pres.	3	N	Digitize	0	300	10	6	20S	26E	Floridan Aquifer	1500.00000000	28.77360168	-81.74257437	926
2761	10094	Hammock Grove	3	N	Digitize	0	200	8	6	20S	26E	Floridan Aquifer	550.00000000	28.77415718	-81.74757455	2381
4552	18947	Palmer Homes	3	N	Digitize	0	427	12	6	20S	26E	Floridan Aquifer	1000.00000000	28.77804584	-81.75535256	6732
85182	35375	Far Reach Ranch	3	N	Other/Unknown	0	0	0				Lake Dora	600.00000000	28.77829894	-81.71143016	2374
2891	10525	Corley Island Mobile Manor	3		Digitize	0	212	6	3	20S	24E	Floridan Aquifer	230.00000000	28.77721144	-81.89646805	4942
2741	35917	Squirrel Point	3	N	Digitize	258	358	4	3	20S	26E	Floridan Aquifer	0.00000000	28.77872674	-81.69607640	2990
2610	9597	Morningview	3	N	Digitize	0	285	8	2	20S	24E	Floridan Aquifer	425.00000000	28.77776706	-81.88535656	7236
85182	35376	Far Reach Ranch	3	N	Other/Unknown	0	0	0				Lake Newark	1200.00000000	28.77874173	-81.72707882	2366
2521	9330	TAVARES	3	N	Digitize	0	200	6	6	20S	26E	Floridan Aquifer	500.00000000	28.77887926	-81.75035237	3510
2741	10058	Squirrel Point	3	N	Digitize	264	405	6	3	20S	26E	Floridan Aquifer	275.00000000	28.77943511	-81.69590660	10706
2421	8983	LOUIS R. BOWEN JR.	3	N	Digitize	0	250	8	6	20S	26E	Floridan Aquifer	290.00000000	28.77943476	-81.75340807	7915
2584	9527	W. E. NUTT	3	N	Digitize	0	0	6	6	20S	26E	Floridan Aquifer	97.00000000	28.77971253	-81.75035239	10298
85182	35374	Far Reach Ranch	3	N	Other/Unknown	0	0	0				Floridan Aquifer	250.00000000	28.78091776	-81.72681522	2380
50205	643	Boardman Grove	3		Digitize	138	275	6	2	20S	25E	Floridan Aquifer	450.00000000	28.78290555	-81.77737441	2795
2765	10114	City of Tavares Public Water Supply	0	Y	Digitize	320	850	16	6	20S	26E	Floridan Aquifer	2000.00000000	28.78318604	-81.75461900	10602
50205	20025	Boardman Grove	3	N	Digitize	0	0	4	2	20S	25E	Floridan Aquifer	0.00000000	28.78322501	-81.77825380	1435
2726	35479	Stanley	3	N	Digitize	105	200	12	6	20S	26E	Floridan Aquifer	1350.00000000	28.78373698	-81.75355161	8664
2812	10296	Lane Park Block	3	N	Digitize	189	409	10	1	20S	25E	Floridan Aquifer	1250.00000000	28.78454255	-81.77173179	9916
2883	10506	Sunshine State Christian Homes	3		Digitize	0	400	8	1	20S	25E	Floridan Aquifer	300.00000000	28.78471219	-81.76868629	8185
92	19007	Ryan Eshbaugh	3	N	Digitize	126	126	6	2	20S	25E	Floridan Aquifer	400.00000000	28.78471210	-81.77563095	6326
4555	18950	Tavares Ridge	3		Digitize	0	320	8	31	19S	26E	Floridan Aquifer	600.00000000	28.78613332	-81.75257695	4342
4555	18951	Tavares Ridge	3	N	Digitize	0	278	6	31	19S	26E	Floridan Aquifer	80.00000000	28.78613539	-81.75304815	8986
2841	2042	Ja-Mar Farms	3	N	Digitize	0	0	0	32	19S	24E	UNKNOWN (REMOVE)	12014.00000000	28.78526643	-81.92896905	8315
2485	9190	Gorgeous Groves	3	N	Digitize	0	440	8	36	19S	25E	Floridan Aquifer	1000.00000000	28.78637880	-81.76924193	7835
6320	1975	Deer Island Golf & Lake Club	3		Digitize	0	0	0	1	20S	26E	Lake Dora	5.00000000	28.78721276	-81.67118377	3294
92	19008	Ryan Eshbaugh	3	N	Digitize	0	0	10	35	19S	25E	Floridan Aquifer	0.00000000	28.78665648	-81.77785334	1819
6320	1977	Deer Island Golf & Lake Club	3	N	Digitize	0	0	0	1	20S	26E	Lake Dora	75.00000000	28.78776836	-81.66951707	540
6320	1976	Deer Island Golf & Lake Club	3	N	Digitize	0	0	0	1	20S	26E	Lake Dora	75.00000000	28.78776836	-81.66951707	6985
4535	18925	Mt Dora Golf Assoc	3		Digitize	0	0	6	32	19S	27E	Floridan Aquifer	500.00000000	28.78878378	-81.63283902	13841
2668	9834	Robert Sullivan	3		Digitize	0	0	4	34	19S	27E	Floridan Aquifer	0.00000000	28.78924361	-81.59537347	5854
4535	22489	Mt Dora Golf Assoc	3	N	Other/Unknown	0	0	0	32	19S	27E	City of Mt. Dora	0.00000000	28.78923054	-81.62975357	2931
2668	9833	Robert Sullivan	3	N	Digitize	0	0	4	34	19S	27E	Floridan Aquifer	0.00000000	28.78976749	-81.59534460	3788
2668	9832	Robert Sullivan	3	N	Digitize	0	0	4	34	19S	27E	Floridan Aquifer	0.00000000	28.78977920	-81.59564664	7239
2416	8968	Oak Springs MHP	0	Y	Digitize	84	458	8	32	19S	28E	Floridan Aquifer	375.00000000	28.79015928	-81.53182394	8332

OFFICL PERMIT	STN ID	PERMIT PROJECT	DETERMINAT	GPS	STNHDR DET	WELL CSNG I	WELL CUR D	WELL CLSNG 2	SECTION ID	TWNSHP ID	RANGE ID	SOURCE	MAX CAP QT	DEC LAT	DEC LONG	OBJECT ID 1
2416	8969	Oak Springs MHP	0	Y	Digitize	76	410	8	32	19S	28E	Floridan Aquifer	500.00000000	28.79022249	-81.53183942	1325
2715	9979	CSD Partnership	3	N	Digitize	0	600	16	35	19S	27E	Floridan Aquifer	595.00000000	28.78999095	-81.59090400	4184
2562	9458	Javens Block	3		Digitize	75	350	6	33	19S	27E	Floridan Aquifer	600.00000000	28.78999080	-81.61257121	4109
2765	10109	City of Tavares Public Water Supply	0	Y	Digitize	0	0	10	31	19S	26E	Floridan Aquifer	478.00000000	28.78944043	-81.75742881	7733
2561	9457	BEEMON BLOCK	3	N	Digitize	0	250	6	33	19S	27E	Floridan Aquifer	250.00000000	28.79026856	-81.62090479	2727
2485	9191	Gorgeous Groves	3		Digitize	0	350	8	36	19S	25E	Floridan Aquifer	1000.00000000	28.79026748	-81.77174197	5083
2668	9831	Robert Sullivan	3		Digitize	88	422	8	34	19S	27E	Floridan Aquifer	0.00000000	28.79123524	-81.59486711	5855
62724	22819	Fairways at Mt. Plymouth	3	N	Digitize	100	250	8	32	19S	28E	Floridan Aquifer	750.00000000	28.79229147	-81.53775665	11720
62724	22818	Fairways at Mt. Plymouth	3	N	Digitize	100	250	6	32	19S	28E	Floridan Aquifer	150.00000000	28.79250017	-81.53749436	11721
62724	38874	Fairways at Mt. Plymouth	3	N	Other/Unknown	100	250	4	32	19S	28E	Floridan Aquifer	0.00000000	28.79251584	-81.53471433	12838
2841	10379	Ja-Mar Farms	3		Digitize	0	0	4	32	19S	24E	Floridan Aquifer	0.00000000	28.79122373	-81.92201093	4647
2485	9189	Gorgeous Groves	3	N	Digitize	0	0	10	35	19S	25E	Floridan Aquifer	1000.00000000	28.79221184	-81.77757552	10505
2841	2041	Ja-Mar Farms	3	N	Digitize	0	0	0	32	19S	24E	UNKNOWN (REMOVE)	2500.00000000	28.79168865	-81.92091114	335
2841	10380	Ja-Mar Farms	3	N	Digitize	0	0	2	32	19S	24E	Floridan Aquifer	0.00000000	28.79165500	-81.92952465	1033
2841	2040	Ja-Mar Farms	3	N	Digitize	0	0	0	32	19S	24E	UNKNOWN (REMOVE)	25000.00000000	28.79199987	-81.92090906	8724
2936	10609	TREASURE ISLAND NURSERIES	3		Digitize	0	0	6	33	19S	24E	Floridan Aquifer	160.00000000	28.79471057	-81.91869105	5368
2506	9291	Wells grove	3	N	Digitize	150	425	8	31	19S	26E	Floridan Aquifer	800.00000000	28.79665635	-81.75090806	101
2972	2110	LEESBURG LANDFILL	3	N	Digitize	0	0	0	34	19S	24E	UNKNOWN (REMOVE)	900.00000000	28.79637726	-81.90341276	9171
2972	2111	LEESBURG LANDFILL	3	N	Digitize	0	0	0	34	19S	24E	UNKNOWN (REMOVE)	800.00000000	28.79637726	-81.90341276	11898
120326	10382	Charles Burga	3	N	Digitize	200	200	6	32	19S	25E	Floridan Aquifer	400.00000000	28.79719726	-81.82648384	11368
50780	20185	Cove Water System	3	N	Other/Unknown	196	196	6	36	19S	25E	Floridan Aquifer	120.00000000	28.79790497	-81.76569567	2121
120325	10248	Stephen Erstad	3	N	Digitize	100	100	6	33	19S	25E	Floridan Aquifer	426.00000000	28.79801175	-81.82834864	11272
91542	35818	Neighborhood Lakes	3	N	Other/Unknown	142	144	12	33	19S	28E	Floridan Aquifer	0.00000000	28.79972085	-81.51629784	4308
2932	10603	Ward Griner	3	N	Digitize	0	0	2	34	19S	27E	Floridan Aquifer	0.00000000	28.80010750	-81.59349787	8929
2932	10601	Ward Griner	3	N	Digitize	0	0	2	34	19S	27E	Floridan Aquifer	0.00000000	28.80033781	-81.59323900	8843
2932	10602	Ward Griner	3	N	Digitize	100	300	8	34	19S	27E	Floridan Aquifer	750.00000000	28.80048100	-81.59466514	8849
2809	10288	Gladys S Biggers Groves	3	N	Digitize	200	200	6	33	19S	25E	Floridan Aquifer	425.00000000	28.79933527	-81.82363708	632
2765	10113	City of Tavares Public Water Supply	0	Y	Digitize	198	447	12	31	19S	26E	Floridan Aquifer	1200.00000000	28.80012185	-81.75096538	581
2714	9974	Sunset Hill Groves Partnership	3		Digitize	0	600	10	27	19S	27E	Floridan Aquifer	2575.00000000	28.80137552	-81.59999029	3393
2714	9975	Sunset Hill Groves Partnership	3	N	Digitize	0	0	12	27	19S	27E	Floridan Aquifer	0.00000000	28.80252692	-81.59782242	10092
2767	10123	Triangle Industrial	3		Digitize	126	275	10	26	19S	26E	Floridan Aquifer	1500.00000000	28.80221208	-81.69090655	3275

OFFICL PERMIT	STN ID	PERMIT PROJECT	DETERMINAT	GPS	STNHDR DET	WELL CSNG I	WELL CUR D	WELL CLSNG 2	SECTION ID	TWNSHP ID	RANGE ID	SOURCE	MAX CAP QT	DEC LAT	DEC LONG	OBJECT ID 1
		Park														
71658	33785	Gary L and Rhonda L Fitzwater Trust	3		Other/Unknown	0	0	6	29	19S	25E	Floridan Aquifer	0.00000000	28.80143226	-81.83740250	5085
2552	9420	Charlie Johnson Builder	3	N	Digitize	0	390	10	27	19S	26E	Floridan Aquifer	600.00000000	28.80221198	-81.70201799	9936
2583	9522	Blanton Grove	3	N	Digitize	0	500	8	25	19S	25E	Floridan Aquifer	1000.00000000	28.80221160	-81.76396405	11575
2765	10111	City of Tavares Public Water Supply	0	Y	Digitize	226	417	12	28	19S	26E	Floridan Aquifer	1100.00000000	28.80274732	-81.72424544	10115
2765	10110	City of Tavares Public Water Supply	0	Y	Digitize	98	223	12	28	19S	26E	Floridan Aquifer	2221.00000000	28.80276268	-81.72461249	8735
2674	9845	Sharp's Trees	3	N	Digitize	180	180	6	26	19S	27E	Floridan Aquifer	200.00000000	28.80425656	-81.59159541	10217
2583	9520	Blanton Grove	3	N	Digitize	0	500	8	25	19S	25E	Floridan Aquifer	1000.00000000	28.80360042	-81.76090844	9768
62666	22813	Round Lake Elementary	3		Digitize	125	135	6	27	19S	27E	Floridan Aquifer	150.00000000	28.80463639	-81.59469372	4319
2583	9521	Blanton Grove	3	N	Digitize	161	500	12	25	19S	25E	Floridan Aquifer	2500.00000000	28.80415591	-81.76201958	11119
2524	18843	Flying Bar Z	3	N	Digitize	0	85	6	30	19S	24E	Floridan Aquifer	1500.00000000	28.80359885	-81.94758084	9959
62666	22814	Round Lake Elementary	3	N	Digitize	125	135	4	27	19S	27E	Floridan Aquifer	75.00000000	28.80594999	-81.59455741	6818
2765	10112	City of Tavares Public Water Supply	0	Y	Digitize	254	489	12	29	19S	26E	Floridan Aquifer	950.00000000	28.80533093	-81.73532215	8671
2543	9401	SORRENTS BLK	3	N	Digitize	0	0	12	30	19S	28E	Floridan Aquifer	550.00000000	28.80665727	-81.54590286	815
2524	18844	Flying Bar Z	3		Digitize	0	85	2	30	19S	24E	Floridan Aquifer	500.00000000	28.80471001	-81.94119185	7172
91542	35817	Neighborhood Lakes	3	N	Other/Unknown	82	400	12	28	19S	28E	Floridan Aquifer	1400.00000000	28.80760660	-81.51047352	3472
2583	9523	Blanton Grove	3	N	Digitize	146	500	12	25	19S	25E	Floridan Aquifer	3000.00000000	28.80693361	-81.76340855	8048
2977	10695	Wilkinson Auction	3	N	Digitize	278	390	10	30	19S	28E	Floridan Aquifer	1250.00000000	28.80804601	-81.55368082	1704
94	22443	City of Leesburg Public Supply	0	Y	Digitize	851	938	8	25	19S	24E	Floridan Aquifer	1350.00000000	28.80642112	-81.86831955	11388
94	22444	City of Leesburg Public Supply	0	Y	Digitize	83	321	16	26	19S	24E	Floridan Aquifer	1350.00000000	28.80649035	-81.87541903	2770
2583	9519	Blanton Grove	3	N	Digitize	0	500	12	25	19S	25E	Floridan Aquifer	3000.00000000	28.80721143	-81.76035293	9712
94	22449	City of Leesburg Public Supply	0	Y	Digitize	90	94	16	26	19S	24E	Floridan Aquifer	1600.00000000	28.80654212	-81.87756401	8066
2977	10694	Wilkinson Auction	3	N	Digitize	0	0	4	30	19S	28E	Floridan Aquifer	30.00000000	28.80832380	-81.55340303	7116
94	22445	City of Leesburg Public Supply	0	Y	Digitize	98	272	12	26	19S	24E	Floridan Aquifer	900.00000000	28.80728323	-81.87444755	3871
4534	18924	J.A. Croson	3	N	Digitize	0	300	4	30	19S	28E	Floridan Aquifer	25.00000000	28.80903361	-81.55027100	426
4534	18923	J.A. Croson	3	N	Digitize	0	300	12	30	19S	28E	Floridan Aquifer	2000.00000000	28.80907670	-81.55074712	343
4534	18922	J.A. Croson	3	N	Digitize	0	300	4	30	19S	28E	Floridan Aquifer	25.00000000	28.80909508	-81.55048765	379
94	22442	City of Leesburg Public Supply	0	Y	Digitize	230	840	24	25	19S	24E	Floridan Aquifer	2100.00000000	28.80771206	-81.85886759	7009
2975	35260	Batson's Greenhouse	3	N	Digitize	0	0	4	28	19S	27E	Floridan Aquifer	0.00000000	28.80913703	-81.61194427	1790
94	22446	City of Leesburg Public Supply	0	Y	Digitize	57	390	12	26	19S	24E	Floridan Aquifer	900.00000000	28.80806735	-81.87307100	4435

OFFICL PERMIT	STN ID	PERMIT PROJECT	DETERMINAT	GPS	STNHDR DET	WELL CSNG I	WELL CUR D	WELL CLSNG 2	SECTION ID	TWNSHP ID	RANGE ID	SOURCE	MAX CAP QT	DEC LAT	DEC LONG	OBJECT ID 1
5928	9204	Stokes Groves of Eustis	3	N	Digitize	250	450	8	28	19S	26E	Floridan Aquifer	500.00000000	28.80915611	-81.70896261	819
2975	10690	Batson's Greenhouse	3	N	Digitize	150	500	10	28	19S	27E	Floridan Aquifer	800.00000000	28.80971224	-81.61173790	492
50094	327	Lake Saunders	3	N	Other/Unknown	105	324	6	27	19S	26E	Floridan Aquifer	300.00000000	28.80943392	-81.69979569	715
50094	326	Lake Saunders	3		Other/Unknown	105	324	6	27	19S	26E	Floridan Aquifer	300.00000000	28.80971174	-81.69979571	4125
2549	9413	Amberleigh	3	N	Digitize	0	469	10	27	19S	27E	Floridan Aquifer	680.00000000	28.81026783	-81.60757114	7226
2522	18870	Evergreen Ferneries	0	Y	Digitize	0	0	4	30	19S	25E	Floridan Aquifer	0.00000000	28.80918442	-81.84634078	13766
2522	18869	Evergreen Ferneries	0	Y	Digitize	0	0	6	30	19S	25E	Floridan Aquifer	0.00000000	28.80930905	-81.84599976	13061
94	22448	City of Leesburg Public Supply	0	Y	Digitize	94	352	12	26	19S	24E	Floridan Aquifer	935.00000000	28.80923008	-81.87707344	6030
296	10480	SUN VALLEY NURSERY	3	N	Digitize	0	45	4	29	19S	25E	Floridan Aquifer	90.00000000	28.80971077	-81.82757725	8143
2904	10553	Camp Challenge	3	N	Digitize	125	350	6	28	19S	28E	Floridan Aquifer	95.00000000	28.81137952	-81.51479090	9269
2904	10554	Camp Challenge	3	N	Digitize	98	255	6	28	19S	28E	Floridan Aquifer	95.00000000	28.81165726	-81.51729098	11486
2560	9456	Dye/Cooper Block	3	N	Digitize	126	400	10	27	19S	27E	Floridan Aquifer	1500.00000000	28.81135163	-81.60243220	11509
296	10481	SUN VALLEY NURSERY	3	N	Digitize	0	45	4	29	19S	25E	Floridan Aquifer	90.00000000	28.81026629	-81.82729942	8084
4493	20505	Imperial Mobile Terrace	3	N	Digitize	160	260	8	25	19S	25E	Floridan Aquifer	400.00000000	28.81110209	-81.76161799	10823
2560	9455	Dye/Cooper Block	3	N	Digitize	168	429	6	27	19S	27E	Floridan Aquifer	315.00000000	28.81216175	-81.60465892	9365
4493	18841	Imperial Mobile Terrace	3	N	Digitize	175	365	8	35	24S	26E	Floridan Aquifer	400.00000000	28.81144361	-81.75954680	7612
85195	34972	Heathrow Country Estates	3	N	Other/Unknown	180	400	12	29	19S	28E	Floridan Aquifer	950.00000000	28.81348316	-81.53467776	8641
6207	32250	Cutrale Citrus Juices USA, Inc.	3		Other/Unknown	128	168	16	25	19S	24E	Floridan Aquifer	1000.00000000	28.81177115	-81.86554034	5965
94	22438	City of Leesburg Public Supply	0	Y	Digitize	322	738	24	25	19S	24E	Floridan Aquifer	2100.00000000	28.81190366	-81.85614162	4376
4536	18928	Taylor Home Grove	3	N	Digitize	0	150	4	28	19S	28E	Floridan Aquifer	80.00000000	28.81389143	-81.51498519	1154
85195	34971	Heathrow Country Estates	3	N	Other/Unknown	180	400	12	29	19S	28E	Floridan Aquifer	950.00000000	28.81382565	-81.53694061	2205
2783	2023	Matthews Grove	3	N	Digitize	0	0	0	28	19S	26E	Lake Elsie	0.00000000	28.81304481	-81.70896260	803
6207	9614	Cutrale Citrus Juices USA, Inc.	3	N	Digitize	63	186	10	25	19S	24E	Floridan Aquifer	1100.00000000	28.81240824	-81.86650224	1833
6207	9613	Cutrale Citrus Juices USA, Inc.	3	N	Digitize	64	170	10	25	19S	24E	Floridan Aquifer	800.00000000	28.81258029	-81.86649895	9968
2783	10184	Matthews Grove	3	N	Digitize	0	0	2	28	19S	26E	Floridan Aquifer	0.00000000	28.81360036	-81.70868485	2863
2783	10185	Matthews Grove	3	N	Digitize	0	287	4	28	19S	26E	Floridan Aquifer	0.00000000	28.81415590	-81.70868492	209
4536	18926	Taylor Home Grove	3	N	Digitize	0	150	4	21	19S	28E	Floridan Aquifer	80.00000000	28.81542018	-81.52020554	957
2783	10186	Matthews Grove	3	N	Digitize	0	289	4	21	19S	26E	Floridan Aquifer	0.00000000	28.81471143	-81.70896262	11494
2611	9598	Fern Terrace	3	N	Digitize	60	100	8	41	4S	26E	Floridan Aquifer	180.00000000	28.81393781	-81.84640666	16006
2772	10141	Lake County	3	N	Digitize	0	0	10	19	19S	28E	Floridan Aquifer	1300.00000000	28.81610128	-81.54756954	8573
4514	18878	Golden Triangle	3	N	Digitize	0	0	6	22	19S	26E	Floridan Aquifer	300.00000000	28.81536729	-81.70772129	1720

OFFICL PERMIT	STN ID	PERMIT PROJECT	DETERMINAT	GPS	STNHDR DET	WELL CSNG I	WELL CUR D	WELL CLSNG 2	SECTION ID	TWNSHP ID	RANGE ID	SOURCE	MAX CAP QT	DEC LAT	DEC LONG	OBJECT ID 1
		YMCA														
110807	105243	Wolf Branch Meadows	3	N	Other/Unknown	265	550	14	19	19S	28E	Floridan Aquifer	600.00000000	28.81611290	-81.55273455	13392
4536	18929	Taylor Home Grove	3	N	Digitize	0	500	10	21	19S	28E	Floridan Aquifer	1250.00000000	28.81656827	-81.52011704	954
50147	450	City of Mount Dora	0	Y	Digitize	160	430	12	20	19S	27E	Floridan Aquifer	1200.00000000	28.81653240	-81.64226510	895
50147	449	City of Mount Dora	0	Y	Digitize	230	412	10	20	19S	27E	Floridan Aquifer	500.00000000	28.81655668	-81.64251121	1504
2512	9296	Givens Block	3		Digitize	200	240	10	24	19S	26E	Floridan Aquifer	500.00000000	28.81676933	-81.67348479	2891
2430	9012	ECRU	3	N	Digitize	0	0	6	21	19S	25E	Floridan Aquifer	0.00000000	28.81595847	-81.82384308	10193
50147	451	City of Mount Dora	0	Y	Digitize	130	752	20	20	19S	27E	Floridan Aquifer	2650.00000000	28.81714454	-81.64222765	2152
50147	452	City of Mount Dora	0	Y	Digitize	130	752	20	20	19S	27E	Floridan Aquifer	2650.00000000	28.81759046	-81.64227630	11761
50334	19920	Park At Wolf Branch Oaks	3	N	Digitize	145	240	4	24	19S	27E	Floridan Aquifer	80.00000000	28.81811154	-81.57121951	10738
63398	23448	Hudson Tree Farm	3	N	Other/Unknown	0	165	6				Floridan Aquifer	85.00000000	28.81641840	-81.95212757	2530
4536	18927	Taylor Home Grove	3	N	Digitize	0	150	4	21	19S	28E	Floridan Aquifer	80.00000000	28.81908567	-81.51634540	945
2474	9158	BMK CITRUS GROWERS NV	3	N	Digitize	0	200	12	24	19S	28E	Floridan Aquifer	1700.00000000	28.81943474	-81.46784497	2322
50226	775	Simpson Fruit Co.	3	N	Other/Unknown	165	465	10	20	19S	27E	Floridan Aquifer	1000.00000000	28.81887836	-81.64007200	6659
50226	777	Simpson Fruit Co.	3	N	Other/Unknown	120	450	10	20	19S	27E	Floridan Aquifer	2000.00000000	28.81890665	-81.63823124	3259
2827	34456	Crosland Britt	3	N	Digitize	0	0	0	22	19S	27E	Stormwater	500.00000000	28.81974510	-81.60335963	7366
2496	9240	Charles Foliage	3	N	Digitize	0	100	1	24	19S	27E	Floridan Aquifer	0.00000000	28.81998988	-81.57618144	10015
50334	19772	Park At Wolf Branch Oaks	3	N	Other/Unknown	90	260	6	24	19S	27E	Floridan Aquifer	500.00000000	28.82134735	-81.57021810	1804
50334	19773	Park At Wolf Branch Oaks	3		Other/Unknown	90	280	6	24	19S	27E	Floridan Aquifer	500.00000000	28.82135152	-81.56922908	4557
4507	18867	Brooks	3	N	Digitize	0	0	8	19	19S	25E	Floridan Aquifer	350.00000000	28.81994318	-81.84699079	9424
2622	9640	Brittany Estates	3		Digitize	0	0	6	19	19S	25E	Floridan Aquifer	0.00000000	28.81998802	-81.84146661	5940
2622	9639	Brittany Estates	3		Digitize	0	0	8	19	19S	25E	Floridan Aquifer	500.00000000	28.81998796	-81.84229993	5401
2496	9241	Charles Foliage	3	N	Digitize	0	150	10	24	19S	27E	Floridan Aquifer	0.00000000	28.82165644	-81.57590364	9546
2992	10717	Oak Haven Strawberries	3	N	Digitize	60	60	4	23	19S	27E	Floridan Aquifer	50.00000000	28.82178489	-81.58282809	8989
2992	10716	Oak Haven Strawberries	3	N	Digitize	120	220	8	23	19S	27E	Floridan Aquifer	600.00000000	28.82191490	-81.58286567	7955
2688	19946	Heritage	3	N	Digitize	160	340	4				Floridan Aquifer	100.00000000	28.82185295	-81.61219148	12680
2688	19947	Heritage	3	N	Digitize	160	340	4				Floridan Aquifer	100.00000000	28.82185318	-81.61213997	12143
2688	19981	Heritage	3	N	Other/Unknown	160	340	4	21	19S	27E	Floridan Aquifer	100.00000000	28.82186833	-81.61259507	12144
2844	18885	WATERMAN VILLAGE	3		Digitize	0	350	4	19	19S	27E	Floridan Aquifer	350.00000000	28.82193380	-81.65090562	4608
2688	9884	Heritage	3	N	Digitize	105	300	6	21	19S	27E	Floridan Aquifer	300.00000000	28.82235612	-81.61007484	12142
2844	18883	WATERMAN VILLAGE	3		Digitize	0	120	6	19	19S	27E	Floridan Aquifer	100.00000000	28.82221150	-81.64646108	5603
2827	34455	Crosland Britt	3	N	Digitize	0	0	0	22	19S	27E	Stormwater	500.00000000	28.82242776	-81.60342808	8008
2827	10330	Crosland Britt	3	N	Digitize	161	440	6	22	19S	27E	Floridan Aquifer	350.00000000	28.82265039	-81.60741917	6720
2827	10331	Crosland Britt	3	N	Digitize	165	480	6	22	19S	27E	Floridan Aquifer	350.00000000	28.82276756	-81.60739740	8297

OFFICL PERMIT	STN ID	PERMIT PROJECT	DETERMINAT	GPS	STNHDR DET	WELL CSNG I	WELL CUR D	WELL CLSNG 2	SECTION ID	TWNSHP ID	RANGE ID	SOURCE	MAX CAP QT	DEC LAT	DEC LONG	OBJECT ID 1
2827	10329	Crosland Britt	3	N	Digitize	167	325	4	22	19S	27E	Surficial Aquifer	80.00000000	28.82288508	-81.60847845	11896
2844	18884	WATERMAN VILLAGE	3	N	Digitize	0	120	4	19	19S	27E	Floridan Aquifer	100.00000000	28.82276703	-81.64868335	2067
2827	10328	Crosland Britt	3		Digitize	175	480	10	22	19S	27E	Floridan Aquifer	750.00000000	28.82382867	-81.60536323	4641
50226	776	Simpson Fruit Co.	3	N	Other/Unknown	130	440	8	20	19S	27E	Floridan Aquifer	1100.00000000	28.82386751	-81.63456618	4426
2827	10327	Crosland Britt	3	N	Digitize	175	360	6	22	19S	27E	Floridan Aquifer	350.00000000	28.82420686	-81.60859284	6736
2827	10326	Crosland Britt	3	N	Digitize	173	360	6	22	19S	27E	Floridan Aquifer	350.00000000	28.82427133	-81.60858880	11492
2827	10332	Crosland Britt	3	N	Digitize	0	40	4	4	8S	27E	Surficial Aquifer	200.00000000	28.82442931	-81.60366754	13689
50051	179	Florida Hospital Waterman	3	N	Other/Unknown	100	300	10	21	19S	26E	Floridan Aquifer	250.00000000	28.82412309	-81.71241237	1242
2827	34454	Crosland Britt	3		Digitize	0	0	0	22	19S	27E	Stormwater	500.00000000	28.82468294	-81.60488871	2994
2827	2038	Crosland Britt	3	N	Digitize	0	0	0	22	19S	27E	Stormwater	500.00000000	28.82499166	-81.60528284	2463
2984	10702	Whitney Baptist Church	3		Digitize	134	192	4	20	19S	24E	Floridan Aquifer	500.00000000	28.82359823	-81.93508066	4731
2984	10703	Whitney Baptist Church	3	N	Digitize	306	470	10	20	19S	24E	Floridan Aquifer	0.00000000	28.82359817	-81.93646959	8742
2717	9986	Pennbrooke Utilities Inc	0	Y	Digitize	240	550	12	19	19S	24E	Floridan Aquifer	600.00000000	28.82362629	-81.95314164	11196
2717	9987	Pennbrooke Utilities Inc	0	Y	Digitize	200	594	12	19	19S	24E	Floridan Aquifer	600.00000000	28.82362627	-81.95345177	11136
2827	10339	Crosland Britt	3		Digitize	0	40	4	22	19S	27E	Surficial Aquifer	200.00000000	28.82565105	-81.60609667	5494
2827	10337	Crosland Britt	3	N	Digitize	0	40	4	22	19S	27E	Surficial Aquifer	200.00000000	28.82567868	-81.60609478	10013
2827	10336	Crosland Britt	3		Digitize	0	40	4	22	19S	27E	Surficial Aquifer	200.00000000	28.82570746	-81.60609700	3357
2827	10338	Crosland Britt	3	N	Digitize	0	40	4	22	19S	27E	Surficial Aquifer	200.00000000	28.82573750	-81.60610168	2606
2827	10335	Crosland Britt	3	N	Digitize	0	40	4	22	19S	27E	Surficial Aquifer	200.00000000	28.82576377	-81.60610132	1003
2827	10334	Crosland Britt	3	N	Digitize	0	40	4	22	19S	27E	Surficial Aquifer	200.00000000	28.82580198	-81.60609457	695
2827	10333	Crosland Britt	3		Digitize	0	40	4	22	19S	27E	Surficial Aquifer	200.00000000	28.82583283	-81.60609875	4975
2717	22435	Pennbrooke Utilities Inc	3	N	Other/Unknown	0	0	0	19	19S	24E	Retention Pond 28	800.00000000	28.82449923	-81.94238729	7950
2717	22434	Pennbrooke Utilities Inc	3	N	Other/Unknown	0	0	0	19	19S	24E	Pennbrook Lined Irrigation Pon	750.00000000	28.82467734	-81.94778210	6337
50289	972	Porrello Grove	3	N	Digitize	0	125	4	24	19S	26E	Floridan Aquifer	0.00000000	28.82639604	-81.66262294	9104
94	22439	City of Leesburg Public Supply	0	Y	Digitize	350	555	24	23	19S	25E	Floridan Aquifer	1500.00000000	28.82595653	-81.78203850	9278
50048	91	Country Club of Mount Dora	3	N	Other/Unknown	140	450	6	20	19S	27E	Floridan Aquifer	375.00000000	28.82727475	-81.62836112	8701
94	22441	City of Leesburg Public Supply	0	Y	Digitize	236	368	12	22	19S	25E	Floridan Aquifer	1000.00000000	28.82655786	-81.80736361	224
50289	971	Porrello Grove	3		Digitize	0	0	10	17	18S	27E	Floridan Aquifer	780.00000000	28.82748897	-81.66423935	4591
2885	10509	Whitney Green	3	N	Digitize	0	150	6	20	19S	24E	Floridan Aquifer	98.00000000	28.82609814	-81.93313620	196
2422	8984	SUSAN BOWEN	3	N	Digitize	0	380	6	22	19S	26E	Floridan Aquifer	140.00000000	28.82832216	-81.69479572	5
2628	9696	Lakeside Village Ltd	3		Digitize	65	252	6	20	19S	25E	Floridan Aquifer	225.00000000	28.82764352	-81.83474505	5864
2634	9709	City of Eustis (Ltr	0	Y	Digitize	167	1001	20	14	19S	26E	Floridan Aquifer	4000.00000000	28.82898766	-81.68998872	5500

OFFICL PERMIT	STN ID	PERMIT PROJECT	DETERMINAT	GPS	STNHDR DET	WELL CSNG I	WELL CUR D	WELL CLSNG 2	SECTION ID	TWNSHP ID	RANGE ID	SOURCE	MAX CAP QT	DEC LAT	DEC LONG	OBJECT ID 1
		Mod)														
2717	22433	Pennbrooke Utilities Inc	3	N	Other/Unknown	0	0	0	19	19S	24E	Pennbrook Lined Irrigation pond	750.00000000	28.82782638	-81.94511394	8437
2634	9710	City of Eustis (Ltr Mod)	0	Y	Digitize	241	532	16	15	19S	26E	Floridan Aquifer	2000.00000000	28.82949852	-81.69340516	7244
50000	19006	Lake Sumter Community College	3	N	Digitize	150	250	8	22	19S	25E	Floridan Aquifer	0.00000000	28.82929641	-81.79433912	10163
88103	9988	Pennbrooke Fairways	0	Y	Digitize	200	240	8	19	19S	24E	Floridan Aquifer	0.00000000	28.82833929	-81.94834714	13760
2628	9697	Lakeside Village Ltd	3	N	Digitize	64	85	6	20	19S	25E	Floridan Aquifer	167.00000000	28.82980367	-81.83543313	3789
2698	9925	Trust Grove	3	N	Digitize	200	300	6	15	19S	27E	Floridan Aquifer	350.00000000	28.83137816	-81.60034872	8740
2908	10559	Britt Farm	3	N	Digitize	0	200	8	15	19S	27E	Floridan Aquifer	90.00000000	28.83137809	-81.60646000	11340
2502	9251	Holloway Tree	3	N	Digitize	0	280	4	16	19S	24E	Floridan Aquifer	75.00000000	28.83132792	-81.90991761	1919
2638	18989	Hill Top Grove	3	N	Digitize	120	200	6	14	19S	27E	Floridan Aquifer	300.00000000	28.83360034	-81.59257075	7083
2513	9298	Molokai Co-op	3	N	Digitize	0	40	6	14	19S	25E	Floridan Aquifer	225.00000000	28.83279937	-81.77849403	9135
50273	940	Lake Hermosa Village	3	N	Other/Unknown	191	492	12	15	19S	26E	Floridan Aquifer	1200.00000000	28.83415522	-81.69785131	3600
6292	9734	Leesburg Plant	3	N	Digitize	72	220	4	17	19S	25E	Floridan Aquifer	80.00000000	28.83359876	-81.82618849	376
2933	10606	Grass Roots Nurseries, Inc.	3		Digitize	63	244	6	16	19S	24E	Floridan Aquifer	280.00000000	28.83332028	-81.91396897	5111
2513	9297	Molokai Co-op	3	N	Digitize	198	300	6	14	19S	25E	Floridan Aquifer	300.00000000	28.83454687	-81.77494750	9134
50097	334	Mid Florida	3	N	Digitize	133	147	6	15	19S	27E	Floridan Aquifer	80.00000000	28.83573657	-81.60580607	11916
2933	10604	Grass Roots Nurseries, Inc.	3		Digitize	90	126	4	16	19S	24E	Floridan Aquifer	60.00000000	28.83406594	-81.91392024	3163
2933	10605	Grass Roots Nurseries, Inc.	3	N	Digitize	69	180	4	16	19S	24E	Floridan Aquifer	90.00000000	28.83415355	-81.91452452	6267
2574	18852	Hygrade Timber	3	N	Digitize	104	302	8	15	19S	24E	Floridan Aquifer	260.00000000	28.83458446	-81.89854906	10444
2626	9688	GATEWAY ACADEMY	3	N	Digitize	0	240	6	14	19S	25E	Floridan Aquifer	250.00000000	28.83582122	-81.78035371	6182
4738	18986	Eustis Ball Park	3	N	Digitize	0	0	6	14	19S	26E	Floridan Aquifer	0.00000000	28.83662608	-81.68963869	9890
6292	9733	Leesburg Plant	3	N	Digitize	73	160	4	17	19S	25E	Floridan Aquifer	80.00000000	28.83613134	-81.82541102	8642
4532	241545	Charles E Davis	3	N	Other/Unknown	0	0	6				Floridan Aquifer	180.00000000	28.83810363	-81.60589755	13909
2473	9157	Century Estates	3	N	Digitize	120	240	6	16	19S	24E	Floridan Aquifer	150.00000000	28.83637567	-81.91508013	9860
6292	9731	Leesburg Plant	3		Digitize	0	0	6	16	19S	25E	Floridan Aquifer	200.00000000	28.83720981	-81.81868822	5677
2473	9156	Century Estates	3	N	Digitize	120	240	8	16	19S	24E	Floridan Aquifer	300.00000000	28.83693120	-81.91535795	4168
2593	9542	Richard Gandy	3		Digitize	82	310	8	17	19S	24E	Floridan Aquifer	550.00000000	28.83776445	-81.92063583	3726
2440	9058	MerryGroFarms	3		Digitize	60	200	10	14	19S	27E	Floridan Aquifer	0.00000000	28.84026680	-81.58395939	5952
2644	9755	Silver Lakes/Western Shores	0	Y	Digitize	0	327	12	14	19S	25E	Floridan Aquifer	900.00000000	28.83949494	-81.78884640	7866
2644	9754	Silver Lakes/Western Shores	0	Y	Digitize	0	366	10	14	19S	25E	Floridan Aquifer	900.00000000	28.83954857	-81.78868874	4283
288	3227	Lake Joanna Estates	0	Y	Digitize	0	0	0	18	19S	27E	Lake Joanna	100.00000000	28.84036313	-81.64919902	2490

OFFICL PERMIT	STN ID	PERMIT PROJECT	DETERMINAT	GPS	STNHDR DET	WELL CSNG I	WELL CUR D	WELL CLSNG 2	SECTION ID	TWNSHP ID	RANGE ID	SOURCE	MAX CAP QT	DEC LAT	DEC LONG	OBJECT ID 1
288	19030	Lake Joanna Estates	0	Y	Digitize	0	380	12	18	19S	27E	Floridan Aquifer	100.00000000	28.84090957	-81.65237640	5340
6292	22054	Leesburg Plant	3	N	Other/Unknown	207	316	4	16	19S	25E	Floridan Aquifer	50.00000000	28.84043941	-81.82273542	566
2440	9057	MerryGroFarms	3		Digitize	0	260	12	14	19S	27E	Floridan Aquifer	0.00000000	28.84228154	-81.58465449	3433
2469	9142	Eustis Sprayfield	3	N	Digitize	65	100	6	13	19S	27E	Floridan Aquifer	40.00000000	28.84304453	-81.57229241	2701
2729	10017	Silver Lake Golf Course	3		Digitize	0	600	6	15	19S	25E	Floridan Aquifer	150.00000000	28.84220975	-81.79313197	4466
2892	20547	Church of God Youth & Retreat Center	3	N	Digitize	0	0	6	13	19S	25E	Floridan Aquifer	0.00000000	28.84232624	-81.77375852	912
2729	10016	Silver Lake Golf Course	3	N	Digitize	0	425	12	15	19S	25E	Floridan Aquifer	960.00000000	28.84248756	-81.79313192	12029
84879	34862	City of Eustis Eastern Service Area	3	N	Other/Unknown	385	611	12	12	19S	27E	Lower Floridan Aquifer	1500.00000000	28.84398155	-81.57053790	7557
2634	9712	City of Eustis (Ltr Mod)	0	Y	Digitize	191	476	16	13	19S	26E	Floridan Aquifer	1800.00000000	28.84373807	-81.67179936	10762
84879	34861	City of Eustis Eastern Service Area	3	N	Other/Unknown	275	409	12	12	19S	27E	Floridan Aquifer	500.00000000	28.84424093	-81.57343435	7556
2502	9249	Holloway Tree	3	N	Digitize	0	300	12	16	19S	24E	Floridan Aquifer	1700.00000000	28.84276437	-81.90869107	8659
2609	9596	Piccola	3	N	Digitize	0	164	6	13	19S	24E	Floridan Aquifer	100.00000000	28.84304248	-81.86757871	8961
2609	9595	Piccola	3	N	Digitize	0	175	6	13	19S	24E	Floridan Aquifer	175.00000000	28.84304248	-81.86757871	6880
102732	39329	Lakes of Mount Dora	3	N	Other/Unknown	0	0	0	16	19S	27E	Man-made Lakes	600.00000000	28.84440340	-81.62193121	7553
102732	39330	Lakes of Mount Dora	3	N	Other/Unknown	0	0	0				Man-made Lakes	120.00000000	28.84443271	-81.62167575	903
102732	39328	Lakes of Mount Dora	3	N	Other/Unknown	0	0	0				Man-made Lakes	600.00000000	28.84443795	-81.62218486	8401
2440	9052	MerryGroFarms	3		Digitize	0	275	8	11	19S	27E	Floridan Aquifer	1025.00000000	28.84471099	-81.58479273	3328
6292	9730	Leesburg Plant	3	N	Digitize	170	305	8	16	19S	25E	Floridan Aquifer	430.00000000	28.84415389	-81.81952167	791
87112	35181	Bass Farms - Blueberries	3	N	Other/Unknown	0	0	4				Floridan Aquifer	0.00000000	28.84362211	-81.91386267	2361
2636	22071	Treadway Elementary	3		Other/Unknown	110	217	4	11	19S	25E	Floridan Aquifer	80.00000000	28.84456353	-81.78009019	4803
87112	35182	Bass Farms - Blueberries	3	N	Other/Unknown	0	210	4				Floridan Aquifer	0.00000000	28.84383607	-81.91303937	2363
2475	34323	Liner Source Inc	3	N	Other/Unknown	0	0	0	10	19S	27E	Floridan Aquifer	0.00000000	28.84584370	-81.61166398	10941
2636	9718	Treadway Elementary	3		Digitize	168	257	6	11	19S	25E	Floridan Aquifer	150.00000000	28.84498756	-81.78007603	8917
87112	35180	Bass Farms - Blueberries	3	N	Other/Unknown	150	300	12	9	19S	24E	Floridan Aquifer	0.00000000	28.84437849	-81.91361341	2261
2475	9159	Liner Source Inc	3	N	Digitize	0	495	10	9	19S	27E	Floridan Aquifer	850.00000000	28.84631730	-81.61179764	8089
2790	10207	Simpson Training Center	3	N	Digitize	250	400	4	8	19S	28E	Floridan Aquifer	250.00000000	28.84666711	-81.53088491	7344
2440	9053	MerryGroFarms	3		Digitize	0	180	4	11	19S	27E	Floridan Aquifer	85.00000000	28.84693323	-81.57784812	4517
2634	9711	City of Eustis (Ltr Mod)	0	Y	Digitize	300	591	20	12	19S	26E	Floridan Aquifer	2000.00000000	28.84653611	-81.66946966	9624

OFFICL PERMIT	STN ID	PERMIT PROJECT	DETERMINAT	GPS	STNHDR DET	WELL CSNG I	WELL CUR D	WELL CLSNG 2	SECTION ID	TWNSHP ID	RANGE ID	SOURCE	MAX CAP QT	DEC LAT	DEC LONG	OBJECT ID 1
2790	33866	Simpson Training Center	3	N	Other/Unknown	136	190	4	8	19S	28E	Floridan Aquifer	70.00000000	28.84754435	-81.53321476	2069
2440	9056	MerryGroFarms	3		Digitize	0	0	2	11	19S	27E	Floridan Aquifer	35.00000000	28.84776652	-81.57757029	8899
2790	10205	Simpson Training Center	3		Digitize	250	400	4	8	19S	28E	Floridan Aquifer	50.00000000	28.84800053	-81.53676439	7799
2790	10208	Simpson Training Center	3	N	Digitize	0	0	4	8	19S	28E	Floridan Aquifer	0.00000000	28.84806869	-81.53455652	6642
2546	9407	Cushing Grove	3	N	Digitize	90	260	6	10	19S	25E	Floridan Aquifer	500.00000000	28.84685168	-81.80467075	9312
2475	21561	Liner Source Inc	3	N	Digitize	117	464	12		0	0	Floridan Aquifer	2000.00000000	28.84815170	-81.60868852	2988
2577	9503	RTO	3	N	Digitize	0	250	6	11	19S	25E	Floridan Aquifer	216.00000000	28.84748742	-81.78952076	9854
2475	244893	Liner Source Inc	3	N	Other/Unknown	0	0	4	10	19S	27E	Floridan Aquifer	0.00000000	28.84842645	-81.60870447	21441
2644	9753	Silver Lakes/Western Shores	0	Y	Digitize	0	440	8	7	19S	26E	Floridan Aquifer	230.00000000	28.84799181	-81.75728038	7430
50183	593	Joanna Park Place	3	N	Digitize	150	300	10	8	19S	27E	Floridan Aquifer	444.00000000	28.84887717	-81.64007208	5982
2790	10206	Simpson Training Center	3	N	Digitize	250	400	8	8	19S	28E	Floridan Aquifer	1000.00000000	28.84982363	-81.53664089	6808
2894	10529	United Methodist Church Camp	3		Digitize	0	178	6	11	19S	24E	Floridan Aquifer	500.00000000	28.84832000	-81.87285666	8913
2632	9707	Aqua Utilities Florida - Valencia Terrace	0	Y	Digitize	190	350	8	10	19S	24E	Floridan Aquifer	250.00000000	28.84819535	-81.89342197	7836
2632	9706	Aqua Utilities Florida - Valencia Terrace	0	Y	Digitize	285	285	8	10	19S	24E	Floridan Aquifer	0.00000000	28.84829396	-81.89364660	8455
2482	9186	City of Fruitland Park	0	Y	Digitize	150	300	12	9	19S	24E	Floridan Aquifer	500.00000000	28.84818933	-81.91106516	3909
2440	9049	MerryGroFarms	3		Digitize	0	0	8	11	19S	27E	Floridan Aquifer	750.00000000	28.85008252	-81.58000080	3272
2440	9055	MerryGroFarms	3		Digitize	0	180	4	11	19S	27E	Floridan Aquifer	85.00000000	28.85013705	-81.57968216	3901
2821	10314	Shaw Groves	3	N	Digitize	140	300	6	7	19S	27E	Floridan Aquifer	300.00000000	28.85221038	-81.64923896	6133
2969	10672	CROSS-TIE RANCH	3	N	Digitize	0	0	4	8	19S	28E	Floridan Aquifer	0.00000000	28.85276657	-81.53618030	1595
292	10472	Citrus Circle Mobile Home Pk	3	N	Digitize	0	380	6	10	19S	24E	Floridan Aquifer	200.00000000	28.85137532	-81.88924608	12277
50254	866	Treasure Cove Homeowners Association	3		Digitize	279	350	8	9	19S	25E	Floridan Aquifer	214.00000000	28.85295652	-81.81235088	4788
2969	10673	CROSS-TIE RANCH	3	N	Digitize	0	0	4	8	19S	28E	Floridan Aquifer	0.00000000	28.85443309	-81.53868038	11060
2894	10528	United Methodist Church Camp	3		Digitize	0	225	6	12	19S	24E	Floridan Aquifer	70.00000000	28.85359761	-81.86980106	4726
289	19014	Harbor Oaks	3	N	Digitize	0	140	4	11	19S	24E	Floridan Aquifer	55.00000000	28.85359743	-81.88702382	770
2634	9714	City of Eustis (Ltr Mod)	0	Y	Digitize	280	760	16	7	19S	27E	Floridan Aquifer	1800.00000000	28.85502019	-81.65061023	10638
2969	10670	CROSS-TIE RANCH	3	N	Digitize	0	0	12	8	19S	28E	Floridan Aquifer	500.00000000	28.85554419	-81.53951368	3601
2634	9713	City of Eustis (Ltr Mod)	0	Y	Digitize	275	750	16	7	19S	27E	Floridan Aquifer	1800.00000000	28.85505512	-81.65247893	10929
289	19015	Harbor Oaks	3	N	Digitize	0	181	6	11	19S	24E	Floridan Aquifer	190.00000000	28.85387528	-81.88646827	5739

OFFICL PERMIT	STN ID	PERMIT PROJECT	DETERMINAT	GPS	STNHDR DET	WELL CSNG I	WELL CUR D	WELL CLSNG 2	SECTION ID	TWNSHP ID	RANGE ID	SOURCE	MAX CAP QT	DEC LAT	DEC LONG	OBJECT ID 1
50220	704	Jon's Nursery	0	Y	Digitize	0	0	0	7	19S	28E	Wholly owned pond	600.00000000	28.85610839	-81.54591020	12355
2754	10080	Pine Ridge Dairy Inc	3		Digitize	0	1000	8	7	19S	24E	Floridan Aquifer	0.00000000	28.85415252	-81.94508115	4669
2754	10081	Pine Ridge Dairy Inc	3	N	Digitize	0	0	4	7	19S	24E	Floridan Aquifer	0.00000000	28.85470808	-81.94535898	8215
50220	698	Jon's Nursery	0	Y	Digitize	65	200	10	7	19S	28E	Floridan Aquifer	1000.00000000	28.85716378	-81.54474518	13094
2823	10318	Seminole Springs Elementary	3		Digitize	0	0	4	999	19S	28E	Floridan Aquifer	0.00000000	28.85729805	-81.52504875	5775
2823	10316	Seminole Springs Elementary	3	N	Digitize	0	300	24	999	19S	28E	Floridan Aquifer	1500.00000000	28.85731469	-81.52533841	11209
2823	10317	Seminole Springs Elementary	3	N	Digitize	0	250	6	999	19S	28E	Floridan Aquifer	100.00000000	28.85760258	-81.52480962	7877
50220	703	Jon's Nursery	0	Y	Digitize	0	0	0	7	19S	28E	Wholly owned pond	270.00000000	28.85759847	-81.54577864	13091
2482	9183	City of Fruitland Park	0	Y	Digitize	70	250	10	9	19S	24E	Floridan Aquifer	360.00000000	28.85688339	-81.90870831	2394
50220	697	Jon's Nursery	0	Y	Digitize	65	200	10	6	19S	28E	Floridan Aquifer	600.00000000	28.85897993	-81.54546187	12383
2482	9185	City of Fruitland Park	0	Y	Digitize	145	300	8	9	19S	24E	Floridan Aquifer	500.00000000	28.85704885	-81.90855812	3313
2482	9184	City of Fruitland Park	0	Y	Digitize	126	201	12	9	19S	24E	Floridan Aquifer	500.00000000	28.85737859	-81.90879310	3406
2754	10082	Pine Ridge Dairy Inc	3	N	Digitize	0	0	12	7	19S	24E	Floridan Aquifer	2200.00000000	28.85776348	-81.94897027	7869
2701	9935	Kings Cove Subdivision	0	Y	Digitize	90	204	6	1	19S	24E	Floridan Aquifer	225.00000000	28.85897707	-81.86956082	1966
2701	9934	Kings Cove Subdivision	0	Y	Digitize	90	204	6	1	19S	24E	Floridan Aquifer	300.00000000	28.85900187	-81.86956349	3318
50220	694	Jon's Nursery	0	Y	Digitize	65	380	12	6	19S	28E	Floridan Aquifer	800.00000000	28.86071870	-81.54528447	12399
98980	38760	Bentwood	3	N	Other/Unknown	251	375	18	2	19S	25E	Floridan Aquifer System - Upper	200.00000000	28.85993889	-81.78132106	6563
2692	34228	Sorrento Oaks Farm	3	N	Other/Unknown	0	0	4	3	19S	28E	Floridan Aquifer	0.00000000	28.86249292	-81.50395297	1445
2969	10674	CROSS-TIE RANCH	3	N	Digitize	0	0	4	5	19S	28E	Floridan Aquifer	0.00000000	28.86248837	-81.53784700	6679
2754	10078	Pine Ridge Dairy Inc	3	N	Digitize	0	0	4	6	19S	24E	Floridan Aquifer	0.00000000	28.86030988	-81.93924558	7855
6781	10430	Shangri-La by the Lake	3	N	Digitize	200	350	6	6	19S	26E	Floridan Aquifer	225.00000000	28.86163945	-81.75280369	2724
2692	9889	Sorrento Oaks Farm	3	N	Digitize	56	121	8	3	19S	28E	Floridan Aquifer	265.00000000	28.86304410	-81.50367932	11931
50220	695	Jon's Nursery	0	Y	Digitize	420	700	8	6	19S	28E	Floridan Aquifer	100.00000000	28.86292993	-81.54951311	13084
6781	10431	Shangri-La by the Lake	3	N	Digitize	191	330	8	6	19S	26E	Floridan Aquifer	850.00000000	28.86202760	-81.75272179	2716
50220	699	Jon's Nursery	0	Y	Digitize	150	200	10	7	19S	28E	Floridan Aquifer	1000.00000000	28.86347974	-81.54957557	12432
50220	702	Jon's Nursery	3	N	Digitize	149	200	4	6	19S	28E	Floridan Aquifer	30.00000000	28.86407116	-81.54919818	8748
50220	693	Jon's Nursery	0	Y	Digitize	65	275	10	6	19S	28E	Floridan Aquifer	800.00000000	28.86420583	-81.54502058	12428
50220	701	Jon's Nursery	0	Y	Digitize	65	150	4	6	19S	28E	Floridan Aquifer	30.00000000	28.86439168	-81.54932736	13080
122736	9851	Orange Bend Harvesting	3	N	Digitize	0	280	8	3	19S	25E	Floridan Aquifer	800.00000000	28.86351662	-81.80438643	6336
50220	696	Jon's Nursery	0	Y	Digitize	65	350	10	6	19S	28E	Floridan Aquifer	12.00000000	28.86507215	-81.55011737	13095

OFFICL PERMIT	STN ID	PERMIT PROJECT	DETERMINAT	GPS	STNHDR DET	WELL CSNG I	WELL CUR D	WELL CLSNG 2	SECTION ID	TWNSHP ID	RANGE ID	SOURCE	MAX CAP QT	DEC LAT	DEC LONG	OBJECT ID 1
2527	9351	Central Fla Nursery & Landscaping Inc.	3	N	Digitize	0	300	6	6	19S	24E	Floridan Aquifer	300.00000000	28.86328825	-81.94779043	11966
50220	803	Jon's Nursery	0	Y	Digitize	0	0	4	6	19S	28E	Floridan Aquifer	0.00000000	28.86601742	-81.54308514	12394
2969	10671	CROSS-TIE RANCH	3		Digitize	0	0	12	5	19S	28E	Floridan Aquifer	500.00000000	28.86637707	-81.53479136	5963
88885	35483	Caldwell Block	3	N	Other/Unknown	147	350	6	3	19S	25E	Floridan Aquifer	500.00000000	28.86508027	-81.79954405	6791
2439	9048	Seneca Partners	3		Digitize	0	0	6	2	19S	27E	Floridan Aquifer	300.00000000	28.86632612	-81.57927970	5750
2482	9187	City of Fruitland Park	0	Y	Digitize	175	400	12	4	19S	24E	Floridan Aquifer	500.00000000	28.86466383	-81.90790858	4617
2527	9353	Central Fla Nursery & Landscaping Inc.	3	N	Digitize	0	150	8	6	19S	24E	Floridan Aquifer	150.00000000	28.86503015	-81.94835722	2401
2813	10297	Ball Grove	3		Digitize	168	450	10	4	19S	27E	Floridan Aquifer	1250.00000000	28.86720995	-81.61673812	3828
122736	9852	Orange Bend Harvesting	3	N	Digitize	0	280	6	3	19S	25E	Floridan Aquifer	700.00000000	28.86690333	-81.80389334	11188
2721	10001	Cassell	3		Digitize	0	400	10	6	19S	27E	Floridan Aquifer	700.00000000	28.86804304	-81.65062795	5920
4553	18948	CR 44A	3	N	Digitize	150	450	12	4	19S	27E	Floridan Aquifer	2500.00000000	28.86829218	-81.61183479	13629
50215	686	Sunny South Groves, Inc.	3	N	Digitize	109	370	10	4	19S	24E	Floridan Aquifer	500.00000000	28.86887449	-81.90424669	881
2678	9853	Oak Grove Fernery	3	N	Digitize	0	260	6	4	19S	25E	Floridan Aquifer	700.00000000	28.86970861	-81.80868813	8807
2493	9233	King Groves	3	N	Digitize	164	491	12	5	19S	27E	Floridan Aquifer	3400.00000000	28.87082080	-81.62951621	282
2863	23364	BONFIRE COOP	0	Y	Other/Unknown	0	0	0	2	19S	25E	Lake Tammi	160.00000000	28.87061474	-81.78745918	5468
2974	10689	Sargent Grove	3	N	Digitize	0	0	4	2	19S	27E	Floridan Aquifer	0.00000000	28.87246818	-81.58906357	6121
2863	18966	BONFIRE COOP	0	Y	Digitize	0	0	6	2	19S	25E	Floridan Aquifer	250.00000000	28.87165661	-81.78678865	10553
2863	18967	BONFIRE COOP	0	Y	Digitize	0	0	4	2	19S	25E	Floridan Aquifer	0.00000000	28.87166909	-81.78683109	2250
2974	35139	Sargent Grove	3	N	Digitize	0	0	4	2	19S	27E	Floridan Aquifer	0.00000000	28.87276770	-81.58810039	1766
2888	10518	Mid Florida Lakes	0	Y	Digitize	172	420	12	1	19S	25E	Floridan Aquifer	1700.00000000	28.87188132	-81.77167960	2854
2888	10517	Mid Florida Lakes	0	Y	Digitize	172	419	12	1	19S	25E	Floridan Aquifer	1700.00000000	28.87188452	-81.77153114	11674
2598	18866	Haines Creek RV Village	3	N	Digitize	0	265	6	2	19S	25E	Floridan Aquifer	300.00000000	28.87220871	-81.78868761	8440
2572	9490	William Harper	3	N	Digitize	164	274	8	33	18S	27E	Floridan Aquifer	400.00000000	28.87359850	-81.62423832	2217
2901	10550	Pine Harbour Water Utilities	3	N	Digitize	250	450	6	6	19S	26E	Floridan Aquifer	300.00000000	28.87304226	-81.75285310	8984
4565	18973	TARA VILLAGE	0	Y	Digitize	0	420	8	2	19S	25E	Floridan Aquifer	55.00000000	28.87324205	-81.78107971	11696
2810	10292	Lake Griffin Isles	0	Y	Digitize	0	126	4	35	18S	24E	Floridan Aquifer	70.00000000	28.87306461	-81.88483710	5009
2810	10291	Lake Griffin Isles	0	Y	Digitize	273	437	8	35	18S	24E	Floridan Aquifer	400.00000000	28.87312350	-81.88481781	9553
2923	10586	Dura-Stress Inc.	3	N	Digitize	115	332	4	36	18S	25E	Floridan Aquifer	35.00000000	28.87394946	-81.76677300	10992
290	10469	Midway Manor	3	N	Digitize	140	530	6	35	18S	25E	Floridan Aquifer	120.00000000	28.87387537	-81.78285408	12740
2493	1936	King Groves	3	N	Digitize	0	0	0	32	18S	27E	Lake May	505.00000000	28.87498733	-81.63507198	717
2974	10688	Sargent Grove	3		Digitize	0	185	6	35	18S	27E	Floridan Aquifer	450.00000000	28.87532570	-81.58785880	4853
2923	33549	Dura-Stress Inc.	3	N	Digitize	100	218	4	36	18S	25E	Floridan Aquifer	35.00000000	28.87456016	-81.77305961	11569
2974	10687	Sargent Grove	3	N	Digitize	0	240	8	35	18S	27E	Floridan Aquifer	1000.00000000	28.87560868	-81.58596927	7959
2627	22421	Wolverine Gasket Co	3	N	Digitize	0	0	0	35	18S	25E	Fire Pond	275.00000000	28.87470065	-81.77729230	4277
2627	9695	Wolverine Gasket	3	N	Digitize	275	275	20	35	18S	25E	Floridan Aquifer	1500.00000000	28.87498646	-81.77729832	8962

OFFICL PERMIT	STN ID	PERMIT PROJECT	DETERMINAT	GPS	STNHDR DET	WELL CSNG I	WELL CUR D	WELL CLSNG 2	SECTION ID	TWNSHP ID	RANGE ID	SOURCE	MAX CAP QT	DEC LAT	DEC LONG	OBJECT ID 1
		Co														
2627	9694	Wolverine Gasket Co	3	N	Digitize	210	245	6	35	18S	25E	Floridan Aquifer	100.00000000	28.87498641	-81.77785389	1627
2923	33545	Dura-Stress Inc.	3	N	Digitize	100	220	4	36	18S	25E	Floridan Aquifer	35.00000000	28.87512006	-81.77408533	11565
4484	18815	CASSIA PROPERTY	3	N	Digitize	0	0	6	36	18S	28E	Floridan Aquifer	0.00000000	28.87693238	-81.46590016	10685
2445	9068	Florida Food Products	3	N	Digitize	50	400	12	34	18S	26E	Floridan Aquifer	1100.00000000	28.87609794	-81.70368506	1706
2445	9067	Florida Food Products	3	N	Digitize	50	400	12	34	18S	26E	Floridan Aquifer	1200.00000000	28.87637576	-81.70368508	1933
2445	9069	Florida Food Products	3	N	Digitize	50	400	12	34	18S	26E	Floridan Aquifer	75.00000000	28.87665350	-81.70285174	2640
4484	18814	CASSIA PROPERTY	3	N	Digitize	0	0	10	36	18S	28E	Floridan Aquifer	600.00000000	28.87776566	-81.46590018	6156
2959	19878	Upson Downs	3		Digitize	100	200	10	31	18S	28E	Floridan Aquifer	800.00000000	28.87748762	-81.55145840	5850
2923	33548	Dura-Stress Inc.	3	N	Digitize	100	180	4	36	18S	25E	Floridan Aquifer	35.00000000	28.87666120	-81.77137632	11563
2923	10584	Dura-Stress Inc.	3	N	Digitize	114	250	4	36	18S	25E	Floridan Aquifer	60.00000000	28.87693090	-81.76702022	4173
2604	9587	Piney Woods/Spring Lake Manor	3	N	Digitize	0	420	6	33	18S	24E	Floridan Aquifer	300.00000000	28.87609634	-81.91924721	8252
2923	33544	Dura-Stress Inc.	3	N	Digitize	100	177	4	36	18S	25E	Floridan Aquifer	35.00000000	28.87725851	-81.76584801	10994
2810	10293	Lake Griffin Isles	0	Y	Digitize	342	470	10	35	18S	24E	Floridan Aquifer	1000.00000000	28.87658158	-81.88637846	1927
2959	19879	Upson Downs	3	N	Digitize	80	240	4	31	18S	28E	Floridan Aquifer	70.00000000	28.87848713	-81.54978436	1474
2752	10075	Cassia	3	N	Digitize	0	400	8	36	18S	28E	Floridan Aquifer	1200.00000000	28.87887673	-81.46812244	2055
2959	10655	Upson Downs	3		Digitize	100	200	8	31	18S	28E	Floridan Aquifer	500.00000000	28.87869424	-81.55074427	5556
2923	33546	Dura-Stress Inc.	3	N	Digitize	400	420	4	36	18S	25E	Floridan Aquifer	150.00000000	28.87772482	-81.77089059	10997
4484	3205	CASSIA PROPERTY	3	N	Digitize	0	0	0	36	18S	28E	Lake Johnson	600.00000000	28.87971004	-81.46673346	10939
2659	18944	Haselton Village MHP	3	N	Digitize	139	310	8	34	18S	26E	Floridan Aquifer	500.00000000	28.87895094	-81.69313644	9226
2659	18943	Haselton Village MHP	3	N	Digitize	100	310	6	34	18S	26E	Floridan Aquifer	280.00000000	28.87930035	-81.69310824	9143
2488	9205	Grand Terrace	3		Digitize	680	840	8	32	18S	26E	Floridan Aquifer	600.00000000	28.87915327	-81.73563040	6021
97	18994	SNOOK FLOWER FARM	3	N	Digitize	0	110	4	32	18S	24E	Floridan Aquifer	80.00000000	28.87804067	-81.92869196	4089
2510	9294	MIZE	3	N	Digitize	0	0	8	35	18S	27E	Floridan Aquifer	750.00000000	28.87998737	-81.58312598	11048
50265	909	Lake Yale Landing	3		Digitize	126	320	8	33	18S	26E	Floridan Aquifer	350.00000000	28.87943113	-81.71340760	4646
97	18996	SNOOK FLOWER FARM	3	N	Digitize	0	105	6	32	18S	24E	Floridan Aquifer	500.00000000	28.87831842	-81.92952533	23
97	18995	SNOOK FLOWER FARM	3	N	Digitize	0	165	6	32	18S	24E	Floridan Aquifer	300.00000000	28.87915169	-81.92896978	3098
2854	18940	EUSTIS GROVE	3	N	Digitize	0	0	6	33	18S	26E	Floridan Aquifer	400.00000000	28.88049573	-81.72507554	11939
102	2113	McDonald	3	N	Digitize	0	0	0	36	18S	28E	Owens Pond	1000.00000000	28.88166186	-81.46828209	2796
50152	461	Wedgewood Homeowners Association, Inc	0	Y	Digitize	89	310	10	31	18S	26E	Floridan Aquifer	540.00000000	28.88065486	-81.74721744	5553
50152	462	Wedgewood Homeowners	0	Y	Digitize	90	300	10	31	18S	26E	Floridan Aquifer	500.00000000	28.88070194	-81.74706139	8790

OFFICL PERMIT	STN ID	PERMIT PROJECT	DETERMINAT	GPS	STNHDR DET	WELL CSNG I	WELL CUR D	WELL CLSNG 2	SECTION ID	TWNSHP ID	RANGE ID	SOURCE	MAX CAP QT	DEC LAT	DEC LONG	OBJECT ID 1
		Association, Inc														
2864	10455	LIVE OAK MOBILE HOME PARK	3	N	Digitize	0	0	4	34	18S	24E	Floridan Aquifer	500.00000000	28.87998524	-81.89535765	6635
2864	10456	LIVE OAK MOBILE HOME PARK	3	N	Digitize	0	0	4	34	18S	24E	Floridan Aquifer	0.00000000	28.87998524	-81.89535765	7608
2526	9350	RICHARD E. BAIR	3		Digitize	0	210	8	35	18S	24E	Floridan Aquifer	550.00000000	28.88026318	-81.87841265	4839
2526	9349	RICHARD E. BAIR	3		Digitize	0	210	6	35	18S	24E	Floridan Aquifer	60.00000000	28.88026318	-81.87841265	3327
102	10691	McDonald	3	N	Digitize	0	0	2	36	18S	28E	Floridan Aquifer	0.00000000	28.88234779	-81.46855303	400
2902	10551	New Cassia	3		Digitize	200	500	10	36	18S	28E	Floridan Aquifer	1800.00000000	28.88248768	-81.47423380	4746
2575	9501	Brendenwood Water System	3	N	Digitize	121	141	6	32	18S	26E	Floridan Aquifer	150.00000000	28.88165321	-81.73118593	11078
2411	8951	James P Logan	3	N	Digitize	0	270	6	34	18S	24E	Floridan Aquifer	202.00000000	28.88081859	-81.89702429	11548
2411	8950	James P Logan	3	N	Digitize	0	261	6	34	18S	24E	Floridan Aquifer	176.00000000	28.88178546	-81.89700204	9870
5753	8934	Lake Idlewild	3		Digitize	152	252	8	35	18S	24E	Floridan Aquifer	640.00000000	28.88196281	-81.88408219	6385
2983	10701	Blackbear Golf Course	3	N	Digitize	0	0	12	31	18S	28E	Floridan Aquifer	1250.00000000	28.88454305	-81.54839220	997
6455	9939	Pine Meadows Golf Course	3	N	Digitize	150	620	12	36	18S	26E	Floridan Aquifer	550.00000000	28.88415345	-81.67007297	8432
6455	9940	Pine Meadows Golf Course	3	N	Digitize	150	620	6	36	18S	26E	Floridan Aquifer	100.00000000	28.88415345	-81.67007297	7638
50082	304	Mowery	3	N	Other/Unknown	0	0	4	30	18S	26E	Floridan Aquifer	0.00000000	28.88387516	-81.75451992	2642
2650	1978	Cassia Fern	3	N	Digitize	0	0	0	36	18S	28E	Owens Pond	1000.00000000	28.88572416	-81.46628121	10730
2954	2106	Ingrams Fernery	3	N	Digitize	0	0	0	36	18S	28E	Owens Pond	1800.00000000	28.88582094	-81.46895577	2382
5753	8933	Lake Idlewild	3	N	Digitize	100	210	6	35	18S	24E	Floridan Aquifer	180.00000000	28.88387681	-81.88584859	1937
6527	23385	Section #3	3		Other/Unknown	0	0	2	35	18S	28E	Floridan Aquifer	0.00000000	28.88609863	-81.48201180	5369
2782	18971	Raintree Harbor	3	N	Digitize	180	250	4	33	18S	26E	Floridan Aquifer	40.00000000	28.88506035	-81.72335038	14127
50238	816	Robert Hart	3		Other/Unknown	100	300	10	36	18S	27E	Floridan Aquifer	0.00000000	28.88582054	-81.56506995	5874
50238	814	Robert Hart	3	N	Other/Unknown	100	350	10	36	18S	27E	Floridan Aquifer	0.00000000	28.88582056	-81.56562548	1625
2782	18969	Raintree Harbor	3		Digitize	0	200	8	33	18S	26E	Floridan Aquifer	600.00000000	28.88517192	-81.72322784	5439
2532	9376	Taylor Ranch	3	N	Digitize	0	169	8	35	18S	27E	Floridan Aquifer	0.00000000	28.88582049	-81.59034842	10721
2782	18970	Raintree Harbor	3	N	Digitize	0	160	4	33	18S	26E	Floridan Aquifer	40.00000000	28.88523237	-81.72335158	14125
50238	815	Robert Hart	3	N	Digitize	100	300	4	36	18S	27E	Floridan Aquifer	0.00000000	28.88637610	-81.56562552	898
2614	9604	Skycrest	3	N	Digitize	0	260	6	34	18S	24E	Floridan Aquifer	175.00000000	28.88470722	-81.90313569	9677
2614	9605	Skycrest	3	N	Digitize	0	410	8	34	18S	24E	Floridan Aquifer	500.00000000	28.88470725	-81.90341349	3105
50082	303	Mowery	3	N	Other/Unknown	0	0	8	30	18S	26E	Floridan Aquifer	0.00000000	28.88591946	-81.75487906	2691
6527	23384	Section #3	3	N	Other/Unknown	0	0	2	35	18S	28E	Floridan Aquifer	0.00000000	28.88720972	-81.48173408	211
50238	813	Robert Hart	3	N	Other/Unknown	100	350	6	36	18S	27E	Floridan Aquifer	0.00000000	28.88693164	-81.56534773	11470
50238	812	Robert Hart	3	N	Other/Unknown	100	350	6	36	18S	27E	Floridan Aquifer	0.00000000	28.88693165	-81.56562556	937
50238	811	Robert Hart	3	N	Digitize	100	350	6	36	18S	27E	Floridan Aquifer	0.00000000	28.88693165	-81.56590328	1357
2529	9359	Bainter Grove	3	N	Digitize	0	202	8	32	18S	27E	Floridan Aquifer	432.00000000	28.88665352	-81.63257191	628
6527	23383	Section #3	0	Y	Other/Unknown	0	220	6	35	18S	28E	Floridan Aquifer	0.00000000	28.88745995	-81.48162424	13748
2534	9382	Biscayne Heights	3	N	Digitize	242	350	5	32	18S	26E	Floridan Aquifer	0.00000000	28.88665294	-81.73340820	1333
2604	9586	Piney Woods/Spring	3		Digitize	0	480	8	33	18S	24E	Floridan Aquifer	450.00000000	28.88609597	-81.91980289	3921

OFFICL PERMIT	STN ID	PERMIT PROJECT	DETERMINAT	GPS	STNHDR DET	WELL CSNG I	WELL CUR D	WELL CLSNG 2	SECTION ID	TWNSHP ID	RANGE ID	SOURCE	MAX CAP QT	DEC LAT	DEC LONG	OBJECT ID 1
		Lake Manor														
2477	18963	Fisherman's Wharf	3	N	Digitize	0	170	6	25	18S	24E	Floridan Aquifer	0.00000000	28.88733759	-81.86928673	5521
50201	958	Bowen Grove	3	N	Digitize	256	350	8	30	18S	26E	Floridan Aquifer	800.00000000	28.88860693	-81.74428714	1817
2822	10315	Northside Christian Church	3	N	Digitize	105	105	8	27	18S	24E	Floridan Aquifer	800.00000000	28.88859601	-81.90146901	9382
2786	10193	ANB Inc	3	N	Digitize	78	320	12	26	18S	26E	Floridan Aquifer	2500.00000000	28.89219490	-81.68852795	4383
50128	369	Bartlett Groves	3	N	Digitize	100	280	8	31	18S	26E	Floridan Aquifer	800.00000000	28.89248605	-81.74674196	2494
2613	9602	Hobby Hills	3	N	Digitize	0	280	6	28	18S	24E	Floridan Aquifer	90.00000000	28.89165145	-81.90646916	9833
50128	368	Bartlett Groves	3	N	Digitize	100	320	8	31	18S	26E	Floridan Aquifer	800.00000000	28.89276377	-81.74674200	2488
2707	9956	P W Bryan	3	N	Digitize	0	391	8	28	18S	27E	Floridan Aquifer	1300.00000000	28.89359778	-81.62007157	1054
2613	9603	Hobby Hills	3	N	Digitize	0	320	6	28	18S	24E	Floridan Aquifer	180.00000000	28.89220690	-81.90674699	8247
2720	10000	Dale & Lisa West	3		Digitize	97	200	6	28	18S	27E	Floridan Aquifer	244.00000000	28.89415331	-81.62173832	5162
2564	9472	Nelson	3	N	Digitize	0	130	8	30	18S	26E	Floridan Aquifer	1000.00000000	28.89359713	-81.74313077	10295
2399	8897	EICHELBERGER, ROBERT J.	3	N	Digitize	0	430	10	30	18S	26E	Floridan Aquifer	1300.00000000	28.89359707	-81.75063098	8488
2978	10696	IGOU	3	N	Digitize	120	120	12	29	18S	26E	Floridan Aquifer	2250.00000000	28.89387494	-81.73313046	771
2551	9419	GROVE 303	3	N	Digitize	0	380	6	29	18S	27E	Floridan Aquifer	350.00000000	28.89443098	-81.62840519	6966
50082	305	Mowery	3		Other/Unknown	0	0	10	30	18S	26E	Floridan Aquifer	0.00000000	28.89387480	-81.75590888	2906
50082	306	Mowery	3		Other/Unknown	0	0	2	30	18S	26E	Floridan Aquifer	0.00000000	28.89415259	-81.75618668	5562
2399	8899	EICHELBERGER, ROBERT J.	3	N	Digitize	0	435	10	25	18S	25E	Floridan Aquifer	50.00000000	28.89415255	-81.75840895	528
2399	8898	EICHELBERGER, ROBERT J.	3		Digitize	0	450	10	25	18S	25E	Floridan Aquifer	1250.00000000	28.89415255	-81.75840895	4134
2672	9843	Parker	3		Digitize	0	110	6	26	18S	24E	Floridan Aquifer	1100.00000000	28.89387377	-81.88202393	4534
2399	8895	EICHELBERGER, ROBERT J.	3	N	Digitize	0	442	10	30	18S	26E	Floridan Aquifer	2000.00000000	28.89554143	-81.75646453	397
2399	8894	EICHELBERGER, ROBERT J.	3	N	Digitize	0	375	10	30	18S	26E	Floridan Aquifer	1200.00000000	28.89609695	-81.75563114	3607
88	9430	Flowertree Nursery	3	N	Digitize	0	350	12	30	18S	26E	Floridan Aquifer	2200.00000000	28.89637479	-81.74368634	11193
88	9434	Flowertree Nursery	3	N	Digitize	0	275	12	29	18S	26E	Floridan Aquifer	2200.00000000	28.89720808	-81.74035292	7621
88	9435	Flowertree Nursery	3	N	Digitize	0	0	12	30	18S	26E	Floridan Aquifer	1750.00000000	28.89720811	-81.74674201	6163
88	9436	Flowertree Nursery	3	N	Digitize	0	0	12	30	18S	26E	Floridan Aquifer	2200.00000000	28.89720808	-81.74813092	1201
2399	8893	EICHELBERGER, ROBERT J.	3		Digitize	0	353	10	30	18S	26E	Floridan Aquifer	1175.00000000	28.89720796	-81.75507560	3239
1668	18822	80 ACRES	3	N	Digitize	0	200	12	29	18S	29E	Floridan Aquifer	3000.00000000	28.89887588	-81.43589889	11079
2789	10199	URICO GOLF COURSE	3		Digitize	0	300	4	29	18S	24E	Floridan Aquifer	0.00000000	28.89637316	-81.93591460	3712
4544	18938	Dalhousie Block	3		Digitize	147	400	10	28	18S	27E	Floridan Aquifer	650.00000000	28.89831983	-81.61173804	3754
2789	10201	URICO GOLF COURSE	3		Digitize	0	0	8	29	18S	24E	Floridan Aquifer	0.00000000	28.89692870	-81.93647013	4681
2789	10202	URICO GOLF COURSE	3	N	Digitize	0	0	12	29	18S	24E	Floridan Aquifer	0.00000000	28.89692870	-81.93647013	9863
2619	9635	Grand Island	3	N	Digitize	0	0	12	26	18S	25E	Floridan Aquifer	5.00000000	28.89831892	-81.77535404	7101

OFFICL PERMIT	STN ID	PERMIT PROJECT	DETERMINAT	GPS	STNHDR DET	WELL CSNG I	WELL CUR D	WELL CLSNG 2	SECTION ID	TWNSHP ID	RANGE ID	SOURCE	MAX CAP QT	DEC LAT	DEC LONG	OBJECT ID 1
		Nurseries														
50049	118	Town of Lady Lake	0	Y	Digitize	214	419	8	28	18S	24E	Floridan Aquifer	370.00000000	28.89746015	-81.91891550	11710
1668	18820	80 ACRES	3	N	Digitize	0	200	10	29	18S	29E	Floridan Aquifer	2000.00000000	28.89998699	-81.43673229	318
2789	10200	URICO GOLF COURSE	3		Digitize	0	0	4	29	18S	24E	Floridan Aquifer	0.00000000	28.89748423	-81.93563678	4896
88	9432	Flowertree Nursery	3	N	Digitize	0	436	12	29	18S	26E	Floridan Aquifer	2200.00000000	28.89915243	-81.73868618	8778
2619	9634	Grand Island Nurseries	3	N	Digitize	0	200	6	26	18S	25E	Floridan Aquifer	2000.00000000	28.89915222	-81.77813185	2569
2940	10615	BCL Ferns	3	N	Digitize	100	250	10	26	18S	27E	Floridan Aquifer	1800.00000000	28.90018849	-81.58287106	10745
1668	3208	80 ACRES	3		Digitize	0	0	0	29	18S	29E	Retention Pond	2000.00000000	28.90082027	-81.43728781	5336
1668	3207	80 ACRES	3	N	Digitize	0	0	0	29	18S	29E	Retention Pond	2000.00000000	28.90082027	-81.43756557	10925
6543	21341	Morgan Lanier	3	N	Digitize	0	0	0	29	18S	29E	Pond D	2400.00000000	28.90099179	-81.42760395	7053
2620	32594	KAUFFMAN	3	N	Digitize	0	0	0				Lake Yale	500.00000000	28.89970803	-81.73257492	8719
2508	21981	OJ Partnership	3	N	Digitize	0	0	0	29	18S	26E	Lake Yale	1250.00000000	28.90026356	-81.74063071	7273
4545	35304	Quail Ridge Estates	3	N	Other/Unknown	131	340	10				Floridan Aquifer System - Upper	650.00000000	28.90026335	-81.76868713	6193
2953	10631	East Forest	3	N	Digitize	145	320	12	30	18S	26E	Floridan Aquifer	2400.00000000	28.90045043	-81.74828444	8266
2489	9220	Lake Fern Inc	3		Digitize	160	350	10	25	18S	26E	Floridan Aquifer	1400.00000000	28.90109723	-81.66868418	8924
2535	9389	Lake Yale Estates/Sandpiper Mobile Home Manor	3	N	Digitize	200	400	10	25	18S	25E	Floridan Aquifer	650.00000000	28.90075907	-81.76271063	7752
50109	10262	RL Ferns	3	N	Digitize	0	0	10	30	18S	26E	Floridan Aquifer	0.00000000	28.90109683	-81.74701980	8941
2489	9221	Lake Fern Inc	3	N	Digitize	150	350	10	25	18S	26E	Floridan Aquifer	1400.00000000	28.90165277	-81.66757302	9050
6543	10053	Morgan Lanier	3	N	Digitize	180	350	10	20	18S	29E	Floridan Aquifer	1800.00000000	28.90276457	-81.42812079	10985
88	9431	Flowertree Nursery	3	N	Digitize	0	295	12				Floridan Aquifer	2200.00000000	28.90165241	-81.73757512	8181
88	9433	Flowertree Nursery	3	N	Digitize	0	245	6	29	18S	26E	Floridan Aquifer	225.00000000	28.90165235	-81.73813063	5302
6543	2004	Morgan Lanier	3		Digitize	0	0	0	20	18S	29E	Marsh	1800.00000000	28.90304237	-81.42784304	5641
6543	10054	Morgan Lanier	3	N	Digitize	0	175	4	20	18S	29E	Floridan Aquifer	250.00000000	28.90359789	-81.42756519	582
2535	33719	Lake Yale Estates/Sandpiper Mobile Home Manor	3	N	Other/Unknown	200	300	4	25	18S	25E	Floridan Aquifer	80.00000000	28.90219860	-81.76425595	1608
6652	10214	Umatilla Park	3	N	Other/Unknown	0	40	4	23	18S	26E	Floridan Aquifer	1500.00000000	28.90426427	-81.68669551	2183
4533	18919	Goney's Nursery	3		Digitize	0	200	6	20	18S	24E	Floridan Aquifer	300.00000000	28.90331745	-81.92258085	4234
2535	9388	Lake Yale Estates/Sandpiper Mobile Home Manor	3	N	Digitize	200	300	6	24	18S	25E	Floridan Aquifer	100.00000000	28.90470761	-81.76535372	11506
4533	18921	Goney's Nursery	3	N	Digitize	0	60	4	20	18S	24E	Floridan Aquifer	0.00000000	28.90376343	-81.92174507	1283
2787	10197	Douglas Hill Farm	3	N	Digitize	0	290	8	19	18S	24E	Floridan Aquifer	1000.00000000	28.90359501	-81.94619271	752
2950	2102	Sand Hill Ferns	3	N	Digitize	0	0	0	20	18S	29E	Unnamed Pond	1500.00000000	28.90637556	-81.43062082	6831
2950	10628	Sand Hill Ferns	3	N	Digitize	100	350	8	20	18S	29E	Floridan Aquifer	1300.00000000	28.90637559	-81.43117647	8235

OFFICL PERMIT	STN ID	PERMIT PROJECT	DETERMINAT	GPS	STNHDR DET	WELL CSNG I	WELL CUR D	WELL CLSNG 2	SECTION ID	TWNSHP ID	RANGE ID	SOURCE	MAX CAP QT	DEC LAT	DEC LONG	OBJECT ID 1
50109	356	RL Ferns	0	Y	Digitize	100	400	10	19	18S	26E	Floridan Aquifer	1200.00000000	28.90504818	-81.74646779	12447
50109	355	RL Ferns	0	Y	Digitize	115	140	4	19	18S	26E	Floridan Aquifer	150.00000000	28.90617420	-81.74614538	13261
2950	10629	Sand Hill Ferns	3	N	Digitize	100	200	4	20	18S	29E	Floridan Aquifer	80.00000000	28.90776437	-81.42756514	11319
50109	357	RL Ferns	0	Y	Digitize	0	0	0	19	18S	26E	Lake Yale	1000.00000000	28.90642459	-81.74516101	11074
2637	9726	Carl Smith	3		Digitize	0	120	8	22	18S	24E	Floridan Aquifer	0.00000000	28.90553980	-81.89674676	5301
2489	9218	Lake Fern Inc	3	N	Digitize	150	350	6	24	18S	26E	Floridan Aquifer	360.00000000	28.90693030	-81.66535068	4063
50049	116	Town of Lady Lake	0	Y	Digitize	189	312	12	20	18S	24E	Floridan Aquifer	825.00000000	28.90555666	-81.92422853	11711
5745	8909	LAKE NORRIS NURSERIES	3	N	Digitize	0	320	6	19	18S	28E	Floridan Aquifer	350.00000000	28.90776425	-81.54451380	2239
2489	9219	Lake Fern Inc	3	N	Digitize	120	350	10	24	18S	26E	Floridan Aquifer	1400.00000000	28.90720802	-81.67146198	2300
2586	9530	Walton Grove	3	N	Digitize	0	174	8	22	18S	24E	Floridan Aquifer	550.00000000	28.90618374	-81.89344994	2163
2508	1940	OJ Partnership	3	N	Digitize	0	0	0	19	18S	26E	Lake Yale	1000.00000000	28.90748545	-81.75201996	208
2862	18968	Lady Lake Mobile Home Park	3	N	Digitize	203	270	6	21	18S	24E	Floridan Aquifer	270.00000000	28.90682013	-81.90409462	10162
2637	9725	Carl Smith	3	N	Digitize	0	120	4	22	18S	24E	Floridan Aquifer	0.00000000	28.90693736	-81.89738856	10374
2489	9224	Lake Fern Inc	3	N	Digitize	150	350	10	24	18S	26E	Floridan Aquifer	1400.00000000	28.90831913	-81.66729524	8814
2489	9223	Lake Fern Inc	3	N	Digitize	150	0	12	24	18S	26E	Floridan Aquifer	3000.00000000	28.90831913	-81.66729524	1002
2706	9953	Floral Trace	3	N	Digitize	125	400	6	20	18S	27E	Floridan Aquifer	160.00000000	28.90859707	-81.63257193	507
2706	9954	Floral Trace	3		Digitize	96	137	4	20	18S	27E	Floridan Aquifer	50.00000000	28.90859712	-81.63340536	3667
2755	2010	Water Hole Fern	3	N	Digitize	0	0	0	20	18S	29E	Waterhole Lake	700.00000000	28.90970879	-81.42700954	3107
2755	10083	Water Hole Fern	3		Digitize	100	300	8	20	18S	29E	Floridan Aquifer	400.00000000	28.91010817	-81.42848446	5861
2755	2011	Water Hole Fern	3	N	Digitize	0	0	0	20	18S	29E	Waterhole Lake	500.00000000	28.91026433	-81.42950973	6191
2755	35430	Water Hole Fern	3	N	Other/Unknown	0	0	4	20	18S	29E	Floridan Aquifer	0.00000000	28.91046537	-81.42817844	8677
2412	8954	NORTH LAKE GROVES	3	N	Digitize	0	350	6	20	18S	27E	Floridan Aquifer	470.00000000	28.90970819	-81.63284978	2552
2449	1911	Eustis Sand Mine	3	N	Digitize	0	0	0	23	18S	27E	Dredge Pit	6000.00000000	28.91054173	-81.57757031	3022
2489	9222	Lake Fern Inc	3	N	Digitize	150	350	6	24	18S	26E	Floridan Aquifer	300.00000000	28.91026357	-81.66451738	2573
279	9001	Harbor Hills	0	Y	Digitize	250	650	16	24	18S	24E	Floridan Aquifer	1200.00000000	28.90940291	-81.86517221	9684
2853	10426	Wiygul Rd Block	3	N	Digitize	126	600	12	20	18S	27E	Floridan Aquifer	3200.00000000	28.91165255	-81.63007194	6559
2853	10425	Wiygul Rd Block	3	N	Digitize	133	598	10	20	18S	27E	Floridan Aquifer	1750.00000000	28.91165253	-81.63284978	7030
2755	2012	Water Hole Fern	3	N	Digitize	0	0	0	20	18S	29E	Unnamed Pond	450.00000000	28.91248643	-81.42950965	1511
294	19026	Wiygul Road	3	N	Digitize	105	450	8	20	18S	27E	Floridan Aquifer	900.00000000	28.91193028	-81.62784960	4943
2895	20042	FSG Fernery	3	N	Digitize	150	350	10	24	18S	26E	Floridan Aquifer	1000.00000000	28.91248571	-81.66062839	7111
295	10475	THOMAS HANSON	3	N	Other/Unknown	0	450	10	21	18S	24E	Floridan Aquifer	1200.00000000	28.91165064	-81.91063613	9109
2848	10397	RAYMOND W. & BETTY M. RICHARDSON	3	N	Digitize	0	330	6	20	18S	24E	Floridan Aquifer	500.00000000	28.91220590	-81.93341455	2741
2402	8907	Mayfield	3	N	Digitize	0	250	10	23	18S	24E	Floridan Aquifer	700.00000000	28.91276186	-81.88341305	11616
2523	9334	Richardson Property	3		Digitize	97	300	4	21	18S	24E	Floridan Aquifer	0.00000000	28.91303944	-81.90758049	6014
2464	9124	Citrus World	3	N	Digitize	126	902	12	23	18S	26E	Floridan Aquifer	1800.00000000	28.91445529	-81.67698783	7640
93176	9126	Lake Cogen	3	N	Digitize	114	560	8	23	18S	26E	Floridan Aquifer	1000.00000000	28.91554106	-81.67562889	6953
2464	9125	Citrus World	3	N	Digitize	118	532	6	23	18S	26E	Floridan Aquifer	2500.00000000	28.91557154	-81.67636820	7909
4519	18887	Whistling Pines	3	N	Digitize	0	304	6	20	18S	27E	Floridan Aquifer	60.00000000	28.91581902	-81.62951629	10546

OFFICL PERMIT	STN ID	PERMIT PROJECT	DETERMINAT	GPS	STNHDR DET	WELL CSNG I	WELL CUR D	WELL CLSNG 2	SECTION ID	TWNSHP ID	RANGE ID	SOURCE	MAX CAP QT	DEC LAT	DEC LONG	OBJECT ID 1
		Foliage														
50288	968	Caldwell Citrus Groves	0	Y	Digitize	0	0	10	17	18S	27E	Floridan Aquifer	780.00000000	28.91994478	-81.63306863	13065
50049	120	Town of Lady Lake	0	Y	Digitize	201	403	14	17	18S	24E	Floridan Aquifer	1000.00000000	28.91835248	-81.92921439	13575
2520	9328	Farm grove	3	N	Digitize	0	0	6	15	18S	26E	Floridan Aquifer	500.00000000	28.92067464	-81.69338371	9036
84607	34797	Jackson 1	3		Other/Unknown	0	0	4	17	18S	28E	Floridan Aquifer	70.00000000	28.92152665	-81.53513799	5998
124036	1905	Harbor Hills Golf Course	3	N	Digitize	0	0	0	13	18S	24E	Lake Griffin	250.00000000	28.92006438	-81.85643771	5541
124036	1906	Harbor Hills Golf Course	3	N	Digitize	0	0	0	13	18S	24E	Lake Griffin	35.00000000	28.92025838	-81.85609052	5404
2579	9506	JOHN NYSTROM	3	N	Digitize	0	250	6	17	18S	28E	Floridan Aquifer	250.00000000	28.92220812	-81.54062474	6154
124036	1907	Harbor Hills Golf Course	3	N	Digitize	0	0	0	13	18S	24E	Lake Griffin	900.00000000	28.92064425	-81.85574480	8127
5841	9072	BETTY K. THOMAS TRUST	3	N	Digitize	0	460	10	18	18S	27E	Floridan Aquifer	600.00000000	28.92192977	-81.64896141	1936
124036	1908	Harbor Hills Golf Course	3	N	Digitize	0	0	0	13	18S	24E	Lake Griffin	900.00000000	28.92099149	-81.85544235	4519
2730	10019	Lake Trees Inc	3	N	Digitize	0	0	6	17	18S	27E	Floridan Aquifer	180.00000000	28.92276319	-81.63757215	10654
2643	9747	Conderman Grove	3	N	Digitize	114	380	8	18	18S	27E	Floridan Aquifer	500.00000000	28.92275740	-81.65331636	1854
2410	8945	Live Oaks Ranch & Nursery	3		Digitize	0	100	2	14	18S	27E	Floridan Aquifer	6.00000000	28.92498552	-81.58840400	7801
2410	8942	Live Oaks Ranch & Nursery	3	N	Digitize	0	123	6	13	18S	27E	Floridan Aquifer	250.00000000	28.92526337	-81.57257014	1626
2928	10596	Peanut Pond	3	N	Digitize	126	540	10	18	18S	27E	Floridan Aquifer	1800.00000000	28.92498523	-81.64701692	8562
2519	9327	May and Whitaker Family Partnership	3	N	Digitize	0	200	6	14	18S	26E	Floridan Aquifer	400.00000000	28.92614610	-81.68175687	8549
4490	18838	Lake Beasley Grove	3	N	Digitize	0	325	8	14	18S	26E	Floridan Aquifer	300.00000000	28.92638626	-81.68562751	6204
2798	10241	Pine Lakes	3	N	Digitize	0	0	12	16	18S	29E	Floridan Aquifer	0.00000000	28.92776362	-81.41978693	8593
2410	8944	Live Oaks Ranch & Nursery	3	N	Digitize	0	96	4	14	18S	27E	Floridan Aquifer	90.00000000	28.92720763	-81.58812620	11109
50279	20571	Village Center Community Development District	3	N	Digitize	0	0	0	18	18S	24E	Laguna Lake	3500.00000000	28.92526181	-81.94771800	145
2798	10242	Pine Lakes	3	N	Digitize	0	0	12	16	18S	29E	Floridan Aquifer	0.00000000	28.92804132	-81.42339823	977
50291	964	Home Grove	0	Y	Digitize	115	195	8	16	18S	26E	Floridan Aquifer	2680.00000000	28.92683875	-81.72226743	14233
50279	926	Village Center Community Development District	0	Y	Digitize	110	310	20	18	18S	24E	Floridan Aquifer	2250.00000000	28.92601823	-81.95345806	7068
2642	9746	Bacon Block	3	N	Digitize	120	180	6	14	18S	26E	Floridan Aquifer	400.00000000	28.92804050	-81.68174023	8911
2410	8943	Live Oaks Ranch & Nursery	3	N	Digitize	0	172	6	14	18S	27E	Floridan Aquifer	250.00000000	28.92859648	-81.58840397	8095
2541	9396	Roy & Tracy Bowling	3	N	Digitize	120	120	6	16	18S	29E	Floridan Aquifer	70.00000000	28.92928491	-81.41546904	10834

OFFICL PERMIT	STN ID	PERMIT PROJECT	DETERMINAT	GPS	STNHDR DET	WELL CSNG I	WELL CUR D	WELL CLSNG 2	SECTION ID	TWNSHP ID	RANGE ID	SOURCE	MAX CAP QT	DEC LAT	DEC LONG	OBJECT ID 1
2716	9985	Umatilla Sod Farm	3	N	Digitize	80	868	12	15	18S	27E	Floridan Aquifer	1200.00000000	28.92861999	-81.60767852	1439
2716	23614	Umatilla Sod Farm	3	N	Digitize	77	77	4	15	18S	27E	Floridan Aquifer	0.00000000	28.92894844	-81.60342259	9940
2716	35326	Umatilla Sod Farm	3	N	Digitize	80	80	4		0	0	Floridan Aquifer	0.00000000	28.92909203	-81.60440757	9799
67197	31970	East Lake	3	N	Digitize	400	450	8	18	18S	27E	Floridan Aquifer	450.00000000	28.92888889	-81.64926400	1699
50279	925	Village Center Community Development District	0	Y	Digitize	190	700	20	17	18S	24E	Floridan Aquifer	2400.00000000	28.92764274	-81.93714234	8425
50291	965	Home Grove	0	Y	Digitize	106	450	10	16	18S	26E	Floridan Aquifer	2680.00000000	28.92927103	-81.72169528	14222
2943	10618	Salltsdale Road Block	3		Digitize	86	420	8	17	18S	27E	Floridan Aquifer	750.00000000	28.92970734	-81.64285014	4416
50279	924	Village Center Community Development District	0	Y	Digitize	128	310	20	18	18S	24E	Floridan Aquifer	2250.00000000	28.92858926	-81.95357782	68
293	19027	Graham Groves	3	N	Digitize	120	350	6	16	18S	26E	Floridan Aquifer	900.00000000	28.93026252	-81.70951885	8902
2830	10349	Richard Shook	3	N	Digitize	105	300	8	16	18S	26E	Floridan Aquifer	1200.00000000	28.93052518	-81.71211613	6152
2830	10348	Richard Shook	3	N	Digitize	120	218	6	16	18S	26E	Floridan Aquifer	100.00000000	28.93055198	-81.71211611	10648
279	9000	Harbor Hills	0	Y	Digitize	250	650	16	18	18S	25E	Floridan Aquifer	1200.00000000	28.93020652	-81.85450980	5953
2716	23613	Umatilla Sod Farm	3	N	Digitize	80	80	4	10	18S	27E	Floridan Aquifer	0.00000000	28.93172632	-81.60468874	6924
2553	9421	ROBERT MARTIN	3		Digitize	0	460	10	8	18S	26E	Floridan Aquifer	1000.00000000	28.93137350	-81.72674155	3194
50085	309	Russell Bryan	3		Other/Unknown	150	300	8	11	18S	26E	Floridan Aquifer	1500.00000000	28.93165148	-81.69007379	5810
5905	9166	J F Nelson Home	3	N	Digitize	97	185	6	9	18S	26E	Floridan Aquifer	350.00000000	28.93165139	-81.71285227	4261
4538	18931	Agnes May Grove	3	N	Digitize	0	180	6	11	18S	26E	Floridan Aquifer	350.00000000	28.93190223	-81.67700669	2815
282	9369	Water Oak Country Club Estates	0	Y	Digitize	367	700	6	9	18S	24E	Floridan Aquifer	650.00000000	28.93091094	-81.91788466	2025
2703	9945	Seneca Cut Foliage	3	N	Digitize	0	450	6	10	18S	26E	Floridan Aquifer	500.00000000	28.93248480	-81.69257390	3798
282	9371	Water Oak Country Club Estates	0	Y	Digitize	154	270	8	9	18S	24E	Floridan Aquifer	1000.00000000	28.93125066	-81.91821544	10821
2858	18965	Pine Island Fish Camp	0	Y	Digitize	0	145	6	7	18S	25E	Floridan Aquifer	55.00000000	28.93184988	-81.84383633	10172
2605	9590	Carlton Village	3	N	Digitize	180	350	12	11	18S	24E	Floridan Aquifer	200.00000000	28.93165005	-81.88480215	8055
101	19012	Dale Warren	3	N	Digitize	0	200	8	9	18S	26E	Floridan Aquifer	900.00000000	28.93276243	-81.71701913	2257
2605	9588	Carlton Village	3	N	Digitize	170	350	8	11	18S	24E	Floridan Aquifer	200.00000000	28.93192783	-81.88507988	9117
2797	2027	East Lake Grove	3	N	Digitize	0	0	0	7	18S	27E	East Lake	950.00000000	28.93333740	-81.65724965	9602
2831	10350	Skyline Grove	3	N	Digitize	126	462	10	7	18S	27E	Floridan Aquifer	2100.00000000	28.93341331	-81.64594476	6122
2597	9560	Home & Hillside	3	N	Digitize	106	330	8	7	18S	27E	Floridan Aquifer	600.00000000	28.93356595	-81.64941206	2342
2646	33891	Umatilla Municipal Water System	3	N	Other/Unknown	273	510	12	7	18S	27E	Floridan Aquifer	1000.00000000	28.93447006	-81.64398157	666
2454	26975	Sunlakes Estates	0	Y	Digitize	177	280	4	11	18S	25E	Upper Floridan Aquifer	60.00000000	28.93534417	-81.77449112	10133
2922	10583	KBK Groves	3	N	Digitize	222	323	6	10	18S	26E	Floridan Aquifer	900.00000000	28.93581786	-81.70590765	6572
50086	311	CR 450	3	N	Other/Unknown	147	437	8	12	18S	26E	Floridan Aquifer	550.00000000	28.93609796	-81.66169470	3664

OFFICL PERMIT	STN ID	PERMIT PROJECT	DETERMINAT	GPS	STNHDR DET	WELL CSNG I	WELL CUR D	WELL CLSNG 2	SECTION ID	TWNSHP ID	RANGE ID	SOURCE	MAX CAP QT	DEC LAT	DEC LONG	OBJECT ID 1
2454	9098	Sunlakes Estates	0	Y	Digitize	250	615	12	12	18S	25E	Upper Floridan Aquifer	300.00000000	28.93557380	-81.77178508	1988
2454	9097	Sunlakes Estates	0	Y	Digitize	550	770	12	12	18S	25E	Upper Floridan Aquifer	588.00000000	28.93561939	-81.77195635	11197
6316	9766	East 450 Grove	3	N	Digitize	148	508	10	7	18S	27E	Floridan Aquifer	1000.00000000	28.93667778	-81.65310108	11247
4491	3211	St Clair Groves	3	N	Digitize	0	0	0	10	18S	26E	Unnamed Pond	750.00000000	28.93720672	-81.70618547	11968
2542	9397	Rusty	3	N	Digitize	0	315	8	7	18S	26E	Floridan Aquifer	1000.00000000	28.93772439	-81.74155165	11395
4491	18839	St Clair Groves	3	N	Digitize	0	261	6	10	18S	26E	Floridan Aquifer	375.00000000	28.93804005	-81.70646323	11513
291	19025	Osborne	3	N	Digitize	0	640	10	7	18S	27E	Floridan Aquifer	1500.00000000	28.93831805	-81.65229483	2647
2924	10589	North Lake Presbyterian Church	3	N	Digitize	140	300	10	8	18S	24E	Floridan Aquifer	1000.00000000	28.93664941	-81.93535923	11983
2686	9878	Loel Groves	3	N	Digitize	100	100	6	7	18S	27E	Floridan Aquifer	400.00000000	28.93887360	-81.65007259	4266
2924	10588	North Lake Presbyterian Church	3	N	Digitize	100	120	4	8	18S	24E	Floridan Aquifer	48.00000000	28.93720502	-81.93535930	11516
2806	10274	Osborne Grove	3	N	Digitize	126	375	10	7	18S	27E	Floridan Aquifer	1450.00000000	28.93942905	-81.65312818	11697
286	19028	North Lake Park	3	N	Digitize	0	490	10	7	18S	27E	Floridan Aquifer	1050.00000000	28.93963180	-81.64463169	6404
2536	9390	Peru Road	3	N	Digitize	0	0	8	10	18S	26E	Floridan Aquifer	330.00000000	28.93998443	-81.70174083	11981
50091	321	Austin Grove	3	N	Other/Unknown	130	340	8	10	19S	27E	Floridan Aquifer	488.00000000	28.94105278	-81.64062478	3861
2660	9812	ROBERT W. MAXWELL	3	N	Digitize	0	150	8	11	18S	27E	Floridan Aquifer	100.00000000	28.94137378	-81.58340379	983
2646	9767	Umatilla Municipal Water System	0	Y	Digitize	150	450	12	12	18S	26E	Floridan Aquifer	1000.00000000	28.94111014	-81.66623177	11842
2646	9768	Umatilla Municipal Water System	0	Y	Digitize	150	500	12	12	18S	26E	Floridan Aquifer	1000.00000000	28.94204713	-81.66573273	9385
286	19029	North Lake Park	3	N	Digitize	0	580	12	7	18S	27E	Floridan Aquifer	2800.00000000	28.94228113	-81.64435285	1353
2988	2120	Marquette Road Grove	3	N	Digitize	0	0	0	9	18S	26E	Holly Lake	800.00000000	28.94226044	-81.71447421	12393
2530	18862	Blue Parrot RV Resort	3	N	Digitize	107	264	10	8	18S	24E	Floridan Aquifer	600.00000000	28.94137156	-81.92730349	7518
2530	18861	Blue Parrot RV Resort	3	N	Digitize	75	170	6	8	18S	24E	Floridan Aquifer	150.00000000	28.94137153	-81.92785909	1436
2988	10712	Marquette Road Grove	3		Digitize	0	175	10	9	18S	26E	Floridan Aquifer	400.00000000	28.94299284	-81.70932954	5229
2851	18889	Peru Grove	3	N	Digitize	65	258	6	11	18S	26E	Floridan Aquifer	500.00000000	28.94355877	-81.68884013	124
2851	18888	Peru Grove	3	N	Digitize	63	224	6	11	18S	26E	Floridan Aquifer	400.00000000	28.94356448	-81.68868366	125
4511	18873	JACK'S FARMS	3	N	Digitize	0	500	8	11	18S	27E	Floridan Aquifer	1000.00000000	28.94470691	-81.59062624	2851
2757	2014	Malibu Ferns	3		Digitize	0	0	0	5	18S	29E	Unnamed Pond	800.00000000	28.94554069	-81.43673194	4691
2955	35309	Bryan Ferns	3	N	Other/Unknown	0	0	0	10	18S	26E	unnamed pond	1000.00000000	28.94441933	-81.70679919	7419
2955	10636	Bryan Ferns	3		Digitize	0	0	10	10	18S	26E	Floridan Aquifer	2000.00000000	28.94449054	-81.70661211	5772
2851	10407	Peru Grove	3	N	Digitize	60	260	6	11	18S	26E	Floridan Aquifer	300.00000000	28.94470943	-81.69071459	200
2757	2013	Malibu Ferns	3		Digitize	0	0	0	5	18S	29E	Unnamed Pond	1200.00000000	28.94609623	-81.43728747	3236
4511	18874	JACK'S FARMS	3		Digitize	0	250	4	11	18S	27E	Floridan Aquifer	0.00000000	28.94554022	-81.59090402	4518
2955	10635	Bryan Ferns	3		Digitize	0	0	10	3	18S	26E	Floridan Aquifer	2000.00000000	28.94577177	-81.70185211	5771

OFFICL PERMIT	STN ID	PERMIT PROJECT	DETERMINAT	GPS	STNHDR DET	WELL CSNG I	WELL CUR D	WELL CLSNG 2	SECTION ID	TWNSHP ID	RANGE ID	SOURCE	MAX CAP QT	DEC LAT	DEC LONG	OBJECT ID 1
2757	10088	Malibu Ferns	3	N	Digitize	150	400	10	5	18S	29E	Floridan Aquifer	2000.00000000	28.94692949	-81.43589858	10289
2757	10087	Malibu Ferns	3	N	Digitize	150	300	8	5	18S	29E	Floridan Aquifer	1300.00000000	28.94720723	-81.43728752	11029
2955	10637	Bryan Ferns	3	N	Digitize	0	0	4	3	18S	26E	Floridan Aquifer	60.00000000	28.94706922	-81.70355976	7582
2955	10634	Bryan Ferns	3	N	Digitize	0	0	8	3	18S	26E	Floridan Aquifer	700.00000000	28.94727722	-81.70294531	7875
2660	9811	ROBERT W. MAXWELL	3		Digitize	0	150	8	2	18S	27E	Floridan Aquifer	100.00000000	28.94859574	-81.58284826	5243
2466	9129	Zellman	3	N	Digitize	58	114	8	2	18S	26E	Floridan Aquifer	1200.00000000	28.94826447	-81.68945223	10593
65277	26978	Reier Enterprises	3		Digitize	0	0	0	6	18S	27E	Lake Gibson	0.00000000	28.94935901	-81.65507182	3937
50279	927	Village Center Community Development District	0	Y	Digitize	180	330	16	6	18S	24E	Floridan Aquifer	1100.00000000	28.94811819	-81.95186542	12698
6765	10403	Hall Grove	0	Y	Digitize	0	300	6	2	18S	26E	Floridan Aquifer	350.00000000	28.94972527	-81.68971030	12619
50279	20570	Village Center Community Development District	3	N	Digitize	0	0	0	6	18S	24E	Golfview Lake	500.00000000	28.94817173	-81.94695495	8459
65616	2112	The Lakes of Lady Lake Golf Course	3	N	Digitize	0	0	0	5	18S	24E	DRA #2	1800.00000000	28.94833563	-81.93294828	7598
6765	3219	Hall Grove	0	Y	Digitize	0	0	0	2	18S	26E	Island Lake	350.00000000	28.95011392	-81.68879278	12618
2633	9708	CORDREY GROVES	3	N	Digitize	0	490	10	3	18S	24E	Floridan Aquifer	1100.00000000	28.94914934	-81.89452481	988
2973	10686	The Lakes of Lady Lake	3	N	Digitize	0	0	4	5	18S	24E	Floridan Aquifer	90.00000000	28.94895352	-81.92996166	9760
6765	23380	Hall Grove	3	N	Other/Unknown	0	0	4	2	18S	26E	Floridan Aquifer	0.00000000	28.95057843	-81.68942436	2188
65277	26977	Reier Enterprises	3		Digitize	0	0	4	6	18S	27E	Floridan Aquifer	0.00000000	28.95081093	-81.65495187	3904
2403	8910	Winn Dixie Scout Reservation	3	N	Digitize	200	200	6	5	18S	28E	Floridan Aquifer	0.00000000	28.95165137	-81.53840235	8594
2403	8911	Winn Dixie Scout Reservation	3	N	Digitize	0	200	6	5	18S	28E	Floridan Aquifer	0.00000000	28.95169782	-81.53748609	2481
2973	10685	The Lakes of Lady Lake	3	N	Digitize	0	0	8	5	18S	24E	Floridan Aquifer	435.00000000	28.95013955	-81.93286923	11373
2647	9771	Baker Road	3		Digitize	79	429	6	5	18S	27E	Floridan Aquifer	400.00000000	28.95192870	-81.64007234	4463
65616	10684	The Lakes of Lady Lake Golf Course	3	N	Digitize	0	0	8	5	18S	24E	Floridan Aquifer	435.00000000	28.95033203	-81.93252176	2514
50598	20030	Alan Bradley	3	N	Digitize	105	334	10	1	18S	24E	Floridan Aquifer	0.00000000	28.95114145	-81.86593477	6433
2600	9564	BATES	3	N	Digitize	0	371	12	2	18S	24E	Floridan Aquifer	1800.00000000	28.95109374	-81.88563559	7230
2403	8920	Winn Dixie Scout Reservation	3	N	Digitize	0	0	4	5	18S	28E	Floridan Aquifer	0.00000000	28.95331945	-81.53616060	1684
2727	10012	Greentop Growers	3	N	Digitize	0	0	4	3	18S	24E	Floridan Aquifer	0.00000000	28.95164922	-81.89730263	9400
2727	10013	Greentop Growers	3	N	Digitize	0	0	4	3	18S	24E	Floridan Aquifer	0.00000000	28.95164921	-81.89785819	4441
50279	923	Village Center Community Development District	0	Y	Digitize	130	250	16	6	18S	24E	Floridan Aquifer	2250.00000000	28.95185130	-81.94663307	3199

OFFICL PERMIT	STN ID	PERMIT PROJECT	DETERMINAT	GPS	STNHDR DET	WELL CSNG I	WELL CUR D	WELL CLSNG 2	SECTION ID	TWNSHP ID	RANGE ID	SOURCE	MAX CAP QT	DEC LAT	DEC LONG	OBJECT ID 1
2727	10011	Greentop Growers	3	N	Digitize	0	0	6	3	18S	24E	Floridan Aquifer	0.00000000	28.95220469	-81.89646925	6198
2906	10555	O J PARTNERSHIP	3	N	Digitize	0	0	12	2	18S	25E	Floridan Aquifer	1000.00000000	28.95359449	-81.78979923	11020
284	19032	Baker Road Block	3	N	Digitize	0	440	10	5	18S	27E	Floridan Aquifer	0.00000000	28.95470632	-81.63757222	6149
3117	11274	K. H. MACKAY, JR.	3		Digitize	0	0	6	1	18S	24E	Floridan Aquifer	150.00000000	28.95387160	-81.86563496	5166
2466	1920	Zellman	3	N	Digitize	0	0	0	2	18S	26E	Island Lake	1200.00000000	28.95498388	-81.68674043	1207
2660	9810	ROBERT W. MAXWELL	3	N	Digitize	0	300	10	3	18S	27E	Floridan Aquifer	100.00000000	28.95553977	-81.60145999	1379
2945	10622	Home Grove	3	N	Digitize	110	380	8	6	18S	27E	Floridan Aquifer	600.00000000	28.95553960	-81.65257267	6599
3117	11275	K. H. MACKAY, JR.	3		Digitize	0	0	6	1	18S	24E	Floridan Aquifer	0.00000000	28.95553828	-81.85896809	7164
1667	18816	Larry M Phillips	3	N	Digitize	100	100	12	2	18S	24E	Floridan Aquifer	20.00000000	28.95609361	-81.88396890	5983
50279	922	Village Center Community Development District	3	N	Digitize	118	266	24	6	18S	24E	Floridan Aquifer	4000.00000000	28.95644698	-81.94579006	9327
2507	9293	NW 38	3	N	Digitize	0	0	12	2	18S	25E	Floridan Aquifer	1000.00000000	28.95776101	-81.78257686	1587
2403	8914	Winn Dixie Scout Reservation	3	N	Digitize	0	0	4	5	18S	28E	Floridan Aquifer	0.00000000	28.95998435	-81.53673568	550
2660	9809	ROBERT W. MAXWELL	3	N	Digitize	0	300	10	36	17S	27E	Floridan Aquifer	100.00000000	28.96137296	-81.57340348	909
2771	10137	Lakeview Terrace	3	N	Digitize	104	368	8	31	17S	27E	Floridan Aquifer	250.00000000	28.96435315	-81.65820487	9213
2403	8912	Winn Dixie Scout Reservation	3	N	Digitize	0	0	4	32	17S	28E	Floridan Aquifer	0.00000000	28.96573164	-81.53716118	8799
2815	10302	Lake King Nursery	3		Digitize	180	180	12	31	17S	27E	Floridan Aquifer	2000.00000000	28.96660693	-81.64540681	3368
4513	18877	ALTOONA Grove	3	N	Digitize	0	280	4	32	17S	27E	Floridan Aquifer	90.00000000	28.96733225	-81.62754181	13734
4513	18876	ALTOONA Grove	3		Digitize	0	380	6	33	17S	27E	Floridan Aquifer	350.00000000	28.96734693	-81.62608167	13805
2859	18983	Good Shepherd Farms	0	Y	Digitize	0	300	4	32	17S	27E	Floridan Aquifer	1000.00000000	28.96888775	-81.63061599	14142
2859	18984	Good Shepherd Farms	0	Y	Digitize	0	190	8	32	17S	27E	Floridan Aquifer	30.00000000	28.96952554	-81.63061155	13859
2494	9235	JAMES V. SUTTON	3		Digitize	0	439	10	32	17S	27E	Floridan Aquifer	550.00000000	28.97026130	-81.63312771	4355
2589	23720	Fiddlers Green	3		Digitize	0	213	4	31	17S	27E	Floridan Aquifer	0.00000000	28.97055653	-81.64798662	4369
2589	23721	Fiddlers Green	3	N	Digitize	100	150	4	31	17S	27E	Floridan Aquifer	0.00000000	28.97072472	-81.64822301	7609
2756	36014	Doud & Sullivan	3	N	Digitize	0	0	2		0	0	Floridan Aquifer	0.00000000	28.97166016	-81.42916368	1450
2756	10085	Doud & Sullivan	3	N	Digitize	90	400	8	32	17S	29E	Floridan Aquifer	300.00000000	28.97220624	-81.42895368	1824
2804	10264	Arthur Lambert	3	N	Digitize	0	328	4	32	17S	27E	Floridan Aquifer	0.00000000	28.97238433	-81.63634111	7231
2589	23722	Fiddlers Green	3		Digitize	0	0	4	31	17S	27E	Floridan Aquifer	0.00000000	28.97333478	-81.64943780	3273
2804	10263	Arthur Lambert	3	N	Digitize	86	400	6	32	17S	27E	Floridan Aquifer	0.00000000	28.97349544	-81.63606339	1134
2589	9534	Fiddlers Green	3	N	Digitize	82	201	8	31	17S	27E	Floridan Aquifer	480.00000000	28.97345265	-81.64927052	11906
2795	10224	USDA Forest Service Seminole Ranger District	3	N	Digitize	100	200	6	30	17S	28E	Floridan Aquifer	0.00000000	28.97915018	-81.55145830	970
2736	10041	Paisley	3		Digitize	100	400	8	30	17S	28E	Floridan Aquifer	1300.00000000	28.98137234	-81.54534700	4632
2963	10663	Boys Ranch	3	N	Digitize	121	300	8	30	17S	27E	Floridan Aquifer	175.00000000	28.98331621	-81.65618406	3491

OFFICL PERMIT	STN ID	PERMIT PROJECT	DETERMINAT	GPS	STNHDR DET	WELL CSNG I	WELL CUR D	WELL CLSNG 2	SECTION ID	TWNSHP ID	RANGE ID	SOURCE	MAX CAP QT	DEC LAT	DEC LONG	OBJECT ID 1
2599	9561	Wright Grove	3	N	Digitize	154	650	8	29	17S	28E	Floridan Aquifer	1200.00000000	28.98573102	-81.53794251	11343
71718	33996	Charles and Dorothy Gross	3	N	Other/Unknown	96	358	6				Floridan Aquifer	1100.00000000	28.98855974	-81.64544300	2465
2867	10465	Country Squire	3		Digitize	0	339	4	20	17S	28E	Floridan Aquifer	70.00000000	28.99063681	-81.53796184	4725
2867	10464	Country Squire	3	N	Digitize	0	336	6	20	17S	28E	Floridan Aquifer	266.00000000	28.99065607	-81.53783896	6923
6691	10276	Sharpton Stables	3		Digitize	80	300	4	20	17S	27E	Floridan Aquifer	102.00000000	28.99109379	-81.63951677	3150
6691	10275	Sharpton Stables	3	N	Digitize	97	340	8	20	17S	27E	Floridan Aquifer	750.00000000	28.99192704	-81.63951677	3119
6691	10277	Sharpton Stables	3		Digitize	0	0	4	20	17S	27E	Floridan Aquifer	0.00000000	28.99192705	-81.64035014	3258
6691	10278	Sharpton Stables	3	N	Digitize	0	0	4	20	17S	27E	Floridan Aquifer	0.00000000	28.99276039	-81.64035015	10671
6691	20131	Sharpton Stables	3	N	Digitize	71	250	4	20	17S	27E	Floridan Aquifer	0.00000000	28.99293624	-81.63371483	2243
3048	10962	USDA Forest Service, Lake George Ranger District	3	N	Digitize	0	0	6	19	17S	27E	Floridan Aquifer	0.00000000	28.99318668	-81.64257935	6630
50277	947	Spring Creek Elementary	3	N	Digitize	150	250	4	20	17S	28E	Floridan Aquifer	130.00000000	28.99477117	-81.54185068	5038
50277	945	Spring Creek Elementary	3	N	Digitize	150	250	6	20	17S	28E	Floridan Aquifer	150.00000000	28.99540098	-81.54088798	11199
50277	946	Spring Creek Elementary	3	N	Digitize	150	250	15	20	17S	28E	Floridan Aquifer	1500.00000000	28.99610377	-81.54091805	2685
2712	9970	Fuqua Groves	3	N	Digitize	0	550	12	20	17S	27E	Floridan Aquifer	2000.00000000	28.99879249	-81.63976753	9630
2713	9971	Fuqua Ferneries	3	N	Digitize	65	180	10	19	17S	27E	Floridan Aquifer	1000.00000000	28.99888913	-81.64729583	1825
2738	10050	RAYMOND WISE	3		Digitize	0	250	6	20	17S	28E	Floridan Aquifer	200.00000000	28.99942719	-81.53951347	4966
2803	2034	AUDIE HARDIN	3	N	Digitize	0	0	0	22	17S	28E	Blue Lake	1000.00000000	29.00109392	-81.50479006	9027
2795	10228	USDA Forest Service Seminole Ranger District	3	N	Digitize	128	198	6	38	17S	29E	Floridan Aquifer	0.00000000	29.00664852	-81.41207486	7394
2795	10223	USDA Forest Service Seminole Ranger District	3		Digitize	0	0	6	17	17S	27E	Floridan Aquifer	0.00000000	29.01275960	-81.64173926	3096
2795	10229	USDA Forest Service Seminole Ranger District	3	N	Digitize	0	0	6	17	17S	27E	Floridan Aquifer	0.00000000	29.01288444	-81.64203852	6283
2865	3221	Deerhaven Camp	0	Y	Digitize	0	0	0	1	17S	28E	Deerhaven Lake	750.00000000	29.04682848	-81.46839732	9930
2865	18977	Deerhaven Camp	0	Y	Digitize	0	208	6	1	17S	28E	Floridan Aquifer	60.00000000	29.04771795	-81.46720995	5751
2795	10225	USDA Forest Service Seminole Ranger District	3	N	Digitize	0	0	6	39	16S	27E	Floridan Aquifer	0.00000000	29.07970214	-81.57645967	6644
2795	10227	USDA Forest Service Seminole Ranger District	3		Digitize	0	0	6	18	16S	27E	Floridan Aquifer	0.00000000	29.10850861	-81.63208499	8162
50178	580	Astor-Astor Park Water Assoc.	0	Y	Digitize	147	315	10	37	15S	27E	Floridan Aquifer	530.00000000	29.14965824	-81.57164077	3310
50178	578	Astor-Astor Park Water Assoc.	0	Y	Digitize	82	390	10	37	15S	27E	Floridan Aquifer	425.00000000	29.15045612	-81.57125613	2043

OFFICL PERMIT	STN ID	PERMIT PROJECT	DETERMINAT	GPS	STNHDR DET	WELL CSNG I	WELL CUR D	WELL CLSNG 2	SECTION ID	TWNSHP ID	RANGE ID	SOURCE	MAX CAP QT	DEC LAT	DEC LONG	OBJECT ID 1
50178	577	Astor-Astor Park Water Assoc.	0	Y	Digitize	120	285	10	37	15S	27E	Floridan Aquifer	380.00000000	29.15072243	-81.57107294	7341
2661	9813	Darden Fernery	3	N	Digitize	96	325	6	37	15S	27E	Floridan Aquifer	250.00000000	29.15386644	-81.56895981	6498
2739	3225	Sand Hill Fernery	3	N	Digitize	0	0	0	37	15S	27E	irrigation pond	0.00000000	29.15831066	-81.57534900	10282

Source: St. John's River Water Management District E-Permitting Website

APPENDIX B - MAPS

1. **ACTIVE PUBLIC SUPPLY CONSUMPTIVE USE PERMITS and WELLHEAD PROTECTION ZONES**

2. **ACTIVE WELL POINTS CONSUMPTIVE USE PERMITS NO PUBLIC SUPPLY**

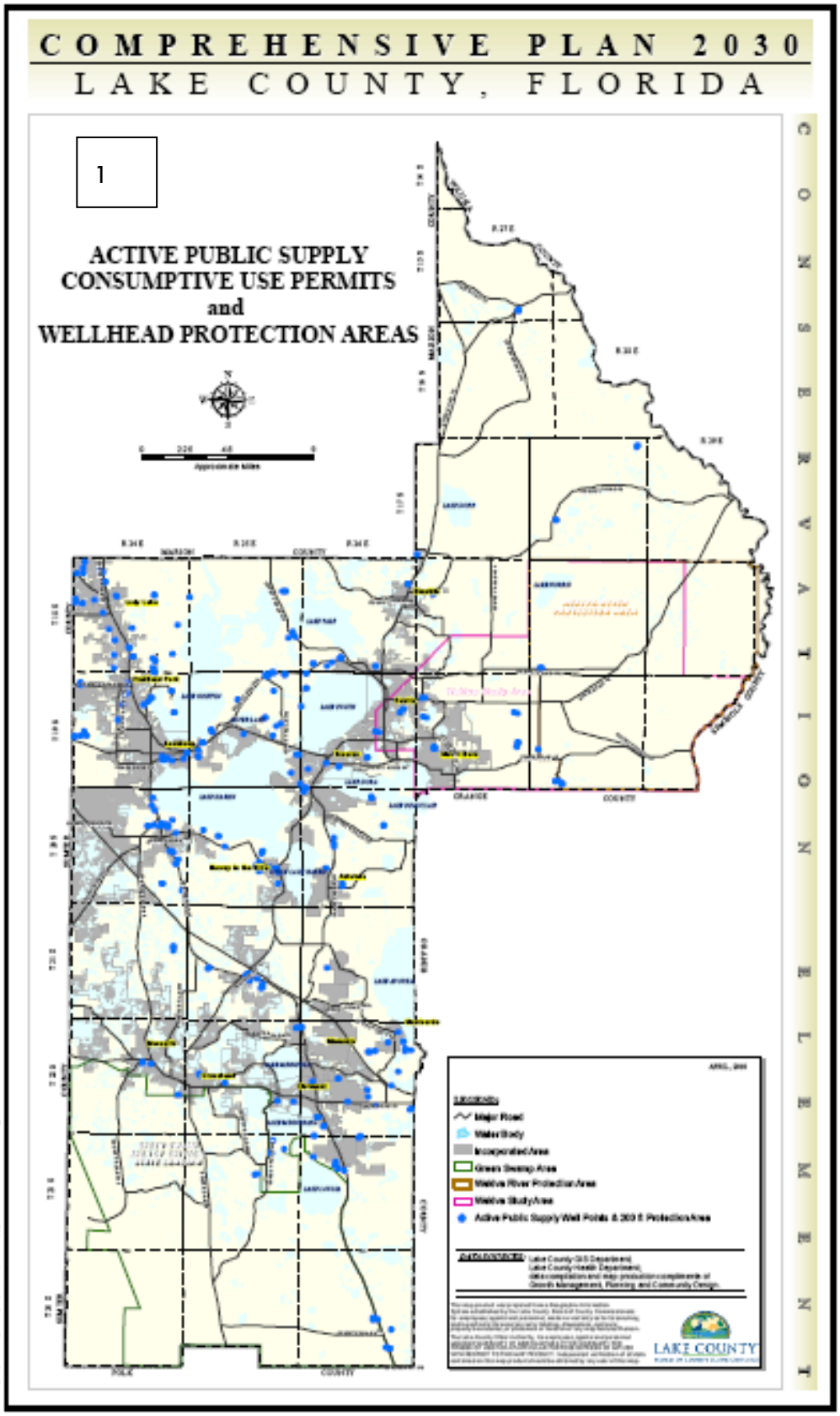
3. **DOMESTIC SELF SUPPLY AND IRRIGATION WELLS**

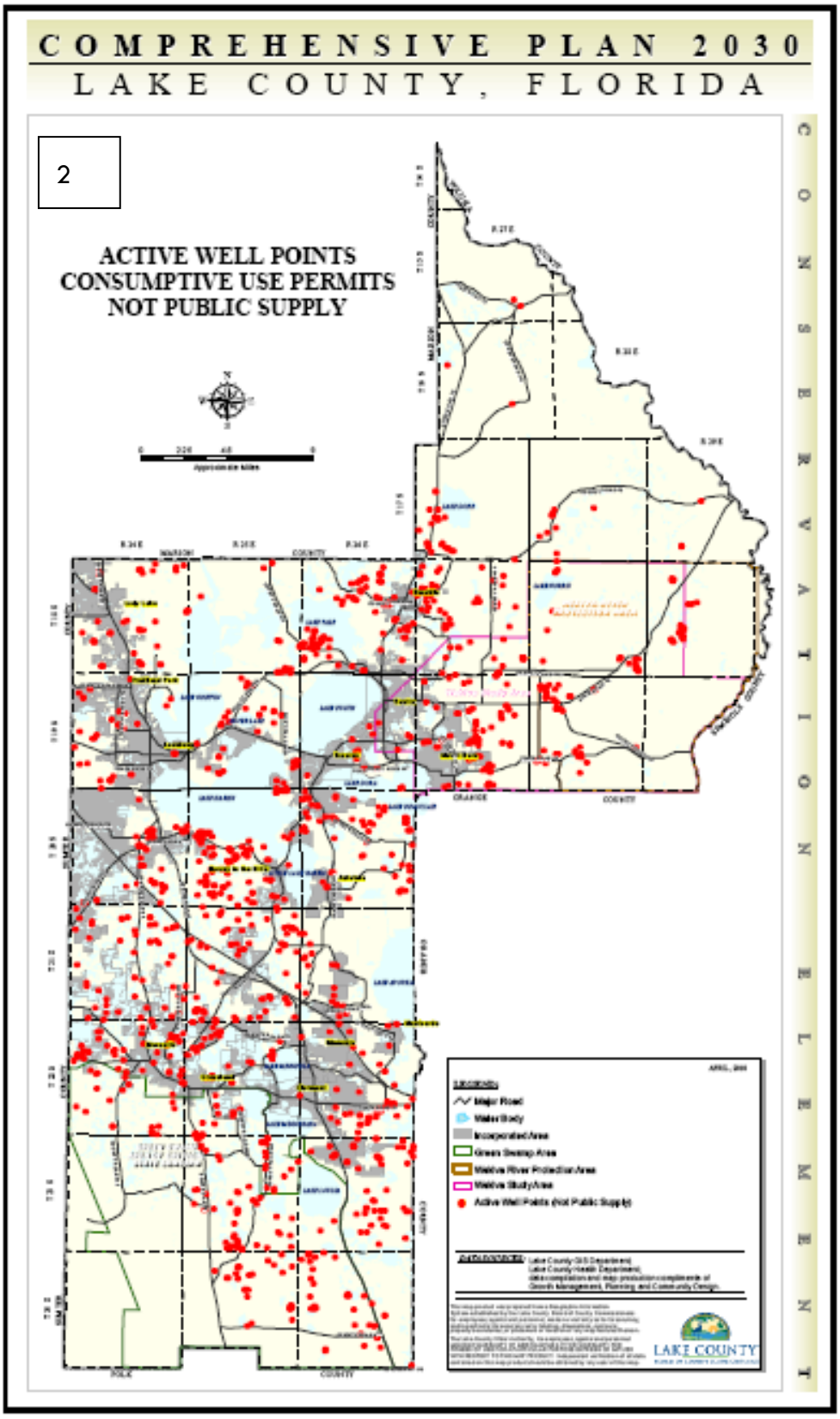
4. **CONSUMPTIVE USE PERMIT BOUNDARIES**

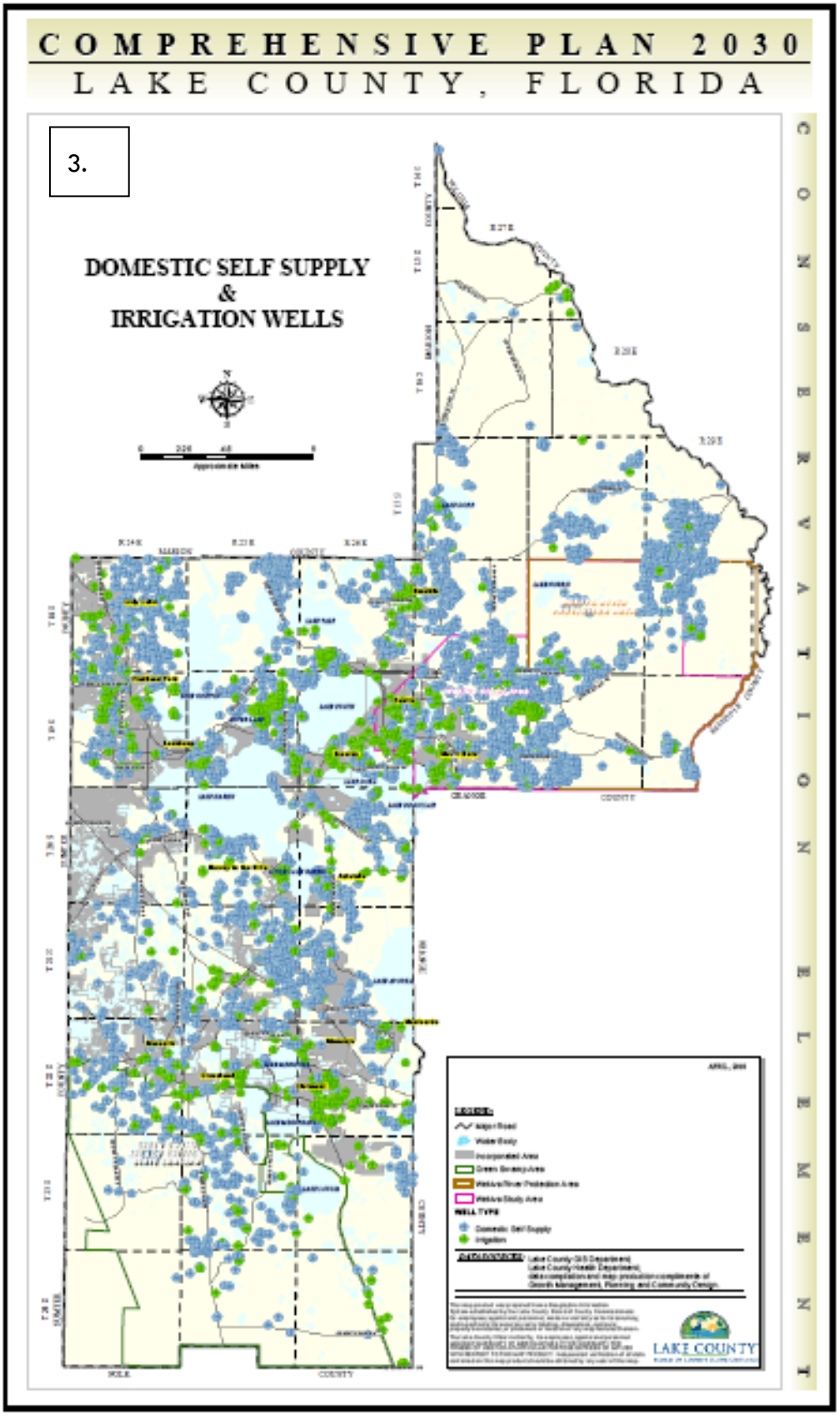
5. **ACTIVE SUPPLY CONSUMPTIVE USE PERMITS and WELLHEAD PROTECTION AREAS**

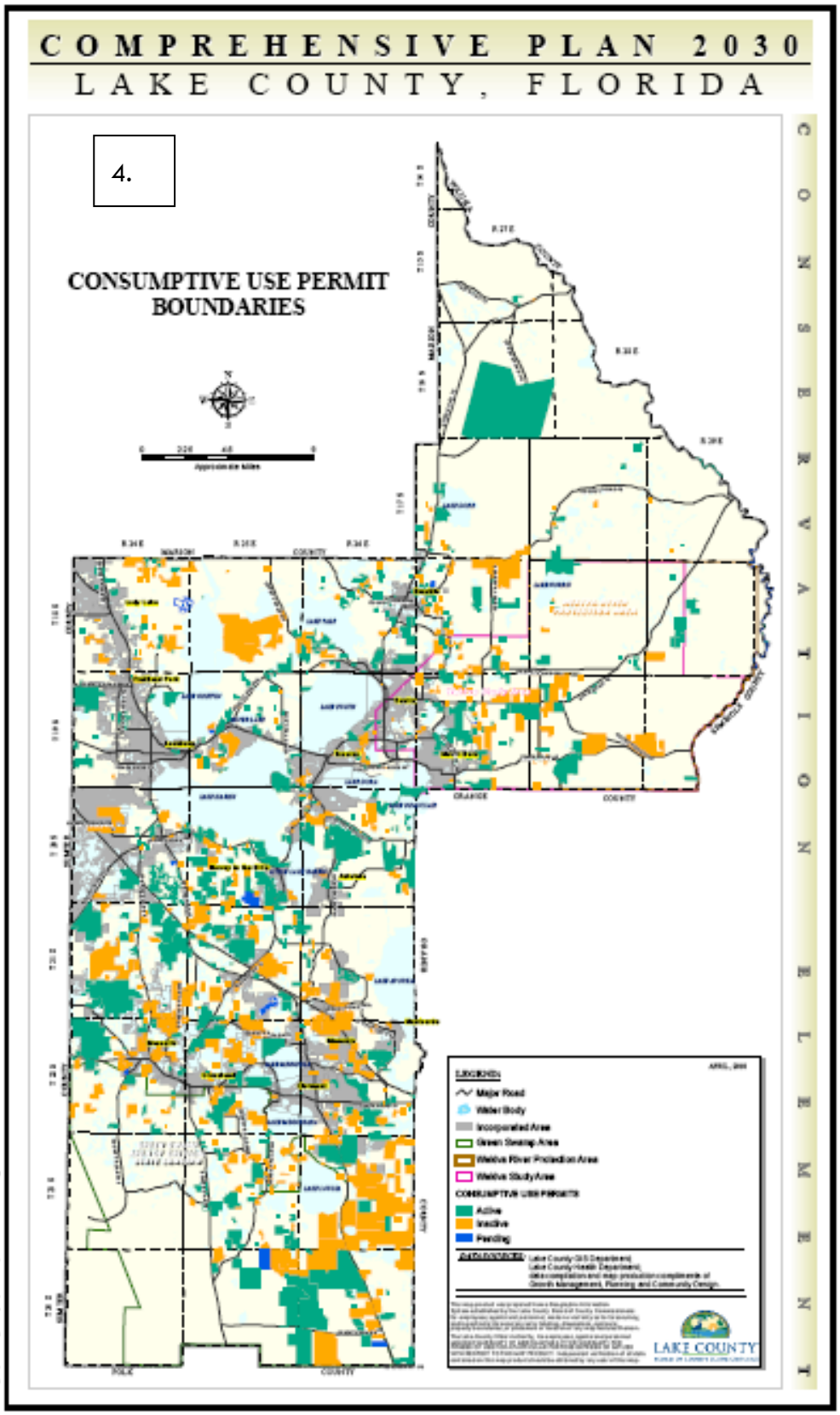
6. **RECHARGE AREAS OF THE FLORIDAN AUQIFER**

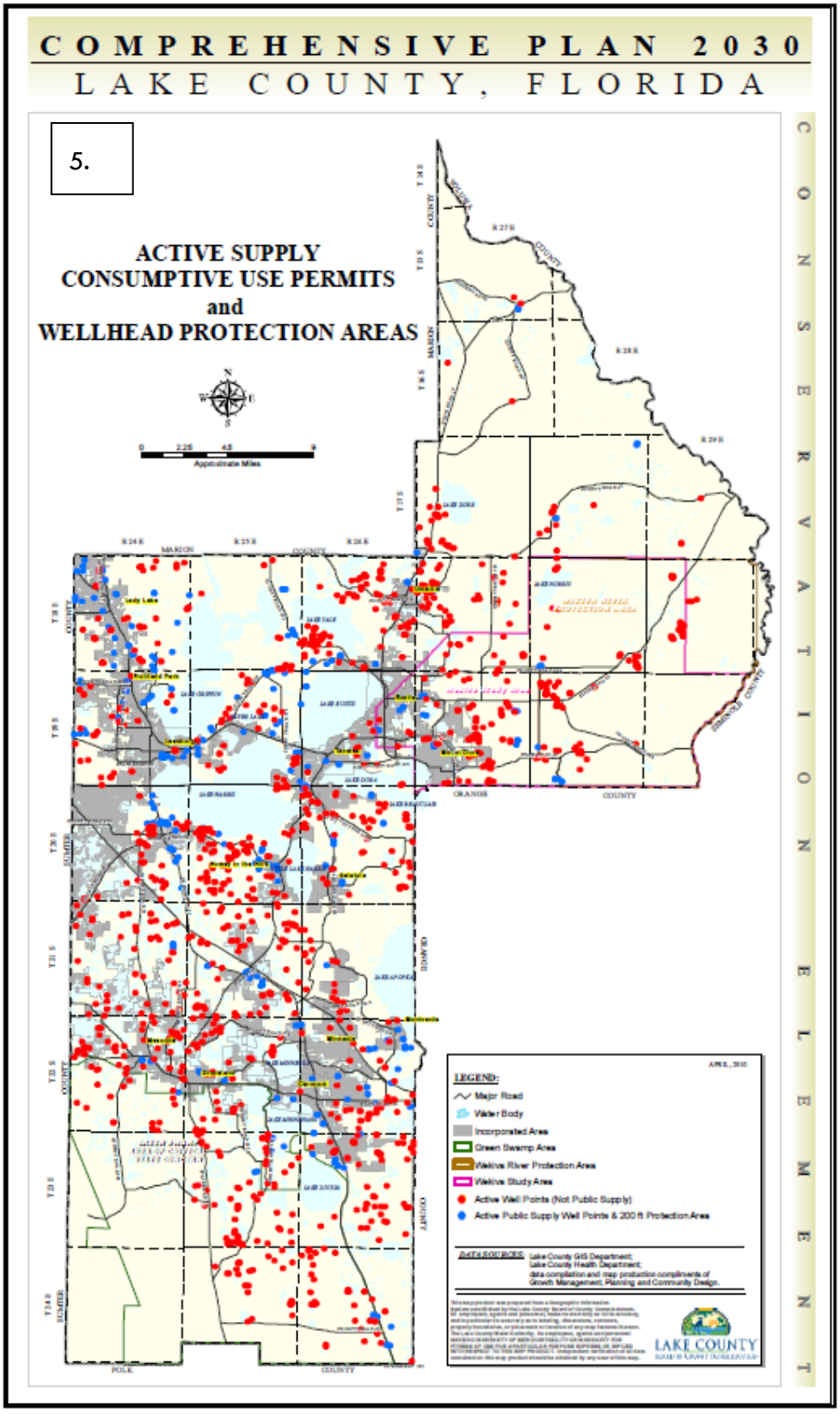
7. **SPRINGSHEDS**

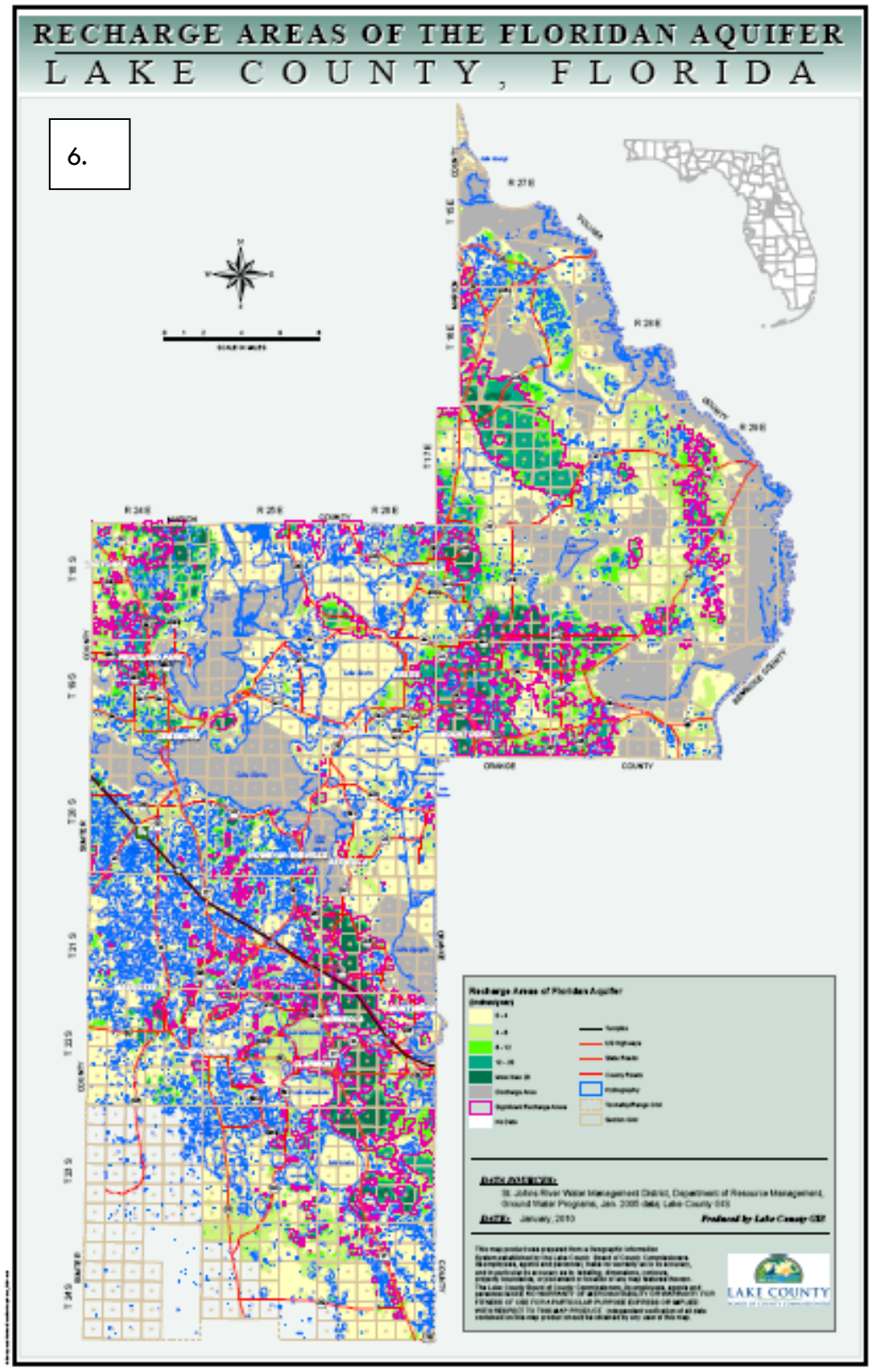

COMPREHENSIVE PLAN 2030
LAKE COUNTY, FLORIDA
1
ACTIVE PUBLIC SUPPLY
CONSUMPTIVE USE PERMITS
and
WELLHEAD PROTECTION AREAS
CONSERVATION ELEMENT
LAKE COUNTY

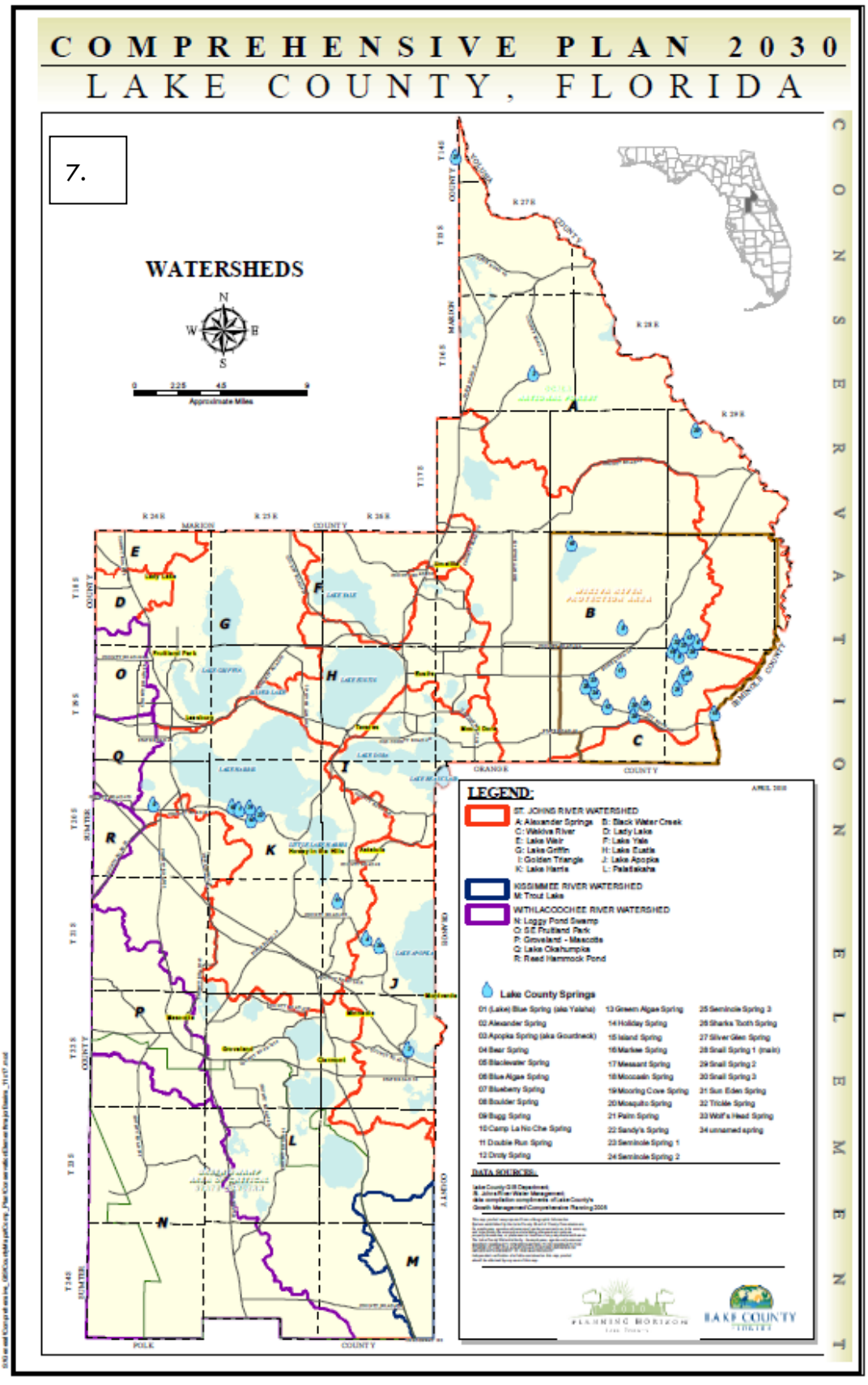

COMPREHENSIVE PLAN 2030
LAKE COUNTY, FLORIDA
2
ACTIVE WELL POINTS
CONSUMPTIVE USE PERMITS
NOT PUBLIC SUPPLY
CONSERVATION ELEMENT
Major Road
Water Body
Incorporated Area
Green Swamp Area
Wekiva River Protection Area
Wekiva Study Area
Active Well Points (not Public Supply)
LAKE COUNTY


COMPREHENSIVE PLAN 2030
LAKE COUNTY, FLORIDA
3.
DOMESTIC SELF SUPPLY
&
IRRIGATION WELLS
CONSERVATION ELEMENT
LAKE COUNTY


COMPREHENSIVE PLAN 2030
LAKE COUNTY, FLORIDA
4.
CONSUMPTIVE USE PERMIT BOUNDARIES
CONSERVATION ELEMENT
LEGEND
Major Road
Water Body
Incorporated Area
Green Swamp Area
Wekiva River Protection Area
Wekiva Study Area
CONSUMPTIVE USE PERMITS
Active
Inactive
Pending
LAKE COUNTY


COMPREHENSIVE PLAN 2030
LAKE COUNTY, FLORIDA
5.
ACTIVE SUPPLY
CONSUMPTIVE USE PERMITS
and
WELLHEAD PROTECTION AREAS
CONSERVATION ELEMENT
LEGEND:
Major Road
Water Body
Incorporated Area
Green Swamp Area
Wekiva River Protection Area
Wekiva Study Area
Active Well Points (Not Public Supply)
Active Public Supply Well Points & 200 ft Protection Area
LAKE COUNTY


RECHARGE AREAS OF THE FLORIDAN AQUIFER
LAKE COUNTY, FLORIDA
6.
LAKE COUNTY


COMPREHENSIVE PLAN 2030
LAKE COUNTY, FLORIDA
7.
WATERSHEDS
N
W
E
S
0 2.25 4.5 9
Approximate Miles
CONSERVATION ELEMENT
LEGEND:
APRIL 2010
ST. JOHNS RIVER WATERSHED
A: Alexander Springs
B: Black Water Creek
C: Wekiva River
D: Lady Lake
E: Lake Weir
F: Lake Yale
G: Lake Griffin
H: Lake Eustis
I: Golden Triangle
J: Lake Apopka
K: Lake Harris
L: Palatlakaha
KISSIMMEE RIVER WATERSHED
M: Trout Lake
WITHLACOOCHEE RIVER WATERSHED
N: Loggy Pond Swamp
O: SE Fruitland Park
P: Groveland - Mascotte
Q: Lake Okahumpka
R: Reed Hammock Pond
Lake County Springs
01 (Lake) Blue Spring (aka Yalaha)
02 Alexander Spring
03 Apopka Spring (aka Gourdneck)
04 Bear Spring
05 Blackwater Spring
06 Blue Algae Spring
07 Blueberry Spring
08 Boulder Spring
09 Bugg Spring
10 Camp La No Che Spring
11 Double Run Spring
12 Dristy Spring
13 Green Algae Spring
14 Holiday Spring
15 Island Spring
16 Markee Spring
17 Measant Spring
18 Moccasin Spring
19 Mooring Cove Spring
20 Mosquito Spring
21 Palm Spring
22 Sandy's Spring
23 Seminole Spring 1
24 Seminole Spring 2
25 Seminole Spring 3
26 Sharks Tooth Spring
27 Silver Glen Spring
28 Snail Spring 1 (main)
29 Snail Spring 2
30 Snail Spring 3
31 Sun Eden Spring
32 Trixie Spring
33 Wolf's Head Spring
34 unnamed spring
DATA SOURCES:
Lake County GIS Department,
St. Johns River Water Management,
this compilation compliments of Lake County's
Growth Management Comprehensive Planning 2006
PLANNING HORIZON
LAKE COUNTY
FLORIDA

APPENDIX C - RECOMMENDATIONS FOR MAINTAINING CONNECTIVITY BETWEEN THE WEKIVA RIVER BASIN AND OCALA NATIONAL FOREST FOR FLORIDA BLACK BEAR AND FLORIDA SCRUB-JAY

Recommendations for Maintaining Connectivity Between the Wekiva River Basin and Ocala National Forest for Florida Black Bear and Florida Scrub-Jay

By:

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Dan Smith, Ph.D., University of Central Florida

Brad Stith, Ph.D., Florida Scrub-Jay recovery team

John Cox, Ph.D., University of Kentucky

Dave Maehr, Ph.D., University of Kentucky

Betsy Roznik, University of Florida

For: The Florida Chapter of The Nature Conservancy

June 1, 2008

I. INTRODUCTION

In a series of reports and papers starting in the mid-1980s, Dr. Larry Harris, professor emeritus, University of Florida, identified specific locations across the state where the sustainability of wildlife populations and ecological integrity could be retained or enhanced by protecting landscape linkages among conservation lands (Harris 1985; Harris and Gallagher 1989; Harris and Atkins 1991; Harris and Scheck 1991). One of his recommendations was the Wekiva-Ocala Greenway to connect the Ocala National Forest to protected lands in the Wekiva River Basin. Though much progress has been made in protecting essential conservation lands in the Wekiva River basin, a protected connection between Ocala National Forest and the Wekiva River Basin has yet to be completed.

Protection of functional connections within this project is in jeopardy because of escalating development pressure emanating from the Orlando metropolitan area, and growth within both Lake and Volusia County. Corridors which incorporate dense forest and floodplain are threatened by development and road infrastructure that could negate or greatly compromise their value as links between the protected conservation lands of the Wekiva River Basin and Ocala National Forest. In this report, we analyze the options for maintaining and/or enhancing connectivity between the Ocala National Forest and Wekiva River Basin. The options for maintaining connectivity will be examined, parcels of unprotected land that are critical to maintaining functional connectivity will be identified, and recommendations for road crossing structures will be developed.

The Florida black bear (*Ursus americanus floridanus*) is the primary focal species for this analysis. Florida black bears have large home ranges and require vast areas of intact habitat to support viable populations (Maehr et al. 2001; Hoctor 2003). Large forested tracts, as are present in much of the St Johns River and Wekiva River forest and floodplain, are characteristic of Florida black bear habitat (Maehr et al. 2001). The Wekiva River basin currently supports a black bear population that likely has demographic and genetic ties to the Ocala National Forest population (Roof and Wooding 1996; Dixon 2004; McCown et al. 2004). From a management perspective, the Wekiva bear subpopulation is considered part of the larger Ocala population by the Florida Fish and Wildlife Conservation Commission (For example, see Eason et al. 2003), and the southern terminus of protected lands in the Wekiva River basin is only approximately 20 miles from the southern borders of the Ocala National Forest. However, the habitat of the Wekiva bear subpopulation is surrounded by development on three sides. Ongoing development and increased transportation infrastructure between the Wekiva River Basin and the Ocala National Forest threaten to severely limit the potential for additional habitat protection and maintenance of functional ecological connectivity between these important conservation areas. It is likely that the Wekiva bear subpopulation will shrink in size due to habitat loss and fragmentation and will become increasingly dependent on functional connectivity with the Ocala National Forest to maintain genetic viability (Hoctor 2003; Brown 2004; Dixon 2004; McCown et al. 2004; Dixon et al. 2006). The loss of functional connectivity would lead to an increased risk of extirpation in the Wekiva River basin, and could reduce the security of the Ocala population as well (Cox et al. 1994; Orlando 2003; Brown 2004; Dixon 2004; Larkin et al. 2004; McCown et al. 2004; Dixon et al. 2006). The consequences of total isolation are exhibited by the very small black bear population in west-central Florida (named the Chassahowitzka population) where genetic variability is among the lowest for any bear population and also appears demographically dysfunctional (Brown 2004).

We used GIS-based habitat and connectivity analyses combined with information about black bear and relevant spatial information to identify the available and highest priority corridors between the Ocala National Forest and protected lands in the Wekiva River basin. In addition, relevant data from two telemetry studies of smaller Florida black bear populations, the Chassahowitzka and Highlands populations, were examined to determine relevant thresholds for corridors and edge effects (Orlando 2003; Dave Maehr, personal communication). We also conducted a basic survey of major road crossings within the Wekiva-Ocala greenway to develop recommendations for facilitating connectivity across existing major road crossings. Together, these analyses are synthesized and used to identify the essential areas needed to close the remaining gaps and maximize functional connectivity for the Florida black bear between the protected conservation lands of the Wekiva River Basin and the Ocala National Forest.

The Florida scrub-jay (*Aphelocoma coerulescens*) is included as a second focal species. The Wekiva River basin harbors populations of Florida scrub-jay that may depend on functional connectivity with the larger scrub-jay populations in the Ocala National Forest or at least additional habitat protection within northeast Lake County to remain viable (Stith 1999). The Florida scrub-jay analysis includes collection of existing information on the locations of populations using recent survey data and identification of potential habitat using land cover data and recent aerial photography. Based on this analysis, recommendations were developed for protecting functional "stepping stones" that may ensure dispersal between the Wekiva River basin and Ocala National Forest.

II. METHODS

To begin, we delineated a study area boundary for the analysis. For the Florida black bear, in order to incorporate telemetry data collected in the Ocala National Forest, all of the Ocala National Forest was included in the study area and then south to Wekiwa Springs State Park. Then a 5 km buffer was identified around the Ocala National Forest and the conservation lands within the Wekiva River basin to delineate the final study area boundary (Figure 1).

For the Florida black bear, we conducted 6 habitat analyses to explore different techniques for identifying habitat and corridor priorities: 1) Rules-based Potential Habitat Model; 2) Euclidean Distance Habitat Affinity Analysis; 3) Multiple Logistic Regression habitat probability analysis; 4) MaxEnt habitat suitability analysis; 5) Mahalanobis Distance habitat probability analysis; and 6) Landscape Patch Size and Land Use Intensity analysis. We also examined 2006 aerial Lake County photography within the Wekiva River basin core area of interest to determine whether there was any new intensive development since 2004 that might impact the functionality of bear corridors. We then used the habitat and landscape models combined with potential edge effects from existing intensive development in a least cost path analysis to further assess potential bear corridors in the Wekiva river basin.

For the Florida Scrub-Jay analysis see Appendix C of this report.

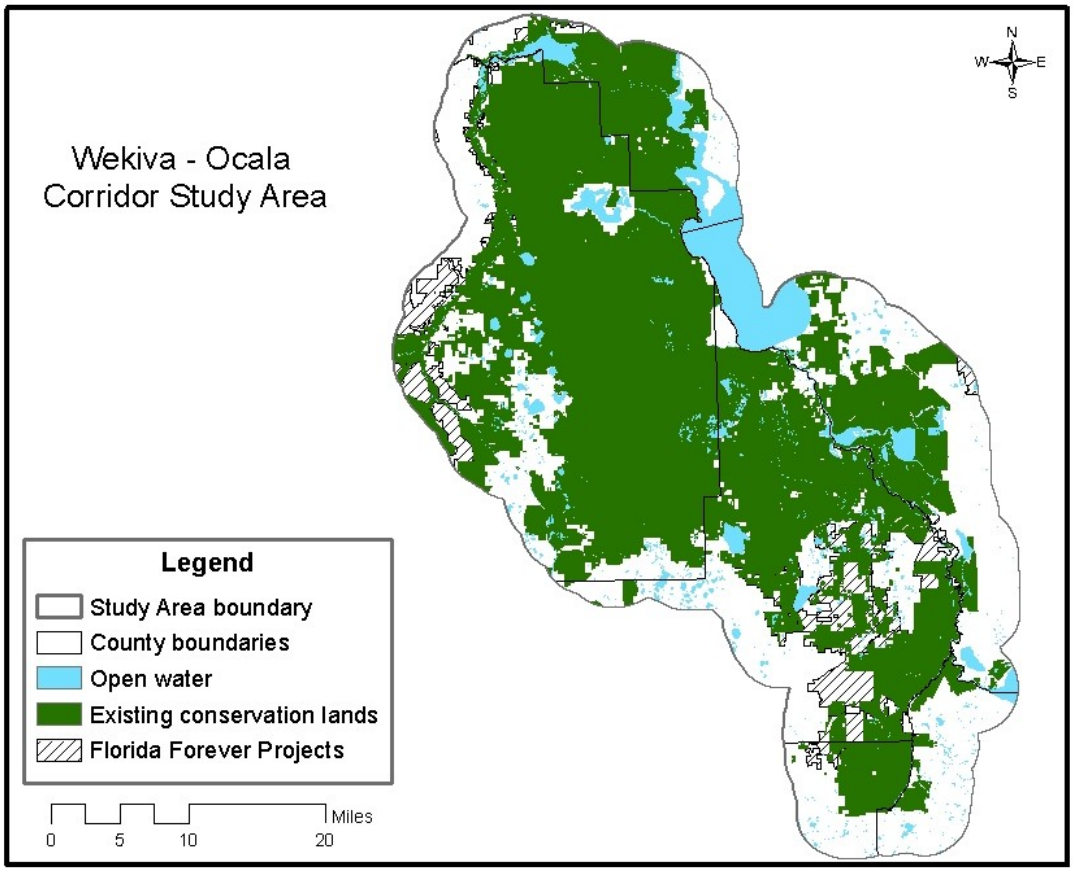

Figure 1. Wekiva-Ocala Corridor Study Area Boundary

A. Florida Black Bear Habitat Analysis

Six different habitat or landscape analyses were conducted to aid in the identification of parcels most important for closing gaps in corridors or providing additional protected core habitat.

1) Florida Black Bear Potential Habitat Model

The Florida black bear potential habitat model was identified using four variables including 1) land cover/land use type, 2) patch size, 3) distance from primary habitat patches, and 4) connectivity to large habitat patches. The model has been used in a habitat impacts GIS application created for the Southwest Florida Water Management District, and in slightly modified form, to identify statewide habitat for the Florida Fish and Wildlife Conservation Commission's "closing the gaps" update analysis. This version of the model was conducted using 2004 land use data from the St. Johns River Water Management District converted to 10 meter resolution raster data. This is the most recent land use data available for this study area. Later, the results of this and other models was compared to more recent 2006 Lake County aerial photography to determine if there are any changes to intensive land uses that would affect bear habitat or corridors.

Model Steps:

1) Land cover types that can be considered primary habitats were identified (Cox et al. 1994; Maehr et al. 2001; Larkin et al. 2004). See Table 1.

Table 1. Land cover/land uses identified as primary habitat

FLUCCS Code	***Description***
4100	Pineland
4110-4112	Pine flatwoods
4130	Scrub
4140	Pine-mesic oak
4200	Upland hardwood forest
4230	Oak-pine-hickory
4250	Temperate hardwoods
4270	Live oak
4280	Cabbage palm hammock
4290	Wax myrtle-willow
4300	Other upland hardwood forests
4320	Sand live oak
4340	Mixed hardwood-pine
4380	Mixed hardwoods
4390	Other hardwoods
6100	Wetland hardwood forests
6110	Bay swamp
6130	Gum swamp
6150	Bottomland swamp
6160	Inland ponds and sloughs

6170s	Mixed wetland hardwoods
6180s	Cabbage palm savannas
6200	Wetland coniferous forest
6210	Cypress swamp
6220	Pond pine (wetland pine)
6240-6250	Cypress-pine-cabbage palm
6300	Wetland forested mixed
6310	Hydric hammock
6460	Mixed scrub-shrub wetland
6900	Wetland shrub

2) Land cover types that can be considered secondary habitats were identified (Cox et al. 1994; Maehr et al. 2001). See Table 2.

Table 2. Land cover/land uses identified as secondary habitat

FLUCCS Code	***Description***
1900s	Open land (often platted but not developed)
2130	Woodland pasture
2600s	Fallow agriculture
3000s	Herbaceous rangeland
4120	Longleaf pine sandhill
4190	Other pines
4210	Oak sandhill
4240	Melaleuca
4350	Dead trees
4400s	Pine plantations

6219	Cypress and wet prairie
6400	Vegetated non-forested wetland
6410s	Freshwater marsh
6430	Wet prairie
6439	Wet prairie with pine
6600	Cut over wetlands
7400s	Disturbed land

3) All patches of primary habitat greater than 37 acres were identified, based on the methods used in Cox et al. (1994).

4) Some patches of secondary habitat or smaller patches of primary habitat that are near larger primary habitat (37 acres and larger) can also be used by bears. However, patches separated by intensive land uses that cannot be reached or easily reached may not be used. Therefore, the potentially "traversable matrix" of land cover and land uses was identified. The traversable matrix included everything except intensive land uses though roads also were included to model patches across roads that bears might be able to access (Larkin et al. 2004). See Table 3.

Table 3. Land cover/land uses identified as traversable matrix

FLUCCS Code	***Description***
1650	Reclaimed lands
1730	Military
1800	Recreational
1810	Swimming beach
1820	Golf courses
1850	Parks and zoos
2100s	Cropland or pasture
2200s	Tree crops
2400s	Nursery, sodfarm, or vineyard

2500s	Specialty farms
6420	Saltmarsh
6440	Emergent aquatic vegetation
6500	Non-vegetated wetlands
6510	Tidal flats (or salt barrens)
6520	Shorelines
6530	Intermittent ponds
7000	Barren land
7100	Beaches
7200	Sand other than beaches
7500	Riverine sandbars
8100	Transportation (primarily roads)
8120	Railroads
8140s	Roads
8160	Canals and locks
8170	Gas pipelines
8190	Transportation under construction (primarily roads)
8191	Highway under construction
8300	Utilities (primarily powerlines)
8320	Electric power lines

5) Large water bodies were not included as potential habitat, but narrow channels that might be crossed were identified and included within the traversable matrix. Narrow water gaps were defined as $\leq$100 meters.

6) A traversable matrix data layer was created by combining all primary, secondary, matrix land cover and land uses and water gaps $\leq$100 meters in width.

7) Then, all primary habitat patches < 37 acres and all secondary habitat within 1 kilometer and connected to the 37 acres patches (including through suitable matrix land uses) were identified.

8) Narrow areas only connected by roads within traversable matrix were removed. Narrow areas were defined as any area 200 meters^2 with less than 75% in primary, secondary, or matrix cover. This was done to allow road crossings where other suitable land cover or land use existed on each side of roads but to eliminate road areas that were surrounded by unsuitable areas so that they could not serve as "artificial" connections between otherwise suitable areas.

9) All primary and secondary habitats were combined to identify blocks ≥10,000 acres. This was done to identify areas that are more likely to be large enough to serve as minimum functional habitat units for black bear (Hellgren and Maehr 1992). To identify other areas that are potentially significant, patches between 5,000 and 10,000 acres were also identified. All habitat in blocks smaller than 5,000 acres (including traversable matrix) were deleted.

10) The final habitat map includes 6 ranks: 1) all primary habitat within combined patches containing ≥ 10,000 acres of primary habitat are given a value of 1; 2) all secondary habitat within combined patches containing ≥ 10,000 acres of primary are given a value of 2; 3) all traversable matrix within combined patches containing ≥ 10,000 acres of primary habitat is given a value of 3; All other cells are given a value of 0; 4) all primary habitat within combined patches containing ≥ 5,000 acres of primary habitat are given a value of 4; 5) all secondary habitat within combined patches containing ≥ 5,000 acres of primary are given a value of 5; 6) all traversable matrix within combined patches containing ≥ 5,000 acres of primary habitat is given a value of 6. All other cells are given a value of 0.

2) Euclidean Distance Florida Black Bear Habitat Analysis

Black bear vhf radio-telemetry data from the Ocala National Forest State Road 40 study that were collected from 28 May 1999 thru 25 June 2003 were the location data used to conduct the Euclidean Distance analysis. We excluded data from individual bears with < 30 locations to meet the minimum recommended sampling requirements for generating kernel home ranges (Seaman et al. 1999). The resulting data set totaled 6,839 locations of 72 (40 F 32 M) adult black bears, 93% of which were collected during diurnal hours (0700-1900). We used two land cover/land use datasets to conduct the analysis: the 2003 map developed by Florida Fish and Wildlife Conservation Commission (FWC) using Enhanced Landsat Thematic Mapper Satellite data and 2004 land use data from the St. Johns River Water Management District (WMD). We reclassified the FWC land cover data into 9 general habitat types that included urban, agriculture, dry prairie-grassland, shrub-brushland, xeric upland and scrub, open wetland, forested wetland, upland hardwood forest, and pinelands. The WMD land use data categories differed from the 2003 FWC data and therefore were not directly comparable. The 2004 WMD land use data was therefore reclassified into 10 general cover types that included urban-barren, agriculture, scrubland-natural herbaceous-prairie, early successional forest, xeric uplands (oak and pine), pine plantations, pine flatwoods, mixed hardwoods-upland hardwoods, forested wetlands, and non-forested (open) wetlands.

We estimated third order (selection within home range) habitat selection following Johnson (1980). Biotas 1.03a (Ecological Software Solutions, Urnäsch, Switzerland) was used to generate a 95% fixed kernel home range for each bear. We used the random point generator in the Animal Movement Extension to create 200 random locations within each bear home range. We then used the Nearest Feature Extension to calculate the Euclidean distance (m) of each random point and bear location to the nearest polygon of each land cover class. To determine third order habitat selection, we created 9 (2003 land cover data) or 10 (2004 land use data) distance ratios for each bear by first calculating an average distance of bear locations to each habitat, and then dividing it by the average distances from random locations within each individual home range.

We performed statistical analyses using SAS software and considered statistical significance at $\alpha \leq 0.05$. A multivariate analysis of variance (MANOVA) was used to test the hypothesis that overall habitat selection did not differ from random with sex as a main effects and individual bears as the experimental unit. If the MANOVA was significant, univariate t-tests were used to determine which habitats were used disproportionately. Habitat types with distance ratios significantly < 1 were preferred, and those significantly > 1 were avoided. Habitat types were ranked by performing pairwise mean comparisons using univariate t-tests. For more details on this analysis, see Appendix A of this report.

3) Multiple Logistic Regression Habitat Probability Analysis

In 2006, Tom Hoctor conducted a statewide habitat analysis for the Florida black bear as part of the FWC's closing the gaps update. A multiple logistic regression analysis was conducted as part of this analysis. Logistic regression models can be used to predict where a species might occur or where habitat of sufficient quality may exist to restore populations (Maehr and Cox 1995; Mladenoff et al. 1995; Mladenoff and Sickley 1995; van Manen 1997; Mladenoff et al. 1999; Carroll et al. 1999; Hoctor 2003). Logistic regression attempts to determine the probability that something will occur. The probability of occurrence is a function of the predictor or independent variables. The dependent variable is represented by a binary value defining presence (1) or absence (0) of the occurrence. The resulting model indicates the probability, from 0-1.0, of the focal species occurring in a particular area. However, given the nature of most input data in logistic regression for habitat assessment, it is not directly appropriate to interpret the model results as indicating probability of occurrence directly. Instead, it can be assumed that as model values approach 1 those areas are more likely to serve as higher quality habitat whereas values approaching 0 are likely not to be habitat (Keating and Cherry 2004). In applications of logistic regression for habitat modeling, the 0.5-1.0 probability values are often used to indicate areas that are more likely to provide habitat for the focal species (Mladenoff et al. 1995; Mladenoff and Sickley 1995; Mladenoff et al. 1999; Hoctor 2003). This approach is practical because it provides an objective, quantitative approach for assessing potential habitat quality. There is one important issue with multiple logistic regression is the frequent lack of true absence data, e.g., where surveys have been done but the focal species has not been found. Therefore, multiple logistic regression is often conducted with random locations as a substitute for absence data, though the best methods for selecting random locations is a potentially problematic part of the analysis (Hoctor 2003; Keating and Cherry 2004), but multiple logistic regression is still a useful technique for exploring quantitative potential habitat suitability.

In this Wekiva analysis, we did not develop a new multiple logistic regression model. Instead, we used the exponents and probability equation developed in Hoctor (2006) based on

use of statewide telemetry and random location data. Hoctor (2006) developed several different multiple logistic regression models. For our analysis we selected the model based on 1996-2003 telemetry data, which was multiple logistic regression model A in Hoctor (2006). The following equation was used:

Pred_v2 = 1 div (1 + (exp(- (-5.889 + (2.545 * bhab12_only) + (-0.624 * bhab_roads_rg.log2) + (0.838 * roadless_size.log) + (0.002 * forest_den) + (-0.010 * luse_int) + (0.015 * bhab_den)))))

However, the six independent variables used in the above probability equation were updated using 2004 WMD land use data (where applicable) to create the following input raster datasets:

- Primary and secondary black bear habitat (bhab12_only): This is the grid created in the potential habitat model described above where all primary and secondary habitat is given a value of 1 and traversable matrix and non-habitat is given a value of 0.
- Block size of primary and secondary habitat (bhab_roads_rg.log2): This predictor identified contiguous blocks of primary and secondary habitat bounded by major roads (in this case, major roads used were all roads with average daily traffic of 2500 or greater and other road segments with bear road kills). The value used in the model was the patch size modified using a logarithmic transformation due to the large variation in patch sizes.
- Major roadless patches (roadless_size.log): This data set includes interstate highways, turnpikes, parkways, state highways, and some county roads. Roadless area patch size was modified using a logarithmic transformation.
- Forest density (forest_den): This was a landscape scale variable where the amount of forest was calculated in a 35 x 35 neighborhood using 90 m cells (approximately 992 ha). The final model selected this neighborhood size over two smaller scales: 11 x 11 and 3 x 3. The values used in the model were the number of cells within the neighborhood that contained forest cover.
- Land use intensity (luse_int): This was a landscape scale variable using a neighborhood analysis in a 11 x 11 neighborhood using 90 m cells, which is approximately a 98 ha area. Land uses were lumped into 4 categories: natural, which was given a value of 0; low intensity and semi-natural, which was given a value of 1; moderate intensity including most agriculture and some mining, which was given a value of 2, and high intensity including residential, commercial, and industrial, which was given a value of 3. These values were then summed for each focal cell of the neighborhood so that the larger the returned value, the more intensive the land use in the surrounding area.
- Bear habitat density (bhab_den): This variable was created by giving primary and secondary habitat the same value (1) and all other cells a 0, and then a neighborhood analysis was conducted at the scale of 11 x 11 90 m cell area.

4) MaxEnt Florida Black Bear Habitat Analysis

As mentioned above, selecting random points for modeling approaches is a significant concern that can potentially bias predictions of species' ranges (Maehr and Cox 1995; Mladenoff et al. 1995; Hoctor 2003). However, novel modeling techniques have recently been developed that incorporate presence-only data, such that absence data (or randomly-generated points that are used to simulate absence data) are unnecessary. A recent review comparing several different presence-only species distribution approaches consistently ranked the maximum entropy approach as superior to most others (Elith et al., 2006; Phillips et al., 2005; Pearson et al., 2007). The maximum entropy approach characterizes a probability distribution based on incomplete information (i.e., presence-only data), with the constraint that everything that is known about the predicted distribution (i.e., the habitats in which the telemetry points occur) must agree with, but not constrain, that distribution. This results in an estimate of a geographical distribution that is closest to uniform, or is at maximum entropy (Elith et al., 2006; Phillips et al., 2006).

In this analysis, we used the radio telemetry locations from both the Ocala National Forest State Road 40 project and older telemetry data from the early 1990s from the Wekiva River basin collected in part to study the State Road 46 area that was also conducted by the Florida Fish and Wildlife Conservation Commission (Roof and Wooding 1996). These telemetry locations used in this model were selected using similar methods as was conducted in the Euclidean Distance model described above and in Hoctor (2003; 2006). However, one additional variable considered in Hoctor (2006) was also used in the Maxent model:

- Distance from intensive land uses: This variable was created by calculating the distance of all cells from the nearest intensive land uses (all residential, commercial, and industrial). Three versions of the analysis were done where all patches of intensive land use were used as inputs for the distance calculations, then only patches 4 ha or larger, and then only patches 40 ha and greater. However, the model selected the version using all patches regardless of size as most significant. The distance values input into the model were modified using a logarithmic transformation due to the large variation in distances from intensive land uses.

The maximum entropy approach (using the program Maxent; Phillips et al., 2006) compares characteristics of the known locations of bears to that of the entire landscape, and provides relative suitability (not probability of occurrence) as output. Since relative suitability is not equivalent to the probability of occurrence (Pearson et al., 2007), we used two different approaches to characterize black bear habitat. The first approach was the "least presence threshold" (Pearson et al., 2007), which includes all of the points in which bears are known to occur, and thus represents all of the habitat which we know for certain bears use. The second approach limited the suitable habitat to that in which 90% of all telemetry points occurred, and thus represents a core area or high-use area that predicts a smaller area than the least presence threshold approach. These two models result in one raster output where core or primary habitat is identified with a value of 1 and rest of the habitat "envelope" is identified with a value of 2.

5) Mahalanobis Distance Analysis for the Florida Black Bear

We conducted a Mahalanobis Distance analysis as another quantitative habitat identification method that does not require the use of absence data. Mahalanobis Distance is another method for comparing known locations for a species with various predictor variables and determining what additional locations within a study area most closely match the conditions found

at locations with occurrences of the focal species (Jenness 2003). This analysis was done with same six input variables used in the Multiple Logistic Regression Analysis described above and selected telemetry locations from both the Ocala National Forest and Wekiva studies using the same methods as the Euclidean Distance and MaxEnt analyses. Mahalanobis Distance analysis results in a 0-1 probability surface where values closer to 1 are more likely to be habitat. For this analysis, we converted the original 0-1 values to values of 1 to 100.

6) Landscape Patch Size and Land Use Intensity Analysis

Tom Hoctor recently created a landscape analysis for the Critical Lands and Waters Identification project that characterizes landscape integrity based on patch size of natural/seminatural vegetation and major roads and land use intensity measured at various scales. Since black bear is a landscape species requiring large, intact areas to support viable populations, this analysis appeared relevant as another method for identifying landscapes potentially suitable for bears. Although this is more general that a bear habitat model, most of the natural/semi-natural land cover in the study is either primary or secondary bear habitat, we felt that this would be a useful additional assessment of landscape characteristics more suitable as bear habitat. The landscape integrity layer is comprised of two related landscape indices assessing ecological integrity based on land use intensity and patch size of natural communities and semi-natural land uses.

The land use intensity index characterizes the intensity of land use across the state based on five general categories of natural, semi-natural (such as rangelands and plantation silviculture), improved pasture, agricultural/low-intensity development, and high intensity development. The assumption is that areas dominated by high intensity land uses are more likely to have severe ecological threats and much lower ecological integrity than areas dominated by natural land cover. The land use data is from the Water Management Districts 2004 data. This is the most recent land use data available for this study area. Later, the results of this and other models was compared to 2006 Lake County aerial photography to determine if there are any changes to intensive land uses that would affect bear habitat or corridors.

Steps:

1) All of the land use codes in the state land use data set are reclassified into the following 5 categories where a value of 0 means the lowest land use intensity and 4 means the highest land use intensity:

0 == natural

1 == semi-natural land use (silviculture, unimproved pasture, rangelands)

2 == improved pasture

3 == other agriculture and low intensity development (all croplands, golf courses, etc.)

4 == high intensity development (residential, commercial, industrial, mining, etc.)

2) The land use intensity analysis was conducted using the land use intensity grid as the input in a shifting window (or neighborhood) sum function using 90 meter cells in ESRI ArcGIS. A 30 meter cell size is too computationally intensive to run large neighborhoods at the statewide scale. The shifting window function was conducted at 3 different scales: 3x3 neighborhood (approximately 10 acres); 11x11 neighborhood (approximately 100

acres); and a 35x35 neighborhood (approximately 1000 acres). The three different scales were used to address the fact that many species and ecological processes operate at different scales. Using multiple scales (multi-scalar) also avoids having to make an arbitrary decision to run analysis at only one scale. The analysis creates an output where all of the land use intensity values within each neighborhood are summed and then assigned to each center cell of each neighborhood. The range of values would be 0 as the lowest possible value for each scale and then a maximum value that depends on the total number of cells in each analysis scale. For example, for the smallest scale the largest potential output value is 9 cells x 4 (the largest land use intensity value) for a total of 36.

3) The land use intensity index scores were all reclassified into a rank scale of 1-10 using the natural breaks statistics option in ArcGIS, where a value of 1 represents the highest land use intensity and a value of 10 represents the lowest land use intensity.

4) The final index was then created using the integer function by adding all three indices together where the 1000 acre and 100 acre scales were given the same weight and the 10 acre scale was given half the weight weighting and then dividing by 3 to result in an integer product grid with values from 1 to 10. The weighting scheme was used to give more emphasis to land use intensity at larger scales since this is intended to be a measure of landscape scale integrity.

The patch size index combines the land use data with major roads data to identify contiguous patches of natural and semi-natural land cover and ranks them based on area. In addition all pasturelands within the south-central prairies region were also considered "intact" and potentially part of patches. This region was defined using the Davis Potential Natural Vegetation map for Florida. Major roads were defined as all roads that have 4 or more through lanes and all roads with average annual daily traffic of 5,000 or more vehicles per day at the time this data was collected in 2006. These roads were selected because they are considered to be the most likely to fragment habitat through a combination of road width and traffic level. The assumption is that small patches are likely to have the highest threat and lowest ecological integrity and large patches are likely to have the lowest threat and highest ecological integrity.

Steps:

1) All natural and semi-natural vegetation (forests, wetlands, pine plantations, rangelands, unimproved pastures, and improved pastures with the state's prairie regions) were identified using the same land use data described above in the land use intensity index.

2) Removed narrow areas of development by identifying all areas less than 120 meters wide that were also surrounded by intact lands. This was done to identify very narrow areas (such as power line corridors and waterways) surrounded by intact lands that could be considered functionally connected across these gaps.

3) Very narrow connections in intact land use were also identified and deleted from inclusion to avoid having very large patches only connected by very narrow, potentially non-functional corridors. Only areas less than 60 meters wide were deleted from consideration as potentially functional connections.

4) The Florida Department of Transportation number of lanes and annual average daily traffic datasets were used to identify all roads that either were 4 lanes or wider and/or had annual average daily traffic of 5,000 or more vehicles per day (created in 2007

and from the Florida Geographic Data Library). These data were converted into a 30 meter grid and then these major roads were added to the land use data as "not intact" areas. Therefore any intact lands on either side of these roads would be considered separate patches unless the patches connected somewhere beyond the road segment.

5) Identified all connected patches of intact land and then reclassified them using the following scheme based on patch size:

10-100 acres == 2

100-1000 acres == 3

1000-5000 acres == 4

5000-10,000 acres == 5

10,000-50,000 acres == 6

50,000-100,000 acres == 7

100,000-500,000 acres == 8

500,000-1,000,000 acres == 9

1,000,000 and larger == 10

The combination of the land use intensity and patch size indices was created by adding the two together and dividing by two to create a non-weighted average of the two indices. Values of 10 represent areas with the highest potential ecological integrity based on these landscape indices and 1 represents the lowest ecological integrity.

B. Identification of New Intensive Development

In order to make sure that there was not development after 2004 that might impact available bear corridors, we identified new residential, commercial, or industrial development using a combination of 2006 Lake County parcel data and a 2006 high resolution photography obtained from Lake County government. Because of the potential extent of such an assessment, we limited our examination to areas primarily within the boundaries of the Florida Forever project, though other areas were compared to habitat and corridor model results outside the Florida Forever project boundary where relevant. We first identified all residential, commercial, and light industrial parcels within the boundaries of the Florida Forever project. Then we compared those parcels with intensive development from the 2004 WMD land use data. All parcels that did not have intensive development within them from 2004 were further examined using the 2006 aerial photograph. Then all parcels that appeared to have residential, commercial, or residential development not identified as such in the 2004 land use data were selected and added to a new intensive development raster file containing 2004 development and the additional parcels. This analysis was augmented by a field visit in February 2008 to areas of concern like the Royal Trails development near State Road 44.

C. Least Cost Path Analysis

Least Cost Path (LCP) is a useful tool for assessing potential connectivity. LCP is a raster-based algorithm available in ESRI's ArcView Spatial Analyst or ArcGIS software. It is an optimization function that seeks the least costly route between a source and a destination.

Typically this algorithm has been used to find the optimal path for linear infrastructure (including roads and transmission lines). LCP analysis can also be applied to wildlife corridor analysis (Hoctor 2003; Larkin et al. 2004).

Identifying LCPs requires the development of a cost surface, which is a raster map in which every cell (or pixel) is ranked for its potential suitability for accommodating a particular function. In the case of ecological connectivity, a cost surface ranks each cell based on its potential to support a functional ecological connection. Cells within the study area can be ranked using as many variables as deemed relevant for determining connectivity potential. These variables can include intrinsic qualities (such as the land use of the cell) or landscape or context values (such as whether the cell is part of a large forest block or near a large urban area).

For the Wekiva corridor analysis, we modified the 6 habitat suitability results into cost surfaces to run six different versions of least cost path analyses. This set of analyses were run to more thoroughly assess corridor options, since cost surface structure can significantly affect LCP results (Hoctor 2003). In order to create cost surfaces, the original values of the habitat suitability models have to be modified so that the areas of highest suitability are given a value of 1. For example, the habitat suitability values from the Multiple Logistic Regression analysis are 1 for lowest suitability and 100 for highest suitability. To convert this to a cost surface, these values were inverted where 1 was the highest suitability and 100 was the lowest.

In addition to using each of the six habitat models as cost surfaces, we also ran four versions of the LCP analysis. These four variations of the analysis were run with each of the six cost surfaces, which resulted in 24 different LCP results. The four variations were:

- Original six cost surfaces run with the source location as the centroid of all Ocala National Forest telemetry locations and the destination as the centroid of Wekiwa Springs State Park.
- The six cost surfaces modified so that all intensive development AND all areas within 300 meters of intensive development modified into No Data and run with the source location as the centroid of all Ocala National Forest telemetry locations and the destination as the centroid of Wekiwa Springs State Park.
- The six cost surfaces modified so that all intensive development AND all areas within 500 meters of intensive development modified into No Data and run with the source location as the centroid of all Ocala National Forest telemetry locations and the destination as the centroid of Wekiwa Springs State Park.
- The six cost surfaces run with the source location as the entire Ocala National Forest and the destination as the centroid of Wekiwa Springs State Park.

These four variations were run to assess two additional factors that could affect potential corridor suitability. First, there is a dearth of information on the potential significance of negative edge effects on black bear habitat or corridor quality (Dave Maehr, personal communication). However, Orlando (2003) did determine that black bear avoided primary and secondary roads within or adjacent to occupied habitat in west-central Florida (the Chassahowitzka population) Orlando (2003) found that bears avoided habitat (meaning they were found there less than would otherwise be expected) within 500 meters of major highways and within 300 meters of secondary highways. These distances are also similar to minimum recommended widths of landscape-scale corridors determined for cougars (*Puma concolor*) in southern California (Beier 1995; 1996). Although some bears do use habitat near intensive development, the avoidance of disturbance associated with roads and recommendations for corridor design suggest that wider corridors not directly adjacent to intensive human activity are preferable to narrow corridors

surrounded by intensive land use. The LCP models where all areas within 300 or 500 meters from intensive development are considered unsuitable for serving as a corridor is a conservation approach for forcing the identification of potentially wider corridors less affected by intensive human activity. The goal was to determine whether making areas near intensive land uses unsuitable would change the results of the first set of LCPs. The final variation of LCP analysis was conducted to determine whether total distance between the source and destination was affecting the analysis results. Using the centroid on all Ocala National Forest bear telemetry locations was considered an objective method for determining a valid source of bears that might disperse to the Wekiva River basin. However, using the entire Ocala National Forest boundary in the last LCP variation helped explore whether different source locations within the National Forest could change the results from the of the first set of LCPs. Since the primary goal of this project is to identify functional corridors between conservation lands in the Wekiva River basin to the Ocala National Forest, arguably any location within the Ocala National Forest is a potential suitable source for conducting LCP analyses.

D. Synthesis of Habitat and Least Cost Path Models with Expert Opinion

Since the primary goal of this project is to identify the most important unprotected parcels within the Wekiva-Ocala Greenway Florida Forever Project for completing functional habitat corridors for the Florida black bear, the results of the habitat and LCP modeling were further analyzed to serve as decision support system for selecting such parcels. First, we took all of the six habitat and landscape model results and identified parcels that overlapped with the areas of higher significance in each model. We then created a habitat priority richness model, where all parcels identified as highly significant in each of the six habitat models were added together. The results was a set of parcels with values ranging from 1 to 6, where a value of 1 meant that a parcel was identified as significant in only one habitat model and a value of 6 meant an area was identified as significant in all six habitat models. Parcels that were identified as significant in 4 or more of the habitat models were then identified in two sets: all parcels and then only parcels within the Florida Forever Project. A similar process was used for all 24 of the LCP models. In this case, the highest amount of overlap was 9, so the range of values was 1 to 9. Then, we identified all parcels that were selected by 3 or more LCP models and again identified all of these parcels and then only parcels within the Florida Forever Project. These parcels were then examined in more detailed by comparing them with the black bear potential habitat model aerial photography, and areas within 300 and 500 meters of intensive development. This analysis was also augmented by a field visit to all major potential corridors and road crossings in February 2008.

This analysis resulted in selection of three sets of parcels considered to be priorities for black bear conservation in the Wekiva River basin:

- The highest priority set of parcels identified were within the Florida Forever Project and directly relevant to closing gaps in all of the best remaining corridor options between Ocala National Forest and Wekiwa Springs State Park. These corridor options were then prioritized.
- The next set of priority parcels were within the Florida Forever project and support the primary parcels by providing additional buffering from existing or potential future residential and other intensive development. These parcels were also separated into priorities.

- The last set of priority parcels were outside the Florida Forever project boundary and provide additional connections, habitat, or buffers. These areas should be considered for addition to the Florida Forever project or other conservation options. These parcels were also separated into priorities.

E. Major Road Crossings Survey

Site surveys were performed on road segments within identified important black bear habitat that also received high scores in a "highway hotspots" model and/or included multiple black bear – vehicle collisions. Field sites were divided into three categories: those on roads affecting habitat linkages, those on interior or core area roads, and those on perimeter road segments. The main focus for the survey was on roads within the primary linkages connecting Wekiwa Springs SP to Ocala NF, but information collected regarding certain interior and perimeter road segments in the study area is also presented in this report.

Map coordinates of each of the proposed survey sites was derived using GIS and used to find each location on a GPS unit in the field. Data recorded for each site surveyed included information on location (map coordinates in decimal degrees, general location, FDOT district, and County), road characteristics (route number, road type, speed limit, traffic volume or AADT, number of lanes, lane width, right-of-way width, drainage structures present, and structure dimensions), and landscape/habitat characteristics (site description, animal signs/road-kills, significant conservation feature, and FWC habitat types).

Based on field data collected as well as GIS data and aerial photographs for each location, an assessment was performed to estimate permeability of the road and severity of various road/development impacts. Landscape context was examined to determine relative value of each site as a habitat linkage. Finally, recommendations were provided with regard to potential mitigation including wildlife crossings, fencing, passive road restrictions or other retrofits needed, if any. For more details on the Road Crossing Analysis, see Appendix B, of this report.

F. Florida Scrub-Jay Connectivity Analysis

Details on the Florida Scrub-Jay Analysis are contained in Appendix C of this report.

III. RESULTS

A. Florida Black Bear Habitat Analysis

1) Florida Black Bear Potential Habitat Model Results

The potential habitat model indicates that most of existing conservation lands within the Wekiva River basin and much of the lands within the Wekiva-Ocala Greenway Florida Forever Project are primary or secondary bear habitat (Figure 2 and Figure 3). It should be kept in mind that the results are based on 2004 land use data and there could be some changes to developed land use that might affect some of the results. Our examination of land use changes within the Florida Forever project boundary suggests that there are no such significant changes within the Florida Forever project boundary at the time of this report's completion. However the area located just west of SR44 outside of the Florida Forever Project boundary (circled in red on Figure 3) is an example of where habitat and corridor value for black bear is being increasingly

impacted by residential development and infrastructure. The implications of this are discussed in more detail in the corridor options discussed below.

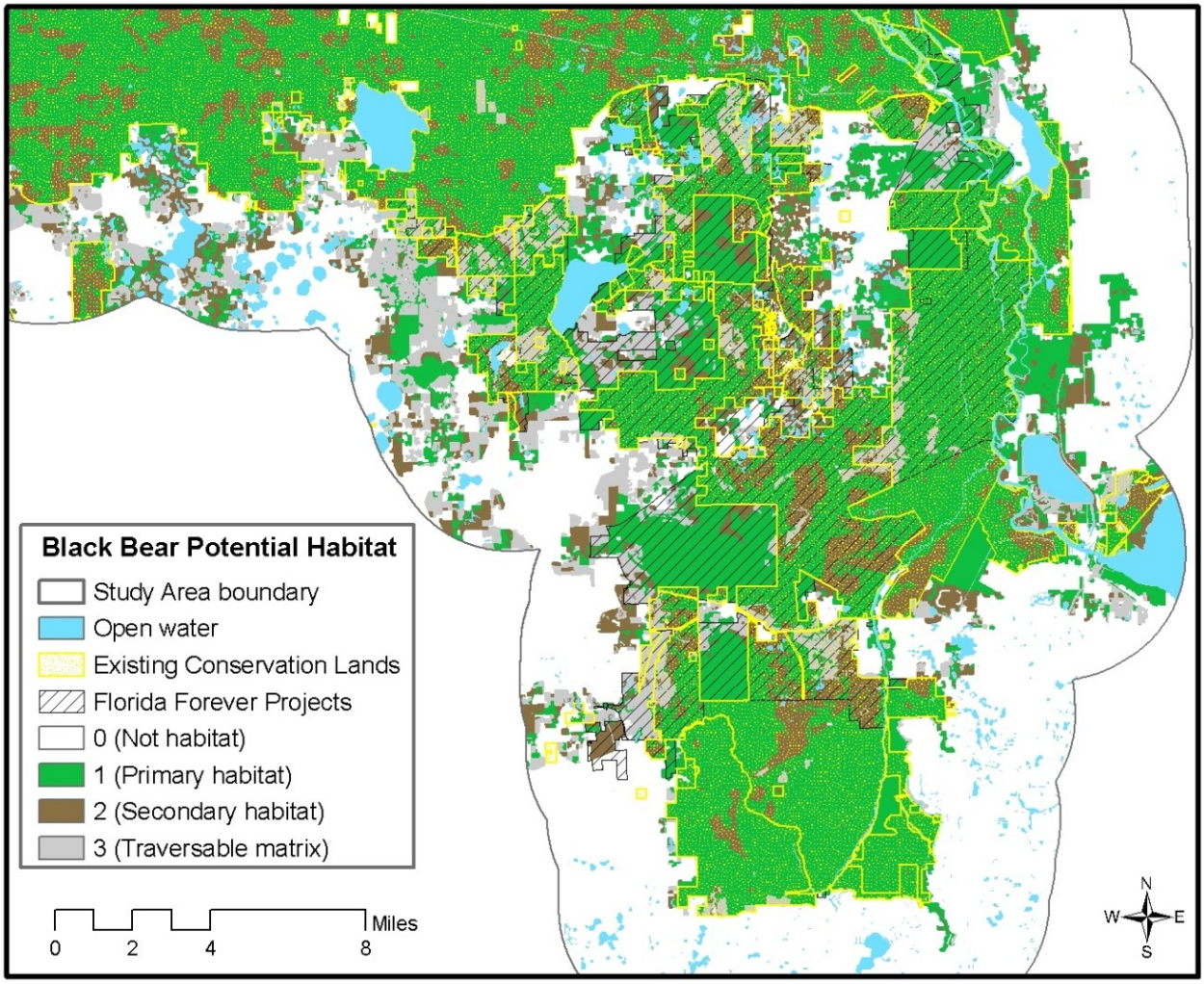

Figure 2. Florida black bear potential habitat

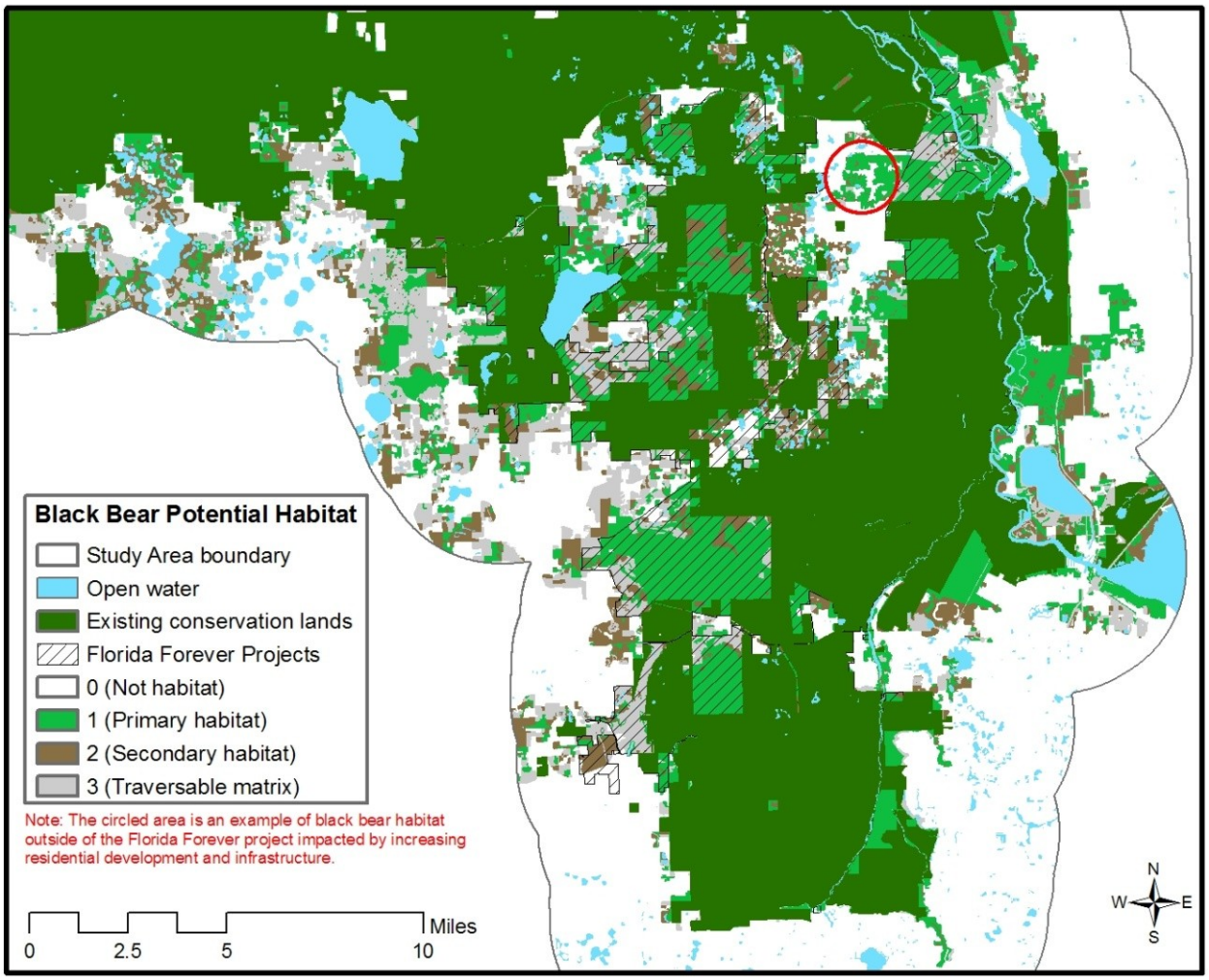

Figure 3. Figure shows Florida black bear potential habitat with existing conservation lands in solid green and Florida Forever projects in hatching. The circled area is an example of black bear habitat outside of the Florida Forever project impacted by increasing residential development and infrastructure.

2) Euclidean Distance Florida Black Bear Habitat Analysis Results

The Euclidean Distance model identifies general habitat affinities and does not require minimum connectivity thresholds like the potential habitat model. Therefore, scattered patches are identified as potential habitat within the study area (Fig. 4). However, the model does show that the lands within the Wekiva-Ocala Greenway Florida Forever Project contain most of the high affinity habitats (Values 1 and 2 in the model) contained within the study area and that these areas containing high affinity habitat are found in potentially strategic locations for remaining gaps within the Wekiva conservation lands complex (Fig. 4).

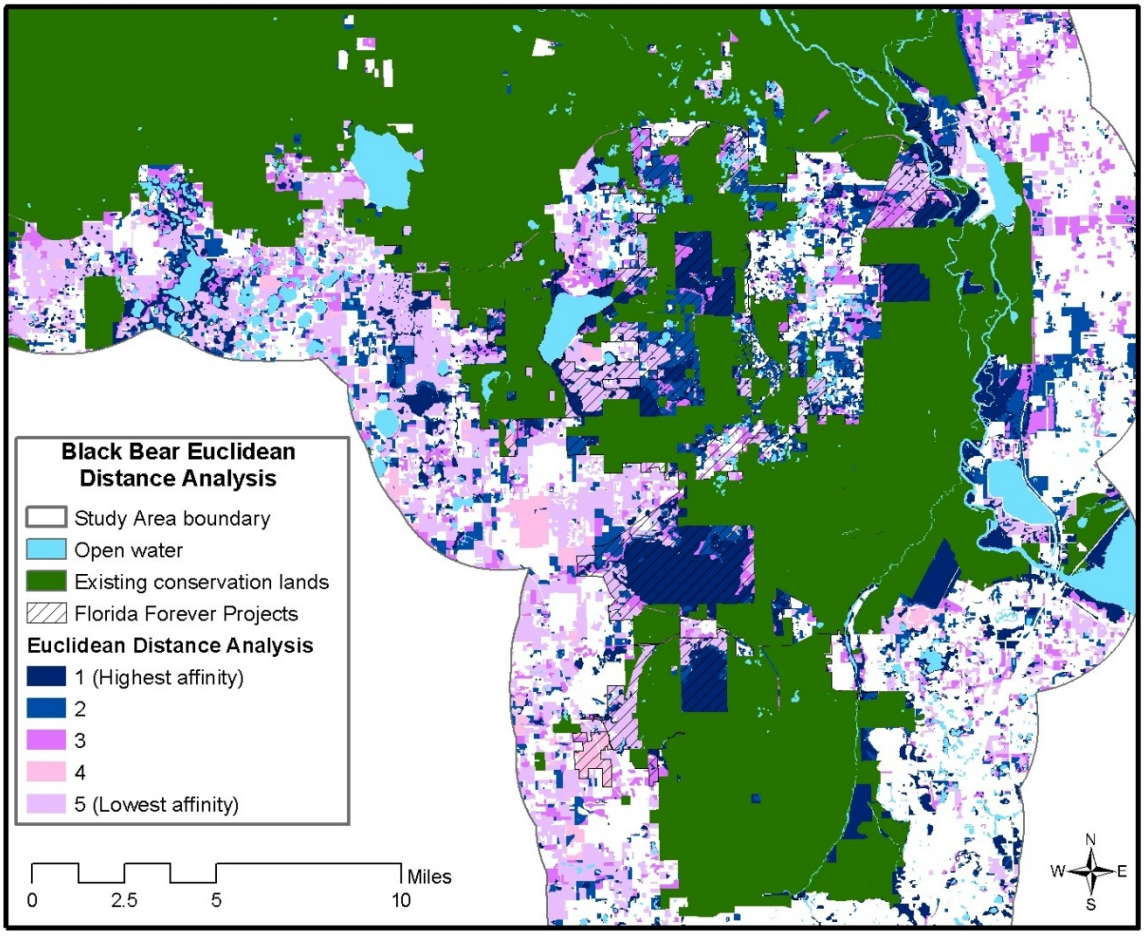

Figure 4. Florida black bear Euclidean Distance habitat affinity analysis results

3) Multiple Logistic Regression Habitat Probability Analysis Results

The multiple logistic regression results also show that most of the remaining unprotected high quality bear habitat in the study area occurs within the Wekiva-Ocala Greenway Florida Forever Project boundary (Fig. 5). These high quality areas (areas with values closer to 100 in the model results) can be considered core habitat that both could support bear home ranges and provide functional connections to complete corridors between Ocala National Forest and conservation lands within the Wekiva basin (Fig. 5). The model results also suggest that there are still multiple options for protecting a functional corridor, although some of these options may currently rely upon traversing some less suitable or lower quality areas. As explained later in this report, habitat restoration is an important tool for enhancing connectivity in some areas.

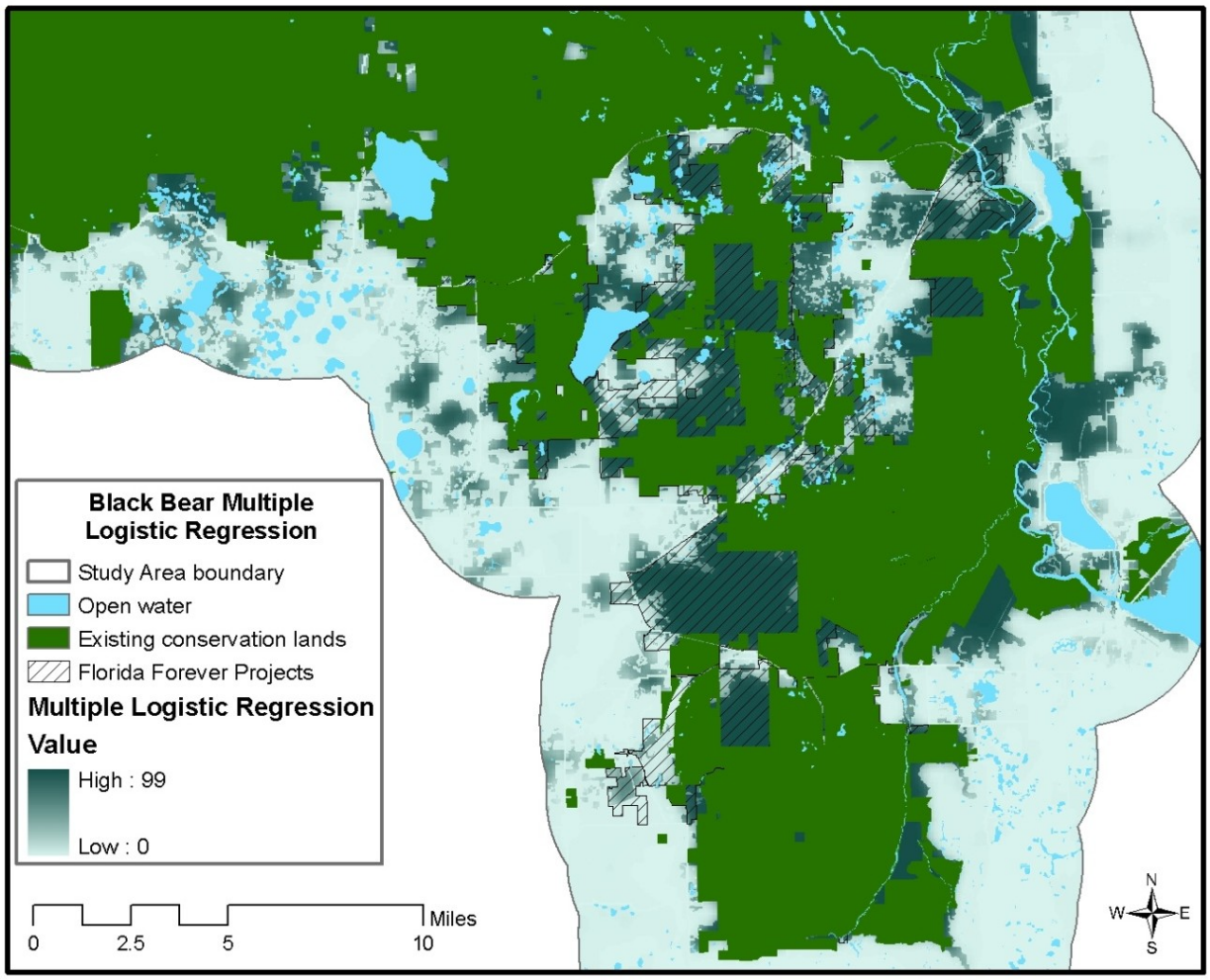

Figure 5. Florida black bear Multiple Logistic Regression habitat probability analysis results

4) MaxEnt Florida Black Bear Habitat Analysis Results

The MaxEnt model results are similar to the multiple logistic regression results, showing that most of the primary habitat is within the Wekiva-Ocala Greenway Florida Forever Project boundary (Fig. 6). It also shows that all corridor options contain at least secondary habitat connecting existing conservation lands within the Wekiva basin (Fig. 6).

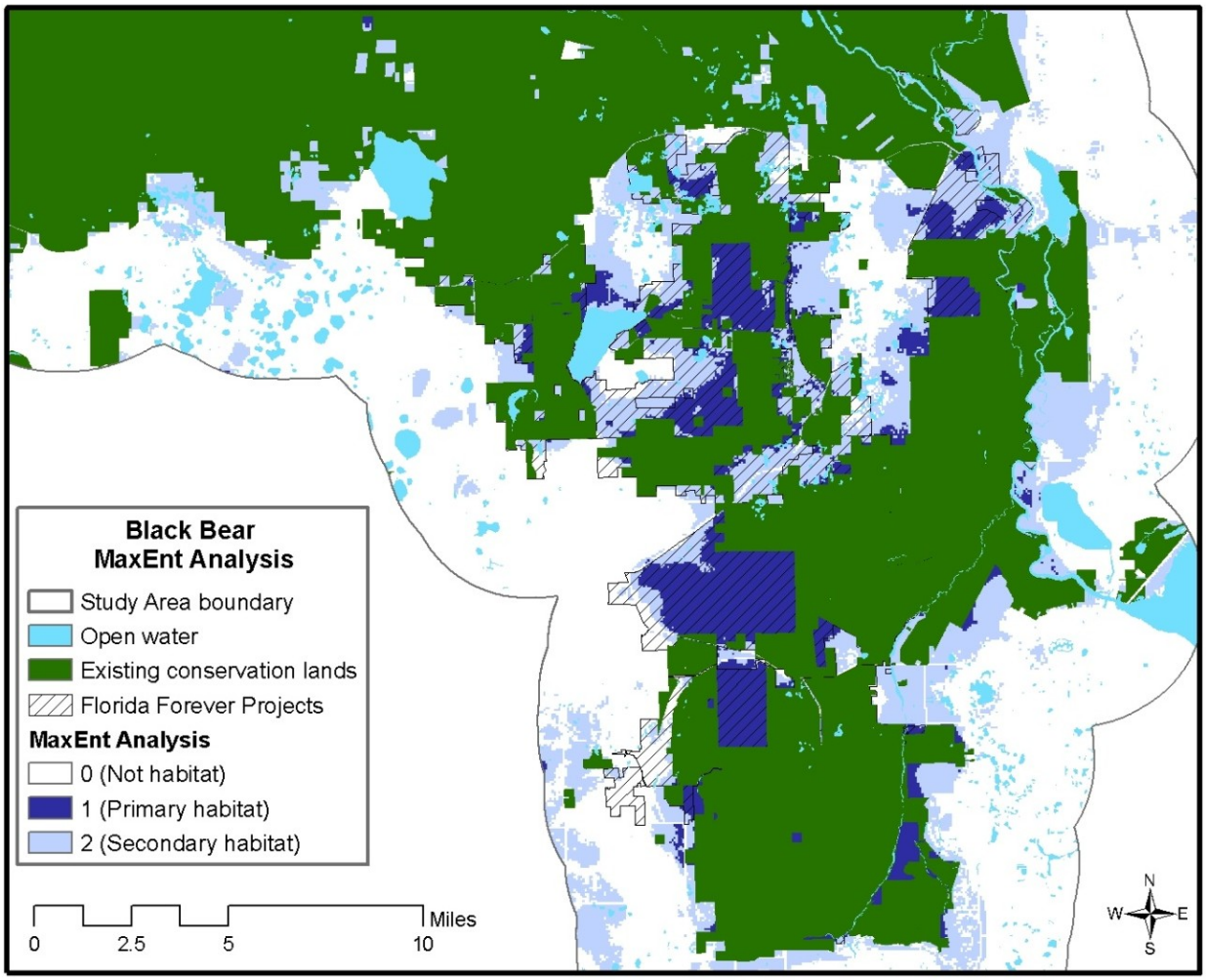

Figure 6. Florida black bear Maxent habitat analysis results

5) Mahalanobis Distance Analysis for the Florida Black Bear Results

The Mahalanobis Distance analysis is more conservative when identifying high quality habitat, but the pattern is similar to the multiple logistic regression and MaxEnt model results and with most of the high quality (models values closer to 100) within the Wekiva-Ocala Greenway Florida Forever Project (Fig. 7).

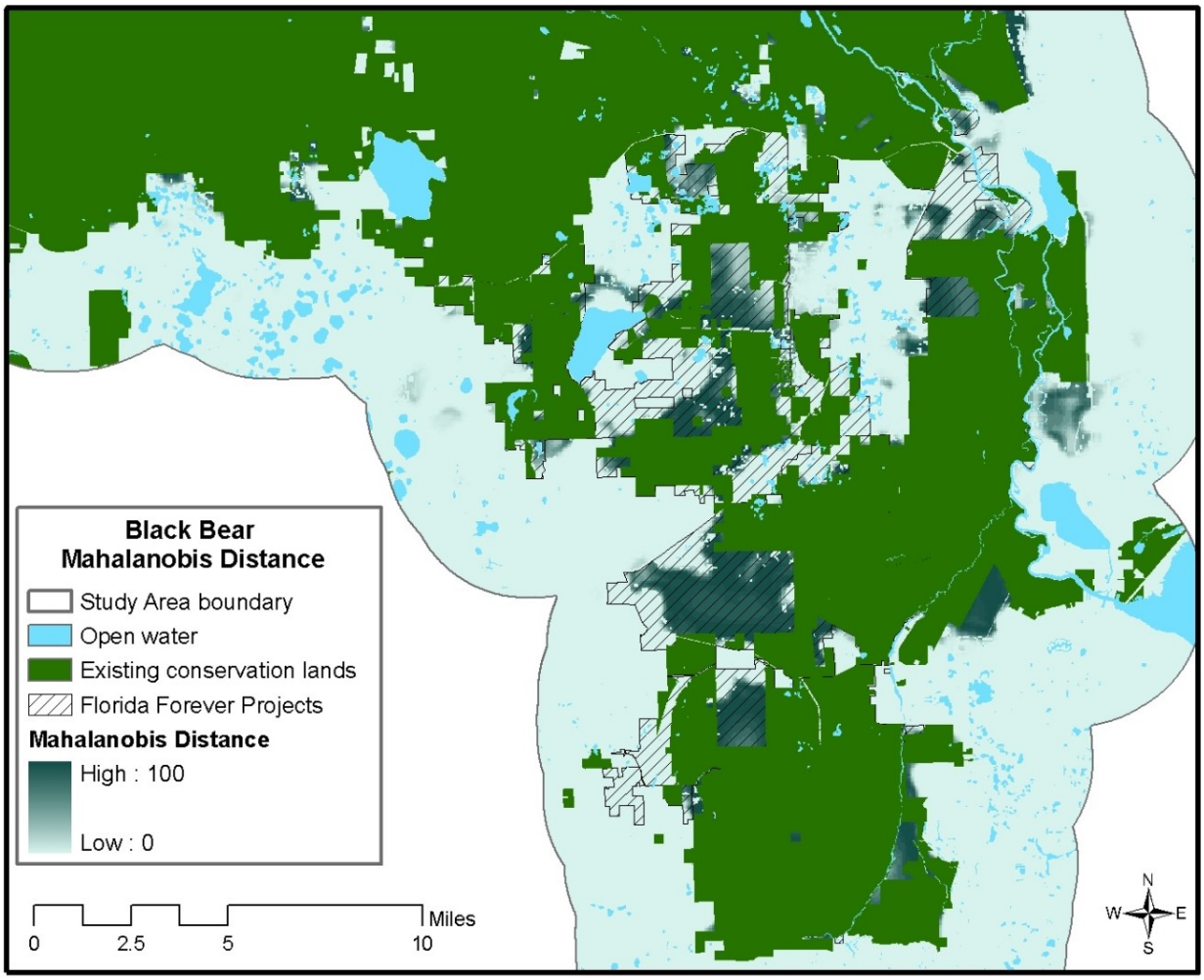

Figure 7. Florida black bear Mahalanobis Distance analysis results

6) Landscape Patch Size and Land Use Intensity Analysis Results

The landscape patch size and land use intensity analysis does not specifically assess Florida black bear habitat but it does address land use landscape factors that influence black bear habitat quality. The model results show that the larger patches of natural and semi-natural vegetation least influences by intensive land uses are within or adjacent to the Wekiva-Ocala Greenway Florida Forever Project boundary (Fig. 8).

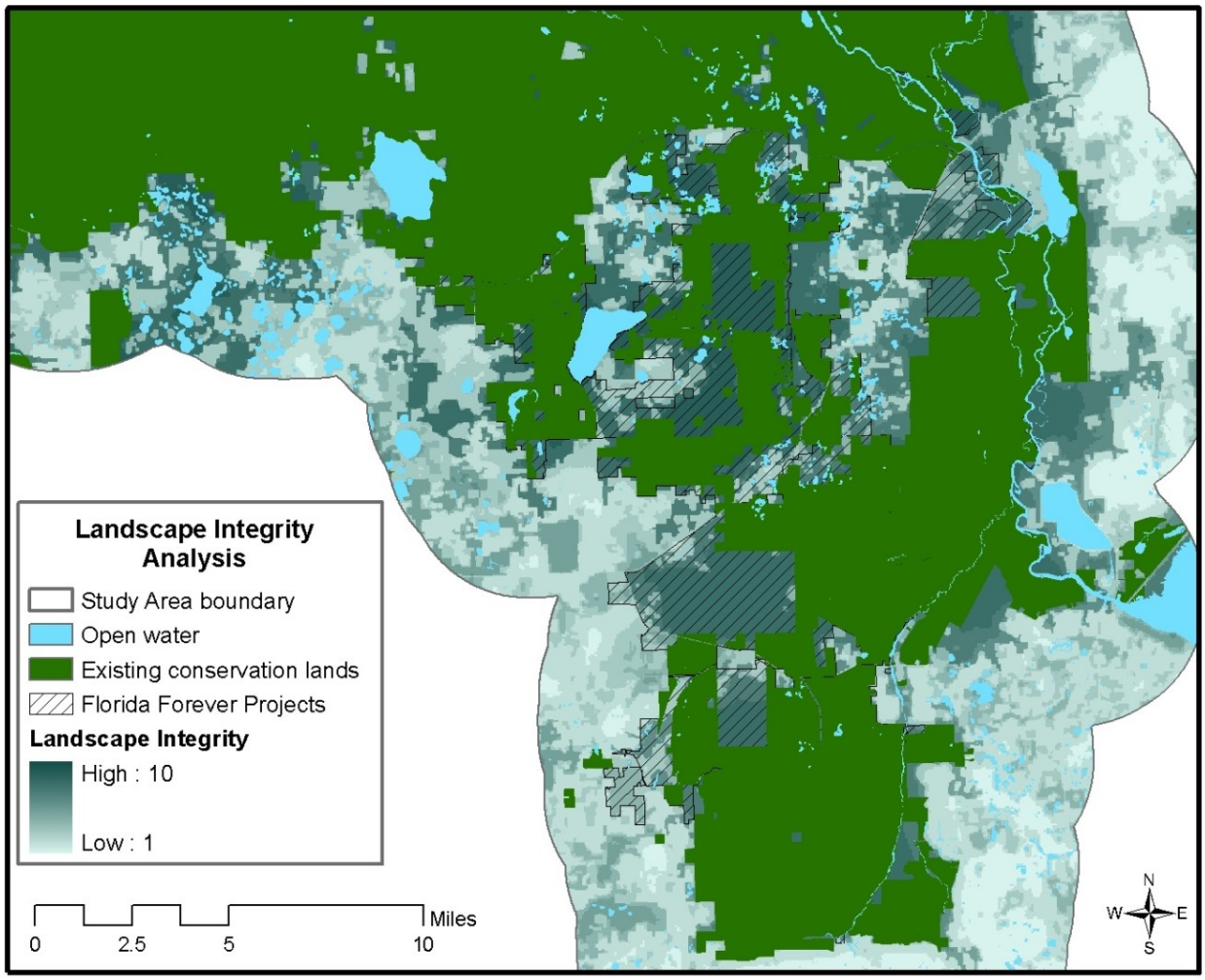

Figure 8. Landscape integrity analysis results

B. Identification of New Intensive Development Results

The combined analysis of new intensive development within the boundaries of the Wekiva-Ocala Florida Forever Project did not result in large new or additional areas identified (Figure 9). It should be noted that this analysis was limited to within the boundaries of the Florida Forever project and a few other areas were compared to habitat and corridor model results outside the Florida Forever project boundary where relevant. Comparisons of 2004 DOQQs, 2004 land use data, 2006 parcel data, and 2006 aerial photography did not appear to show any large scale changes that would be expected to directly affect primary bear corridor options.

Parcels that were identified as additional development within the Florida Forever project boundary could affect the central corridor crossing State Road 44, which will be discussed in more detail below. The most significant new development affecting habitat appears to be within the Royal Trails subdivision west of State Road 44 and in the Cassia area near the intersection of SR 44 and CR 44A; these areas of new development since the 2004 Water Management District land use data was collected are shown in pink in Figure 9. The Royal Trails subdivision consists mostly of platted one acre lots with significant scrub and other vegetation. Although the southern portion of this subdivision was actually acquired by the state for preservation, aerial photos reveal that the construction of new homes is impacting the value of remaining private lots. This development raises issues about whether protected lands directly west and east of the Royal Trails subdivision can remain functionally connected as more lots continue to be developed.

Further north on SR 44 there is another area of existing and new development just west of SR 44. This area is depicted with the red circle on Figure 9. Based on remnant habitat, this area could be relevant to connecting the Ocala National Forest to existing conservation lands east of SR 44 and adjacent to the St. Johns and Wekiva River. However, ongoing development in this area limit its significance, and corridor options in this area with be largely limited to areas east of SR 44, which will be discussed in more detail in the synthesis section.

Another area that was identified in this analysis but is likely not new development is found in the Cassia area east of State Road 44 (Figure 9). In 2004 Water Management District land use information, this land is identified as a park but it is identified as mobile homes in the parcel data. Most of this area actually appears to be Boggy Creek Camp, which is a nature-based facility for children, that is only seasonally occupied. Although parts of this property are vegetated and could provide bear habitat, it was included as developed to consider edge effects and to avoid selection of corridors going through the property.

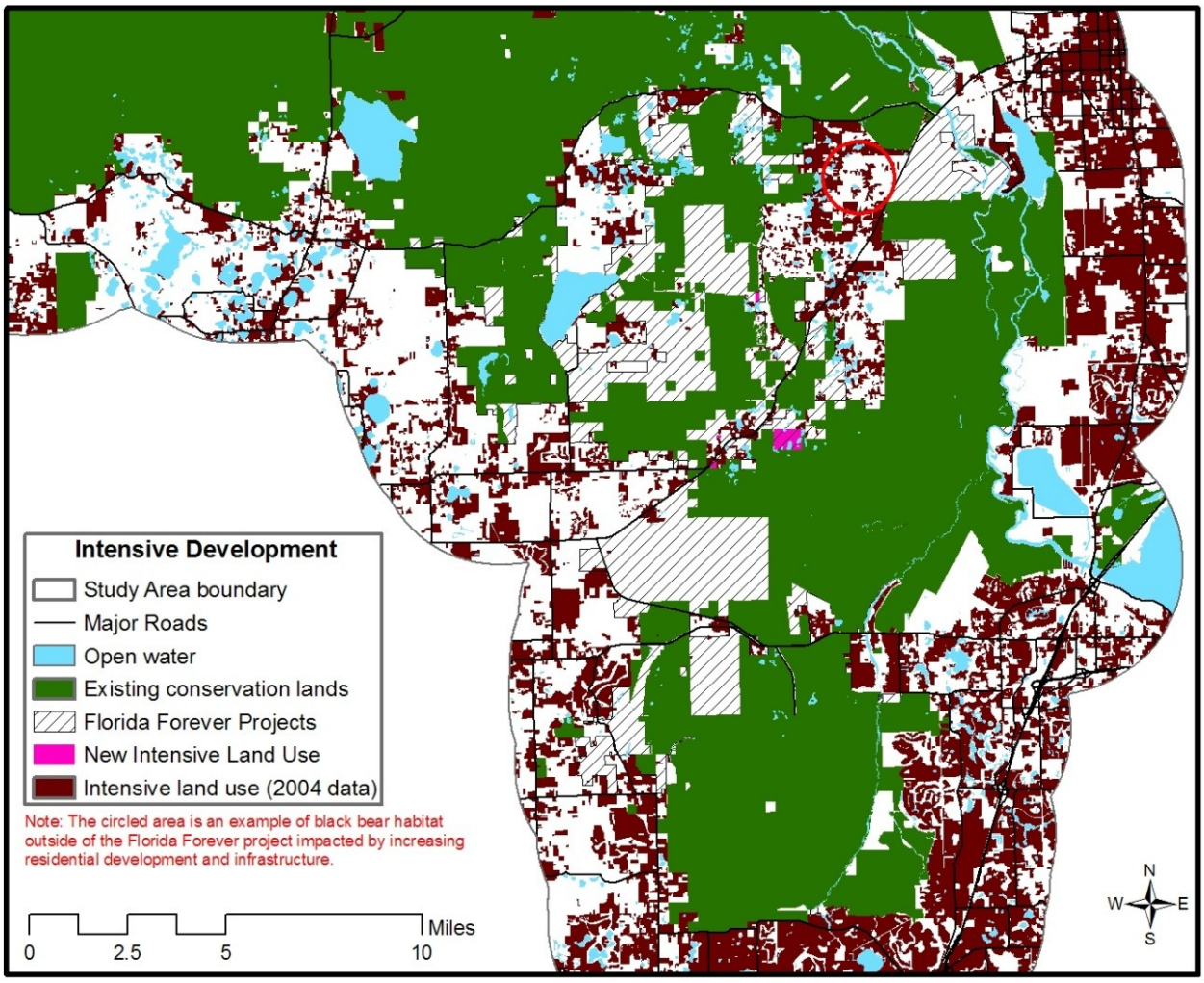

Figure 9. Regional view of intensive development in the study area

C. Least Cost Path Analysis Results

We ran 24 different least cost path analysis (LCP) models that resulted in the identification of at least 4 or 5 potential corridor options for functionally connecting the Ocala National Forest to conservation lands in the Wekiva River basin (Figure 10). Six cost surfaces were used in four analysis variations to create the 24 model results. The results for each of these four variations are discussed below. Figure 10 includes the entire regional study area to show the source location within the Ocala National Forest used for three of the least cost path variations. The remaining figures are focused on the Wekiva River basin to show LCP results in more detail.

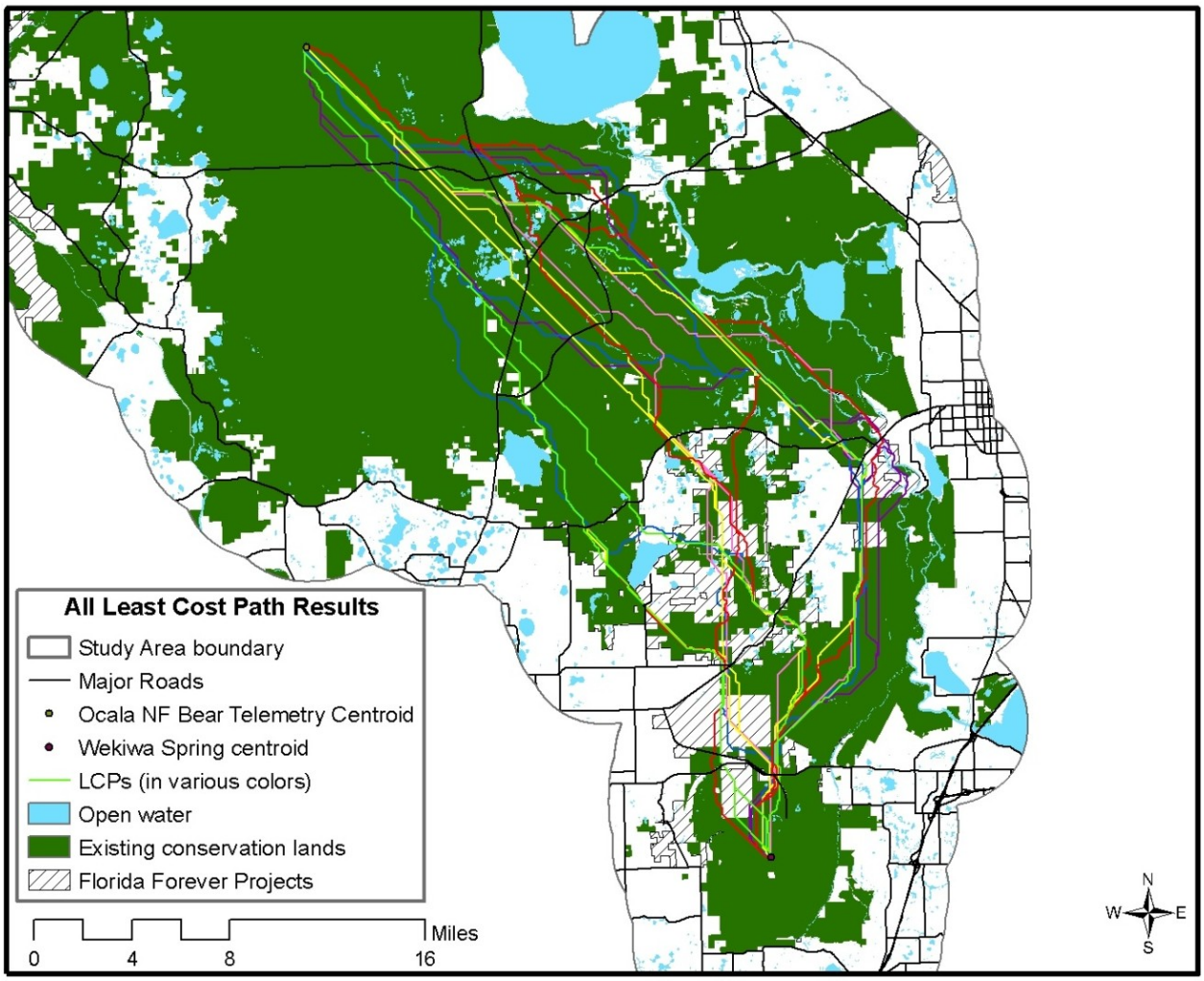

Figure 10. All LCP model results showing the entire paths from the bear telemetry centroid in the middle of Ocala National Forest to the destination point within Wekiwa Springs State Park.

1) Least Cost Path Model Variation 1: Original Cost Surfaces and Source Location Results

In this LCP model variation the original cost surfaces created by modifying the six habitat and landscape model results were used. These models did not use the intensive development surface created through a combination of 2004 Water Management District land use and new development identified using 2006 parcel and aerial photography data. We selected the Ocala National Forest bear telemetry centroid as the source location and the Wekiwa Springs State Park centroid was the selected destination. These are the cost surfaces created through modification of the original habitat and landscape models:

Potential Habitat Model	**Euclidean Distance Model**	**Multiple Logistic Regression**
1 = primary habitat	1 = first priority habitat	1 = 100% habitat significance
2 = secondary habitat	2 = second priority habitat	then values up to 100 where
3 = traversable matrix	3 = third priority habitat	100 = 1% habitat significance
4 = all other areas	4 = fourth priority habitat	
	5 = fifth priority habitat	
	10 = all other areas	

MaxEnt Analysis	**Mahalanobis Distance Analysis**	**Landscape Analysis**
1 = primary habitat	1 = primary habitat	1 = highest landscape integrity
2 = secondary habitat	then values up to 25 where	then values up to 9 where
10 = all other areas	25 = no habitat significance	9 = lowest landscape integrity

The LCP results were diverse with 5 major variations in selected paths (Figure 11). The results will be described from north to south starting with the potential crossing points or the County Road 42 corridor on the southern border of the Ocala National Forest. Based on the existing conservation land ownership and black bear habitat, there appear to be five different options for functional corridors across County Road 42. The 6 LCP models selected four of these five options (Figure 11).

South of County Road 42 there are five corridor options. These are from east to west: 1) The St. Johns-Wekiva River corridor (**called the River Corridor in the rest of this report**); 2) The Central Corridor with a crossing of State Road 44 east of Black Water Creek (**called the Central-State Road 44 Corridor in the rest of this report**); 3) The Central Corridor with a crossing of State Road 44 along Black Water Creek near the State Road 44 and State Road 44A intersection (**called the Central-Black Water Creek Corridor in the rest of this report**); 4) a corridor crossing out of the Wekiva-Ocala Florida Forever Project north of Lake Norris and then joining the Central Corridor (**called the Lake Norris Corridor in the rest of this report**); and 5) the **Black Water**

Creek Corridor. The six LCPs followed four of these corridor options with three following the Central-Black Water Creek Corridor. The Central-State Road 44 Corridor was the only option not selected.

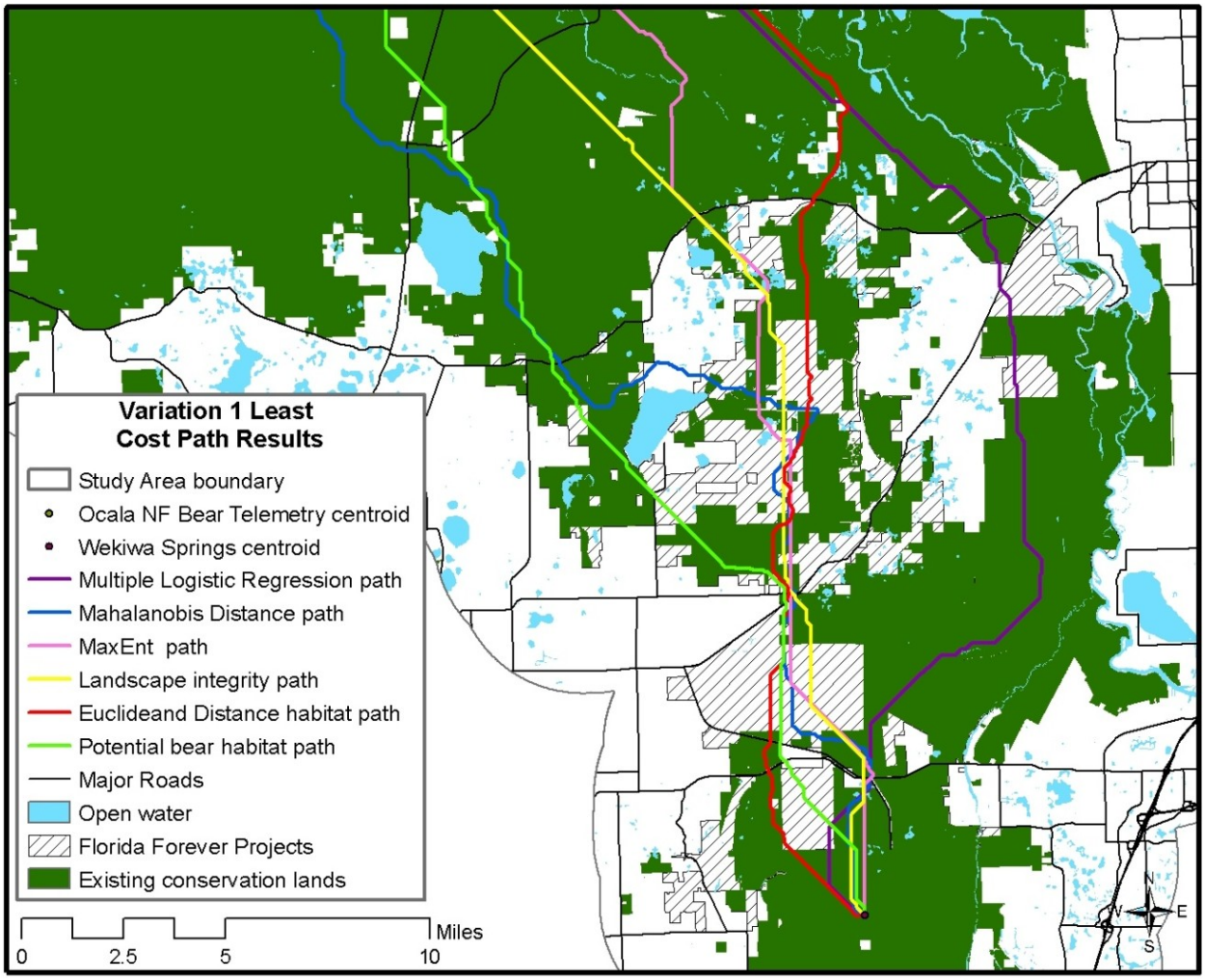

Figure 11. Variation 1 LCP results where original cost surfaces and source and destination locations were used.

2) Least Cost Path Model Variation 2: Cost Surfaces Intensive Development 300 Meter Model

In the LCP model variation 2, we modified all six of the original cost surfaces by making all areas within 300 meters of existing intensive development not suitable for inclusion as part of a corridor. This was the most explicit means available to determine which corridors were most or least affected by existing intensive development. The potential affects of this variation on the results can be seen by examining the buffer masks of 300 meters and 500 meters from existing developed used in this and the next LCP variation (Figure 12). The use of the 300 meter "mask" created significant changes in LCP results (Figure 13). Due to development adjacent to the Black Water Creek Corridor near Lake Norris Road and the State Road 44-State Road 44A

intersection, this corridor option was not available in this model run. Therefore, the LCP model results were pushed eastward with three variations (Figure 13). First the potential habitat model LCP shifted from following the Black Water Creek Corridor to the Lake Norris Corridor. The Mahalanobis Distance LCP had the largest spatial shift from the Lake Norris Corridor in the original LCP model variation to the River Corridor in this model. The Multiple Logistic Regression LCP followed the River Corridor as in the first LCP model variation. The other three LCP models that followed the Central-Black Water Creek Corridor in the original LCP model variation shifted to the Central-State Road 44 Corridor. Looking at Figure 12 it would appear that the Central-State Road 44 Corridor should not be an available option based on proximal development the same as the Black Water Creek Corridor but there was a very narrow path outside the 300 meter intensive development buffer that allowed 4 of the LCPs to follow this option. This will be an important point discussed in the synthesis selection below.

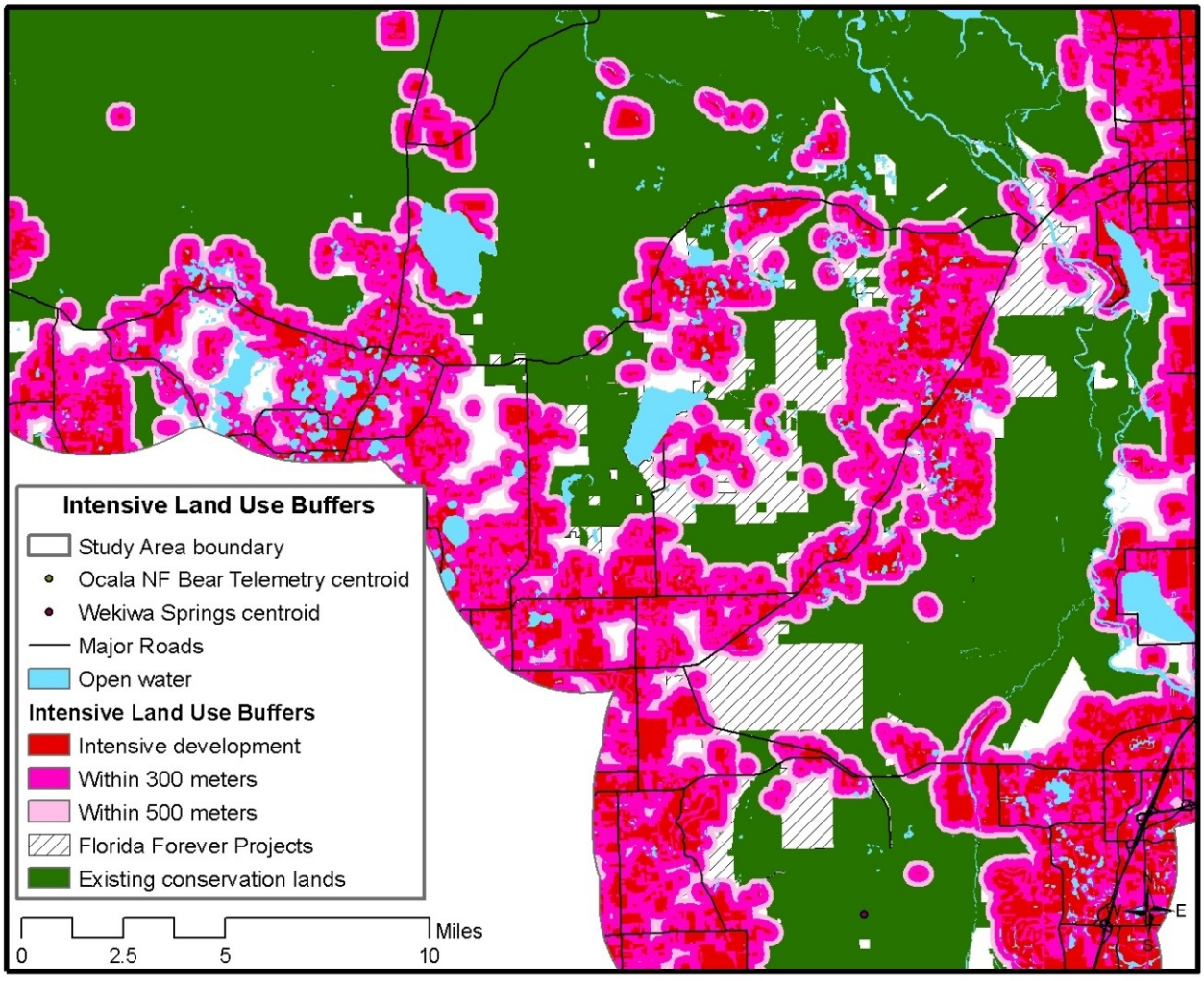

Figure 12. Distance from intensive land uses used in LCP Model variation 1 and 2.

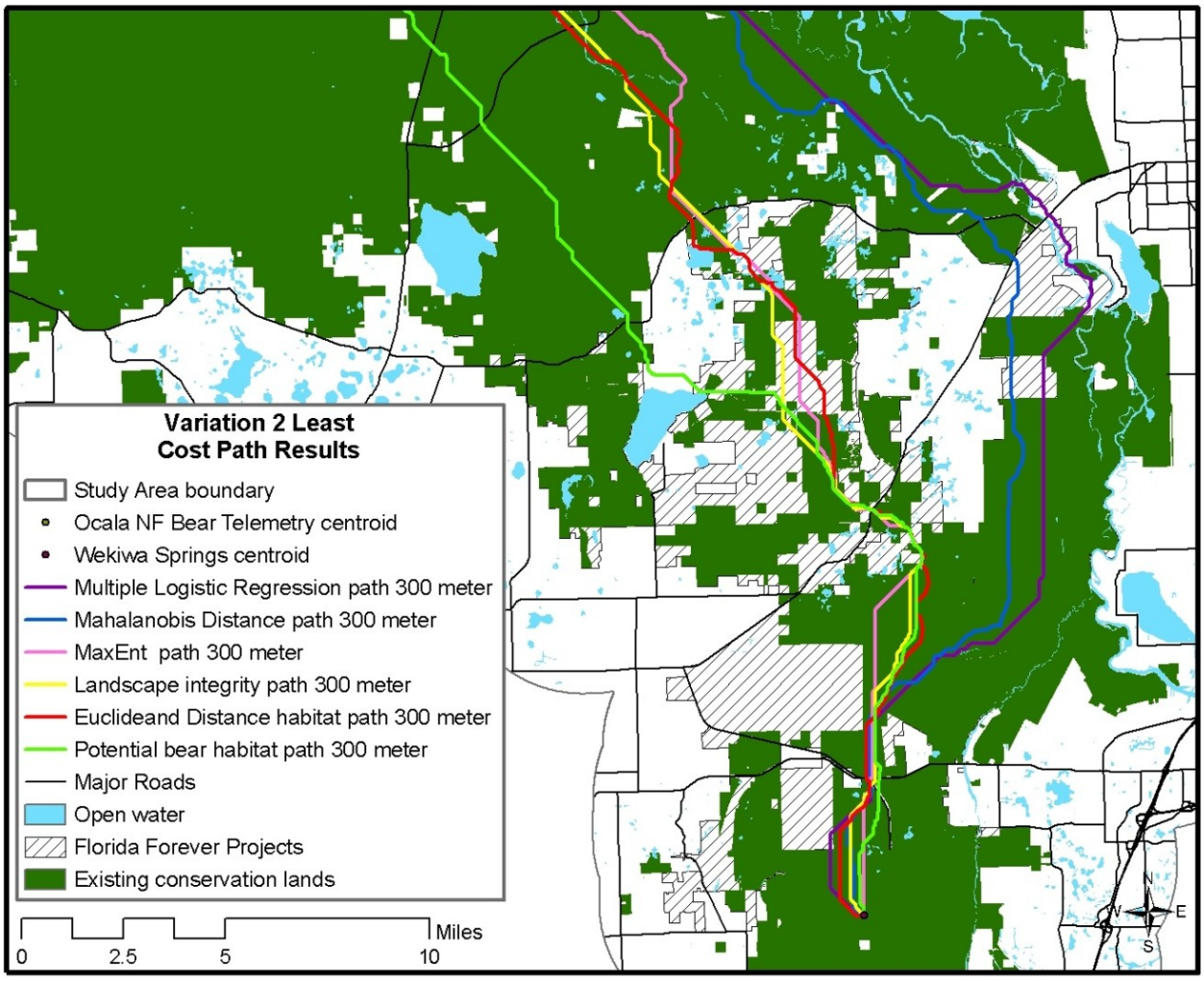

Figure 13. Variation 2 LCP results with the 300 meter intensive development mask

3) Least Cost Path Model Variation 3: Cost Surfaces Intensive Development 500 Meter Model

This LCP model variation made all areas within 500 meters of intensive development unsuitable for selection as part of a corridor. This modification resulted in all six of the LCPs selecting River Corridor (Figure 14). Though the River Corridor has an issue of a large swath of open pasture land southeast of the County Road 42-State Road 44 intersection, it is the widest potential corridor least affected by existing intensive development (though examination of Figure 12 shows that even the River Corridor is affected by intensive development along State Road 44 and the St. Johns River near the State Road 44 river crossing).

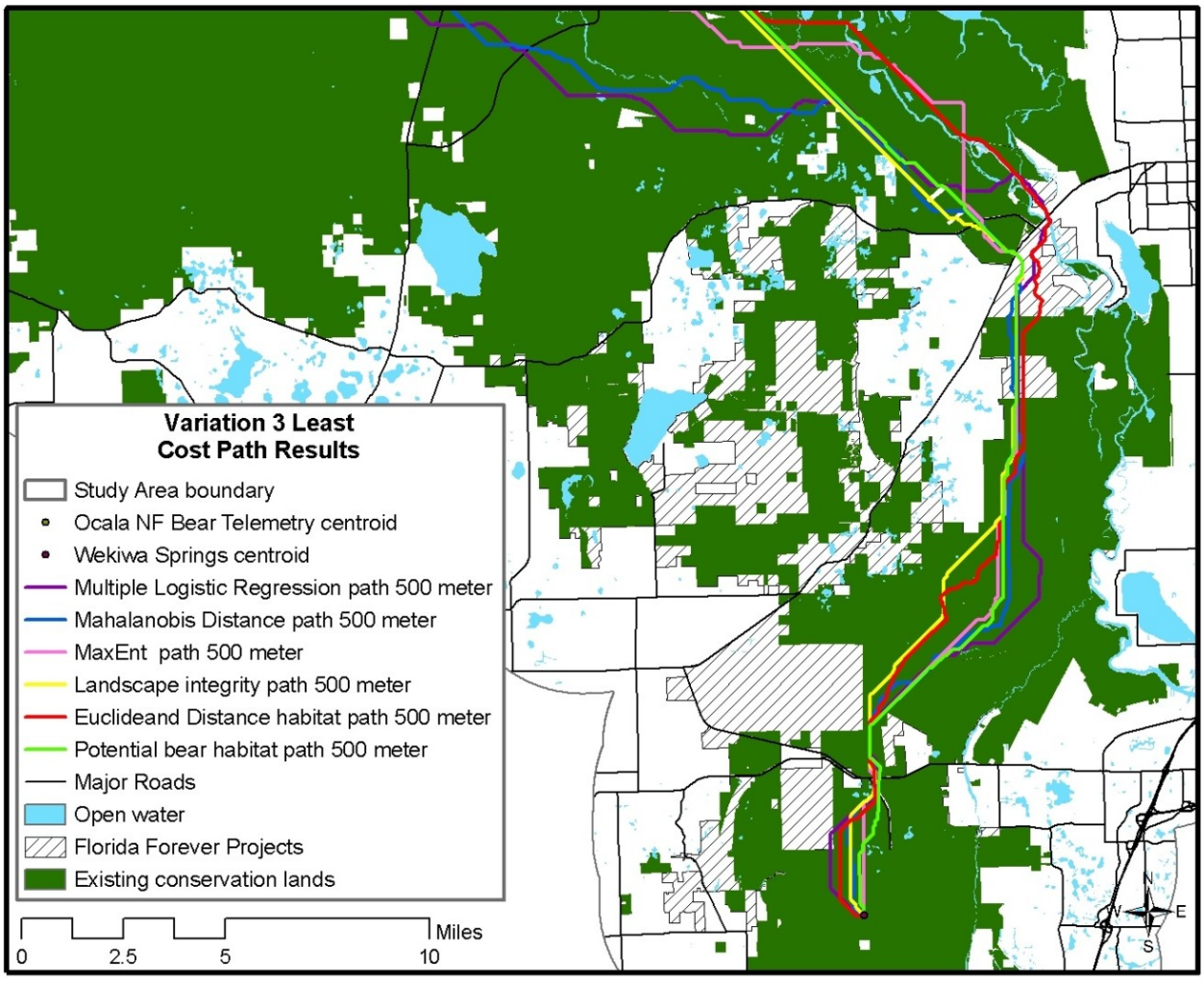

Figure 14. Variation 3 LCP results with the 500 meter intensive development mask

4) Least Cost Path Model Variation 4: Cost Surfaces Intensive Development 500 Meter Model

The final LCP model variation used the original cost surfaces from the first LCP model variation without "masking out" areas near intensive development. However, the source was altered from the centroid of all Ocala National Forest black bear telemetry locations to the entire Ocala National Forest. This change allows for variation in the start location for the LCPs, which may influence the selected path since distance can have a very significant affect on LCP results. The results were different from the first LCP model variation (Figure 15). Three of the LCPs selected the Black Water Creek Corridor (the potential habitat, landscape integrity, and Euclidean Distance LCPs), two followed the River Corridor (the Multiple Logistic Regression and Mahalanobis Distance LCPs), and one followed the Central-Black Water Creek Corridor (the MaxEnt LCP). None followed the Central-State Road 44 Corridor or the Lake Norris Corridor. One note about these results is that the shift to the Black Water Creek Corridor could be partly due to the fact that this corridor likely represents the shortest distance between the Ocala National Forest and Wekiwa Springs State Park (Figure 15).

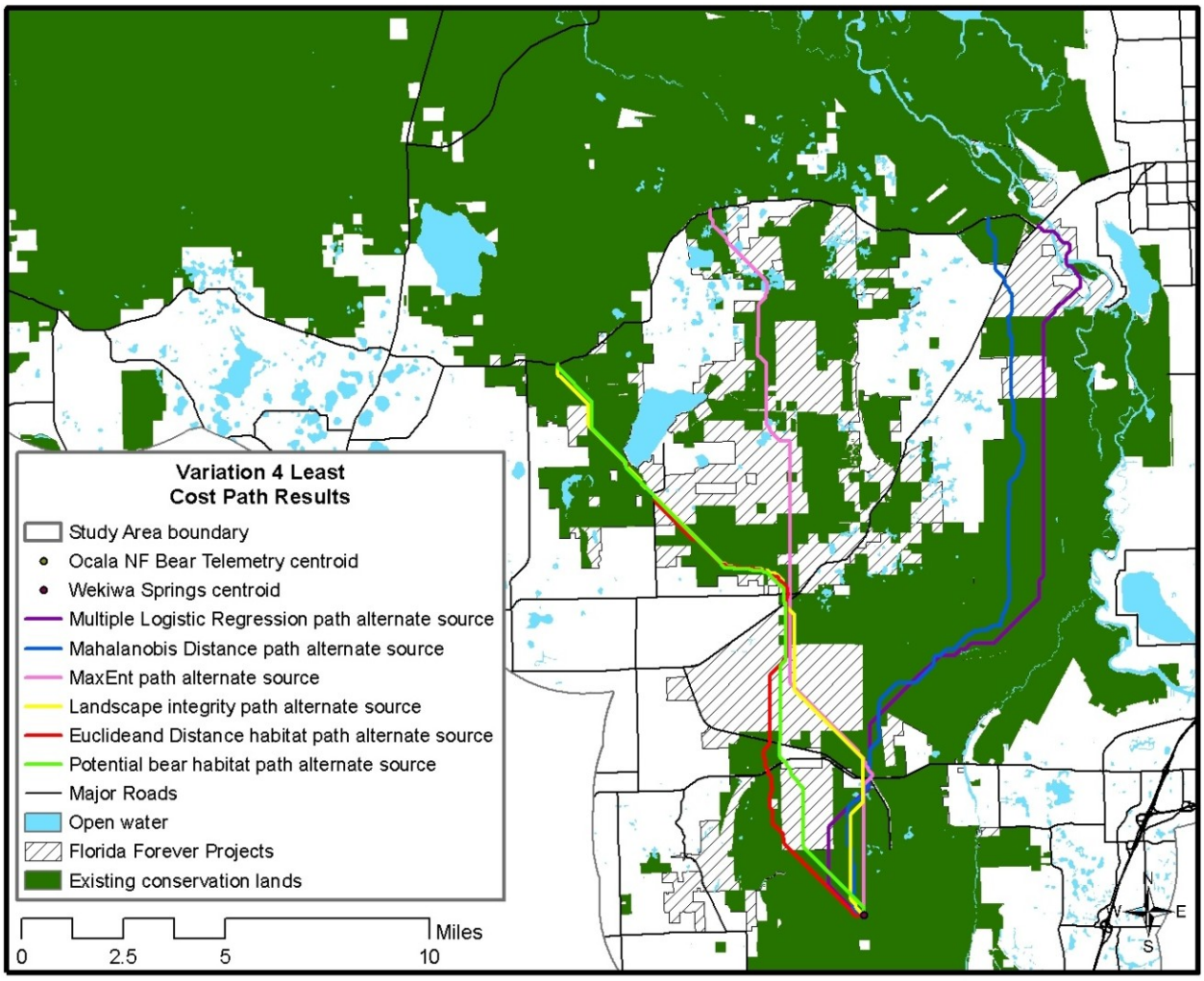

Figure 15. Variation 4 LCP results with the original cost surfaces and the entire Ocala National Forest as the source location

D. Synthesis of Habitat and Least Cost Path Models with Expert Opinion Results

We took the results from the habitat and landscape modeling and the Least Cost Path modeling to identify parcels, both within and outside the Wekiva-Ocala Greenway Florida Forever Project, that are potentially important for providing habitat and functional connectivity for the Florida black bear. The first step was to select habitat or landscape significance levels from each of the six habitat models and then identify parcels that overlapped with areas of high habitat significance. The following thresholds were used to do so with each of the six habitat/landscape models:

- Potential habitat model: primary habitat
- Euclidean Distance model: primary habitat
- Multiple Logistic Regression analysis: 75-100% probability
- MaxEnt Analysis: primary habitat

- Mahalanobis Distance analysis: 50-100% habitat significance
- Landscape integrity analysis: values of 9 (there were no values of 10 in the study area)

Next, we identified all parcels overlapping with the 24 LCP models results. In order to facilitate the use of this information, we created two parcel "richness" models showing where parcels overlapped with multiple habitat or LCP models (Figure 16 and Figure 17), with the assumption that parcels included in more models are likely more suitable or important for protecting connectivity or habitat for the Florida black bear.

We then selected thresholds for the two richness models to select parcels that would be examined in more detail. All parcels that were selected in 4 or more habitat models were identified and all parcels that were selected 3 or more LCP models were identified. We then removed any isolated parcels that did not appear to contribute functionally to connected habitat. Finally, we separated the remaining parcels into four sets: important parcels based on the habitat models that were within the Florida Forever Project or outside the Florida Forever Project, and important parcels based on the LCP models that were within the Florida Forever Project or outside the Florida Forever Project (Figure 18 and Figure 19). It should be noted that to be considered within the FF Project, parcels had to have their centers within the project boundary. This was done to exclude parcels that were only barely or partially within the FF Project, though it could exclude some significant areas in the case of large parcels. However, these data were used as a decision support guide for the next step where priority decisions were made more thoroughly using this and other information.

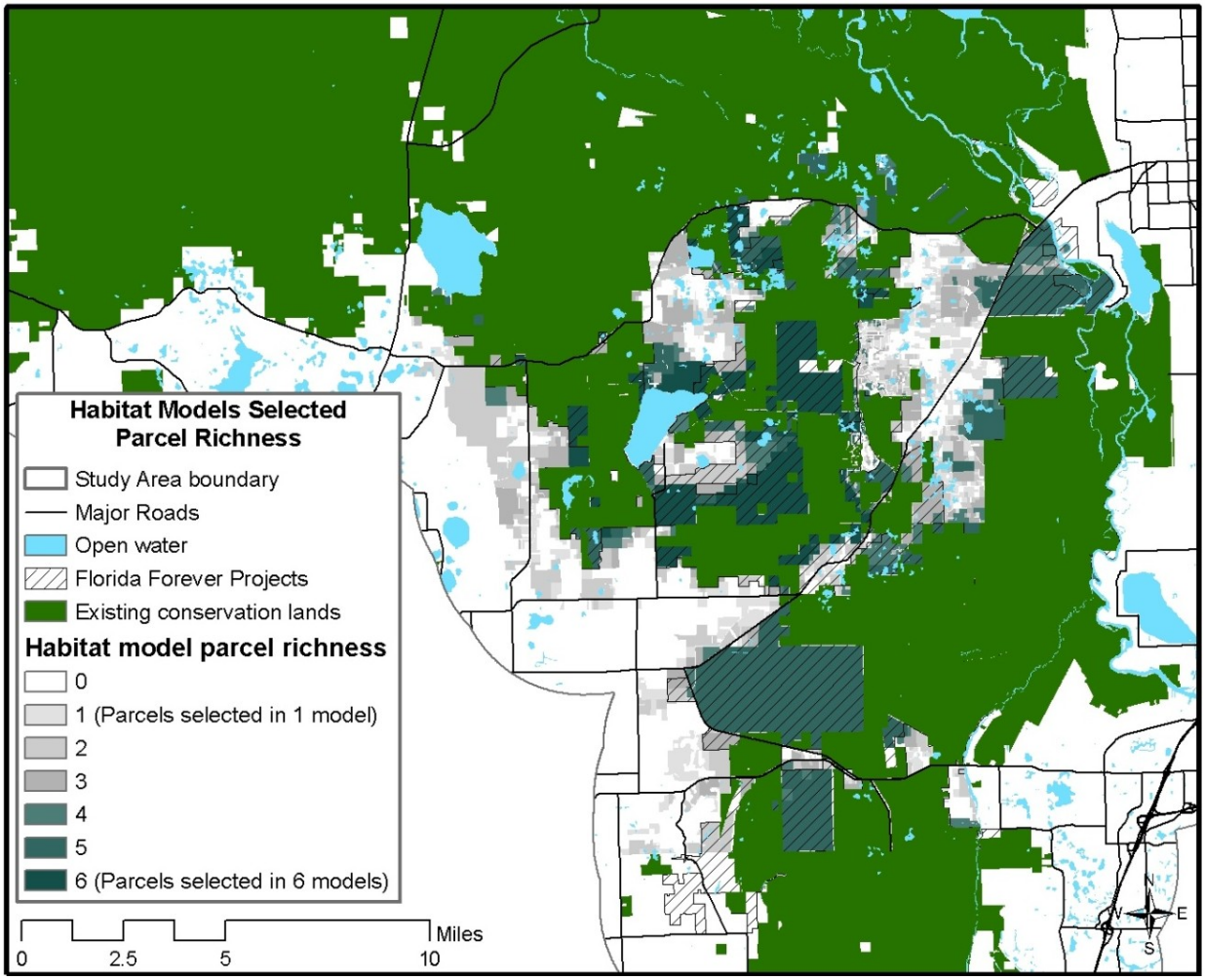

Figure 16. Parcel "richness" based on how often parcels were selected in each of the six habitat and landscape models.

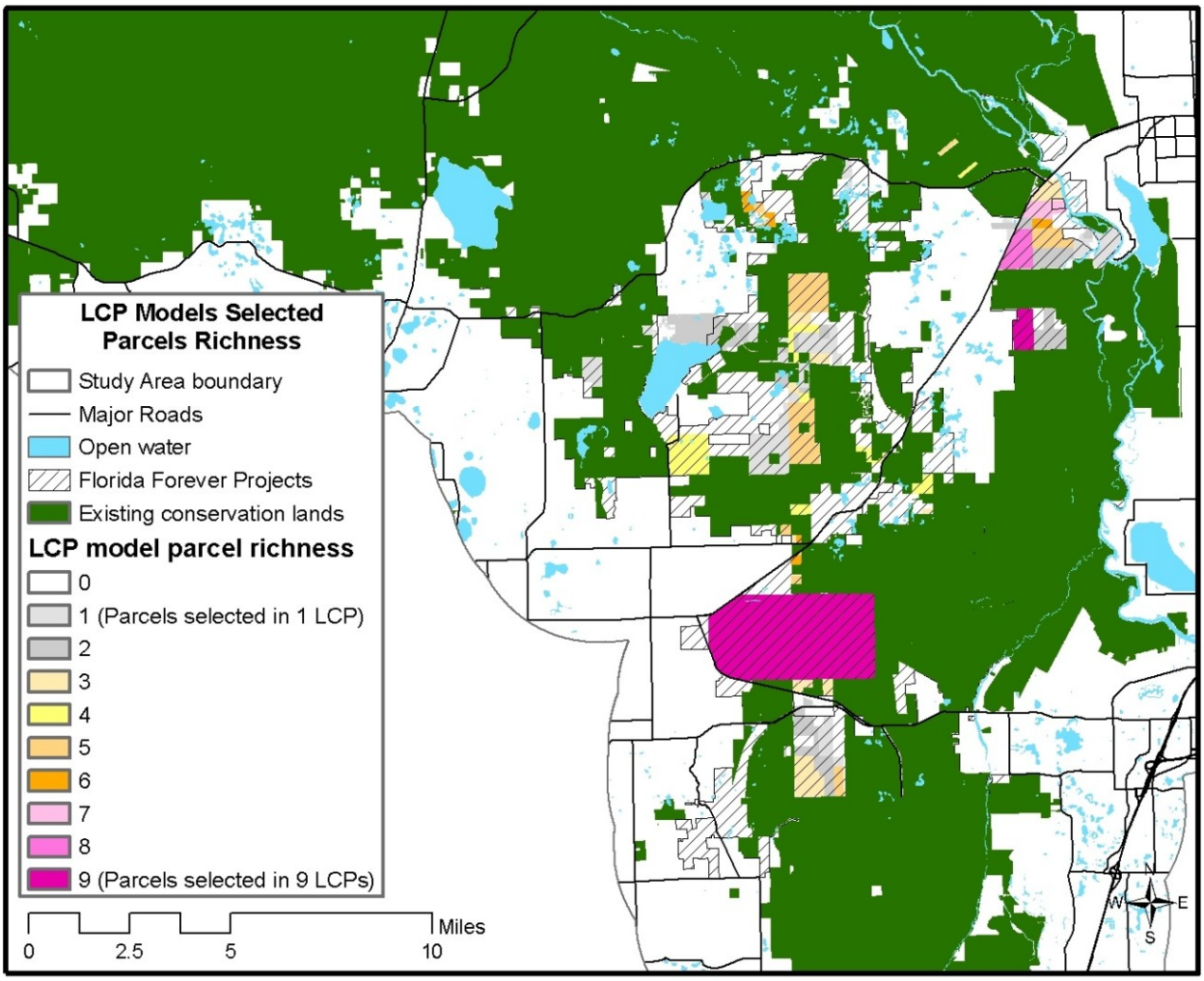

Figure 17. Parcel "richness" based on how often parcels were selected in each of the 24 LCP models.

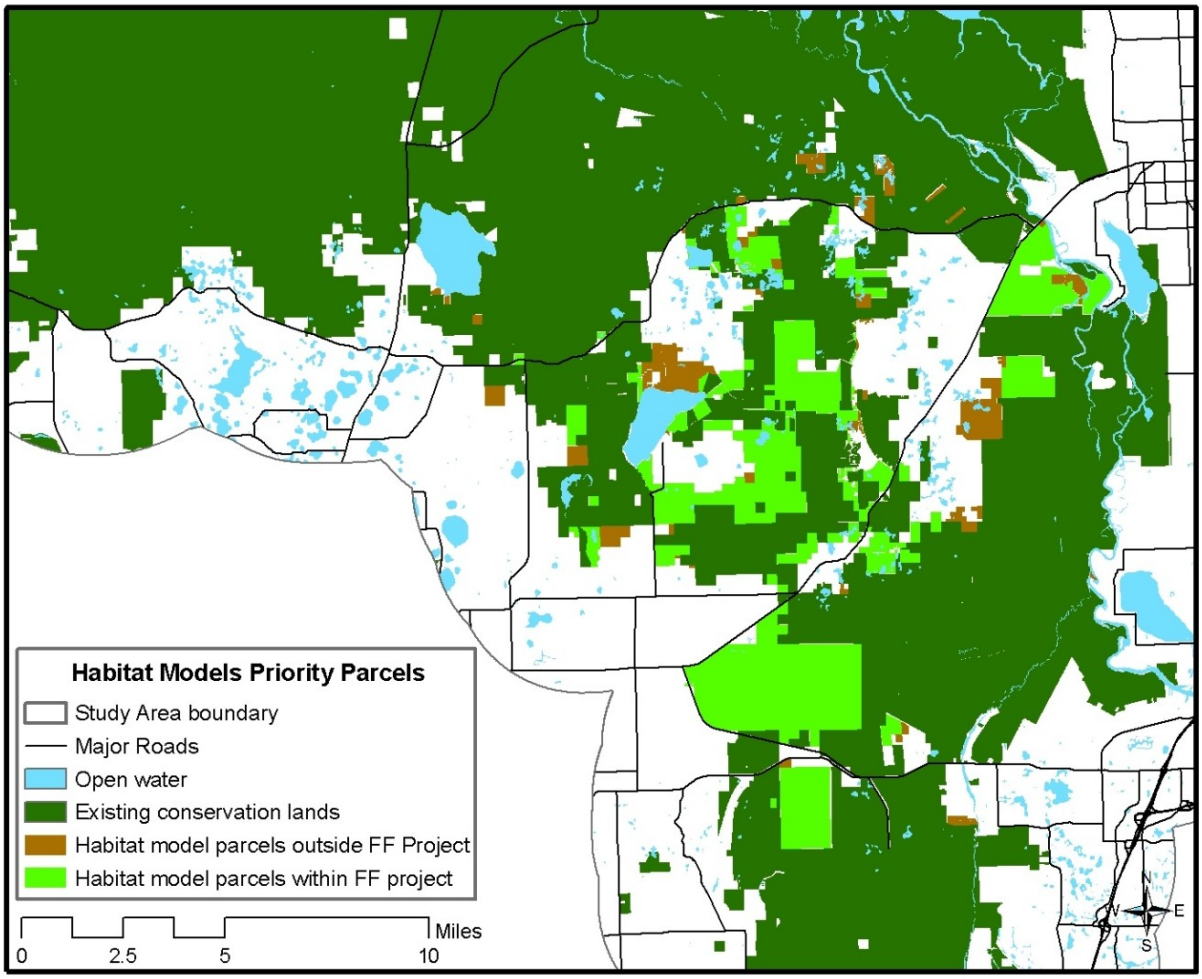

Figure 18. Priority parcels based on the habitat model parcel richness analysis

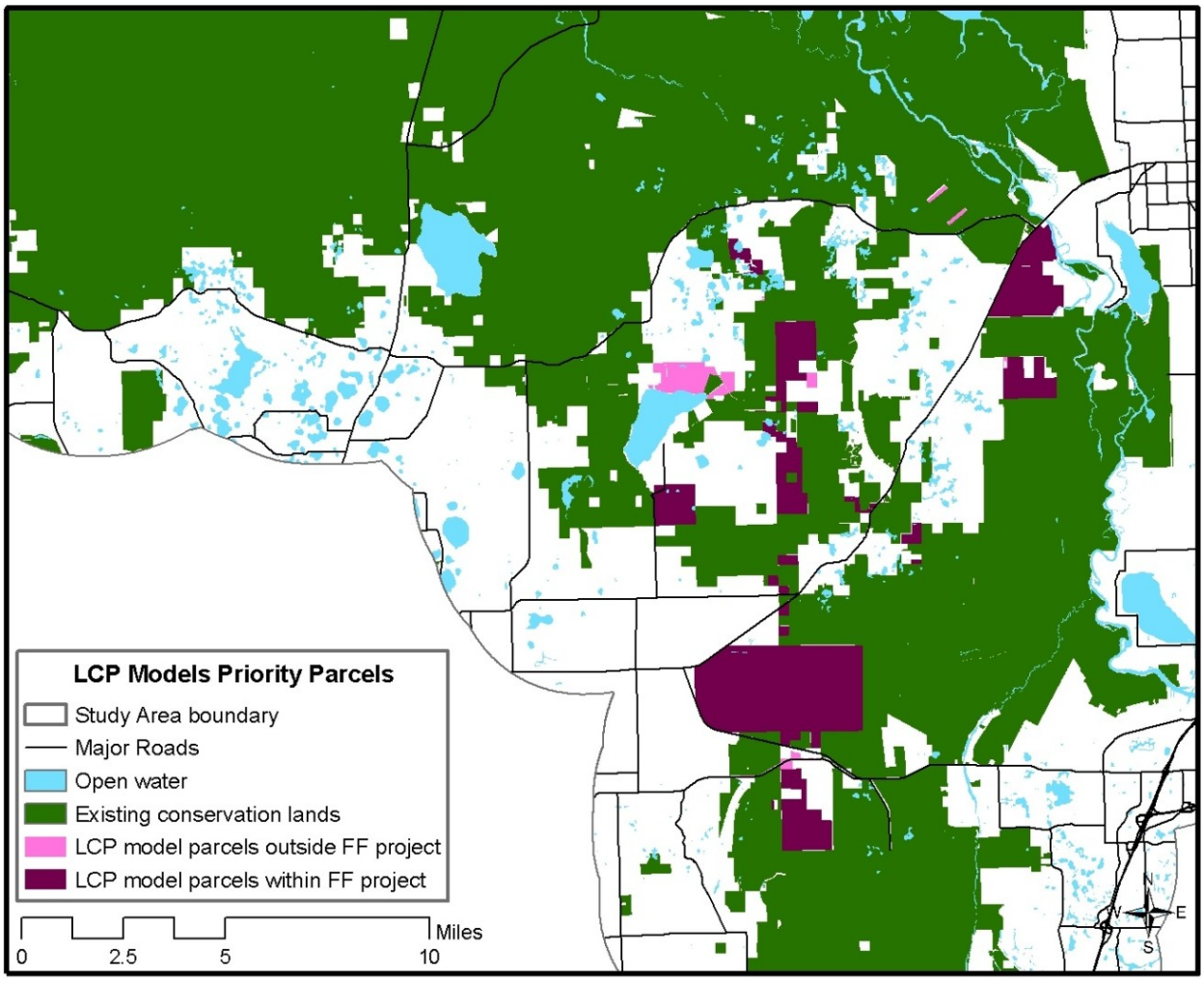

Figure 19. Priority parcels based on the LCP model parcel richness analysis

These parcels were then examined in more detailed by comparing them with the black bear potential habitat model, aerial photography, and areas within 300 and 500 meters of intensive development. This analysis was also augmented by a field visit to all major potential corridors and road crossings in February 2008.

The analysis resulted in selection of three sets of parcels considered to be priorities for black bear conservation in the Wekiva River basin:

- The highest priority set of parcels identified were within the Florida Forever Project and directly relevant to closing gaps in all of the best remaining corridor options between Ocala National Forest and Wekiwa Springs State Park. These corridor options were then prioritized (Figure 20 and Table 1). These priorities are called "corridor priorities" in Figures 20-29.
- The next set of priority parcels were within the Florida Forever project and support the primary parcels by providing additional buffering from existing or potential future residential and other intensive development. These parcels were also separated into

priorities (Figure 21 and Table 2). These priorities are called "additional buffer and habitat priorities" in Figures 21-29.

- The last set of priority parcels were outside the Florida Forever project boundary and provide additional connections, habitat, or buffers. These areas should be considered for addition to the Florida Forever project or other conservation options. These parcels were also separated into priorities (Figure 22 and Table 3). These priorities are called "other priorities outside FF project" in Figures 22-29.

Priorities were selected using several criteria including identifying corridors that were likely to be most functional. We also considered minimizing the amount of additional acres that would need to be protected in order to achieve a likely functional corridor. Buffers and additional habitat were selected based on critical locations for minimizing the impact of existing and potential future development and significant potential additions to protected black bear habitat. It should be noted that areas of small parcels (less than 5 acres) or gaps in the parcel data of unknown ownership were not included in the selection of parcel priorities when other parcels were considered sufficient to close corridor gaps. Some of these decisions, with the primary focus on the corridor selection were difficult and will be discussed in more detail in the Discussion section below. The three priority classes (corridors within the Florida Forever Project, buffer and habitat priorities within the Florida Forever Project, and other priorities outside the Florida Forever Project are also depicted on a set of 2004 DOQQs (Figures 23-28). The 2006 aerial photography from Lake County was not used because of the very large size of the file (over 10 Gigabytes) and the minimal changes in intensive land uses very near the corridor project. The 2006 aerial photography was used, however, to determine if there were any changes to intensive land uses that would affect bear habitat or corridors, and in development of wildlife crossing and restoration recommendations.

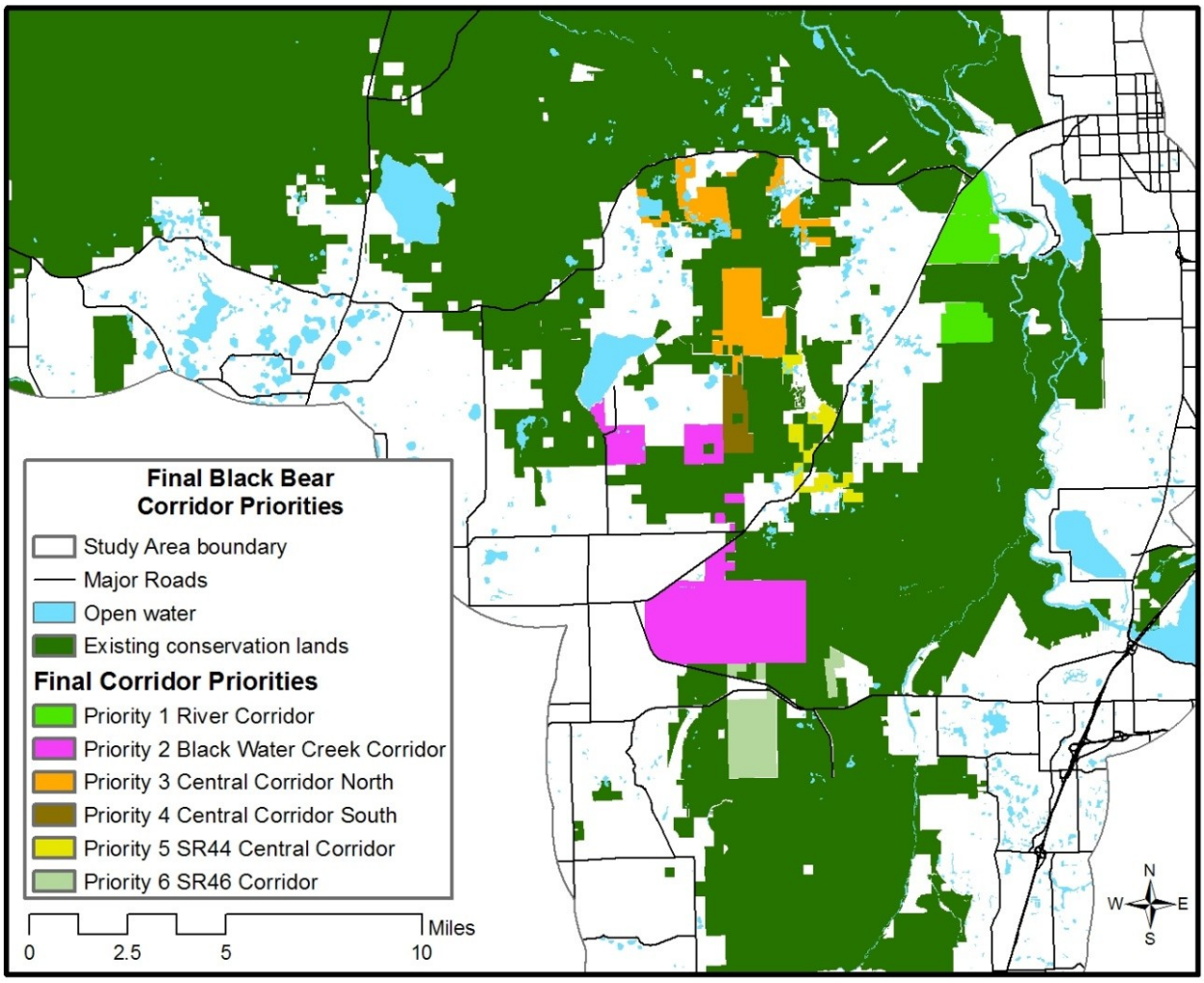

Figure 20. Final corridor priorities for the Florida black bear

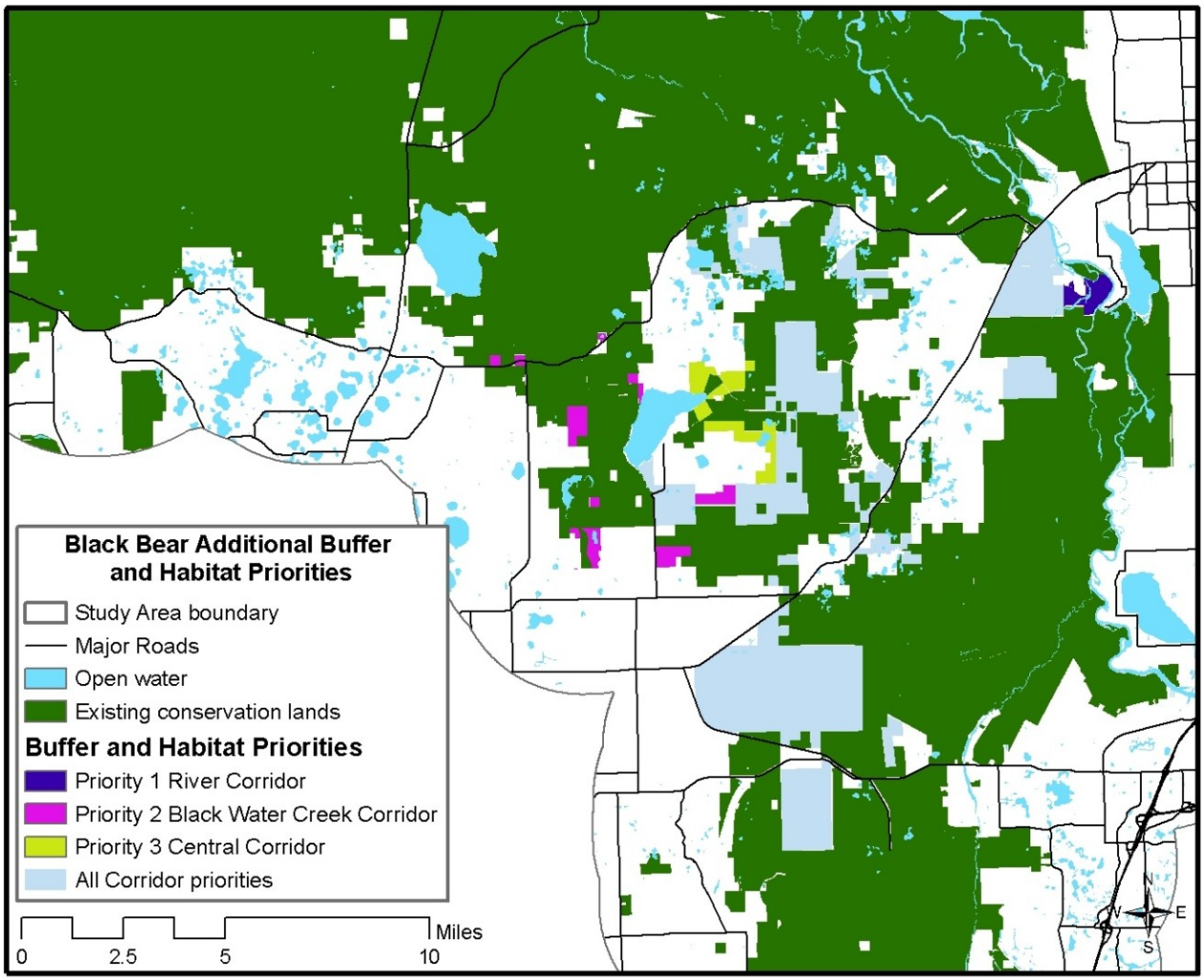

Figure 21. Additional buffer and habitat priorities for the Florida black bear with corridor priorities included to provide context

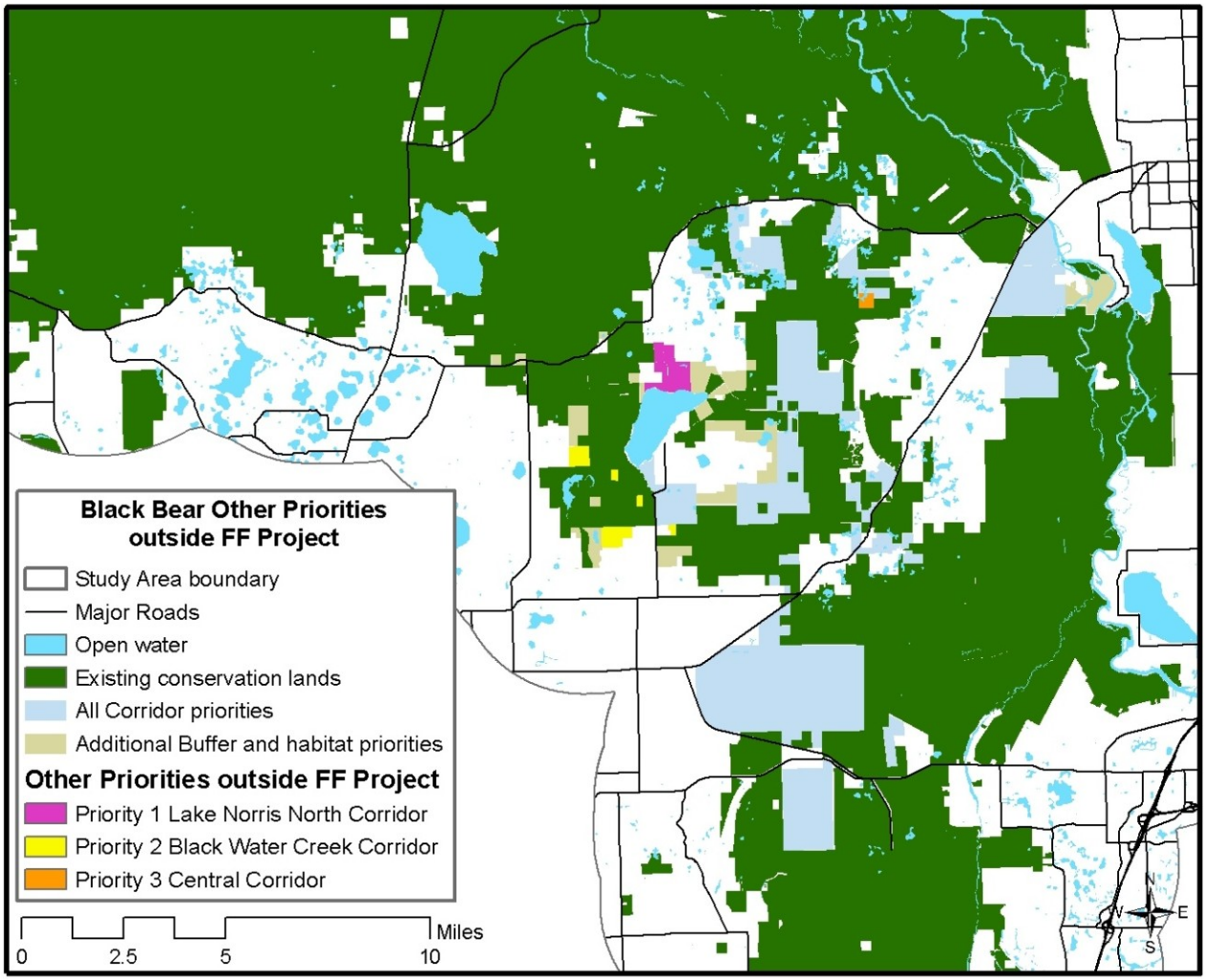

Figure 22. Additional priorities for the Florida black bear outside the Florida Forever Project with corridor priorities and additional buffer and habitat priorities within the Florida Forever Project included to provide context.

Table 1. Acres in Corridor Priorities

Priority	Acres
Priority 1 River Corridor	2,684
Priority 2 Black Water Creek Corridor	7,237
Priority 3 Central Corridor North	3,684
Priority 4 Central Corridor South	801
Priority 5 SR46 Corridor	2,010
Priority 6 SR44 Central Corridor	1,000

Table 2. Acres in Additional Buffers and Habitat Priorities

Priority	Acres
Priority 1 River Corridor	455
Priority 2 Black Water Creek Corridor	1,269
Priority 3 Central Corridor	1,177

Table 3. Acres in Other Priorities outside the Florida Forever Project

Priority	Acres
Priority 1 Lake Norris North Corridor	541
Priority 2 Black Water Creek Corridor	458
Priority 3 Central Corridor	91

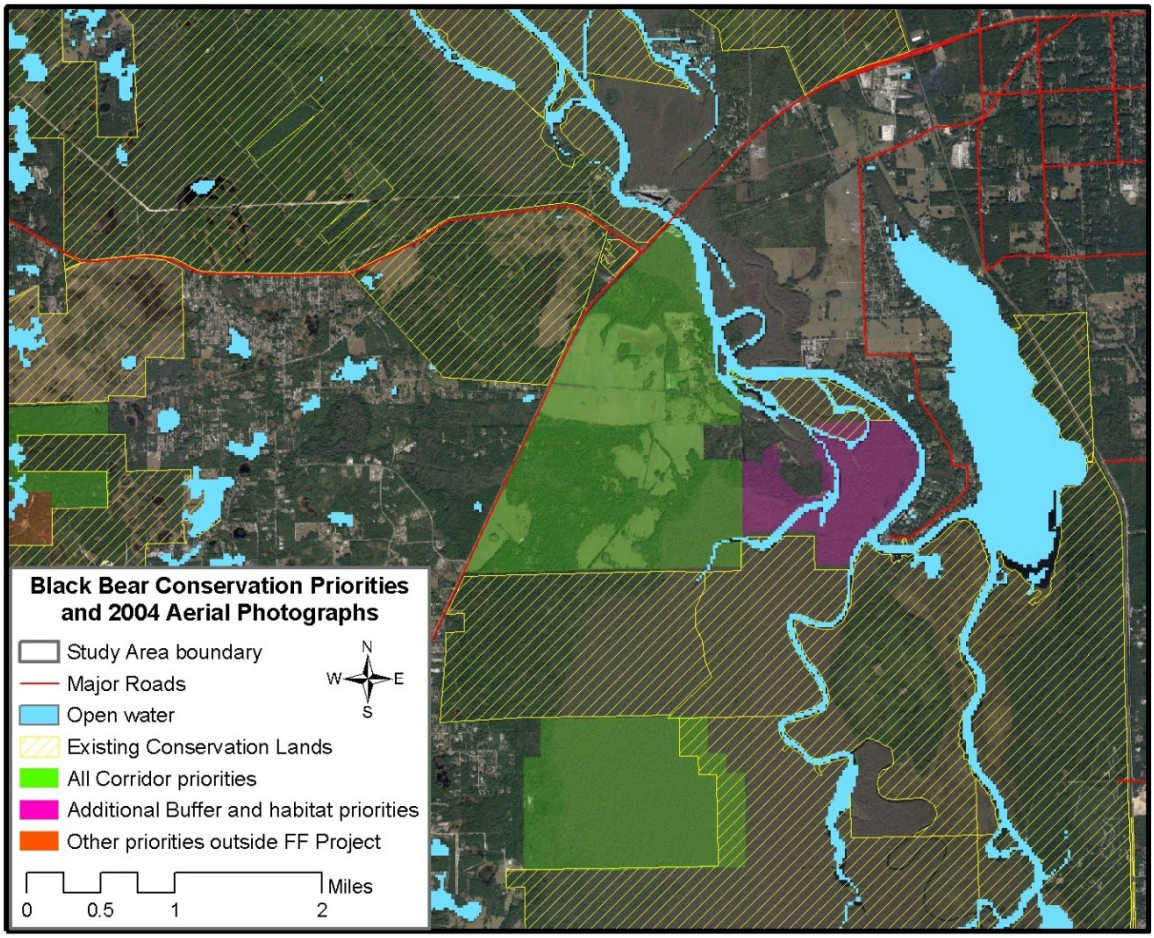

Figure 23. Aerial photograph of the River Corridor area

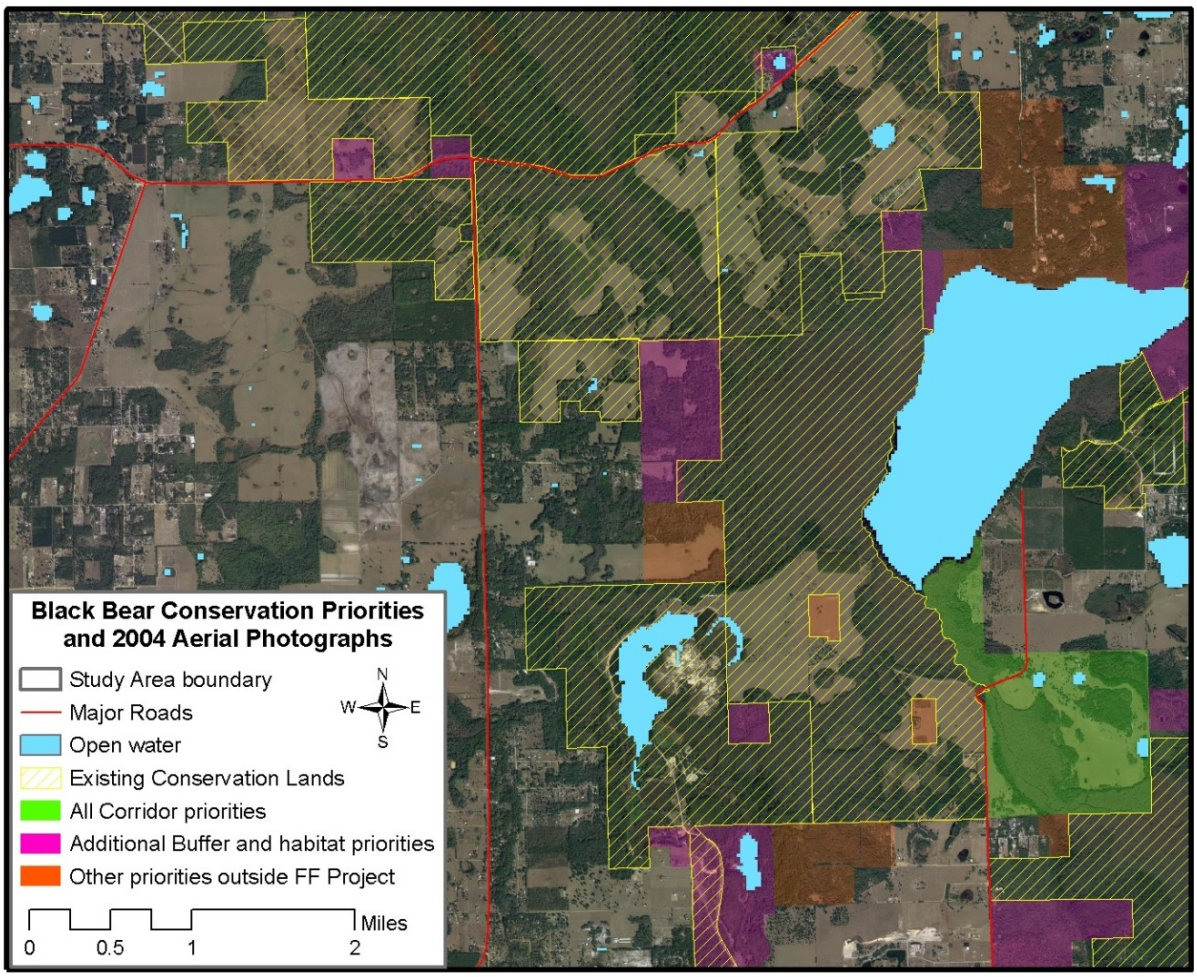

Figure 24. Aerial photograph of the north Black Water Creek Corridor area

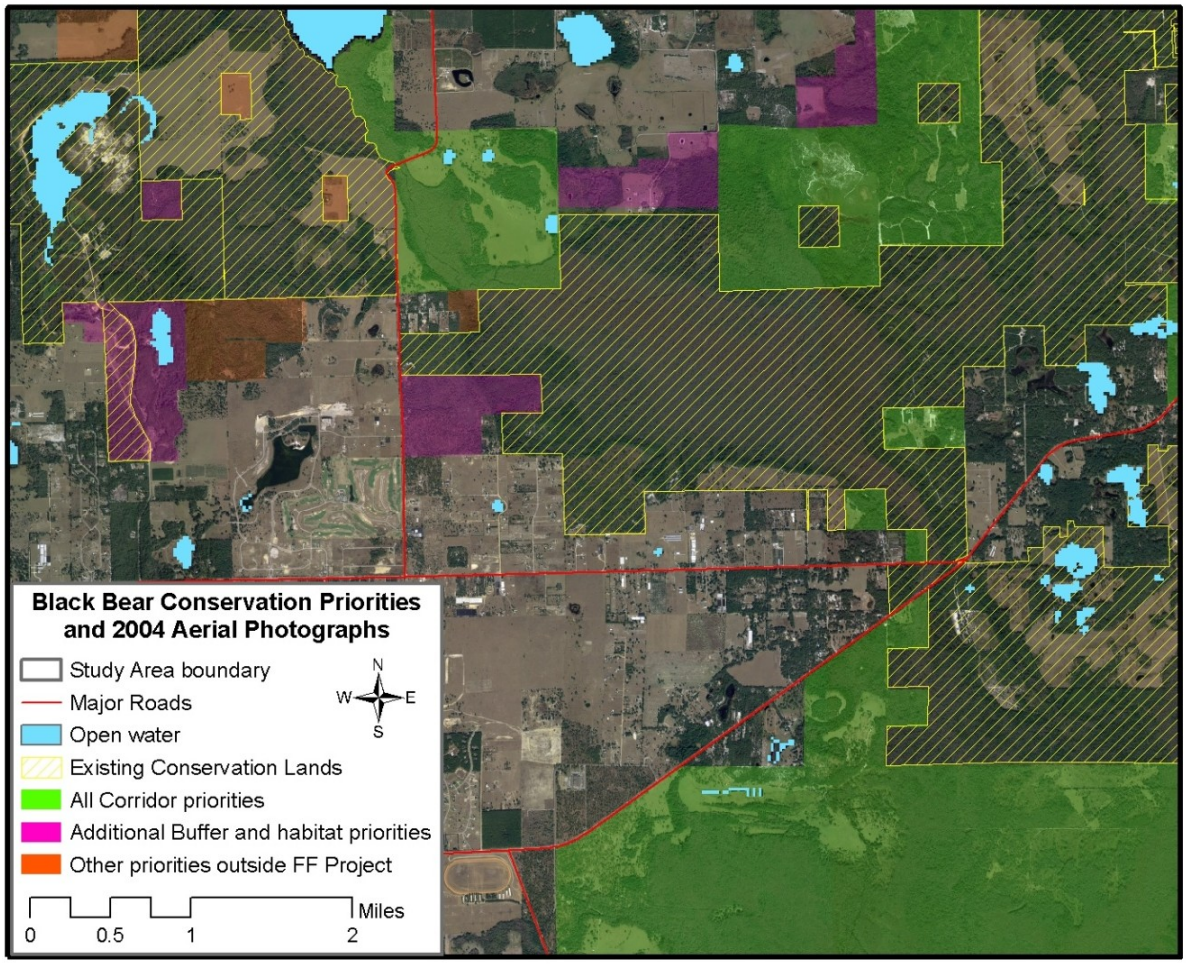

Figure 25. Aerial photograph of the central Black Water Creek Corridor area

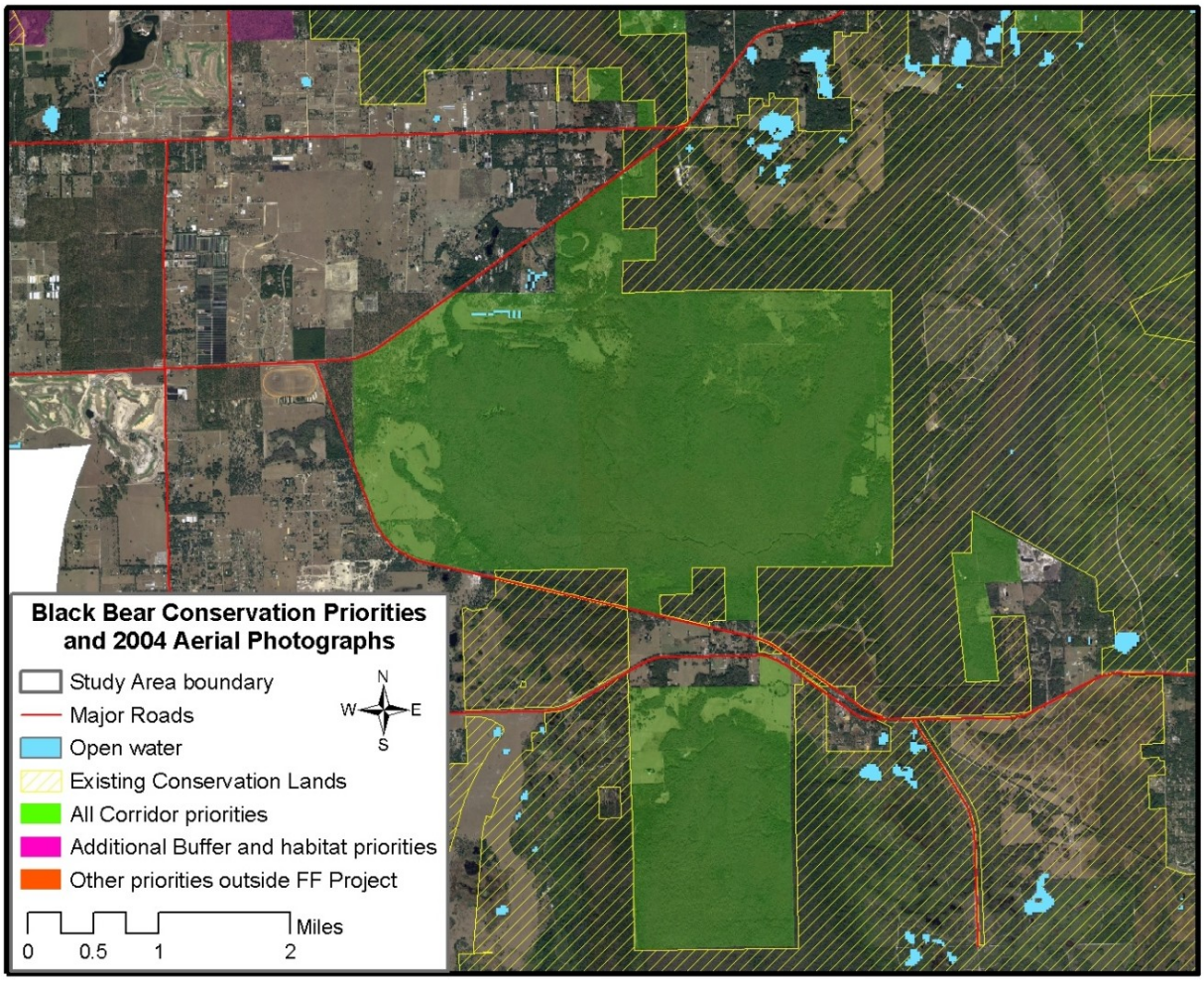

Figure 26. Aerial photograph of the south Black Water Creek Corridor and State Road 46 area

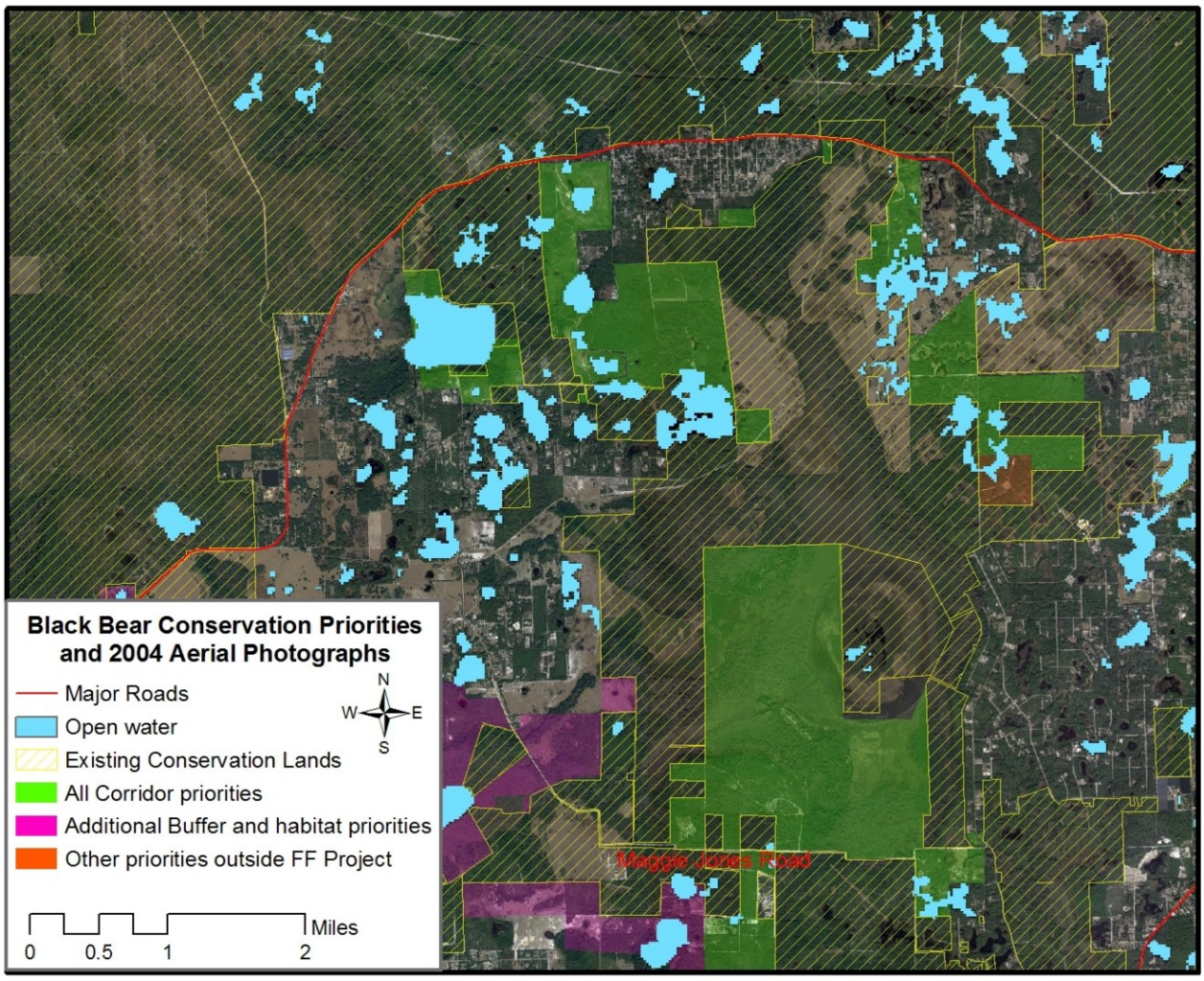

Figure 27. Aerial photograph of the north Central Corridor area, which includes the corridor priorities south of County Road 42 and then south to Maggie Jones Road.

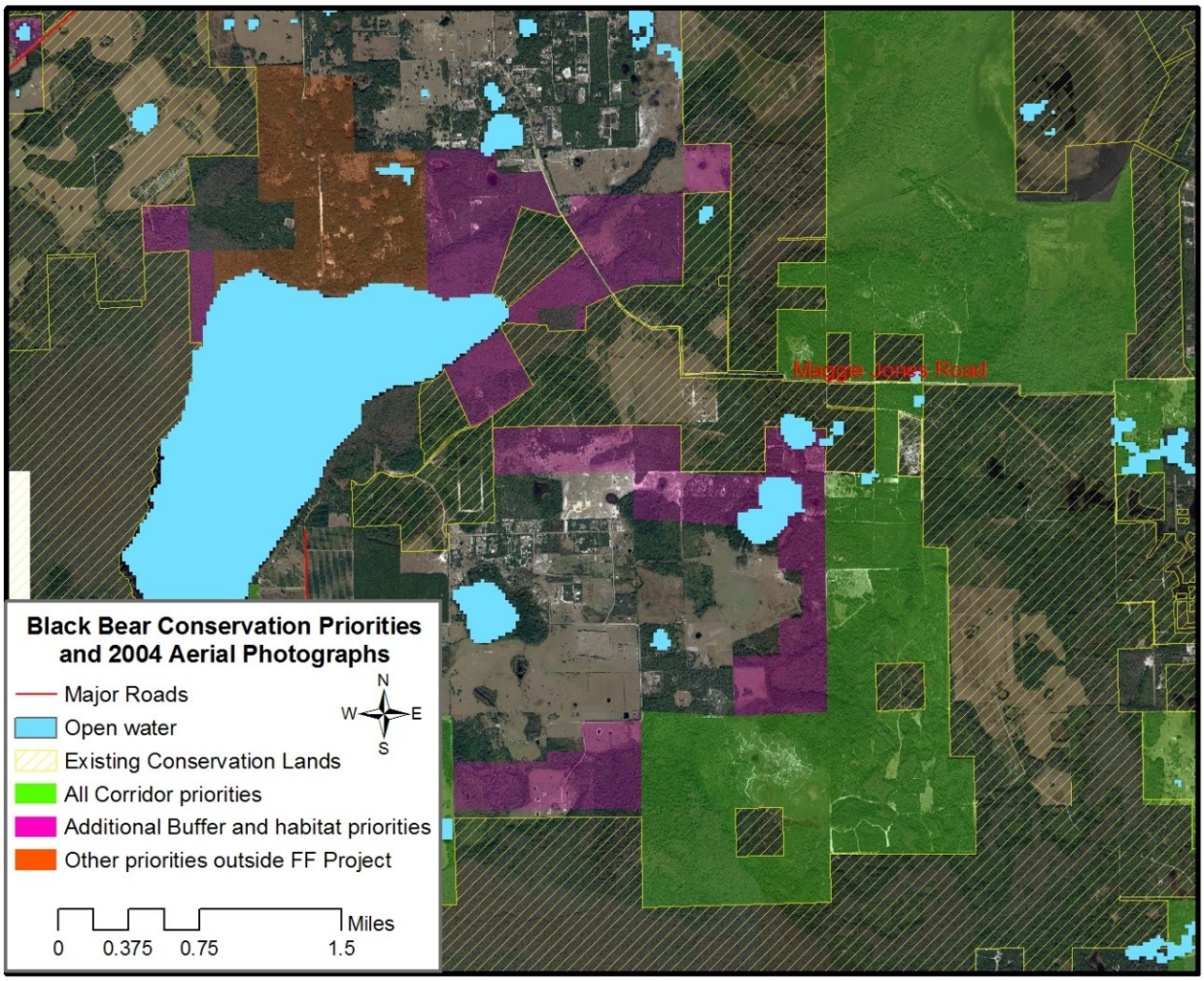

Figure 28. Aerial photograph of the south Central Corridor and Lake Norris Corridor areas. The south section of the Central Corridor includes the corridor priorities south of Maggie Jones Road and the additional buffer priorities directly adjacent to these corridor priorities. The Lake Norris Corridor priorities include the additional buffer and other priorities north and east of Lake Norris, which is the largest lake on the left/west side of the map.

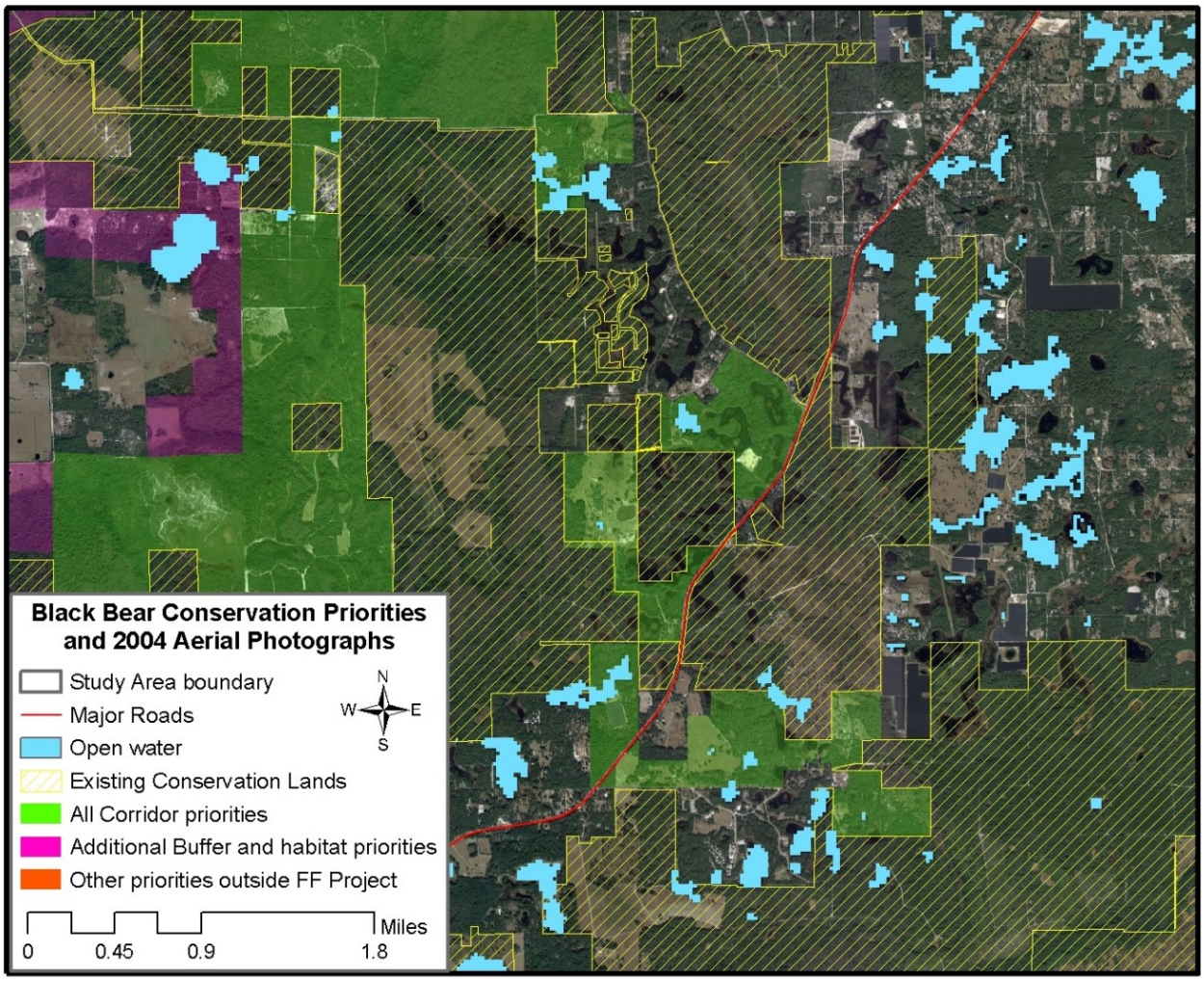

Figure 29. Aerial photograph of the Central-State Road 44 Corridor area. These priorities include corridor priorities adjacent to State Road 44 and in the vicinity of Royal Trail Road west of State Road 44.

E. Major Road Crossings Survey Results

For all of the results of the road crossing survey, please see Appendix B of this report. In this part of the report, we are including references from Appendix B (of this report) that describe the road crossings and mitigation recommendations most relevant to each of the identified corridor options. The references are organized by major corridor option and then by road. The field survey site numbers used in B (of this report) are available in Figure 30.

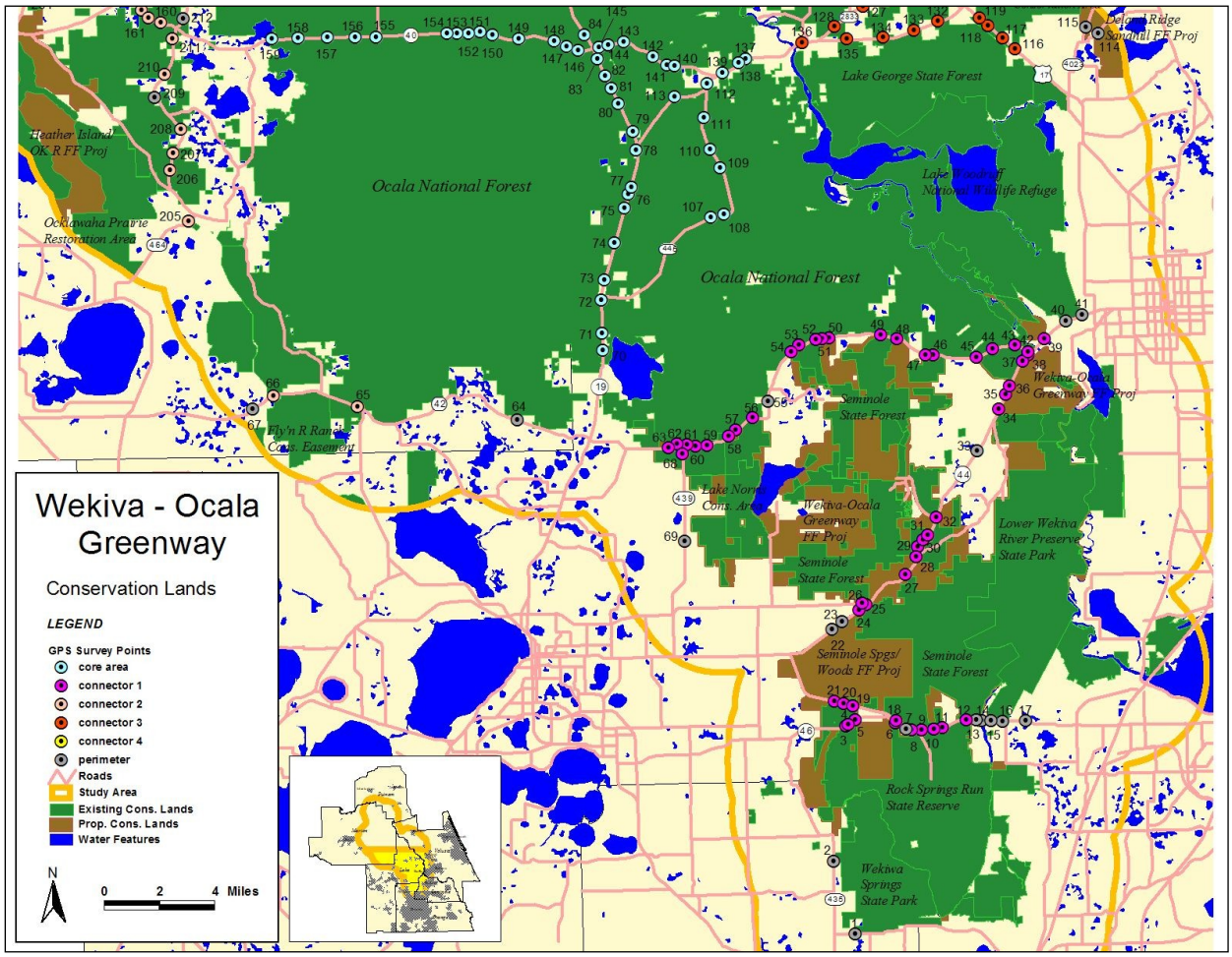

Figure 30. Road Crossing Field Site Reference Numbers

1) River Corridor-County Road 42

See page 25 of Appendix B (of this report) for the descriptions of the County Road 42 road crossing survey sites 43-45 that are relevant to the River Corridor.

2) River Corridor-State Road 44

See pages 23-25 of Appendix B (of this report) for the descriptions of the State Road 44 crossing survey sites 34-41 that are relevant to the River Corridor.

3) Black Water Creek Corridor-County Road 42

See pages 29-31 of Appendix B (of this report) for the descriptions of the County Road 42 crossing survey sites 56-63 and survey site 68 that are relevant to the Black Water Creek Corridor.

4) Black Water Creek Corridor-State Road 44 and County Road 44A

See page 26 of Appendix B (of this report) for the descriptions of the State Road 44 and County Road 44A crossing survey sites 24-26 that are relevant to the Black Water Creek Corridor.

5) Black Water Creek Corridor and River Corridor--State Road 46 and County Road 46A

See pages 14-18 of Appendix B (of this report) for the descriptions of the State Road 46 and County Road 46A crossing survey sites 3-6, 8-11, and 18-21 that are relevant to the Black Water Creek Corridor and the River Corridor. It should be noted that the discussion of these two roads in Appendix B (of this report) pertains only to current conditions. The planned Wekiva Parkway (Orlando Beltway) is intended to replace the existing configuration of these two roads with a limited-access facility, improved transportation capacity and providing significant opportunities for wildlife crossing.

6) Central Corridor--County Road 42

See pages 26-29 of Appendix B (of this report) for the descriptions of the State Road 42 crossing survey sites 46-54 that are relevant to the Central Corridor.

7) Central Corridor-State Road 44

See page 22 of Appendix B (of this report) for the descriptions of the State Road 44 crossing survey sites 27-32 that are relevant to the Central Corridor.

F. Florida Scrub-Jay Connectivity Analysis Results

Results from the Florida Scrub-Jay Analysis are contained in Appendix C of this report.

IV. DISCUSSION

A. Priority Corridor Recommendations

Both the various habitat models and Least Cost Path (LCP) analyses based on the habitat models suggest that there are still several major options for protecting connectivity between the black bear population in the Wekiva River basin and the Ocala National Forest. These major corridor options include: 1) a corridor following the west side of the St. Johns and Wekiva rivers on the eastern side of the study area; 2) a corridor following the Black Water Creek drainage on the western side of the study area; 3) and a central corridor following tracts of upland scrub and large wetlands from Ocala National Forest south to either meet the Black Water Creek corridor or upland crossings of State Road 44 east of Black Water Creek. There is one other secondary corridor option of note: a corridor crossing from the Black Water Creek corridor north of Lake Norris east to the central corridor. Based on habitat and LCP analysis all of these corridors appear potentially viable to support bear population connectivity.

The bad news is that development along the State Road 44 (SR 44) corridor already impacts all of these options. There are three potentially functional major corridor crossing opportunities across SR 44, and all are impacted by adjacent development that creates significant bottlenecks. Information on the minimum functional thresholds for black bear corridors are lacking. Orlando (2003) found that black bears in the Chassahowitzka area of Florida avoided major highways using habitat less frequently within 500 meters of such roads, and bears also used habitat within 300 meters of secondary roads less frequently. Recommended corridor widths for cougars (*Puma concolor*) should also be considered relevant to black bear corridor design. Beier (1995; 1996) recommended a width of greater than 100 meters for corridors shorter than 800 meters long and a width of greater than 400 meters for corridors from 1 to 8 kilometers long. All of the potential corridors appear to meet these minimum recommended characteristics, but two of the three corridor crossing options across SR 44 are within 300 to 500 meters of existing development, and the third is not much wider. This suggests that the SR 44 bottlenecks are near minimums in terms of recommended widths. Protecting additional parcels to complete protected linkages across SR 44 **AND** to maintain functional buffers from additional development is critical for maintaining connectivity between the conservation lands in the Wekiva River basin and the Ocala National Forest.

The SR 44 bottleneck is one of the primary factors we considered when selecting corridor priorities. We also considered habitat and LCP model results, the location of guiding features such as riparian corridors, and the potential ease of protecting a complete corridor based on number of parcels and/or acres. Based on these considerations we picked the following corridor priorities in order of importance (Figure 20):

1) Priority 1: St. Johns-Wekiva River Corridor

The River Corridor is the highest priority because it is a major riparian corridor, there are only two major gaps with only a few (though large) parcels, and it provides the best, widest crossing opportunity across SR 44. The only primary drawback is the presence of large areas of pasture in the northernmost gap southeast of the SR 44-CR 42 intersection (Figure 23). Restoration of flatwoods with good shrubby cover or other woodland would greatly enhance the potential functionality of this corridor. Bears can cross open agricultural lands as has been found in a GPS telemetry study of the Highlands-Glades black bear population in south-central Florida (Dave Maehr, unpublished data), but the Highlands-Glades bear GPS data also shows that bear movement usually follows patches and corridors of forest or shrub/scrub habitat. Targeted acquisition of Florida Forever property combined with bear habitat restoration and a large animal wildlife crossing to provide connectivity to existing state land located north of SR44, would secure a viable ecological corridor for bear and other wildlife over the long-term through this high priority area (Figure 31). Please also see pages 23-24 in Appendix B (of this report) for the recommendations for building a large animal crossing structure across SR 44 east of road survey site #36 to facilitate the use of this crossing by bears and other species. This is the most important proposed future road crossing structure to ensure functional connectivity between bear populations in Ocala National Forest and the Wekiva basin.

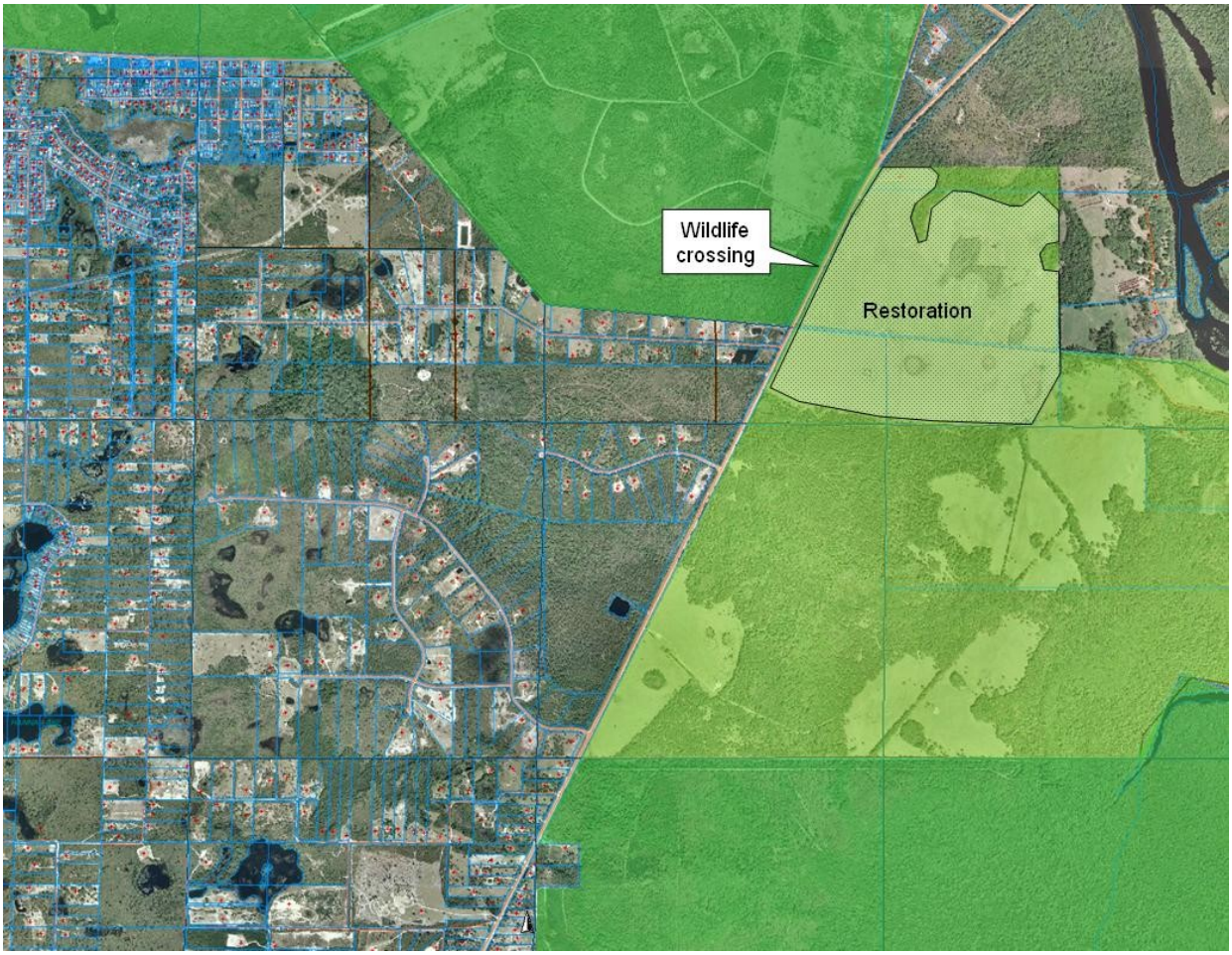

Figure 31. This figure depicts the highest protection and restoration priority within the Wekiva-Ocala Greenway Florida Forever (FF) project. Lands already in public ownership are in darker green whereas the lighter green depicts the private land within the FF project in need of protection. Restoration of the pasture land (depicted in light green and outlined in black) and construction of a large animal wildlife underpass on State Road 44 (similar to those on State Road 46) would significantly enhance the function of this corridor for black bear.

2) Priority 2: Black Water Creek Corridor

The Black Water Creek Corridor also has the advantage of a frequently wide riparian linkage (Figures 24-25). North-Northwest of SR 44 there is only one gap in public ownership and that could be protected through protection of an easement on one ranch (Blackwater Ranch; Figure 25). South of SR 44 there is already a complete connected set of conservation lands, though protection of the very large tract (Rodriguez) would greatly enhance the security and function of the Black Water Creek Corridor (Figure 26). The primary drawback of the Black Water Creek Corridor is the bottlenecks along Lake Norris Road and the SR 44 and CR 44A intersection (Figure 25). In both cases, the corridor is adjacent or near to existing residential development within 300 meters. At both bottlenecks, intact vegetation is limited to relatively narrow riparian wetlands. Protection of Blackwater Ranch, protection of other properties that can provide functional buffers for the riparian corridor, and avoidance of even more intensive development near the corridor are all essential. The nearby (and ironically named) Black Bear Reserve subdivision is an example of development that can not be allowed to encroach further on this corridor if its function for black bear is to be maintained.

The current bridge design at SR 44 is another important issue, which is discussed in detail on pages 21-22 in Appendix B of this report. One additional consideration for this corridor is that one larger parcel (Sunland Citrus) included east of Blackwater Ranch could either be kept as part of this corridor or considered part of the Central Corridor South discussed below. We included it here because it contains a large part of the Black Water Creek riparian wetlands and valuable adjacent upland habitat.

3) Priority 3: Central Corridor North

The Central Corridor has several important qualities: it includes large wetlands mixed with prime upland habitat and it has large protected tracts that likely provide functional bear habitat (which were used by bears in the Wekiva telemetry study in the early 1990s) (Figure 27). Its primary disadvantages are its greater complexity in regards to number of parcels that still need protection and total number of acres required to secure a functional linkage, and it does not provide a continuous riparian connection. In order to facilitate more refined prioritization, we decided to separate the Central Corridor into north and south sections. The north section is defined as the area north of Maggie Jones Road and the south section is south of Maggie Jones Road. We consider the north section to be more important because additional corridor protection is required there to secure this corridor and includes the various viable crossing locations along CR 42. We consider the parcels identified directly west and south of the Lake Kathryn subdivision and the parcels south of Fullerville Road to be the most critical to enhance connectivity across CR42. In addition, parcels in the vicinity of Lake Tracy and immediately north of Maggie Jones Road are necessary to extend this connectivity south across Maggie Jones Road to the Central Corridor south section.

It is important to note that we consider the Black Water Creek Corridor and the Central Corridor north section to be very close in priority. Both are significant, viable options. It is also important to note that these corridors merge north of CR 44A, and therefore the primary consideration may be whether the Blackwater Ranch is easier to protect further up the Black Water Creek Corridor or whether the primary gaps in the Central Corridor can be efficiently secured (though it includes more parcel owners).

4) Priority 4: Central Corridor South

The south section of the Central Corridor already includes a continuous swath of existing conservation lands but would be significantly enhanced through additional protection (Figure 28). The Central Corridor South priorities would significantly increase the width and, therefore, the potential function of the Central Corridor though it is not technically required to complete an existing conservation land connection. This area showed up as highly significant in various habitat models and was selected in various LCPs. It also provides more buffering for the Black Water Creek Corridor (Figure 25).

5) Priority 5: State Road 44 Central Connector

We consider this corridor option to also be important and efforts to protect it should continue. However, in comparison to the other options it has several critical issues: it does not include any wide riparian or wetland connections; potential connections across this portion of SR 44 are narrow and impacted by scattered and potentially increasing residential development; and various small parcels would need to be protected to secure minimally functional connections (Figure 29).

6) Priority 6: State Road 46 Corridor

There are already continuous protected conservation lands across several swaths of SR 46. However, the parcels identified in this corridor would help enhance the potential function of this linkage in combination with priority corridors to the north, and would provide additional habitat and buffering from existing development along the road (Figure 26). The large parcel located south of SR46 in Figure 26 was recently designated as a mitigation bank (Wekiva Mitigation Bank), pursuant to the Wekiva Parkway and Protection Act. This action should ensure its long-term protection and provide for habitat restoration that will enhance its value within the corridor.

B. Land Use, Buffer, and Other Design Recommendations

The current mix of land use in the Wekiva corridor study area includes large tracts of natural and semi-natural wetlands and uplands, agricultural land that is primarily pasture and some groves, and scattered low-density residential development. However, low density "infill" development is occurring within existing platted areas and denser residential and commercial development is spreading eastward and northward along major transportation corridors such as SR 44 and CR 44A.

Unpublished data for the Highlands-Glades GPS telemetry project suggests that black bears can functionally integrate agricultural landscapes containing sufficient forest and other appropriate habitat into home ranges and dispersal movements. The mix of agricultural lands in the Highlands-Glades study area is similar with more citrus mixed with large tracts of pasture land. Human population densities are low in these agricultural landscapes. However, bear in the Highlands County area do encounter low to medium density residential development in scattered developments within remnant tracts of scrub on and near the southern part of the Lake Wales Ridge. Some bears do use habitat near these developments and occasionally cross through low density development (Dave Maehr, unpublished data).

Therefore, if sufficient habitat corridors can be protected in the Wekiva River basin, the current matrix of mixed agriculture and low density residential is likely sufficient for maintaining functional habitat and a healthy bear population. Increasing human population density results in at least three primary risk factors: the greater chance of negative edge effects or other disturbances associated with human activity that could degrade habitat and corridor quality and

function; greater likelihood of direct negative human-bear interactions that would likely increase bear mortality; and increase in vehicle traffic on already over-crowded roads that would likely results in increased bear roadkills and decreased bear movement across roads reducing or curtailing connectivity.

Our first recommendation is to consider protecting the additional habitat and buffers proposed for protection in our other conservation priorities identified both within and outside the Florida Forever Project boundary (See Figures 21 and 22). These proposals would increase the effective buffering of the various priority corridors discussed above. The second obvious recommendation is the avoidance of increasing human population densities within the study areas and especially near or between the various corridor options. In some places such as Royal Trails near the State Road 44-Central Corridor additional low density residential development is likely unavoidable given current zoning and trends. However, it is essential that increased overall development densities not be allowed. One partial exception to this recommendation is the use of clustering to strategically protect bear habitat and buffers within the study area. Clustering done appropriately can protect relatively large blocks of habitat, corridor, or buffers and is preferably to typical rural 1 to 5 acre lot development patterns. However, within the study area, it would not be appropriate to use increased densities as an incentive for clustering because of the potential for greater traffic and human-bear interactions.

Comprehensive plan policies and programs in Lake County that would encourage the retention of low-impact ecologically compatible agriculture that supports habitat connectivity such as ranch and pasture lands and citrus would also be extremely helpful. Low intensity agricultural lands are clearly a superior alternative to residential or other forms of intensive development and they can provide buffers, corridors, and even habitat for bears. The use of conservation easements is also an important option to consider for protecting some of our recommended priority parcels.

Based on the analyses included in this report, it should be obvious that there is still a great opportunity to protect functional wildlife corridors between the Wekiva River basin and the Ocala National Forest. Conservation organizations need to work closely with Lake County, the Florida Department of Environmental Protection, the St Johns River Water Management District, the Florida Department of Transportation, key private land owners, and other relevant entities to ensure that this opportunity is not lost in the near future.

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Appendix A: Euclidean Distance Analysis of Habitat Use of Black Bears in the Greater Ocala (Wekiva Area), Florida

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Summary

I determined habitat use of 72 (40 F 32 M) adult black bears from radio-telemetry locations (n = 6839; 93% diurnal) collected from 28 May 1999 thru 25 June 2003. A Euclidean distance-based analysis was used to determine habitat use for this bear population using both 2003 and 2004 landcover data. I also determined whether bears avoided major roads in the Wekiva project area. Bears selected forested and non-forested wetlands in both habitat analyses, and shrub, upland hardwoods, xeric uplands, and pine flatwoods in one analysis. Bears avoided urban areas in one habitat analysis and were found closer than expected to major roads.

Data Collection

Black bear vhf radio-telemetry data was collected opportunistically using ground and aerial from 28 May 1999 thru 25 June 2003. I excluded from the data individual bears with < 30 locations to meet the minimum recommended sampling requirements for generating kernel home ranges (Seaman et al. 1999). The resultant data set totaled 6,839 locations of 72 (40 F 32 M) adult black bears, 93% of which were collected during diurnal hours (0700-1900).

Data Analysis

I matched bear telemetry data to 2 landcover maps (2003 and 2004). The 2003 map was developed by FWC using Enhanced Landsat Thematic Mapper Satellite data collected in 2003, contained 43 land cover and vegetation classes (26 natural and semi-natural, 16 human disturbance-related, and 1 open water), and had a pixel size of 30 m. I reclassified digital landcover data into 9 general habitat types that included urban, agriculture, dry prairie-grassland, shrub-brushland, xeric upland and scrub, open wetland, forested wetland, upland hardwood forest, and pinelands. The 2004 landcover data categories differed from the 2003 FWS coverage and therefore weren't directly comparable. The 2004 landcover was reclassified into 10 general cover types that included urban-barren, agriculture, scrubland-natural herbaceous-prairie, early successional forest, xeric uplands (oak and pine), pine plantations, pine flatwoods, mixed hardwoods-upland hardwoods, forested wetlands, and non-forested (open) wetlands.

I estimated third order (selection within home range) habitat selection following Johnson (1980). Biotas 1.03a (Ecological Software Solutions, Urnäsch, Switzerland) was used to generate a 95% fixed kernel home range for each bear. I used the random point generator in the Animal Movement Extension to create 200 random locations within each bear home range. I then used the Nearest Feature Extension to calculate the Euclidean distance (m) of each random point and bear

location to the nearest polygon of each land cover class. To determine third order habitat selection, I created 9 (2003 landcover data) or 10 (2004 landcover data) distance ratios for each bear by first calculating an average distance of bear locations to each habitat, and then dividing it by the average distances from random locations within each individual home range.

I performed statistical analyses using SAS software and considered statistical significance at $\alpha \leq 0.05$. A multivariate analysis of variance (MANOVA) was used to test the hypothesis that overall habitat selection did not differ from random with sex as a main effects and individual bears as the experimental unit. If the MANOVA was significant, univariate t-tests were used to determine which habitats were used disproportionately. Habitat types with distance ratios significantly < 1 were preferred, and those significantly > 1 were avoided. Habitat types were ranked by performing pairwise mean comparisons using univariate t-tests.

To assess whether black bears in the Ocala population were avoiding major roads, I determined the Euclidean distance of bear locations and that of said random locations within each bear home range to major road boundaries. T-tests were performed to determine if bears differed in distance to major roads by sex or compared with random points.

RESULTS

Sex did not affect 3rd order habitat selection by black bears when using either landcover map, therefore sexes were pooled for both analyses. Using the 2003 landcover map, bears were found to select habitat within their home range. Bears selected forested wetlands, followed equally by non-forested wetlands and upland hardwoods (Table 1). Bears were found at expected distances to other habitat types except urban areas which they avoided. Using the 2004 landcover map, bears were found to select habitats within their home range. Bears equally selected forested wetlands and xeric uplands, followed by open wetlands, pine flatwoods, and scrub-prairie-herbaceous. In contrast to the 2003 analysis, bears did not avoid urban areas. Bears were found at expected distances to other habitat types.

Sex did not affect distance of bears to major roads ($t = -1.016$, $P = 0.313$), however, bears were found closer than expected to roads ($t = -4.03$, $P < 0.001$). Mean distance of bears to major roads was 2.16 km.

Results from habitat analyses could be used to construct a coarse habitat suitability map for bears in the Wekiva area by reclassifying existing cover types using the 2004 landcover data. Although this map would indicate the location of selected habitats, it would not consider the influence of patch size or their landscape context. Since forested wetlands and non-forested wetlands appeared to be strongly selected in both the 2003 and 2004 analyses, these should be given the highest conservation priority. Forested wetlands appear important to most major subpopulations of bears in Florida (Maehr et al. 2001). Xeric uplands, pine flatwoods, and scrub-prairie-natural herbaceous were each selected in 1 of 2 habitat analyses and could be assigned high priority. Although early successional forest, mixed forest (including upland hardwoods) were not selected, bears are known to use these habitats, and therefore lands dominated by these cover types could be assigned a medium conservation priority. Although a forest cover type, pine plantations were not selected by bears. This is perhaps not surprising given the low understory and herbaceous plant layer diversity often found in these habitats. Agriculture lands should be given the lowest priority since they typically serve only as a medium-high cost movement matrix. Urban areas were avoided by bears in the 2003 analysis and therefore should receive no

conservation priority despite the fact that bears often obtain substantial caloric reward from residential dumpsters.

Table 1. Johnson's 3rd order habitat selection by black bears in the Ocala Region of Florida, 1999-2003. Bold indicates a Euclidean ratio significantly different than 1.00 and implies habitat selection. A > indicates no difference and >> indicates a difference in use between adjacent habitats at $P < 0.05$.

Landcover Data	Habitat Rankings
2003	**FWET** >> **NFWT** > **UPHW** > XERC > PINE > DRPR > AGRI > SHRB > **URBN**
	0.798 0.891 0.931 0.940 0.968 0.991 1.012 1.080 1.047
2004	**FWET** > **XERC** > **NFWT** > **PFLT** > **SHRB** > ESFO > URBN > PPLT > MIXF > AGRI
	0.779 0.858 0.881 0.886 0.908 0.956 0.956 0.974 0.975 0.992

[a]FWET – forested wetlands, NFWT – non-forested wetlands, UPHW – upland hardwoods, XERC – xeric uplands, PINE – pinelands, DRPR – dry-prairie, AGRI – agriculture, SHRB – shrublands, URBN – urban-barren

[b]FWET – forested wetlands, XERC – xeric uplands, NFWT – non-forested wetlands, PFLT – pine flatwoods, SHRB – shrubland-prairie-natural herbaceous, ESFO – early successional forest, URBN – urban-barren, PPLT – pine plantations, MIXF – mixed forest-upland hardwoods, AGRI – agriculture

Appendix B: Wekiva – Ocala Corridor Project - Impacts of Roads on Landscape Connectivity

Research Report

Produced and Written by

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May 2008

APPENDIX A – FLORIDA BLACK BEAR MODEL DESCRIPTION A1
APPENDIX B – HIGHWAY HOTSPOTS PRIORITIES MODEL METHODOLOGY B1
APPENDIX C – FIELD SITE SURVEY RESULTS C1
APPENDIX D – FIELD PHOTOGRAPHS ..... N/A

Wekiva – Ocala Corridor Project

Impacts of Roads on Landscape Connectivity

This study was conducted to help identify the best potential corridors for black bears between Ocala National Forest (Ocala NF) and protected lands along the Wekiva River. One element of the project was to survey potential road crossings within this area using results of black bear habitat and highway hotspots models. The following report describes the methods used in the analysis and results of the survey including potential issues and opportunities regarding road crossings and best potential black bear corridors based on road crossings, and recommendations for maximizing landscape connectivity across roads in the study area.

Introduction

All plans to establish an integrated system of habitat linkages must contend with an ever increasing network of roads and traffic that jeopardize successful wildlife dispersal. From 2000 to 2006, traffic on major state and federal roads within the study area increased by 31% (496,587 AADT, excludes I-4 and SR 417). Collisions between vehicles and black bears on the same roads have also increased (32-2000, 41-2006).

Roads have proven to be impediments to movement for many rare or at-risk species of wildlife in the study area, e.g., Florida black bear, Sherman's fox squirrel, gopher tortoise, eastern indigo snake (Smith and Voigt 2005, Smith 2003a). Generally roads are considered a major element contributing to severe fragmentation of critical habitat areas in Florida.

Increased road widths and traffic will result in more road-kills of some species and greater aversion to crossing of the road by others (thus increased habitat fragmentation and population subdivision) (Seiler 2003). Strategically placed crossing structures can partially offset these effects by increasing permeability of the road for wildlife (Smith 2003a). Certain existing cross-drainage conveyances (culverts and bridges) along these road segments may also provide opportunities for wildlife movement under the roadways. In most cases, however, existing drainage structures are designed primarily as flow-ways and as such are not commonly available for use by terrestrial organisms.

The objective of this research was to address potential wildlife crossing structure needs by performing field surveys based on modeling efforts that identified important Florida black bear habitat and ecological hotspots on roads. Results of these models predict locations that possess a high probability for wildlife presence and movement activity and therefore, potential road crossings by animals. The analysis also considers opportunities for habitat restoration to enhance wildlife movement and connectivity across public conservation lands and targeted Florida Forever acquisition lands. Data collected from site surveys can be used to verify model results and provide information to base recommendations on for road mitigation to retain or improve functional habitat connectivity.

Study Area and Methods

Study Area

The entire study area consists of approximately 1561 mi^2 and includes 5985 mi of roads (fig. 1) for an overall road density of 3.8 mi/mi^2. As a comparison, the cities of Daytona Beach, Deland, Ocala, Orlando and Sanford average 10.9 mi/mi^2. It is important to note that 2,973 mi (50 %) of the total road length in the study area consists of unpaved roads and jeep trails.

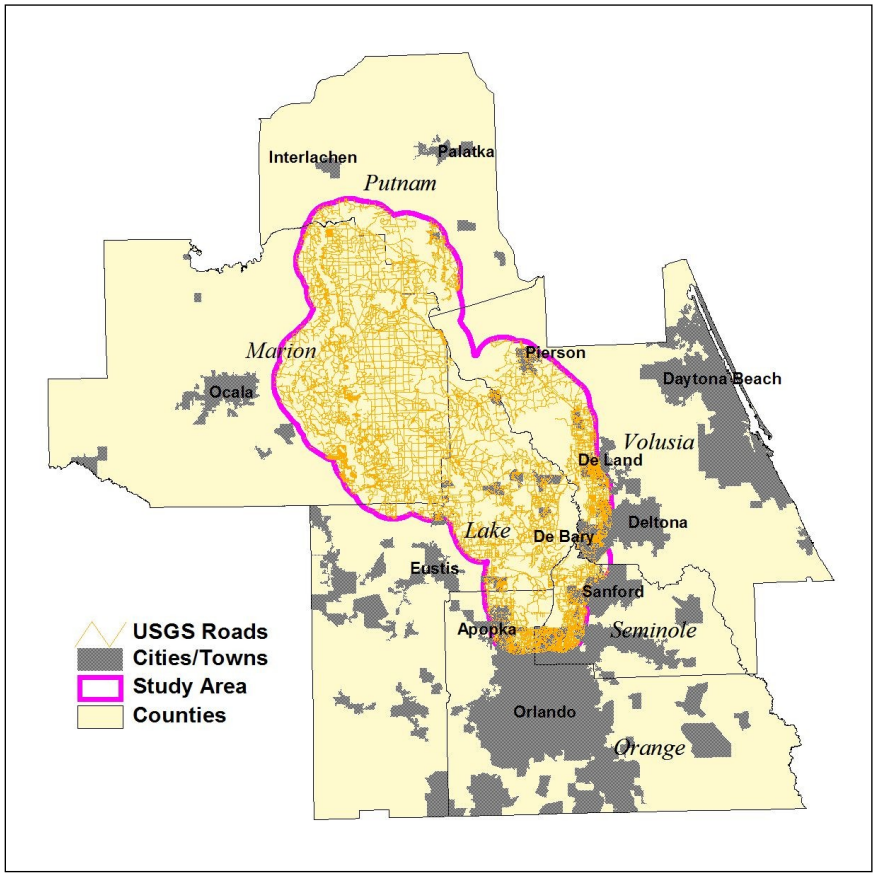

Figure 1. Roads within the Wekiva – Ocala Corridor Project area.

Roads within the study area comprise five different USGS classes (corresponding FDOT categories in parentheses). Class one includes primary routes (principal and minor arterial roads), class two includes secondary routes (major and minor collector roads), class 3 includes tertiary routes and paved neighborhood streets (local roads), class 4 includes unpaved rural roads, and class 5 includes unpaved forest roads and jeep trails.

There are about 586,617 ac of existing conservation lands and 52,814 ac of proposed conservation lands within the study area (fig. 2). Of the roads present in the study area, 2,969 mi (2,236 mi or 75% of these roads are unpaved roads or jeep trails) occur in conservation lands.

Major conservation areas in the study area affected by roads include Ocala National Forest (NF), Wekiwa Springs/Rock Springs Run Preserve State Parks (SP), and Seminole State Forest (SF).

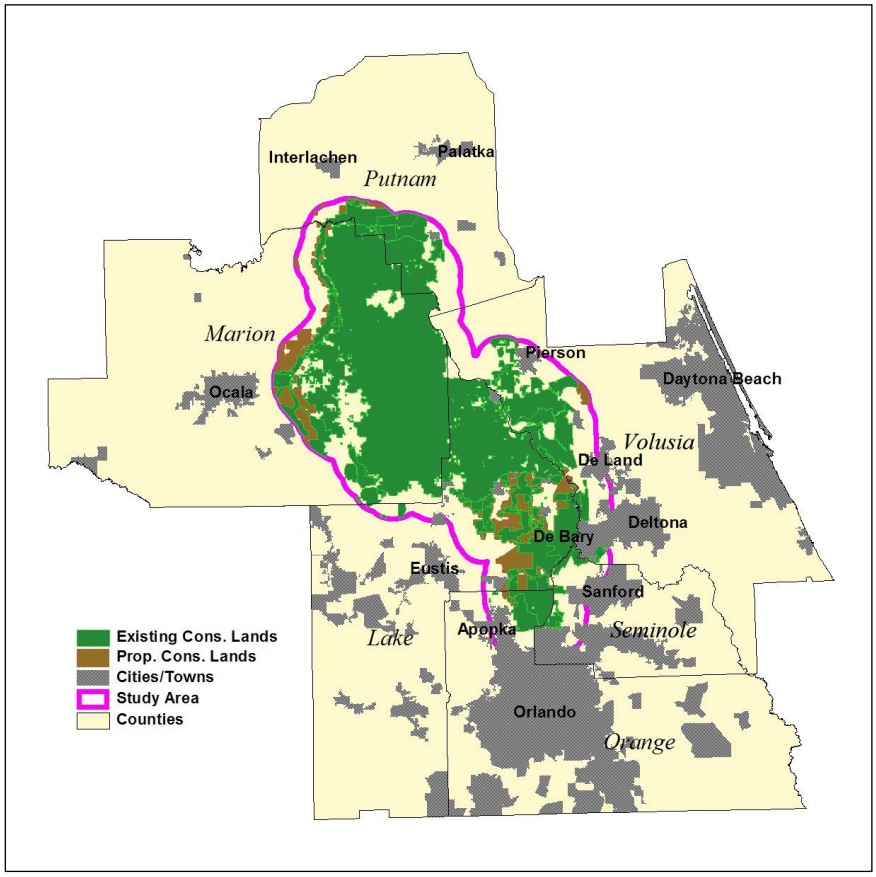

Figure 2. Conservation lands within the Wekiva – Ocala Corridor Project area.

The population of black bears in the greater Ocala NF area has been estimated at 138 individuals, 55 female, 83 male (McCown et al. 2004). Home range estimates for males and females were 36.3 mi^2 and 7.7 mi^2, respectively. Because bears are large, wide-ranging mammals that travel substantial distances in search of food and mates, they often encounter roads, even in large conservation areas such as Ocala NF. As such, collisions with vehicles have become a significant conservation and transportation safety issue. The Florida Fish and Wildlife Conservation Commission (FWC) have tracked road-related mortality since 1976. For the study area, 674 black bear deaths were recorded between 1979 and 2006 (FWC data); 62 occurred in 2006. Most of these deaths (90%) have occurred on major traffic thoroughfares.

Methods

For this project the focus was on those roads that have the greatest adverse impact on wildlife movement and habitat connectivity, posted state- and county-maintained arterial highways and collector roads (all class one and two roads and certain class three roads). We selected those

sections of these roads found within bear habitat areas identified by the bear habitat model (fig. 3). This amounts to an approximate total road length of 343 mi for the study area.

Models on bear habitat and roads. Four primary habitat/landscape variables (natural community type, patch size, distance from primary habitat patches, and connectivity to large habitat patches) were used to identify important habitat for the Florida black bear. The methodology used for the Florida black bear habitat model is presented in Appendix A.

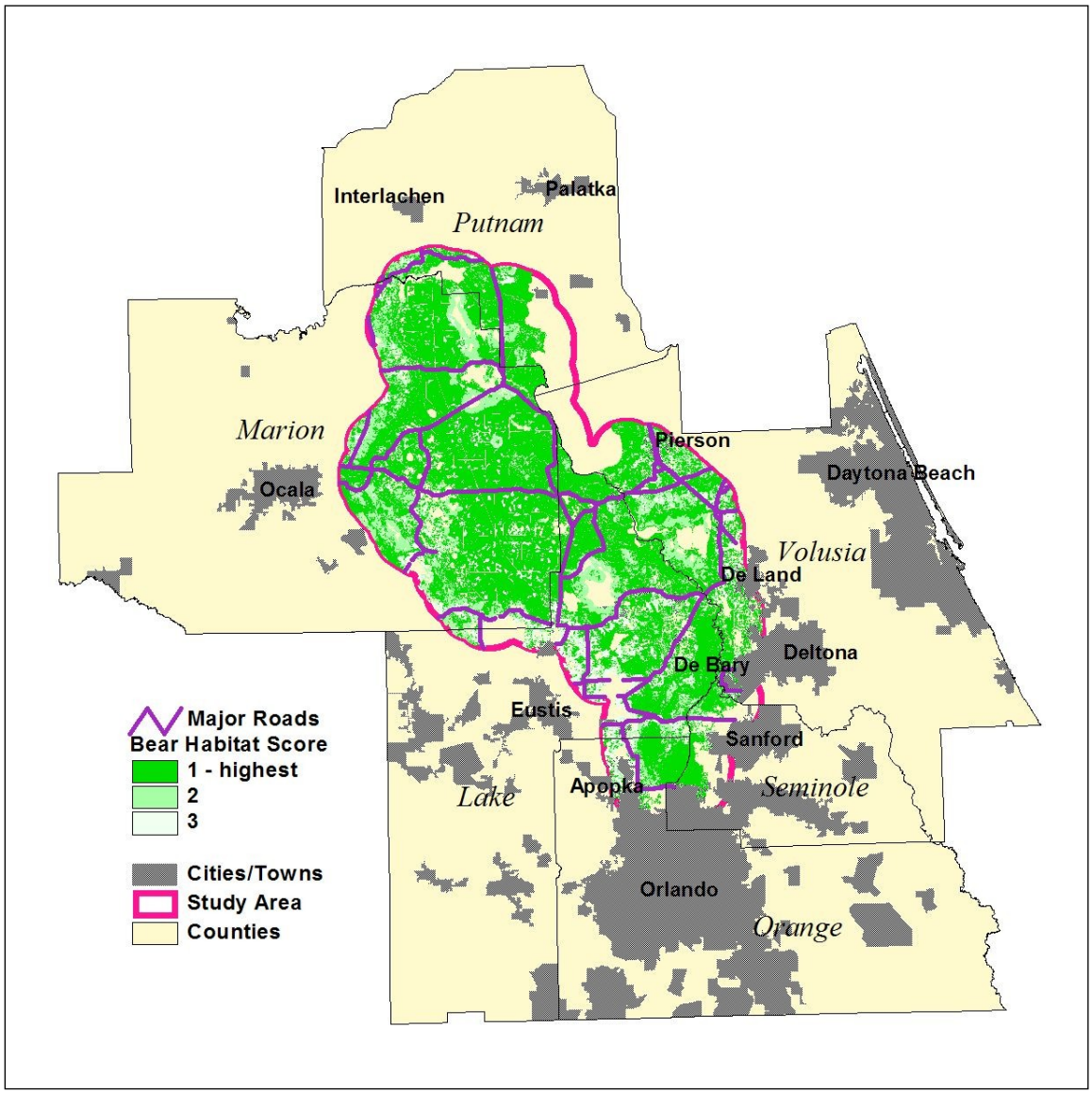

Figure 3. Bear habitat quality and targeted major roads within the Wekiva – Ocala Corridor Project area.

Multiple factors (e.g., chronic road-kill sites, focal species hotspots, greenway linkages, strategic habitat conservation areas, riparian corridors, existing conservation lands, and proposed road projects) were used to identify and prioritize ecological hotspots on the targeted roads within the study area. The methodology applied to construct the "highway hotspots" data-layer uses a weighting algorithm to create an aggregate dataset that targets areas with the greatest negative, cumulative, ecological impacts (Appendix B). Prioritized road segments are shown in Figures 4 and 5; darkest red areas represent the highest priorities.

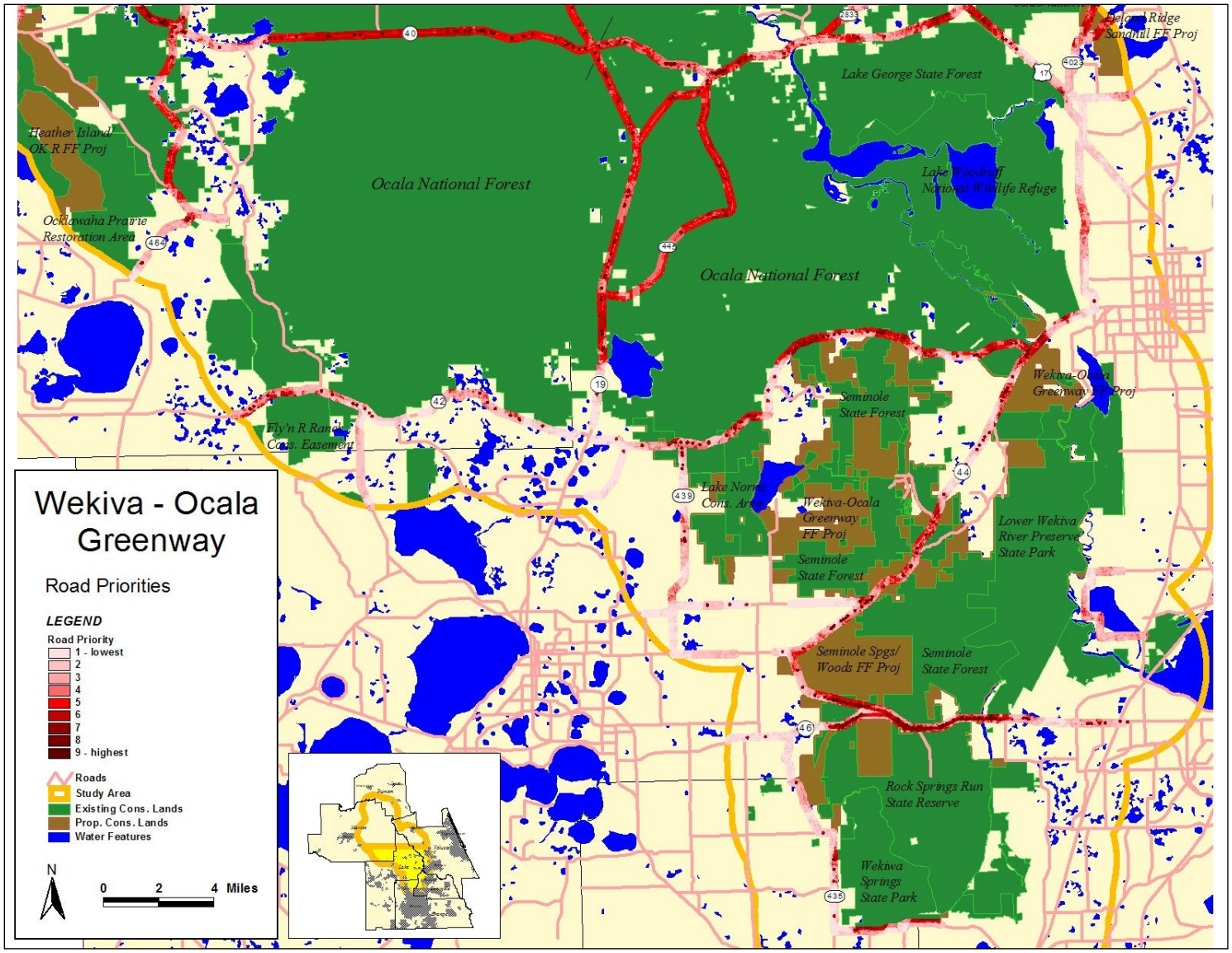

Figure 4. Ecological hotspots on major roads in southern section of Wekiva – Ocala Project study area.

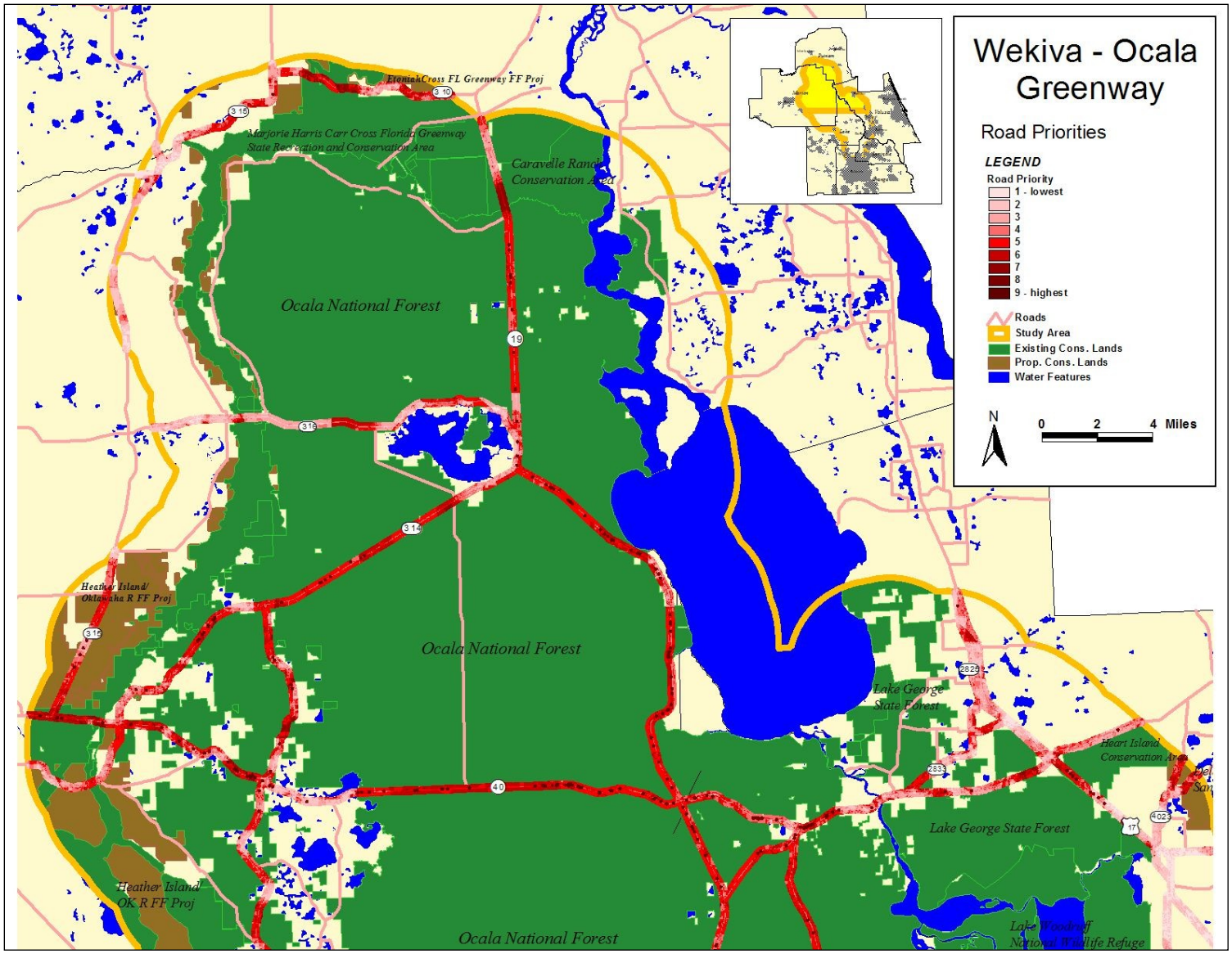

Figure 5. Ecological hotspots on major roads in northern section of Wekiva – Ocala Project study area.

Field surveys. Site surveys were performed on road segments within identified important black bear habitat that also received high scores in the "highway hotspots" model and/or included multiple black bear – vehicle collisions. Field sites were divided into three categories: those on roads affecting habitat linkages, those on interior or core area roads, and those on perimeter road segments. The main focus for the survey was on roads within the primary linkages connecting Wekiwa Springs SP to Ocala NF, but information collected regarding certain interior and perimeter road segments in the study area is also presented in this report.

Map coordinates of each of the proposed survey sites was derived using GIS and used to find each location on a GPS unit in the field. Data recorded for each site surveyed included information on location (map coordinates in decimal degrees, general location, FDOT district, and County), road characteristics (route number, road type, speed limit, traffic volume or AADT, number of lanes, lane width, right-of-way width, drainage structures present, and structure dimensions), and landscape/habitat characteristics (site description, animal signs/road-kills, significant conservation feature, and FWC habitat types).

Based on field data collected as well as GIS data and aerial photographs for each location, an assessment was performed to estimate permeability of the road and severity of various road/development impacts. Landscape context was examined to determine relative value of each site as a habitat linkage. Finally, recommendations were provided with regard to potential mitigation including wildlife crossings, fencing, passive road restrictions or other retrofits needed, if any.

Results and Discussion

Based on modeling results (figs. 4 and 5), 216 total field sites were identified on all targeted county, state and federal roads. Location of field sites is shown with public lands as a backdrop in Figures 6 and 7, and with black bear habitat model results as a backdrop in Figures 8 and 9. Field sites are categorized as either core area sites, perimeter sites, or one of four different landscape connector sites. Connector sites include: 1) Wekiwa Springs SP/Seminole SF to Ocala NF, 2) Ocklawaha River/Heather Island area to Ocala NF, 3) Lake George SF/Heart Island area to Ocala NF, and 4) Etonia Creek/Orange Creek area to Ocala NF. Core area sites are associated with the central portion of Ocala NF. Perimeter sites represent road segments where wildlife likely will be adversely affected by edge effects associated with human development activities.

For this project, field surveys were only performed on SR 46, CR 46a, SR 44, CR 44a, CR 42, and CR 439 (survey point #s 3 – 63, and 68). These roads bisect the primary connection between Wekiva R. Basin conservation lands and Ocala NF. Previously collected data from field sites on SR 19, SR 40, and US 17 from another study is included here as supplemental information. Time and resources did not allow for field surveys of all the other locations identified. Even so, it is recommended that these locations be investigated in advance of any road construction projects to determine in more detail what mitigation may be necessary to improve permeability of each roadway. General summaries and considerations for remaining core area, perimeter and

landscape connections are provided as potential measures that would increase connectivity within core habitat areas of Ocala NF as well as connections to surrounding conservation areas.

Some of the recommendations presented below call for speed limit reductions. Inherent to the success of such a measure undoubtedly is enforcement to make sure that drivers adhere to them. Drivers innately will drive faster on rural roads without the necessary enforcement; the cost of additional manpower to enforce speed limit restrictions can be significant. Given the amount of conservation lands, we suggest that to help pay for the enforcement, ticket revenues be dedicated to law enforcement officers (including wildlife officers) that specifically patrol this area. Such a program should be investigated to see if it could be self-sustained. Optionally, revenues could be dedicated to a fund that could be used to finance retrofitting the existing roads with wildlife crossing structures so that speed restrictions could be removed.

Data assembled for each field site is shown in Appendix C. This table contains attributes for each site and provides a general characterization of the surrounding context. In addition, 203 field photos were taken for many of the field sites. These are included in Appendix D and are indexed using a GPS ID number that corresponds to the table in Appendix C; to determine whether photographs exist for any given site refer to the data column entitled, Field Photos.

Wekiwa Springs SP to Ocala NF linkage

The primary linkage of interest in this project concerns connections between Wekiwa Springs SP and Ocala NF (figs. 6 and 8). Resource agencies are in the process of acquiring and protecting several key habitat areas to consolidate Seminole SF. These lands are bisected by several state and county roads – SR 46, SR 44, SR 44a, CR 42 and CR 439.

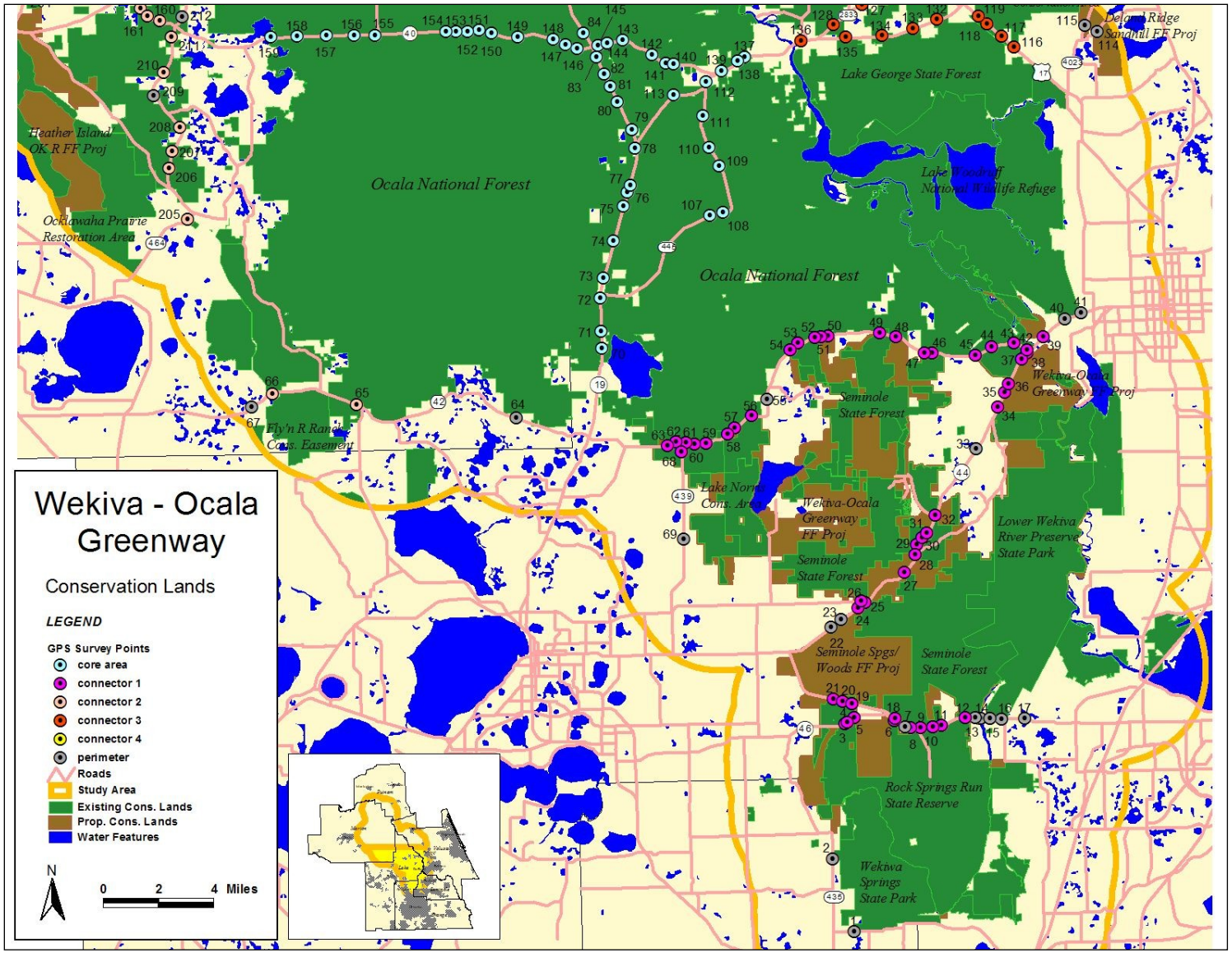

Figure 6. Field survey sites and public lands on major roads in southern section of the study area.

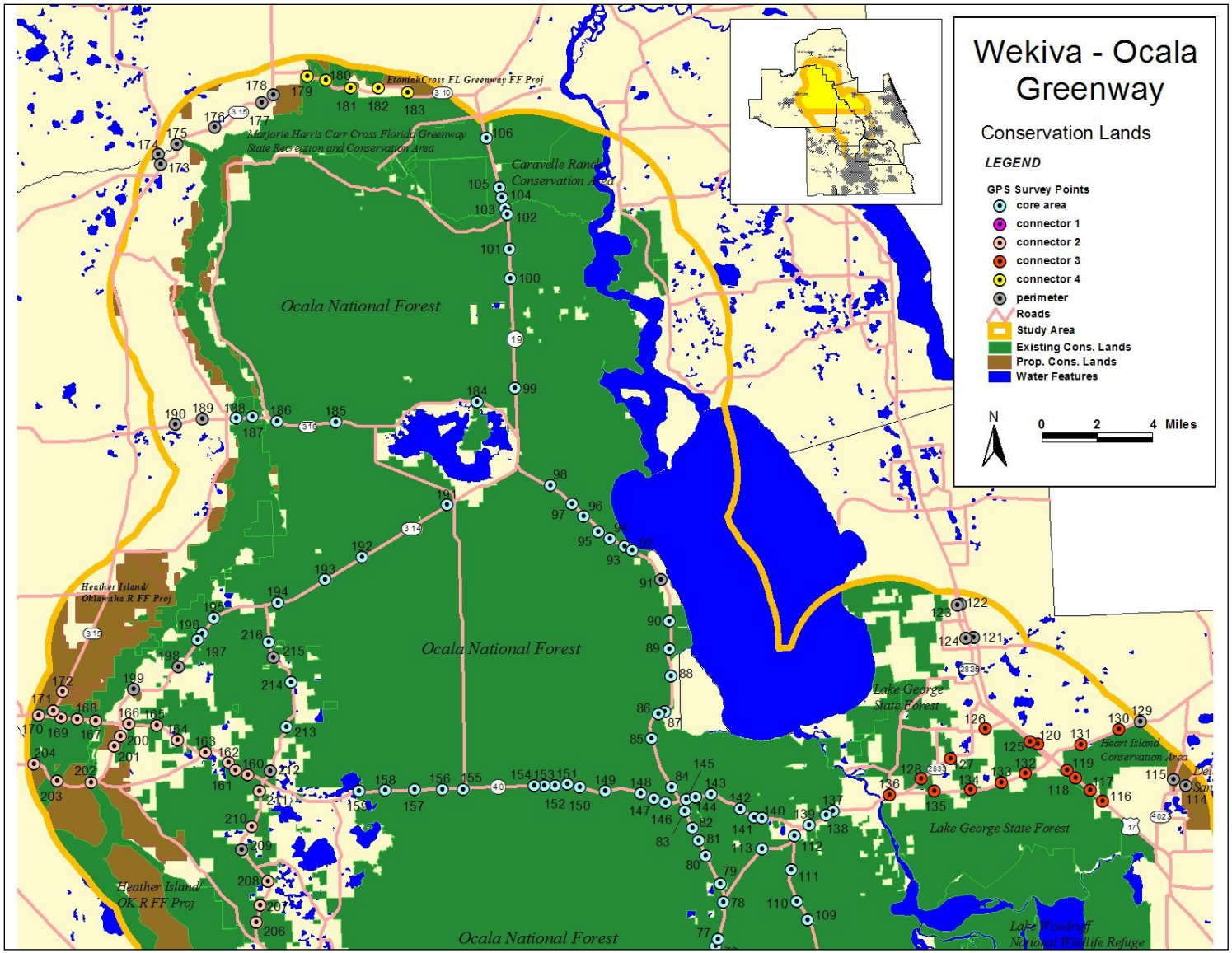

Figure 7. Field survey sites and public lands on major roads in northern section of the study area.

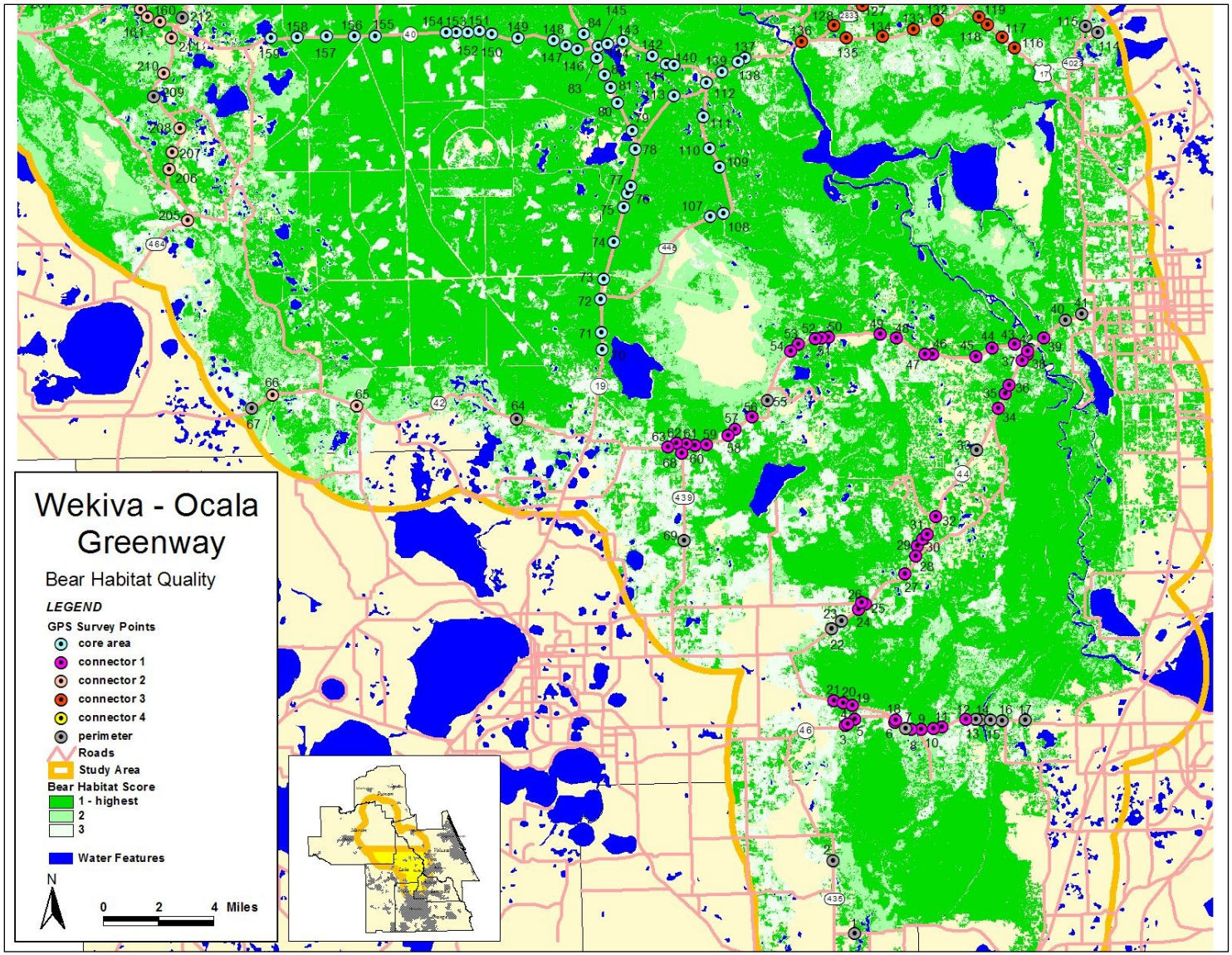

Figure 8. Field survey sites and bear habitat quality on major roads in southern section of the study area.

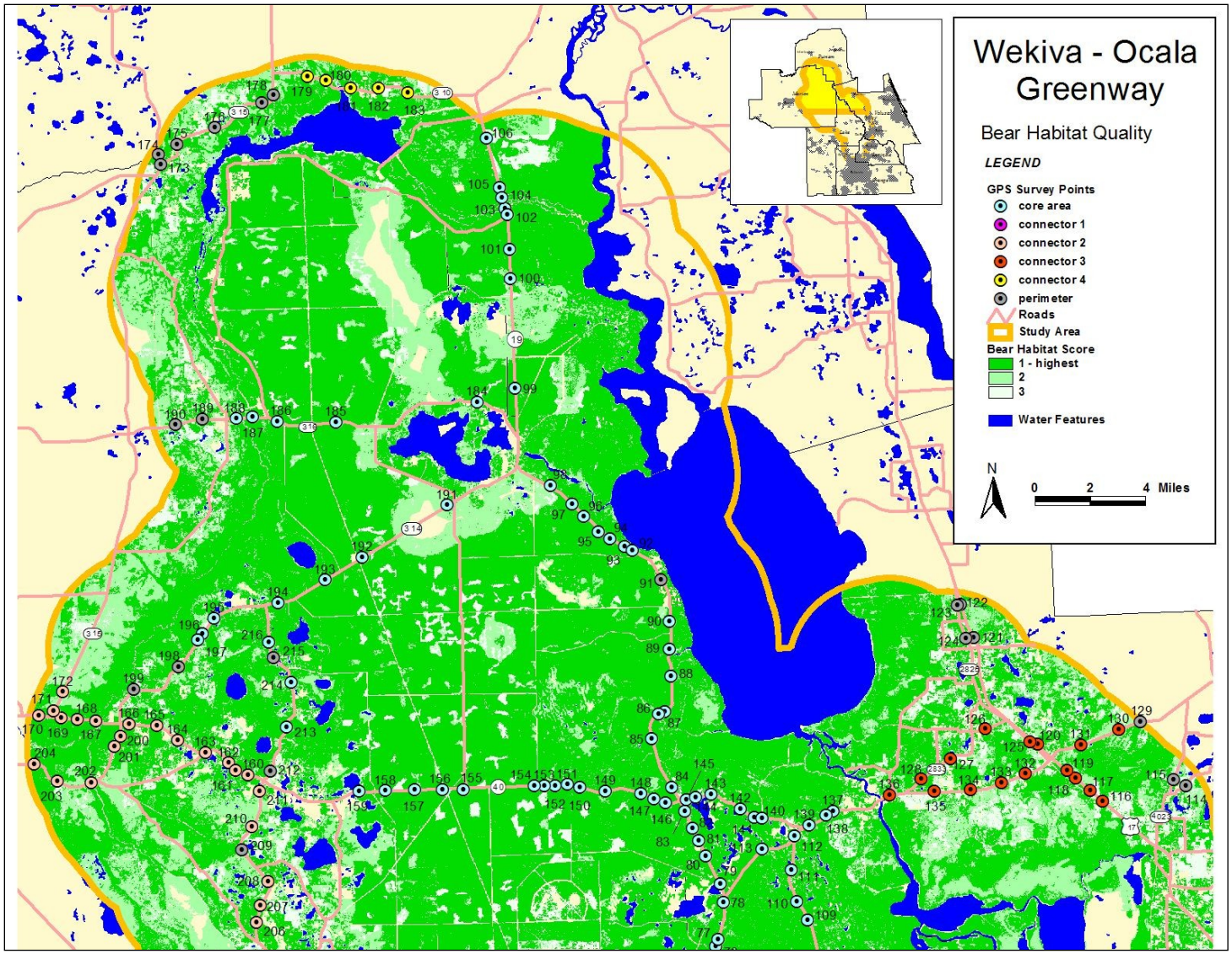

Figure 9. Field survey sites and black bear habitat quality on major roads in northern section of the study area.

State Road 46 and County Road 46a. SR 46 is the busiest road in the area (fig. 10), classified as a primary or major arterial, rural highway; it averaged 20,400 AADT in 2006 for 12 mi where the road separates Wekiwa Springs SP/Rock Springs Run SP/Lower Wekiva R. SP from Seminole SF. County Road 46a is a major collector road that runs northwest to southeast connecting SR 46 to SR 44. Traffic levels on this road were 6,704 AADTs in 2006. Both SR 46 and CR 46a are two lane roads with 55-65 mph speed limit. Though much of the land in this area has been protected, there are still pockets of development that negatively affect habitat connectivity near SR 46 and CR 46a. Adjacent habitat is characterized by pinelands, scrub, rangeland, freshwater marsh and hardwood hammocks/swamps. Seventy black bears have died on SR 46 between 1981 and 2006; on CR 46a, 25 black bears have died between 1987 and 2006.

Road-kill surveys have been conducted on several occasions on SR 46 since 1994 by either FWC, Wekiwa Springs park staff, and by University of Central Florida (UCF) researchers. Smith and Noss at UCF are currently compiling all the data collected by various agencies over the years to perform a long-term assessment of this road on wildlife in the area. As an example, over the past two years we have recorded 285 mammals (notables include 14 black bears, 4 bobcats, 6 fox squirrels, and 15 whitetail deer), 29 snakes/lizards (includes 3 eastern diamondbacks and 1 Florida pine snake), 42 frogs (pig frogs and southern toads), 22 turtles (including 13 gopher tortoises), and 15 birds (including 5 raptors, 3 black vultures and 1 wild turkey).

It should be noted that most of the discussion in this section assumes the existing alignment and configuration of SR 46 as a two-lane road, rather than the Wekiva Parkway plan, an alternative four or six-lane limited access highway which addresses the need for increased transportation capacity in the future. Funding for the parkway has not been secured, nor is it certain how many years may pass before it would be constructed; we therefore consider it important to address the present impacts on the current configuration. Note that design and dimension of recommended crossing structures correspond to a two-lane road configuration; a wider roadway would require installation of larger structures. The implications of the Wekiva Parkway plan are included at the end of this section.

For SR 46 and CR 46a, five habitat linkages were identified with varying degrees of connectedness. From west to east (fig. 10), they are denoted by field survey points as follows: 1) 3-5 and 19-21, 2) 6 and 18, 3) 8-11, 4) 12, and 5) 13-15. In every case, except the fifth linkage, public conservation land occurs on both sides of the road.

At the first habitat linkage, a wildlife underpass was constructed on SR 46 at field survey site #4 (see app. C for structure details); no corresponding crossing has been constructed to the north on CR 46a. Barrier fencing extends out several hundred meters in each direction to help prevent wildlife from entering the roadway and directs them toward the underpass. Prior to the construction of this underpass, multiple road-killed bears were recorded at each of field survey site #s 3-5. Since the crossing was completed in late 2004, only one black bear road-kill occurred in this linkage zone, 0.9 mi west along adjacent public land. Six black bear road-kills were recorded at survey point #5 prior to the construction of the underpass and fencing; none have occurred since.

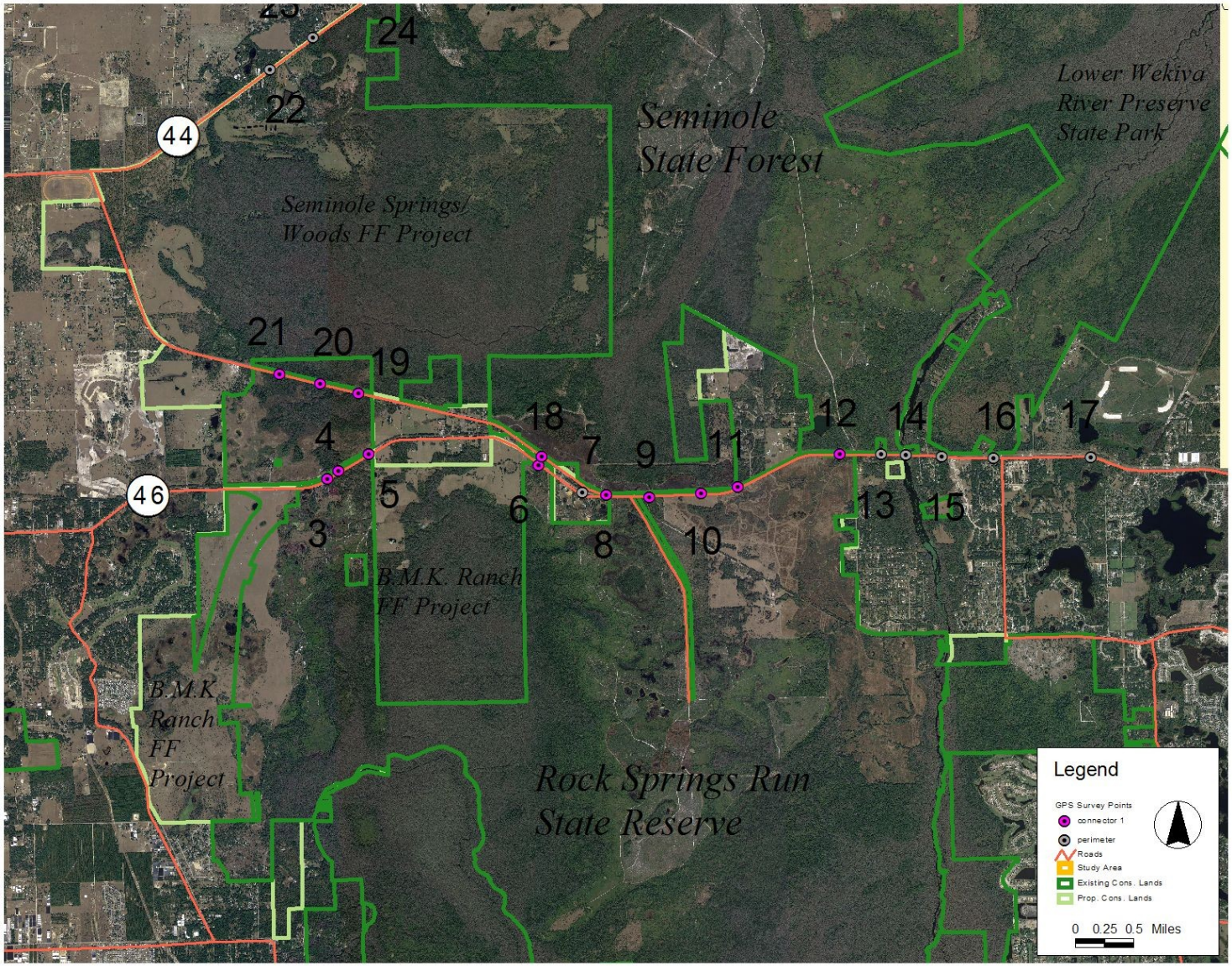

Figure 10. Field survey sites on SR 46 and CR 46a.

Due to the length of public land frontage at this linkage (fig. 10) it is recommended that a secondary crossing be constructed approx. 2,500 ft to the west of the existing underpass (survey point #4). Primary function of this crossing is for deer, meso- and small- mammals, and herpetofauna. Recommended design of this crossing would include an approx. height of 6 ft and width of 8 – 10 ft. Also, it is recommended that a low profile herpetofauna crossing (approx. 3 ft high, 5 ft wide) be constructed just west of survey point #3 near an adjacent ephemeral pond where movement by many aquatic snakes and frogs has been recorded (D. Smith, unpublished data). In conjunction with construction of additional crossings, fencing should be extended for the entire length of adjacent public lands to reduce road-kills/promote wildlife underpass use. Stainless-steel herpetofaunal mesh (1/4 sq in hardware cloth) should be attached at the base of the fence, buried 1 ft below ground and extend 3 ft above ground.

Similar structures should be considered at field survey point #s 19-21 on CR 46a (fig. 10). It is recommended that a large underpass (similar to that in app. C, survey point #4) be located at survey point #20, one secondary structure (as described in the previous paragraph) be constructed at survey point #19, and an expanded culvert be constructed to replace the existing creek culvert at survey point #21 (app. C). The expanded culvert should include a raised ledge that allows dry passage during mean high water periods. Recommended dimensions for this structure are approx. 6 ft high (with ledge 2.5 - 3 ft above ground level and 4 ft wide) and 10 ft wide. Deep drainage swales are present along this stretch of CR 46 a. It is important to construct approach ramps over adjacent swales so that wildlife can enter directly from the higher adjacent habitat without having to cross a flooded swale. Coyote, deer and raccoon tracks were observed at survey site #21.

Black bear road-kills have also been recorded at the second habitat linkage (field survey site #s 6 and 18). In each direction from these sites are private lands comprised of scattered rural residential, small agricultural businesses, nurseries and ranches. Though the extent of impacts on black bears at this location are not as severe as the other linkages identified on SR 46, secondary crossings (approx. height of 4.5 – 6 ft and width of 8 – 10 ft) should be considered for general wildlife species at field survey site #s 6 and 18.

At the third habitat linkage, a wildlife underpass was constructed in 1995 at field survey site #9 (fig. 10, see app. C for structure details). Barrier fencing was erected for several hundred meters in each direction. As with the underpass at field survey site #4, several road-killed bears (n=14) were recorded prior to construction (1981 – 1994). Between 1995 and 2006, 4 black bear road-kills have occurred in this linkage zone within the barrier fence enclosure. However, several individuals (8) have been killed since 1994 just beyond the east end of the barrier fence (at survey site #11). This structure has been successfully used by many species in addition to black bear (e.g., whitetail deer, bobcat, fox, coyote, wild turkey, gopher tortoise, various snakes and frogs). Surprisingly, several road-killed bears (8) had been recorded near the intersection of SR 46 and CR 46a (survey point #8) prior to 1994; none have occurred here since the underpass and fencing were installed. Four black bear road-kills occurred at survey point #7 prior to 1996, none since where two nurseries and a few houses are now present.

An ephemeral pond exists at field survey site #10, numerous road-killed frogs and aquatic snakes have been recorded near this site. A small cross-drainage culvert is present here on SR 46 (see app. C). A larger culvert (approx. 4.5 ft high and width of 6 ft, including a 2 ft high/3 ft wide ledge) should be considered at this location with the addition of herpetofaunal mesh attached to the existing chain-link fence; many smaller species climb through the chain-link fence and have been recorded as road-kill. In addition to this structure it is suggested that a secondary structure (approx. 3 – 4.5 ft high and width of 6 ft) for meso to small mammals and herpetofauna be constructed east of survey site #8.

At the fourth habitat linkage (surrounding survey point #12) nine road-killed black bears have been recorded from 1988 – 2006 (fig. 10). It is recommended that a wildlife underpass be constructed similar that at survey point #9 (see app. C). Finally, the barrier fence needs to be extended from the eastern property boundary to the end of the existing fence (approx. 1 mi).

The fifth habitat linkage (from survey point #s 13 to 15) includes the bridge crossing the Wekiva River (field survey site no. 14) that was extended to include terrestrial wildlife crossings under SR 46 on both sides of the river (fig. 10, app. C). This linkage includes protected conservation lands to the north and private lands to the south. The riparian area along the river includes hardwood/ cypress swamp and hardwood hammock and appears intact. Proceeding upland on either side of the river on the southside of the road residential developments are encountered. Other than the riparian zone, future viability of this linkage is tenuous given the inability to secure remaining land in native plant communities and lack of a protected physical connection between the riparian zone and the park to the southwest. Twelve road-killed black bears have been recorded here from 1988 – 2004. It is recommended that the barrier fence on the north side of the road at the Wekiva R. bridge be extended westward to the entrance to Seminole SF and eastward along the right-of-way approx. 3000 ft; this would also require installation of one-way gates or other devices to accommodate animals moving south to north across the road.

Land to the south of field site #s 16 and 17 include rapidly developing residential areas (fig. 10). Though small pockets of natural habitat (including high-quality black bear habitat) are present here, the area is highly fragmented, privately owned and represents a trap for wildlife moving south from the Lower Wekiva R. SP and Seminole County Water Reclamation/Treatment Center (surrounded by protected conservation lands) on the north side of SR 46. As evidence, 3 road-killed black bears, numerous aquatic turtles, deer and other wildlife have been killed in vehicle collisions since 2000. Since habitat areas to the south are no longer viable, movement in a southward direction should be discouraged. For instance, a perimeter barrier fence (with herpetofauna mesh) could be installed on the north side along SR 46 with one-way gates or other devices to accommodate animals moving south to north across the road.

Plans are being devised to remove and replace portions of SR 46 with a limited-access expressway (an extension of SR 429 connecting to I-4) as part of a western beltway around the greater Orlando metropolitan area. Certain sections of the existing road would remain for local access to existing residential and small business properties. Two extended bridge spans are planned on the expressway (at the first and third linkage zones, survey sites 3-5 and 9-11) to preserve habitat connections between the adjacent public conservation areas that would be

separated by construction of the new highway. It is likely that this highway would be constructed prior to any opportunities to construct additional crossings on SR 46 or CR 46a; if this is the case, then most of the previous recommendations would be moot as the extended bridge spans for SR 429 and closing of CR 46a as a throughway (thus reducing traffic levels dramatically) would provide better permeability for wildlife.

One concern that we note is the impaired connectivity between the fourth and fifth habitat linkages (survey point #s 12-15) that would result from the proposed expressway (Wekiva Parkway) plan. Several black bears continue to be killed on this section of SR 46 attesting to its importance for movement adjacent to the riparian corridor. According to the proposed expressway plan, the Wekiva River Bridge will be significantly extended to provide a much longer crossing of the riparian corridor, however private land ownership to the south of the new bridge provides no guarantee that a habitat connection can be maintained into the future. The proposed plan also includes an interchange for local access onto Wekiva River Road near survey point #12, a location where Seminole SF and Rock Springs Run SP are contiguous and a large wildlife crossing would be most appropriate. We recommend two solutions for improving wildlife connectivity in this area relative to the proposed expressway project: (1) secure a physically connected public land corridor from north to south under the proposed bridge extension over the river through purchase or conservation easements of additional parcels of private land; and (2) restore existing pasture land to native habitat within Rock Springs Run SP south of the expressway between survey points #9 and #11, consistent with adjacent area habitats, residential soil types and micro-topography. This might include a mosaic of pinelands, hardwood hammocks, and isolated wetlands. The proposed expressway plan includes bridging the section of highway between survey points #8 and #11, therefore restoration immediately south of this area could enhance wildlife movement and partially compensate for expressway impacts to connectivity near survey point #12.

State Road 44 and County Road 44a. SR 44 is classified as a secondary or minor arterial, rural highway (fig. 11 and 12); it averaged 10,480 AADT in 2006 over a 17.5 mi section where the road separates parcels of Seminole SF, Lower Wekiva R. SP, Lake Woodruff National Wildlife Refuge (NWR), and Ocala NF. County Road 44a is a minor collector road that runs west from SR 44 to Eustis. Traffic levels on this road were 1,569 AADTs in 2006. Both SR 44 and CR 44a are two lane roads with speed limits of 55-65 mph (except at survey point #38, 35-50 mph). Some of the land in this area has been acquired and protected by the state (the connections still remain highly fragmented), but several pockets of development negatively affect habitat connectivity near SR 44 and CR 44a. A wide array of habitat types occur along SR 44, including pinelands, scrub, rangeland, freshwater marsh and hardwood hammocks/swamps. Sixty black bears have died on SR 44 between 1980 and 2006; on CR 44a (near the intersection with SR 44), 4 black bears have died between 1991 and 2006. Black bear deaths have risen sharply on CR 44A over the past year.

No organized road-kill or wildlife movement surveys have been conducted on SR 44. The only available information is black bear road-kill data, collected by FWC since 1980. Few tracks or road-kills were observed during field surveys.

For SR 44 and CR 44a, five separate linkages were identified with varying degrees of connectedness based on contiguity of high quality patches of black bear habitat. From west to east (fig. 11 and 12, app. C), they are denoted by field survey points as follows: 1) 24-26, 2) 27-32, 3) 34-36, 4) 37-38, 42, and 5) 39. Many of these road connections are adjacent to public ownership; those that are not (survey point #s 24, 27, 34-38, and 39) are part of Florida Forever (FF) projects. If these lands were acquired it would consolidate the linkages and significantly reduce the current fragmented character of the area. Note that design and dimension of recommended crossing structures correspond to a two-lane road configuration; a wider roadway would require installation of larger structures.

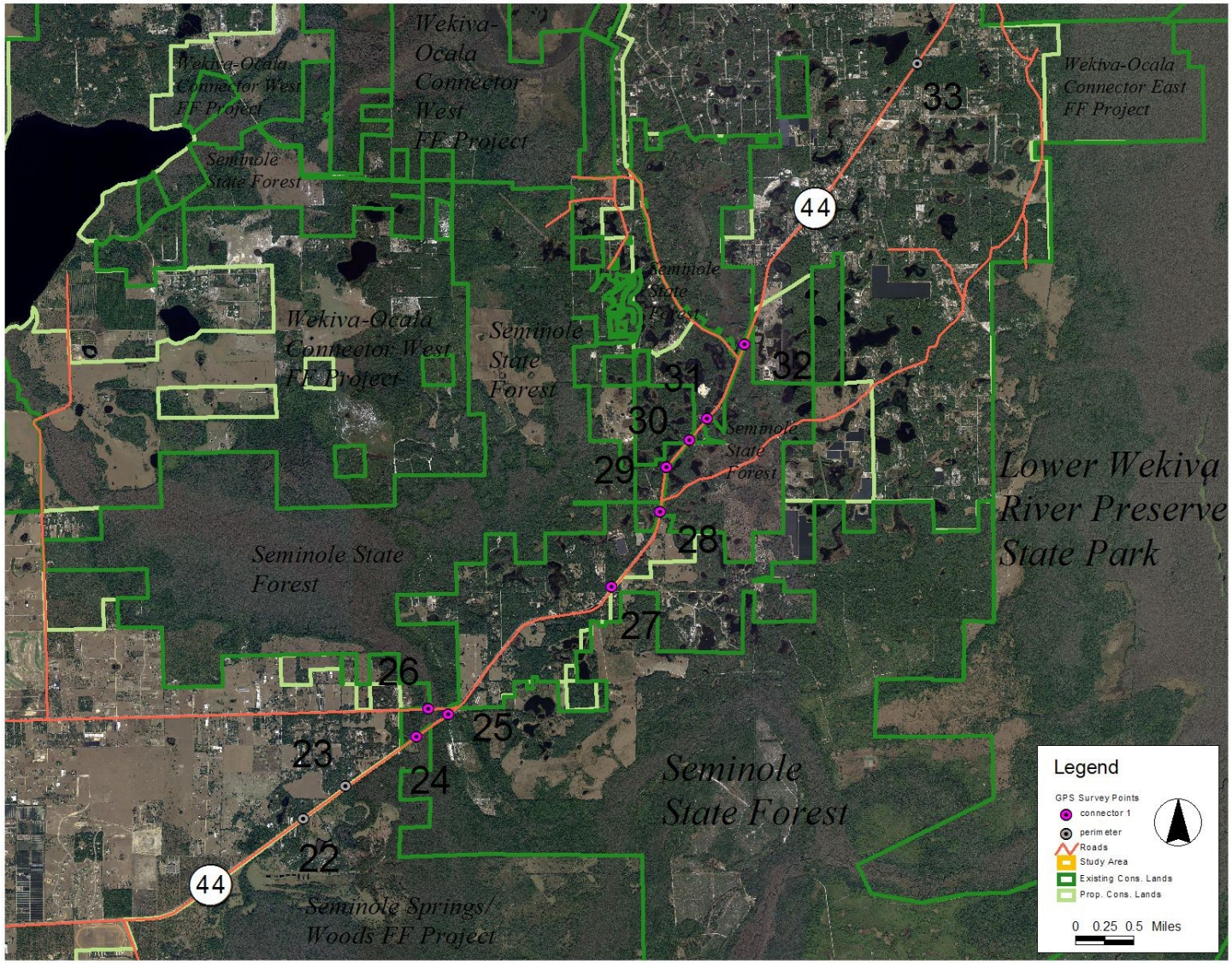

Figure 11. Western field survey sites on SR 44 and CR 44a.

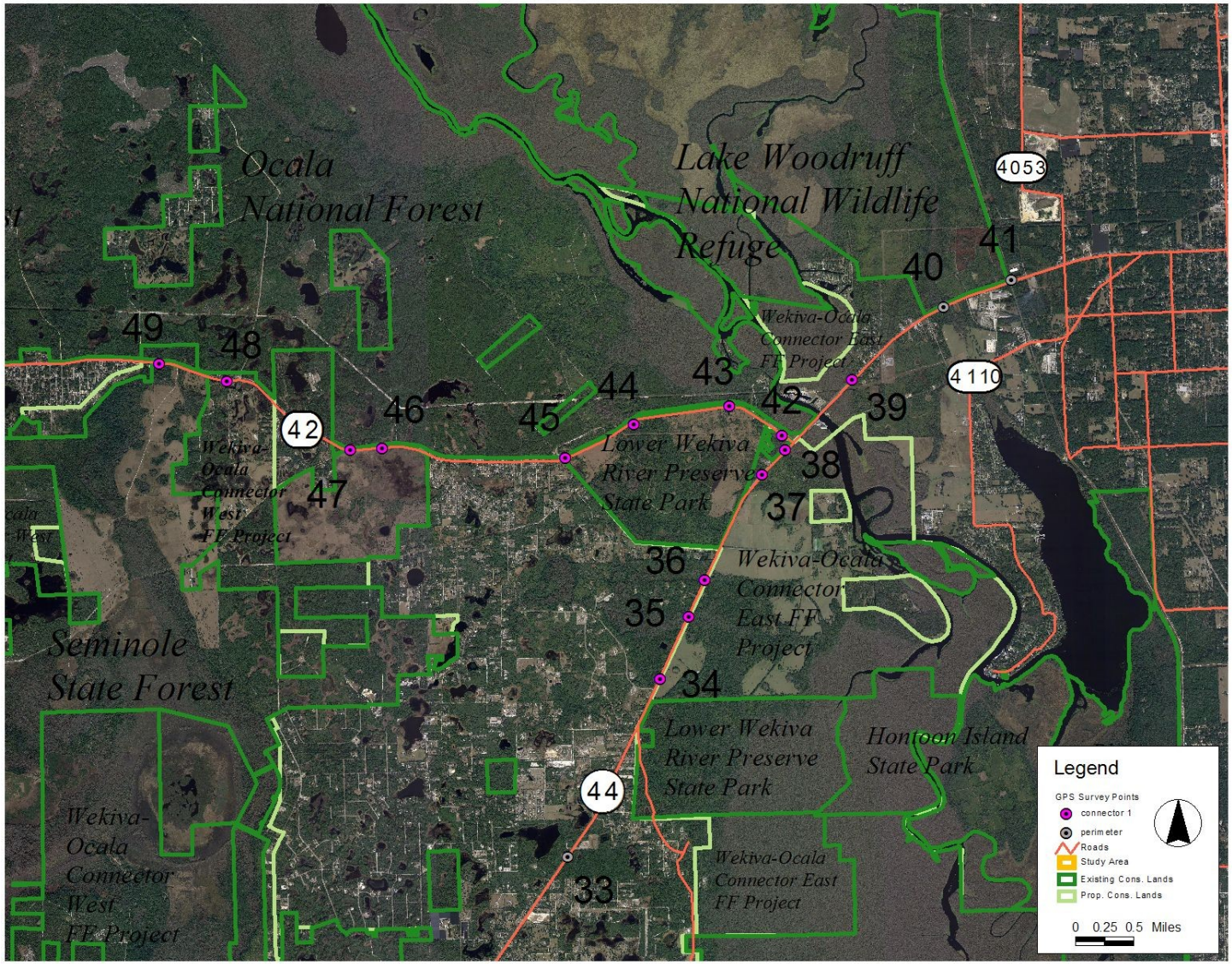

Figure 12. Eastern field survey sites on SR 44 and CR 42.

South of field site #s 22-23 on SR 44 is Seminole Springs/Woods FF Project (fig. 11). Along the north and south sides of the road scattered rural residential are present. Surrounding land cover includes large amounts of pasture and small patches of pinelands, mixed wetland forest and hardwood hammocks. Survey point #23 is on the western edge of Blackwater Creek swamp. Black bear road-kills recorded at survey points 22 and 23 include 3 and 5, respectively. Four of these have occurred in the last five years. Since several large pasture areas currently exist to the north and northwest and is not part of a Florida Forever project, no wildlife crossing structures are recommended. Since habitat areas to the north do not have long-term viability, movement in a northward direction should be discouraged. As recommended with part of SR 46, and if the Seminole Woods tract is acquired, a perimeter barrier fence could be installed on the south side along SR 44 with one-way gates or other devices to accommodate animals moving north to south across the road.

The first habitat linkage identified on SR 44 is part of the Blackwater Creek riparian corridor, survey site #s 24-26 (fig. 11). This is a large hardwood swamp system, yet near the road it is only about 500 ft wide with bordering bands of hardwood hammock/forest, then pinelands. Two bridges are present crossing over the creek on SR 44 and CR 44a, survey point #s 24 and 26, respectively (apps. C and D). Two private parcels (one a ranch and one an old farm), one west of each bridge, encroach into the riparian corridor and should be acquired to protect/restore the integrity of the habitat linkage. Two black bear road-kills have occurred near each bridge. Survey site #25 is surrounded by pinelands, four black bear road-kills were recorded near this site.

Several measures are needed to improve permeability of SR 44 and CR 44a at these sites (#s 24-26, fig. 11). First, the SR 44 bridge is not long enough to include terrestrial passage of wildlife underneath; it should be modified by removing rip-rap and replacing it with a retaining wall to widen the banks adjacent to the stream and adding fill to create raised shelves or "travel paths" that remain dry except only during extreme high water periods. Second, try to discourage human use under both bridges, i.e., fishing activities. If necessary, create access for creek fishing at a site other than the bridges to reduce human-related disturbance for black bears and other wildlife. Third, erect barrier fencing on the bridge approaches for at least 500 ft in each direction from the structures (exact distance should correspond to width of riparian vegetation from each bridge and property boundaries). Finally, several driver-related controls should be instituted: night-time speed-limit reductions on approach to intersection, enhanced rumple strips as warnings to drivers to slow down and be aware of animal-vehicle collisions, and addition of a traffic light (if not a standard traffic light at least a flashing traffic light).

An alternative to the driver-related controls near the intersection and modifications to the SR 44 bridge (survey site #24), would be to add large upland crossings for black bears on SR 44 (survey site #25) and CR 44a (approx. 500 ft west of intersection), similar to those constructed on SR 46, and extend the proposed barrier fencing to the intersection.

Another option that deserves consideration, depending on feasibility analysis, is the reconfiguration of SR44 and CR44a to create a single roadway bridging Black Water Creek, appropriately designed to provide for ample terrestrial passage of wildlife underneath.

The second habitat linkage (survey point #s 27-32) near SR 44 (between Cassia and Pine Lakes) is fragmented into three separate fingers of high-quality black bear habitat that cross the road, many private parcels still exist disrupting a potentially continuous and protected conservation linkage (fig. 11, app. C). In addition, rural residential and small-scale mixed agricultural uses are present east and west of survey site # 27 and west of survey point #28. This area is nonetheless identified as part of the Wekiva – Ocala western connector FF project. Securing these could solidify this habitat linkage. This area has a diverse mosaic of plant communities that includes pineland, hardwood hammock/forest, mixed pine-hardwood forest, mixed pine/oak scrub, and freshwater marsh/wet prairie.

No mitigation is recommended at survey site #27 because the area is too fragmented and is in private ownership, only one black bear road-kill was recorded at this location, back in 1988. Despite the presence of a narrow forested corridor at this site, movement activity has likely diminished significantly because of land clearing for residential and agricultural uses.

Recommendations for the road segment containing survey site #s 28-32 represent two alternative outcomes: 1) only the existing configuration of public land is available for conservation, and 2) the state successfully acquiring/protecting proposed additions to Seminole SF at this location. Only three survey sites have public land on both sides of the road, #s 28, 30, and 32. Survey point #s 29 and 31 are bordered on one side by Seminole SF. Two black bear road-kills were recorded north and south of survey site #28. Four black bear road-kills have occurred near survey point # 29, three in the last two years. Only one black bear road-kill was recorded between survey point #s 30 and 31. East and west of survey site #32, near the entrance to Royal Trails development, four black bear road-kills occurred.

In alternative one, three potential crossing sites are viable (protected for long-term conservation), at survey point #s 28, 30, and 32 (fig. 11). In this case three large-animal wildlife underpasses should be constructed. The underpass structure for survey site #32 would need to be located about 300 ft east along the ecotone between a large wetland and pine forest. Though these sites are not the precise location where most black bear road-kills have occurred, barrier fencing could be installed to direct wildlife to these structures. It is important to note that many ephemeral ponds and wetlands occur along this road segment (primarily around survey point #s 29 and 32 and east of survey point #31) and therefore accommodations should be made for herpetofauna, e.g., adding new or supplementing existing drainage structures with approx. 4 ft wide by 3 ft high box culverts and herpetofaunal mesh attached to the larger barrier fence.

For alternative two, it is necessary to acquire/protect three tracts that are proposed additions to Seminole SF: north of survey site #31 (a vacant tract adjacent to Royal Trails entrance), west of survey point #29, and south of survey point #28 (fig. 11). Two optimal sites (to minimize impacts to black bears) were identified for large wildlife crossings (size similar to those constructed on SR 46), survey point #29 and 2000 ft east of survey site #31. Those animals traveling north through a crossing structure near survey site #31 would have to cross the entrance road to Royal Trails development. The north side of this access road is already part of Seminole SF. These sites are

where the majority of black bear road-kills have occurred as well as being somewhat equidistant within the primary corridor crossing SR 44 in this habitat linkage.

Private lands are present on both sides of SR 44 at survey point #33 (fig. 11, app. C). Adjacent lands are not part of a Florida Forever project; therefore the habitat connection has no long-term security. A recently proposed subdivision threatens native habitat on both sides of SR 44 at this site. Currently, there is a physically connected corridor consisting of forested habitat that links Lower Wekiva River SP to the east to Seminole SF to the west. Immediately surrounding the site is sand pine scrub and pineland habitats; to the north is Pine Forest Park (Lake County), and to the west is Lake Lappin. Four black bear road-kills have occurred within 1,000 ft of the site since 2002 and a road-killed gopher tortoise was observed during a field survey of the site.

A crossing structure is not currently recommended at this site. If this corridor was considered as an addition to the Florida Forever project, a crossing structure may be warranted. Driver warning devices such as roadside animal detection systems (RADS) and night-time speed-limit reduction measures, on the other hand, should be strongly considered at this location. Signs with flashing lights triggered by remote sensors are used by RADS to warn drivers when a large animal is in the roadway.

The third habitat linkage (survey site #s 34-36, fig. 12) identified on SR 44 is bordered to the south by a tract of the Wekiva – Ocala eastern connector FF project. The north side of the road is also private land, but not proposed for acquisition; to the north of this private tract is a unit of the Lower Wekiva River Preserve SP. Habitat types in the area mostly consist of pinelands, hardwood/cypress swamp, mixed pine-hardwood forest and pasture. Some habitat fragmentation/loss is evident due to scattered development of low density residential lots along three rural roads north of SR 44, Forest Drive, Tomohawk Trail and Ponderosa Avenue. In addition to this, a new road is proposed for construction (for a new subdivision of 27 new homes) through presently intact wetlands and uplands between Forest Dr. and Tomohawk Tr. Culverts are present at each site for cross-drainage including a box culvert over a creek at survey point # 36 (apps. C and D). Twelve black bear road-kills have occurred in this habitat linkage since 1985 (the last in 2005), nine near survey point #35.

Due to existing infill development activities on private lands between these rural roads and plans for anew subdivision, long-term viability of this linkage is poor. The potential to retain limited functional connectivity of this habitat linkage through remaining vacant lands to the north of SR 44 will depend on how new or existing lots are developed. Considering this uncertainty, only minimal provisions for connectivity are proposed between survey site #s 34-36 to preserve connectivity within the core of these wetland systems. The existing structures at each survey site (fig. 12, app. C) should be replaced with larger structures to accommodate movement by small mammals and herpetofauna. These structures should be designed with ledges for dry passage during mean high water periods. Hog-wire fencing with herpetofauna mesh (3 ft high) should be connected to these structures extending 300 ft in each direction parallel to the right-of-way. If the potential for connectivity can be improved through individual parcel acquisitions or conservation easements, a secondary structure providing for bear passage may be justified at this location. We believe, however, that the best opportunity to ensure long-term connectivity within the Wekiva-Ocala

eastern corridor is by establishing a robust connection between large tracts of existing public and FF acquisition land as described below.

To enhance habitat connectivity within the Wekiva-Ocala eastern linkage, we propose the placement of a large animal crossing structure approx. 2,250 to 3,000 ft east of survey site #36. In addition, a barrier fence would be required extending approx. 1,000 ft in each direction from the proposed structure to direct large species to the crossing. This recommendation is in conjunction with the proposed restoration of existing pasture land to native habitats (consistent with adjacent area habitats, resident soil types and micro-topography) on the tract of the Wekiva – Ocala eastern connector FF project south of SR 44 between survey site #s 36-37; this might include a mosaic of pinelands, hardwood hammocks, and isolated forested and nonforested wetlands. This combined action would provide a viable long-term solution to restoring functional connectivity between existing public land and Florida Forever acquisition land. This general concept is depicted in Figure 14.

The fourth habitat linkage (survey site #s 37-38 and 42, fig. 12, app. C) identified near the intersection of SR 44 and CR 42 is bordered to the south by a tract of the Wekiva – Ocala eastern connector FF project and to the north by the Lower Wekiva Preserve SP and Ocala NF. Four small private inholdings (houses) are present in the northwest corner bounded by SR 44, CR 42 and Crow's Bluff Road. Pinelands, hardwood/cypress swamp, mixed wetland forest, hardwood hammock, mixed pine-hardwood forest and pasture are the dominant habitat types in the area. Four black bear road-kills have occurred in this habitat linkage since 1992 (3 of 4 between 2001 and 2004).

Few black bear road-kills have occurred near the intersection of SR 44 and CR 42, thus it is not suggested at this time that underpasses be constructed between survey site #s 37-38. Large-animal crossing structures may be warranted if traffic levels increase or the road were widened to 4-lanes. Under the current 2-lane configuration, driver-related controls are a better solution: speed-limit reductions (to 35 mph) beginning 2,000 ft from the intersection, addition of a visually enhanced traffic light and signage, and prominent rumple strips as warnings to drivers to slow down and be aware of animal-vehicle collisions. Structural retrofits that are more warranted involve smaller species. We observed one road-killed corn snake and a live crossing of a yellow-bellied slider during site visits, but given the extent of wetland habitats, significant populations of herptiles likely are present. Smaller crossing structures such as those recommended previously (approx. 3 ft high, 5 ft wide) should be placed at each of the locations at this habitat linkage (survey point #s 37, 38 and 42) and an additional one placed under SR 44, 300 ft east of the intersection with CR 42. Hog-wire fencing with herpetofauna mesh (3 ft high) should be connected to these structures extending 300 ft in each direction parallel to the right-of-way.

The fifth habitat linkage on SR 44 is located east of the St. John's River (survey point #39, fig. 12, app. C). This area is characterized primarily by an approx. 1,500 ft wide riparian hardwood swamp adjacent to the St. John's R. (see photos in app. D) with a marina and park near the river bridge and scattered commercial development about 500 ft east of the hardwood swamp. A 150-200 ft wide powerline easement also crosses the road through this habitat linkage.

This linkage ranked high in both black-bear habitat and highway-hotspot models, yet no black bear deaths have been recorded here. Proximity to development and habitat fragmentation east of the river may be a factor reducing use of this corridor by black bear. Despite the lack of evidence for use of this corridor by black bear, this linkage is still an important connection between the Lower Wekiva River Preserve SP and Lake Woodruff NWR and most of the hardwood swamp is part of the Wekiva – Ocala eastern connector FF project. As such it is recommended that with any road construction upgrades, a large-animal crossing (similar to those constructed on SR 46) be located about 200 ft west of survey site #39 (coincides with the ecotone between hardwood swamp and hardwood hammock). If constructed, barrier fencing should also be added to direct larger wildlife to the crossing and herpetofauna mesh should be attached to reduce mortality of smaller wildlife.

Lake Woodruff NWR abuts the north right-of-way of SR 44 between survey site #s 40-41 (fig. 12, app. C); the area consists of a hardwood swamp corridor and a large cypress swamp surrounded by pinelands. The south side of SR 44 at this location contains patches of pine forest and hardwood swamp, but is highly fragmented by commercial development and open rangelands. To the east is a north-south running active railroad. At survey site #41 is a railroad passage (see photos in app. D); a culvert is located at survey site #40 to allow water to flow through the hardwood swamp (app. C).

High quality black bear habitat exists on both sides of the road at this location, however long-term viability of that remaining to the south is not good. As such, only limited mitigation measures are proposed. The existing railroad structure provides for some safe passage under the road by wildlife. The culvert at survey site #40 is extremely long (105 ft) and had 1-2 ft of standing water, leaving a clearance of about 2 ft; it is highly likely that only movement by aquatic species occurs through it. To accommodate terrestrial movement via culvert, the existing structure should be replaced by one that has a greater ceiling and dry shelf such as those discussed earlier, or an additional structure could be added in a location that has a higher elevation providing for dry passage.

County Road 42 and County Road 439. CR 42 is classified as a major collector road (fig. 12 and 13); it averaged 3,650 AADT in 2006 over a 16 mi section where the road separates Ocala NF from tracts of Seminole SF, Lower Wekiva R. SP, and Lake Norris Conservation Area (CA). County Road 439 is a minor collector road that runs south to SR 44. Traffic levels on this road were 2,603 AADTs in 2006. Both CR 42 and CR 439 are two lane roads with speed limits of 55 mph (except between survey point #s 50-61, 40 mph). Nearly the entire northern side of CR 42 is Ocala NF; contrarily the southern side of the road only about 50% of the road frontage property is protected conservation areas. Even so, the connections are not as fragmented as along SR 44 because development is more consolidated along CR 42 (three main communities—Paisley, Lake Kathryn Heights, and Forest Hills). Habitat types found along CR 42 include pinelands, scrub, sandhill, rangeland, freshwater marsh and hardwood/cypress swamps. Fifty-two black bears have died on CR 42 between 1982 and 2006; on CR 439 (near the intersection with CR 42), 6 black bears have died between 1983 and 2004.

No organized road-kill or wildlife movement surveys have been conducted on CR 42. The only available information is black bear road-kill data, recorded by FWC since 1982. Few tracks or road-kills were observed during field surveys.

For CR 42 and CR 439, nine separate linkages were identified with varying degrees of connectedness based on contiguity of high quality patches of black bear habitat. From east to west (fig. 12 and 13, app. C), they are denoted by field survey points as follows: 1) 43-45, 2) 46-47, 3) 48-49, 4) 50-54, 5) 56-58, 6) 59-61, and 7) 62-63, 68. Many of these road connections are adjacent to public ownership; those that are not (survey point #s 48, 50-51, 57-58, and 62) are part of Florida Forever (FF) projects. If these lands were acquired it would consolidate the linkages and significantly reduce threat of future development and additional habitat fragmentation.

The first habitat linkage (survey site #s 43-45, fig. 12) identified on CR 42 is bordered to the south by a unit of the Lower Wekiva River Preserve SP. The north side of the road is Ocala NF. Habitat types in the area mostly consist of pinelands, sand pine scrub, hardwood hammock/ swamp, mixed wetland forest, mixed pine-hardwood forest and shrub-brushland. Just west of survey point #45 is the residential community of Forest Hills. All three of these survey sites coincide with significant road curvature (fig. 12, photos in app. D). Several deer tracks were observed at survey site #44. Three black bear road-kills were found near survey site #45 since 2001 and two near survey site #43 since 1996. Survey site #45 is located on the periphery of Forest Hills residential area, so these black bears could be potential nuisance bears attracted to human-related food sources. Traffic level on this section of CR 42 is currently less than 5,000 AADTs. If this increases, animal-vehicle collisions could also increase and thus justify a large-animal wildlife-crossing.

Optimum efforts to increase road permeability for this habitat linkage would call for a large wildlife crossing (similar to those constructed on SR 46) at survey point #44 and secondary crossings at survey point #s 43 and 45 (approx. 5 ft high and 10 ft wide) and associated barrier fencing. This solution would address needs of small species as well as large ones. If significant roadwork were scheduled for this section of road, reducing the severity of the curves would increase driver visibility and reduce risk of large animal-vehicle collisions; since both sides of the road are public lands, this is a viable suggestion. Either of these solutions would be costly and therefore may require more evidence of greater quantities of road-kills or aversion to crossing by wildlife. Alternative, less costly measures would include a reduction in night-time speed-limit to 40 mph (currently 55 mph) through the curved sections of the road posted by lighted warning signs, or a more active measure such as employing a RADS system.

The second habitat linkage (survey site #s 46-47, fig. 12, app. C) identified on CR 42 is bordered to the north by Ocala NF and to the south by a tract of Seminole SF. This tract of Seminole SF was classified as medium-quality black bear habitat; probably because the habitat was classified primarily as open rangelands (actual type is shrub-brushland and oak scrub, see photographs in app. D) and freshwater marsh/wet prairie. Restoration of this tract to native forest types would improve habitat quality. Habitat types on the north side of the road include pinelands, sand pine/xeric oak scrub and small patches of mixed wetland forest. To the east of

this linkage is Forest Hills residential community, to the west is the intersection with Fullerville Road and a few rural residential properties. One black bear road-kill (2002) occurred near survey site #46 and two (1991, 1993) occurred at survey site #47 where a significant curve in the road is present. Traffic volume in 2006 was 1,861 AADTs.

As with the first habitat linkage on CR 42 discussed, the number of road-killed black bears in this linkage probably does not justify the expenditure to construct a large-animal wildlife-crossing at this time. In addition, traffic levels on this section of CR 42 are low (1,861 AADTs). Current recommendations are to reduce night-time speed-limit to 40 mph (currently 55 mph) through the curved section of the road and post lighted warning-signs to gain driver's attention. Following habitat restoration, wildlife movement across the road at this linkage could increase and justify the need for construction of wildlife crossings. Probably of more importance is the effect the road has on movement of certain small mammals and herpetofauna (e.g., Florida mouse, round-tail muskrat, gopher tortoise, eastern indigo snake, Florida pine snake), given the habitat types present. Wildlife movement and road-kill studies may identify crossing frequency and crossing success probability for these type species and determine that crossing structures are needed to improve road permeability.

The third habitat linkage (survey site #s 48-49, fig. 12, app. C) identified on CR 42 is similar in character to the second habitat linkage. It is bordered to the north by Ocala NF and to the south by a tract of Seminole SF and a proposed addition to Seminole SF (Wekiva – Ocala western connector FF project). This tract of Seminole SF and the proposed addition contain two strips of high-quality black bear habitat surrounded by low- to medium-quality black bear habitat; again probably because these significant areas were classified primarily as open rangelands (actual type is shrub-brushland and oak scrub). Yet this area is quite patchy also containing pinelands, freshwater marsh/wet prairie, hardwood/cypress swamp, and mixed wetland forest. Restoration of the rangeland areas to native forest types would improve overall habitat quality. Habitat types on the north side of the road include pinelands, sand pine scrub and small patches of mixed wetland forest and freshwater marsh/wet prairie. To the west of this linkage is Lake Kathryn Heights, to the east is a few rural residential properties. One black bear road-kill (1998) occurred near survey site #47 where a significant curve in the road is present, and four (2000-2005) occurred at survey site #48. Traffic volume in 2006 was 1,861 AADTs.

As with the last two examples, the demonstrated impact to black bears probably does not justify the expenditure to construct large-animal wildlife-crossings at this time; also traffic counts remain low (1,861 AADTs). Night-time speed-limit reductions to 40 mph (currently 55 mph) through the curved sections of the road and the westbound approach to Lake Kathryn Heights, together with lighted warning-sign posts would be prudent given the character of the road corridor. Following habitat restoration, wildlife movement across the road at this linkage could also increase and demonstrate the future benefit for wildlife crossing structures. Again, probably of more importance is the effect the road has on movement of certain small mammals and herpetofauna found in the area, given the habitat types present. Wildlife movement and road-kill studies are recommended for CR 42 (and SR 44) to identify crossing frequency and crossing success probability for these type species and determine if crossing structures are needed to improve road permeability.

The fourth habitat linkage (survey site #s 50-54, fig. 13, app. C) identified on CR 42 is also bordered to the north by Ocala NF and to the south by a tract of Seminole SF and a proposed addition to Seminole SF (Wekiva – Ocala western connector FF project). This area contains pinelands, sand pine/xeric oak scrub, sandhill, freshwater marsh/wet prairie, and mixed wetland forest. To the east of this linkage is Lake Kathryn Heights, to the west is Lake Akron and a former cattle ranch. Lake County recently approved the acquisition of this property for conservation; it physically connects the Ocala National Forest and Lake Akron. The ranch (which was largely denuded) has since been reseeded, and further restoration or reforestation is being considered. Eight black bear road-kills were recorded in this habitat linkage from 1998-2005; only one survey site had more than one (3, survey site #51). Several deer tracks were observed at survey site #50. Recorded traffic volume was 1,861 AADTs in 2006; this section of CR 42 includes many switchback curves (see photos in app. D), and therefore has a posted speed limit of 40 mph.

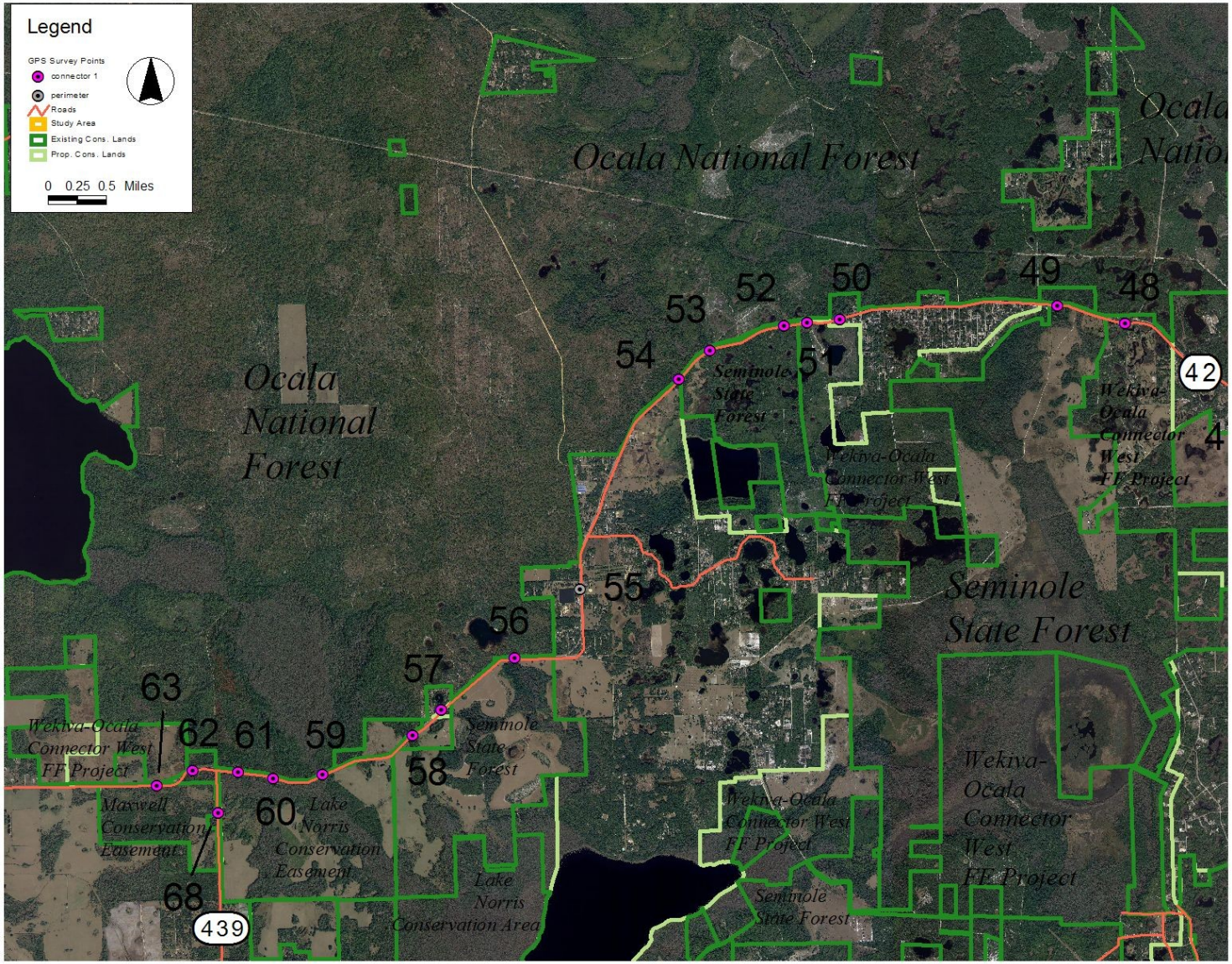

Figure 13. Western field survey sites on CR 42 and CR 439.

Even with the lower speed limit, the curvature of the road through this habitat linkage has still resulted in several black bear road-kills and likely several deer road-kills (though there is no data to support this contention). A straightening of the road through this area could help increase driver visibility and potentially reduce probability of large animal-vehicle collisions. If the road were straightened the speed limit should remain at 40 mph. If no other measures were taken, the addition of lighted warning signs is strongly encouraged to increase driver awareness of potential collisions with large animals.

The fourth habitat linkage on CR 42 has an extensive amount of high quality ephemeral wetlands and xeric habitat types that suggest that many species of rare herpetofauna (e.g., gopher tortoise, eastern indigo snake, eastern diamondback, Florida scrub lizard, Florida gopher frog) likely are present (this conclusion is also supported by results of species-habitat models created by FWC). As such three crossings are recommended, two designed for movement by meso- to small-mammals and herpetofauna (4 ft high by 8 ft wide) to be placed at survey site #53 and 1000 ft west of survey site #52; and one designed for larger species (similar to those constructed on SR 46, discussed earlier) located 500 ft west of survey site #51. Barrier fencing (8-10 ft high) from the larger crossing should extend 1,500 ft east to the property boundary (of proposed Seminole SF addition) and 2,000 ft west to the next crossing structure. Hog-wire (4 ft high) with attached herpetofauna mesh should extend west from this crossing structure (just west of survey point #52) to the west Seminole SF property boundary. In the future, a structure may also be beneficial at the Lake Akron property if restoration occurs on that site.

Survey site #55 on CR 42 was identified based on two black bear road-kills recorded in 1989 and 2000 (app. C). This site, located in Paisley, is surrounded by rural residential, small businesses and agricultural uses (fig. 13). Some remnant patches of forest are also present. As with survey site #45, these black bears may have been potential nuisance bears attracted to human-related food sources. Given the location and level of habitat fragmentation, no action is suggested.

The fifth habitat linkage (survey point #s 56-58) near CR 42 (west of Paisley) is fragmented into three separate fingers of high-quality black bear habitat to the south of the road (fig. 13, app. C). These fingers of forested habitat are bordered by old pasture (see photographs in app. D); this tract is now part of Seminole SF. The north side of the road is continuous forest and is part of Ocala NF; Clearwater Lake Recreation Area is north of survey site #56. A few out-parcels exist near survey point #s 57 and 58 consisting of a few rural residential properties, a cemetery, and a farm (see photographs in app. D). The out-parcels are within the boundary of a tract of the Wekiva – Ocala western connector FF project. Habitat types for this linkage include sandhill, pineland, freshwater marsh/wet prairie, hardwood/bay swamp, mixed wetland forest north of CR 42, and south of CR 42 hardwood swamp, mixed wetland forest, sand pine/oak scrub, and pasture is present.

Traffic volume for this section of CR 42 was 3,317 AADTs in 2006, speed limit was 40 mph. Four black bear road-kills each were recorded near survey point #s 56 and 57 from 1997 – 2004 and 1994 – 2005, respectively; one death occurred at survey point #58 in 2001. Quantity of road-kills in this area does not warrant the expenditure for constructing underpasses at this time; a less costly alternative is more appropriate, given the landscape configuration and road

geometry. Recommendations for the road segment at the fifth habitat linkage include installing a RADS system. Sensor coverage should extend 1,000 ft in each direction from survey site #56 and from 1,000 ft east of survey site #57 to 1,000 ft west of survey site #58.

The sixth habitat linkage (survey site #s 59-61, fig. 13, app. C) identified on CR 42 is bordered to the north by Ocala NF and to the south by the Holman and Lake Norris conservation easements. Habitat types include pinelands, sandhill, hardwood/cypress swamp, mixed wetland forest, pasture and shrub-brushland. Unique to this site is Blackwater Swamp, a large cypress/hardwood swamp. To the west of this linkage is CR 439. Seven black bear road-kills were recorded on CR 42 in this linkage from 1989 – 2003, three occurred at survey point #59 and two occurred at survey point #61. Two significant curves are present on CR 42 at Blackwater Swamp (between survey point #s 59 and 60) (fig. 13, app. D). Traffic volume was 3,317 AADTs and speed limit 40 mph in 2006.

Given the size and quality of this wetland system, it is recommended that two large-sized underpasses (similar to those constructed on SR 46) be constructed, first at the eastern wetland-upland ecotone (survey point #59) and second 1,000 ft east of survey point #61. In association with these structures, barrier fencing should be added that extends from the intersection with CR 439 to 500 ft east of survey site #59. Herpetofauna mesh should be attached to barrier fencing based wetland extent and on FWC species-habitat models that identify potential presence of species such as eastern indigo snake, spotted turtle, and Florida gopher frog. Also, the old Blackwater Creek structure (about 600 ft west of survey site #59, app. C and D) when scheduled for replacement, should be replaced with a significantly larger structure that provides greater integrity for the ecosystem. Wildlife and wetlands biologists should be consulted for the design of the replacement structure.

The seventh habitat linkage crosses two roads, CR 42 and CR 439 (survey site #s 62-63 and 68, fig. 13). On the north side of CR 42 is a tract of Seminole SF and a proposed addition to Seminole SF; south of CR 42 and west of CR 439 is the Maxwell Conservation Easement. To the east of CR 439 is the Holman and Lake Norris conservation easements. Land-cover types include a diverse mosaic of pasture, shrub/brushland, hardwood swamp, shrub swamp, mixed wetland forest, and mixed pine-hardwood forest. Three road-killed black bears have been recorded on both CR 42 and CR 439 at this linkage between 1982 and 2004. Speed limit on both roads is 55 mph; traffic volume on CR 42 is 4,233 AADTs and on CR 439 is 7,900 AADTs.

No large-animal crossing structures are recommended for this linkage for two main reasons: first, it would direct wildlife to cross two roads to get from one end of the linkage to the other; and second the current level of mortality (at this time) does not justify the cost. It would be preferable to direct large animals north through the sixth habitat linkage discussed previously (survey point #s 59-61, fig. 13). To assist in reducing wildlife-vehicle collisions, it is recommended that speed limits be reduced within 2,500 ft of the approach to the intersection of CR 42 and CR 439 to 40 mph from 55 mph; in addition a traffic light should be added for traffic calming.

It is recognized that significant herpetofauna may be present due to the extent of wetlands and from FWC species-habitat models. Water conveyance structures are present at all three survey

sites (app. C and D) associated with area wetlands. These structures are not designed to facilitate wildlife movement, rather their function is for drainage (standing water is present most of the time). Expanded or multiple structures that provide some terrestrial (or dry) passage during mean high-water periods are more effective as ecopassages. Such designs require lateral spacing and varied elevation of individual culverts that provide at least one open, dry passage across the wetland gradient as water levels advance and recede throughout the hydroperiod. Unfortunately the existing structures are in good condition and may have been constructed recently, meaning that their scheduled replacement would not occur for some time. Wildlife movement and road-kill studies are recommended for CR 42 (and CR 439) to identify crossing frequency and crossing success probability for these type species and determine if modified crossing structures are needed to improve road permeability.

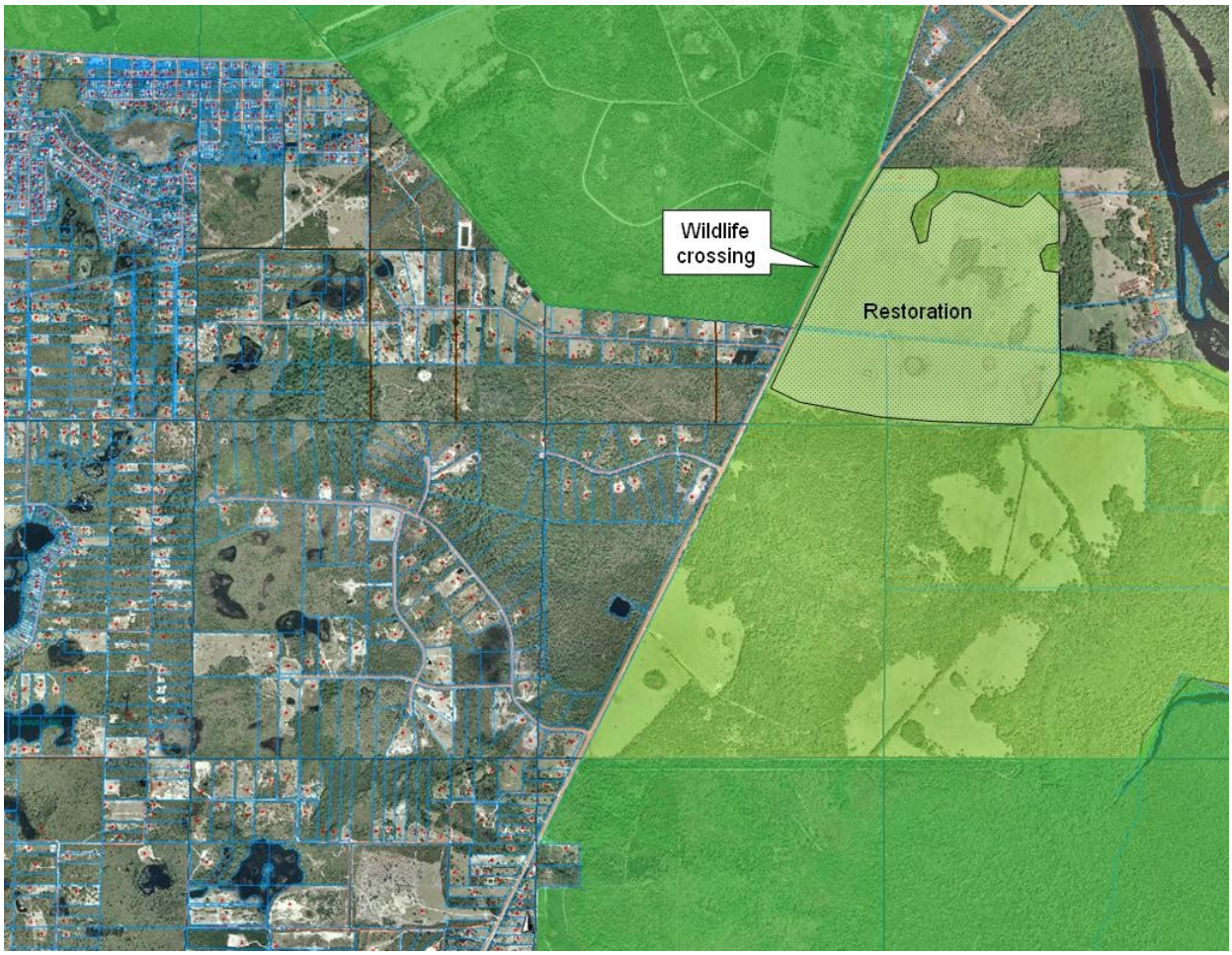

Figure 14. Wildlife crossing and restoration concept to connect public conservation and Florida Forever project lands within the Wekiva-Ocala eastern linkage.

Dark green: lands in public ownership

Light green: private land requiring protection within FF project (restoration area shown with black outlined)

Ocala National Forest (the core conservation area)

Field surveys for the core area of Ocala NF (figs. 6 and 7) were not conducted as part of this project; information included here is from a previous publication (Smith 2003a, Smith 2003b). Consider that these assessments were performed nearly five years ago. The intent of providing this additional information is to demonstrate that negative road impacts are present throughout the study area and more detailed field surveys should be conducted in the future at these other sites to accompany area-wide model results and projections.

A total of 81 field survey sites were identified in the current modeling exercise on major roads in Ocala NF including 32 new field sites not previously considered (app. C). One significant impact to address in Ocala NF is chronic road-kill sites of black bears due to impaired visibility of drivers created by adverse road geometry, i.e., blind spots created by steep hills and severe curves. Corrections may include straightening and leveling the road alignment and installing wildlife underpass/fence systems in certain areas. The following includes preliminary and very general assessments and recommendations from Smith (2003a) and Schaefer and Smith (2000); this information was published to generate more extensive investigation. Refer to Appendix C for highway characteristics, landscape description and habitat types found at each of these sites.

State Road 19. Survey point #105 (fig. 7 and 9, app. C) is part of the Ocklawaha River habitat linkage. Located approximately 0.6 mi north of the river is an existing 'aquatic' box culvert (see photographs in app. D). The structure should be replaced with an expanded medium-level bridge. This is an important crossing point along the Ocklawaha River riparian corridor.

The northwest Lake George habitat linkage occurs from 1.5 to 5.8 mi south of CR 314 (survey site #s 92 to 98; fig. 7 and 9, app. C and D). It was associated with 12 black-bear road-kills; location of road-killed bears occurred on slopes of hills or near curves in the road. Possible remedies for survey site #s 94 to 98 include construction of large animal underpasses or road reconstruction that eliminates slopes and straightens curves, thus improving driver visibility. Construction of a large animal underpass at survey point #92 is recommended; a straight section of road NW of Lake George where multiple bear road-kills have occurred (in this instance, an updated alternative may be a RADS system). Where underpasses are recommended, 10 ft barrier fencing should be included.

This habitat linkage is located near the access roads to Pat's Island and Silver Glen Springs (survey site #s 89-90; fig. 7 and 9, app. C and D). These point locations were associated with six black-bear road-kills. Sites of road-killed bears occur on slopes of hills, curves in the highway, and near dirt access roads. Possible remedies include construction of black-bear underpasses/barrier fencing or road reconstruction that increases driver visibility by eliminating slopes and straightening curves.

The Juniper Creek habitat linkage (survey point #s 86-87; fig. 7 and 9, app. C and D) was associated with nine black-bear road-kills. Recommendations included replacement of the Juniper Creek bridge that includes a 360 – 450 ft medium-level span capable of facilitating safe

travel for black bears beneath the bridge. The bridge should be equipped with barrier fencing that extends north 0.75 mi (beyond curve in highway).

Located south of Juniper Creek, 2.5 mi north of SR 40 (survey site #85; fig. 7 and 9, app. C), this habitat linkage included three black-bear road-kills; these fatalities occurred on the upslope of a hill. Possible remedies include construction of a large animal underpass/barrier fencing system or road reconstruction that increases driver visibility by reducing severe slopes.

Similar to the previous habitat linkage, this one located from 0.4 to 2.2 mi south of SR 40 (survey site #s 80-83; fig. 7 and 9, app. C and D), was associated with fifteen black-bear road-kills (eight in the last two years). Possible remedies include construction of a large animal underpass/barrier fencing system or road reconstruction that increases driver visibility by eliminating severe slopes.

Located at Beakman Lake and south of CR 445a, this habitat linkage (survey site #s 78-79; fig. 6 and 8, app. C and D) was associated with five black-bear road-kills (three since 2005). Several forest inholdings occur here that should be purchased. An existing stream culvert should be replaced with a combination drainage/wildlife crossing (includes dry ledges). In addition, the road should be realigned away from the northeast side of the lake to eliminate road curvature and to reduce road-related runoff impacting the lake.

This habitat linkage (survey point #s 75-77; fig. 6 and 8, app. C and D) is found from 0.1 to 0.7 mi north of Forest Service Rd 595. Seven black-bear road-kills (four in the last 5 years) were recorded at this location. The existing stream culvert should be replaced with a combination drainage/wildlife crossing that includes dry ledges. An updated suggestion would be installing a RADS system for large animal movement.

This habitat linkage (survey site #s 73-74; fig. 6 and 8, app. C and D) is located from 0.5 to 2 mi north of CR 445. Several forest inholdings occur in this area and should be purchased. Associated with 13 black-bear road-kills, it is recommended that two underpasses be constructed, one at each survey point. Fencing should be erected that runs from 0.5 mi south to 2.5 mi north of CR 445. With this case, an updated alternative may be a RADS system.

State Road 40 west of US 17. We identified 48 survey locations along SR 40 between US 17 and SR 326 based on the highway hotspots model results (survey site #s 132 – 170). As part of the recent SR 40 PD & E study, a detailed report was produced that outlines specific recommendations for wildlife crossing needs and means for improving permeability of SR 40 between US 17 and SR 326. In addition a detailed study on black bear movement was conducted by FWC for SR 40 west of SR 19 (McCown et al. 2004); refer to this report for more detailed research and specific recommendations for increasing permeability of this section of SR 40 in Ocala NF for black bears. Finally, additional analysis, discussion and recommendations for improving habitat connectivity across SR 40 in the Ocala National Forest is included in three FDOT reports (Smith 2003a, Smith 2003b, Schaefer and Smith 2000, Smith 1999).

Lake George SF/Heart Island CA to Ocala NF Linkage

Field surveys for the linkage connecting Lake George SF/Heart Island CA to Ocala NF (figs. 6 and 7) were not conducted as part of this project; information included here is from a previous publication (Smith 2003a, Smith 2003b). As stated earlier, consider that these assessments were performed nearly five years ago. The intent of providing this additional information is to demonstrate that negative road impacts are present throughout the study area and more detailed field surveys should be conducted in the future at these other sites to accompany area-wide model results and projections.

A total of 23 field survey sites were identified in the current modeling exercise on major roads in the Lake George SF/Heart Island area to Ocala NF linkage including 11 new field sites not previously considered (app. C). Corrective measures, such as purchasing development rights and replacing small culverts with larger wildlife crossing structures, are needed to maintain a functional connection to the Ocala National Forest and St. John's River. The following includes a couple preliminary and very general assessments and recommendations from Smith (2003a, 2003b) and Schaefer and Smith (2000); to reiterate, this information was published to generate more extensive investigation. Refer to Appendix C for highway characteristics, landscape description and habitat types found at each of these sites.

State Road 40 east of US 17. This habitat linkage (survey site #129; fig. 7 and 9, app. C and D) is located 3.5 mi east of the intersection with US 17, adjacent to the Heart Island Conservation Area. Purchasing private inholdings or development rights is needed to restrict future development of the area and stabilize these habitat connections. A culvert is present for a passing creek (app. C). Black-bear road-kills were recorded to the east and west. A potential retrofit might include replacing the existing culvert with a longer span medium-level bridge capable of accommodating black bears.

US Highway 17. Located from 1.2 to 2.5 mi south of SR 40, this habitat linkage (survey site #s 118-116; fig. 7 and 9, app. C and D) connects Lake George SF to the Heart Island Conservation Area. Eight black-bear road-kills have occurred in this linkage. This is an important linkage from Ocala National Forest to conservation lands east of the St. Johns River and US 17.

Recommendations include constructing one large-animal wildlife underpass approx. 1 mi north of the Deep Creek bridge and installing barrier fencing from the Deep Creek bridge 1.5 mi north. In addition, we would recommend a series of smaller crossing structures (approx. 3 ft high, 5 ft wide) strategically located adjacent to wetlands to increase permeability of the highway for herptiles and small mammals. Herpetofauna mesh (3 ft high) should be attached to the barrier fencing between the Deep Creek bridge and the proposed large-animal crossing. The rip-rap under Deep Creek bridge needs to be replaced with a substrate that allows for wildlife movement (previously collected data indicate little use of this structure in its current condition, Smith 2003a, 2003b); at the least a path should be created through the rip-rap made from bedding stone and native soils and stabilized by concrete-filled sandbags.

Other Field Sites

No field assessments have been made at 51 other sites identified within: 1) the Ocklawaha River/Heather Island area to Ocala NF linkage (22), 2) the Etonia Creek/Orange Creek area to Ocala NF linkage (5), and 3) 24 perimeter sites (fig. 6 and 7). Additional analysis of traffic and site conditions would be necessary to determine the value of crossing structures or other measures appropriate to provide connectivity in these areas.

Brief Literature Review

Roads and Habitat Connectivity

Connectivity is well accepted among conservation planners as a critical consideration in the design of reserve networks and multiple-use landscapes (Noss and Cooperrider 1994). Corridors (variably called landscape linkages, connectors, greenways, and other terms) are the most popular means to achieve connectivity. The empirical literature on this topic, though still sparse, is growing rapidly and generally supports the notion that well-designed corridors function to provide demographic connectivity between populations (Beier and Noss 1998). One special type of connectivity is that which enables animals to move across roads.

Roads are one of the greatest threats to wildlife worldwide (Noss and Cooperrider 1994, Trombulak and Frissell 2000). It is widely recognized by biologists that crossing structures are needed in many cases to allow wildlife to successfully cross highways and maintain connectivity and gene flow within and among populations (Forman et al. 2003). A number of studies have discussed methods for determining appropriate locations for crossing structures. For example, GIS-based habitat models for species of interest, data on roadkill locations, radiotelemetry, remote camera photos, known migratory paths of animals, and animal signs such as tracks, can identify useful sites for highway crossing structures (Singer and Doherty 1985, Foster and Humphrey 1995, Scheick and Jones 1999, Smith 1999, Clevenger et al. 2002, Henke et al. 2002, Lyren and Crooks 2002, Main and Allen 2002, Smith and Voigt 2005).

Design of crossing structures can benefit from data on unsuccessful crossing locations (i.e., roadkills), but whenever possible should be combined with data on successful crossing locations (i.e., from radio-tracking or tracking stations) and a broader look at the landscape context of the crossing, including the adjacent topography, vegetation, and land use. Concentrations of roadkills may represent areas where many individuals are also crossing successfully, or alternately, may represent only unsuccessful crossings (for example, where there is a break in a fence). Roadkills are typically spatially aggregated, and often occur closer to vegetation cover and farther from wildlife crossings than stretches of highway with few roadkills (e.g., Clevenger et al. 2002, Main and Allen 2002).

Culverts and other structures not designed for wildlife movement may nevertheless be used by wildlife, especially when suitable habitat for the species in question exists on either side of the highway (Ng et al. 2004, Smith 2003a). However, poorly designed crossings, such as small or flooded culverts, are not used by some animals (Smith et al. 2005, Smith and Voigt 2005, Smith 2003a, Beier 1993) or may concentrate animal crossings and create roadkill hotspots (Main and Allen 2002). For example, in southwest Florida a peak in roadkills in close proximity to a canal crossing was documented (Main and Allen 2002). In southern California bobcats and coyotes preferred to cross roads rather than use culverts; however, culvert use increased early in the night, during heavy traffic, and if they contained less water (Tigas et al. 2002). In Texas, use of culverts by bobcats was positively related to the openness ratio (width x height/length) of the culvert and the amount of vegetation adjacent to the culvert. Fences erected to funnel wildlife toward culverts did not increase overall use of culverts, but may have increased use of the high-quality culverts (Cain et al. 2003). On U.S. Highway 441 across Payne's Prairie in Alachua County,

Florida, a year-long study of wildlife mortality was conducted prior to the construction by FDOT of a barrier wall and underpass system (ecopassage). This study, which documented significant mortality, especially for amphibians and reptiles (Smith and Dodd 2003) was followed by a post-construction survey, which showed a significant positive effect of the barrier wall and culvert. For example, whereas 2,411 roadkills were recorded in the 12 months prior to construction, only 158 animals were killed in the 12 months after construction (in both cases excluding hylid treefrogs) (Dodd et al. 2004).

Foster and Humphrey (1995) found Florida panthers, bobcats, deer, raccoons, bears, and alligators, in addition to other species (e.g., wading birds and humans) using underpasses below I-75 in South Florida that were constructed to mitigate impacts of the highway on panthers. Studies elsewhere have shown that small and medium-sized mammals and many species of amphibians and reptiles use concrete culverts and drainage tunnels (Hunt et al. 1987, Brehm 1989, Dexel 1989, Norden 1990, Ng et al. 2004). In Colorado, two major transportation corridors (I-25 and US-85) were studied to identify species crossing the highways and to better understand habitat connectivity needs across those areas (Henke et al. 2002). This study looked at surrounding public lands and documented movement through existing structures and across the highway. Using remotely sensed data to identify lynx habitat and model probable lynx dispersal routes across US-85, the optimal sites for locating crossing structures can be identified.

Smith (2005, 1999) assessed potential interfaces between major roads and priority ecological conservation areas for future mitigation (e.g., lengthening existing bridges and enlarging culverts, constructing new wildlife underpasses) within the Florida ecological network. Wildlife and transportation experts determined elements that were used to prioritize sites for the location of underpasses: chronic roadkill sites; known migration/movement routes (including juvenile dispersal, mating season movements and normal home range activity); identified hot spots of focal species activity; designated greenways; presence of listed species; identified strategic habitat conservation areas; existing and proposed conservation lands, riparian corridors; and potential to be included in proposed road improvement project. Likely travel routes were determined using topographic gradients, watercourses or riparian corridors, and habitat ecotones. The data reflecting these elements were assigned base values and multipliers and combined in an additive manner, which resulted in a final layer that reflected cumulative impact of each road segment. The areas identified as highest priority for mitigation were regionally and nationally significant conservation areas and important riparian corridors.

Despite these promising studies, knowledge of the effectiveness of various designs for wildlife-crossing structures is extremely limited (Transportation Research Board 2002), in part because studies of wildlife crossings must deal with a large number of potentially confounding variables, including differences in behavior and response to crossings among various species, variation in human activity in the vicinity of the crossing, density of crossing structures, and other factors (Clevenger and Waltho 2005). Species of vertebrates differ in their requirements and behavioral preferences for crossings, such that a given crossing will be permeable to some species but not to others, potentially causing changes in predator-prey relationships and other community- or ecosystem-level properties (Clevenger and Waltho 2000). Techniques to minimize wildlife mortality on highways (for example, fencing) may conflict with measures to reduce population fragmentation (Cain et al. 2003). In any case, it has become clear that maintaining connectivity

across roads for multiple species requires a diversity of crossing structures of mixed designs and size classes (Clevenger and Waltho 2005).

Monitoring of crossings needs to be drastically upgraded in order to provide reliable guidance to transportation planners (Forman et al. 2003). Monitoring should encompass existing structures and structures in the design or construction phase, and should include structures designed as wildlife crossings as well as culverts, enhanced culverts and other pathways under or over highways that various species may use. Importantly, monitoring of crossing structures, roadkills, and successful crossings of highways must encompass multiple species (e.g., amphibians and reptiles as well as mammals), because different structures and landscape/habitat conditions promote movement of different taxa. In addition, crossing structures designed for wildlife should be multi-functional and also include consideration of hydrological connectivity and other ecological processes.

Several general treatises of ecological effects of roads have been produced (Huisjer et al. 2007, Smith 2003a, European Commission 2002, Trombulak and Frissell 2000, Forman and Alexander 1998, Spellerberg 1998, Bennett 1991, Andrews 1990). Other references include the International Conference on Ecology and Transportation (ICOET) conference proceedings (available at http://www.icoet.org), and National Cooperative Highway Research Program reports, available online at http://www.nationalacademies.org/trb/bookstore.

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Appendix C: Recommendations for Maintaining Connectivity Between the Wekiva River Basin and Ocala National Forest for Black Bear and other Wildlife, and the Identification of Critical Parcels

The Florida Scrub-Jay

Introduction

The Florida Scrub-Jay is a State and Federally listed threatened species found only in peninsular Florida. It is a habitat specialist restricted to a few types of upland habitats, primarily xeric oak scrub or scrubby flatwoods, where it has a strong dependency on acorns it harvests from scrub oaks. The scrub-jay is an early successional species that shows a strong preference for low, open habitats with numerous bare, sandy openings and low pine tree cover. Jays living in fire-suppressed, overgrown habitats have much poorer demographic performance than jays in optimal conditions (Fitzpatrick and Woolfenden 1986). Such optimal conditions are best maintained by frequent fires with a 5 – 20 year cycle (Woolfenden and Fitzpatrick 1984). This species formerly occupied 39 counties, but in recent decades has been extirpated from 9 counties and is nearly locally extinct in 6 additional counties (Woolfenden and Fitzpatrick 1996). Fire suppression on public lands and many private lands is a major problem as is habitat destruction, resulting in a dramatic decline in the species throughout the state.

The dispersal behavior of scrub-jays has been studied in great detail at Archbold Biological Station on a largely contiguous tract of scrub (Woolfenden and Fitzpatrick 1984). The dispersal distances observed during this long-term study were extremely short for both sexes, averaging about one territory for males and three and a half territories for females, with rare, long distance dispersals up to about 35 km. Studies in other areas that are more fragmented have documented longer dispersal distances, but the scrub-jay shows various adaptations that disfavor long distance dispersal behavior (Fitzpatrick and Woolfenden 1986). Stith et al. (1996) performed a simple occupancy analysis from a state-wide survey and suggested that successful recolonization is rare beyond about 12 km from an occupied patch of habitat. This limited dispersal ability has important conservation implications for maintaining connectivity among jay populations and facilitating recolonization of restored habitat.

Status and distribution of Scrub-Jays within the study area

A county-wide survey of Lake County (LPG Environmental & Permitting Services, Inc. 2003) provides the most recent information on jays in a key portion of the study area. Surveys were conducted primarily by a team of volunteers, and access was limited almost entirely to public lands and publicly owned thoroughfares due to limited access to private property. The survey report divides Lake County into 3 regions, with the northern region falling with the Wekiva Basin study area boundary. Ocala National Forest was not included in the survey. Data from the Department of Forestry for the Seminole State Forest from a 2003 survey was included in the report.

The Lake County survey did not determine number of scrub-jay territories, but instead reported number of individuals sited and their locations. A total of 160 jays were located in North Lake County, including 52 in Seminole State Forest. Approximately 41 percent of these jays were found in xeric oak habitat, while 25% were found in "medium density residential." The report notes that "much of the existing oak communities in the northeastern portion of the County (excluding the Seminole Forest and Ocala National Forest) are becoming overgrown and unsuitable for scrub jays" (pp. 20-21).

Jays outside of Lake County but within the Wekiva basin have not been systematically surveyed since the 1992-1993 statewide survey. Cox (1986) documented jay populations at Rock Springs Run S.P. (12-19 seen/35-40 estimated) and Wekiva S.P. (3 seen/6-10 estimated). Stith (1999) reports 9 territories in Rock Springs Run S.P. and 1 territory in Wekiva S.P.

Ocala National Forest harbors one of the largest and strategically important populations of scrub-jays in the state. Cox (1986) estimated the jay population in ONF to be between 2613-3436 individuals, based on the amount of stands in various age classes appropriate for jays. Stith (1999) reported 448 groups in a partial survey in 1992-1993. More recent estimates place the population size in the range of 700 – 900 pairs or more, with the potential for substantially more under a different management scenario. An annual survey of about 25% of the Ocala National Forest's potentially suitable scrub-jay habitat (sand pine and scrub oak stands age 2-20) has been conducted in recent years. The stated management goal of ONF is to maintain between 742 to 907 jay groups (Lowrie 2005). Annual survey group numbers have fallen within this range. Scrub-jays in ONF are restricted primarily to 3 to 13 year-old clear cuts within the extensive sand pine forests that dominate ONF. During the period of regeneration, these clear cuts have the proper mix of scrub oaks and open sandy areas where scrub-jays are able to persist. As the sand pine cover matures, jays are unable to survive in the increasingly closed canopy and dense understory and are forced to disperse to new clear cuts. The distances between clear cuts in ONF typically may be sufficiently small to allow jays to disperse successfully.

Five counties with jay populations occur in the vicinity of the study area: Marion, Lake, Volusia, Seminole, and Orange counties. Stith (1999) suggested a complex metapopulation structure for 4 jay populations in the vicinity of the Wekiva River Basin and Ocala National Forest. These 4 metapopulations include: M17 (ONF), M18 (N.E. Lake), M19 (S.W. Volusia), and M20 (Central Lake). Only M17 (ONF) and M18 (N.E. Lake) are of interest for this study, as the other 2 metapopulations are functionally isolated from the Wekiva basin by the St. Johns River (M19) or by distance (M20 Central Lake). M17 and M18 were presumed to be isolated from each other by extensive forest stands in the south east portion of the ONF.

Recent genetic analysis (Coulon et al., in press) of jays sampled in this region compared the genetic data and the metapopulation structure proposed by Stith (1999). The genetic results confirmed that the St. Johns River has acted as a barrier for jay populations on either side of the river (M19 on the east, M18 on the west). Jays in Volusia County appear to be genetically distinct from jays in Marion, Lake, and Orange counties. However, genetic analysis suggests that M17, M18 and M20 are genetically similar (except for an unexplained minor cluster), and may have been well-connected prior to recent anthropogenic changes to the landscape. These findings

suggest that jay populations west of the St. Johns River in the Wekiva Basin can be considered as a single management unit.

Given the genetic evidence and limited dispersal abilities of scrub-jays, only jays west of the St. Johns River are considered in this analysis. The area of interest corresponds with the M18 (N.E. Lake) and M17 (Ocala National Forest) metapopulations identified in Stith (1999). The southern extent of this metapopulation reaches to Wekiwa Springs State Park in Orange County, and extends north from there through Rock Springs Run State Preserve and Seminole State Forest in Lake County, then into the Ocala National Park in Marion County.

Methods

Florida Scrub-Jay Habitat Model Description

Florida scrub and scrubby flatwoods are the primary habitat of this species within its range on the sand ridges of interior and coastal peninsular Florida. Other scrubby habitats also were used that include key habitat variables such as shrubby oaks and open lands on sandy soils. This model used 2004 Water Management District land use data, potential habitat areas from the 1992-1993 Statewide Scrub-Jay survey, and soils data to identify areas most likely to be habitat for this species. The 1992-1993 survey was the last systematic survey of Scrub-Jays statewide, and that survey identified all located existing and potential habitat. These identified habitat polygons provide a useful means for identifying primary and secondary land cover types that could still be suitable habitat for Scrub-Jays. This approach is strengthened by combining these habitat survey polygons with more recent land use data. Additional details for the model, including model script, are provided in Appendix A.

Model Steps

1) All scrubby flatwoods and scrub including scrubby flatwoods (4112); sand pine scrub (4130); overgrown sand pine scrub (4131); sand live oak scrub (4211); overgrown oak scrub/xeric hammock (4212); and scrub oak (4320) are identified as primary habitat. Also, all open lands (1900s); rangelands (3000s); sandhill (4120); overgrown sandhill/xeric hammock (4121); and oak sandhill (4210) that overlap with surveyed scrub sites (Fitzpatrick et al. 1992) are identified as primary habitat. Finally, open lands (1900s) or rangelands (3000s) that overlap with xeric soils are identified as primary habitat. Florida scrub habitat is lumped with rangelands in the land use codes used by the Water Management Districts and open land often supports scrubby vegetation when occurring on xeric soils.

2) All of the following land cover types within 2 kilometers of primary habitat were identified as secondary habitat: open lands (1900); unimproved pasture (2120); fallow agriculture (2600s); rangelands (3000s); upland coniferous forest (4100); pine flatwoods (4110); mesic pine flatwoods (4111); sandhill (4120); overgrown sandhill/xeric hammock (4121); pine-mesic oak (4140); upland hardwood forests (4200); oak sandhill (4210); temperate hardwoods (4250); live

oak (4270); mixed hardwood-pine (4340); mixed hardwoods (4380); and sand other than beaches (7200).

3) The final habitat map was created by giving primary habitat a value of 1, all secondary habitat within 2000 meters of primary habitat was given a value of 2, and all other cells were assigned a value of 0.

Dispersal buffer analysis

We used a method developed by Stith et al. (1996) to analyze connectivity of jay populations based on "dispersal buffers". Following their approach, we used ArcGIS 9 (ESRI) to generate dispersal buffers connecting jay territory locations within 3.5 km and 12 km of each other. These distances represent highly connected and potentially isolated populations respectively.

For jay territory locations in the Ocala National Forest and Orange County, we used data from the 1992-1993 statewide survey (Stith 1999). For jay territory locations in Lake County we used the 2003 survey data (LPG Environmental & Permitting Services, Inc. 2003). We note that the 2003 data, while technically representing individual jay locations rather than jay territory locations, are still useful for the buffer analysis provided the sightings represent individuals at a territory rather than dispersers not near an existing territory.

Corridors and Stepping stones

We manually digitized corridor pathways to connect known populations of scrub-jays along stepping stones of potential or suitable habitat. We preferentially followed primary habitat as determined by the habitat model to connect jay subpopulations, followed by secondary habitat. Small gaps (1 – 2 km) in primary or secondary habitat are not thought to create dispersal barriers to jays (Stith et al. 1996). We avoided paralleling corridors in close proximity to roadways to reduce potential impacts due to road mortality (Mumme et al. 2000).

Parcels

Parcel boundary data were obtained for Lake County and overlaid on Digital Ortho Quarter Quadrangles (DOQQ) with the scrub-jay locations. The DOQQs were true color images flown in 2004 at 1-meter resolution.

Results

Habitat Model

The habitat model results are shown in Fig. 1. Large patches of primary habitat are mostly restricted to Marion County in the Ocala National Forest. Smaller patches are found in northern Lake County, embedded in substantially larger patches of secondary habitat. A large patch of secondary habitat, mapped as sandhill by the Florida Gap project, is visible separating the 2 jay populations in southeastern Marion County and northeastern Lake County. A fairly continuous north-south trending ridge of primary and secondary habitat can be seen running roughly parallel to the St. Johns River, and extending south into Orange County.

Dispersal buffer analysis

The dispersal analysis shows two jay "metapopulations" isolated from each other (shown by the 12 km buffers), one occurring exclusively in Ocala National Forest, a second occurring in northeast Lake County and Orange County (Fig. 2).

Three subpopulations (delineated by the 3.5 km buffer) can be seen within the12 km buffer of the northeast Lake County metapopulation (Fig. 2). The southern subpopulation corresponds to the Seminole State Forest, while the other 2 subpopulations occur on habitat outside of public ownership.

Corridors and Stepping Stones

An overview map of potential corridors connecting "stepping stone" populations of jays is shown in Figure 3. A more detailed map showing the corridor route through potential habitat derived from the jay habitat model is shown in Figure 4. The extent of protected and unprotected habitat along the corridor route and where jays have been recorded is shown in Figure 5. A more detailed view of the locations of 2 larger jay populations evident in the central and east-central portion of Figure 5 is shown in Figure 6. These 2 populations occur on the edge of or entirely outside of any protected habitat.

Parcels

Figures 7 through 9 show parcel boundaries (2007 information) focusing on the 2 unprotected jay populations. Many of the parcels in the vicinity of these 2 areas are small (1 acre).

Recommendations

Acquisition

The 2003 Lake County survey and earlier surveys found a substantial number of N. Lake County jays to be outside of public lands (LPG 2003; Stith 1999; see Fig. 5 below). Two unprotected subpopulations of jays are of particular interest (center and east-center of Fig. 5; detailed views in Figures 7 - 9). These 2 subpopulations are adjacent to but outside of the 2007 Florida Forever project boundary. These jays occur mostly in small parcels, but the number of parcels that would need to be acquired to protect these 2 jay populations is relatively small, suggesting that there is an important opportunity for land acquisition to protect a significant number of jays in this part of the Wekiva basin.

Acquisition of these areas is important to the scrub-jay population in this region for several reasons. First, considering only jays in protected areas, there is a substantial gap between the small jay populations in Seminole S.F. and Rock Springs Run St. Pr., and the nearest significant population of jays to the north in Ocala N. F. The jays outside of public lands identified by surveys are strategically located between the two protected but small and somewhat isolated populations, thus providing stepping stone populations that provide connectivity in the form of dispersers and colonizers of restored habitat.

Second, the jay population in Seminole State Forest and Rock Springs Run State Preserve are not invulnerable from a population viability perspective. Stith (1999) found that this metapopulation (M18) had a probability of quasi-extinction of 3 percent over a 60 year period (Table 2-18b), assuming that no acquisition of unprotected habitat occurred and jays on public land were restored to support about 67 territories, including 30 territories in Seminole State Forest and 19 territories in Rock Springs Run State Preserve (Table 2-18a). The latter restoration assumptions have so far proven to be overly optimistic. Acquisition of the remaining unprotected lands reduced quasi- and extinction probabilities to 0 percent, assuming all overgrown habitat were restored and re-occupied (Table 2-18b).

Third, acquiring land for scrub-jays protects a number of upland species that have similar habitat requirements and provides habitat diversity for numerous species that utilize upland and lowland habitats. Focusing on acquiring lands to provide a more continuous corridor of upland habitat will benefit numerous other species and will reduce edge effects due to the encroachment of human development. The Florida Forever project boundary excludes these upland areas and emphasizes more mesic habitat.

Habitat management and restoration

The 2003 Lake County survey reported that most habitat in northern Lake County was becoming overgrown (Environmental & Permitting Services, Inc. 2003). Visual examination of the 1-meter resolution DOQQs from 2004 suggest that most habitat is overgrown and becoming increasingly suboptimal for scrub-jays (Stith, pers.obs.).

The overgrown status of jay habitat is an immediate threat to jays living in such suboptimal conditions. Fitzpatrick and Woolfenden (1986) demonstrated that jays in suboptimal conditions have much lower survival and reproductive rates than jays in optimal habitat. Efforts to restore habitat where jays currently exist should be given high priority. Given the poor long distance dispersal ability and conspecific attraction of jays, restoration likely will be more successful if carried out in areas that are adjacent to or near other jay populations. Sites that are more distant from existing jay populations are less likely to be naturally colonized and should be given lower priority.

An additional factor adding to the importance of maintaining existing populations of jays is the difficulty of translocating jays to suitable but unoccupied habitat (Mumme and Below 1999; Reed Bowman pers. comm.). In the absence of a highly successful method of translocating jays, maximizing the potential for dispersing jays to naturally colonize restored habitat should be emphasized.

Connectivity and corridors

The dispersal analysis suggests that existing jay populations in the lower Wekiva basin of northern Lake County are split into 3 subpopulations that are separated from each other by moderate dispersal distances (greater than 3.5 km). Maintaining connectivity between these subpopulations by restoring and managing upland xeric habitat along the corridors identified in

Figures 4 – 6 should be an important priority for maintaining the viability of the jay population in this region.

On a larger scale, creating connectivity between the huge Ocala National Forest metapopulation and the much smaller north Lake County metapopulation may further increase the viability of the latter population by providing additional dispersers from the large Ocala National Forest population.

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Appendix A

Scrub-Jay Habitat Model Script

1) Model requires an input grid called "scrubfitz" where all "scrubby" areas are given a value of 1 and all other areas a value of 0. This was a survey of Florida scrub-jay habitat and populations done by the Archbold Biological Station in the early 1990s across the range of the species. It provides a good supplementary data source for identifying land cover in high and dry areas that might support scrub-jays and other associated species requiring scrub or scrub-like vegetation and adjacent communities on dry soils. This input layer could be modified in the future to include all areas on District lands known to support populations of Florida scrub-jay.

"[out1] = CON([landuse] == 4112 or [landuse] == 4130 or [landuse] == 4131 or [landuse] == 4211 or [landuse] == 4212 or [landuse] == 4320 or ((([landuse] ge 1900 and [landuse] lt 2000) or ([landuse] ge 3000 and [landuse] lt 4000) or [landuse] == 4120 or [landuse] == 4121 or [landuse] == 4210) and [scrubfitz] == 1) or ((([landuse] ge 1900 and [landuse] lt 2000) or ([landuse] ge 3000 and [landuse] lt 4000)) and ([soils] gt 0 and [soils] lt 4)), 1)" + vbLf + _

This step identifies all potentially suitable scrub and sandhills scrubby flatwoods (4112); sand pine scrub (4130); overgrown sand pine scrub (4131); sand live oak scrub (4211); overgrown oak scrub/xeric hammock (4212); and scrub oak (4320) are identified as primary habitat, which are given a value of 1. Also, all open lands (1900s); rangelands (3000s); sandhill (4120); overgrown sandhill/xeric hammock (4121); and oak sandhill (4210) that overlapped with surveyed scrub sites (Fitzpatrick et al. 1992) as primary habitat, which are given a value of 1. Finally, open lands (1900s) or rangelands (3000s) that overlap with xeric soils are also as primary habitat, which are given a value of 1.

"[out2] = CON(([landuse] ge 1900 and [landuse] lt 2000) or [landuse] == 2120 or ([landuse] ge 2600 and [landuse] lt 2700) or ([landuse] ge 3000 and [landuse] lt 4000) or [landuse] == 4100 or [landuse] == 4110 or [landuse] == 4111 or [landuse] == 4120 or [landuse] == 4121 or [landuse] == 4131 or [landuse] == 4140 or [landuse] == 4200 or [landuse] == 4210 or [landuse] == 4212 or [landuse] == 4250 or [landuse] == 4270 or [landuse] == 4340 or [landuse] == 4380 or [landuse] == 7200 , 1, 0)" + vbLf + _

This step identifies potentially suitable adjacent land cover. Open lands (1900); unimproved pasture (2120); fallow agriculture (2600s); rangelands (3000s); upland coniferous forest (4100); pine flatwoods (4110); mesic pine flatwoods (4111); sandhill (4120); overgrown sandhill/xeric hammock (4121); pine-mesic oak (4140); upland hardwood forests (4200); oak sandhill (4210); temperate hardwoods (4250); live oak (4270); mixed hardwood-pine (4340); mixed hardwoods (4380); and sand other than beaches (7200) are all identified as potential secondary habitat and given a value of 1.

"[out3] = EUCDISTANCE([out1], #, #, 2000, #)" + vbLf + _

This step identifies the areas within 2000 meters of primary habitat.

"[out4] = CON(isnull([out1]) and [landuse] ge 0, 0, 1)" + vbLf + _

This step converts No Data in the output of steps 1 to make it compatible with the final step.

"[out5] = CON(isnull([out3]) and [landuse] ge 0, 0, CON([out4] == 1, 1, CON([out2] == 1, 2, 0)))"

This step creates the final habitat grid where all primary habitat is assigned a value of 1, and all secondary cover types within 2000 meters of primary habitat is assigned a value of 2, and all other cells receive a value of 0.

"[out1] = CON([landuse] == 4112 or [landuse] == 4130 or [landuse] == 4131 or [landuse] == 4211 or [landuse] == 4212 or [landuse] == 4320 or ((([landuse] ge 1900 and [landuse] lt 2000) or ([landuse] ge 3000 and [landuse] lt 4000) or [landuse] == 4120 or [landuse] == 4121 or [landuse] == 4210) and [scrubfitz] == 1) or ((([landuse] ge 1900 and [landuse] lt 2000) or ([landuse] ge 3000 and [landuse] lt 4000)) and ([soils] gt 0 and [soils] lt 4)), 1)" + vbLf + _

"[out2] = CON(([landuse] ge 1900 and [landuse] lt 2000) or [landuse] == 2120 or ([landuse] ge 2600 and [landuse] lt 2700) or ([landuse] ge 3000 and [landuse] lt 4000) or [landuse] == 4100 or [landuse] == 4110 or [landuse] == 4111 or [landuse] == 4120 or [landuse] == 4121 or [landuse] == 4131 or [landuse] == 4140 or [landuse] == 4200 or [landuse] == 4210 or [landuse] == 4212 or [landuse] == 4250 or [landuse] == 4270 or [landuse] == 4340 or [landuse] == 4380 or [landuse] == 7200 , 1, 0)" + vbLf + _

"[out3] = EUCDISTANCE([out1], #, #, 2000, #)" + vbLf + _

"[out4] = CON(isnull([out1]) and [landuse] ge 0, 0, 1)" + vbLf + _

"[out5] = CON(isnull([out3]) and [landuse] ge 0, 0, CON([out4] == 1, 1, CON([out2] == 1, 2, 0)))"

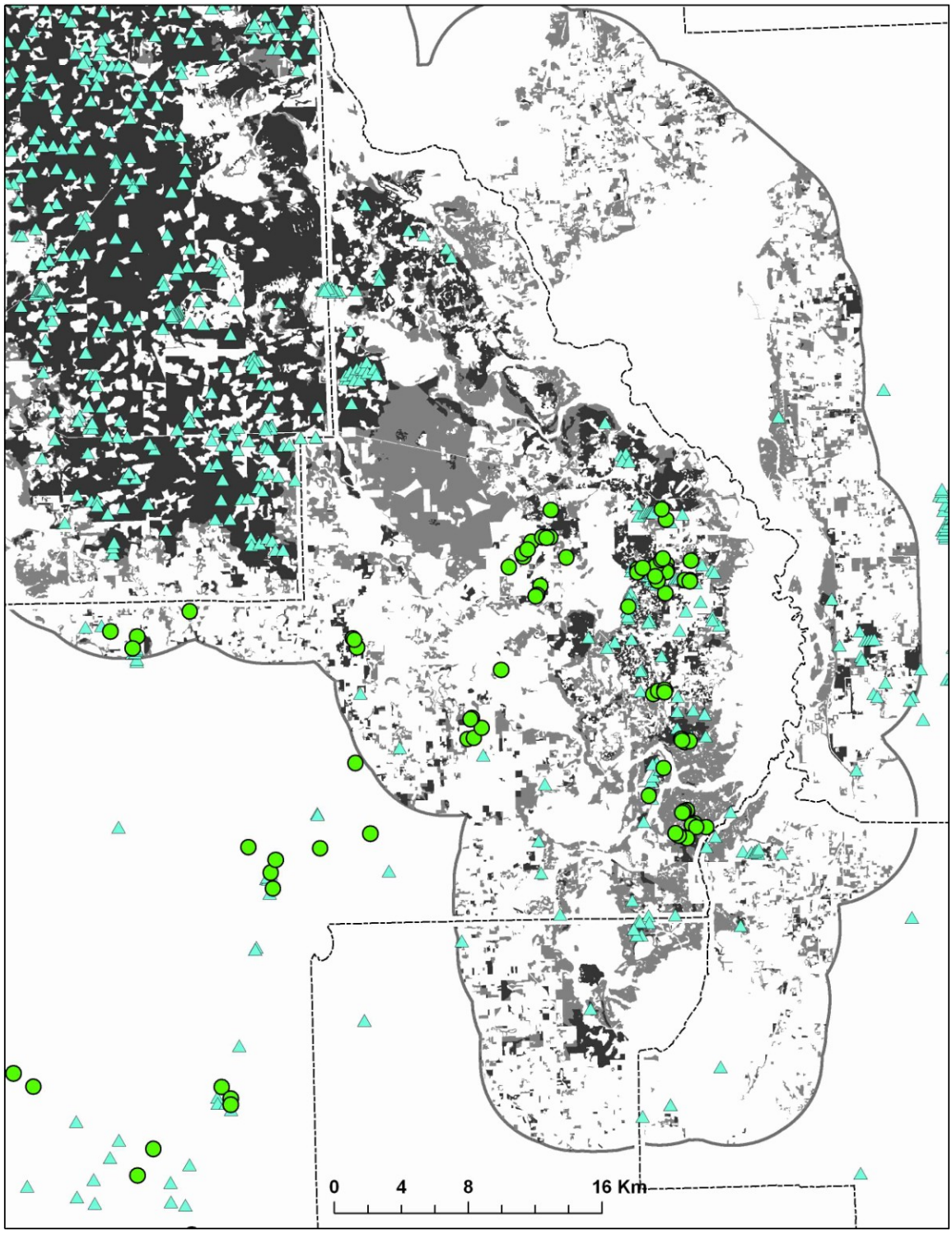

Figure 1. Map of scrub-jay habitat derived from the GIS habitat model. Black areas show primary habitat, grey areas show secondary habitat. Green dots show jay locations from the 2003 survey. Light blue triangles show jay territory locations from the 1992-1993 statewide survey.

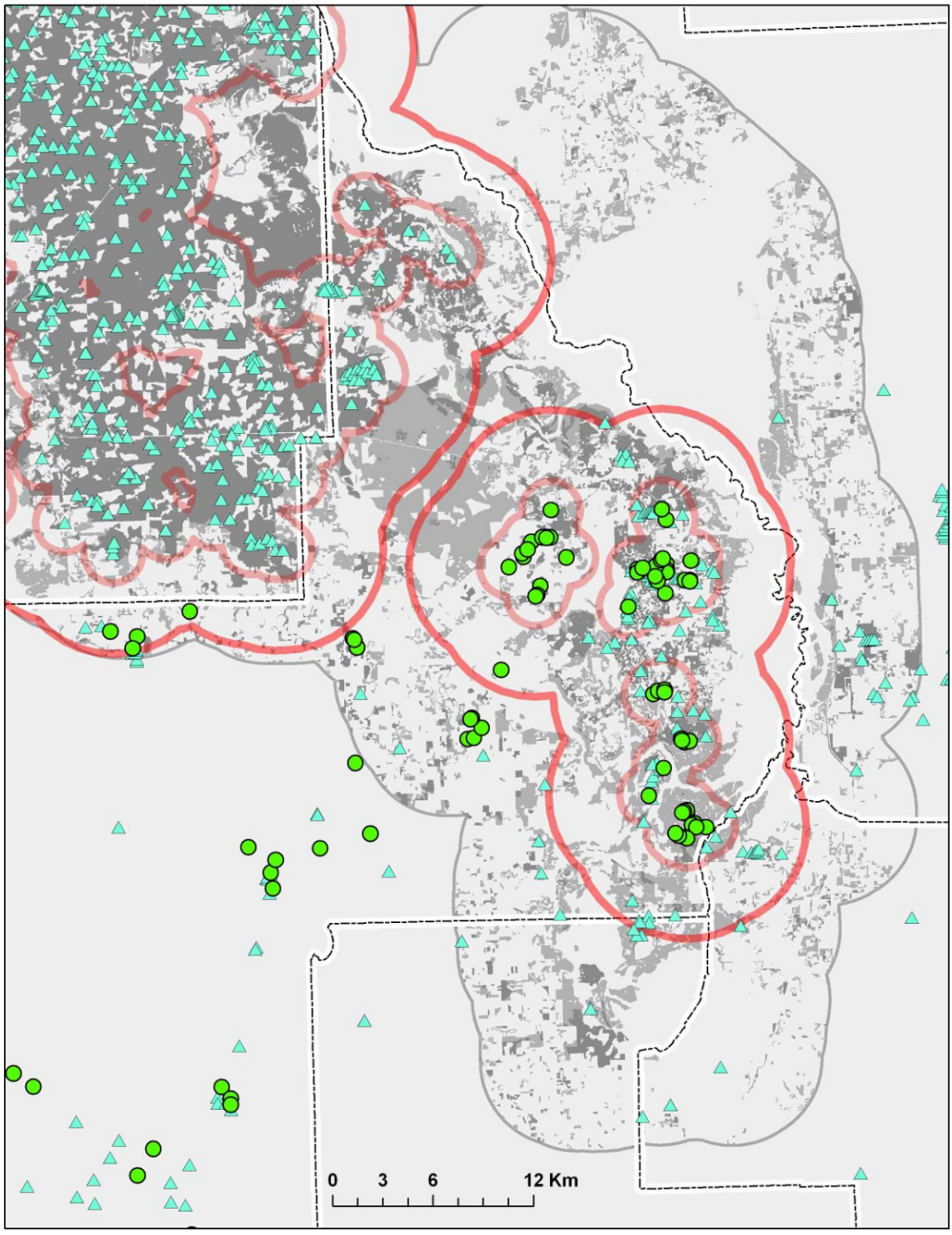

Figure 2. Map of dispersal buffers showing jay populations of primary interest to this study within 12 km and 3.5 km of each other. The 12 km buffers suggest that there is a significant gap between jays in Ocala National Forest and those further south in Lake County. Three subpopulations are evident in the Lake County portion of the Basin.

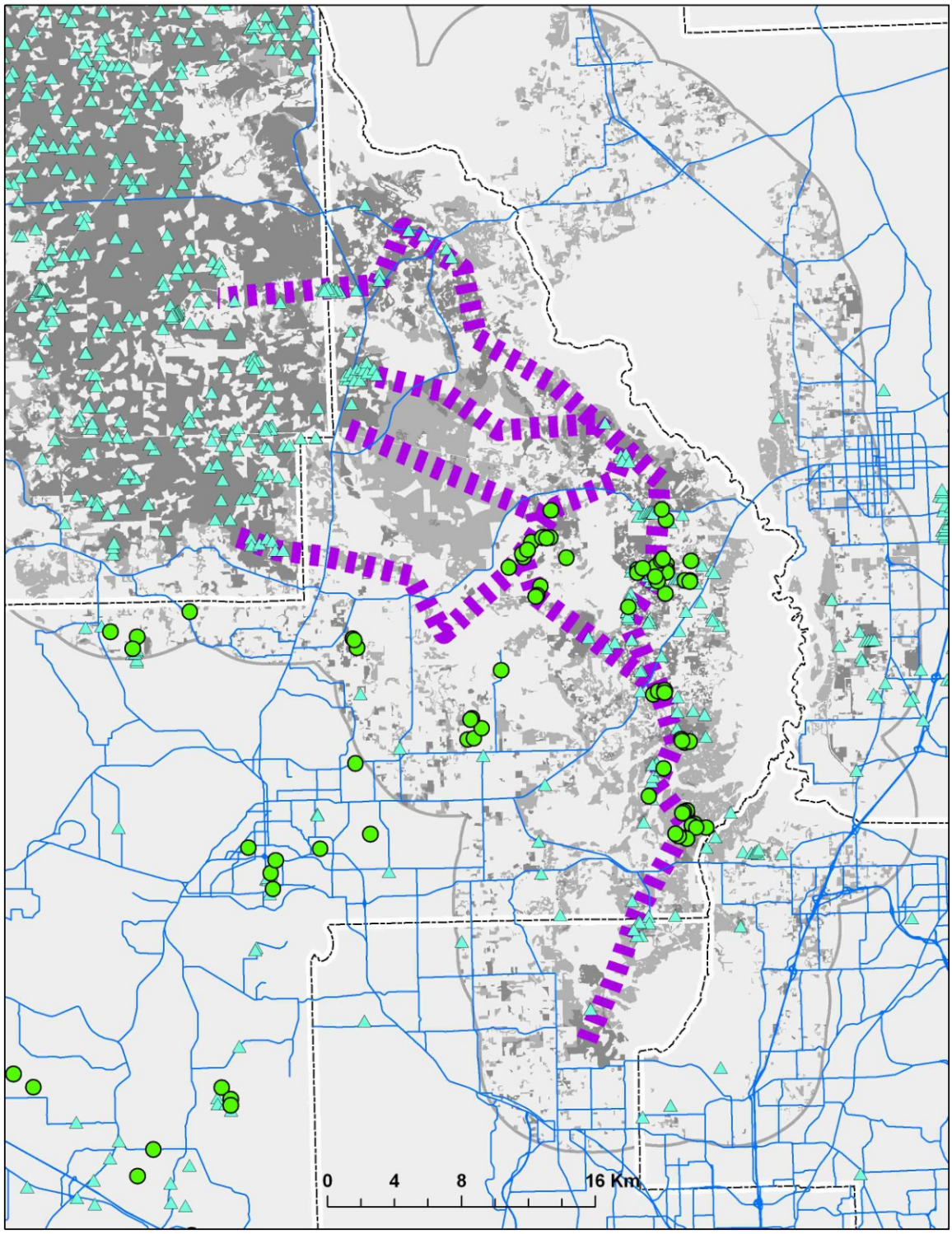

Figure 3. Map depicting possible dispersal corridors (thick dashed line) for scrub-jays that would provide enhanced connectivity between Ocala National Forest and jays in the southern extent of the Wekiva basin. The road network is depicted as blue lines.

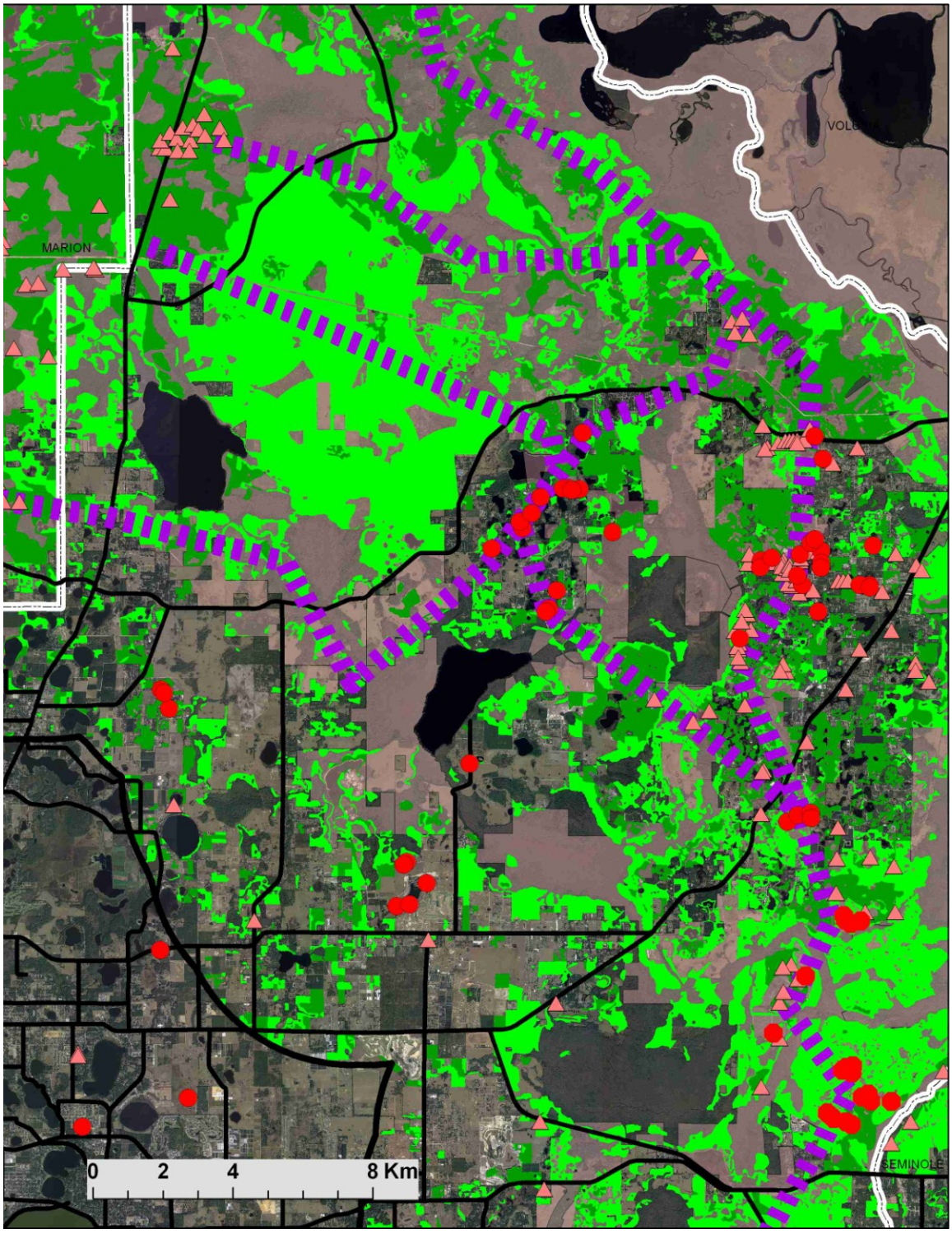

Figure 4. Map showing 2004 DOQQs with potential scrub-jay habitat patches showing primary habitat (dark green) and secondary (light green) habitat. Also shown are possible dispersal corridors (thick dashed line, scrub-jay locations (red dots=2003; pink triangles = 1992-1993), road network (black lines), and protected areas (light pink).

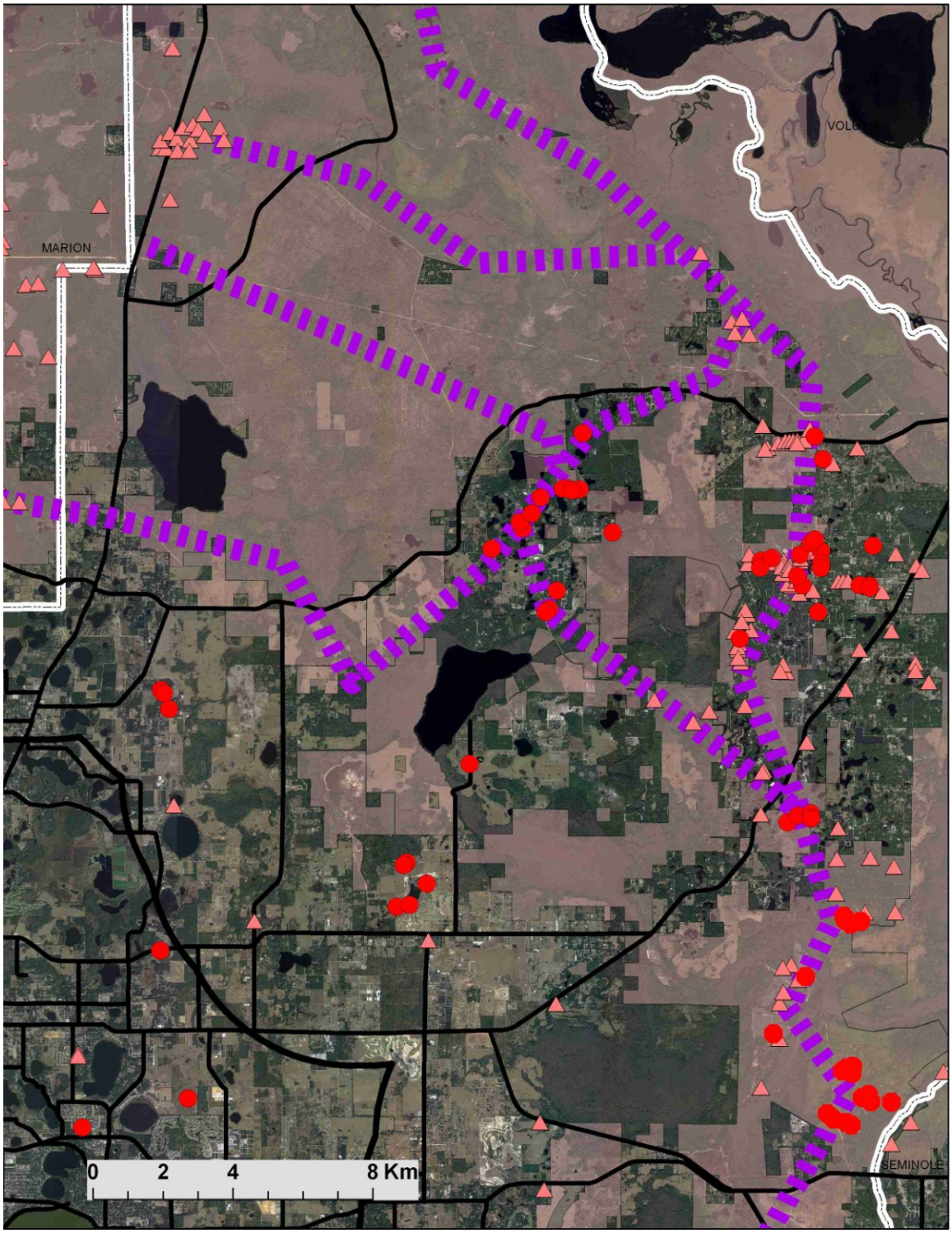

Figure 5. Map showing 2004 DOQQs with protected habitat masked in transparent pink. Also shown are possible dispersal corridors (thick dashed line), scrub-jay locations from 2003 (red dots) and 1992-1993 (pink triangles), and road network (black lines).

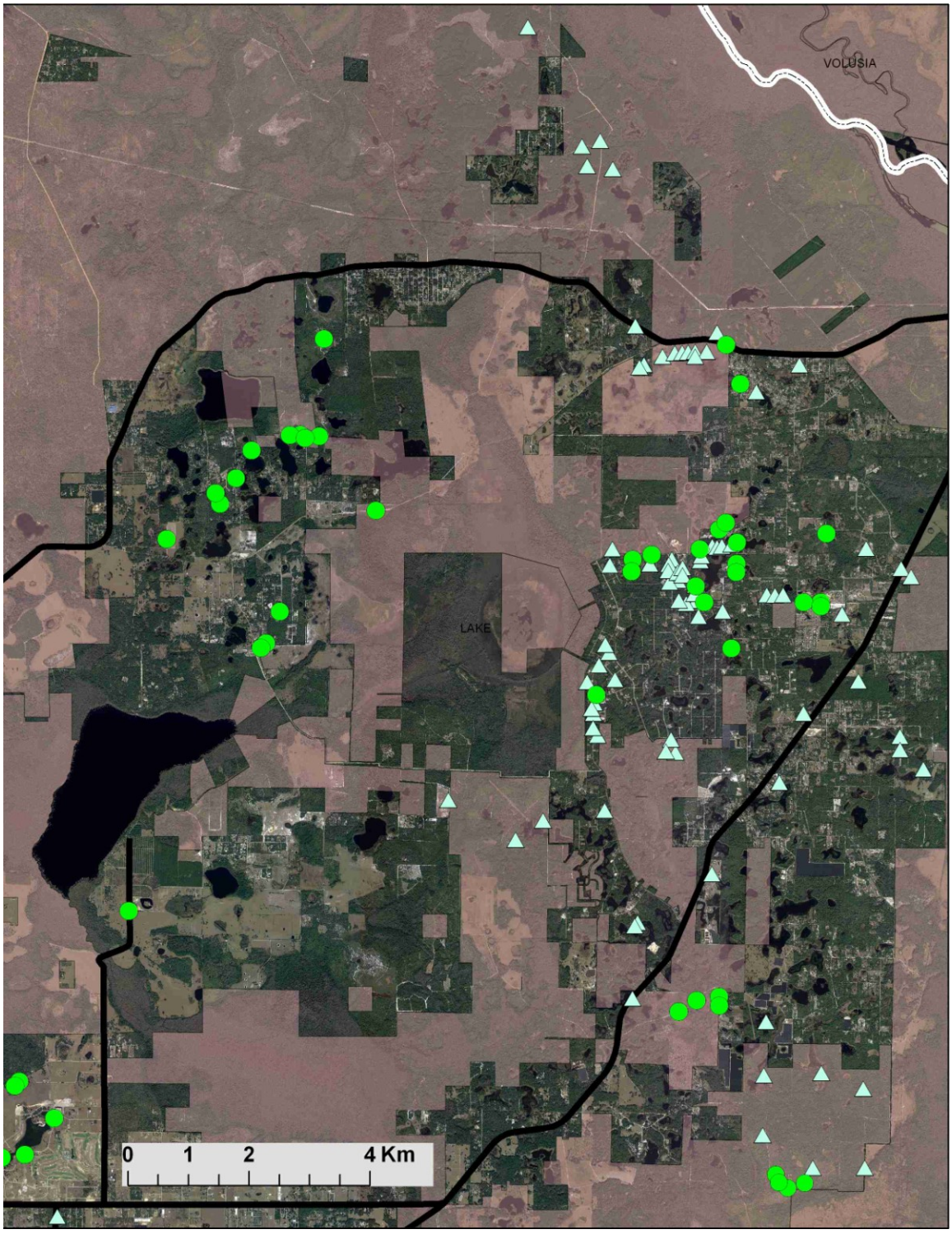

Figure 6. Focal area map of east-central portion of Fig. 5 showing 2004 DOQQs with protected habitat masked in transparent pink. Also shown are scrub-jay locations from 2003 (green dots) and 1992-1993 (light blue triangles), and road network (black lines).

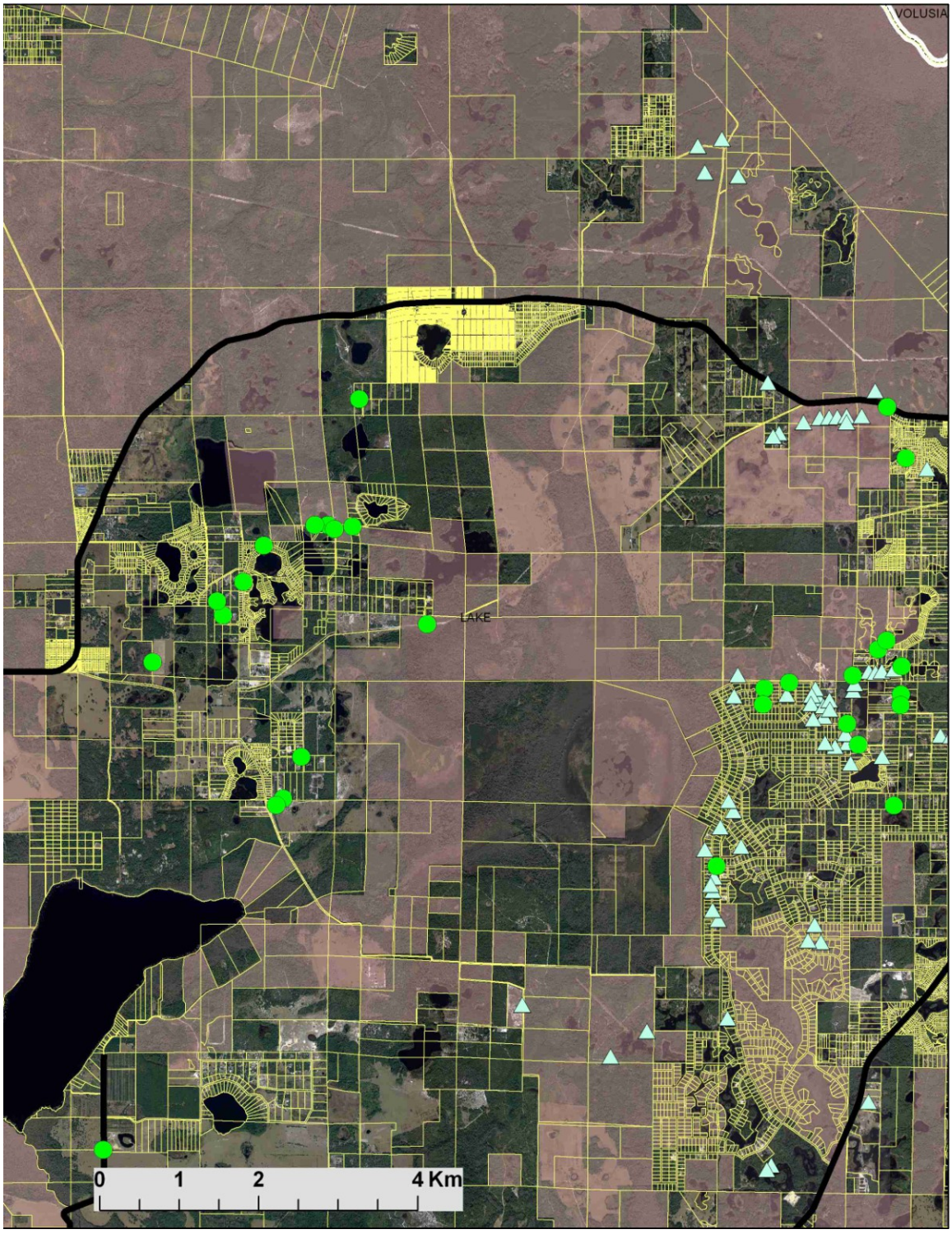

Figure 7. Focal area map of east-central section of Fig. 6 showing parcel boundaries over 2004 DOQQs with protected habitat masked in transparent pink. Also shown are scrub-jay locations from 2003 (green dots) and 1992-1993 (light blue triangles), and road network (black lines).

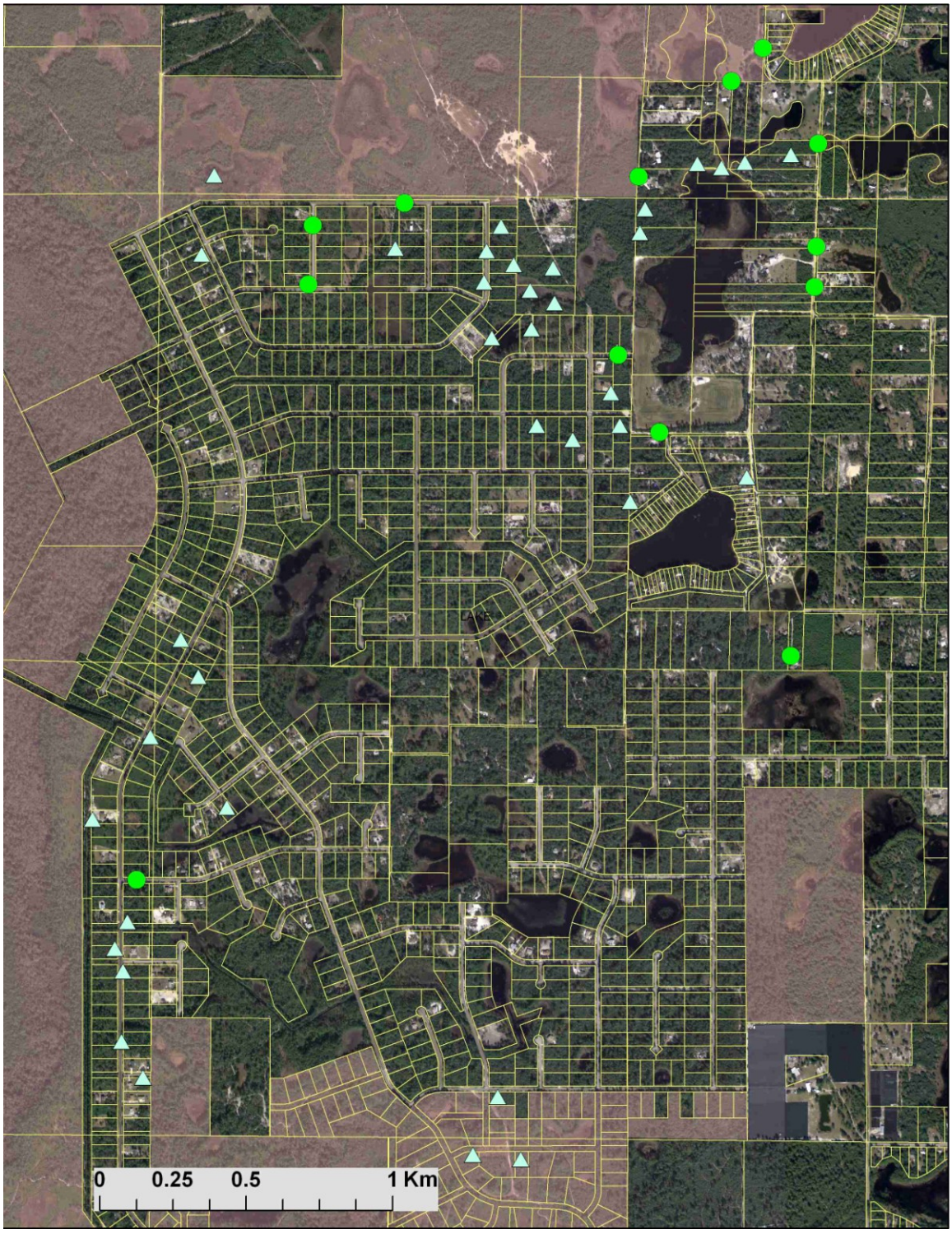

Figure 8. Detail map of east-central portion of Fig. 7 showing parcel boundaries over 2004 DOQQs with protected habitat masked in transparent pink. Also shown are scrub-jay locations from 2003 (green dots) and 1992-1993 (light blue triangles), and road network (black lines).

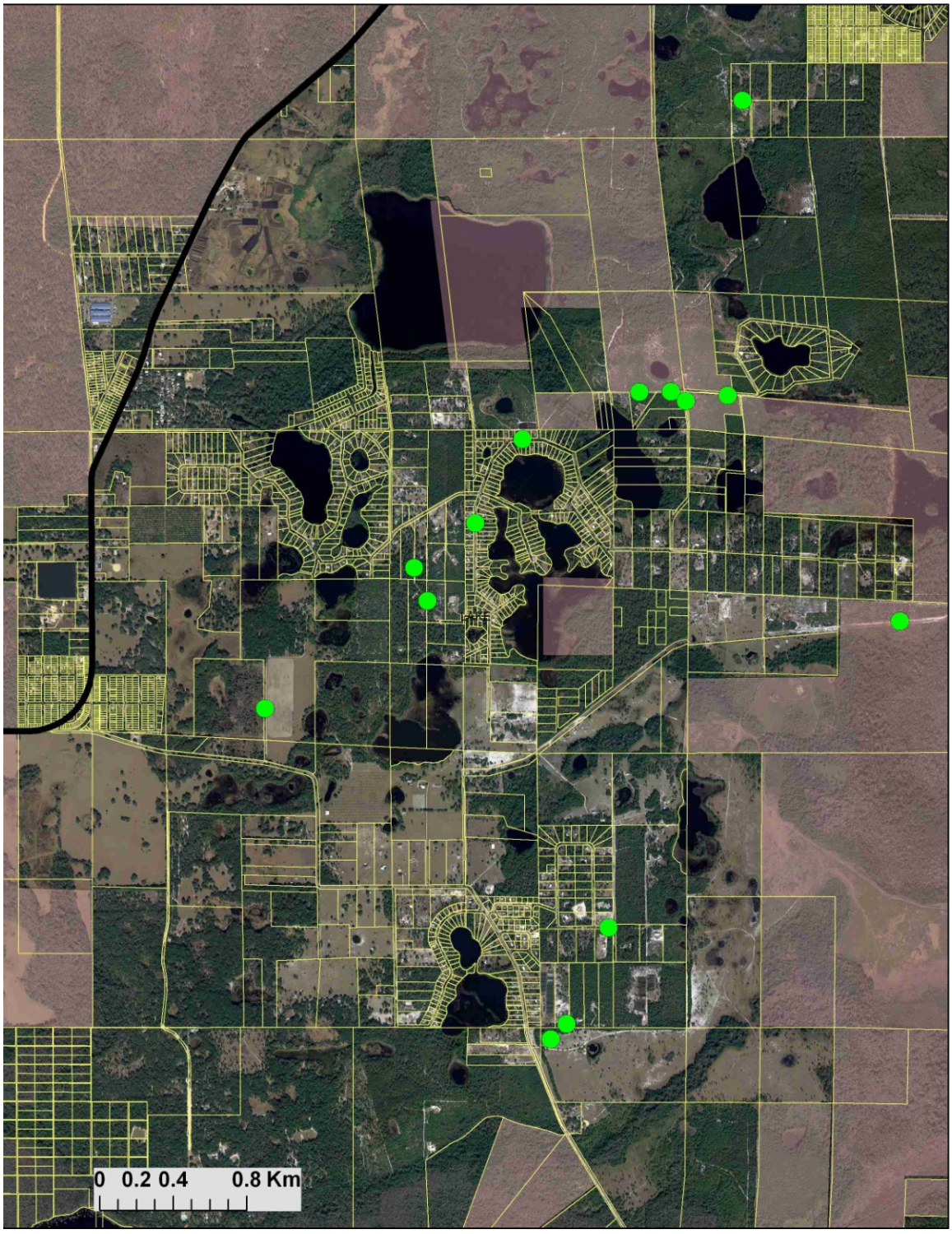

Figure 9. Detail map of west-central portion of Fig. 7 showing parcel boundaries over 2004 DOQQs with protected habitat masked in transparent pink. Also shown are scrub-jay locations from 2003 (green dots) and 1992-1993 (light blue triangles), and road network (black lines).

APPENDIX A. FLORIDA BLACK BEAR MODEL DESCRIPTION

SUMMARY

Florida black bear habitat was identified using four variables including 1) natural community type, 2) patch size, 3) distance from primary habitat patches, and 4) connectivity to large habitat patches. WMD land use data was used to identify bear habitat.

Model Steps

1) Land cover types that can be considered primary habitats were identified (Cox et al. 1994; Maehr et al. 2001; Larkin et al. 2004). See Table A1.

Table A1. Land cover/land uses identified as primary habitat.

FLUCCS Code	***Description***
4100	Pineland
4110-4112	Pine flatwoods
4130	Scrub
4140	Pine-mesic oak
4200	Upland hardwood forest
4211	Sand live oak (Oak Scrub)
4212	Overgrown Oak Scrub (Xeric Hammock)
4220	Brazilian pepper
4230	Oak-pine-hickory
4250	Temperate hardwoods
4260	Tropical hardwoods
4270	Live oak
4280	Cabbage palm hammock

4290	Wax myrtle-willow
4300	Other upland hardwood forests
4310	Beech-magnolia
4320	Sand live oak
4330	Western Everglades hardwoods
4340	Mixed hardwood-pine
4380	Mixed hardwoods
4390	Other hardwoods (or maritime hammocks)
6100	Wetland hardwood forests
6110	Bay swamp
6120	Mangrove swamp
6130	Gum swamp
6140	Titi swamp
6150	Bottomland swamp
6160	Inland ponds and sloughs
6170s	Mixed wetland hardwoods
6180s	Cabbage palm savannas

Table A1. (continued).

FLUCCS Code	***Description***
6200	Wetland coniferous forest
6210	Cypress swamp
6218	Cypress melaleuca infested
6220	Pond pine (wetland pine)
6230	Atlantic white cedar
6240-6250	Cypress-pine-cabbage palm

6300	Wetland forested mixed
6310	Hydric hammock
6320	Tidal swamp
6460	Mixed scrub-shrub wetland
6900	Wetland shrub

2) Land cover types that can be considered secondary habitats were identified (Cox et al. 1994; Maehr et al. 2001). See Table A2.

Table A2. Land cover/land uses identified as secondary habitat.

FLUCCS Code	***Description***
1900s	Open land (often platted but not developed)
2130	Woodland pasture
2600s	Fallow agriculture
3000s	Herbaceous rangeland
4119	Pine flatwoods melaleuca infested
4120	Longleaf pine sandhill
4121	Overgrown Sandhill (Xeric Hammock)
4190	Other pines (or hunting plantation woodlands)
4210	Oak sandhill
4240	Melaleuca
4289	Cabbage palm melaleuca infested
4350	Dead trees
4370	Australian pine
4400s	Pine plantations
6219	Cypress and wet prairie

6400	Vegetated non-forested wetland
6410s	Freshwater marsh
6430	Wet prairie
6439	Wet prairie with pine
6600	Cut over wetlands
7400s	Disturbed land

3) All patches of primary habitat greater than 37 acres were identified, based on the methods used in Cox et al. (1994).

4) Some patches of secondary habitat or smaller patches of primary habitat that are near larger primary habitat (37 acres and larger) can also be used by bears. However, patches separated by intensive land uses that cannot be reached or easily reached may not be used. Therefore, the potentially "traversable matrix" of land cover and land uses was identified. The traversable matrix included everything except intensive land uses though roads also were included to model patches across roads that bears might be able to access (Larkin et al. 2004). See Table A3.

Table A3. Land cover/land uses identified as traversable matrix.

FLUCCS Code	***Description***
1650	Reclaimed lands
1730	Military
1800	Recreational
1810	Swimming beach
1820	Golf courses
1850	Parks and zoos
2100s	Cropland or pasture
2200s	Tree crops
2400s	Nursery, sodfarm, or vineyard
2500s	Specialty farms

6420	Saltmarsh
6440	Emergent aquatic vegetation
6500	Non-vegetated wetlands
6510	Tidal flats (or salt barrens)
6520	Shorelines
6530	Intermittent ponds
7000	Barren land
7100	Beaches
7200	Sand other than beaches
7500	Riverine sandbars
8100	Transportation (primarily roads)
8120	Railroads
8140s	Roads
8160	Canals and locks
8170	Gas pipelines
8190	Transportation under construction (primarily roads)
8191	Highway under construction
8300	Utilities (primarily powerlines)
8320	Electric power lines

5) Large water bodies were not included as potential habitat, but narrow channels that might be crossed were identified and included within the traversable matrix. Narrow water gaps were defined as $\leq$100 meters.

6) A traversable matrix data layer was created by combining all primary, secondary, matrix landcover and land uses and water gaps $\leq$100 meters in width.

7) Then, all primary habitat patches < 37 acres and all secondary habitat within 1 kilometer and connected to the 37 acres patches (including through suitable matrix land uses) were identified.

8) Narrow areas only connected by roads within traversable matrix were removed. Narrow areas were defined as any area 200 meters^2 with less than 75% in primary, secondary, or matrix cover. This was done to allow road crossings where other suitable landcover or land use existed on each side of roads but to eliminate road areas that were surrounded by unsuitable areas so that they could not serve as "artificial" connections between otherwise suitable areas.

9) All primary and secondary habitats were combined to identify blocks $\geq$10,000 acres. This was done to identify areas that are more likely to be large enough to serve as minimum functional habitat units for black bear (Hellgren and Maehr 1992). To identify other areas that are potentially significant, patches between 5,000 and 10,000 acres were also identified. All habitat in blocks smaller than 5,000 acres (including traversable matrix) were deleted.

10) The final habitat map includes 6 ranks: 1) all primary habitat (including mangroves) within combined patches containing $\geq$ 10,000 acres of primary habitat are given a value of 1; 2) all secondary habitat within combined patches containing $\geq$ 10,000 acres of primary are given a value of 2; 3) all traversable matrix within combined patches containing $\geq$ 10,000 acres of primary habitat is given a value of 3; All other cells are given a value of 0; 4) all primary habitat (including mangroves) within combined patches containing $\geq$ 5,000 acres of primary habitat are given a value of 4; 5) all secondary habitat within combined patches containing $\geq$ 5,000 acres of primary are given a value of 5; 6) all traversable matrix within combined patches containing $\geq$ 5,000 acres of primary habitat is given a value of 6. All other cells are given a value of 0.

Appendix B: Highway Hotspots Priorities Model Methodology

Background

In 2000, an expert-based decision-support model to identify and prioritize sites for ecopassages was developed for the Florida Department of Transportation (DOT). The model used a weighting algorithm and several ecological factors (chronic road-kill sites, landscape gradients, focal species hot spots, greenway linkages, presence of listed species, strategic habitat conservation areas, riparian corridors, rare habitat types, existing conservation lands, and proposed road projects) to prioritize existing road segments for retrofits designed to reduce road-kills and restore important habitat linkages. In 2004-5, we were engaged by the Florida DOT to update the prioritization model (Smith 2005). The same process with most recent available datasets was used for the Wekiva – Ocala Corridor project area.

Prioritization Process

A McHargian overlay process was employed (McHarg 1971); it combines multiple sets of resources into one data layer to highlight cumulative effects (locations with multiple impacts or "hotspots"). Criteria and rankings were based on responses to a survey conducted at the 1996 International Conference on Wildlife Ecology and Transportation in Orlando, Florida (Smith et al. 1996). Eleven criteria were identified and ranked as follows:

1. Chronic road-kill sites
2. Known migration/movement routes
3. Focal species hot spots
4. Landscape linkages (designated greenways)
5. Presence of listed species
6. Strategic habitat conservation areas
7. Riparian corridors (with potential for retrofitting existing structures)
8. Core conservation areas
9. Presence of ephemeral breeding sites
10. Public ownership (or in public land acquisition program)
11. Proposed road improvement project

Spatial data layers corresponding to these criteria were normalized on a scale of 1 to 16 and grouped into six categories to balance weightings and to account for redundancy of information:

Category	Layers/Elements	Weight
Landscape Features	8	6
Biological Features	2	7
Chronic Roadkill Sites	1	9
Conservation Planning	5	5
Public Ownership	1	3
Infrastructure	1	1

A flow chart explaining the calculation algorithm (see Smith 2003) used is shown in Fig. B1. Cell resolution used in the model was 30 m.

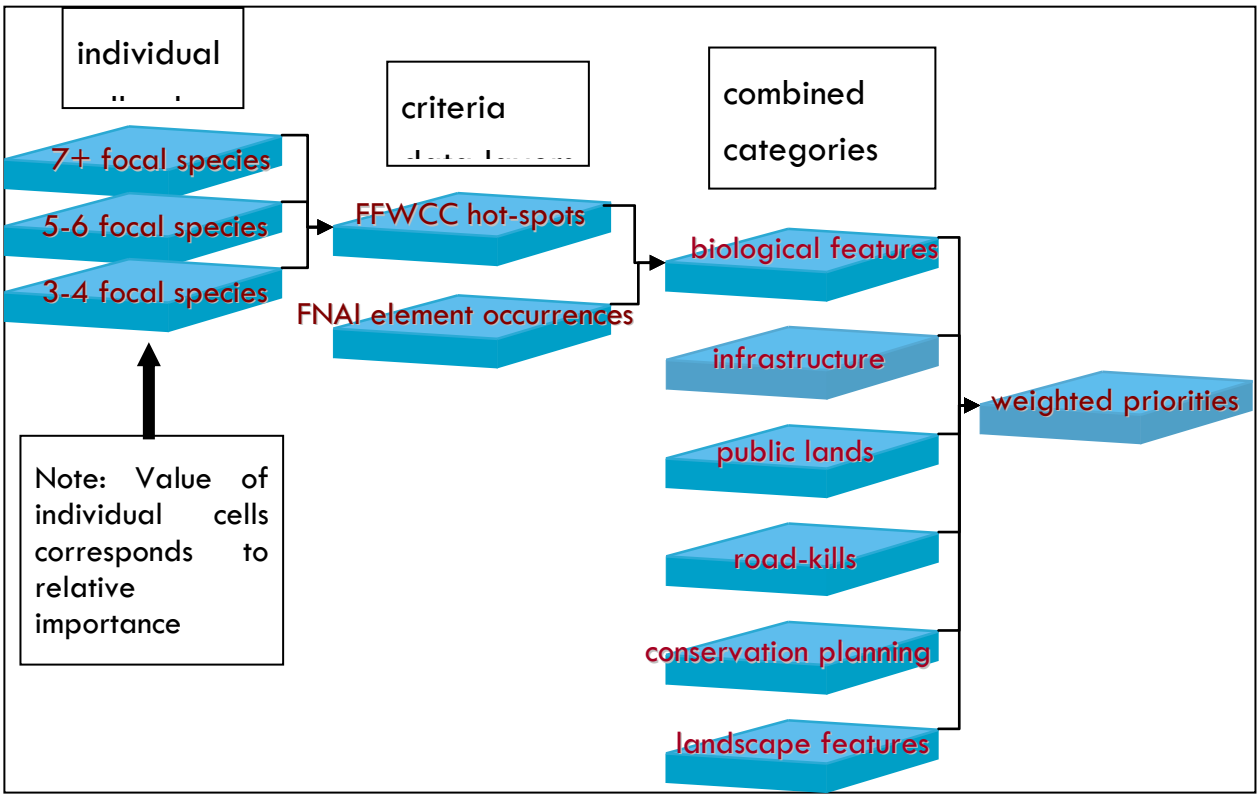

Figure B1. An example showing the function of the analysis algorithm. Each combined category is multiplied by its assigned weighting and then added together to generate a final priorities layer.

All criteria used in the prioritization process including elements of each criterion and base values are listed in Table B1.

Table B1. Model Criteria and Grid Values.

Category	Criteria	Base Value
Biological	**Focal Species Hotspots, includes 130 spp (FWC 2003)**	
Features	10-12 species in wetlands	16
	7-9 species in uplands	12
	4-6 species in uplands/wetlands	8
	1-3 species in uplands/wetlands	4
	Element Occurrences of listed species (FNAI 2005)*	
	Endangered	16
	Threatened	12
	Species of Special Concern/Bird Rookery	8
	Other Rare Species	4

Table B1. (Continued).

Category	Criteria	Base Value
Landscape	**Riparian (USGS, FWC 2003)****	
Features	Streams/Lakes/Springs in rare habitats	16
	Streams/Lakes/Springs in native communities	14
	Canals in rare/native communities	12
	Streams/Lakes/Springs in disturbed natural areas	9
	Canals in disturbed natural areas	7

	All in substantially-converted lands	5
	All in urban areas	2
	Intermittent Wetlands, context (USGS Hydrography 1:24,000)**	
	rare habitats	16
	native communities	13
	disturbed natural areas	10
	substantially-converted lands	6
	urban areas	3
	Priority Wetlands, context (FNAI 2003)**	
	rare habitats	16
	native communities	13
	disturbed natural areas	10
	substantially-converted lands	6
	urban areas	3
	Gradients	
	Topography (USGS DEM 1:250,000) -	
	> 75 m	16
	60 - 74 m	13
	40 - 59 m	10
	20 - 39 m	6
	< 20 m	3

	Slope* (USGS DEM 1:250,000) -	
	15.4 – 19.2 degrees	16
	11.5 – 15.3 degrees	13
	7.7 – 11.4 degrees	10
	3.9 – 7.6 degrees	6
	0 – 3.8 degrees	3
	Physiography, isolated upland features (SJRWMD) -	
	Ridges	16
	Hills	13
	Inclines	10
	Slopes	6
	Bar	3
	Ecotones* (of natural lands**, FWC 2003)	16

Table B1. (Continued).

Category	Criteria	Base Value
Landscape	**Habitat/Land Cover** (FWC 2003)**	
Features	Rare/Important Habitats	16
(cont.)	Native Communities	13
	Disturbed Natural Areas	10
	Substantially-converted Lands	6
	Human-dominated Areas	3
Public	**Public Lands (FNAI 2006)**	

	Public or private trust preserves/National Parks	16
	Restricted access public conservation lands	11
	Multi-use conservation areas	5
Planning	**Proposed Conservation Lands (FNAI 2006)**	
	Three	16
	Two	11
	One	5
	Strategic Habitat Conservation Areas (FWC 2006)	
	Seven	16
	Six	14
	Five	12
	Four	9
	Three	7
	Two	5
	One	2
	Priority Habitat Areas (FNAI 2006)	
	Six	16
	Five	13
	Four	10
	Three	7

	Two	4
	One	2
	Greenway linkages (FNAI 2006)	
	One	16
	Two	14
	Three	12
	Four	10
	Five	8
	Six	6
	Seven	4
	Eight	2

Table B1. (Continued)

Category	Criteria	Base Value
Planning (cont.)	**Integrated Wildlife Habitat Ranking System (FWC 2001)**	
	Nine	16
	Eight	14
	Seven	12
	Six	10
	Five	8
	Four	6
	Three	4
	Two	2

	One	1
Road-kill*	**Road-kill (FWC 2006, state parks 2004)**	
	Endangered Species (panther, key deer)	16
	Threatened Species (black bear)	13
	Parks (t & e), Other Focal Species (river otter, beaver)	10
	Parks - high traffic	7
	Parks - low traffic	4
Infrastructure	**Road Projects (FDOT 2007-2009)**	
	Proposed/new construction and bridge replacements	16
	Road widening, reconstruction, and additional lanes	8
	Speed Limit (FDOT 2006)	
	70 mph	16
	55-65 mph	12
	35-50 mph	8
	15-30 mph	4

* – see description of custom data layer construction below

** – see Table B2 for composition of habitat categories

Notes: 1) abbreviations – FNAI (Florida Natural Areas Inventory), FWC (Fish and Wildlife Conservation Commission), references – Cox and Kautz 2000, Endries and Gilbert 2001.

2) Metadata for original datasets can be acquired from University of Florida Geoplan-FGDL, FNAI and FWC.

***Process used to create custom datasets:**

Known locations of listed species. State and federally listed species, bird rookeries and migratory bird congregation areas, and other rare species were extracted from the Florida Natural Areas Inventory (FNAI) element occurrence database. Base values were set consistent with designated protection levels (Table B1). Each species location was buffered according to home range distances documented in the Florida Gap Analysis Project bibliography (FGAP 1998). The home range of the closest related species was used in cases where home range information was not available. When no information was available, a minimum buffer (radius) of 100 m was used for animals and 50 m for plants. Many bird species were buffered in line with documented negative edge-effect-distance (when home range information was unavailable). Recent Florida panther and black bear telemetry study point locations were also included. Telemetry positions were aggregated and combined home ranges were determined for each species using the Minimum Convex Polygon method.

Slope. Slope was derived from the USGS DEM surface. First, a floating-point grid was generated using the "derive slope" script in the Arcview surface menu. The floating-point grid was reclassed according to five natural breaks in slope severity found in the state (Table B1).

Ecotones. Ecotones were derived from the Florida Fish and Wildlife Conservation Commission (FWC) land cover/habitat dataset. This dataset was based on Landsat satellite imagery at 30 m resolution, and included 43 basic types (Table B2). Only rare habitats, native communities, and disturbed natural areas were used in the creation of the ecotones layer. Neighborhood statistics were conducted on the resulting grid. By executing a focal majority test (5x5 cell neighborhood) increased grouping was achieved that eliminated outlier cells. After which, a focal variety function (3x3-cell neighborhood) was performed to find margins between adjacent differing, habitat types. The resulting grid represented primary habitat ecotones. All areas with a value of one, indicating like adjacent habitat, were eliminated; the remaining values represent those areas where differing habitat types meet. The grid was then converted to a shapefile to define the relative size (area) of identified ecotones. Since the focus was on large-scale movement, anything smaller than 40 ha (approximately 100 acres) was deleted. The remaining areas were converted to grid format for use in the analysis.

Road-kill. Road-kill locations of two focal species (Florida black bear and Florida panther) were buffered by 100 m. Segments of roads passing through or adjacent to Crocodile Lake and Florida Key Deer National Wildlife Refuges in District 6 were buffered by 100 m (because of the presence of endangered species road-kills – Florida key deer and American crocodile, data source: USFWS). Documented point locations of other significant species particularly susceptible to road mortality (river otter, beaver) were also included. Finally, all roads crossing through or adjacent to parks with previously documented road-kills (Florida Department of Environmental Protection, FDEP) were buffered by 100 m and ranked according to one of three categories: state or federally listed species, high traffic and low traffic levels (see Table B1).

Table B2. FFWCC Habitat/Land Cover 2003 Category Assignments.

Type	Group	Group Code
bottomland hardwoods	rare habitats	1
hardwood hammocks and forests	rare habitats	1
tropical hardwood hammock	rare habitats	1
coastal hammock	rare habitats	1
coastal strand	rare habitats	1
mangrove swamp	rare habitats	1
scrub mangrove	rare habitats	1
dry prairie	rare habitats	1
sand pine scrub	rare habitats	1
sandhill	rare habitats	1
xeric oak scrub	rare habitats	1

Table B2. (Continued)

Type	Group	Group Code
bay swamps	native communities	2
cypress swamp	native communities	2
hardwood swamp	native communities	2
mixed wetland forest	native communities	2
cabbage palm-live oak	native communities	2
freshwater marsh and wet prairie	native communities	2
sawgrass marsh	native communities	2

shrub swamp	native communities	2
salt marsh	native communities	2
sand/beach	native communities	2
tidal flat	native communities	2
cypress/pine/cabbage palm	native communities	2
mixed pine-hardwood forest	native communities	2
open water	native communities	2
pinelands	native communities	2
bare soil/clearcuts	disturbed natural areas	3
cattail marsh	disturbed natural areas	3
grassland	disturbed natural areas	3
shrub and brushland	disturbed natural areas	3
unimproved pasture	disturbed natural areas	3
exotic plant communities	substantial conversion	4
low impact urban	substantial conversion	4
improved pasture	substantial conversion	4
other agriculture	substantial conversion	4
australian pine	human dominated lands	5
brazilian pepper	human dominated lands	5
melaleuca	human dominated lands	5
citrus	human dominated lands	5
row/field crops	human dominated lands	5
sugar cane	human dominated lands	5
extractive	human dominated lands	5
high impact urban	human dominated lands	5

Resulting values for the priority data-layer ranged from 0 – 315. These values were ranked on a scale of 1 to 9 (9 = highest, 1 = lowest). Category weighting and aggregation (natural breaks) of data were key elements in the prioritization process. Model priorities indicate significant focus toward protected conservation areas and riparian corridors. Listed species road-kills, element occurrences, and focal species hotspots strongly influenced results due to assigned weightings.

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Appendix C – Field Site Survey

GPS ID	Lat (dd)	Long (dd)	District	County	Location	Road	Road Class	Speed Limit	AADT	# Lanes	Lane-W	ROW-W	Structure Type	Struct-W	Struct-L	Struct-H	Site Description	Animal Use	Conservation Feature	FWC Land Cover	Field Photos
1	28.70554	-81.49671	five	orange	.75 mi east of intersection CR 435	Welch Rd	Collector	45	18067	2	12	50.0	none	0.0	0.0	0.0	kattycorner walls for Wekiva Glen and Wekiva Woods developments, park corner boundary, oak hammocks, paved private access rd to south "Wellsprings"	multiple bear kills	Wekiwa Spgs SP	urban, hardwood hammock/swamp, mixed pine-hardwood	no images
2	28.74525	-81.50887	five	orange	1 mi south of Kelly Park Rd, under construction	CR 435	Minor arterial	45	n/a	4	12	110.0	none	0.0	0.0	0.0	longleaf pine-scrub oaks, sandhilll, scattered dev west, park east	bear road-kill	Wekiwa Spgs SP	sandhill, mixed pine-hardwood, pasture, shrub-brush, urban	no images
3	28.81359	-81.50005	five	lake	2.6 mi west of CR 46a	SR 46	Principal arterial	55-65	17200	2	12	80.0	none	0.0	0.0	0.0	sand live oak, longleaf pine, planted pine, mx pine-hdwd for	multiple bear kills	Rock Spgs Run SP	pasture, pinelands, shrub-brush, mixed pine-hardwood	no images
4	28.81450	-81.49842	five	lake	2.5 mi west of CR 46a	SR 46	Principal arterial	55-65	17200	2	12	80.0	bridge	58.0	49.0	8.0	longleaf pine-sand live oak-palmetto scrub, planted pine	multiple species, bear kills	Rock Spgs Run SP	pinelands, shrub-brush, hardwood swamp, pasture	images
5	28.81657	-81.49420	five	lake	2.2 mi west of CR 46a	SR 46	Principal arterial	55-65	17200	2	12	80.0	none	0.0	0.0	0.0	longleaf pine-sand live oak-palmetto scrub, planted pine, open range	multiple bear kills	Rock Spgs Run SP	pinelands, pasture, shrub-brush	no images
6	28.81472	-81.47037	five	lake	.65 mi west of CR 46a	SR 46	Principal arterial	55-65	17200	2	12	80.0	none	0.0	0.0	0.0	longleaf pine-sand live oak-palmetto scrub	multiple species roadkills	Rock Spgs Run SP	sandhill, pasture, shrub-brush	images
7	28.81125	-81.46438	five	lake	.2 mi west of CR 46a	SR 46	Principal arterial	55-65	17200	2	12	80.0	none	0.0	0.0	0.0	mixed pine-hardwood forest, turkey oak scrub	multiple bear kills	Wekiva-Ocala Grwy	sandhill, urban, freshwater marsh, shrub-brush, pinelands	no images
8	28.81096	-81.46097	five	lake	just east of CR 46a	SR 46	Principal arterial	55-65	22000	2	12	80.0	concrete pipe	3.0	66.0	3.0	open rangeland, oak scrub	multiple bear kills	cross drainage, dry at end of fence, Rock Spgs Run SP	sandhill, shrub-brush, prairie, pinelands, freshwater marsh	no images
9	28.81056	-81.45496	five	lake	east of SR 46A intersection	SR 46	Principal arterial	55-65	22000	2	12	80.0	concrete box culvert	24.0	48.0	8.0	mixed hardwood/pine (fence)	multiple species, bear kills	Rock Spgs Run SP, BMK ranch	sandhill, pinelands, sand pine/oak scrub, shrub-brush	images
10	28.81089	-81.44772	five	lake	.9 mi east of CR 46a	SR 46	Principal arterial	55-65	22000	2	12	80.0	concrete pipe	3.0	66.0	3.0	shrub and brushland, open rangeland	multiple bear kills	cross drainage, within wildlife fence, Wekiva-Ocala Grw	shrub-brush, mixed pine-hardwood, hardwood swamp, shrub swamp	images
11	28.81158	-81.44260	five	lake	1.2 mi east of CR 46a	SR 46	Principal arterial	55-65	22000	2	12	80.0	concrete pipe x 3	2.0	66.0	2.0	hardwoods, rangeland, wekiva pines entr, blind curve & trail	multiple bear kills	cross drainage, dry at end of fence, Rock Spgs Run SP	pinelands, shrub-brush, freshwater marsh, mixed wetland forest, urban	no images
12	28.81534	-81.42818	five	lake	.5 mi west of Wekiva River	SR 46	Principal arterial	55-65	22000	2	12	80.0	none	0.0	0.0	0.0	mixed pine-hardwood forest, pine flatwoods, , gas pipieline row	multiple bear kills	Seminole Forest SF	pinelands, shrub-brush, shrub swamp, freshwater marsh	images
13	28.81522	-81.42242	five	lake	.2 mi west of Wekiva River	SR 46	Principal arterial	55-65	22000	2	12	80.0	none	0.0	0.0	0.0	mixed pine-hardwood forest, pine flatwoods, access rd., gas pipieline row	multiple bear kills	Wekiva-Ocala Grwy	pinelands, shrub-brush, mixed pine-hardwood, freshwater marsh	images
14	28.81506	-81.41896	five	lake	Wekiva River	SR 46	Principal arterial	55-65	22000	2	12	80.0	bridge	528.0	45.0	10.0	hardwood swamp (240' land conn., 450 ' x 10' fence)	multiple bear kills	Wekiva River, Seminole SF	hardwood swamp, mixed wetland forest, freshwater marsh, open water	images
15	28.81473	-81.41387	five	seminole	.3 mi east of Wekiva River	SR 46	Principal arterial	55-65	22000	3	12	105.0	none	0.0	0.0	0.0	longleaf pine, mixed pine-hardwood forest, pine flatwoods, gas	multiple bear kills	Lower Wekiva R SP	pinelands, sandhill, urban, mixed wetland forest, shrub-	images

																pipieline row, turn lane to Wekiva Glen development south			brush	
16	28.81440	-81.40663	five	seminole	.75 mi east of Wekiva River	SR 46	Principal arterial	55-65	22000	4	12	110.0	none	0.0	0.0	0.0	longleaf pine, mixed pine-hardwood forest, pine flatwoods, gas pipieline row, 2 turn lanes, entr lwrsp	multiple species roadkills	Lower Wekiva R SP	sandhill, pinelands, urban, hardwood hammock, mixed pine-hardwood	images
17	28.81427	-81.39303	five	seminole	1.6 mi east of Wekiva River	SR 46	Principal arterial	55-65	22000	3	12	105.0	none	0.0	0.0	0.0	longleaf pine-sand live oak, mixed pine-hardwood forest, turn lane, mostly vacant new developments south, Seminole County water reclamation facility north	multiple bear kills	Yankee Lake	hardwood hammock, mixed pine-hardwood, open water, pinelands, dry prairie	images
18	28.81575	-81.46994	five	lake	.65 mi west of SR 46	CR 46a	Major Collector	55	6704	2	12	105.0	none	0.0	0.0	0.0	open range, pl pine, oak hammock	multiple bear kills	Seminole SF	sandhill, shrub-brush	images
19	28.82398	-81.49538	five	lake	2.3 mi west of SR 46	CR 46a	Major Collector	55	6704	2	12	75.0	none	0.0	0.0	0.0	mixed pine-hardwood forest, palm/oak hammock		Seminole SF	hardwood swamp/hammock, mixed pine-hardwood, pinelands, shrub-brush	images
20	28.82522	-81.50075	five	lake	2.7 mi west of SR 46	CR 46a	Major Collector	55	6704	2	12	80.0	none	0.0	0.0	0.0	mixed pine-hardwood forest, oak hammock	bear road-kill	Seminole SF	hardwood swamp/hammock, mixed pine-hardwood, pinelands, shrub-brush	images
21	28.82653	-81.50641	five	lake	3 mi west of SR 46, culvert 100 m east	CR 46a	Major Collector	55	6704	2	12	80.0	concrete pipe	3.0	60.0	3.0	mixed pine-hardwood forest, oak hammock	multiple bear kills, raccoon, deer, coyote tracks	Seminole SF	hardwood swamp/hammock, mixed pine-hardwood, pinelands, shrub-brush	images
22	28.86388	-81.50689	five	lake	1.6 mi west of CR 44a	SR 44	Minor arterial	55-65	10700	2	12	80.0	concrete pipe x 2	1.0	66.0	1.0	bay swamp, willows, adj. horse farm	multiple bear kills	buried, Wekiva-Ocala Grwy	mixed wetland forest, freshwater marsh, shrub swamp, shrub-brush, pinelands	images
23	28.86770	-81.50084	five	lake	1.2 mi west of CR 44a	SR 44	Minor arterial	55-65	10700	2	12	80.0	none	0.0	0.0	0.0	mixed pine-hardwood forest, oak scrub, rural development	multiple bear kills	Wekiva-Ocala Grwy	mixed wetland forest, hardwood swamp/hammock, shrub-brush, pinelands, pasture	images
24	28.87362	-81.49076	five	lake	.35 mi west of CR 44a	SR 44	Minor arterial	55-65	10700	2	12	80.0	bridge	120.0	42.0	8.0	hardwood swamp, adj. pasture		Blackwater Creek, Seminole SF	hardwood hammock/swamp, pinelands, shrub-brush	images
25	28.87633	-81.48625	five	lake	just west of intersection CR 44a	SR 44	Minor arterial	55-65	10700	2	12	80.0	none	0.0	0.0	0.0	mixed pine-hardwood forest, pine flatwoods, rd.-curve	multiple bear kills	Seminole SF	hardwood hammock/swamp, pinelands, shrub-brush	images
26	28.87703	-81.48917	five	lake	.25 mi west of intersection SR 44	CR 44a	Minor collector	55	1569	2	12	70.0	bridge	150.0	40.0	10.0	hardwood swamp, hardwood hammock, access road	multiple bear kills	Seminole SF	hardwood hammock/swamp, pinelands, dry prairie	images
27	28.89152	-81.46291	five	lake	Cassia, east of intersection Brantly Br.	SR 44	Minor arterial	55-65	7500	2	12	80.0	none	0.0	0.0	0.0	mixed pine-hardwood forest, oak scrub, rural development	bear road-kill	Wekiva-Ocala Grwy	mixed pine-hardwood, hardwood hammock, shrub-brush, pinelands	images
28	28.90067	-81.45594	five	lake	.8 mi east of intersection Brantly Br.	SR 44	Minor arterial	55-65	7500	2	12	80.0	concrete pipe	2.0	66.0	2.0	mixed pine-hardwood forest, palmetto scrub, ephemeral pond,	bear road-kill	Seminole SF	pinelands, shrub-brush, freshwater marsh, shrub swamp, mixed	images

																	rural development			pine-hardwood	
29	28.90606	-81.45494	five	lake	1.2 mi east of intersection Brantly Br.	SR 44	Minor arterial	55-65	7500	2	12	80.0	concrete pipe	2.5	66.0	2.5	mixed pine-hardwood forest, bay swamp, wet prairie	bear road-kill	Seminole SF	open water, freshwater marsh, pinelands, xeric oak xcrub	images
30	28.90939	-81.45157	five	lake	.8 mi west of Royal Trails entrance	SR 44	Minor arterial	55-65	7500	2	12	80.0	none	0.0	0.0	0.0	sand pine/xeric oak scrub, mixed pine-hardwood forest, rural development		Seminole SF	pinelands, freshwater marsh, open water, xeric oak scrub, shrub-brush	images
31	28.91196	-81.44903	five	lake	.6 mi west of Royal Trails entrance	SR 44	Minor arterial	55-65	7500	2	12	80.0	none	0.0	0.0	0.0	loblolly pine-palmetto scrub, ephemeral pond, rural development	bear road-kill	Seminole SF	pinelands, freshwater marsh, open water, sand pine scrub, shrub-brush	images
32	28.92101	-81.44359	five	lake	.1 mi east of Royal Trails entrance	SR 44	Minor arterial	55-65	7500	2	12	80.0	concrete pipe	3.0	54.0	3.0	from Royal Trails: west--loblolly pine-palmetto and xeric oak scrub, east--shrub swamp-willows		adjacent ponds, Seminole SF	freshwater marsh, shrub swamp, mixed wetland forest, sand pine scrub, pinelands	images
33	28.95496	-81.41858	five	lake	Pine Forest Park entrance	SR 44	Minor arterial	55-65	7500	2	12	80.0	none	0.0	0.0	0.0	sand pine/xeric oak scrub, vacant land for sale	bear/gopher tortoise road-kill	county nature park	pinelands, shrub-brush, sand pine scrub, open water	images
34	28.97655	-81.40518	five	lake	.2 mi east of Ponderosa Av, culvert to east	SR 44	Minor arterial	55-65	7500	2	12	80.0	concrete pipe	2.0	66.0	2.0	old pasture, loblolly pine-palmetto forest		Wekiva-Ocala Grwy	pinelands, shrub-brush, dry prairie	images
35	28.98411	-81.40097	five	lake	west of intersection Tomahawk Trail	SR 44	Minor arterial	55-65	7500	2	12	80.0	concrete pipe x 2	3.0	54.0	3.0	mixed pine-hardwood forest, palm hammock, cypress swamp	multiple bear kills	dry creek, Wekiva-Ocala Grwy	cypress-hardwood-shrub swamp, mixed wetland forest, pinelands, shrub-brush	images
36	28.98858	-81.39854	five	lake	1.4 mi west of intersection CR 42	SR 44	Minor arterial	55-65	7500	2	12	80.0	concrete box culvert	9.0	60.0	4.0	cypress/hardwood/shrub swamp, pine flatwoods, pasture		Wekiva-Ocala Grwy	pinelands, dry prairie, freshwater marsh	images
37	29.00138	-81.39026	five	lake	.4 mi west of intersection CR 42	SR 44	Minor arterial	55-65	7500	2	12	80.0	none	0.0	0.0	0.0	pine flatwoods, curve		Wekiva-Ocala Grwy	pinelands, mixed wetland forest, hardwood swamp, dry prairie, pasture	images
38	29.00438	-81.38689	five	lake	.1 mi west of intersection CR 42	SR 44	Minor arterial	35-50	7500	2	12	80.0	none	0.0	0.0	0.0	hardwood hammock, mixed pine-hardwood forest	corn snake & bear roadkills	Lower Wekiva R SP	hardwood swamp, mixed wetland forest, pinelands, shrub swamp	images
39	29.01280	-81.37726	five	volusia	.3 mi east of St. Johns River	SR 44	Principal arterial	55-65	11400	2	12	80.0	none	0.0	0.0	0.0	hardwood hammock/swamp, power line row			hardwood swamp/hammock, mixed wetland forest, shrub swamp	images
40	29.02146	-81.36424	five	volusia	Deland, 1 mi west of CR 4053	SR 44	Principal arterial	55-65	11400	2	12	105.0	concrete box culvert x 2	6.0	105.0	4.0	hardwood hammock/swamp		Wekiva-Ocala Grwy	pinelands, hardwood swamp, mixed wetland forest, shrub swamp, urban	images
41	29.02462	-81.35465	five	volusia	Deland, .4 mi west of CR 4053	SR 44	Principal arterial	55-65	11400	2	12	105.0	bridge	30.0	27.0	36.0	pine flatwoods, rr, water trt. plant, industrial development		Wekiva-Ocala Grwy	pinelands, mixed wetland forest, cypress swamp, freshwater marsh, urban	images
42	29.00614	-81.38730	five	lake	.1 mi west of intersection SR 44	CR 42	Major Collector	55	4620	2	12	80.0	none	0.0	0.0	0.0	hardwood hammock/swamp, mixed pine-hardwood forest	bear road-kill	Lower Wekiva R SP	hardwood swamp, mixed wetland forest, shrub swamp	images
43	29.00984	-81.39464	five	lake	.65 mi west of intersection SR 44	CR 42	Major Collector	55	4620	2	12	70.0	none	0.0	0.0	0.0	hardwood hammock/swamp, mixed pine-hardwood forest, ruderal, sharp curve	multiple bear kills	Lower Wekiva R SP	shrub-brush, pinelands, mixed pine-hardwood, hardwood hammock	images

44	29.00792	-81.40809	five	lake	.85 mi east of 10th St	CR 42	Major Collector	55	4620	2	12	70.0	none	0.0	0.0	0.0	hardwood hammock/swamp, mixed pine-hardwood forest, xeric oak scrub, sharp curve	deer tracks	Lower Wekiva R SP	hardwood/cypress swamp, mixed wetland forest, shrub swamp, pinelands	images
45	29.00391	-81.41775	five	lake	.2 mi east of 10th St	CR 42	Major Collector	55	4620	2	12	70.0	none	0.0	0.0	0.0	mixed pine-hardwood forest, xeric oak scrub, rural residential, sharp curve	multiple bear kills	Lower Wekiva R SP	shrub-brush, sand pine scrub, urban, pinelands, mixed wetland foerst, shrub swamp	images
46	29.00560	-81.44346	five	lake	.2 mi east of Fullerville Rd	CR 42	Major Collector	55	1861	2	12	70.0	none	0.0	0.0	0.0	sand pine scrub, xeric oak scrub, dry prairie	bear road-kill	Seminole SF	freshwater marsh, open water, pinelands, sand pine scrub, shrub-brush	images
47	29.00550	-81.44798	five	lake	just east of Fullerville Rd	CR 42	Major Collector	55	1861	2	12	70.0	none	0.0	0.0	0.0	sand pine scrub, xeric oak scrub, dry prairie, slash pine flatwoods, curve	multiple bear kills	Seminole SF	freshh2o marsh, pinelands, sand pine/xeric oak scrub, shrub-brush, mixed wetland for	images
48	29.01425	-81.46504	five	lake	just west of Deerhaven Rd	CR 42	Major Collector	55	1861	2	12	70.0	none	0.0	0.0	0.0	pine flatwoods, mixed pine-hardwood forest, 2 access roads, near wildlife mgmt area entrance		Ocala NF	pinelands, freshh2o marsh, sand pine/xeric oak scrub, shrub-brush, mixed wetland for	images
49	29.01656	-81.47449	five	lake	.2 mi east of Kinsey Dr, east of Lake Kathryn	CR 42	Major Collector	55	1861	2	12	70.0	none	0.0	0.0	0.0	pine flatwoods, mixed pine-hardwood forest, sand pine scrub, curve	multiple bear kills	Ocala NF	mixed wetland forest, cypress swamp, pinelands, sand pine scrub	images
50	29.01550	-81.50509	five	lake	.2 mi west of Lake Kathryn residential area	CR 42	Major Collector	40	1861	2	12	70.0	none	0.0	0.0	0.0	pine flatwoods, xeric oak scrub, curve	bear road-kill, deer tracks		pinelands, shrub-brush, sand pine scrub, mixed wetland forest, open water, urban	images
51	29.01516	-81.50961	five	lake	.5 mi west of Lake Kathryn residential area	CR 42	Major Collector	40	1861	2	12	70.0	none	0.0	0.0	0.0	pine flatwoods, xeric oak scrub, wet prairie, curve, access road	multiple bear kills	Ocala NF	pinelands, shrub-brush, sand pine/xeric oak scrub, freshwater marsh, open water	images
52	29.01480	-81.51294	five	lake	.6 mi west of Lake Kathryn residential area	CR 42	Major Collector	40	1861	2	12	70.0	none	0.0	0.0	0.0	pine flatwoods, sand pine/xeric oak scrub, wet prairie, curve, access road	bear road-kill	Ocala NF	pinelands, shrub-brush, sand pine/xeric oak scrub, freshwater marsh, open water	images
53	29.01202	-81.52342	five	lake	2 mi east of Fisherman Rd, Paisley	CR 42	Major Collector	40	1861	2	12	70.0	none	0.0	0.0	0.0	pine flatwoods, longleaf pine forest, between two curve, access road	bear road-kill	Ocala NF	mixed wetland forest, shrub swamp, pinelands, sandhill	images
54	29.00850	-81.52785	five	lake	1.6 mi east of Fisherman Rd, Paisley	CR 42	Major Collector	40	1861	2	12	70.0	none	0.0	0.0	0.0	mixed pine-hardwood forest, pasture, access rd, curve	bear road-kill	Ocala NF	sandhill, pinelands, mixed pine-hardwood, shrub-brush	images
55	28.98303	-81.54228	five	lake	.5 mi west of Fisherman Rd, Paisley	CR 42	Major Collector	40	3317	2	12	70.0	none	0.0	0.0	0.0	rural residential, mixed pine-hardwood forest, sand pine scrub, curve	multiple bear kills		pasture, sandhill, open water, urban, shrub-brush, pinelands	no images
56	28.97476	-81.55166	five	lake	just west of Clearwater Lake Rec Site entrance	CR 42	Major Collector	40	3317	2	12	70.0	none	0.0	0.0	0.0	mixed pine-hardwood forest, pasture, curve	multiple bear kills	Ocala NF	hardwood swamp, mixed wetland forest, shrub swamp, sandhill, pasture	images

57	28.96856	-81.56204	five	lake	.8 mi west of Clearwater Lake Rec Site entrance	CR 42	Major Collector	40	3317	2	12	70.0	none	0.0	0.0	0.0	mixed pine-hardwood forest, pasture, cemetery, hills, access rd	multiple bear kills	Wekiva-Ocala Grwy	urban, pasture, sandhill, shrub-brush, mixed wetland forest, shrub swamp	images
58	28.96552	-81.56618	five	lake	1.1 mi west of Clearwater Lake Rec Site entrance	CR 42	Major Collector	40	3317	2	12	70.0	none	0.0	0.0	0.0	mixed pine-hardwood forest, pasture, between two curves	bear road-kill	Ocala NF	mixed wetland forest, hardwood swamp, shrub swamp, pinelands, sandhill, pasture	images
59	28.96087	-81.57887	five	lake	.9 mi east of intersection CR 439	CR 42	Major Collector	40	3317	2	12	70.0	steel pipe x 3	9.0	56.0	5.0	hardwood hammock/swamp, mixed pine-hardwood forest, curve-guardrail	multiple bear kills	Ocala NF	mixed wetland forest, hardwood swamp, shrub swamp	images
60	28.96054	-81.58581	five	lake	.5 mi east of intersection CR 439	CR 42	Major Collector	40	3317	2	12	70.0	none	0.0	0.0	0.0	pine flatwoods, mixed pine-hardwood forest, hardwood hammock/swamp		Ocala NF	mixed wetland forest, hardwood swamp, shrub swamp, pinelands, sand pine scrub	images
61	28.96146	-81.59074	five	lake	.2 mi east of intersection CR 439	CR 42	Major Collector	40	3317	2	12	80.0	none	0.0	0.0	0.0	pine flatwoods, mixed pine-hardwood forest, hardwood hammock/swamp	multiple bear kills	Ocala NF	mixed wetland forest, hardwood/cypress swamp, shrub swamp, pinelands	images
62	28.96172	-81.59706	five	lake	.2 mi west of intersection CR 439	CR 42	Major Collector	55	4233	2	12	104.0	steel pipe x 4	4.5	84.0	3.0	pine flatwoods, mixed pine-hardwood forest, hardwood hammock/swamp, pasture	bear road-kill	Seminole SF	mixed wetland forest, hardwood swamp, shrub swamp, shrub-brush	images
63	28.95990	-81.60213	five	lake	.55 mi west of intersection CR 439	CR 42	Major Collector	55	4233	2	12	104.0	steel pipe	3.0	90.0	3.0	pine flatwoods, mixed pine-hardwood forest, hardwood hammock/swamp, pasture	bear road-kill	Seminole SF	mixed wetland forest, hardwood swamp, shrub swamp, shrub-brush, pinelands	images
64	28.97591	-81.69173	five	marion	2.75 mi west of intersection SR 19	CR 42	Minor collector	55	4233	2	12	80.0	n/a	0.0	0.0	0.0		multiple bear kills	Ocala NF	shrub-brush, xeric oak scrub, pinelands, hardwood hammock	no images
65	28.98412	-81.78655	five	marion	.2 mi west of intersection CR 452	CR 42	Minor collector	55	7900	2	12	80.0	n/a	0.0	0.0	0.0		multiple bear kills	Ocala NF	pasture, pinelands, shrub-brush, sandhill, freshwater marsh	no images
66	28.99082	-81.83638	five	marion	Oklawaha River, Starkes Ferry	CR 42	Minor collector	55	7900	2	12	80.0	bridge, height - n/a	999.0	45.0	0.0			Sunnyhill Restoration Area	mixed wetland forest, hardwood swamp/hammock, freshwater marsh, open water	no images
67	28.98403	-81.84884	five	marion	.9 mi west of Oklawaha River	CR 42	Minor collector	55	7900	2	12	80.0	n/a	0.0	0.0	0.0		multiple bear kills		pasture, agriculture, pinelands, mixed pine-hardwood, hardwood hammock	no images
68	28.95645	-81.59363	five	lake	.35 mi south of intersection CR 42	CR 439	Minor collector	55	2603	2	12	100.0	concrete box culvert x 2	15.0	40.0	3.0	pine flatwoods, mixed pine-hardwood forest, hardwood hammock/swamp, pasture, house, another set of culverts near intersection	multiple bear kills	Seminole SF	shrub-brush, pinelands, urban, mixed pine-hardwood, dry prairie	images

69	28.91118	-81.59319	five	lake	2.75 mi north of intersection SR 44	CR 439	Minor collector	55	2603	2	12	100.0	concrete box culvert x 3	15.0	40.0	4.0	pine flatwoods, mixed pine-hardwood forest, hardwood hammock/swamp, pasture, house, narrow corridor in rural resudential area	multiple bear kills		mixed wetland forest, cypress/shrub swamp, shrub-brush, pinelands, pasture	images
70	29.01144	-81.63991	five	lake	2 mi south of intersection CR 445	SR 19	Minor arterial	55-65	5800	2	12	90.0	n/a	0.0	0.0	0.0		multiple bear kills	Ocala NF	shrub-brush, xeric oak/sand pine scrub, pinelands, pasture, urban	no images
71	29.02008	-81.64012	five	lake	1.4 mi south of intersection CR 445	SR 19	Minor arterial	55-65	5800	2	12	90.0	n/a	0.0	0.0	0.0		multiple bear kills	Ocala NF	xeric oak/sand pine scrub, pinelands, mixed wetland forest, hardwood swamp	no images
72	29.03740	-81.64000	five	lake	.2 mi south of intersection CR 445	SR 19	Minor arterial	55-65	5800	2	12	90.0	n/a	0.0	0.0	0.0		multiple bear kills	Ocala NF	xeric oak/sand pine scrub, pinelands	no images
73	29.04764	-81.63821	five	lake	.5 mi north of CR 445 intersection	SR 19	Minor arterial	55-65	3000	2	12	90.0	concrete pipe x 2	3.0	66.0	3.0	pl. pine flatwoods, hardwood hammock, dirt access rd	multiple bear kills	wet depression, Ocala NF	xeric oak/sand pine scrub, pinelands, mixed wetland forest, hardwood swamp, urban	images
74	29.06679	-81.63156	five	lake	2 mi north of CR 445 intersection	SR 19	Minor arterial	55-65	3000	2	12	90.0	none	0.0	0.0	0.0	sand pine scrub, north upslope - hill, blind trails	multiple bear kills	Ocala NF	sand pine/xeric oak scrub	images
75	29.08496	-81.62523	five	lake	.1 mi south of FS road 595 intersection	SR 19	Minor arterial	55-65	3000	2	12	90.0	none	0.0	0.0	0.0	sand pine scrub, hilltop, trees in ROW	multiple bear kills	Ocala NF	sand pine/xeric oak scrub	no images
76	29.09210	-81.62293	five	lake	.5 mi north of FS road 595 intersection	SR 19	Minor arterial	55-65	3000	2	12	90.0	concrete pipe	3.0	66.0	3.0	sand pine scrub, pine flatwoods, hdwd hammock	multiple bear kills	wet depression, Ocala NF	sand pine/xeric oak scrub, pinelands, mixed wetland forest, cypress swamp	images
77	29.09587	-81.62119	five	lake	.7 mi north of FS road 595 intersection	SR 19	Minor arterial	55-65	3000	2	12	90.0	concrete pipe x 3	3.0	66.0	3.0	pine flatwoods, hdwd swamp & hammock		dry creek, Ocala NF	sand pine/xeric oak scrub, pinelands, mixed wetland for, cypress swamp, shrub-brush	images
78	29.11494	-81.61770	five	lake	.1 mi south of CR 445a intersection	SR 19	Minor arterial	55-65	3000	2	12	90.0	concrete pipe, grated	3.0	48.0	3.0	slash pine, herb. wetlands	bear road-kill	drainage to Beakman Lake, Ocala NF	xeric oak/sand pine scrub, pinelands	images
79	29.12470	-81.61954	five	lake	.6 mi north of CR 445a intersection	SR 19	Minor arterial	55-65	3000	2	12	90.0	none	0.0	0.0	0.0	sand pine scrub, longleaf pine	bear road-kill	Beakman Lake, Ocala NF	xeric oak/sand pine scrub, pinelands, open water	images
80	29.13937	-81.62775	five	lake	.6 mi south of FS road 524 intersection	SR 19	Minor arterial	55-65	3000	2	12	90.0	concrete pipe, grated	2.0	48.0	2.0	sand pine scrub, north upslope - hill	bear road-kill	cross drainage, Ocala NF	xeric oak/sand pine scrub, pinelands, freshwater marsh, shrub swamp, open water	images
81	29.14741	-81.63191	five	lake	FS road 524 intersection, military entr.	SR 19	Minor arterial	55-65	3000	2	12	90.0	concrete pipe, grated	2.0	48.0	2.0	sand pine scrub, north upslope - hill	bear road-kill	cross drainage, Ocala NF	xeric oak/sand pine scrub, shrub-brush	images
82	29.15400	-81.63530	five	lake	1.1 mi south of intersection SR 40	SR 19	Minor arterial	55-65	3000	2	12	90.0	n/a	0.0	0.0	0.0		multiple bear kills	Ocala NF	xeric oak/sand pine scrub, shrub-brush	no images
83	29.16266	-81.63978	five	lake	.4 mi south of intersection SR 40	SR 19	Minor arterial	55-65	3000	2	12	90.0	none	0.0	0.0	0.0	sand pine scrub	group of possums, bear rdkill	Ocala NF	sand pine/xeric oak scrub	images
84	29.17551	-81.64708	five	marion	.6 mi north SR 40 intersection	SR 19	Minor arterial	55-65	2050	2	12	90.0	none	0.0	0.0	0.0	sand pine scrub, uphill slopes	bear road-kill	Ocala NF	sand pine/xeric oak scrub, clearcut	images

85	29.20076	-81.65836	five	marion	2.5 mi north SR 40 intersection	SR 19	Minor arterial	55-65	2050	2	12	90.0	none	0.0	0.0	0.0	sand pine scrub, uphill slopes	bear road-kill	Ocala NF	sand pine/xeric oak scrub, freshwater marsh, open water	no images
86	29.21345	-81.65395	five	marion	Juniper Creek	SR 19	Minor arterial	55-65	2050	2	12	90.0	bridge	108.0	36.0	5.0	sand pine scrub, hardwoods, emergents, park	bear road-kill	Juniper Creek, Ocala NF	xeric oak scrub, shrub-brush, mixed wetland forest, shrub swamp, open water	images
87	29.21493	-81.65027	five	marion	.25 mi north of Juniper Creek	SR 19	Minor arterial	55-65	2050	2	12	90.0	none	0.0	0.0	0.0	sand pine scrub, rd - blind curve	multiple bear kills	Ocala NF	sand pine/xeric oak scrub	no images
88	29.23316	-81.64620	five	marion	Juniper Club entrance	SR 19	Minor arterial	55-65	2050	2	12	90.0	none	0.0	0.0	0.0	sand pine scrub, burned; rd - near curve	bear road-kill	Ocala NF	xeric oak scrub	no images
89	29.24717	-81.64706	five	marion	Silver Glen Spgs entrance	SR 19	Minor arterial	55-65	2050	2	12	90.0	concrete pipe	2.0	72.0	2.0	sand pine scrub, rd - hill, curve	multiple bear kills	drainage depressions, Ocala NF	xeric oak scrub, shrub swamp	images
90	29.26185	-81.64654	five	marion	Pat's Island	SR 19	Minor arterial	55-65	2050	2	12	90.0	none	0.0	0.0	0.0	sand pine scrub, rd - hill and cut slope	multiple bear kills	Ocala NF	sand pine scrub, pinelands	images
91	29.28360	-81.65122	five	marion	1 mi north of FS road 86	SR 19	Minor arterial	55-65	2050	2	12	90.0	n/a	0.0	0.0	0.0		bear road-kill	Ocala NF	xeric oak/sand pine scrub, pinelands, mixed wetland forest	no images
92	29.29908	-81.66800	five	marion	Lake George nw shore	SR 19	Minor arterial	55-65	2200	2	12	90.0	none	0.0	0.0	0.0	hardwood hammock, sand pine scrub	bear road-kill	creek, wetland area, Ocala NF	xeric oak/sand pine scrub, mixed wetland forest, hardwood swamp	images
93	29.30106	-81.67252	five	marion	Lake George nw shore	SR 19	Minor arterial	55-65	2200	2	12	90.0	none	0.0	0.0	0.0	palm hammock, sand pine scrub		drainage depressions, Ocala NF	xeric oak/sand pine scrub, mixed wetland forest, cypress swamp	images
94	29.30548	-81.68135	five	marion	4.5 mi south of CR 314	SR 19	Minor arterial	55-65	2200	2	12	90.0	none	0.0	0.0	0.0	sand pine scrub, rd - curve	multiple bear kills	Ocala NF	xeric oak/sand pine scrub, mixed wetland forest, pinelands	images
95	29.30912	-81.68804	five	marion	4 mi south of CR 314	SR 19	Minor arterial	55-65	2200	2	12	90.0	none	0.0	0.0	0.0	sand pine scrub, rd - north slope hill	bear road-kill	Ocala NF	sand pine/xeric oak scrub	images
96	29.31730	-81.69654	five	marion	3 mi south of CR 314	SR 19	Minor arterial	55-65	2200	2	12	90.0	none	0.0	0.0	0.0	sand pine scrub, rd - north slope hill	bear road-kill	Ocala NF	sand pine/xeric oak scrub	no images
97	29.32373	-81.70340	five	marion	2.5 mi south of CR 314	SR 19	Minor arterial	55-65	2200	2	12	90.0	none	0.0	0.0	0.0	sand pine scrub, rd - hills	multiple bear kills	Ocala NF	sand pine/xeric oak scrub	images
98	29.33369	-81.71612	five	marion	1.5 mi south of CR 314	SR 19	Minor arterial	55-65	2200	2	12	90.0	none	0.0	0.0	0.0	sand pine scrub, rd - hill and curve	multiple bear kills	Ocala NF	sand pine scrub, sandhill, pinelands, clearcut, mixed wetland forest	images
99	29.38440	-81.73608	two	putnam	1.7 mi north of CR 316	SR 19	Minor arterial	55-65	2700	2	12	80.0	n/a	0.0	0.0	0.0		bear road-kill	Ocala NF	sand pine/xeric oak scrub, shrub-brush	no images
100	29.44159	-81.73766	two	putnam	.5 mi north of FR 75	SR 19	Minor arterial	55-65	3200	2	12	80.0	n/a	0.0	0.0	0.0		multiple bear kills	Ocala NF	sand pine/xeric oak scrub, pinelands, shrub-brush	no images
101	29.45702	-81.73785	two	putnam	1.25 mi south of FR 77	SR 19	Minor arterial	55-65	3200	2	12	80.0	none	0.0	0.0	0.0	pine flatwoods	bear road-kill	Ocala NF	pinelands, cypress swamp	images
102	29.47505	-81.73886	two	putnam	Oklawaha River boat ramp	SR 19	Minor arterial	55-65	3200	2	12	80.0	concrete box culvert	12.0	45.0	10.0	hardwood and cypress swamp		canal, embankment of Oklawaha R. bridge, Ocala NF	hardwood swamp/hammock, pinelands	images
103	29.47849	-81.74023	two	putnam	.3 mi. north int. National Forest Road 7	SR 19	Minor arterial	55-65	3200	2	12	80.0	bridge, actual width = 1428	999.0	33.0	24.0	hardwood swamp		Ocklawaha River in Ocala NF floodplain	hardwood swamp, open water	images
104	29.48412	-81.74160	two	putnam	.4 mi north of Oklawaha River	SR 19	Minor arterial	55-65	3200	2	12	80.0	bridge	315.0	36.0	8.0	hardwood and cypress swamp		braided river, forested wetlands, Ocala NF	hardwood swamp	images

105	29.48918	-81.74319	two	putnam	.6 mi north of Oklawaha River	SR 19	Minor arterial	55-65	3200	2	12	80.0	concrete box culvert x 3	10.0	48.0	8.0	hardwood and cypress swamp		braided river, forested wetlands, Ocala NF	hardwood swamp/hammock, mixed wetland forest	images
106	29.51493	-81.75054	two	putnam	1.0 mi south of barge canal bridge	SR 19	Minor arterial	55-65	3200	2	12	80.0	concrete box culvert	12.0	45.0	5.0	pp, mixed hardwood-pine, rangeland		Carravelle Ranch	pinelands, shrub-brushland	images
107	29.07934	-81.57385	five	lake	.8 mi north of FS road 538	CR 445	Major Collector	55	789	2	12	90.0	n/a	0.0	0.0	0.0			Ocala NF	sand pine scrub, pinelands, mixed wetland forest, hardwood swamp, shrub swamp	no images
108	29.08064	-81.56608	five	lake	Alexander Spgs Creek	CR 445	Major Collector	55	789	2	12	90.0	n/a	0.0	0.0	0.0			Ocala NF	open water, hardwood swamp, mixed wetland forest, pinelands, freshwater marsh	no images
109	29.10501	-81.56784	five	lake	3.2 mi south of intersection CR 445a	CR 445	Major Collector	55	789	2	12	90.0	n/a	0.0	0.0	0.0		bear road-kill	Ocala NF	xeric oak/sand pine scrub, pinelands, open water, freshwater marsh, shrub-brush	no images
110	29.11450	-81.57387	five	lake	2.4 mi south of intersection CR 445a	CR 445	Major Collector	55	789	2	12	90.0	n/a	0.0	0.0	0.0			Ocala NF	xeric oak/sand pine scrub, pinelands, mixed wetland forest, shrub swamp	no images
111	29.13118	-81.57703	five	lake	1.2 mi south of intersection CR 445a	CR 445	Major Collector	55	789	2	12	90.0	n/a	0.0	0.0	0.0			Ocala NF	xeric oak/sand pine scrub, pinelands, mixed wetland forest, freshwater marsh	no images
112	29.14867	-81.57476	five	lake	intersection CR 445 & CR 445a	CR 445a	Minor collector	45	1679	3	12	110.0	n/a	0.0	0.0	0.0		multiple bear kills		xeric oak/sand pine scrub, pinelands, open water, freshwater marsh, shrub-brush	no images
113	29.14240	-81.59414	five	lake	1.3 mi south of intersection CR 445	CR 445a	Minor collector	55	969	2	12	90.0	n/a	0.0	0.0	0.0		multiple bear kills	Ocala NF	sand pine/xeric oak scrub, pinelands, mixed wetland forest, cypress/shrub swamp	no images
114	29.17075	-81.34116	five	volusia	.75 mi east of intersection CR 4023	CR 4034	Local Rural	35	170	2	12	50.0	n/a	0.0	0.0	0.0			Deland Ridge Sandhills CARL	sandhill, shrub-brush, mixed pine-hardwood, hardwood hammock, clearcut, agriculture	no images
115	29.17410	-81.34841	five	volusia	.55 mi north of intersection CR 4034	CR 4023	Local Rural	35	230	2	12	50.0	n/a	0.0	0.0	0.0			Deland Ridge Sandhills CARL	sandhill, pinelands, shrub-brush, mixed pine-hardwood, hardwood swamp/hammock	no images
116	29.16365	-81.39107	five	volusia	2.4 mi south of intersection SR 40	US 17	Principal arterial	55-65	8600	2	12	90.0	bridge	168.0	45.0	6.0	hardwood swamp, adj. rr tressel	bear road-kill	Deep Creek, Lake George SF	hardwood swamp, mixed wetland forest, shrub swamp, shrub-brush	images
117	29.16950	-81.39835	five	volusia	1.8 mi south of intersection SR 40	US 17	Principal arterial	55-65	8600	2	12	90.0	concrete pipe	3.0	96.0	3.0	pine flatwoods, near access road, rr	bear road-kill	dry creek, Lake George SF	pinelands, pasture, shrub-brush, freshwater marsh	images
118	29.17593	-81.40666	five	volusia	1.2 mi south of intersection	US 17	Principal arterial	55-65	8600	2	12	90.0	none	0.0	0.0	0.0	hardwood swamp, pine flatwoods, rr	multiple bear kills	wet depression, Heart Island	pinelands, mixed wetland forest,	images

					SR 40														cons. area	open water, freshwater marsh, shrub swamp	
119	29.17991	-81.41170	five	volusia	.75 mi south of intersection SR 40	US 17	Principal arterial	55-65	8600	2	12	90.0	n/a	0.0	0.0	0.0		multiple bear kills	Lake George SF	pinelands, shrub-brush, urban	no images
120	29.19405	-81.42904	five	volusia	.7 mi north of intersection SR 40	US 17	Principal arterial	55-65	7500	2	12	90.0	n/a	0.0	0.0	0.0				pinelands, shrub-brush, dry prairie, agriculture, mixed wetland forest	no images
121	29.25002	-81.46563	five	volusia	.4 mi north of Washington Av	US 17	Principal arterial	55-65	5300	2	12	90.0	n/a	0.0	0.0	0.0				mixed wetland forest, hardwood swamp, pinelands, shrub-brush	no images
122	29.26770	-81.47288	five	volusia	.6 mi south of intersection CR 2825	US 17	Principal arterial	55-65	5300	2	12	90.0	n/a	0.0	0.0	0.0				pinelands, mixed wetland forest, shrub swamp, shrub-brush	no images
123	29.26739	-81.47500	five	volusia	.6 mi south of intersection US 17	CR 2825	Local Rural	45	630	2	12	70.0	n/a	0.0	0.0	0.0		bear road-kill		pinelands, mixed pine-hardwood, hardwood hammock, shrub-brush	no images
124	29.24976	-81.47013	five	volusia	.35 mi north of Washington Av	CR 2825	Local Rural	35	1120	2	12	70.0	n/a	0.0	0.0	0.0				mixed pine-hardwood, pasture, pinelands, mixed wetland for, hardwood swamp/hammock	no images
125	29.19540	-81.43323	five	volusia	.95 mi north of intersection SR 40	CR 2825	Local Rural	45	950	2	12	70.0	n/a	0.0	0.0	0.0			Barberville Mitigation Bank	pinelands, mixed wetland forest, shrub swamp, cypress swamp, shrub-brush	no images
126	29.20269	-81.45987	five	volusia	.85 mi west of intersection US 17	CR 2833	Minor collector	40	900	2	12	60.0	n/a	0.0	0.0	0.0				pinelands, mixed wetland forest, shrub/bay/hardwood swamp, shrub-brush	no images
127	29.18744	-81.48090	five	volusia	2 mi north of intersection SR 40	CR 2833	Minor collector	30	920	2	12	60.0	n/a	0.0	0.0	0.0				mixed pine-hardwood, hardwood hammock, open water, urban, agriculture	no images
128	29.17706	-81.49851	five	volusia	.8 mi north of intersection SR 40	CR 2833	Minor collector	40	840	2	12	60.0	n/a	0.0	0.0	0.0			Lake George SF	pinelands, mixed wetland forest, hardwood swamp	no images
129	29.20476	-81.36756	five	volusia	2 mi west of intersection CR 4023	SR 40	Principal arterial	55-65	5800	2	12	90.0	concrete box culvert x 3	14.0	48.0	5.0	hardwood swamp, on curve		Deep Creek, Heart Island cons. area	hardwood/cypress swamp, mixed wetland forest, pinelands, shrub-brush	images
130	29.20071	-81.38055	five	volusia	A & K farms, lots for sale	SR 40	Principal arterial	55-65	5800	2	12	90.0	none	0.0	0.0	0.0	pine flatwoods, lots for sale- adj. development	bear road-kill	Heart Island cons. area	pinelands, shrub-brush, freshwater marsh, shrub swamp	images
131	29.19312	-81.40331	five	volusia	1.2 mi east of intersection US 17	SR 40	Principal arterial	55-65	5800	2	12	90.0	n/a	0.0	0.0	0.0			Heart Island cons. area	hardwood swamp, mixed wetland forest	no images
132	29.17872	-81.43667	five	volusia	1.2 mi west of intersection US 17	SR 40	Principal arterial	55-65	7500	2	12	90.0	n/a	0.0	0.0	0.0			Lake George SF	cypress swamp, mixed wetland forest, pinelands, pasture	no images
133	29.17428	-81.45089	five	volusia	2 mi west of intersection US 17	SR 40	Principal arterial	55-65	7500	2	12	90.0	concrete box culvert x 3	5.0	66.0	4.0	hardwood & cypress swamp, pine flatwoods		unknown creek, Lake George CARL	pinelands, mixed wetland forest, shrub swamp,	no images

																			shrub-brush	
134	29.17100	-81.46947	five	volusia	2.35 mi east of intersection CR 2833	SR 40	Principal arterial	55-65	7500	2	12	90.0	n/a	0.0	0.0	0.0		bear road-kill	Lake George SF	cypress/bay/shrub swamp, mixed wetland forest, shrub-brush	no images
135	29.17057	-81.49087	five	volusia	1 mi east of intersection CR 2833	SR 40	Principal arterial	55-65	7500	2	12	90.0	n/a	0.0	0.0	0.0			Lake George SF	pinelands, mixed wetland forest, shrub swamp, pasture	no images
136	29.16908	-81.51784	five	volusia	.2 mi west of Riley Pridgeon Rd	SR 40	Principal arterial	35-50	7600	2	12	90.0	n/a	0.0	0.0	0.0				hardwood hammock, mixed pine-hardwood, urban, pinelands, shrub-brush	no images
137	29.16141	-81.55148	five	lake	1.1 mi east of intersection CR445	SR 40	Principal arterial	55-65	7400	2	12	90.0	none	0.0	0.0	0.0	sand pine scrub, pine flatwoods, curve/access rd, local bus.	bear road-kill	Ocala NF	pinelands, xeric oak scrub, open water, freshwater marsh, urban	no images
138	29.15924	-81.55583	five	lake	.9 mi east of intersection CR445	SR 40	Principal arterial	55-65	7400	2	12	90.0	n/a	0.0	0.0	0.0		multiple bear kills	Ocala NF	pinelands, mixed wetland forest, shrub swamp	no images
139	29.15426	-81.56563	five	lake	.1 mi east of intersection CR445	SR 40	Principal arterial	55-65	7400	2	12	90.0	concrete box culvert x 2	5.0	72.0	2.5	hardwood swamp, road - curve, intersection	multiple bear kills	unknown creek	hardwood swamp, mixed wetland forest	images
140	29.15840	-81.59391	five	lake	just west of blue creek lodge rd	SR 40	Principal arterial	55-65	5700	2	12	90.0	none	0.0	0.0	0.0	sand pine scrub, access road	multiple bear kills	Ocala NF	sand pine/xeric oak scrub	images
141	29.15874	-81.59844	five	lake	2.9 mi east of intersection SR 19	SR 40	Principal arterial	55-65	5700	2	12	90.0	none	0.0	0.0	0.0	sand pine scrub, road - curve	multiple bear kills	Ocala NF	sand pine/xeric oak scrub, open water, freshwater marsh	images
142	29.16350	-81.60670	five	lake	2.4 mi east of intersection SR 19	SR 40	Principal arterial	55-65	5700	2	12	90.0	concrete pipe	3.0	60.0	3.0	pine flatwoods, hardwood swamp, access road		Jumping Gully Creek, Ocala NF	sand pine scrub, open water, pinelands, mixed wetland forest, cypress/shrub swamp	images
143	29.17128	-81.62376	five	lake	1.2 mi east of intersection SR 19	SR 40	Principal arterial	55-65	5700	2	12	90.0	concrete pipe	2.0	60.0	2.0	sand pine scrub, road - curve	bear road-kill	wet prairie, Ocala NF	sand pine/xeric oak scrub, open water, freshwater marsh, shrub swamp	images
144	29.16989	-81.63302	five	lake	.6 mi east of intersection SR 19	SR 40	Principal arterial	55-65	5700	2	12	90.0	none	0.0	0.0	0.0	sand pine scrub, bay swamp	multiple bear kills	wet depression, Ocala NF	sand pine scrub, open water, pinelands, mixed wetland forest, cypress/shrub swamp	images
145	29.16870	-81.63878	five	lake	.25 mi east of intersection SR 19	SR 40	Principal arterial	55-65	5700	2	12	90.0	none	0.0	0.0	0.0	sand pine scrub, two access roads	bear road-kill	Ocala NF	sand pine/xeric oak scrub, freshwater marsh, mixed wetland for, cypress/shrub swamp	images
146	29.16730	-81.65114	five	marion	.5 mi west of SR 19 intersection	SR 40	Principal arterial	55-65	4900	2	12	90.0	none	0.0	0.0	0.0	sand pine scrub, long curve	multiple bear kills	Ocala NF	sand pine/xeric oak scrub	images
147	29.16957	-81.65792	five	marion	1 mi west of SR 19 intersection	SR 40	Principal arterial	55-65	4900	2	12	90.0	none	0.0	0.0	0.0	sand pine scrub, hill between curves	multiple bear kills	Juniper Prairie Wilderness, Ocala NF	sand pine scrub, freshwater marsh, mixed wetland forest, cypress/hardwood swamp	no images
148	29.17258	-81.66546	five	marion	1.5 mi west of SR 19 intersection	SR 40	Principal arterial	55-65	4900	2	12	90.0	none	0.0	0.0	0.0	sand pine scrub, curve > depression > hill	multiple bear kills	Ocala NF	sand pine/xeric oak scrub, freshwater marsh, mixed wetland for, cypress/shrub swamp	no images

149	29.17409	-81.68658	five	marion	1.5 mi east of Juniper Springs entrance	SR 40	Principal arterial	55-65	4900	3	12	100.0	none	0.0	0.0	0.0	sand pine scrub, hill > curves	multiple bear kills	Ocala NF	sand pine/xeric oak scrub, mixed wetland forest, cypress swamp, shrub swamp	images
150	29.17636	-81.70189	five	marion	.5 mi east of Juniper Springs entrance	SR 40	Principal arterial	55-65	4900	2	12	90.0	n/a	0.0	0.0	0.0		multiple bear kills	Ocala NF	sand pine/xeric oak scrub, mixed wetland forest, cypress swamp, shrub swamp	no images
151	29.17786	-81.70921	five	marion	.25 mi east of Juniper Springs entrance	SR 40	Principal arterial	55-65	4900	2	12	90.0	none	0.0	0.0	0.0	sand pine scrub, hilltop	multiple bear kills	Ocala NF	sand pine/xeric oak scrub, mixed wetland forest, cypress swamp, shrub swamp	no images
152	29.17711	-81.71637	five	marion	.25 mi west of Juniper Springs entrance	SR 40	Principal arterial	55-65	4900	3	12	100.0	none	0.0	0.0	0.0	sand pine scrub, upslope and curve	multiple bear kills	Ocala NF	sand pine/xeric oak scrub, shrub-brush	images
153	29.17749	-81.72316	five	marion	.4 mi east of FS road 65	SR 40	Principal arterial	55-65	4900	3	12	100.0	none	0.0	0.0	0.0	sand pine scrub, upslope - hills	multiple bear kills	Ocala NF	sand pine/xeric oak scrub, shrub-brush, clearcut	images
154	29.17749	-81.72882	five	marion	FS road 65 intersection	SR 40	Principal arterial	55-65	4900	3	12	100.0	none	0.0	0.0	0.0	sand pine scrub, hilltop	bear road-kill	Ocala NF	sand pine/xeric oak scrub	no images
155	29.17633	-81.77137	five	marion	FS road 88 intersection, ONF firetower	SR 40	Principal arterial	55-65	4900	2	12	90.0	none	0.0	0.0	0.0	sand pine scrub, east upslope > hill	bear road-kill	Ocala NF	sand pine/xeric oak scrub	images
156	29.17635	-81.78387	five	marion	FS road 97 intersection	SR 40	Principal arterial	55-65	4900	3	12	100.0	none	0.0	0.0	0.0	sand pine scrub, east upslope > hill	multiple bear kills	Ocala NF	sand pine scrub, clearcut	no images
157	29.17643	-81.80013	five	marion	1 mi west FS road 97	SR 40	Principal arterial	55-65	4900	3	12	100.0	n/a	0.0	0.0	0.0		multiple bear kills	Ocala NF	sand pine/xeric oak scrub, shrub-brush	no images
158	29.17635	-81.81770	five	marion	.4 mi east of FS road 579	SR 40	Principal arterial	55-65	4900	3	12	100.0	n/a	0.0	0.0	0.0		bear road-kill	Ocala NF	sand pine/xeric oak scrub, freshwater marsh	no images
159	29.17613	-81.83341	five	marion	.5 mi west of FS road 579	SR 40	Principal arterial	35-50	4900	2	12	100.0	n/a	0.0	0.0	0.0		multiple bear kills	Ocala NF	sand pine/xeric oak scrub, pinelands, open water	no images
160	29.18578	-81.89927	five	marion	.6 mi west CR 314a, Redwater Lake entr.	SR 40	Principal arterial	55-65	13700	3	12	100.0	none	0.0	0.0	0.0	planted pine, west curve, fringe of development	multiple bear kills	Ocala NF	pinelands, mixed wetland forest, shrub swamp, cypress swamp	images
161	29.18844	-81.90659	five	marion	1.1 mi west CR 314a	SR 40	Principal arterial	55-65	13700	3	12	100.0	n/a	0.0	0.0	0.0		multiple bear kills	Ocala NF	pinelands, mixed pine-hardwood,mixed wetland forest, shrub-brush, freshwater marsh	no images
162	29.19219	-81.91075	five	marion	1 mi east of NE 1st Rd	SR 40	Principal arterial	55-65	13700	2	12	100.0	n/a	0.0	0.0	0.0		multiple bear kills	Ocala NF	pinelands, mixed pine-hardwood,mixed wetland forest, shrub-brush	no images
163	29.19771	-81.92438	five	marion	intersection of SR 40 & NE 1st Rd, Lynne	SR 40	Principal arterial	35-50	11900	2	12	90.0	n/a	0.0	0.0	0.0		multiple bear kills	Ocala NF	pinelands, hardwood hammock, mixed pine-hardwood,mixed wetland for, freshwater marsh	no images
164	29.20463	-81.94075	five	marion	1.1 mi west of NE 1st Rd, Lynne	SR 40	Principal arterial	55-65	11900	3	12	100.0	none	0.0	0.0	0.0	longleaf pine-turkey oak, upslope hilll/curve, scattered dev	bear road-kill	Ocala NF	pinelands, shrub-brush, mixed pine-hardwood,hardwood swamp, open water	no images
165	29.21244	-81.95302	five	marion	1.3 mi east of intersection	SR 40	Principal arterial	55-65	11900	2	12	90.0	n/a	0.0	0.0	0.0		bear road-kill	Ocala NF	pinelands, mixed wetland forest,	no images

					CR 314														hardwood swamp	
166	29.21349	-81.96951	five	marion	.3 mi east of intersection CR 314	SR 40	Principal arterial	55-65	11900	3	12	100.0	n/a	0.0	0.0	0.0		bear road-kill	Ocala NF	pinelands, shrub-brush, mixed pine-hardwood	no images
167	29.21512	-81.98925	five	marion	.9 mi west of intersection CR 314	SR 40	Principal arterial	55-65	15500	2	12	90.0	bridge, height-variable	999.0	32.0	0.0	hardwood swamp	bear road-kill	Ocklawaha River, Ocala NF	hardwood swamp, bay swamp, shrub swamp, freshwater marsh	images
168	29.21624	-82.00037	five	marion	.9 mi east of intersection CR 315	SR 40	Principal arterial	55-65	15500	2	12	200.0	n/a	0.0	0.0	0.0			Silver River SP	mixed pine-hardwood, pinelands, shrub-brush	no images
169	29.21716	-82.00996	five	marion	.35 mi east of intersection CR 315	SR 40	Principal arterial	55-65	15500	2	12	200.0	none	0.0	0.0	0.0	hardwood hammock, palms	multiple bear kills	Silver River SP	mixed pine-hardwood, pinelands, shrub-brush	images
170	29.21864	-82.02331	five	marion	.45 mi west of intersection CR 315	SR 40	Principal arterial	55-65	16200	2	12	200.0	n/a	0.0	0.0	0.0		bear road-kill	Silver River SP	mixed pine-hardwood, pinelands, shrub-brush, hardwood hammock	no images
171	29.22071	-82.01429	five	marion	.2 mi north of intersection SR 40	CR 315	Minor collector	55	3700	2	12	90.0	n/a	0.0	0.0	0.0			MHC Cross FL Grwy	hardwood swamp, mixed wetland forest, mixed pine-hardwood, pinelands, shrub-brush	no images
172	29.23056	-82.00869	five	marion	1 mi north of intersection SR 40	CR 315	Minor collector	55	3700	2	12	90.0	n/a	0.0	0.0	0.0			Heather Island /Ok R CARL	hardwood swamp/hammock, mixed pine-hardwood, shrub-brush	no images
173	29.50445	-81.94508	five	marion	intersection of CR 21	CR 315	Minor collector	55	4800	2	12	80.0	n/a	0.0	0.0	0.0				hardwood hammock, pinelands, freshwater marsh, urban	no images
174	29.50944	-81.94644	two	putnam	.35 mi north of intersection CR 315, Orange Creek	CR 21	Minor collector	45	1200	2	12	80.0	n/a	0.0	0.0	0.0				pinelands, mixed wetland forest, hardwood swamp, sand pine scrub, urban	no images
175	29.51482	-81.93521	two	putnam	1 mi north of intersection of CR 21, Orange Creek	CR 315	Minor collector	55	2311	2	12	60.0	n/a	0.0	0.0	0.0			MHC Cross FL Grwy	pinelands, mixed wetland forest, hardwood swamp	no images
176	29.52301	-81.91267	two	putnam	2.5 mi north of intersection of CR 21	CR 315	Minor collector	55	2311	2	12	90.0	n/a	0.0	0.0	0.0				pinelands, sandhill, shrub-brush, open water	no images
177	29.53542	-81.88422	two	putnam	1.35 mi south of intersection CR 310	CR 315	Minor collector	55	2311	2	12	90.0	n/a	0.0	0.0	0.0				pinelands, mixed wetland forest, hardwood swamp	no images
178	29.53933	-81.87733	two	putnam	.8 mi south of intersection CR 310	CR 315	Minor collector	55	2311	2	12	90.0	n/a	0.0	0.0	0.0		bear road-kill		pinelands, mixed wetland forest, freshwater marsh, shrub swamp	no images
179	29.54898	-81.85677	two	putnam	1.3 mi east of intersection CR 315	CR 310	Minor collector	55	2255	2	12	80.0	n/a	0.0	0.0	0.0			MHC Cross FL Grwy	pinelands, shrub-brush, mixed wetland forest, freshwater marsh	no images
180	29.54662	-81.84582	two	putnam	2 mi east of intersection CR 315	CR 310	Minor collector	55	2255	2	12	80.0	n/a	0.0	0.0	0.0			MHC Cross FL Grwy	pinelands, shrub-brush, shrub swamp, freshwater marsh	no images
181	29.54258	-81.83080	two	putnam	.4 mi east of River Styx	CR 310	Minor collector	55	2255	2	12	80.0	n/a	0.0	0.0	0.0			MHC Cross FL Grwy	pinelands, hardwood hammock, cypress swamp, freshwater marsh	no images

182	29.54198	-81.81438	two	putnam	1.4 mi east of River Styx	CR 310	Minor collector	55	2255	2	12	90.0	n/a	0.0	0.0	0.0				pinelands, sand pine scrub, cypress swamp, pasture, urban	no images
183	29.53963	-81.79680	two	putnam	2.55 mi west of intersection SR 19	CR 310	Minor collector	55	2255	2	12	90.0	n/a	0.0	0.0	0.0				pinelands, mixed wetland forest, hardwood swamp	no images
184	29.37783	-81.75890	five	marion	2.1 mi west of intersection SR 19	CR 316	Major Collector	45	1600	2	12	90.0	n/a	0.0	0.0	0.0			Ocala NF	sand pine/xeric oak scrub, clearcut/bare soil, urban	no images
185	29.36876	-81.84316	five	marion	1.4 mi west of FS road 88	CR 316	Major Collector	55	1600	2	12	110.0	n/a	0.0	0.0	0.0			Ocala NF	sand pine/xeric oak scrub	no images
186	29.36963	-81.87807	five	marion	.4 mi east of River Rd	CR 316	Major Collector	55	1600	2	12	110.0	n/a	0.0	0.0	0.0			Ocala NF	sand pine/xeric oak scrub	no images
187	29.37193	-81.89271	five	marion	.55 mi west of River Rd	CR 316	Minor collector	55	3600	2	12	90.0	n/a	0.0	0.0	0.0			Ocala NF	mixed wetland forest, hardwood/shrub swamp	no images
188	29.37138	-81.90267	five	marion	Oklawaha River	CR 316	Minor collector	55	3600	2	12	90.0	bridge, height-variable	999.0	32.0	0.0	hardwood swamp		Ocklawaha River, Ocala NF	mixed wetland forest, hardwood/shrub swamp, sandhill, sand pine/xeric oak scrub	images
189	29.37157	-81.92261	five	marion	.8 mi west of intersection CR 315	CR 316	Minor collector	55	3600	2	12	90.0	n/a	0.0	0.0	0.0				pinelands, mixed pine-hardwood, shrub-brush, pasture, urban	no images
190	29.36869	-81.93907	five	marion	1.8 mi west of intersection CR 315	CR 316	Minor collector	55	3600	2	12	90.0	n/a	0.0	0.0	0.0				mixed pine-hardwood, hardwood hammock, shrub-brush, pinelands, mixed wetland forest	no images
191	29.32439	-81.77779	five	marion	.3 mi west of FS road 88	CR 314	Major Collector	55	3200	2	12	80.0	n/a	0.0	0.0	0.0			Ocala NF	sandhill, sand pine scrub	no images
192	29.29799	-81.82911	five	marion	just east FS road 97	CR 314	Major Collector	55	2100	2	12	80.0	n/a	0.0	0.0	0.0		multiple bear kills	Ocala NF	sand pine/xeric oak scrub, urban	no images
193	29.28656	-81.85155	five	marion	1.25 mi east of FS road 86	CR 314	Major Collector	55	2100	2	12	80.0	n/a	0.0	0.0	0.0		multiple bear kills	Ocala NF	sand pine/xeric oak scrub, mixed wetland forest, cypress swamp, mixed pine-hardwood	no images
194	29.27521	-81.87953	five	marion	.5 mi east of intersection CR 314a	CR 314	Major Collector	55	2100	2	12	80.0	n/a	0.0	0.0	0.0		bear road-kill	Ocala NF	mixed wetland forest, hardwood/cypress /shrub swamp, sand pine/xeric oak scrub, pinelands	no images
195	29.26769	-81.91774	five	marion	2 mi west of intersection CR 314a	CR 314	Major Collector	55	2100	2	12	80.0	n/a	0.0	0.0	0.0		multiple bear kills	Ocala NF	pinelands, mixed wetland forest, open water, freshwater marsh, shrub-brush	no images
196	29.25960	-81.92517	five	marion	2.75 mi west of intersection CR 314a	CR 314	Major Collector	55	2100	2	12	80.0	n/a	0.0	0.0	0.0		multiple bear kills	Ocala NF	mixed wetland forest, hardwood/cypress /shrub swamp, pinelands, shrub-brush	no images
197	29.25641	-81.92761	five	marion	3 mi west of intersection CR 314a	CR 314	Major Collector	55	2100	2	12	80.0	n/a	0.0	0.0	0.0		multiple bear kills	Ocala NF	pinelands, shrub-brush, mixed pine-hardwood, hardwood hammock	no images

198	29.24261	-81.93950	five	marion	3.4 mi north of intersection SR 40	CR 314	Major Collector	55	2100	2	12	80.0	n/a	0.0	0.0	0.0			Ocala NF	pinelands, mixed pine-hardwood, dry prairie, cypress swamp, urban	no images
199	29.23146	-81.96666	five	marion	1.4 mi north of intersection SR 40	CR 314	Major Collector	55	3600	2	12	80.0	n/a	0.0	0.0	0.0		bear road-kill		hardwood swamp/hammock, mixed pine-hardwood, pinelands, urban	no images
200	29.20710	-81.97492	five	marion	.5 mi south of intersection SR 40	CR 314	Major Collector	45	2000	2	12	80.0	n/a	0.0	0.0	0.0			Ocala NF	pinelands, shrub-brush	no images
201	29.20173	-81.97871	five	marion	.9 mi south of intersection SR 40	CR 314	Major Collector	45	2000	2	12	80.0	n/a	0.0	0.0	0.0			Ocala NF	pinelands, shrub-brush, mixed pine-hardwood, hardwood hammock, urban	no images
202	29.18311	-81.99280	five	marion	Oklawaha River, Sharps Ferry	CR 314	Major Collector	45	2000	2	12	60.0	bridge, height - n/a	200.0	30.0	0.0			MHC Cross FL Grwy	hardwood swamp, mixed wetland forest, open water	no images
203	29.18409	-82.01298	five	marion	1.3 mi west of Oklawaha River	CR 314	Major Collector	45	2000	2	12	80.0	n/a	0.0	0.0	0.0			Silver River SP	shrub-brush, mixed pine-hardwood, pinelands, urban	no images
204	29.19329	-82.02668	five	marion	Marshall Swamp	CR 314	Major Collector	45	2000	2	12	60.0	n/a	0.0	0.0	0.0			Silver River SP	hardwood swamp, mixed wetland forest, cypress swamp	no images
205	29.08212	-81.88478	five	marion	.3 mi west of intersection CR 314a, Oklawaha R.	CR 464c	Minor collector	55	4000	2	12	90.0	bridge, height - n/a	220.0	40.0	0.0		multiple bear kills	Sunnyhill Restoration Area	hardwood swamp, mixed wetland forest, open water, pinelands, shrub-brush, pasture	no images
206	29.10896	-81.89560	five	marion	.7 mi north of SE 137th Avenue	CR 314a	Major Collector	55	4000	2	12	60.0	n/a	0.0	0.0	0.0			Ocala NF	pinelands, mixed wetland forest, shrub swamp, sandhill	no images
207	29.11758	-81.89332	five	marion	1.3 mi north of SE 137th Avenue	CR 314a	Major Collector	55	4000	2	12	60.0	n/a	0.0	0.0	0.0			Ocala NF	pinelands, sandhill, mixed pine-hardwood, cypress swamp, freshwater marsh	no images
208	29.13021	-81.88845	five	marion	.7 mi south SE 180th Avenue	CR 314a	Major Collector	55	4000	2	12	80.0	n/a	0.0	0.0	0.0			Ocala NF	pinelands, urban, freshwater marsh, hardwood hammock	no images
209	29.14671	-81.90371	five	marion	.8 mi south SE 180th Avenue	CR 314a	Major Collector	55	8000	2	12	80.0	n/a	0.0	0.0	0.0			Ocala NF	hardwood hammock, mixed pine-hardwood, sandhill, urban	no images
210	29.15886	-81.89740	five	marion	1.75 mi south of intersection SR 40	CR 314a	Major Collector	55	8000	2	12	80.0	n/a	0.0	0.0	0.0			Ocala NF	pinelands, sandhill, agriculture	no images
211	29.17738	-81.89255	five	marion	.4 mi south of intersection SR 40	CR 314a	Major Collector	55	8000	2	12	80.0	n/a	0.0	0.0	0.0		bear road-kill	Ocala NF	mixed pine-hardwood, sandhill, pinelands, hardwood hammock, urban	no images
212	29.18744	-81.88588	five	marion	.4 mi north of intersection SR 40	CR 314a	Major Collector	55	2000	2	12	80.0	n/a	0.0	0.0	0.0		multiple bear kills	Ocala NF	pinelands, mixed wetland forest, hardwood swamp, shrub-brush, clearcut/bare soil	no images
213	29.21015	-81.87606	five	marion	2.1 mi north of intersection SR 40	CR 314a	Major Collector	55	2000	2	12	80.0	n/a	0.0	0.0	0.0			Ocala NF	hardwood swamp, mixed wetland forest, pinelands,	no images

																			mixed pine-hardwood	
214	29.23365	-81.87282	five	marion	3.2 mi south of intersection CR 314	CR 314a	Major Collector	55	2000	2	12	80.0	n/a	0.0	0.0	0.0		multiple bear kills	Ocala NF	pinelands, shrub-brush, mixed wetland forest, cypress swamp, mixed pine-hardwood, urban	no images
215	29.24651	-81.88314	five	marion	2 mi south of intersection CR 314	CR 314a	Major Collector	55	2000	2	12	80.0	n/a	0.0	0.0	0.0		multiple bear kills		pinelands, mixed wetland forest, freshwater marsh, hardwood/shrub swamp, urban	no images
216	29.25486	-81.88535	five	marion	1.35 mi south of intersection CR 314	CR 314a	Major Collector	55	2000	2	12	80.0	n/a	0.0	0.0	0.0			Ocala NF	pinelands, mixed wetland forest, shrub swamp, freshwater marsh, sand pine scrub	no images

Appendix D – Field Photographs

Westbound

Culvert

Bridge

Underpass

Aerial View

Park Entrance

Underpass