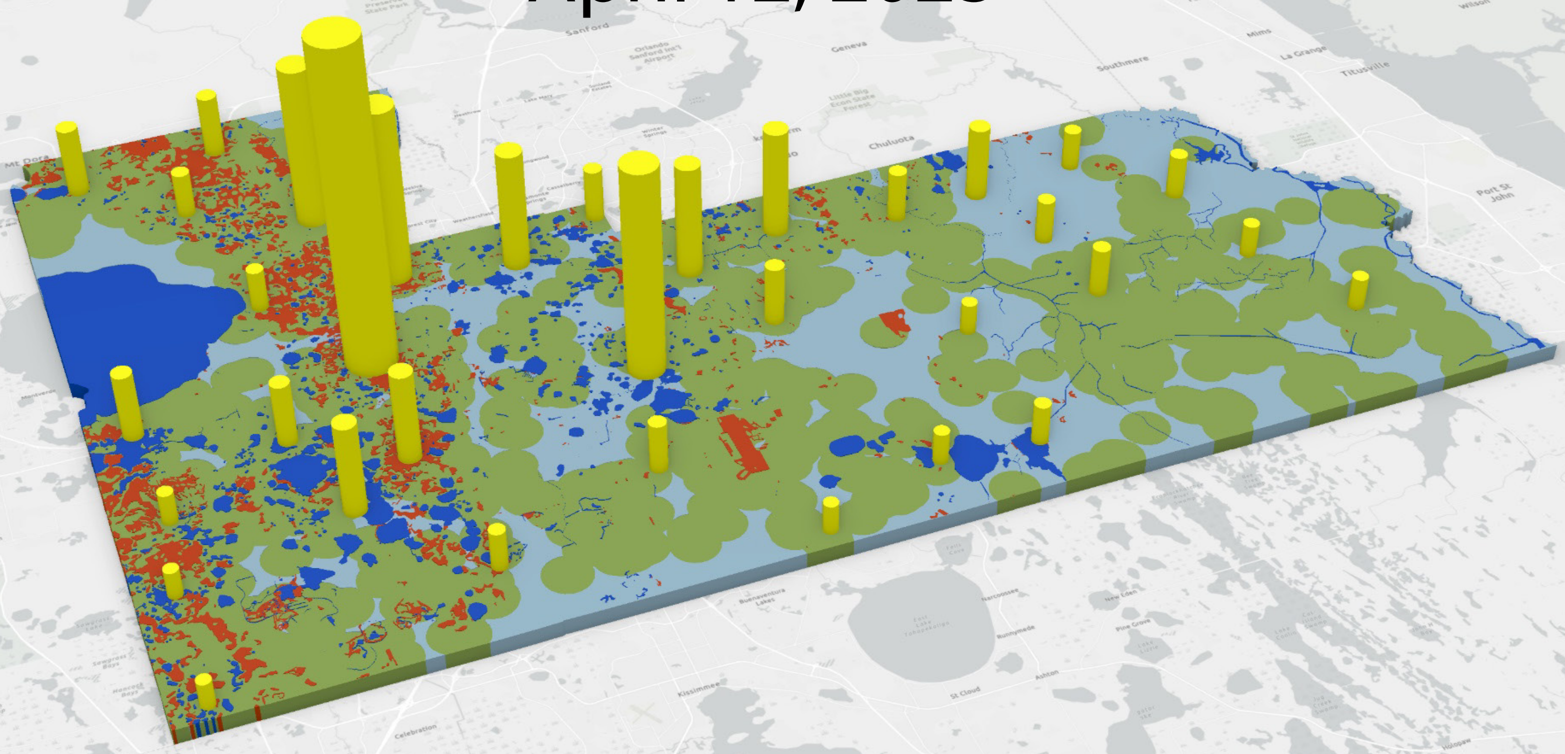
ORANGE COUNTY GROUNDWATER VULNERABILITY ASSESSMENT

April 12, 2023



Less Vulnerable
Vulnerable
More Vulnerable
Waterbodies
Septic Density

ORANGE COUNTY GOVERNMENT FLORIDA

DRUMMOND CARPENTER
engineering + research

ORANGE COUNTY GROUNDWATER VULNERABILITY ASSESSMENT

FINAL REPORT

Prepared for:

Orange County Environmental Protection Division
3165 McCrory Pl #200
Orlando, FL 32803

Orange County EPD Contract # Y20-906A PO #C20906A001

Prepared by:

Drummond Carpenter, PLLC
47 East Robinson St., Suite 210
Orlando, FL 32801

12 April 2023

DRUMMOND CARPENTER

ORANGE COUNTY GROUNDWATER VULNERABILITY ASSESSMENT

Final Report

Prepared for:

Orange County Environmental Protection Division
3165 McCrory Pl #200, Orlando, FL 32803
Orange County EPD Contract # Y20-906A PO #C20906A001

Prepared by:

Drummond Carpenter, PLLC
47 East Robinson St., Suite 210, Orlando, FL 32801

12 April 2023

LEE GRAY MULLON LICENSE No 72414 STATE OF FLORIDA PROFESSIONAL ENGINEER

Digitally signed by Lee G Mullon Date: 2023.04.12 09:56:38 -04'00'

Lee Mullon, PE, CFM, D.WRE, PMP
Principal, Project Manager

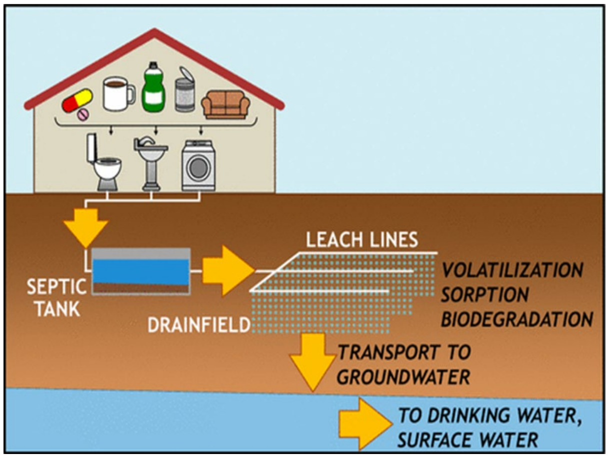
Chad Drummond, PE, BCEE, D.WRE
Principal, Project Engineer

Nathan Holt, PE
Professional Engineer

Olivia Rockett, GIT
Geologist

EXECUTIVE SUMMARY

Orange County has experienced continuing water quality degradation countywide, with lakes, rivers, and springs not attaining mandated water quality standards in regions throughout the county, both urban and rural. There have been over 150 surface water quality impairments documented over the last 20 years, many of which are caused by excessive nutrients, and the number of impairments is increasing. To combat this trend, Orange County has adopted numerous programs to control excessive nutrient loading to surface waters and groundwater, including educational outreach, water quality capital improvements, improved operation and maintenance efforts, source control measures, local ordinance updates, and others.



Transport from a septic tank to groundwater and surface water (Silent Spring Institute 2017).

This study focuses exclusively on evaluating nutrient transport from Orange County onsite sewage treatment and disposal systems (OSTDS) (septic systems) and how septic systems contribute nutrient loads to surface waterbodies via the groundwater pathway. Wastewater entering septic tanks carry nutrients at elevated levels. In conventional septic systems, this wastewater goes through a septic tank before being released into a drain field effluent that leaches to underlying groundwater. In advanced treatment septic systems, pollutant reduction measures are incorporated to reduce nutrient leaching when compared to conventional systems.

A septic system prioritization framework for Orange County has been developed to identify regions of high priority where pollution reduction measures are more likely to yield greater water quality benefits to impaired lakes and rivers and to protect other systems from becoming impaired. These pollution reduction measures take the form of various septic interventions, such as septic-to-sewer retrofits, conventional-to-advanced septic system retrofits, and policy and regulatory adjustments to conventional septic permitting.

Statewide regulatory and data-driven efforts undertaken to protect groundwater resources and restore Wekiwa Springs served as a model for this framework and can guide future efforts for septic interventions and management within Orange County. Past Wekiwa Springs protection efforts included conducting a Wekiva Aquifer Vulnerability Assessment (2005), developing the Wekiwa and Rock Springs Basin Management Action Plan (Wekiwa BMAP), and developing the Wekiva Priority Focus Area (Wekiva PFA) using the Florida Department of Environmental Protection (FDEP) as well as the Florida Geologic Survey (FGS) criteria and processes. The Wekiwa Springs model focuses resources on solutions that provide the greatest reduction of nutrients to this groundwater-fed system, which was found to be heavily impacted by the extent of septic systems within the Wekiwa springshed.

Approximately 86,000 septic systems are believed to exist within Orange County, of which approximately 30,000 are estimated to exist within the Wekiva PFA. Detailed studies conducted by FDEP and others have shown that conventional septic systems within the Wekiva PFA are the largest contributor of nitrogen within the Priority Focus Area. Therefore, nutrient loading from septic systems outside the Wekiva PFA has the potential to be a significant contributor to other surface water impairments throughout Orange County. Several efforts have been completed in this study to assess the groundwater vulnerability of Orange County, its sources of potential septic pollution, and the groundwater pathways through which this pollution may impact sensitive County surface water and groundwater resources (see flowchart below).

DRUMMOND CARPENTER

Orange County Groundwater Vulnerability Assessment

Orange County Aquifer Vulnerability Modeling (OCAVA)

Identified the relative vulnerability of shallow groundwater (Surficial Aquifer System) across Orange County to pollution from contaminants introduced at the land surface or in the soil based on intrinsic subsurface properties.

Areas defined as being "Less Vulnerable", "Vulnerable", and "More Vulnerable" to groundwater pollution.

Septic Spatial Analysis & Subdivision Prioritization Ranking

Mapped where septic subdivisions are most likely located throughout Orange County.

Developed vulnerability scores, based on a variety of metrics representing the potential for groundwater pollution of subdivisions primarily on septic across Orange County.

Using vulnerability scores, septics subdivisions across Orange County were ranked in terms of groundwater pollution potential to provide a prioritization ranking for septic retrofits at the subdivision scale.

Countywide Groundwater Model & Waterbodies of Interest (WOIs)

Identified surface waterbodies across Orange County susceptible to groundwater pollution, are already considered impaired for water quality, or are otherwise considered important based on a screening process. These waterbodies are deemed "Waterbodies of Interest (WOIs).

Used countywide groundwater modeling to identify groundwater influence zones for WOIs, which represent areas of the Surficial Aquifer that are predicted to contribute groundwater to the WOIs.

Water Quality Fate and Transport Modeling

Conducted water quality modeling for nitrogen (STUMOD-FL and MODFLOW+RT3D) and phosphorus (HYDRUS-2D) to evaluate leaching from septic systems to groundwater, and setback distances between septic systems and waterbodies.

Phase I Priority Focus Areas (PFAs)

Identified PFAs for septic intervention around targeted WOIs.

The extent of PFAs represent areas adjacent to targeted waterbodies where groundwater pollution potential would be expected to be the highest.

Waterbodies within the Wekiva and Rock Springs PFA were precluded from PFA selection since they are already within the FDEP PFA.

PFA Rankings

PFAs were ranked based on the presence, extent, and vulnerability scores of septic subdivisions to provide a prioritization system for septic retrofits and future feasibility studies at the PFA scale.

Septic subdivisions falling within PFAs were also ranked based on vulnerability scores to provide a prioritization ranking for septic retrofits and future feasibility studies within PFAs at the subdivision scale.

This study was designed to:

(1) Identify the number and location of septic systems throughout Orange County,
(2) Model and map the shallow groundwater vulnerability countywide to estimate regions of the County that are more vulnerable to septic pollution,
(3) Investigate how septic pollution to groundwater can impact County surface waterbodies (Waterbodies of Interest),
(4) Identify prioritized areas for the allocation of resources for septic interventions (Phase I Priority Focus Areas), and
(5) Provide recommendations for future septic intervention and management efforts.

A summary of key results and findings are provided below.

- Aquifer vulnerability modeling indicates areas in the western and central portion of Orange County are generally more vulnerable to shallow groundwater (Surficial Aquifer) septic pollution than areas in the eastern portion of the County.
- There are 1,910 subdivisions identified in Orange County where at least 50% of the parcels are served by a septic system (i.e., "septic subdivisions").
- Septic subdivisions across Orange County were scored in terms of vulnerability for groundwater pollution to provide a priority ranking for septic management and retrofit activities at the subdivision scale. Consistent with aquifer vulnerability modeling results, septic subdivisions in the eastern portion of the County were generally considered less vulnerable and scored lower on the priority ranking systems than subdivisions in the western and central portion of the County. Longer groundwater travel times and lower population, housing, and septic densities in the eastern region created a lower vulnerability score relative to other areas in the County.
- 173 Waterbodies of Interest were identified that represent surface waterbodies across Orange County susceptible to groundwater pollution, are already considered impaired for water quality, or are otherwise considered important based on a screening process.
- Using groundwater flow modeling, groundwater influence zones were calculated for the Waterbodies of Interest to estimate what areas of shallow groundwater (Surficial Aquifer) contribute nutrient loads to the waterbodies.
- Water quality modeling of nitrogen and phosphorus of septic effluent indicates that nutrient leaching to groundwater and downgradient surface waterbodies can be influenced by effluent concentrations, distance to the groundwater, geologic and geochemical properties, septic density, and setback distance between septic systems and waterbodies.
- Increased nutrient reduction from advanced treatment septic systems, as compared to conventional septic systems, can play a significant role in reducing nutrient loads from septic leachate to groundwater and surface waterbodies.
- Based on water quality modeling, groundwater flow modeling, septic and sewer spatial analysis, 66 Phase I Priority Focus Areas were identified. These Priority Focus Areas represent areas around a subset of the Waterbodies of Interest where groundwater pollution from septic systems to the waterbodies would be expected to be the greatest. 671 septic subdivisions (i.e., subdivisions with more than 50% of parcels on septic) were identified within the Priority Focus Areas, which focuses potential septic system intervention strategies from the 1,910 septic subdivisions identified across Orange County.
- Priority Focus Areas were ranked in terms of presence, extent, and vulnerability scores of septic subdivisions to provide a prioritization system for septic retrofits and future feasibility studies.

The Priority Focus Area concept was used for this study as it mirrors the development of PFAs used by FDEP to establish special groundwater influence regions for Outstanding Florida Springs per the *Florida Springs and Aquifer Protection Act*[1], except that lakes and rivers are considered instead of springs. Per Florida Statute:

> *"Priority focus area" means the area or areas of a basin where the Floridan Aquifer is generally most vulnerable to pollutant inputs where there is a known connectivity between groundwater pathways and an Outstanding Florida Spring, as determined by the department in consultation with the appropriate water management districts and delineated in a basin management action plan."*

The effort conducted in this study, including identification of Phase I PFAs and vulnerability mapping of septic subdivisions, can be used as a tool for policy development for septic systems throughout Orange County. Study results can be used to prioritize locations for conversion of conventional septic systems to advanced treatment systems, prioritize areas for feasibility studies for connection of septic subdivisions to central sewer, and develop policy guidelines for septic systems. Orange County could consider the following recommendations.

1) **Develop consistent policy guidelines regarding new and existing septic systems *falling within PFAs*.** An approach similar to that of the Wekiva and Rock Springs BMAP developed for the Wekiva PFA could be considered as the approach has been adopted and is logical and defensible.
2) **Develop consistent guidelines for new and existing septic systems *not falling within PFAs*.**
3) **Work with the FDEP, and other applicable local, state, and federal agencies, to develop and implement policy and funding strategies.**
4) **Evaluate how new policies above can be used to address nutrient BMAPs in Orange County to meet relevant requirements of the Clean Waterways Act (SB 712, 2020) once the statewide rules have been finalized and adopted.**

Phase I PFAs developed in this study represent areas recommended for septic interventions to protect identified WOIs. The WOIs in this study focused largely on waterbodies that are currently impaired and evaluating subdivisions already on septic (>50%) for intervention.

However, the number of impaired waterbodies in Orange County have shown an increasing trend over the past 20 years. Without planning and preventative measures, this trend could continue as population in the area is expected to continue to increase. Therefore, future work should focus on developing Phase II PFAs. These PFAs should be developed to proactively protect water resources (i.e., lakes) that are not currently impaired but could become impaired based on new development and construction of new septic systems or a continuation of existing practice.

[1] 373.803 F.A.C. 'Delineation of priority focus areas for Outstanding Florida Springs'

Contents

LIST OF FIGURES

LIST OF TABLES

LIST OF EXHIBITS

ACRONYMS

AEI	Applied Ecology, Inc.
AMSL	Above Mean Sea Level
ArcSDM	Arc Spatial Data Modeler
AVA	Aquifer Vulnerability Assessments
ECFTX	East Central Florida Transient Expanded
DEM	Digital Elevation Model
DIN	Dissolved Inorganic Nitrogen
DTW	Depth to Water
DO	Dissolved Oxygen
FAVA	Florida Aquifer Vulnerability Assessment
FDEP	Florida Department of Environmental Protection
FDOH	Florida Department of Health
FGS	Florida Geological Survey
ft	Feet
ICU	Intermediate Confining Unit
K	Hydraulic Conductivity
K_D	Sorption Coefficient
l	Pore Connectivity
N_2	Nitrogen Gas
NH_4^+	Ammonium
Nitrate-N	Nitrate as Nitrogen
NO_2^-	Nitrite
NO_3^-	Nitrate
NRCS	Natural Resources Conservation Service
OC	Orange County
OCAVA	Orange County Aquifer Vulnerability Assessment
OCEPD	Orange County Environmental Protection Division
OSTDS	Onsite Sewage Treatment and Disposal Systems
PBTS	Performance Based Treatment System
PFA	Priority Focus Area
PO_4	Phosphate
SAS	Surficial Aquifer System

S_{max}	Sorption Maxima
SSURGO	Soil Survey Geographic Database
STUMOD-FL	Soil Treatment Model
TMR	Telescopic Mesh Refinement
TP	Total Phosphorous
UFA	Upper Floridan Aquifer
UF-IFAS	University of Florida's Institute of Food and Agricultural Sciences
WIN	Watershed Information Network
WOE	Weights of Evidence
WOI	Waterbodies of Interest
1D	one-dimensional
2D	two-dimensional
3D	three-dimensional
α	Air Entry
θ_R	Saturated Water Content
θ_S	Residual Water Content

1. Introduction

This document serves as the Final Report for Task 11 and Change Orders 1 and 2 as outlined in the Drummond Carpenter, PLLC (Drummond Carpenter) Scope of Work for the Orange County Groundwater Vulnerability Assessment, under contract Y20-906A, PO#C20906A001.

1.1. Background

Orange County has experienced continuing water quality degradation countywide, with lakes, rivers, and springs not attaining mandated water quality standards in regions throughout the county, both urban and rural. Countywide, there have been over 150 water quality impairments documented over the last 20 years, with over 60% of these impairments attributable to excess nutrients, notably nitrogen and phosphorus[2]. The number of water quality impairments have also been increasing over time (Figure 1). These excess nutrients originated from multiple sources but were primarily transported to these waters through stormwater runoff and groundwater flow.

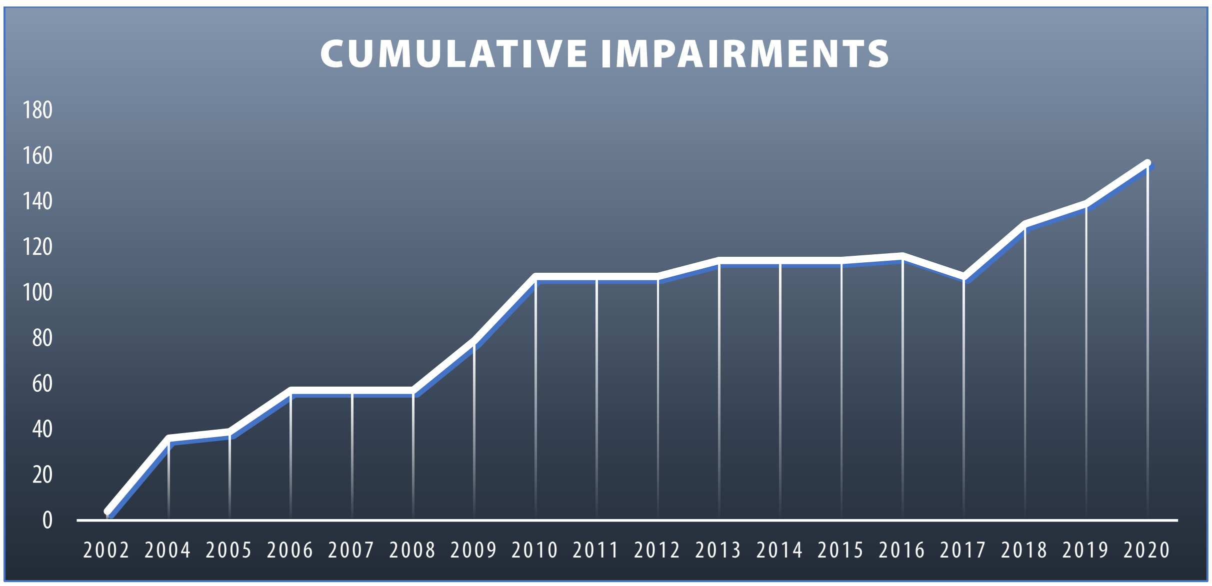


Figure 1. Number of Impaired Waterbodies in Orange County as they Become Listed.

Orange County has adopted numerous programs to control excessive nutrient loading to surface waters and groundwater, including educational outreach, water quality capital improvements, operation and maintenance efforts, source control removal, local ordinances, and others. This study focuses exclusively on the role groundwater has on nutrient transport, particularly from septic systems, and what steps Orange County can take to mitigate pollutant sources contributing to water quality impairments through groundwater.

This study builds on efforts taken by FDEP, Orange County, and others to protect Wekiwa Springs from groundwater-based nutrient pollution, and serves as a guide for prioritizing protecting measures for Orange County's other water resources. For Wekiwa Springs, several studies have been conducted to understand the role that septic systems and groundwater conditions have on influencing water quality of surface water

[2] Orange County Septic Tank Workgroup, Board of County Commissioners Presentation 2022-02-22

systems. FDEP conducted the Wekiva Aquifer Vulnerability Assessment (2005) to map regions of the Wekiva area that are more or less vulnerable to pollution of the upper Florida aquifer. FDEP also developed the Wekiwa and Rock Springs Basin Management Action Plan (Wekiva BMAP) and associated Wekiva Priority Focus Area (Wekiva PFA) to attribute groundwater nutrient pollution sources and establish a geographic region to prioritize nutrient reduction efforts. Locally, Orange County is conducting a Wekiwa Springs Basin Wastewater Treatment Feasibility Analysis to identify regions of the Wekiwa basin that are feasible for septic-to-sewer retrofitting.

These efforts are driven by the knowledge that conventional septic systems are likely the largest contributor of nitrogen within the Wekiwa springshed. While similar estimates are not available for other waterbodies across Orange County, it is reasonable to assume septic systems are a significant contributor to nutrient loading in many of these waterbodies, especially in areas where septic system density is high.

1.1.1. Onsite Sewage Treatment Disposal Systems

Approximately 86,000 onsite sewage treatment and disposal systems (OSTDS) (septic systems) are believed to exist within Orange County. These septic systems can provide a safe and cost-effective wastewater treatment solution for residents who live in regions where centralized sewer systems are not available. Septic systems can, however, cause elevated nitrogen and phosphorus levels in groundwater which can contribute to nutrient impairment in surface waterbodies, such as lakes and rivers via groundwater seepage through the Surficial Aquifer System (SAS) and springs via discharge through the Upper Floridan Aquifer (UFA) (Figure 2).

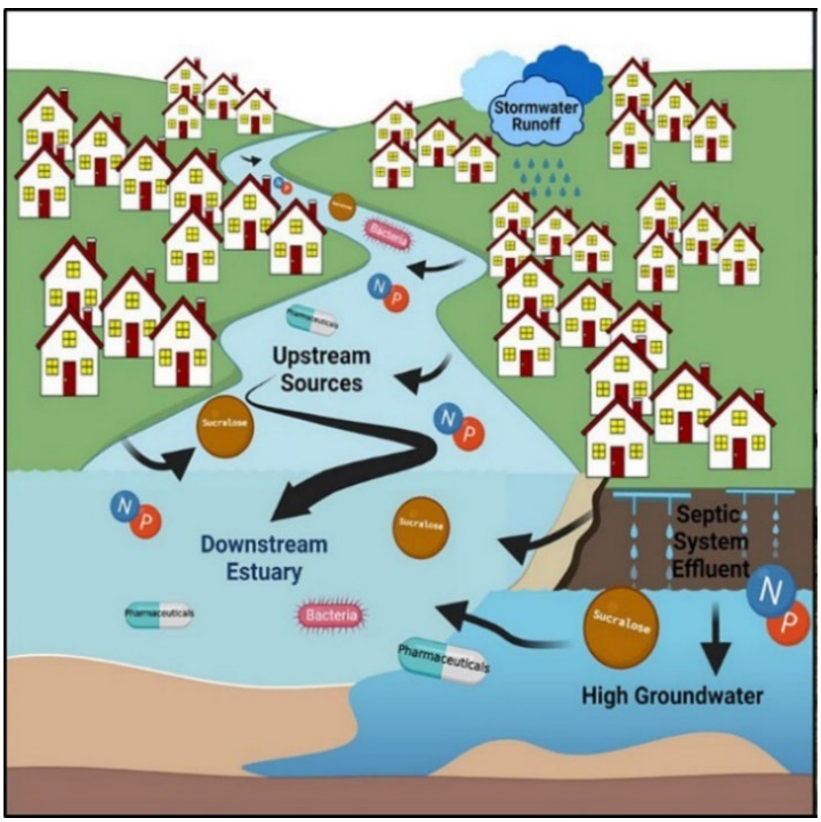


Figure 2. Transport of Septic System Effluent to Groundwater and Downstream Waterbodies (Figure from Brewton et al. 2022).

Septic systems were generally classified into two types in this report: (1) conventional septic systems and (2) advanced treatment septic systems[3]. Different types of representative septic systems are displayed in Figure 3. Conventional septic systems typically involve a septic tank and subsurface disposal system (i.e., a drain field). In Florida, only about 30-40% of the total nitrogen in wastewater entering a conventional septic system is removed from the septic tank and drain field, suggesting around 60-70% of the total nitrogen entering a conventional septic system can reach the groundwater (Toor et al., 2020). Considering the average total nitrogen concentration in household wastewater entering septic systems is approximately 60 mg/L (Toor et al., 2020), septic effluent with total nitrogen concentrations exceeding 30 mg/L could leach to groundwater, representing a significant nitrogen loading risk.

Advanced treatment septic systems aim to reduce nitrogen loading by converting nitrogen in wastewater entering the system to nitrogen gas before discharge. Advanced septic treatment systems can include both passive and active treatment technologies. Passive treatment typically treat wastewater as it flows vertically through a layered soil and reactive media layers before discharge. Active treatment includes mechanical equipment and often multiple tanks where wastewater undergoes multiple treatment processes before being discharged. Both passive and active advanced septic treatment systems can provide approximately 50% to 95% total nitrogen reduction as compared to the 30-40% reduction from conventional septic systems.

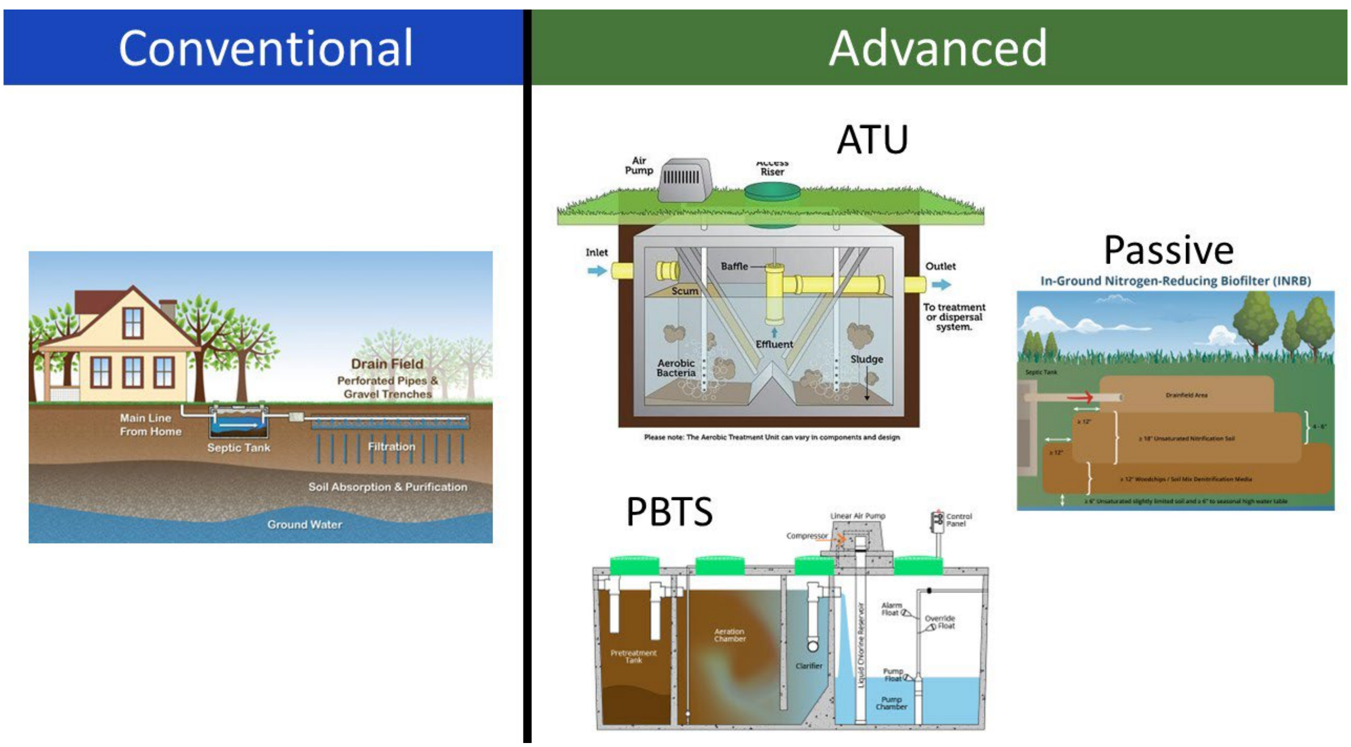


Figure 3. Representative Septic System Types, including Conventional (left), Aerobic Treatment Unit (ATU), Performance-Based Treatment Sytem (PBTS), and Passive Treatment.

Within Orange County, groundwater is vulnerable to contamination from septic systems to various extents based on a multitude of environmental factors. For nutrients in groundwater, these factors are further complicated when transport of groundwater to downgradient water resources is considered. For instance, elevated nitrogen in groundwater from septic leachate may only be a concern if the septic system is adjacent

[3] Orange County Septic Tank Workgroup, Board of County Commissioners Presentation 2022-02-22

to and is expected to seep into a nearby surface waterbody or water supply well. If the septic system is sufficiently far away, then such polluted groundwater beneath the septic system may not flow toward the waterbody or natural attenuation processes may sufficiently reduce nitrogen and other potential pollutants before groundwater seepage into a surface waterbody occurs. Understanding the conditions through which septic systems more readily contribute to groundwater and surface water impairment are critical to the County's efforts at controlling septic-based pollution.

Orange County has developed a Septic Tank Workgroup to address septic-based nutrient pollution. This Workgroup is tasked with recommending solutions, hereby referred to as septic system interventions, for those existing septic systems that pose a significant risk to the County's water resources. The Workgroup is also tasked with developing recommendations to limit the construction of new conventional septic systems within undeveloped vulnerable regions through administrative rules and regulations. This Workgroup is broken up into four Subgroups, including:

Subgroup A – Responsible for new development where connection to centralized sewer is viable. This Subgroup is being led by Orange County Utilities.

Subgroup B – Responsible for septic-to-sewer retrofits of existing systems. This Subgroup is being led by Orange County Utilities.

Subgroup C – Responsible for existing septic tank upgrades to advanced treatment systems. This Subgroup is being led by Orange County Planning, Environmental and Development Services (PEDS) Department.

Subgroup D – Responsible for new septic tank standards and permitting. This Subgroup is being led by the Orange County Public Works Department.

Each Subgroup is tasked with addressing existing and future septic-based pollution through these different forms of septic system intervention, all of which are focused on mitigating nutrient impairment to the County's water resources. This Groundwater Vulnerability Assessment will be an important tool for each Subgroup when planning and implementing their short-and-long-term goals.

1.2. Project Goals

The primary goal of this project is to provide a framework for the County to develop specific action plans to mitigate septic-based water quality impairment through various septic system interventions. This framework takes the form of a groundwater vulnerability analysis and prioritization recommendations with supporting documentation that incorporates a countywide SAS vulnerability model, a countywide groundwater model, groundwater quality fate and transport modeling, a geospatial prioritization analysis of the County's septic system and related datasets, and finally the development of specific priority focus areas (PFAs).

1.3. Report Outline

The report outline for the remaining sections is presented below:

Section 2: **Data Collection:** Recaps the data collection efforts, with more detail included in Appendix A.

Section 3: **Countywide Surficial Aquifer System (SAS) Vulnerability Modeling:** Discusses the efforts to develop a countywide SAS vulnerability map.

Section 4: **Waterbodies of Interest and Influence Zones:** Designates groundwater influence zones (groundwater basins) for select Waterbodies of Interest (WOI) throughout the County to assess SAS seepage potential of vulnerable regions into WOIs.

Section 5: **Septic and Sanitary Sewer Spatial Analysis:** Represents the initial assessment of priority areas for septic system interventions.

Section 6: **Nitrogen Water Quality Modeling**: Describes the water quality modeling performed to further evaluate the influence of key parameters on the likelihood of nitrogen septic pollution reaching groundwater and waterbodies.

Section 7: **Phosphorous Water Quality Modeling**: Details a screening-level evaluation of the impact of setback distances for septic systems on phosphorus loading to groundwater and downgradient waterbodies.

Section 8: **Phase I PFAs**: Provides methodology for identification and ranking of Phase I Priority Focus Areas (PFAs) for septic intervention activities.

Section 9: **Summary of Vulnerability Assessments**: Provides conclusions and recommended next steps for the County based on the completed work.

2. Data Collection

An extensive data collection effort was conducted to inform this vulnerability assessment. The compiled data include a variety of relevant GIS data (i.e., environmental, social, hydrogeologic, impaired waters, reclaimed wastewater coverage), related previous studies, available water quality data, regional groundwater model, and regulatory information. A summary of the data collection effort is presented in Table 1. More detail on data collected for each of these topics is summarized in the *Task 2 Deliverable* (Appendix A).

Table 1. Summary of Data Collection Effort.

GIS DATA	PREVIOUS STUDIES	WATER QUALITY DATA	REGIONAL GROUNDWATER MODEL	REGULATORY INFORMATION
• ENVIRONMENTAL • SOCIAL • HYDROGEOLOGIC • IMPAIRED WATERS • RECLAIMED WASTEWATER COVERAGE • UTILITY DATA • ARCGIS SPATIAL DATA MODELER (ARC-SDM) SOFTWARE MODEL	• 2005 Florida Aquifer Vulnerability Assessment (FAVA) • 2005 Wekiva Aquifer Vulnerability Assessment (WAVA) • 2007 Florida Department of Health (FDOH) Study • 2009 Wakulla County Aquifer Vulnerability Assessment (WCAVA) • 2018 Wekiva Spring and Rock Springs Basin Management Action Plan (BMAP) • 2019 FDOH STUMOD	• 2021 Watershed Information Network (WIN) Monitoring Locations in Orange County • Surface water data from Orange County Water Atlas	• East-Central Florida Transient Expanded (ECFTX) Model (2019) (a regional MODFLOW model covering 23,800 square miles of Central Florida)	• OSTDS Standards (381.0065, Florida Statutes) and Chapter 64E-6, F.A.C. • Priority Focus Areas (PFAs) requirements • FDOH and Orange County septic system regulations

3. Vulnerability Modeling

A countywide SAS Vulnerability Model, known herein as the Orange County Aquifer Vulnerability Assessment (OCAVA), was developed for Orange County using the Weights of Evidence (WOE) approach, an objective and data-driven methodology, developed by the State of Florida and previously used in other Aquifer Vulnerability Assessments (AVA) statewide (e.g., Arthur et al. 2017, Baker et al. 2007, Baker et al. 2009a, Baker et al. 2009b, Cichon et al. 2005). The OCAVA mapping effort assessed surficial aquifer vulnerability in Orange County. Relative vulnerability scores (less vulnerable, vulnerable, and more vulnerable) were produced for areas throughout the County. This vulnerability represents the likelihood for pollutants at the land surface or within the soil (unsaturated zone) to reach the underlying aquifer.

The following subsections briefly summarize key points from the OCVAVA effort aquifer analysis performed. The complete OCAVA effort and results are described in detail in Appendix B.

3.1. Aquifer Vulnerability Model Setup

Surficial aquifer vulnerability in Orange County used the WOE model because it is data-driven and does not rely on subjective, knowledge-driven approaches used in other vulnerability studies. This vulnerability study was conducted on the SAS as septic leachate to nearby lakes occurs primarily from this aquifer (Figure 4).

The WOE approach uses a statistical approach to estimate the likelihood that a pollutant released into the soil will reach the SAS. Areas with increased likelihood of a pollutant reaching the SAS are considered more vulnerable compared to areas with less likelihood.

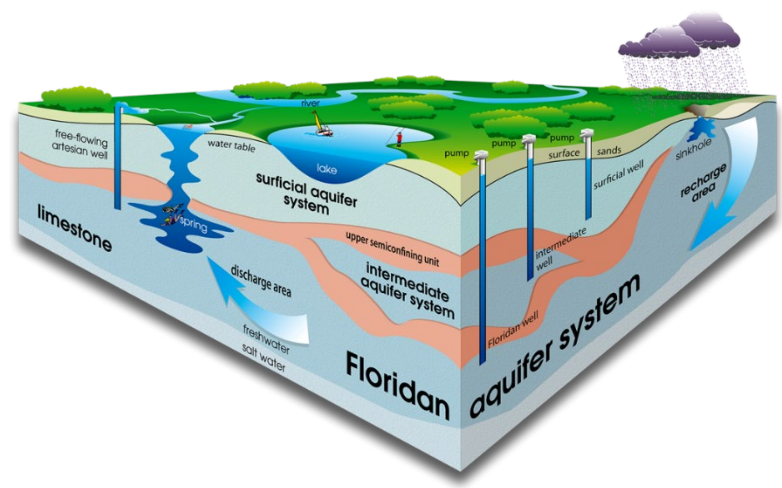


Figure 4. Florida's Aquifer Systems: Vulnerability modeling performed for the surficial aquifer system (SAS) (Figure from CFWI 2022).

The vulnerability modeling relies on two categories of user inputs: (1) training points and (2) evidential themes to produce a relative aquifer vulnerability output map (Figure 5). Training points are selected wells in the aquifer of interest with the desired water quality data. Evidential themes are spatial GIS layers of properties that influence aquifer vulnerability. A vulnerability map is generated by the WOE method by comparing values from the spatial evidential themes to locations that have elevated values of a specific water quality parameter in groundwater (i.e., training points).

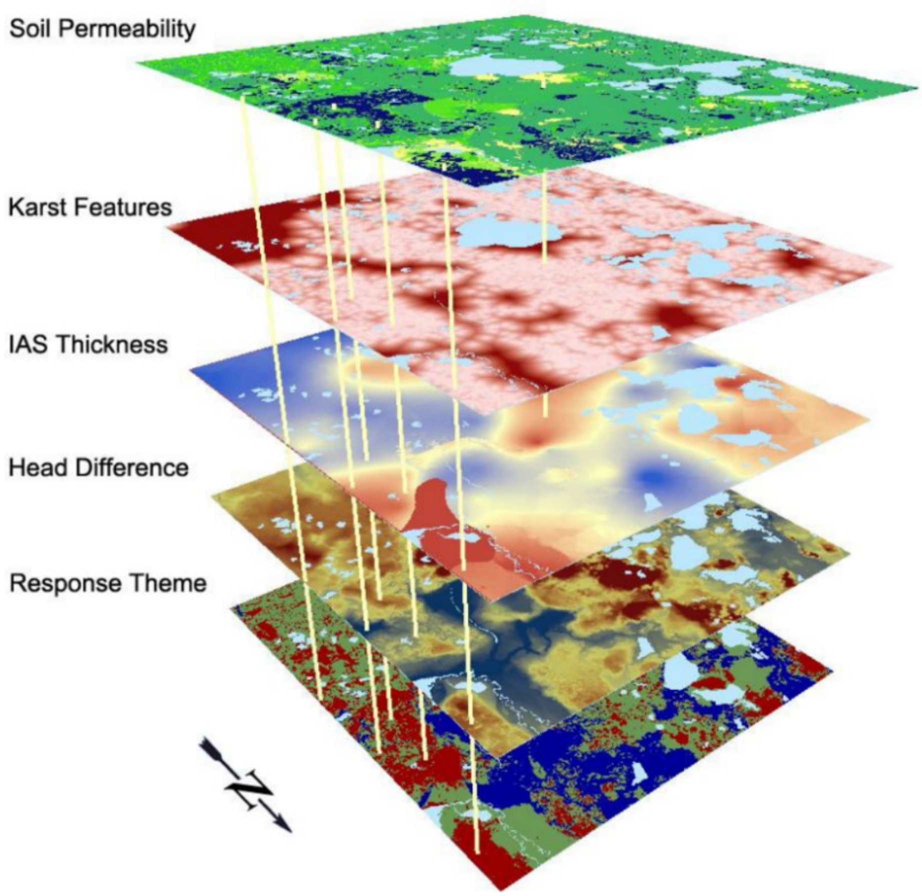


Figure 5. WOE Conceptual Model: The top four layers are evidential themes, the yellow lines represent training points (wells) projected throughout the layers, and the bottom layer represents relative aquifer vulnerability (response theme) which shows More Vulnerable areas in red and Less Vulnerable in blue (Figure adopted from Arthur et al. 2017 Fig. 4).

3.1.1. Training Points

Training points represent actual groundwater quality data within the study area and are defined as wells screened in the SAS with available water quality data for the parameters of interest. Dissolved inorganic nitrogen (DIN) and dissolved oxygen (DO) are not typically found in high concentrations in groundwater and may be used as training points because they can serve as indicators of relative aquifer recharge (Arthur et al. 2017). Areas with higher intrinsic aquifer recharge potential are assumed to have increased likelihood for a pollutant introduced at the land surface or in the soil (vadose zone) to be transported to the aquifer (i.e., higher recharge potential represents higher aquifer vulnerability).

Training points were developed from SAS water quality data obtained from the St. John's River Water Management District, Florida Department of Environmental Protection (FDEP) Watershed Information Network (WIN), STORET database, Orange County Environmental Protection Division (OCEPD), and well records maintained by Water Management Districts. In all, 541 data points were collected from 70 separate SAS wells in Orange County. Of the 70 SAS wells found with measured parameters of interest, 56 had measured DIN and 60 had measured DO (Table 2).

Table 2. Sources of Well Data Used for Training Points.

DATABASE SOURCE	WELLS	DATES SAMPLED	ORIGINAL PROJECT OR SAMPLING PROGRAM
ST. JOHNS RIVER WATER MANAGEMENT DISTRICT	12	-	-
DEPARTMENT OF ENVIRONMENTAL PROTECTION WIN WAVES	2	-	-
DEPARTMENT OF ENVIRONMENTAL PROTECTION STORET ARCHIVAL DATABASE	44	July 1985 – October 2019	GW-Trend, Background, STATUS GW-Trend, Background, STATUS, VISA, Wastewater Treatment Plant GW sampling
ORANGE COUNTY WATER ATLAS	2	September 19, 1989 – August 2, 2005	South Florida Water Management District
WEKIVA AQUIFER STUDY (OCEPD)	10	April 18, 2011-April 8, 2019	Orange County

For wells with multiple recorded measurements of DO or DIN, the median value was calculated for each parameter for that well. For both DO and DIN, wells with median values in the upper quartile of values were selected to be part of the final training points dataset, as is consistent with the WOE methodology. For DO, this procedure resulted in a training point dataset containing 8 wells, and for DIN, this resulted in a dataset containing 14 wells. Unfortunately, the DO training points did not produce sufficient differentiation in the model and were therefore not used in the final OCAVA model. The final training point set contained the 14 DIN wells. This is an increase from the statewide study, which had 1 training point for the SAS within Orange County.

Total Phosphorous Training Point Analysis

Subsequent to the DIN and DO analyses, an additional exploratory analysis was performed gathering data to create training points from wells with Total Phosphorous (TP) measurements. As phosphorous is naturally occurring in Florida soils, additional consideration is necessary when using TP data to create training points. In the conceptual framework of WOE for assessing aquifer vulnerability, training points have traditionally served as indicators of higher aquifer recharge because aquifer recharge has been treated as the indicator governing potential aquifer vulnerability to pollution introduced at the surface. Therefore, parameters not typically found in high concentrations in groundwater naturally, such as DO and DIN, are often used for training points because they represent indicators of aquifer recharge. The natural occurrence of phosphorous in soils and the strong impact geochemical processes have on phosphorus transport may influence the correlation between aquifer recharge and TP concentrations in groundwater.

The methodology for creating training points for TP mirrored the methodology described for DIN and DO training points. Multiple searches of online databases generated a total of 415 TP data points from 33 SAS wells in Orange County. Training points were selected as the SAS wells with median TP values in the upper quartile of the entire TP dataset. A total of 8 training points were produced from the TP dataset. Similar to the DO training points, the TP training points did not produce sufficient differentiation in the model and were not used in the final OCAVA model. Appendix B contains results and discussion of the exploratory TP analysis.

3.1.2. Evidential Themes

The evidential themes included in the aquifer vulnerability assessment were GIS layers intended to capture spatial soil and geologic properties that could make an area of the County more vulnerable to groundwater pollution compared to other areas. Consistent with the FAVA for SAS vulnerability, the evidential themes considered in this study included:

1. soil hydraulic conductivity,
2. depth of soil between the surface and the water table, and
3. distance to karst features.

For each evidential theme layer, multiple datasets were considered to determine the most appropriate GIS layers for this study, as further described below.

Figure 6. A Visual Representation of Hydraulic Conductivity: A measure of how easily water moves through soil and aquifer materials (Image from Build LLC 2013).

Soil Hydraulic Conductivity

Soil hydraulic conductivity is a parameter representing how well a fluid can move through pore spaces or fractures under nearly saturated conditions (Newby et al. 2009; see Figure 6). In theory, the easier water moves through a soil the higher the risk for pollution potential to the underlying groundwater (i.e., higher vulnerability).

The soil hydraulic conductivity evidential theme layer was a GIS layer obtained from the Natural Resources Conservation Service (NRCS) Soil Survey Geographic Database (SSURGO) that provides soil hydraulic conductivity spatially across Orange County. The vertical soil hydraulic conductivity values from SSURGO ranged from 5–70 feet per day (ft/day).

Depth-to-Water

Depth to water is the vertical distance from the ground surface to the water table (Figure 7). In theory, a smaller depth-to-water would mean it would be easier for a pollutant to reach the water table (i.e., more vulnerable area of aquifer pollution). In this study, the two available GIS datasets for creating the Depth to SAS evidential theme were evaluated found to be poor predictors of places with elevated DIN levels (i.e., training points) and thus were not used in the final OCAVA model.

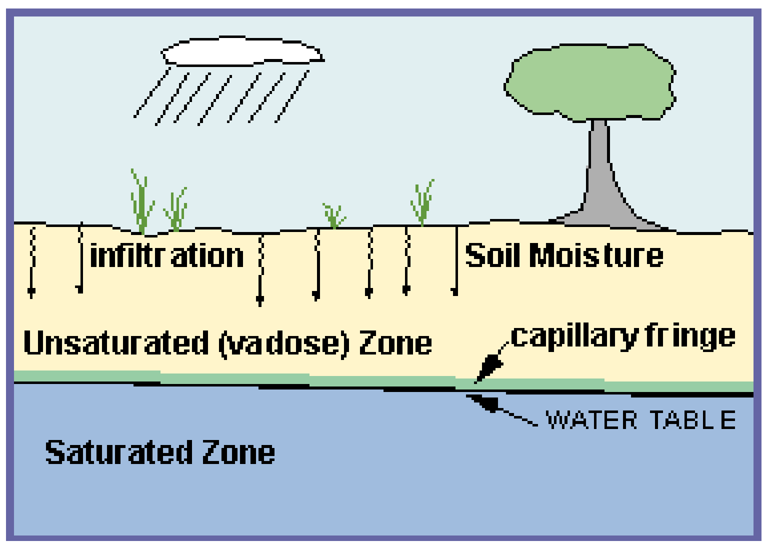


Figure 7. Diagram of Delineation of Unsaturated and Saturated Zones by the Water Table (Figure from Digital Atlas of Idaho 2022).

Karst Features

Karst features such as sinkholes can serve as conduits to directly route water from the surface to subsurface aquifers (Figure 8). Various past vulnerability studies have used evidential themes that quantified distance to karst features (Arthur et al. 2017 and Baker et al. 2009). Areas in greater proximity to karst features are considered more vulnerable compared to areas farther away.

The FGS Closed Topographic Depressions dataset was selected to create the karst features evidential theme in this study.

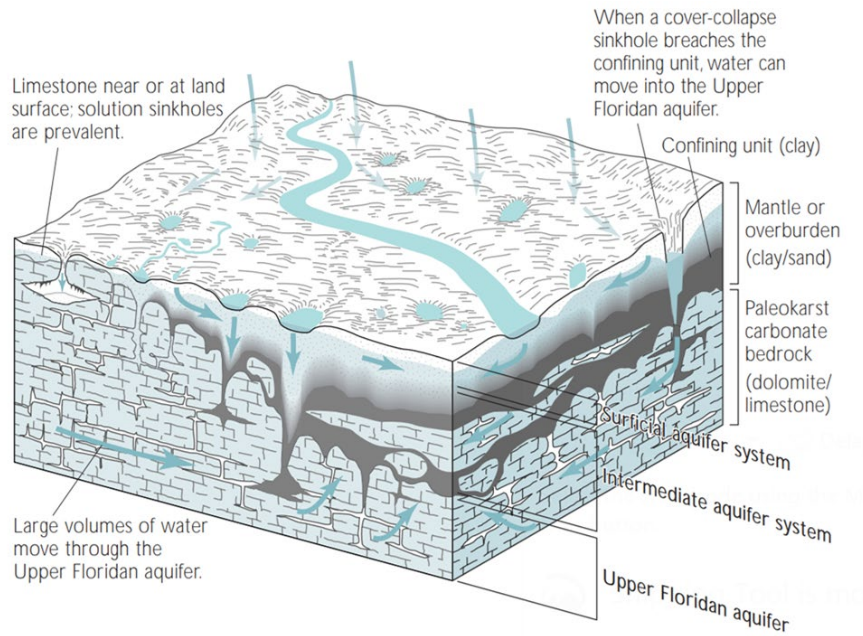


Figure 8. Karst Features and Connections to Florida's Aquifers and Surface Waterbodies (modified from Tihansky 1999).

3.1.3. Model Extent

The study area extent for this model was delineated by the Orange County boundary. The model study area and the 56 wells from the DIN dataset, including the14 training points, are shown in Figure 9.

3.1. Aquifer Vulnerability Model Results

The WOE model was used to classify regions within the study area into three vulnerability categories: More Vulnerable, Vulnerable, and Less Vulnerable. These vulnerability categories can be viewed spatially in the Figure 10. Areas *More Vulnerable* to SAS aquifer potential were found to be associated with locations having higher soil hydraulic conductivity and shorter distances to karst features. Areas *Less Vulnerable* to SAS aquifer pollution were locations with lower soil hydraulic conductivity and longer distances to karst features

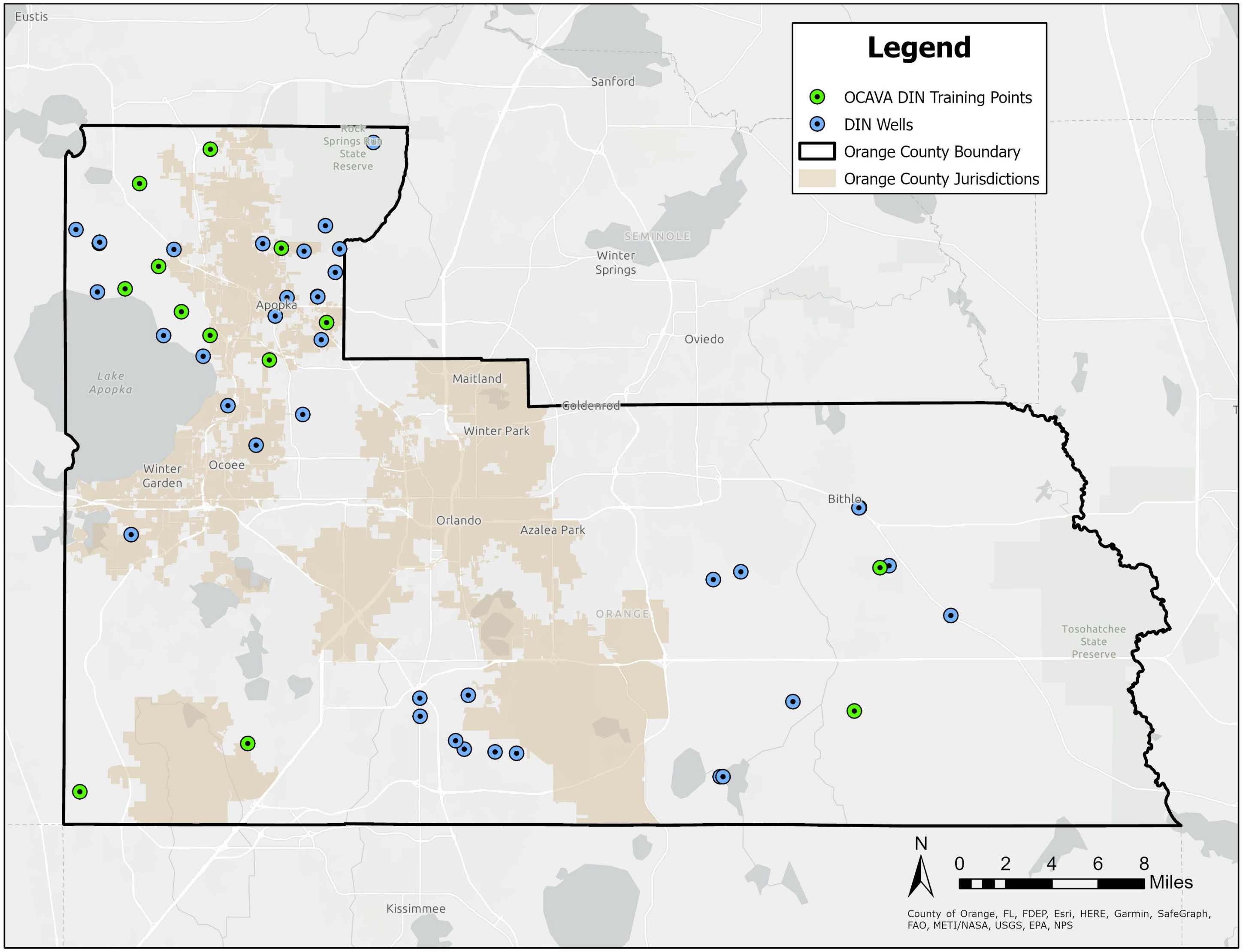


Figure 9. Aquifer Vulnerability Model Extent, DIN Wells, and Training Points.

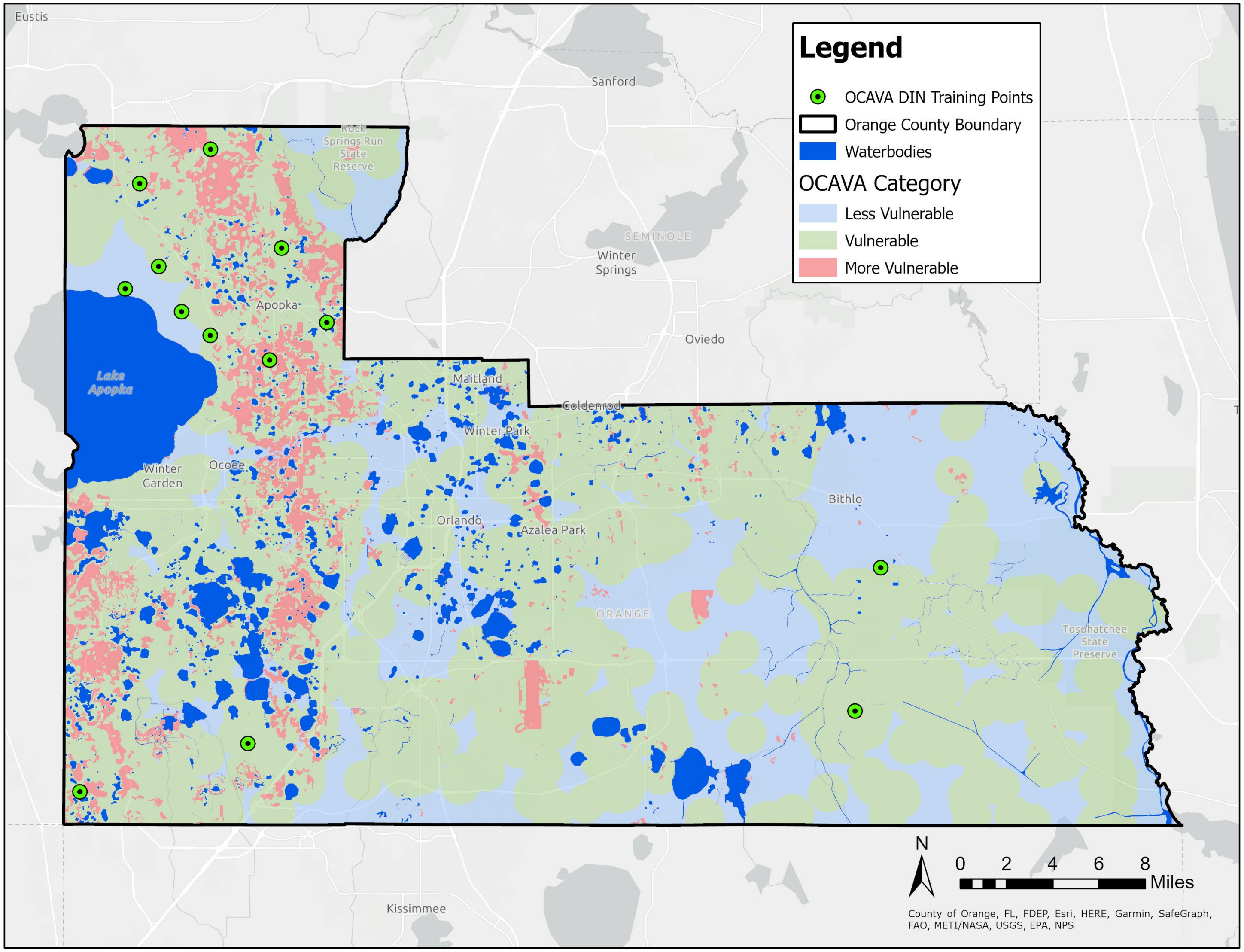


Figure 10. Relative Vulnerability of the SAS in Orange County.

3.1.1. Dissolved Inorganic Nitrogen (DIN) versus Vulnerability

DIN values measured in SAS are expected to positively correlate with areas the WOE model predicts as being *More Vulnerable* because it is assumed higher DIN concentrations in groundwater correlate with higher recharge, i.e., more vulnerable areas of the surficial aquifer. To explore this relationship, the OCAVA vulnerability class (posterior probability, see Appendix B) was determined at the location of each of the 56 SAS wells with DIN data that were used to develop the training points.

For each of the 56 SAS wells, the average DIN values were plotted against the vulnerability class (Less Vulnerable, Vulnerable, More Vulnerable) at the location where the well is located. Results show a positive correlation between average DIN in the SAS wells and vulnerability. This trend suggests the model predictions of relative vulnerability align with observations of DIN data (Figure 11).

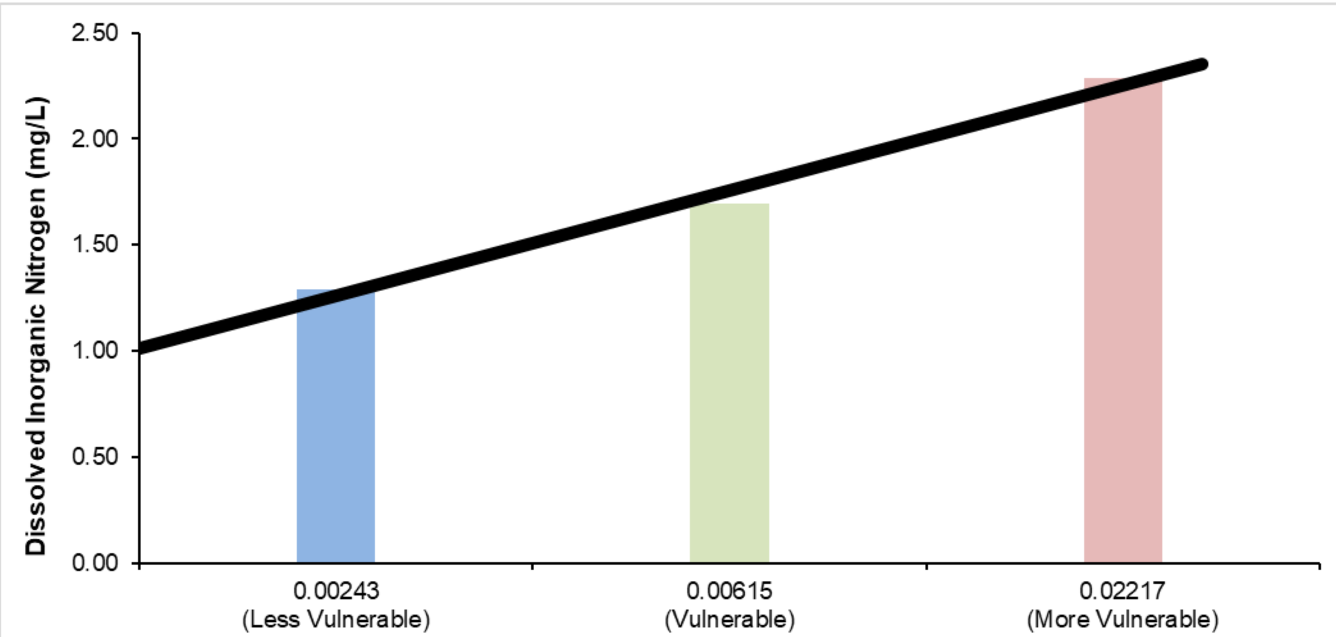


Figure 11. Positive Correlation between DIN values in the SAS and Aquifer Vulnerability.

3.1.2. Comparison to Florida Aquifer Vulnerability Assessment (FAVA)

The statewide vulnerability model, FAVA, provides vulnerability of the SAS in Orange County relative to the entire state. The model created for this study, OCAVA, defines vulnerability regions of the SAS relative to the County. The refined scale of the model allows for greater distinction between regions within the County compared to the results from the statewide model (Figure 12).

Regional patterns between the FAVA study and this study show generally similar patterns of more vulnerable areas along a northwest to south-central corridor in the western half of the county and less vulnerable areas in the east. The Wekiva Springs Priority Focus Area (PFA) in the northwestern portion of the county is primarily *More Vulnerable*. Areas in the southwestern portion of the county are also categorized as *More Vulnerable*.

At the state scale of the FAVA model, the Orange County region was largely considered *More Vulnerable*. This vulnerability classification correlated with the shallow depths to the water table observed across Orange County compared to the deeper depths observed in other areas of the state. When the WOE approach was used to evaluate county-scale vulnerability, the relatively uniform depth to the SAS across the County did not provide a broad range of values for comparison within the region and were not correlated with higher DIN concentrations in the SAS. Soil hydraulic conductivity did provide valuable information to the vulnerability classification at the county-scale. Distance to karst features were also influential at the state-scale and county-scale.

The OCAVA model shows a pattern of higher vulnerability in the central and western portions of the County, including much of the Wekiwa Springs and Rock Springs PFA, as well as Winter Park and other areas along the western border. To the east, generally lower vulnerability is predicted. This is generally consistent with the prior understanding of high recharge areas located in the central and western portions of the County, as well as areas of higher sinkhole potential.

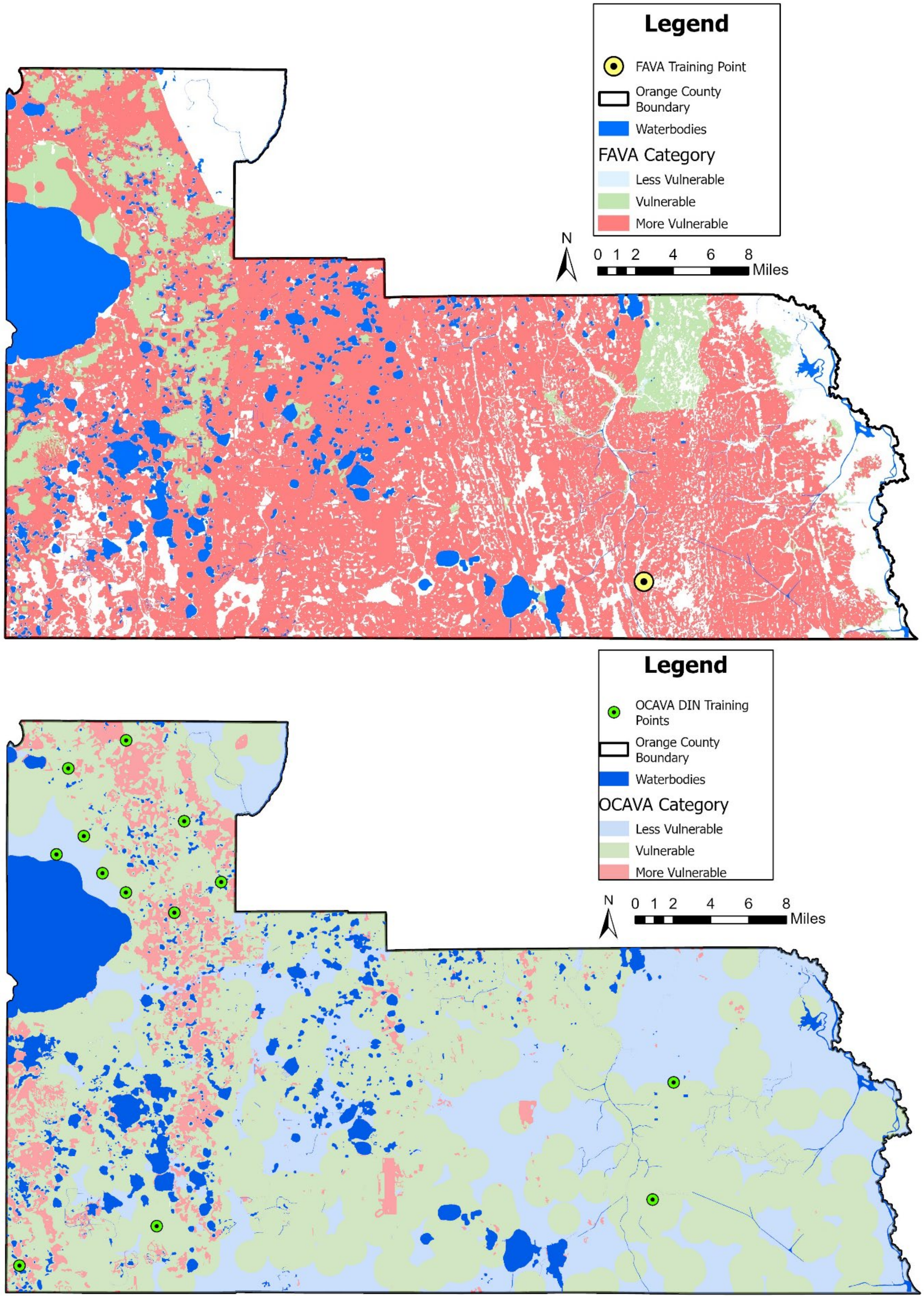


Figure 12. Comparison between the FAVA (Top) and OCAVA (Bottom) Results for the SAS.

4. Waterbodies of Interest and Influence Zones

The OCAVA model and similar WOE-based vulnerability models (e.g., Florida statewide and other Florida counties' AVA studies) predict relative vulnerability for pollution to reach the underlying aquifer. However, this modeling alone is insufficient to understand why certain water resources (e.g., lakes, rivers, springs, etc.) are impacted or become impaired by such vulnerable regions. Countywide groundwater modeling was therefore conducted to understand how the transport of excess nutrients or other pollutants from the SAS can impact important Waterbodies of Interest (WOIs) (examples shown in Figure 13 and Figure 14). This section of the report describes how WOIs were determined and details the groundwater modeling efforts conducted to delineate groundwater influence zones around the WOIs. Water quality transport modeling evaluating how pollutants from septic systems enter and move through the SAS to a downstream waterbody is presented in Sections 6 and 7.

Figure 13. Lake Butler, an identified WOI (OC Water Atlas: photo by Aimee Krivan, OCEPD).

4.1. Waterbodies of Interest

The potential for leached nutrients from septic systems to reach surface waterbodies via groundwater pathways can be evaluated if groundwater contributions to those waterbodies are spatially and temporally understood. The potential for elevated nutrient concentrations in lakes and rivers can be increased when septic systems are within areas where groundwater is contributing to those surface waterbodies. Additionally, the time it takes for nutrients in groundwater to travel from the water table to a surface waterbody affects the degree to which nutrients naturally attenuate during transport, which can impact surface waterbody nutrient concentrations. To delineate groundwater influence zones and quantify groundwater travel times for select lakes and rivers, a particle tracking analysis was performed using the refined OC ECFTX groundwater model discussed in the following sections.

The particle tracking analysis focused on 173 WOIs that were more likely to be susceptible to groundwater pollution, already considered impaired for water quality, or are otherwise considered important based on a screening process that considered several criteria. Considerations for waterbodies as a WOI included whether the waterbody is:

- not attaining standards for select analytes,
- on the Verified List of Non-Attaining Waters for select analytes,

- associated with a Basin Management Action Plan (BMAP),
- assigned a Total Maximum Daily Load (TMDL),
- associated with Outstanding Florida Waters,
- within a closed basin or karst area,
- adjacent to areas with a high density of septic systems, or
- are considered important waterbodies of Orange County.

A more detailed description of the WOI screening process can be found in Appendix C.

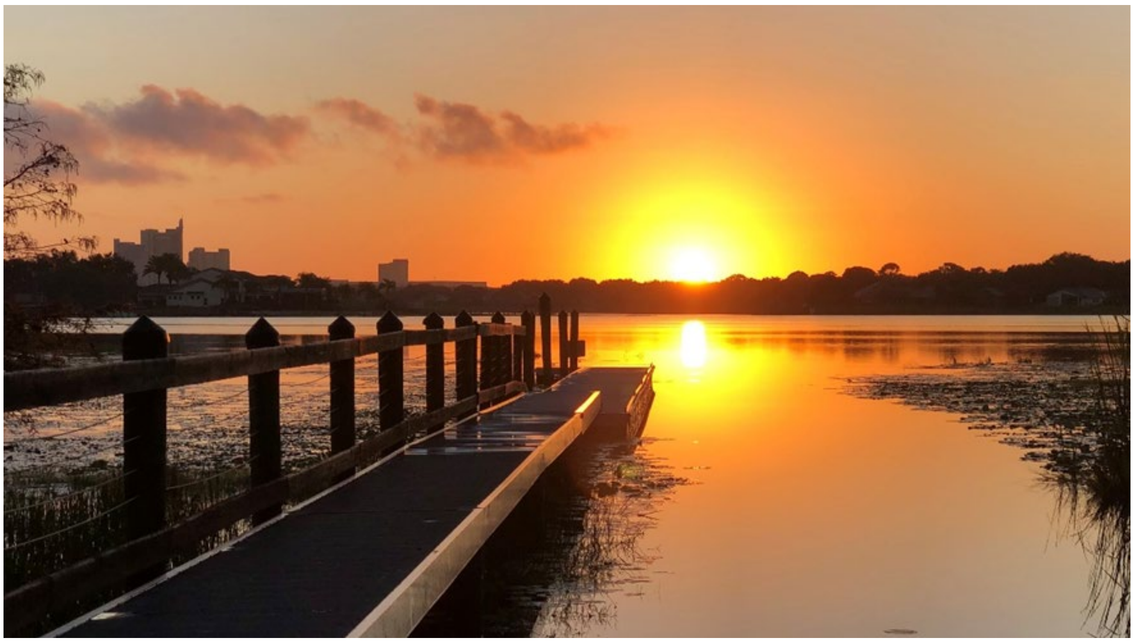


Figure 14. Sunrise over an identified WOI, Big Sand Lake (photo taken by Drummond Carpenter staff October 2021).

4.2. Model Configuration

To assess the influence of vulnerable SAS regions on nitrogen concentrations in WOIs, a countywide groundwater model was developed by refining the regional ECFTX groundwater flow model (Central Florida Water Initiative 2020). The ECFTX model uses MODFLOW-NWT (Niswonger et al. 2011), a groundwater modeling code developed and maintained by the United States Geological Survey, to simulate groundwater flow. The ECFTX model encompasses peninsular Florida from the Gulf of Mexico to the Atlantic Ocean between northern Volusia County and the Charlotte-DeSoto County line and represents the underlying hydrogeologic units using 11 layers (Figure 15). The surficial aquifer was represented by Layer 1 in the model. For the purposes of this project, the ECFTX model grid was refined and modified in an iterative process to better represent local groundwater flow conditions within Orange County using Groundwater Vistas Version 8 (Rumbaugh and Rumbaugh 2020), a pre- and post-processor for MODFLOW models.

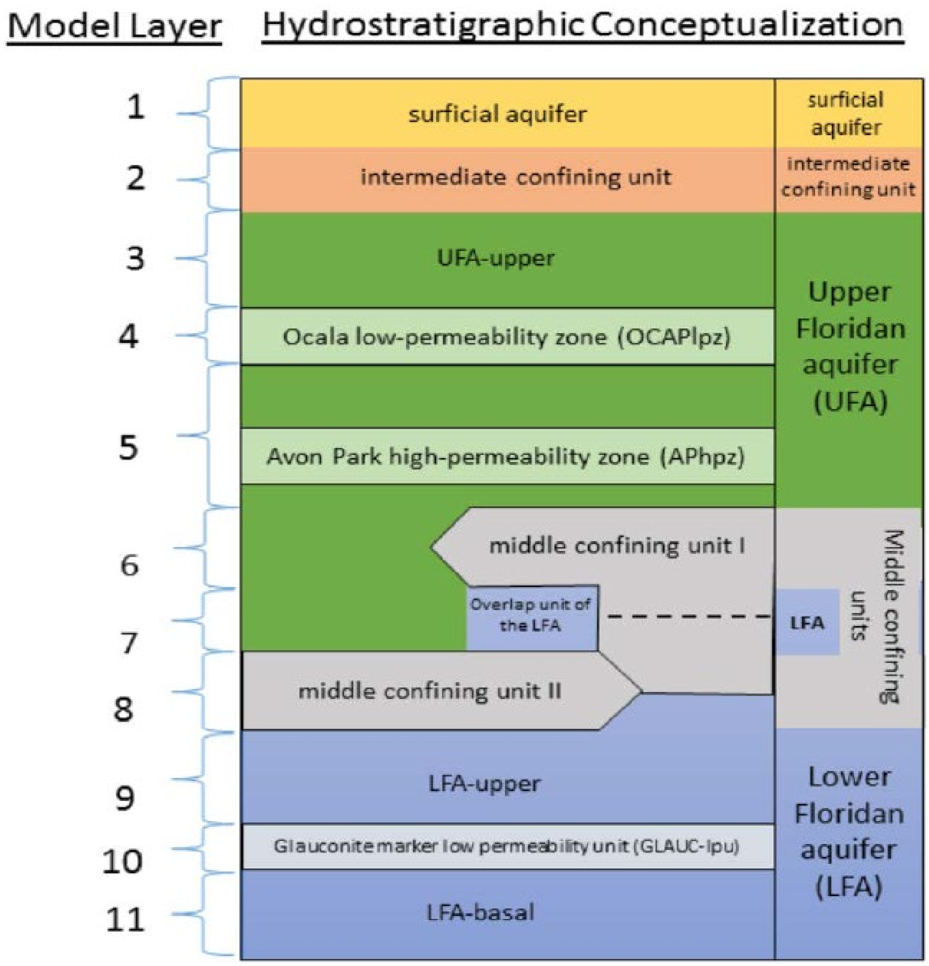


Figure 15. Vertical Discretization of the ECFTX Model (Figure from CFWI 2020).

4.2.1. Model Refinement

The model domain and grid resolution were modified using the Telescopic Mesh Refinement (TMR) tool available in Groundwater Vistas Version 8. This tool refines the model grid to a desired resolution throughout a specified area and partitions the existing boundary condition cells, representing waterbodies and other hydrogeologic features, to corresponding cells at the new grid resolution. The rectangular area selected for TMR included Orange County and areas of Lake, Seminole, Volusia, Brevard, Polk, and Osceola counties. The model grid was refined from the original ECFTX model's 1,250 ft by 1,250 ft cell spacing to a 200 ft by 200 ft cell spacing. Model grid refinement was performed to facilitate simulation of groundwater flow throughout Orange County at an approximately 40x finer resolution than the original ECFTX model, which was performed to conduct the particle tracking analysis with sufficient detail to develop groundwater influence zones at the individual waterbody scale. Care was taken to minimize modifications to the ECFTX model during grid refinement. The refined grid model is referred to as the Orange County (OC) ECFTX herein.

4.2.2. Model Boundary Conditions and Hydraulic Properties

In the ECFTX model, river boundary condition cells represent rivers, open basin lakes, and wetland areas adjacent to surface waterbodies. Drain boundary condition cells are used to represent a variety of hydrologic features in model Layer 1 including closed basin lakes and adjacent wetlands, lakes with drain wells, and smaller surface waterbodies (i.e., irrigation ditches, headwater drainage features, and shallow surface water bodies). Lakes with drain wells return water to model Layer 3, which represents the UFA, and drain boundary condition cells are also used in Layer 3 to represent springs.

River and drain boundary condition cells were modified to represent surface water features at the refined grid resolution. River and drain boundary condition cells representing large surface waterbodies (i.e., lake, river, or wetland) that were not present in either aerial imagery or the hydrology shapefiles obtained from Orange (Orange County 2021) and Seminole (Seminole County 2013) Counties were removed from the model. Select drain boundary conditions representing smaller surface waterbodies were removed using the same criteria. Drain cells representing Big Sand Lake were modified to represent the drain well that is currently in operation but not included in the original ECFTX model. An example model representation of hydrologic features using boundary conditions before and after model refinement is shown in Figure 16.

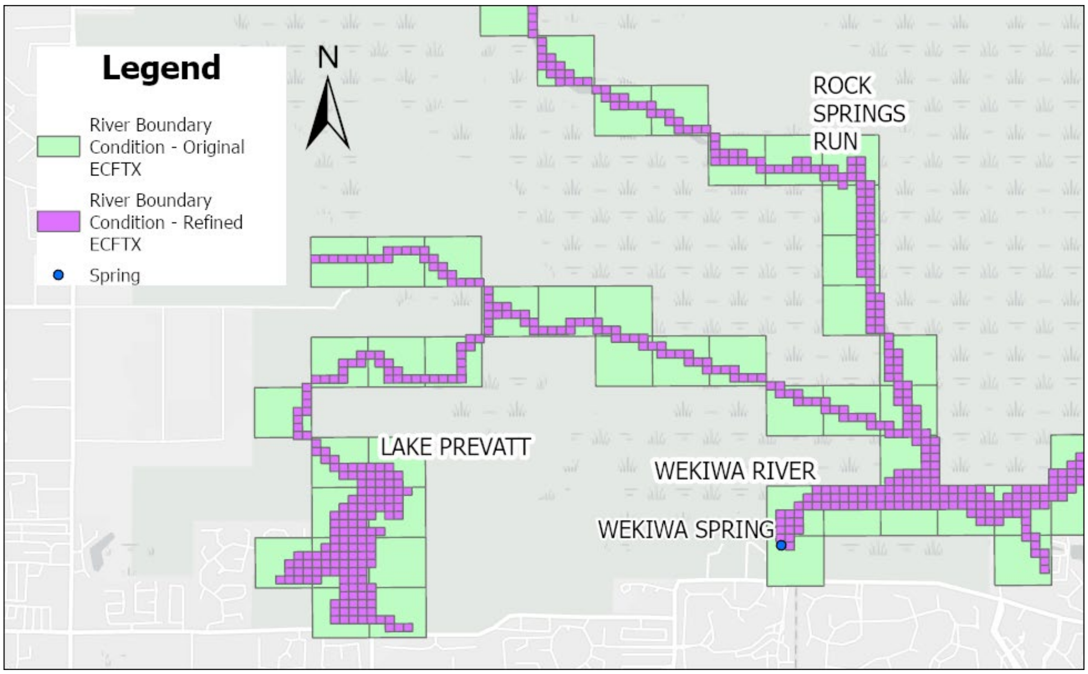


Figure 16. Boundary Condition Refinements More Accurately Representing Water Features

Hydraulic property (e.g., hydraulic conductivity) values assigned to model cells in the original ECFTX model were not changed except for porosity. In the original ECFTX model, the default porosity value was assigned to all model cells. To calculate groundwater travel times more accurately, a general porosity value of 0.25 was assigned to model cells in Layers 1-11. This porosity value was chosen to be representative of the range of possible porosity values (Yu et al. 2015) of the geologic materials (sand, silt, clay, and limestone) which comprise the modeled aquifer units.

4.2.3. Calibration Targets

Locations of head calibration targets in Orange County and the corresponding observed water levels from 2003 were obtained from the online results portal for the ECFTX model[4]. These calibration targets are located throughout the county in the Surficial Aquifer System (SAS; Layer 1) and the transmissive portions of the Upper Floridan (UFA; Layers 3 and 5) and Lower Floridan (LFA; Layers 9 and 11) Aquifers. Head target residuals (difference between observed and computed groundwater elevations or “head” values) were used to guide

[4] https://waterapp.shinyapps.io/ecftx/

the iterative refinement and modification of the OC ECFTX model and assess model calibration both discretely and holistically.

Residual calibration statistics for targets in Orange County for the original and OC ECFTX models are shown in Table 3. Calibration statistics for the OC ECFTX model are similar to those tabulated for the original model, indicating that the OC ECFTX model is relatively well calibrated, and is therefore suitable for purposes of tracking groundwater through the SAS for this project. Histograms of target residuals for the original and OC models are shown in Figure 17 for comparison.

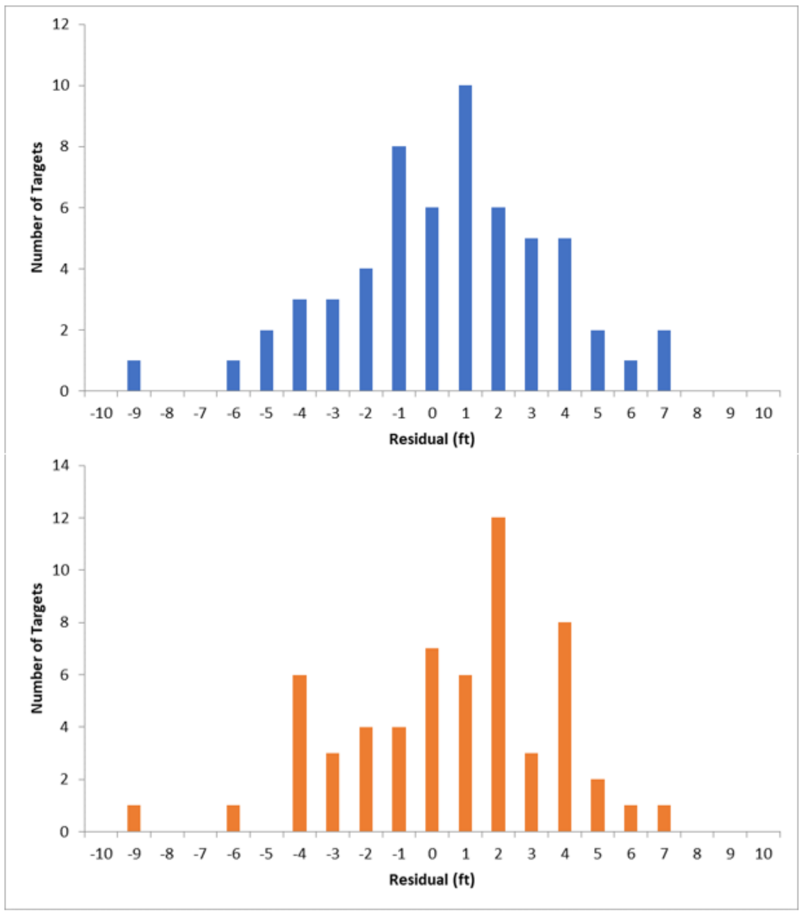


Figure 17. Original ECFTX (Top) and OC ECFTX (Bottom) Model Target Residuals.

Table 3. Comparison of Residual Statistics for Orange County for the Original and OC ECFTX Models.

RESIDUAL STATISTIC	ORIGINAL ECFTX*	OC ECFTX
RESIDUAL MEAN (ft)	-0.03	0.08
ABSOLUTE RESIDUAL MEAN (ft)	2.48	2.57
RESIDUAL STANDARD DEVIATION	3.19	3.18
SUM OF SQUARES	596.58	595.63
ROOT MEAN SQUARE ERROR	3.18	3.18
MINIMUM RESIDUAL (ft)	-9.37	-9.03
MAXIMUM RESIDUAL (ft)	6.68	6.33

*Residual statistics calculated using calibration targets in the refined area within Orange County.

4.3. Influence Zones

The OC ECFTX model was used to generate influence zones for the WOIs identified in Section 4.1. Reverse particle tracking was performed on the steady-state groundwater flow field calculated by the OC ECFTX model using MODPATH Version 7 (Pollock 2016). Particles were released at five vertical locations in Layer 1 (SAS) of the model between the water table and the bottom of the layer at 50 ft intervals along the boundaries of the 173 recommended WOIs, as defined by either the Orange County hydrology shapefile (Orange County 2021) or the Orange County Property Appraiser hydrology shapefile (Orange County Property Appraiser 2021). Using the steady-state flow field, MODPATH tracked virtual particles upgradient from their endpoints (the WOIs) to their point of origin. To capture the effects of changes in annual precipitation, reverse particle tracking was also performed using the flow fields from two additional simulations of the OC ECFTX model with 20% more and 20% less recharge.

Using the three sets of origin points (OC ECFTX, plus 20% recharge, minus 20% recharge), groundwater influence zones were generated for the WOIs using either the Convex Hull (Minimum Bounding Geometry) or the Concave Hull (Alpha Shapes) Vector Geometry tools in QGIS (QGIS 2022). The Convex Hull tool considers the origin points for a waterbody and generates a polygon which encloses the origin points for each waterbody while maximizing the area (similar to putting a rubber band around the farthest particle end points). This tool was used to generate the influence zones for each of the WOIs except for the Econlockhatchee River, the Little Econlockhatchee River, and Crane Strand.

The Concave Hull (Alpha Shapes) tool was used to generate the influence zones for the Econlockhatchee River, the Little Econlockhatchee River, and Crane Strand. The Concave Hull (Alpha Shapes) tool is like the Convex Hull tool in that it creates a polygon which encloses the origin points for each water body (similar to connecting the dots around the perimeter); however, instead of maximizing area, the algorithm connects the origin points with constraints on the angle of the line needed to connect the next closest point, as determined by the alpha value. The Concave Hull (Alpha Shapes) tool was used to develop the influence zones for these waterbodies because the Convex Hull did not produce realistic influence zones.

Origin points generated for WOIs with the same name (e.g., Tootoosahatchee Creek, Turkey Creek) were combined to create one influence zone for the WOI. Similarly, origin points for the tributaries of the Econlockhatchee River were combined with origin points for the main Econlockhatchee River to generate one influence zone. Using these methods, influence zones were produced for WOIs. Examples of influence zones generated using the convex hull and concave hull tools are presented in Figure 18.

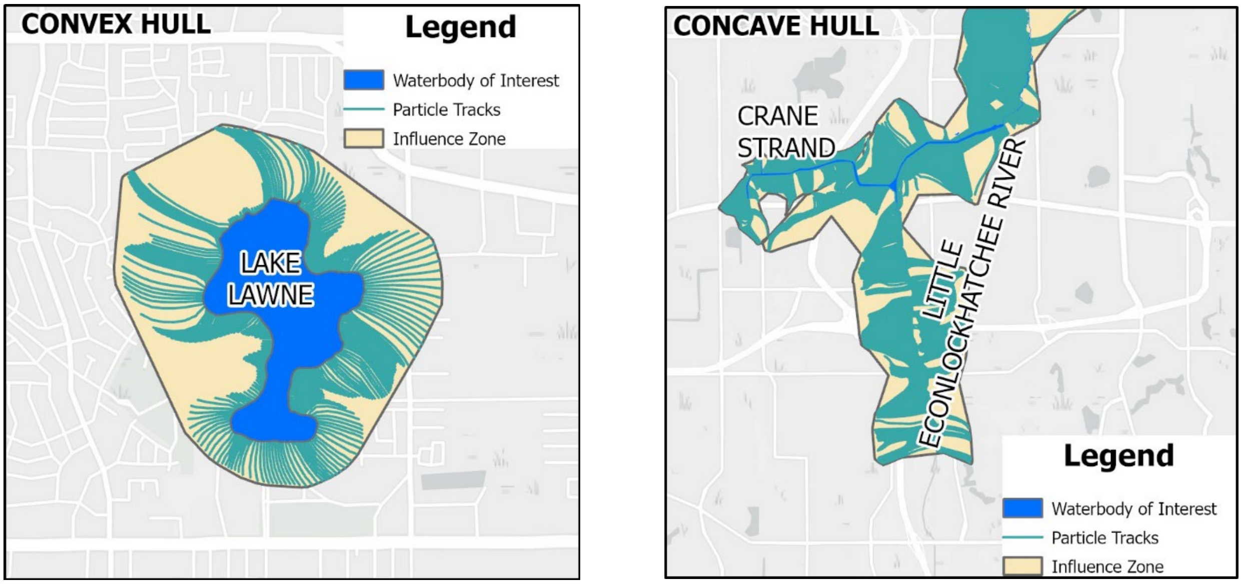


Figure 18. Influence Zones Generated using the Convex Hull and Concave Hull Tools.

Influence zones for the WOIs in western and central Orange County generally mirrored the shapes of the WOIs, which indicates that groundwater flowing into these WOIs comes from recharge in the surrounding areas. Influence zones in WOIs closer to the eastern boundary of Orange County were generally elongated to the west of the WOIs, which indicates that groundwater flowing into these WOIs comes from hydraulically upgradient areas generally west of the waterbodies. The influence zones generated using the methods are shown in Figure 19.

Median predicted travel times were tabulated for each WOI using the results of the particle tracking analysis. Travel times for the recommended WOIs ranged from less than 1 year to over 15 years. The WOIs with the shortest median travel times were generally in western Orange County and include Lake Rutherford, Lake Olivia, Lake Fischer, Lake Stanley, and Lake Lucy, which have median travel times of 0.4 years, 0.6 years, 0.6 years, 0.6 years, and 0.7 years, respectively. The WOIs with the shortest median travel times are relatively small waterbodies, with the smallest being Lake Rutherford, with an area of approximately 13 acres, and the largest being Lake Olivia, with an area of approximately 88 acres. The WOIs with the longest median travel times were in eastern and southern Orange County and include Lake Jennifer, Lake Suzanne, Tootoosahatchee Creek, the Econlockhatchee River, and Lake Tucker, which have median travel times of 15.3 years, 12.9 years, 11.5 years, 7.7 years, and 7.0 years, respectively. Influence zone median travel times are summarized in Figure 19.

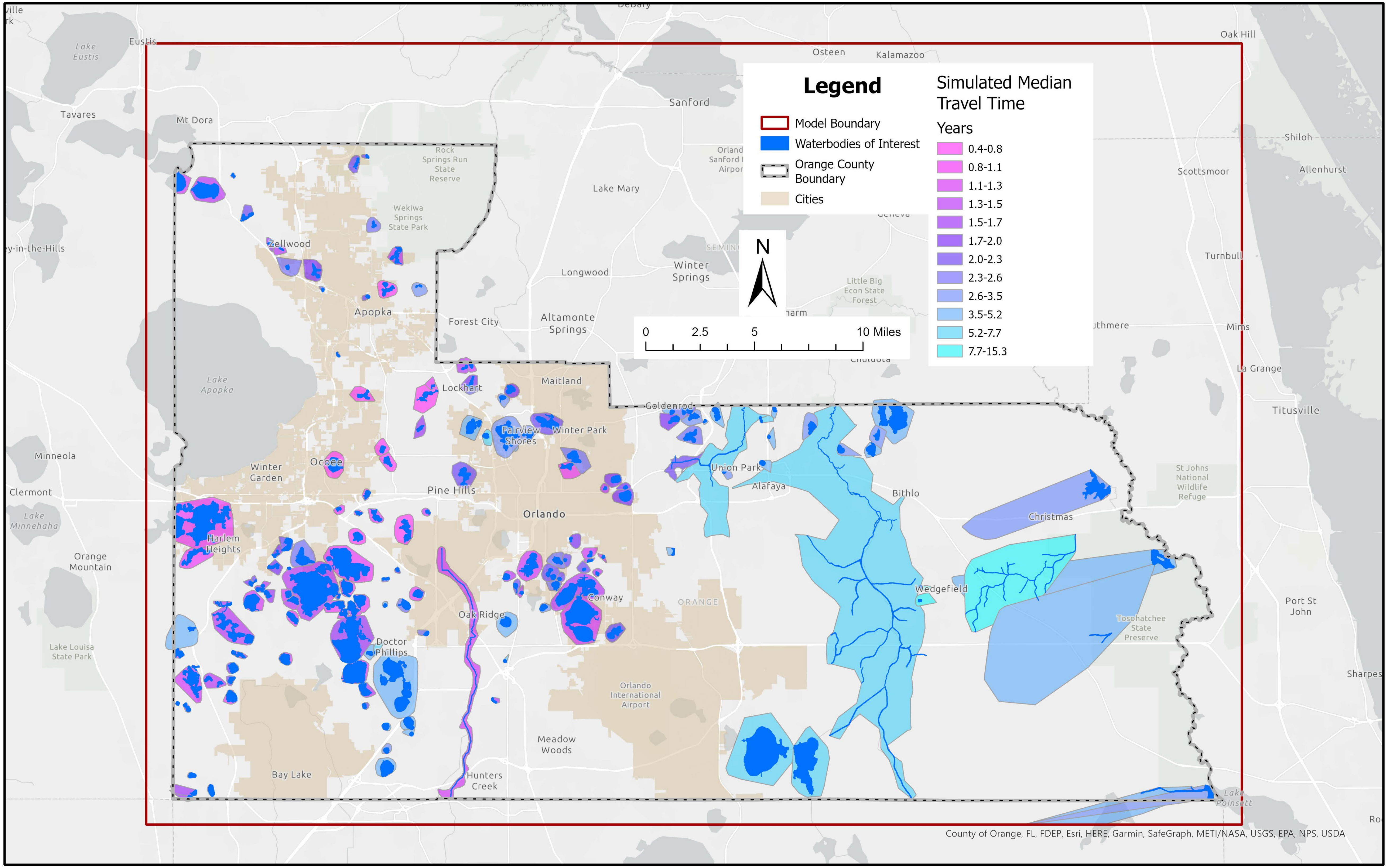


Figure 19. Influence Zones with Median Travel Times.

5. Regional Septic & Sanitary Sewer Spatial Analysis

A septic system and sanitary sewer spatial analysis was conducted to provide context to the vulnerability and groundwater modeling described in the earlier sections. Septic systems are documented in Orange County as a source of groundwater pollution and therefore are important to understanding where the largest pollution risk factors originate and to what degree. Simply understanding the density of septic systems (i.e., number of septic tanks per acre) is not sufficient at assessing pollution risk, as dense septic systems in less vulnerable regions may represent a lower risk than lower density septic systems in higher vulnerable regions. Other factors, including whether waterbodies surrounding septic systems are impaired, what the population growth trends are spatially, the expansion plans of sewer and wastewater treatment systems, the functioning of existing septic systems (i.e., whether they are adequately controlling pollution onsite), and other factors complicate the development of a countywide vulnerability assessment.

The efforts discussed in this section were conducted by subconsultant Applied Ecology, Inc. (AEI) and Drummond Carpenter. AEI performed the initial septic system vulnerability and prioritization mapping to illustrate where existing septic regions are more likely contributing to surface water and groundwater impairments countywide. These mapped areas represent the initial effort to identify regions that are of higher priority for septic system intervention, such as septic-to-sewer retrofits, advanced treatment septic system retrofits, or other administrative options such as rulemaking updates to the County's Comprehensive Plan or Land Development Code.

AEI's assessment utilized many available GIS datasets as well as Drummond Carpenter's OCAVA model to establish a priority ranking system for subdivisions primarily on septic (>50% septic) within the County boundary. Subdivisions were used as the base "unit" in the mapping system, as these are generally individual neighborhoods that share similar conditions. Since it is likely that septic system interventions will be implemented at a subdivision scale, this method was deemed appropriate. High priority ranking areas were expected to be characterized by higher septic, population, and housing densities, a shallower groundwater table, shorter distances to waterbodies, the OCAVA *More Vulnerable* category, and are within an impaired watershed. These ranked subdivisions are further used in the proposed priority focus areas (PFAs) discussed in Section 8.

The following subsections briefly summarize key points from the analysis performed by AEI while the complete *Septic and Sewer Spatial Analysis Technical Memorandum Report* is included as Appendix D.

5.1. Orange County Septic System Database

A major difficulty with septic system analysis is having confidence in knowing where and how many septic systems exist, which can create uncertainty in the underlying data and results. To address this, multiple data sources were collected, assessed, and collated into a comprehensive septic system database for Orange County. Information collected includes known septic locations from state and wastewater utility-provider sources, municipal wastewater data, septic parcel information received directly from Orange County Utilities for their service area, and billing data from utility providers from Orange County and other cities. The final septic inventory was reviewed and approved by Orange County Utilities and OCEPD. Overall, 85,932 septic systems are estimated to exist within Orange County. A map of the countywide septic systems is included in Exhibit 1.

5.2. Septic System Vulnerability and Subdivision Prioritization Mapping Parameters

AEI's data acquisition effort included GIS datasets for septic inventory, current sewer infrastructure, current land use, hydrographic features, elevation datasets, census and census-derived datasets, and property appraiser data. Each dataset was processed to support the development of the ranking system to prioritize subdivisions based on their potential to contribute to the pollution of groundwater and waterbodies. Parameters selected for use in the ranking process include the following:

- septic density,
- OCAVA category,
- percent of subdivision within an impaired surface or spring watershed,
- housing density change (2020-2050),
- population density (2010),
- population density change (2000-2020),
- mean year subdivision was built,
- mean distance to waterbody,
- mean elevation (as a proxy for depth to groundwater table), and
- distance to existing infrastructure (force and gravity main).

5.2.1. Septic Density

Septic density was calculated as the number of septic tanks per acre. An area with a higher septic density is expected to create a larger volume of septic leachate with greater pollution potential compared to an area with a lower septic density.

5.2.2. OCAVA Category

The OCAVA modeling classified the County into three categories: (1) *Less Vulnerable*, (2) *Vulnerable*, and (3) *More Vulnerable*. Each subdivision was assigned a ranking value for this parameter by calculating the average category of the subdivision area. To calculate the average, a value was assigned to each category (i.e., *Less Vulnerable* = 1, *Vulnerable* = 3, and *More Vulnerable* = 6).

5.2.3. Area within Impaired Watershed or Springshed

The area of each subdivision that falls within an impaired watershed was calculated for this parameter. Areas within an impaired watershed or springshed are more vulnerable to pollution as they already have pollutants exceeding acceptable levels.

5.2.4. Housing Density Change

Future housing density change projections for 2020 to 2050 were obtained for subdivisions with greater than 50% of parcels on septic. Greater housing density is anticipated to correspond to more septic tanks and more people using them, which will correlate with greater pollution potential.

5.2.5. Population

Population data, including 2010 population density and population density change from 2000 to 2020, were obtained for use in the priority ranking. Greater population density in subdivisions primarily on septic is expected to create a larger volume of wastewater, increasing pollution potential.

5.2.6. Year Built

Subdivision age was considered an important parameter because, prior to 1962, no specific Florida Statute regulated conditions to siting septic tanks. Additionally, older infrastructure may not perform as well as newer infrastructure leading to greater pollution potential. For example, older subdivisions on septic have had more time for potential release of pollutants to groundwater.

5.2.7. Distance to Waterbody

The distance from a septic tank to a nearby waterbody can be a controlling factor for the likelihood of leached pollutants to reach the waterbody. Typically, the shorter the distance to a nearby waterbody, the faster pollutants can reach the waterbody. Shorter travel times also reduce the potential for natural attenuation processes of pollutants, such as denitrification.

5.2.8. Elevation

Elevation was used as a proxy for depth to SAS. Mean elevation above mean sea level (AMSL) typically has strong correlation with the water table (e.g., correlation coefficients often above 0.8-0.9, Rios et al. 2011). A shallower depth to water table is expected to have a greater pollution potential due to the shorter distance to reach groundwater.

5.2.9. Distance to Infrastructure

The minimum distance to sewer main line (force and gravity) was included to add an element of feasibility for the priority areas. Subdivisions closer to existing infrastructure will likely be easier to retrofit compared to subdivisions lacking nearby infrastructure. This distance serves as a proxy for potential cost associated with connection; though, it is one of many considerations that would be further evaluated if a subdivision was selected for septic retrofit options, such as septic-to-sewer.

5.3. Initial Priority Ranking Methodology

Once the data were gathered for the selected parameters and their association with vulnerability and retrofit priority was established, each set of parameters was divided into six classes. These classes were assigned values or "ranks" from 1 to 6, with a rank of 1 having lower pollution potential and a rank of 6 having the highest pollution potential.

The individual parameter ranks were aggregated for each subdivision to determine the subdivision's priority rank value. An Unweighted Vulnerability Ranking System and a Weighted Vulnerability Ranking System were developed to rank primarily septic subdivisions (>50%) in terms of pollution potential.

In the Unweighted Vulnerability Ranking System, aggregation was performed by calculating the mean of individual parameter ranks with each parameter weighted equally. Realistically, certain parameters were predicted to have a greater influence on vulnerability. To account for this, weights were assigned to these parameters in the Weighted Vulnerability Ranking System before calculating the mean priority rank. The parameters and assigned weights for the vulnerability ranking systems are shown in Table 4.

Table 4. Vulnerability Ranking System Parameters and Weight Values (Table 5 in Appendix D).

VARIABLE NAME	UNWEIGHTED VULNERABILITY RANKING SYSTEM	WEIGHTED VULNERABILITY RANKING SYSTEM
SEPTIC DENSITY (#/ACRE)	1	2
OCAVA VULNERABILITY CATEGORY	1	2
PERCENT SUBDIVISION IN IMPAIRED WATERSHED OR SPRINGSHED	1	2
HOUSING DENSITY CHANGE (2020-2050)	1	0.5
POPULATION DENSITY CHANGE	1	1
MEAN YEAR BUILT	1	1
MEAN DISTANCE TO WATERBODY (METERS)	1	2
MEAN SURFACE ELEVATION (FT)	1	1

*Variables with a higher weighted value are considered more influential factors contributing to pollution potential.

5.4. Initial Priority Ranking Results

There were noticeable variations in the results between the unweighted and weighted ranking systems, yet the top priority ranking subdivisions did have some consistencies. Table 5 shows the top 15 ranking subdivisions for both ranking systems. There are four common subdivisions that rank within the top 15 for both. Additionally, the Wekiwa Manor Sec 1 and Piedmont Estates subdivisions ranked in the top three in each priority list.

Table 5. Top Priority Ranking Subdivisions per the Initial Priority Rankings (Table 1 from Appendix D).

RANK	UNWEIGHTED VULNERABILITY RANK	WEIGHTED VULNERABILITY RANK
1	Wekiwa Manor Sec 1*	Lake Florence Highlands Phase 1*
2	Piedmont Estates*	Wekiwa Manor Sec 1*
3	Ranchette*	Piedmont Estates*
4	Wells Gap	Lake Lucy Estates*
5	Suburban Homes	Long Lake Villas Phase 1B*
6	Long Lake Villas Phase 1B*	Eden Park Estates*
7	Anderson George W	Sleepy Hollow Phase 1*
8	Wentrop Shores	University Garden
9	Florence Park	Little Lake Georgia Terrace
10	Riverside Acres*	Trout Lake Camp*
11	Rio Grande Homesites	Citrus Oaks Phase 4*
12	Riverside Acres 2nd Addition*	Troynelle By Big Lake Apopka
13	Rimar Ridge*	Lake Florence Estates*
14	Suburban Homes	Vanguard Heights*
15	Eden Park Estates*	Citrus Oaks Phase 3*

*All or part of subdivision within Wekiva PFA

Across both ranking systems, the higher priority areas were generally spread within the central northwestern portion of the County. These areas were commonly characterized by older developments, higher housing and population densities, shorter distances to waterbodies, *OCAVA More Vulnerable category*, and within an impaired watershed. Socioeconomic factors, while an important consideration in County planning, were not incorporated into the ranking systems as their impact on pollution potential or feasibility for retrofit can be difficult to establish.

The results can be viewed spatially for both ranking systems in Figure 20 and Figure 21. The overall prioritization appears similar between ranking systems. Adding weights to significant parameters in the ranking for the Weighted Vulnerability Ranking System did appear to increase the total number of higher priority subdivisions across Orange County as compared to the Unweighted Vulnerability Ranking System.

There are several higher priority subdivisions within the Wekiva PFA. The County currently has multiple septic-to-sewer retrofit projects ongoing in this area, as well as a Wekiwa Springs Basin Wastewater Treatment Feasibility Analysis, and funding assistance programs to support these projects from the state. Areas in the eastern portion of the County generally rank lower on the priority ranking systems. Longer groundwater travel times and lower population, housing, and septic densities in the eastern region create a lower pollution potential relative to other areas in the County.

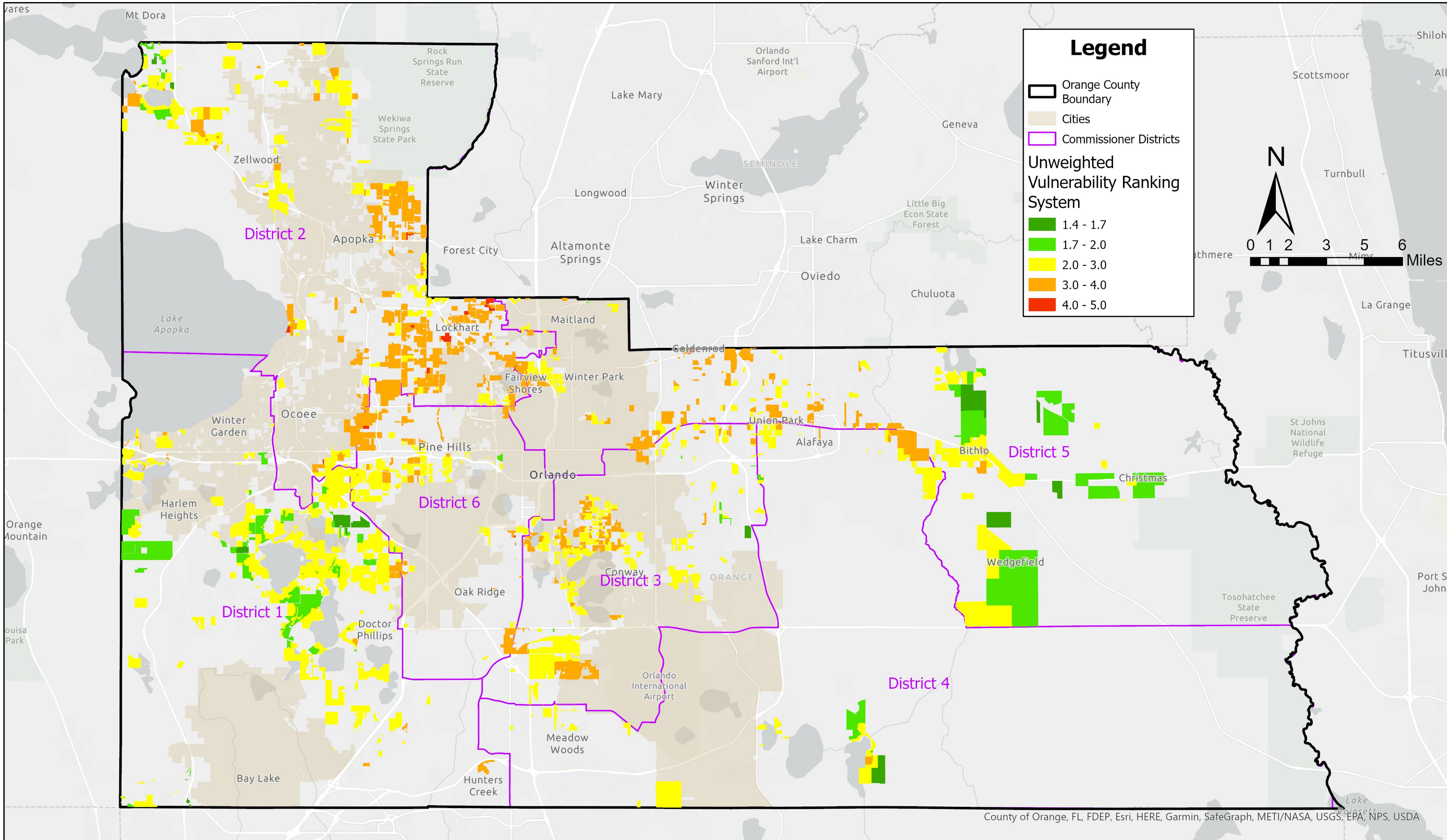


Figure 20. Unweighted Vulnerability Ranking System Results: Increasing Priority (from 1 – 5) Corresponds to Increasing Pollution Potential.

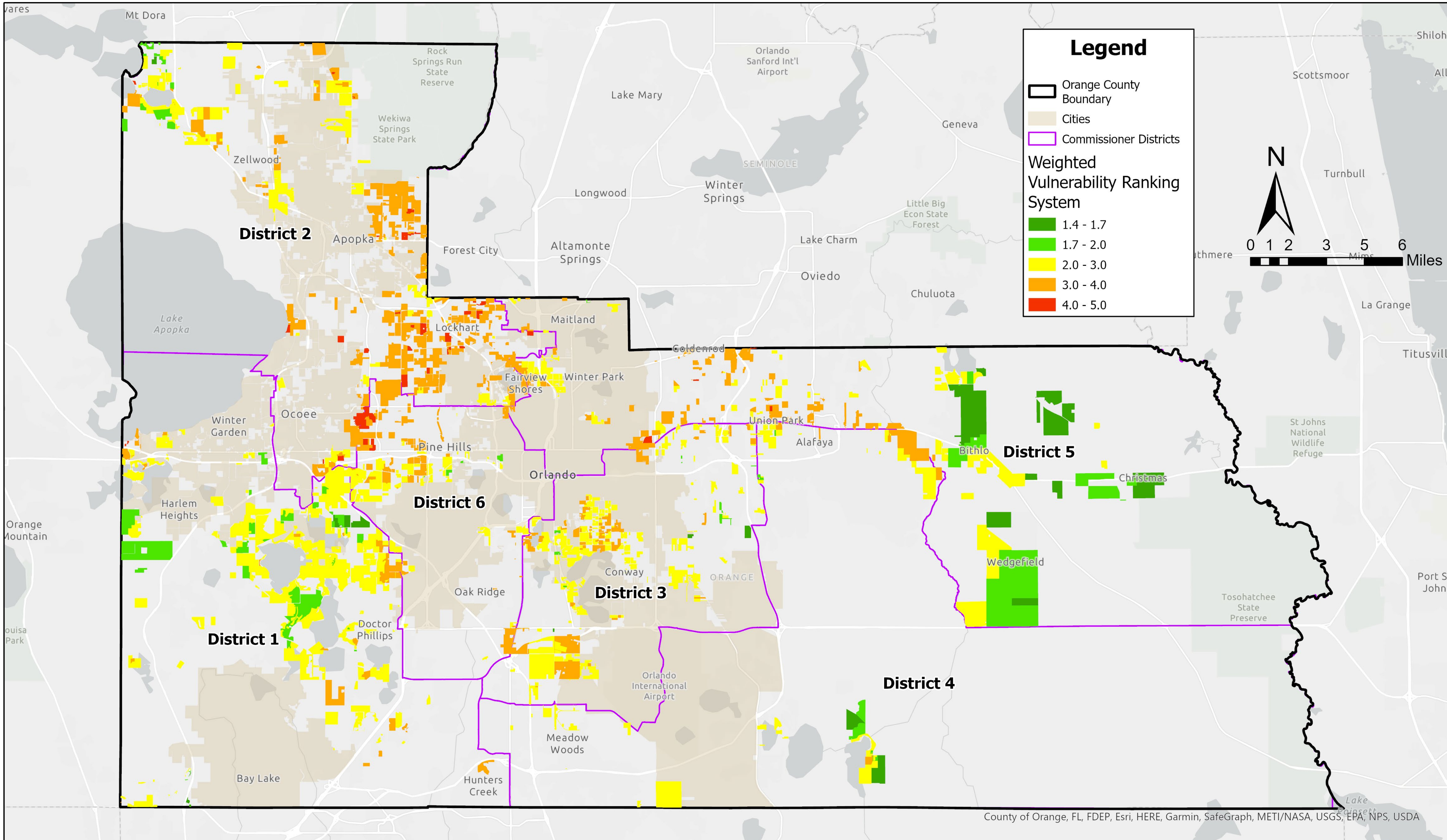


Figure 21. Weighted Vulnerability Ranking System Results: Increasing Priority (from 1 – 5) Corresponds to Increasing Pollution Potential.

6. Nitrogen Water Quality Modeling

Figure 22 demonstrates how a septic system can impact groundwater and nearby surface waters through transport of nutrients and contaminants from households to the environment. Septic effluent gets released from the septic tank into the drain field where it moves through the soil to the underlying groundwater table and then to downgradient waterbodies. Water quality modeling scenarios were developed to simulate this process to evaluate the influence of key parameters impacting the magnitude of septic nitrogen pollution. The goal of this effort is to identify priority areas for septic intervention that are the most vulnerable areas or areas that septic interventions are anticipated to have the greatest positive impact towards reducing nutrient pollution. This knowledge can help the County with planning, prioritization, and regulation of septic system management.

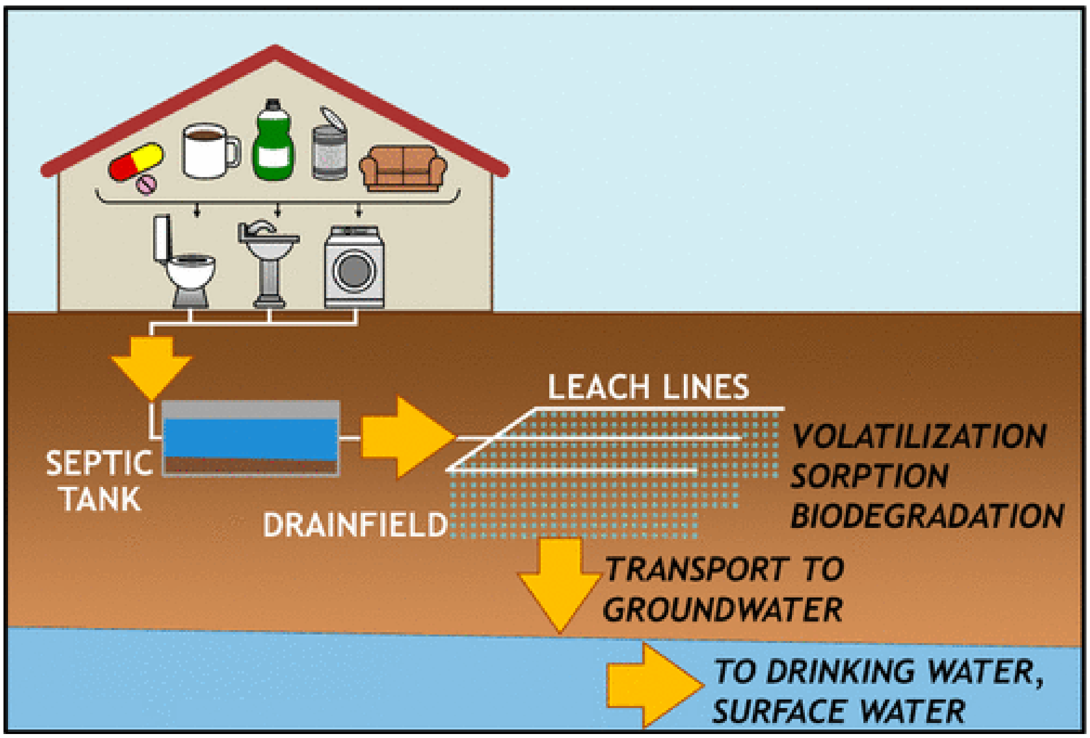


Figure 22. Transport from Septic Tank to Groundwater and Surface Water (Silent Spring Institute 2017).

6.1. Modeling Scenarios

Modeling scenarios were constructed to simulate nitrogenous compounds in septic effluent exiting the drain field, leaching through the unsaturated zone to groundwater, and traveling to downstream waterbodies via the groundwater pathway. Modeling included unsaturated and saturated transport of septic effluent with varying depths to groundwater, soil hydraulic conductivities, septic system types (conventional vs. advanced treatment), and groundwater travel times to a downstream waterbody. A total of eight water quality modeling scenarios were evaluated to explore the influence of key parameters on septic pollution potential within the unsaturated soil zone (Table 6).

Table 6. Water Quality Modeling Scenarios Evaluating Nitrogen Pollution Potential from Septic Systems.

MODELING SCENARIO	DEPTH TO GW	SOIL HYDRAULIC CONDUCTIVITY	SEPTIC SYSTEM TYPE
1	2 ft	10 ft/day	Conventional [a]
2	10 ft	1.5 ft/day	Advanced [b]
3	10 ft	10 ft/day	Conventional
4	10 ft	1.5 ft/day	Conventional
5	2 ft	1.5 ft/day	Advanced
6	2 ft	10 ft/day	Advanced
7	10 ft	10 ft/day	Advanced
8	2 ft	1.5 ft/day	Conventional

[a] Conventional septic is assumed to release 60 mg/L as N under a hydraulic loading rate of 1.18 in/day (STUMOD-FL).
[b] Advanced septic is assumed to release 30 mg/L as N under a hydraulic loading rate of 1.18 in/day (STUMOD-FL).

6.1.1. Depth to Groundwater

Depth to groundwater can be an important control on pollution potential because it can impact the extent of unsaturated zone attenuation. In areas with a shallow depth to water, there is less distance for the pollutant to travel from the septic system to the groundwater table, which typically corresponds to less opportunity for attenuation to occur compared to areas with deeper groundwater tables. Consequently, a shallow depth to water is often associated with a higher pollution potential[5].

The modeling scenarios evaluated depths to water of 2 ft and 10 ft. The 2 ft depth to water was selected based on the County's minimum regulatory requirements for separation of septic drain fields from seasonal high-water tables. The 10 ft depth to water was selected based on representative County water table conditions and to be consistent with previous fertilizer groundwater transport methodology used for the County.

6.1.2. Soil Hydraulic Conductivity

As discussed previously in Section 3, soil hydraulic conductivity is a measurement of how well a fluid can move through pore spaces or fractures under nearly saturated conditions. A greater soil hydraulic conductivity is associated with a higher pollution potential as pollutants will more easily travel through the saturated zone. The impact of soil hydraulic conductivity on septic tank pollution potential were evaluated by modeling scenarios with high and low magnitude values. The modeling scenarios evaluated soil hydraulic conductivities of 1.5 ft/day and 10 ft/day. These soil hydraulic conductivities are considered representative values based on

[5] Under certain conditions, saturated (anaerobic) soils under shallow water table conditions with lower permeability and higher organic content can facilitate better dentrification than highly-permeable, well-drained soils over deeper water tables (FDOH 2015, Simonne et al., 2019). The permeable, well-drained soils over deeper water tables typically have aerobic conditions and don't retain organic carbon, which reduces the ability for denitrification to occur. However, these permeable, well drained soils facilitate drainage of septic system effluent, which is an important and often critical design component. It is uncertain how common these soil and groundwater conditions exist within Orange County. However, the analysis performed herein are based on the findings of the FDOH Florida Onsite Sewage Nitrogen Reduction Study (2015).

NRCS soils data, the ECFTX model in Orange County, and USGS literature of Orange County of high and low saturated hydraulic conductivity values.

6.1.3. Septic System Type

The septic system type will influence the pollution potential as it affects the contents of the septic leachate. Advanced treatment septic systems allow for additional treatment of wastewater compared to conventional septic systems. Evaluation of the reduction in nutrient loading from the higher degree of treatment by advanced systems will help determine how to prioritize septic-to-sewer retrofits vs conventional-to-advanced septic retrofits in vulnerable areas. Conservative estimates were made for nitrogen concentrations in septic effluent leaving the septic tank and entering the drain field for typical (conventional) systems based on default STUMOD parameters. Advanced systems were made, based on conservative estimates of a minimum nitrogen reduction values, of at least 50% for a typical nitrogen-reducing Advanced Treatment Unit (ATU) or a Performance Based Treatment System (PBTS) with an additional treatment of at least 15% in the drain field for systems with at least 24 inches of groundwater separation.

6.1.4. Travel Time (Distance) to Receptor Waterbody

Once a pollutant enters groundwater (e.g., the SAS), the time it takes for the pollutant to reach a receptor waterbody is considered groundwater travel time, which can be an important predictor of pollution potential. Longer travel times are expected to allow for greater reduction of pollutants from septic leachate through attenuation processes in the groundwater system. The influence zones of WOIs (i.e., groundwater basins) reveal that non-retarded travel times can range from less than 1 year to greater than 15 years. The modeling scenarios help define the relationship between travel time and nutrient load reduction using monitoring wells at varying distances downgradient from the septic source in the saturated transport modeling effort.

6.2. Model Description

Impacts of nitrogen leaching from septic systems on groundwater and downgradient waterbodies were evaluated using two fate and transport models. First, FDEP's Soil Treatment Model (STUMOD-FL) was used to simulate movement of nitrogen from septic tank effluent to the groundwater. Results of STUMOD-FL were then incorporated into a groundwater model developed using MODFLOW coupled with RT3D to evaluate nitrogen transport from septic systems in a representative, hypothetical subdivision within Orange County to a downgradient waterbody.

6.2.1. STUMOD-FL

Unsaturated water quality modeling of septic leachate was performed using STUMOD-FL, which was developed specifically to evaluate nitrogen attenuation from septic systems in the unsaturated soil zone in Florida (FDOH 2015). STUMOD-FL was designed to incorporate the following:

- source nitrogen provided as either NH_4 or NO_3,
- removal of nitrogen through soil sorption, bacterial reactions, and plant uptake,
- effect of soil saturation and temperature on nitrification and denitrification rates,
- impact of soil carbon content on denitrification, and
- inclusion of multiple, heterogeneous soil or biomat layers with capillary zone effects.

STUMOD-FL was used to estimate nitrogen concentrations from septic systems at the water table for eight water quality scenarios. Representative model parameters of each scenario were used based on the known best available data, which considered parameterization recommended by Florida Department of Health (FDOH), FDEP, and OCEPD. More detail on selected STUMOD-FL parameters and the modeling performed is provided in APPENDIX F.

6.2.2. Groundwater Model

A hypothetical site groundwater flow and transport model was developed using Groundwater Vistas Version 8, a pre-and post-processor for MODFLOW-based models. The model was developed to simulate steady-state groundwater flow as well as transport of ammonium and nitrate loading from septic systems in a hypothetical subdivision of approximately 9,000,000 ft^2 (approximately 200 acres) over a period of 40 years. Based on typical lot sizes in Central Florida, there was one septic system every 40,000 ft^2 (200 ft in each direction) in the model. The model horizontal grid spacing was 20 ft x 20 ft.

A recharge rate of 0.00383 ft/day was specified for all model cells that did not contain a hypothetical septic system. A recharge rate of 0.141 ft/day was assigned to model cells containing hypothetical septic systems. This rate is higher than the hydraulic loading rate assumed in the STUMOD models (0.0984 ft/day or 3 cm/day). Septic systems drain fields in the model were assumed to be 571 ft^2 based on the septic sizing requirements under the specified hydraulic loading rate per F.A.C. 62-6 Standards for Onsite Sewage Treatment and Disposal Systems. Since septic system drain fields are approximately 571 ft^2 and model cells are 400 ft^2, the STUMOD hydraulic loading rate was scaled up by a factor of 1.43 (571 ft^2/400 ft^2) to represent one septic drain field in one model cell. A sample calculation is provided below:

$$Recharge = \ STUMOD\ Hydraulic\ Loading\ Rate\ x\ Septic\ Field\ Scaling\ Factor$$

$$Recharge = 0.0984\frac{ft}{day}\ x\ 1.43 = 0.141\frac{ft}{day}$$

Recharge concentrations for ammonium and nitrate were applied to each cell in which a septic tank was assumed to be present. Total nitrogen recharge concentrations for each scenario were calculated by multiplying the STUMOD predicted nitrogen flux (mass/area/day) by the assumed area of one septic tank (571 ft^2) and dividing by the recharge volume (recharge rate multiplied by cell area). Recharge concentrations for ammonium and nitrate were calculated by multiplying the total nitrogen recharge concentration by the ratio of the concentration of each species to the concentration of the sum of ammonium and nitrate. A sample calculation for conversion of the mass flux from STUMOD to MODFLOW recharge concentration is provided below:

$$Total\ N\ Recharge\ Concentration = \frac{\frac{325.93\frac{mg}{m^2}}{day}\ x\ 53.m^2}{0.141\frac{ft}{day}\ x\ 400\ ft} = 307.66\ \frac{mg}{ft^3}$$

$$Nitrate\ Recharge\ Concentration = 307.66\frac{mg}{ft^3}x\ \frac{10.863\frac{mg\ Nitrate}{L}}{10.864\frac{mg\ Total\ N}{L}} = 307.617\ \frac{mg}{ft^3}$$

$$Ammonium\ Recharge\ Concentration = 307.66\frac{mg}{ft^3}x\ \frac{0.001\frac{mg\ Ammonium}{L}}{10.864\frac{mg\ Total\ N}{L}} = 0.0283\ \frac{mg}{ft^3}$$

Transformation of nitrogenous compounds was simulated using a sequential reaction chain with first-order decay ($NH_4^+ \rightarrow NO_2^- \rightarrow NO_3^- \rightarrow N_2$). Since the transformation of nitrite (NO_2^-) to nitrate (NO_3^-) is a much faster reaction than the transformation from ammonium (NH_4^+) to nitrite (Hansen et al. 2006), nitrite was not explicitly simulated, and the decay rate from ammonium to nitrate accounted for intermediate nitrite in the model.

The model was constructed with six layers, which represent the SAS (Layers 1-4), Intermediate Confining Unit (ICU; Layer 5), and the UFA (Layer 6). The SAS was numerically divided into four layers to provide increased vertical discretization. Top and bottom elevations of hydrogeologic units were based on subsurface data (e.g., well logs) from locations in Orange County.

A distribution coefficient of 0 L/mg was specified for nitrate in all model layers since it does not strongly adsorb to soil (Krupka et al. 2004 as reported in Serne 2007). Distribution coefficients for ammonium were based on literature values for the respective layer properties (Buss et al. 2004). Half-life values of 6 years (2191.5 days) (Puckett et al. 2011; Uffink 2003; Yan and Zhou, 2018 as reported in Zhang et al., 2020) and 3 years (1095.75 days) (Roy and Krapac 2009) were used for nitrate and ammonium, respectively. Nutrient transport properties for the Hypothetical Site model are presented in Table 7.

Table 7. Nutrient Transport Properties Specified in the Hypothetical Site Model.

Layer	Represented Aquifer	Bulk Density (mg/L)	Distribution Coefficient (L/mg)		Dispersivity (ft)		
			Nitrate	Ammonium	Longitudinal	Transverse	Vertical
1-4	SAS	1.51E+06[1]	0	4.00E-07[5]	200	20	2
5	ICU	1.64E+06[2]	0	6.50E-07[6]	200	20	2
6	UFA	2.73E+06[3]	0	3.60E-07[7]	1000	100	10

[1] Yu et al. 2015 Table 2.1.1, dry bulk density of sand.
[2] Yu et al. 2015 Table 2.1.1, dry bulk density of sandy clay.
[3] Bennett 2003, mean grain density measurements from limestone samples; Appendix D Table 2.
[4] Krupka 2004 as reported in Serne 2007.
[5] Buss et al. 2004, peak value of triangular distribution for clean sand and gravel from Table 2.
[6] Buss et al. 2004, median range of clayey sand and gravel from Table 2.
[7] Buss et al. 2004, average value for Lincolnshire Limestone from Table 2.

General head boundary condition cells at the southern and northern boundaries of the model were used to simulate groundwater flow in and out of model layers. Head values and conductance terms for the general head boundary condition cells were specified to produce hydraulic gradients similar to those found in Orange County. Values for aquifer properties (e.g., hydraulic conductivity, storage, porosity) for the three hydrogeologic units were assigned to represent a typical site in Orange County. Key hydraulic properties specified for the hypothetical site model are presented in Table 8.

Table 8. Key Hydraulic Properties for the Hypothetical Site Model.

Layer	Represented Aquifer	Hydraulic Conductivity (ft/day)		Hydraulic Gradient[1] (ft/ft)	Porosity
		Horizontal	Vertical		
1-4	SAS	15	15	0.00388	0.25
5	ICU	0.1	0.01	0.00193	0.25
6	UFA	5400	5400	0.00035	0.25

[1]Average hydraulic gradient between southern boundary and waterbody monitoring points for the forty-year simulation period.

6.3. Modeling Results and Recommendations

Modeling results demonstrated that nitrogen loading to waterbodies is expected to be mainly in the form of nitrate as nitrogen (nitrate-N). Layer 1 in the groundwater model approximately represents the top 25 ft of the surficial aquifer, which is assumed to be the primary origin of groundwater contributions to surface waterbodies. Groundwater model simulations were performed for a 40-year period. For clarity, presentation of model results will focus on nitrate-N, groundwater model Layer 1, and the last timestep of the 40-year groundwater simulations.

Table 9 provides predicted nitrate-N concentrations at the bottom of the STUMOD-FL model, predicted concentrations 0, 150, and 300 ft downgradient of the subdivision in the groundwater model, and the percent reduction in nitrate-N from STUMOD-FL to the different downgradient distances. The nitrate-N from septic loading is predicted to be significantly reduced during transport from the water table directly beneath the drain field (STUMOD-FL) to groundwater at the edge of the subdivision (0 ft downgradient) with model estimates of 67% reduction. This is likely a function of dilution once nitrate enters the groundwater. As the nitrate from septic is transported in groundwater downgradient from the subdivision, reduction continues due to dilution and degradation processes. At 150 ft and 300 ft downgradient, 82% and 86%, respectively, of the initial nitrate-N concentration leaving the bottom of the drain field is predicted to be reduced.

A 2007 Ellis & Associates, Inc. study measured groundwater concentrations beneath septic systems in Orange County, Seminole County, and Lake County. Each septic system had been in operation for approximately 20 years based on installation dates. While the uppermost soil layer for each site was representative of sandy soils found in Central Florida, soil types varied by site. Surficial soils at the Orange County site were characterized as fine sands belonging to the Tavares Series sands followed by intermixed layers of clay loam, loamy sands, and find sands. Surficial soils at the Seminole County site were characterized as similar to Myakka fine sands. Surficial soils at the Lake County site were characterized as find sands similar to the Tavares Series near the surface underlain by layers of interfingering clay loam, loamy sands, and find sands. Soils at all sites had low levels of organic content. The mean organic content for the soils was 1.39%, 1.29%, and 3.01% for the Orange County, Seminole County, and Lake County sites, respectively. The wet season water table depth below ground surface was approximately 40 inches at the Orange County site, 8-12 inches at the Seminole County site, and greater than 50 inches for the Lake County site. In Orange County, a 67% reduction in total nitrogen concentrations was observed approximately 45 ft downgradient of the septic system. In Seminole County, total nitrogen reductions of 70% and 98% were observed 80 ft and 130 ft downgradient of the drain field, respectively. In Lake County, a 48% reduction in total nitrogen concentration was observed 45 ft downgradient of the drain field with an 80% reduction observed 90 feet downgradient of the drain field.

Results from the nitrogen modeling effort in this study (Table 11) appear in reasonable agreement with the 2007 Ellis & Associates, Inc. field study findings, especially when considering the Ellis & Associates, Inc. study was designed to be conducted on large lots where nitrogen plumes would not be impacted from neighboring septic systems. Under the lot size and septic spacing in the representative subdivision simulated in this study, groundwater modeling results indicate neighboring septic plumes would impact each other (Figure 26).

As shown in Table 9, nitrate reduction percentages were similar under the same groundwater conditions, regardless of the nitrate concentration entering the groundwater system. Figure 23 shows nitrate-N concentrations in groundwater 150 and 300 ft downgradient of the hypothetical subdivision for the different model scenarios. Concentrations are given for each scenario at 150 and 300 ft downgradient of the subdivision with 300 ft downgradient indicated by a striped bar. Comparing results across the scenarios demonstrates that two subdivisions with identical septic densities can contribute very different nitrate-N loadings to groundwater based on the depth to groundwater, septic system type, and soil hydraulic conductivity. Results also demonstrate that the nitrate-N concentration reaching a downstream waterbody is dependent on the how far downgradient from the septic source the waterbody is located.

The magnitude of variability in predicted nitrate concentrations based on the selected parameters can be highlighted by comparing Scenarios 3 and 5. Scenario 3 represented a conventional septic system operating above a shallow water table (2 ft) releasing effluent into more conductive soil (10 ft/day). Scenario 5 represented an advanced treatment septic system operating above a deeper water table (10 ft) releasing effluent into a less conductive soil (1.5 ft/day). The STUMOD-FL predicted nitrate-N load entering the water table was 41.47 and 0.06 mg/L for Scenarios 3 and 5, respectively. A waterbody located 150 ft downgradient of this subdivision is predicted to receive groundwater recharge with a nitrate-N concentration 7.49 mg/L in Scenario 3 and 0.02 mg/L in Scenario 5, representing more than a two orders-of-magnitude difference.

Table 9. Nitrogen Water Quality Modeling Results.

Scenario	STUMOD-FL	0 ft Downgradient [a]		150 ft Downgradient		300 ft Downgradient	
	Nitrate-N (mg/L)	Nitrate-N (mg/L)	Nitrate-N Reduction [b]	Nitrate-N (mg/L)	Nitrate-N Reduction	Nitrate-N (mg/L)	Nitrate-N Reduction
1 DTW [c]: 10 ft Conventional Soil K [d]: 10 ft/day	10.86	3.55	67%	1.96	82%	1.50	86%
2 DTW: 2 ft Advanced Soil K: 1.5 ft/day	12.99	4.25		2.35		1.79	
3 DTW: 2 ft Conventional Soil K: 10 ft/day	41.47	13.56		7.49		5.73	
4 DTW: 2 ft Conventional Soil K: 1.5 ft/day	40.82	13.35		7.37		5.64	
5 DTW: 10 ft Advanced Soil K: 1.5 ft/day	0.06	0.02		0.01		0.01	
6 DTW: 10 ft Advanced Soil K: 10 ft/day	0.12	0.04		0.02		0.02	
7 DTW: 2 ft Advanced Soil K: 10 ft/day	13.53	4.43		2.44		1.87	
8 DTW: 10 ft Conventional Soil K: 1.5 ft/day	10.87	3.55		1.96		1.50	

[a] Distance downgradient defined by distance from downgradient edge of hypothetical subdivision.
[b] Nitrate-N Reduction: Percent reduction in nitrate-N concentration from initial STUMOD-FL bottom concentration in column 2.
[c] DTW: Depth to Water.
[d] Soil K: Unsaturated zone hydraulic conductivity.

The extent of the 1 mg/L nitrate-N septic plumes surrounding the subdivision are shown for Scenarios 1-4, 7 and 8 in plan view in Figure 24. Plume extents for Scenarios 5 and 6 are not shown on the figure because nitrate-N concentrations for these scenarios did not exceed 1 mg/L. The low nitrate loading in Scenarios 5 and 6 can be attributed to a deeper depth to water and advanced treatment septic system. Scenarios 3 and 4, both with a shallow depth to water and conventional septic, had the highest predicted nitrate loading and farthest plume extents.

The potential benefits of advanced treatment systems can be seen in Figure 25 and Figure 26. Figure 25 compares 1 mg/L nitrate-N plume extents for Scenarios 3 and 7. Both scenarios have a shallow water table (2 ft) and more conductive soils (10 ft/day). The distinction between the two scenarios is septic type (conventional vs. advanced treatment). The 1 mg/L nitrate-N plume extends approximately 1,000 ft farther downgradient of the subdivision for Scenario 3 with conventional septic systems compared to Scenario 7 with advanced treatment septic systems. Figure 26 compares the 0.001 mg/L nitrate-N plume extents for Scenarios 5 and 8. Both scenarios have a deeper water table (10 ft) and less conductive soils (1.5 ft/day). The distinction between the two scenarios is septic type. The 0.001 mg/L nitrate-N plume extends approximately 3,000 ft farther downgradient of the subdivision for Scenario 8 with conventional septic systems compared to Scenario 5 with advanced treatment subdivisions.

The water quality modeling results indicate the relative level of influence that each evaluated parameter has on nitrate loading under specified model conditions. The impact each parameter is predicted to have on nitrate loading to a downgradient waterbody in order of greatest impact is as follows:

1. depth to groundwater beneath the septic drain fields,
2. septic system type (conventional or advanced treatment),
3. distance to waterbody, and
4. unsaturated zone hydraulic conductivity.

While modeling results indicate all parameters have the ability to impact nitrogen loading on a downgradient waterbody, depth to groundwater and septic system type appeared to have the largest impacts. The influence of these key parameters on septic loading can help inform septic intervention practices and future regulatory review efforts.

Modeling results suggest steps can be taken to manage septic systems in a way that significantly reduces nitrogen loading on downgradient waterbodies. Based on modeling results, the County could consider the following recommendations for reducing nitrogen loading from septic systems to adjacent waterbodies.

1) **Study the impact of water table depth on nitrogen leaching to groundwater from septic systems in Orange County.**
    - ❖ For conventional septic systems on more conductive soils (10 ft/day), modeling results indicate groundwater nitrate-N concentrations in shallow groundwater 150 ft downgradient of the hypothetical subdivision were reduced by approximately 73% (7.49 vs. 1.96 mg/L) by increasing the height of the septic system above the water table from 2 to 10 ft. In more vulnerable areas of the County where septic systems cannot be feasibly installed 10 ft above the water table, the County could consider requiring advanced nitrogen-reducing septic systems.
    - ❖ Under certain conditions, saturated (anaerobic) soils under shallow water table conditions with lower permeability and higher organic content can facilitate better dentrification than highly-permeable, well-drained soils over deeper water tables (FDOH 2015, Simonne et al., 2019). The permeable, well-drained soils over deeper water tables typically have aerobic conditions and don't retain organic carbon, which reduces the ability for denitrification to occur. However, these permeable, well drained soils facilitate drainage of septic system effluent, which is an important and often critical design component. It is uncertain how common these soil and groundwater conditions exist within Orange County. However, the

analysis performed herein are based on the findings of the FDOH Florida Onsite Sewage Nitrogen Reduction Study (2015).

2) **Prioritize the conversion of conventional septic systems to advanced treatment systems or provide septic-to-sewer retrofits for areas at higher risk of septic leachate transport and waterbody impacts.**
    - ❖ For septic systems over a shallow water table (2 ft) on more conductive soils (10 ft/day), modeling results indicate an advanced treatment septic system reduced nitrate-N concentrations in shallow groundwater 150 ft downgradient of the hypothetical subdivision by 67% (7.49 vs 2.44 mg/L).
3) **Require a setback distance of 300 ft for any new or upgraded conventional septic systems.**
    - ❖ For conventional septic systems over a shallow water table (2 ft) on more conductive soils (10 ft/day), modeling results found nitrogen concentrations in shallow groundwater 300 feet downgradient of the hypothetical subdivision were approximately 23% less than nitrate concentrations 150 feet downgradient of the subdivision (7.49 vs. 5.73 mg/L).

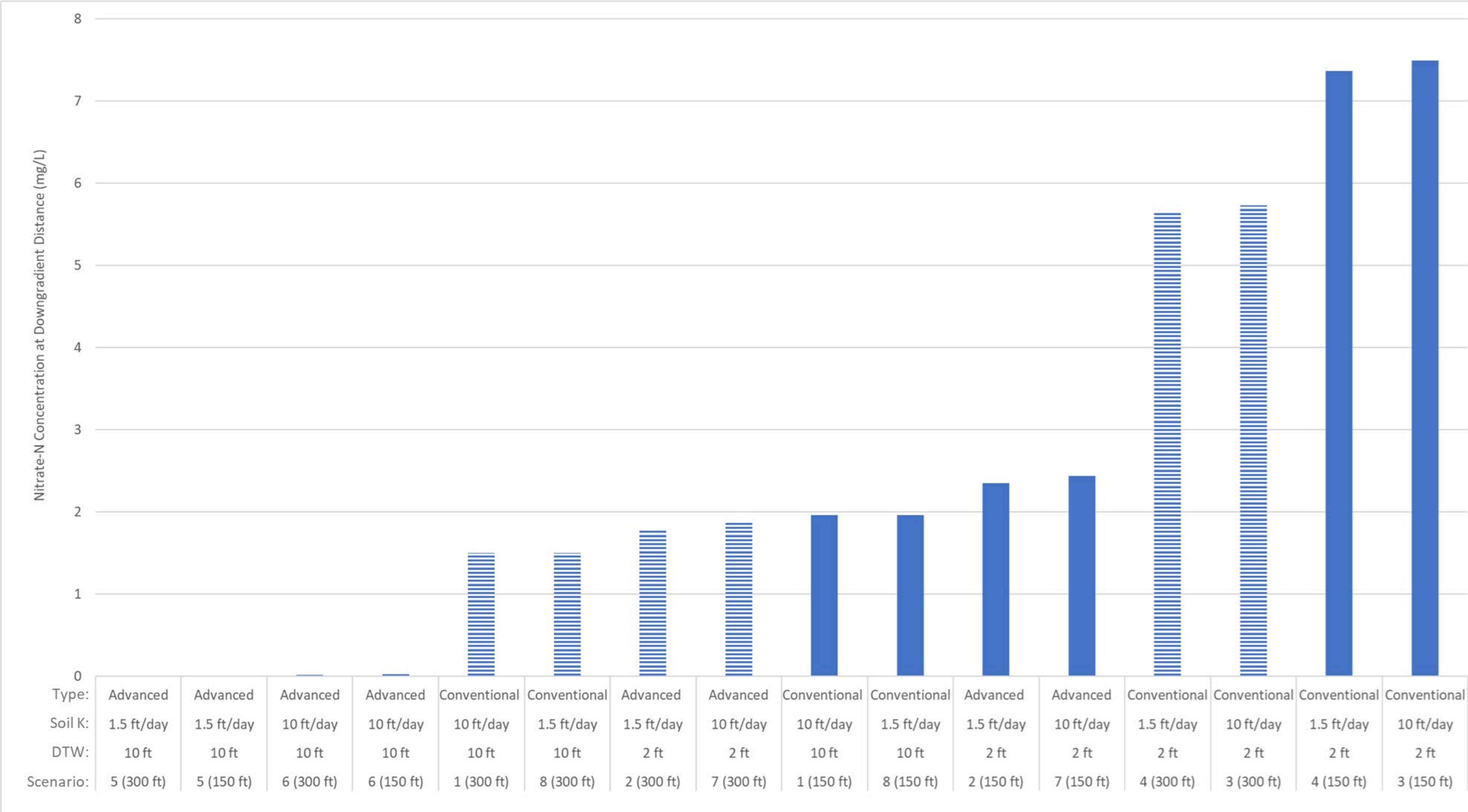


Figure 23. Water Quality Modeling Results: Nitrate-N Concentrations 150 (solid bar) and 300 (striped bar) ft Downgradient of the Hypothetical Subdivision for Each Scenario (Soil K = Unsaturated Zone Hydraulic Conductivity; DTW =Depth to Water).

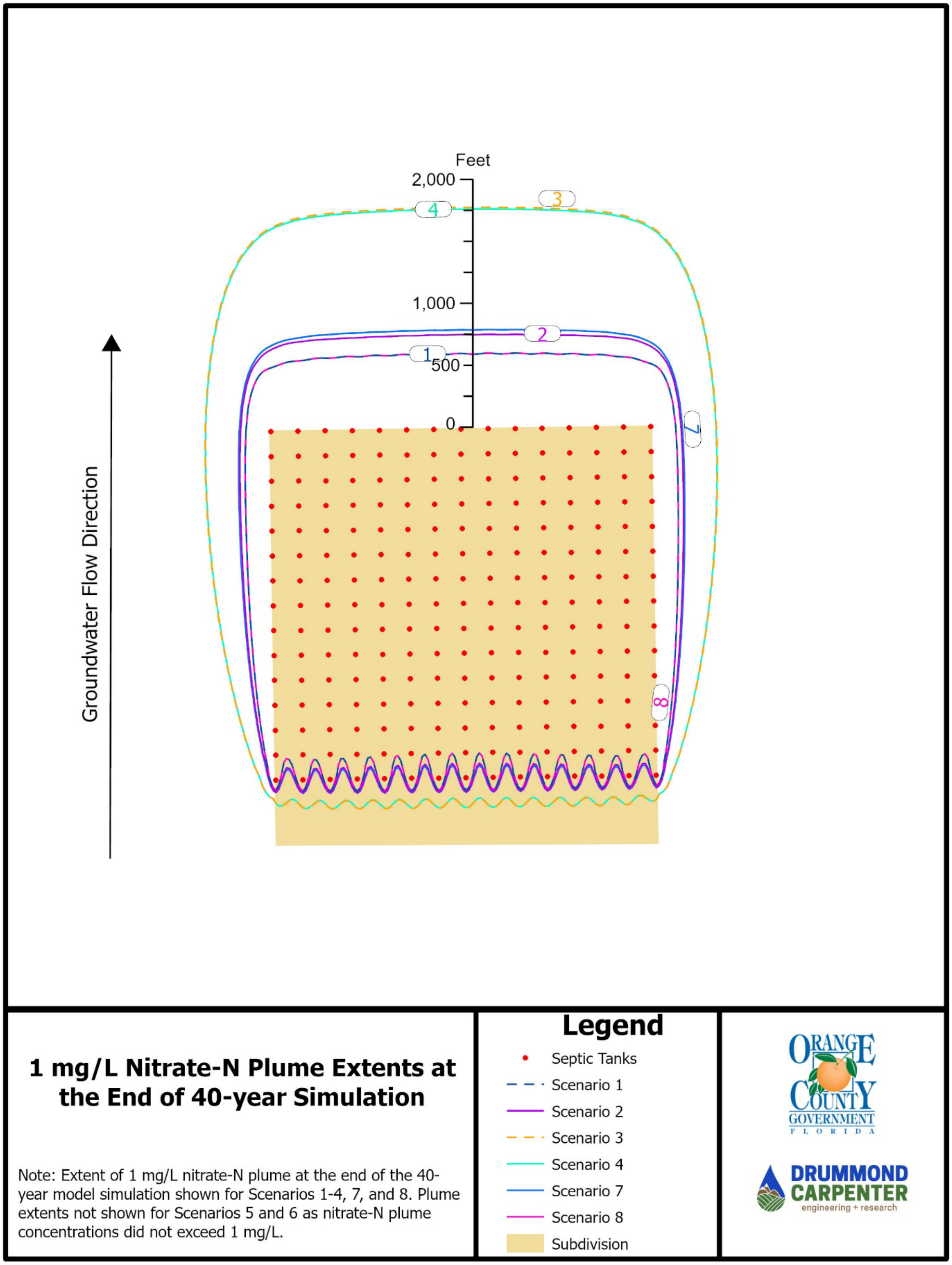
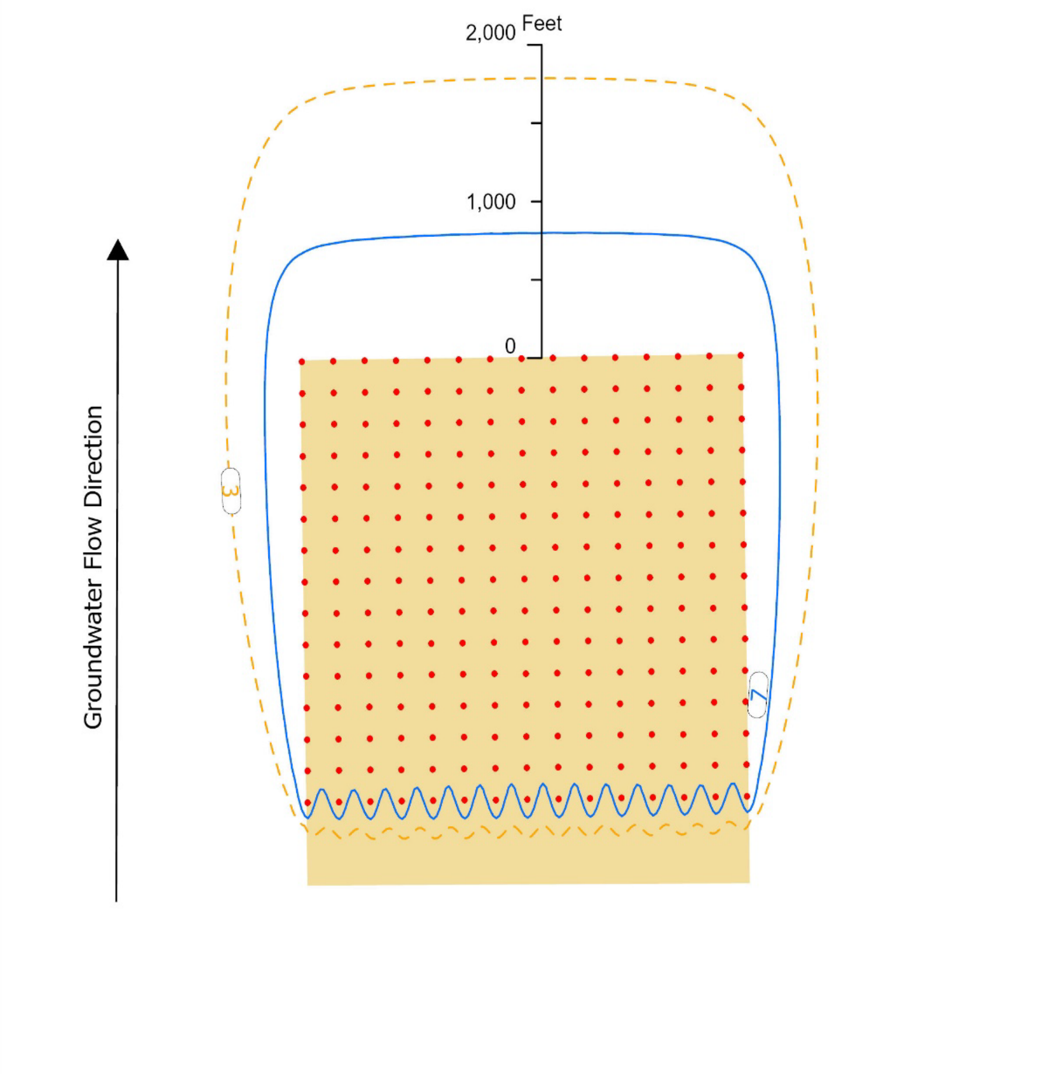


Figure 24. Predicted Groundwater Nitrate-N Plumes from Septic Loading of Hypothetical Subdivision.



1 mg/L Nitrate-N Plume Extents at the End of 40-year Simulation

Note: Extent of 1 mg/L nitrate-N plume at the end of the 40-year model simulation shown for Scenarios 3 and 7. Subdivisions in both scenarios have a depth to water of 2 ft and soil hydraulic conductivity of 10 ft/day. The differentiator is septic type (Scenario 7 = Advanced; Scenario 3 = Conventional).

Legend

- Septic Tanks
- Scenario 3
- Scenario 7
- Subdivision

Figure 25. Predicted Nitrate-N Plume Extents for Scenarios 3 and 7.

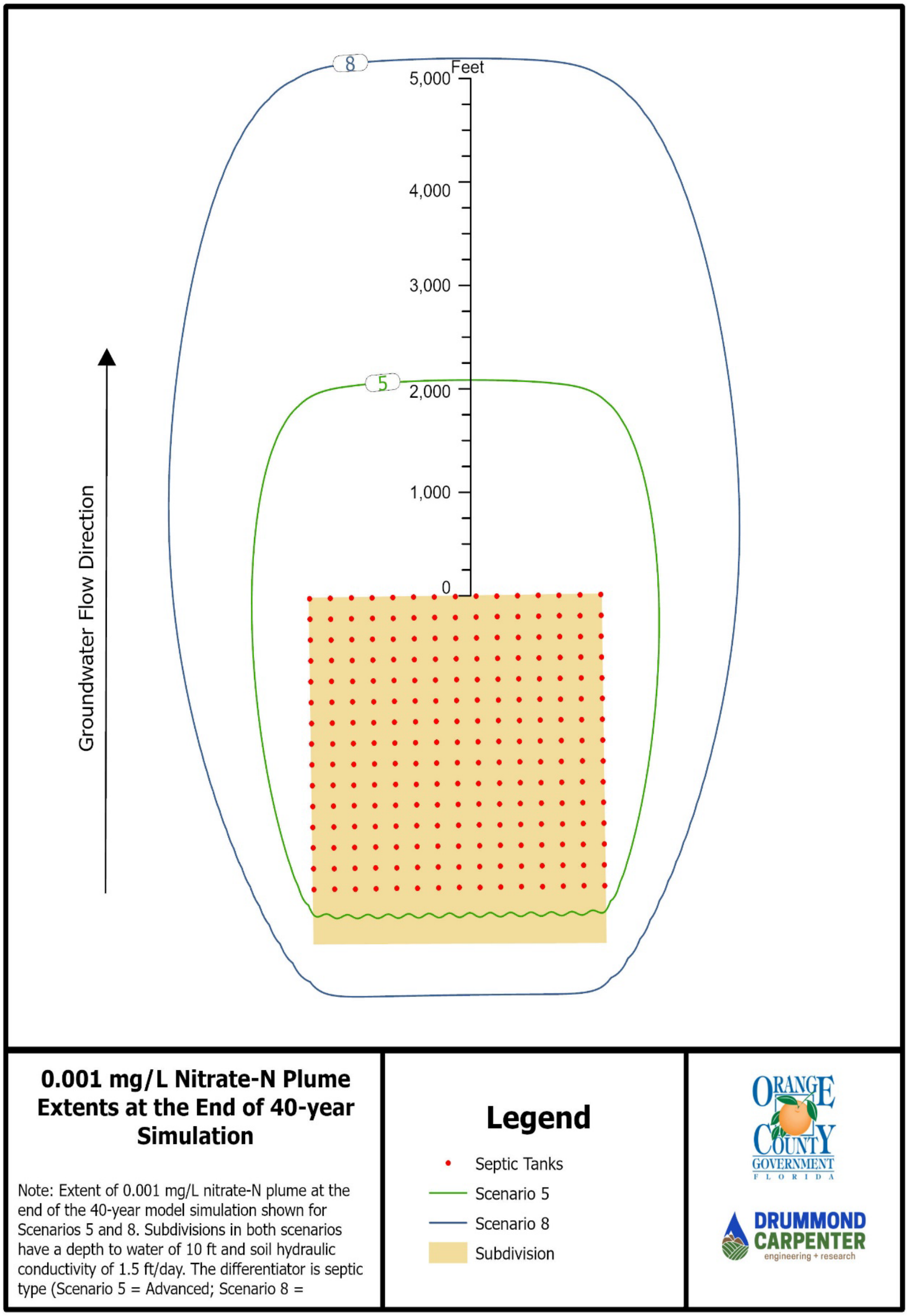


Figure 26. Predicted Nitrate-N Plume Extents for Scenarios 5 and 8.

7. Phosphorous Water Quality Modeling

Over 150 water quality impairments due to excess nutrients have been documented in Orange County over the last 20 years. Many of these impairments are driven by excess nitrogen or phosphorus. While phosphorus is not as mobile in groundwater as nitrogen, specifically nitrate, phosphorus loading from septic systems to groundwater and downgradient waterbodies can be impactful. Phosphorous concentrations in effluent leaving septic systems (5-15 mg/L; Robertson 2021) can be several orders of magnitude greater than impairment criteria levels specified to maintain water quality in surface waterbodies. Minimum native numerical nutrient criteria for TP in Florida lakes ranges from 0.01-0.05 mg/L (F.A.C. 62-302.531 Numeric Interpretations of Narrative Nutrient Criteria). Many lakes in Florida are also phosphorus-limited, and studies conducted as part of TMDL development indicate that septic systems can contribute 4% to 55% of TP to lakes (Lusk et al. 2021).

Screening-level environmental water quality models were developed to evaluate the impact of septic system setback distance on phosphorus loading to downgradient waterbodies. Models were designed to simulate the fate and transport of phosphorus in septic effluent entering the drain field, leaching through the soil to the groundwater, and being transported to a waterbody. Models were designed to simulate phosphorus transport and attenuation under soil conditions generally representative of those found in Orange County.

7.1. Model Scenarios

Water quality models were developed to evaluate the impact of different factors on phosphorus fate and transport from septic effluent to a downgradient waterbody (e.g., a lake). Twelve scenarios were developed to evaluate the impact of setback distance, soil type, and groundwater gradient on phosphorus transport from septic systems. For each scenario, a representative water table depth beneath the drain field of 5 ft was assumed.

7.1.1. Setback Distance

Setback distance was considered the distance from the edge of drain field to a downstream waterbody. Under the same type of soil and groundwater flow pattern, the farther away a drain field is from a receiving waterbody, the lower the phosphorus loading from a septic system would likely be. Three setback distances were evaluated: 50, 150, and 250 ft. Orange County currently requires a setback distance of 150 ft for septic systems.

7.1.2. Soil Type

For the same loading conditions, setback distances, groundwater flow pattern, and geochemical conditions, a septic system in less conductive soils with a higher phosphorus storage capacity will contribute less phosphorus to a downgradient waterbody than a septic system in conductive soils with a lower phosphorus storage capacity. The two soil types were considered to represent native soil in this modeling effort: sand and loamy sand.

The sand was represented by Candler fine sand (1.9% clay, 1.2% silt, 96.9% sand), which is found in Orange County and has been used in a previous fertilizer leaching modeling effort in the Wekiva Priority Focus Area (Drummond Carpenter, PLLC. 2021). Phosphorus transport properties for Candler fine sand have also been characterized (Kadyampakeni et al. 2017).

The loamy sand was represented by a Spodosol, zolfo fine series (5.0% clay, 8.5% silt, 86.5% sand). The soil was used in fate and transport studies of phosphorus loading from septic systems conducted at the University of Florida's Institute of Food and Agricultural Sciences (UF-IFAS) Gulf Coast Research and Education Center (Mechtensimer and Toor 2016, 2017). The sand used in this modeling effort was considered representative of the sands found in Orange County that are highly conductive and have lower phosphorus storage capacities.

The loamy sand used in this modeling effort was considered representative of soils found in Orange County that are less conductive and have higher phosphorus storage capacities than some of the County's sandier soils.

Simulating phosphorus transport under both the sand and loamy sand soil types provides a reasonable screening-level range of soil types in Orange County that could have the potential to transport phosphorus from septic systems to downgradient waterbodies.

7.1.3. Groundwater Gradient

Phosphorus loading to a downgradient waterbody can be impacted by the speed of groundwater flow. Under similar conditions, faster groundwater movement from beneath a septic system to a downgradient waterbody will generally lead to greater phosphorus loading to the waterbody. Simulations were conducted for two groundwater gradients: 0.00388 and 0.00776 ft/ft. The 0.00388 ft/ft gradient represents the gradient used for the SAS in the nitrogen groundwater transport modeling described in Section 6. The 0.00388 ft/ft gradient was doubled to 0.00776 ft/ft to evaluate the impact of increased groundwater flow on phosphorus transport and loading to a downgradient waterbody.

7.2. Model Description

7.2.1. Model Domain and Inputs

HYDRUS is a finite element modeling software capable of simulating one-, two- or three- dimensional (1D, 2D, or 3D) water, solute, and heat transport in variably-saturated media. HYDRUS simulates water flow by numerically solving the Richards equation and solute transport by numerically solving the convection-dispersion equation (Šimůnek and Sejna 2018a, 2018b). In this study, 2D HYDRUS models were developed to represent a 2D cross section capturing phosphorus in septic effluent being released into a drain field, leaching through the drain field into the shallow water table, and being transported downgradient to a hypothetical waterbody, such as a lake. As a 2D cross section was conceptualized for this modeling effort, models will be referred to as HYDRUS-2D models. The conceptual cross section, model mesh, and model boundary conditions are shown in Figure 27.

Three HYDRUS-2D model geometries were developed. The model geometries were 375 ft long by 50 ft deep. The difference in the model domains was the setback distance at which the drain field was placed (50, 150, or 250 ft). Finite element meshes were generated for each of the model geometries with refinements made in areas where higher water and solute fluxes would be expected, including where septic effluent enters the drain field. At each setback distance septic effluent was assumed to enter the drain field and flow through one foot of commercial sand (representing the drain field media), whose properties are described in Toor et al. (2017), then flow through four feet of native soil before reaching groundwater five feet below the surface (Figure 27).

The model simulations utilized a daily time step and were run for a 40-year simulation period. Therefore, model results provide a screening-level evaluation of phosphorus transport and loading from a septic system to a downgradient waterbody over 40 years of use. The same hydraulic loading rate applied in the nitrogen modeling conducted in Section 6 was used in this phosphorus modeling effort (3 cm/day). The fate and transport of phosphate (PO_4) was simulated in this effort because it is the form of phosphorus most mobile in soil at near-neutral pH and is typically the dominant form of phosphorus in septic effluent (Mechtensimer and Toor 2016, 2017; Robertson 2021). A PO_4 concentration of 10 mg/L was assumed for septic effluent in the models, which falls within the expected range of PO_4 concentrations in septic effluent (Mechtensimer and Toor 2016, 2017; Robertson 2021). The left and right sides of the model boundary were specified as constant head boundary conditions, and the difference between the head levels represented the groundwater gradient. Flow was from left to right in the model domain; therefore, the downgradient waterbody was represented by the constant head boundary on the right side of the model domain (Figure 27). The concentration of the downgradient waterbody was specified at 0.05 mg/L throughout the simulation, which represents the upper value of the range of the minimum interpretation of native numerical nutrient criteria values for TP in Florida lakes ranges (F.A.C. 62-302.531 Numeric Interpretations of Narrative Nutrient Criteria). Atmospheric impacts and plant uptake were not considered.

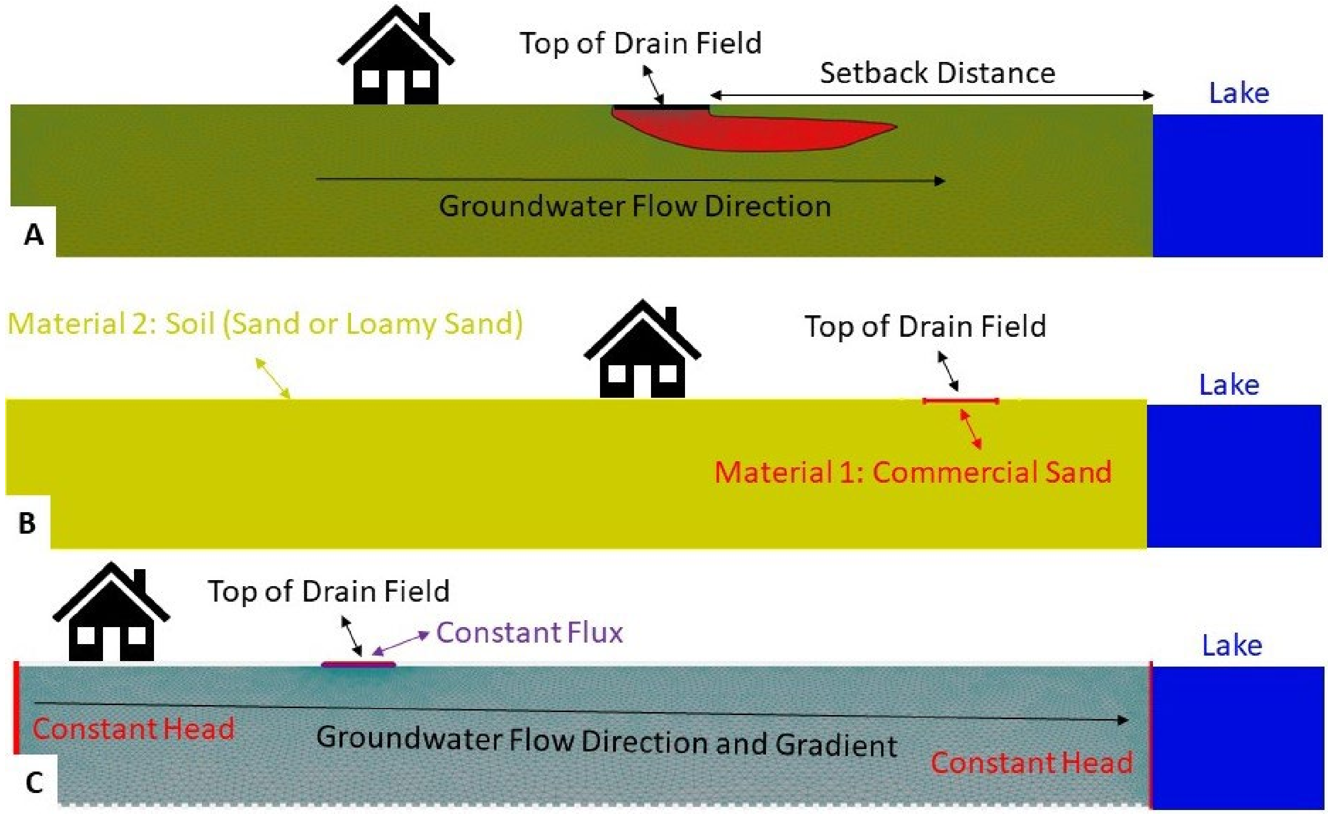


Figure 27. HYDRUS-2D Model Information. A) Model Conceptualization and Domain for the 150-ft Setback Model. B) Material Distribution in the 50-ft Setback Model. C) Boundary Conditions and Finite Element Mesh in the 250-Setback Model.

7.2.2. Water Flow and Transport Parameters

Soil hydraulic characteristics used in the Richards equation of the HYDRUS-2D models were defined using the van Genuchten soil water retention function and the Mualem-van Gentuchten hydraulic conductivity function (Mualem 1976; van Genuchten 1980). The soil water retention and hydraulic functions are defined via saturated (θ_S) and residual (θ_R) water contents (L^3/L^3) and parameters related to air entry (α, 1/L), curve shape (m, n, unitless), pore connectivity (l, unitless), and saturated hydraulic conductivity (K_s, L/T). The empirical curve shape parameters m and n are related as $m = 1 - n^{-1}$.

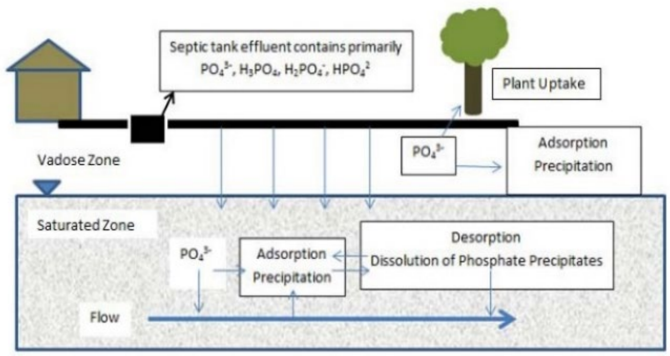


Figure 28. Fate and Transport of Phosphate in Septic System Effluent (Copy of Figure 1 from Lusk et al. 2021).

Mechanisms impacting the fate and transport of PO_4 in septic effluent are shown in Figure 28 (copied from Figure 1 in Lusk et al., 2021). Phosphorus transport in a septic system drain field and groundwater can be a function of various hydraulic and geochemical mechanisms, including sorption/desorption, precipitation reactions, plant uptake and mineralization/immobilization (Mechtensimer and Toor 2016, 2017; Lusk et al. 2021; Robertson 2021). The attenuation processes included in the HYDRUS-2D models were sorption and precipitation, which are the dominant mechanisms impacting attenuation of phosphorus from septic effluent (Mechtensimer and Toor 2016, 2017; Lusk et al. 2021). Diffusion was not considered. Langmuir isotherms developed in Mechtensimer and Toor (2016) were used to described nonlinear PO_4 sorption for the commercial sand and the loamy sand in the HYDRUS-2D models. Linear sorption was used to describe the sorption processes for the Candler fine sand using an average linearized sorption coefficient (K_D) of a Freundlich isotherm developed in Kadyampakeni et al. (2017). The PO_4 sorption maxima (S_{max}) for the commercial sand and loamy sand in the HYDRUS-2D models was 0.118 and 0.26 mg/g, respectively (Mechtensimer and Toor, 2016). S_{max} for the Candler fine sand was set at 0.015 mg/g.

Precipitation reactions attenuating PO_4 were described using first-order decay reactions. The first order decay coefficient is termed as SinkL1 in the HYDRUS-2D models. Studies have shown that most phosphorus attenuation occurs within the first few feet of the drain field due to rapid precipitation reactions (Lusk et al. 2021; Mechtensimer and Toor 2016, 2017). To simulate precipitation at a screening-level, the first foot of soil where septic effluent enters the drain field, commercial sand (model layer 1 in the HYDRUS-2D models), was assigned a decay constant of 0.9/day. Previous studies indicate precipitation and sorption become less important once phosphorus enters the groundwater (Lusk et al. 2021). Therefore, the linear decay rate for native soil beneath the commercial sand (sand or loamy sand) was reduced by two-orders of magnitude to 0.009/day.

As the HYDRUS-2D models are screening-level, the entire soil system beneath the commercial sand was represented as one layer and was assigned a uniform decay (precipitation) rate and sorption values. PO_4 travels through an unsaturated portion of this soil before entering the water table then travels through a saturated portion of this soil to the downgradient waterbody. Therefore, the uniform sorption and precipitation rate in this soil layer may lead to an underestimation of PO_4 attenuation before reaching the water table and overestimation of PO_4 attenuation in the groundwater system. However, this methodology was applied to all scenarios and facilitates a responsible approach for providing long-term simulations to assess phosphorus fate and transport septic systems and their impact on downgradient waterbodies at the screening-level. These models are not designed to replace and should not take precedence over local field monitoring and modeling studies that can account for local soil, hydrogeologic, and geochemical conditions.

Water and transport modeling parameters for PO_4 and the commercial sand and native soils (sand and loamy sand) used in the HYDRUS-2D models are provided in Table 10 and Table 11.

Table 10. Soil Water Flow Parameters used in the HYDRUS-2D Phosphorous Setback Models.

Model Parameter	Model Layer 1	Model Layer 2 (Scenario Dependent)	
Soil Type[1]	Commercial Sand	Sand	Loamy Sand
θ_R (cm³/cm³)	0.0507	0.0542	0.04659
θ_S (cm³/cm³)	0.376	0.41	0.38
α (1/cm)	0.034	0.075	0.0367
n	4.42	1.89	2.13
l	0.5	0.5	0.5
K_s (cm/day)	1,429	1,376	196

[1]Soil hydraulic properties were derived using the neural network prediction function built into HYDRUS based on soil textural information provided in Holt et al. (2020) for the sand and Mechtensimer and Toor (2017) for the commercial sand and loamy sand.

Table 11. Soil Transport used in the HYDRUS-2D Phosphorous Setback Models.

Model Parameter	Model Layer 1	Model Layer 2 (Scenario Dependent)	
Soil Type	Commercial Sand	Sand	Loamy Sand
Bulk Density (g/cm³)	1.62[2]	1.65[1]	1.49[2]
Longitudinal Dispersivity (cm)	0.22	15	15
Transverse Dispersivity (cm)	0.022	0.15	0.15
Fraction of Absorption Sites	1	1	1
Immobile Water Content (cm³/cm³)	0	0	0
K_d (cm³/g)	7.91[4]	3.08[3]	26.52[4]
Nu (cm³/mg)	67[4]	0	102[4]
Beta	1	1	1
SinkL1	0.9	0.009	0.009
SMax1	0.118[4]	0.015[5]	0.26[4]

[1]From Table 2 in Kadyampakeni et al. (2017) for Candler fine sand 0-15 cm interval.
[2]From Table S2 in Appendix A of Mechtensimer and Toor (2016).
[3]Average value of linearized isotherm for Candler fine sand from Kadyampakeni et al. (2017).
[4]From Table S3 in Appendix A of Mechtensimer and Toor (2016).
[5]From Kadyampakeni et al. (2017).

7.3. Modeling Results and Recommendations

Results of the HYDRUS-2D model simulations are provided in Table 12. Simulated 1 mg/L PO_4 plumes at the end of the 40-year simulation period are shown in Figure 29 - Figure 31.

7.3.1. Comparison to Previous Studies

In the presented scenarios, septic effluent with a PO_4 concentration of 10 mg/L first flowed through one foot of commercial sand then through four feet of native soil (sand or loamy sand) before reaching the water table. At the bottom of the commercial sand, simulated PO_4 concentrations reached an equilibrium of approximately 3.5 mg/L after the phosphorus storage capacity of the sand was reached. Modeling results appear in reasonable agreement with previous studies that indicate rapid phosphorus attenuation in the drain field directly below where septic effluent is released due to precipitation reactions. Mechimester and Toor (2017) measured average PO_4 concentrations at the bottom of the commercial sand layer between beneath a septic drain field and found an average concentration ranging from 1.3-3.6 mg/L, depending on drain field type. Column tests on a sandy loam soil under biofilm conditions indicated phosphorus concentrations stabilized between 2-6 mg/L (Magdoff et al. 1974).

Modeling results predicted 1 mg/L phosphorus plumes after the 40-year simulation period would reach 36 to 139 ft downgradient of the drain field depending on soil type and groundwater gradient (Table 12, Figure 29 - Figure 31). Results appear in reasonable agreement with previous studies. A study in the Florida Keys found a 0.5 mg/L plume extended approximately 190 feet downgradient of a drain field (Corbett et al. 2002). Background phosphorus concentrations in that study were 0.5 mg/L. Two well-characterized septic plumes in sandy aquifers in Ontario, Canada measured 1 mg/L extending up to 100 feet from septic sites (Robertson 2021). Phosphate concentrations of 1 mg/L or more have been measured in a Cape Cod municipal wastewater plume almost 2,000 ft downgradient from the site's wastewater infiltration beds. It is noted that attenuation of phosphorus in septic effluent can vary significantly based on precipitation reactions governed by geochemical conditions. For example, as indicated in Mechtensimer and Toor (2016), previous studies have found PO_4 in septic effluent was largely attenuated in a drain field located in non-calcareous soil over a 13-year operational period, while a PO_4 plume at 75% of septic effluent concentration was advancing in a calcareous soil at 3.28 feet per year from a drain field after 17 years of operation (Robertson et al. 1991, 1998).

7.3.2. Findings

Model results indicate that while septic systems can be effective at reducing phosphorous loading to downgradient waterbodies, phosphorous in septic effluent near a waterbody can still contribute phosphorus to that waterbody. Modeling results found phosphorous loading to waterbodies can be impacted by soil type, groundwater gradient, and setback distance.

Greater PO_4 attenuation was observed in the loamy sand native soil compared to the sand native soil (Table 12, Figure 29 - Figure 31). This could be expected as the loamy sand had a lower hydraulic conductivity and a greater phosphorus storage capacity than the sand, allowing for increased sorption and precipitation reactions. When the native soil was the sand, phosphorus was observed to reach the downgradient waterbody (i.e., the lake) within the 40-year simulation period, regardless of setback distance or groundwater gradient.

Increasing the groundwater gradient (i.e., the speed at which groundwater moved from the drain field to the lake) increased the loading of PO_4 to the lake and decreased the time it took for PO_4 to reach the lake. For the same setback distance and soil type, doubling the groundwater gradient (0.00388 ft/ft vs. 0.00776 ft/ft) reduced the time for PO_4 to reach the lake by 38-74% over the 40-year simulation period (Table 12).

Considering the various soil types and groundwater gradients simulated in the model, results indicate setback distance played an important role in PO_4 loading to the lake. At the 50-ft setback distance, between 85-99% of PO_4 in septic effluent was attenuated over the 40-year simulation period (Table 12). At the 150-ft setback distance, 95-100% of PO_4 was attenuated. At the 250-ft setback distance, 98-100% of PO_4 was attenuated. The "worst-case" scenario simulated a lake-adjacent septic system in a sandy soil with a higher groundwater gradient to a lake. For this "worst-case" scenario, 84%, 95%, and 98% of PO_4 was attenuated at the 50-ft, 150-ft, and 250-ft setback distances, respectively. Increasing the setback distance from 50 to 150 ft appears to provide a reasonable benefit in PO_4 attenuation with diminishing returns when increasing from 150 to 250 ft.

Table 12. Phosphorus Setback Modeling: HYDRUS-2D Results

Scenario	Setback Distance	Soil Type	Groundwater Gradient[1]	PO_4 Mass Flux Entering Drain Field[2] (mg/cm)	PO_4 Mass Flux Entering Lake[2] (mg/cm)	PO_4 Attenuation from Drain Field to Lake	1 mg/L PO_4 Plume Distance from Drain Field[3]	Time for Phosphorus to Reach Lake
1	50 ft	Sand	Low	320,400	31,180	90%	<50 ft (Reached Waterbody)	0.8 years
2		Sand	High	320,400	51,710	84%	<50 ft (Reached Waterbody)	0.5 years
3		Loamy Sand	Low	320,500	0.008	99.9%	40 ft	10.6 years
4		Loamy Sand	High	320,400	31,340	90%	<50 ft (Reached Waterbody)	3.2 years
5	150 ft	Sand	Low	320,400	3,844	99%	77 ft	4.1 years
6		Sand	High	320,400	17,640	95%	132 ft	2.3 years
7		Loamy Sand	Low	321,100	0	100%	36 ft	>40 years
8		Loamy Sand	High	320,400	52	99.9%	139 ft	16 years
9	250 ft	Sand	Low	320,300	301	99.9%	74 ft	9.2 years
10		Sand	High	320,300	5,029	98.4%	126 ft	5 years
11		Loamy Sand	Low	320,300	0	100%	75 ft	>40 years
12		Loamy Sand	High	320,300	<0.001	100%	132 ft	35 years

[1]Low groundwater gradient: 0.00388 ft/ft. High groundwater gradient: 0.00776 ft/ft.

[2]Cumulative simulated fluxes across mesh lines in HYDRUS-2D at the end of the 40-year simulation period.

[3]1 mg/L plume distance downgradient from edge of the septic system drain field at the end of the 40-year simulation period.

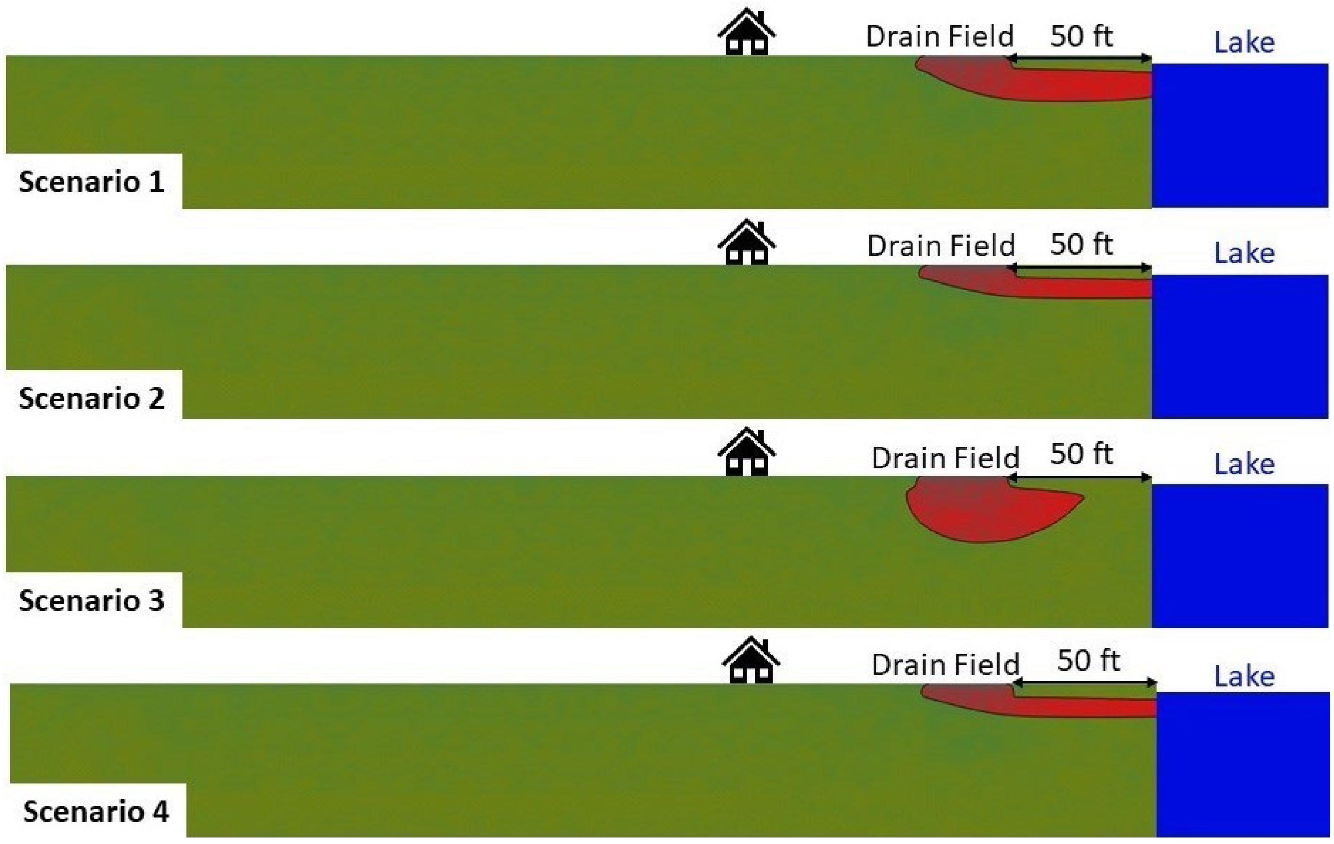


Figure 29. Simulated Phosphate (PO_4) Plume (1 Mg/L) Downgradient of Septic Drain Field Setback 50 Ft from a Lake Under Different Soil Types and Groundwater Gradients After a 40-Year Simulation Period (see Table 13).

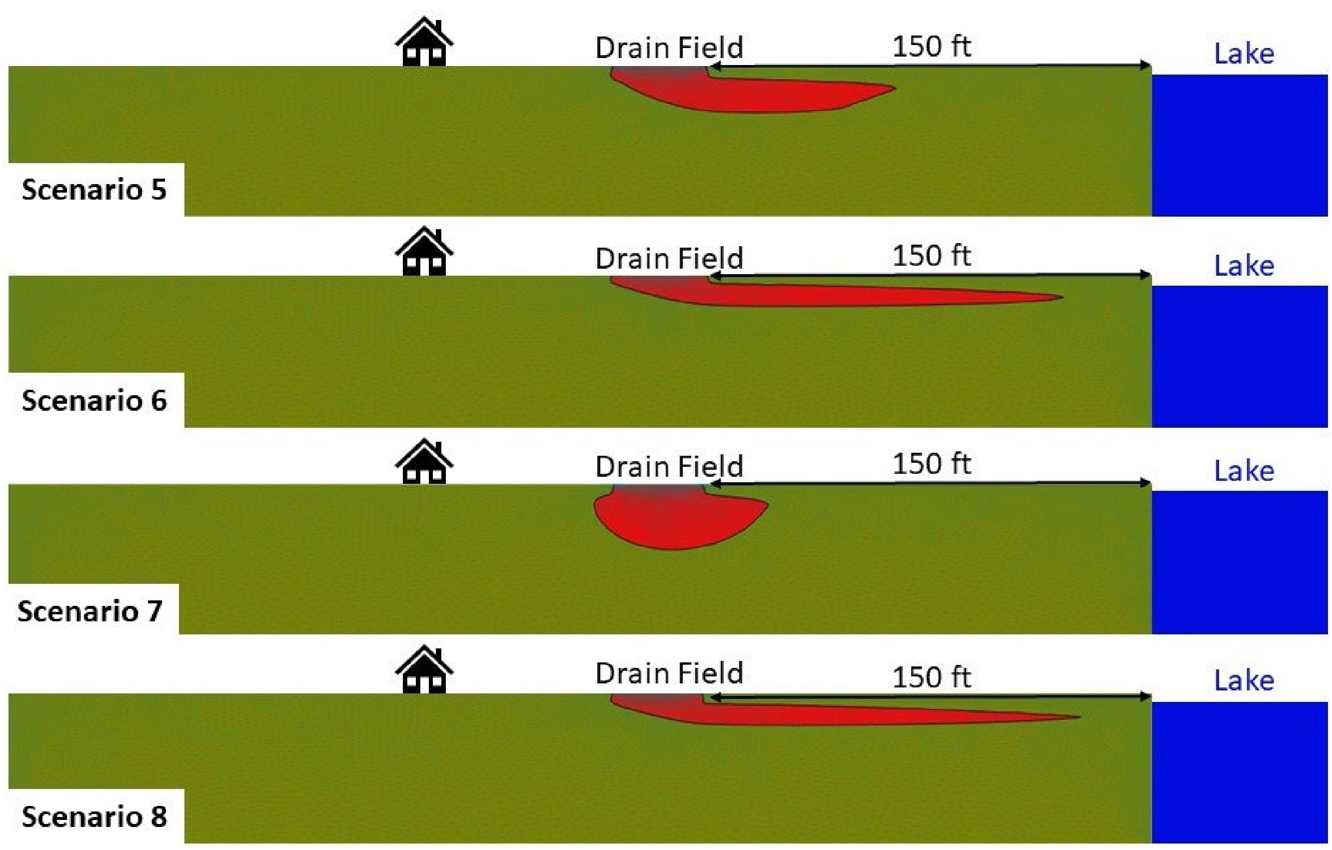


Figure 30. Simulated Phosphate (PO4) Plume (1 Mg/L) Downgradient of a Septic Drain Field Setback 150 Ft from a Lake Under Different Soil Types and Groundwater Gradients After a 40-Year Simulation Period (see Table 13).

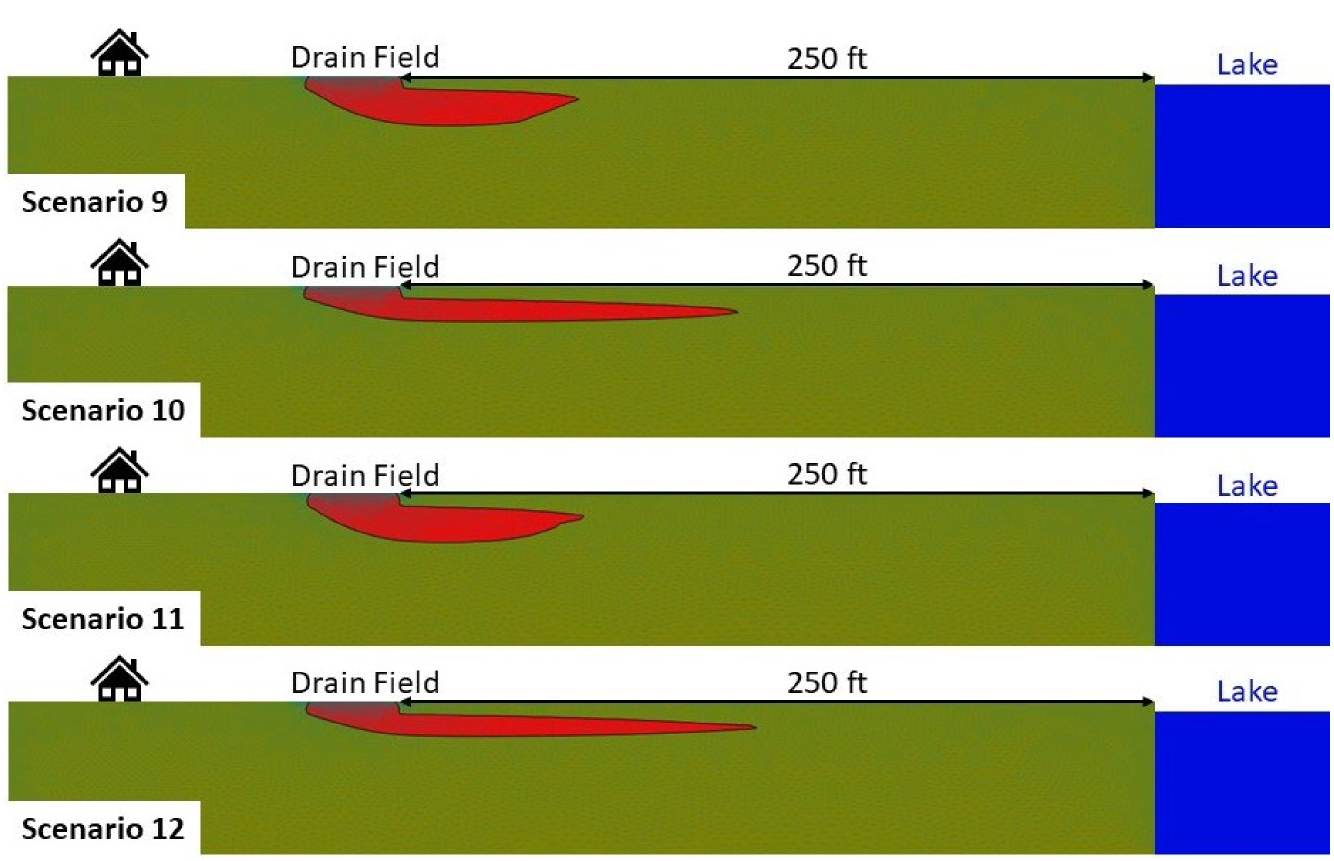


Figure 31. Simulated Phosphate (PO4) Plume (1 Mg/L) Downgradient of a Septic Drain Field Setback 250 Ft from a Lake Under Different Soil Types and Groundwater Gradients After a 40-Year Simulation Period (see Table 13).

7.3.3. Recommendations

Screening-level modeling of a representative septic system located adjacent to a waterbody (e.g., a lake) in Orange County suggests phosphorous loading from septic systems can contribute phosphorus to adjacent surface waters. Results indicate soil type, groundwater gradient, and setback distance all impact phosphorus attenuation and loading. Based on a review of previous studies and the screening-level modeling results presented in this section, the County could consider the following recommendations for reducing phosphorus loading from septic systems to adjacent waterbodies.

1) **Maintain the existing requirement that a septic system's drain field have at least a 150-ft setback distance from a waterbody[6].**
    - ❖ Increasing the setback distance from 50 ft to 150 ft provided the greatest increase in PO_4 attenuation with diminishing returns when increasing from 150 ft to 250 ft. Across assessed scenarios, PO_4 attenuation was >95% at the 150-ft setback and >98% at the 250-ft setback over the 40-year simulation period. For sensitive lakes already at phosphorus capacity, some studies have recommended a setback distance of almost 1,000 feet (300 meters) (Robertson 2008).
    - ❖ The County should not permit variances to the 150 ft setback criteria without septic applicants demonstrating that the reduced setback would not contribute to water quality impairments, such as providing site specific investigations (as stated below) or implementing advanced treatment septic systems. This would not apply to those parcels entirely within 150 ft of a waterbody, or similar scenario where locating septic outside of this setback is infeasible.

2) **Study the impact of water table depth on phosphorus leaching to groundwater from septic systems in Orange County.**
    - ❖ Studies have found rapid phosphorus attenuation occurs in the soil after septic effluent enters drain field (unsaturated zone). Maintaining enough distance above the water table is important to provide enough time for these precipitation reactions to take place.

3) **Prioritize methods that facilitate the reduction of phosphorus loading from septic systems in areas at higher risk of septic leachate transport and downgradient waterbody impacts. This could include conversion of conventional septic systems to advanced treatment systems or septic-to-sewer retrofits.**
    - ❖ Sorption of phosphorus plays a role in attenuation of phosphorus in septic effluent. Reducing the phosphorus load entering the drain field increases the time for sorption sites in the soil and groundwater to become saturated, which increases the time for precipitation reactions to occur and increases the time septic systems can operate with minimal downgradient impacts. As noted in Lusk et al. (2021), while sorption plays an important role in attenuation, there is always the possibility for desorption of phosphorus, which could contribute mobile phosphorus over a decades-long scale. Reducing phosphorus loading entering the soil reduces this risk. It should be noted that phosphorous removal efficiencies for advanced treatment systems are not as well characterized as the removal efficiencies for nitrogen and are a subject of future research.

---

[6] The setback for nitrogen (Section 6) is recommended at a greater distances than for phosphorus and thus may control the ultimate setback distance.

4) **For long-running septic systems (e.g., septic systems in operation in excess of a certain period of time), consider requiring soil in the first one to two feet of a drain field be replaced during septic system upgrades.**
   - Replacing drain field soil during septic system upgrades with proper soil, or other suitable media, can increase phosphorus sorption and facilitate precipitation reactions leading to increased phosphorus attenuation. Phosphorus plumes in long-running septic systems can develop in groundwater even when the septic tank and drain field are working properly as phosphorus storage capacity of the soil gets filled (Lusk et al. 2021).

5) **Develop a methodology for site-specific investigations of septic systems installed or upgraded adjacent to WOIs and/or sensitive lakes (where applicable).**
   - Phosphorus loading from septic systems to downgradient waterbodies can be impacted by a variety of local parameters, including setback distance, soil type, groundwater flow, and geochemical conditions. Therefore, a local evaluation could include soil tests in the unsaturated zone beneath a potential drain field location, characterizing local groundwater flow conditions, and development of a local-scale, site specific fate and transport model. As sorption and precipitation reactions are the dominant processes impacting the attenuation of phosphorus in septic effluent, soils could be tested for the phosphorus storage capacity of the soil column beneath the drain field (Nair et al. 2010) as well as other soil tests that may impact precipitation reactions (e.g., pH, redox potential, $CaCO_3$ content).
   - The County could conduct a study with the goal of developing a simple soil assessment that septic applicants could perform that would demonstrate whether sufficient phosphorus sorption capacity exists onsite when minimum drain field setback requirements cannot be met.

8. Priority Focus Areas Phase I

Drummond Carpenter implemented a detailed methodology for the identification of subdivisions that may contribute to groundwater contamination from septic sources and has ranked these subdivisions for septic system intervention based on a data-driven vulnerability framework. These subdivision rankings were conducted for known subdivisions that have at least 50% septic system density (i.e., at least half of the parcels are on septic), totaling 1,910 ranked subdivisions. This ranking system, while helpful for identifying critical subdivisions for retrofit prioritization, does not provide sufficient differentiation of subdivisions to be directly used to recommend strategic capital improvement actions or County policy changes meant to improve specific waterbodies that have the greatest need for such interventions.

The ranking system classifies 68 subdivisions with the highest priority (i.e., ranks above 4). Given the complex challenges needed for septic system interventions to occur for even these highest priority subdivisions, the timeframe for corresponding water quality improvements to be realized is likely on the order of decades. Therefore, it is recognized that a more focused priority assessment is needed that targets individual waterbodies for septic interventions so that County goals can be prioritized and measured at the waterbody level.

Through coordination with the County, Drummond Carpenter developed a proposed methodology to define Priority Focus Areas (PFAs) for septic intervention measures. The PFAs are defined at the individual waterbody level, that consolidates the previously ranked subdivisions and provides a ranking system for allocation of resources. This assessment is considered Phase I of this effort and is meant to prioritize septic interventions of existing septic systems that would likely take the form of capital improvements projects (i.e., septic-to-sewer or advanced treatment retrofits). Phase II of this PFA process (not included herein) will target areas of future septic systems and is meant to prioritize policy changes that should be implemented to responsibly regulate existing and future septic system construction and operation.

8.1. Identification of Priority Focus Areas

The PFA concept used for this project mirrors the development of PFAs used by FDEP to establish special groundwater influence regions for Outstanding Florida Springs per the *Florida Springs and Aquifer Protection Act*[7], except that lakes and rivers are considered instead of springs. Per Florida Statute:

> *"Priority focus area" means the area or areas of a basin where the Floridan Aquifer is generally most vulnerable to pollutant inputs where there is a known connectivity between groundwater pathways and an Outstanding Florida Spring, as determined by the department in consultation with the appropriate water management districts and delineated in a basin management action plan."*

In addition, per 373.803 F.A.C., the delineation of PFAs must consider the following:

1. **Groundwater travel time**. This can be either measured or modeled (simulated) groundwater travel time.
2. **Hydrogeology**. This includes the groundwater contributing area, recharge, transport, and aquifer vulnerability.
3. **Nutrient load**. This can either be from measured water quality data or predicted loading from modeling.
4. **Other factors that can lead to degradation of the waterbody**. These factors can include soil characteristics, pollutant sources, and others.
5. **Be established using identifiable boundaries for ease of implementation**. This can include roads, natural boundaries, and political jurisdictions.

[7] 373.803 F.A.C. 'Delineation of priority focus areas for Outstanding Florida Springs'

For this project, the SAS is considered instead of the UFA, as septic leachate to nearby waterbodies occurs primarily from the SAS, and Waterbodies of Interest (WOIs) (e.g., lakes and rivers) are the primary focus instead of Outstanding Florida Springs.

The following procedure was used to delineate the proposed Orange County PFAs:

1. The Phase 1 PFA targets were selected as a subset of the WOIs described in Section 4. These generally included those WOIs that had an established water quality impairment, are classified as an Outstanding Florida Water, or had prioritized subdivisions (as detailed in Section 5) within the WOI's groundwater influence zone. Finally, WOIs within the existing Wekiwa and Rock Springs PFA were precluded from selection since they are already within an FDEP PFA. This results in 66 PFAs. Because the PFAs were selected from the WOI list, the PFA delineation requirements related to **Hydrogeology**, **Nutrient Load**, and **Other Factors** have been met based on the use of the OC ECFTX groundwater model, OCAVA model response theme, STUMOD + MODFLOW RT3D water quality models, the measured water quality data that established water quality impairments, and the presence of known pollution sources (i.e., septic systems) within the groundwater influence zones used to generate the WOIs.
2. Once the PFAs had been selected, the first step in delineating the PFA extent was developing 5-year influence zones for the WOIs. The 5-year influence zones represent areas of the influence zones described in Section 4 (i.e., groundwater basins) where a particle of water released in the SAS would be predicted to reach a WOI in less than five years. This was performed to satisfy the **Groundwater Travel Time** standard for developing PFAs to include only those "faster" groundwater travel regions that would be more susceptible to septic pollutant flux.
3. A 150-ft buffer was then applied to these 5-year influence zone boundaries to better capture the seasonality, fluctuation, and potential deviations in groundwater flow conditions from dry to wet years. A 150-ft setback is also the current Orange County septic setback requirement from waterbodies.
4. Buffered 5-year influence zones that overlapped with each other were consolidated (e.g., nearby lakes or chains of lakes). This effort produced 66 unique PFAs across the County. PFAs are listed in Table 14.
5. Ranked septic subdivisions where at least a portion of the subdivisions fell within the delineated PFA were considered to qualify as part of the PFA. This is done to meet the requirement that PFAs be **established using identifiable boundaries for ease of implementation.**

Septic subdivisions within identified PFAs were selected for priority ranking. There are a total of 671 PFA septic subdivisions within the 66 PFAs, including the Shingle Creek PFA. A septic subdivision was considered to be associated with a PFA provided any portion of the subdivision fell within the PFA boundary. These PFA septic subdivisions were ranked based on the Weighted Vulnerability Ranking System discussed in Section 5. These rankings consider septic density, OCAVA vulnerability class, land use (i.e., population/housing density), septic age, distance to water, elevation (as a proxy for depth to water), and whether the subdivision is within an impaired water/watershed (from the state WBID layer) or springshed (i.e., Wekiwa springshed). Selection of PFAs identifies a more refined priority list for septic intervention with 6 PFA subdivisions having the highest priority ranking (i.e., ranks above 4) as compared to the 68 septic subdivisions across Orange County with the highest priority rank (Table 13).

In addition to ranking subdivisions within identified PFAs, a methodology was also developed for priority ranking at the PFA scale. Priority Focus Areas were first ranked using a Cumulative PFA Vulnerability Score, which represented the summation of each septic subdivision's Weighted Vulnerability Ranking System score (Section 5) multiplied by the total subdivision area (Equation 1). PFAs were then ranked using a Normalized PFA Vulnerability Score, which represented the summation of each septic subdivision's Weighted Vulnerability Ranking System score (Section 5) multiplied by the area of the subdivision within the PFA normalized by the total PFA area excluding areas occupied by WOIs (Equation 2). Ranked PFAs and PFA septic subdivisions are provided in Table 14 and Table 15 and shown on Figure 32 and Figure 33.

$$Cumulative\ PFA\ Vulnerability\ Score = \sum_{i}^{n}(V_w * A_{sd}) \quad \text{(Equation 1)}$$

$$Normalized\ PFA\ Vulnerability\ Score = \frac{\sum_i^n(V_w * A_{sdPFA})}{A_{PFA^*}} \quad \text{(Equation 2)}$$

Where:

- V_w = Weighted vulnerability ranking score for the subdivision
- A_{sd} = Total area of the subdivision area (acres)
- A_{sdPFA} = Area of subdivision within the PFA (acres)
- A_{PFA^*} = PFA area excluding Waterbodies of Interest (acres)
- i = Individual septic subdivision within the PFA
- n = Total number of septic subdivisions within the PFA

Table 13. Total Subdivisions by Priority Ranking.

	Weighted Ranking System Score			Total
	≥ 4	3 – 4	≤ 3	
Total Number of Subdivisions included in Ranking Analysis (Section 5)	68	802	1040	1910
Total Number of Subdivisions within PFAs	6	215	450	671

APPENDIX G provides a table of the 671 ranked subdivisions, including Shingle Creek, as well as their corresponding PFA. Subdivisions completely outside of the PFA boundaries were not included in the final priority ranking for septic intervention.

Table 14. Phase I Priority Focus Areas (PFAs) by Cumulative PFA Vulnerability Score.

PFA Name	PFA Area (acres)	PFA Area excluding WOIs (acres)	Cumulative PFA Vulnerability Score*	Phase I PFA Priority Rankings by Cumulative PFA Vulnerability Score
Butler Chain of Lakes PFA	10247	4740	12218	1
Econlockhatchee River PFA	9519	8974	9445	2
Lake Fairview PFA	1335	831	2889	3
Lake Ola PFA	960	523	2476	4
Little Econlockhatchee River	3186	3112	2382	5
Lake Conway PFA	3587	1786	2160	6
Johns Lake PFA	4284	2439	1882	7
Lake Olivia PFA	357	269	1674	8
Lake Gatlin PFA	930	710	1659	9
Lake Mary Jane PFA	1671	580	1508	10
Lake Barton PFA	456	303	1420	11
Lake Holden PFA	806	537	1218	12
Lake Burkett PFA	745	496	1022	13
Fish Lake PFA	68	44	1010	14
Lake Pickett PFA	1198	482	1003	15
Lake Hiawassee PFA	713	545	985	16
Big Sand Lake PFA	2654	1770	985	17
Lake Marsha PFA	216	123	889	18
Lake Rose PFA	262	179	832	19
Lake Roper PFA	168	118	712	20
Lake San Susan PFA	97	78	705	21
Lake Killarney PFA	670	432	652	22
Lake Hourglass PFA	151	136	641	23
Lake Roberts PFA	313	176	627	24
Lake Willis PFA	273	130	607	25
Lake Cane PFA	267	184	572	26
Bass Lake PFA	184	143	556	27
Lake Floyd PFA	58	35	500	28
Phillips Pond PFA	55	40	465	29
Palm Lake PFA	44	29	420	30
Lake Rexford PFA	119	70	411	31
Lake Georgia PFA	173	84	410	32
Lake Anderson PFA	101	86	403	33
Hickorynut Lake PFA	941	617	399	34
Lake Drawdy PFA	137	87	394	35
Lake Fischer PFA	76	51	345	36
Lake Hancock PFA	1566	1108	340	37
Lake Sawyer PFA	227	136	338	38
Lakes Sue Rowena PFA	817	615	327	39
Lake Inghram PFA	84	55	323	40
Lake Rouse PFA	73	39	321	41
Lake Irma PFA	358	234	318	42
Lake Tennessee PFA	68	56	265	43
Lake Price PFA	236	150	211	44
Lake Susannah PFA	245	166	197	45
Lake Speer PFA	798	459	132	46
Lake Carlton PFA	405	172	117	47
Panther Lake PFA	320	261	94	48
Lake Downey PFA	39	21	73	49
Lake Gear PFA	97	85	54	50
Lake Mary PFA	104	54	47	51
Lake Mare Prairie PFA	332	202	25	52
Lake Lawne PFA	559	413	6	53
Taylor Creek PFA	493	292	0	54
Lake Heney PFA	86	44	0	54
Lake Ihrig PFA	29	14	0	54
Lake Lartigue PFA	103	62	0	54
Huckleberry Lake PFA	173	80	0	54
Saw Grass Lake PFA	139	82	0	54
Lake Needham PFA	151	67	0	54
Lake Sandy PFA	76	52	0	54
Lake Bumby Tyler PFA	196	156	0	54
Cawood Ponds PFA	123	94	0	54
Jim Creek PFA	1169	859	0	54
Tootoosahatchee Creek PFA	3025	2879	0	54
Shingle Creek	1162	999	0	54

*See Equation 1

Table 15. Phase I Priority Focus Areas (PFAs) by Normalized PFA Vulnerability Score.

PFA NAME	PFA Area (acres)	PFA Area without WOIs* (acres)	Normalized PFA Vulnerability Score*	Phase I PFA Priority Rankings by Normalized PFA Vulnerability Score
Lake Barton PFA	456	303	3.59	1
Palm Lake PFA	44	29	3.51	2
Lake Willis PFA	273	130	3.49	3
Lake Rose PFA	262	179	3.46	4
Lake Marsha PFA	216	123	3.32	5
Lake Anderson PFA	101	86	3.28	6
Phillips Pond PFA	55	40	3.27	7
Fish Lake PFA	68	44	3.07	8
Lake Rouse PFA	73	39	2.84	9
Lake Rexford PFA	119	70	2.82	10
Lake Roper PFA	168	118	2.73	11
Lake Hourglass PFA	151	136	2.72	12
Lake San Susan PFA	97	78	2.70	13
Lake Olivia PFA	357	269	2.70	14
Lake Floyd PFA	58	35	2.54	15
Lake Cane PFA	267	184	2.48	16
Lake Roberts PFA	313	176	2.33	17
Bass Lake PFA	184	143	2.30	18
Lake Georgia PFA	173	84	2.30	19
Lake Ola PFA	960	523	2.24	20
Lake Drawdy PFA	137	87	2.22	21
Lake Fairview PFA	1,335	831	2.20	22
Lake Fischer PFA	76	51	2.09	23
Lake Downey PFA	39	21	2.05	24
Lake Holden PFA	806	537	1.88	25
Lake Mary Jane PFA	1,671	580	1.81	26
Butler Chain of Lakes PFA	10,247	4,740	1.80	27
Lake Tennessee PFA	68	56	1.76	28
Lake Gatlin PFA	930	710	1.74	29
Lake Burkett PFA	745	496	1.42	30
Lake Sawyer PFA	227	136	1.36	31
Lake Inghram PFA	84	55	1.36	32
Lake Killarney PFA	670	432	1.35	33
Lake Price PFA	236	150	1.32	34
Lake Hiawassee PFA	713	545	1.21	35
Lake Pickett PFA	1,198	482	1.10	36
Lake Irma PFA	358	234	1.04	37
Lake Conway PFA	3,587	1,786	0.90	38
Lake Mary PFA	104	54	0.71	39
Lake Carlton PFA	405	172	0.63	40
Hickorynut Lake PFA	941	617	0.61	41
Big Sand Lake PFA	2,654	1,770	0.56	42
Johns Lake PFA	4,284	2,439	0.55	43
Lakes Sue Rowena PFA	817	615	0.49	44
Little Econlockhatchee River	3,186	3,112	0.49	45
Lake Gear PFA	97	85	0.44	46
Lake Susannah PFA	245	166	0.40	47
Econlockhatchee River PFA	9,519	8,974	0.35	48
Lake Hancock PFA	1,566	1,108	0.27	49
Lake Speer PFA	798	459	0.18	50
Panther Lake PFA	320	261	0.01801	51
Lake Lawne PFA	559	413	0.006	52
Lake Mare Prairie PFA	332	202	0	53
Taylor Creek PFA	493	292	0	54
Lake Heney PFA	86	44	0	54
Lake Ihrig PFA	29	14	0	54
Lake Lartigue PFA	103	62	0	54
Huckleberry Lake PFA	173	80	0	54
Saw Grass Lake PFA	139	82	0	54
Lake Needham PFA	151	67	0	54
Lake Sandy PFA	76	52	0	54
Lake Bumby Tyler PFA	196	156	0	54
Cawood Ponds PFA	123	94	0	54
Jim Creek PFA	1,169	859	0	54
Tootoosahatchee Creek PFA	3,025	2,879	0	54
Shingle Creek	1,162	999	0	54

*See Equation 2

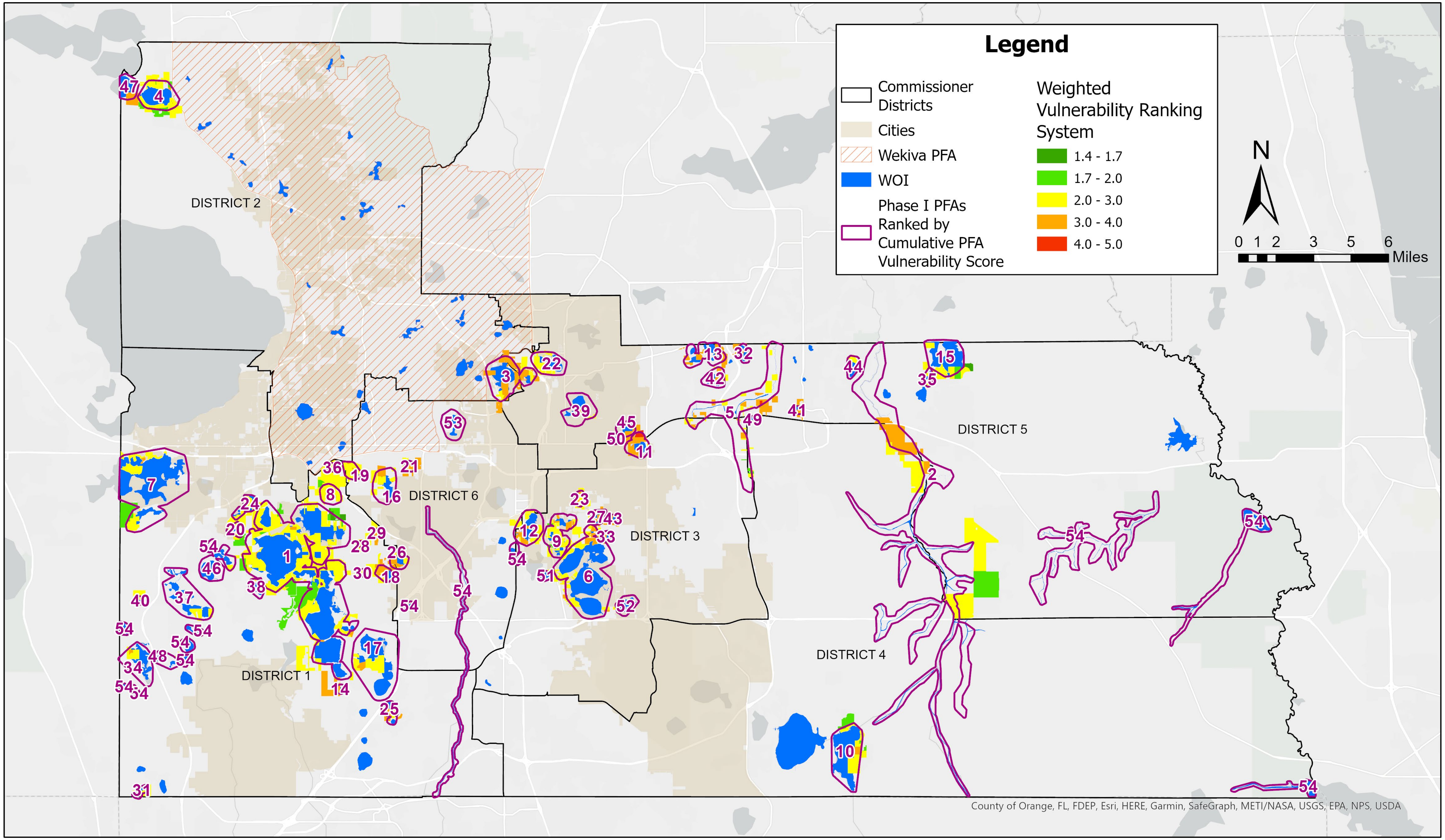


Figure 32. Phase I Priority Focus Areas (PFAs), Cumulative Vulnerability PFA Priority Rankings, and Subdivisions Identified for Septic Intervention (see Table 14).

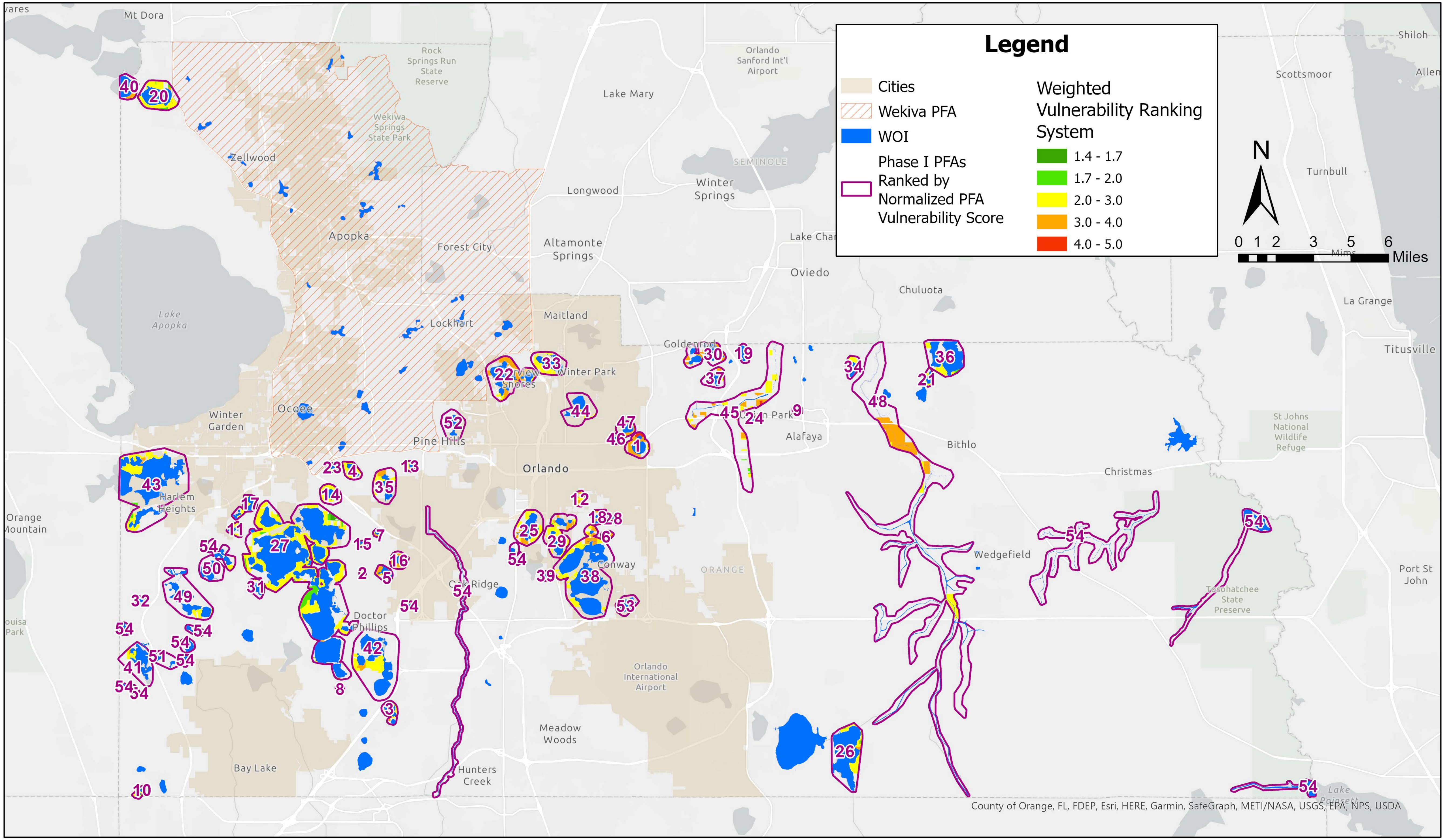


Figure 33. Phase I Priority Focus Areas (PFAs), Normalized PFA Priority Rankings, and Subdivisions Identified for Septic Intervention (see Table 15).

9. Summary of Vulnerability Assessment

Based on the foregoing sections, several tasks have been completed to assess groundwater vulnerability of Orange County, its sources of potential septic pollution, and the groundwater pathways through which this pollution may impact sensitive County surface water and groundwater resources. The goal of this project is to provide the County with sufficient data and tools to prioritize septic intervention practices and inform future septic management and regulation. When evaluating specific areas, the County may discover more localized, site-specific data are available, which is encouraged to be incorporated into decision-making processes as appropriate. The completed tasks are briefly summarized below:

1. **Orange County Aquifer Vulnerability Assessment** – The OCAVA mapping effort assessed surficial aquifer vulnerability in Orange County using a data-driven methodology developed by the State of Florida. Relative vulnerability scores (less vulnerable, vulnerable, and more vulnerable) were provided for areas throughout the County. This vulnerability represents the likelihood for pollutants at the land surface or within the unsaturated zone to reach the underlying aquifer.
2. **Countywide Groundwater Modeling** – A countywide groundwater model was developed based on the calibrated and peer reviewed ECFTX groundwater model that was created as part of the Central Florida Water Initiative. The groundwater model developed in this study was designed to predict how groundwater travels within the SAS (and lower aquifers) before reaching sensitive water resources, such as lakes and rivers (via groundwater seepage) or springs (via UFA transport). Groundwater influence zones (i.e., groundwater basins) were generated for 173 WOIs using the groundwater model. Groundwater influence zones represent predicted areas where sources of pollutants (e.g., septic system leachate) could originate from and impact the WOIs.
3. **Septic System Spatial Analysis & Subdivision Prioritization Mapping** – This effort developed a countywide septic system database reflecting the best available information of where septic systems are most likely located throughout the County. The final septic inventory was approved by Orange County Utilities and OCEPD. Additionally, a subdivision prioritization mapping system was developed based on existing septic infrastructure, aquifer vulnerability, retrofit feasibility, and other factors to produce prioritizations for septic system interventions at the subdivision scale countywide.
4. **Nitrogen Water Quality Modeling** – Water quality modeling was conducted to evaluate the influence of key parameters on the likelihood of nitrogen septic pollution reaching groundwater and waterbodies. STUMOD-FL and MODFLOW coupled with RT3D were used in this effort to evaluate the impacts of depth to groundwater, soil hydraulic conductivity, travel time to a waterbody, and type of septic system (i.e., conventional or advanced treatment) on nitrogen pollution from septic systems. Results of this water quality modeling can inform recommendations for future septic system interventions within the County. Refer to Section 6 for specific recommendations.
5. **Phosphorous Water Quality Modeling** – A screening-level evaluation was conducted using water quality modeling to evaluate the impact of setback distances for septic systems on phosphorus loading to groundwater and downgradient waterbodies. HYDRUS-2D was used to simulate phosphorus in septic effluent leaching through soil to underlying groundwater and to a representative adjacent downgradient waterbody. Results of this water quality modeling can inform recommendations for future septic system interventions within the County. Refer to Section 7 for specific recommendations.
6. **Phase I Priority Focus Areas (PFAs)** – Identification of Phase I Priority Focus Areas (PFAs) for septic intervention activities incorporating results from Tasks 1 – 5, including influence zones for WOIs, groundwater travel times, hydrogeology, nutrient load, subdivision priority ranking system, and other factors impacting vulnerability of surface waterbodies to septic pollution.

9.1. Socioeconomic Considerations

Septic system retrofits are cost intensive. Consequently, socioeconomics is an important consideration in addition to aquifer vulnerability and feasibility factors when selecting priority areas. In some cases, grants and other potential funding sources can help offset the financial burden for individual homeowners.

Maintaining septic systems can also be costly and is necessary to keep the systems functioning properly. Proper maintenance and repair of septic systems may be more likely to be postponed due to the cost in areas with lower household incomes, which increases pollution potential of septic tanks in these areas.

The priority ranking did not include socioeconomic parameters due to the difficulty in quantifying their impact. Still, socioeconomics could be factored into decision-making as appropriate in future phases of this project or in the feasibility study phase for connection to the central sewer.

9.2. Future Work

Phase I PFAs developed in this study represent areas recommended for septic interventions to protect identified WOIs. The WOIs in this study focused largely on waterbodies that are currently impaired and evaluating subdivisions already on septic (>50%) for intervention.

However, impaired waterbodies in Orange County have shown an increasing trend over the past 20 years. Without planning and preventative measures, this trend could continue as population in the area is expected to continue to increase. Therefore, future work will focus on developing Phase II PFAs. These PFAs can be developed to proactively protect water resources (i.e., lakes) that are not currently impaired but could become impaired based on new development and construction of new septic systems or a continuation of existing practices.

Phase II PFAs are proposed to be developed using lake water quality and/or future growth projections from Orange County. Waterbodies not currently impaired but showing trends toward impairment for various analytes (e.g., Total Nitrogen, Total Phosphorus, Chlorophyl a) and waterbodies in areas vulnerable to groundwater pollution identified in this study (Section 3) where significant future population growth in projected are proposed to be evaluated for potential inclusion as WOIs for Phase II PFA development. Phase II PFAs are proposed to be developed following the methodology utilized for determining the groundwater influence zones for the WOIs and Phase I PFAs described in Sections 4 and 8 of this report.

9.3. Policy Recommendations

The Orange County Groundwater Vulnerability Assessment focused exclusively on the role groundwater has on nutrient transport, particularly from septic systems, and what steps the County can take to mitigate pollutant sources contributing to water quality impairments through groundwater. Building on the framework of previous efforts undertaken by Orange County, FDEP, and others to protect Wekiva Spring—including the Wekiva Aquifer Vulnerability Assessment (2005), development of the Wekiwa and Rock Springs BMAP, an Orange County Utilities septic-to-sewer feasibility study, and obtaining funding from state sources for sewer implementation and septic system upgrades—this study conducted a groundwater vulnerability analysis via (1) a countywide SAS vulnerability model (OCAVA), (2) a countywide groundwater model, (3) groundwater quality fate and transport modeling, (4) a geospatial prioritization analysis of the County's septic system subdivisions, (5) identification of important waterbodies (WOIs), and (6) finally the development and prioritization of PFAs for the WOIs.

Based on the efforts undertaken in the study and previous efforts conducted by Orange County to protect water resources, Orange County could consider the following policy recommendations:

1) **Develop consistent policy guidelines regarding new and existing septic systems *falling within PFAs*[8].** An approach similar to that of the Wekiwa and Rock Springs BMAP developed for the Wekiva PFA could be adopted, which has precedence in Florida for groundwater protection, is logical and defensible. Specific policies include:
    a. Require new developments that cannot be connected to central sewer to install advanced septic treatment systems and maintain a waterbody setback distance of at least 150 feet.
    b. Study the impact of water table depth on nutrient leaching to groundwater from septic systems in Orange County.
    c. Require existing conventional septic systems within 300 feet of a waterbody or on lot sizes of less than 1 acre to be upgraded to advanced treatment systems if they are not planned for connection to central sewer within a 20-year period.
    d. Require existing failing conventional septic systems that require a permit from FDOH/FDEP for repair be upgraded to advanced treatment systems if not planned to be connected to central sewer within a 5-year period. Failing conventional septic systems could be considered those where the system is not operating as intended by the manufacturer due to one or more failing components, which could include but are not limited to the septic drain field(s), plumbing, or the septic tank(s).
    e. Consider increasing the distance for which connection to existing central sewer is required for new developments.
    f. Conduct septic-to-sewer feasibility studies for PFAs. Feasibility studies could utilize the PFA priority rankings developed in this study, proximity to existing infrastructure, and socioeconomic strategies.
    g. Consider offering septic upgrade incentive programs like the pilot program currently being offered within the Wekiwa PFA for subdivisions that are not considered feasible for connection to the sanitary sewer. Within nutrient BMAP areas, such programs could be part of the County's annual stakeholder contribution to reduce nutrient loads.

2) **Develop consistent guidelines for new and existing septic systems *not falling within PFAs*[9].**
    a. Require setback distances from a waterbody for new septic systems of 150 feet for advanced septic systems and 300 feet for conventional septic systems. Do not allow variances to the setback distance of 300 feet for conventional septic systems unless they upgrade to advanced septic systems.
    a. Study the impact of water table depth on nutrient leaching to groundwater from septic systems in Orange County.
    b. Consider offering septic upgrade incentive programs for conversion of existing conventional septic systems to advance septic systems in "Vulnerable" and "Highly Vulnerable" areas defined in this effort's OCAVA model.
    c. Conduct septic-to-sewer feasibility studies for septic subdivisions (>50%) based on the prioritized vulnerability rankings developed in this study.

[8] Septic systems *falling within PFAs* represent any septic systems within a subdivision for which at least of portion of that subdivision falls within a PFA boundary.
[9] Septic systems *not falling within PFAs* represent any septic systems within a subdivision for which no portion of that subdivision falls within a PFA boundary.

3) **Work with the FDOH, and other applicable local, state, and federal agencies, to develop and implement policy and funding strategies.**
    a. Develop an interagency agreement between Orange County and FDOH to:
        i. Implement new requirements for the new and existing septic systems within PFAs, near waterbodies, and possibly within designated areas (i.e., "Vulnerable" and "Highly Vulnerable" OCAVA areas) across Orange County.
        ii. Consider the administer grant program(s) for upgrading septic systems to advance treatment systems.
    b. Develop a funding strategy for implementation of recommendations for existing septic systems *within PFAs* in accordance with the recommendations outlined above.
    c. Develop a funding strategy for implementation of recommendations for existing septic systems *not falling withing PFAs* in accordance with the recommendations outlined above.

4) **Evaluate how new policies above can be used to address nutrient BMAPs in Orange County to meet relevant requirements of the Clean Waterways Act (SB 712, 2020) once the statewide rules have been finalized and adopted.**
    a. Incorporate wastewater and OSTDS plans into future nutrient BMAPs.
    b. Inventory and develop projects to address septic issues with jurisdiction of other local governments that may impact Orange County waterbodies.

5) **Develop allowable variances that account for lots that cannot comply with the setback requirements due to lot size and site geometry.**

6) **Develop a methodology for site-specific investigations of septic systems installed or upgraded adjacent to WOIs and/or sensitive lakes (where applicable).**
    a. The County could conduct a study with the goal of developing a simple soil assessment that septic applicants could perform that would demonstrate whether sufficient phosphorus sorption capacity exists onsite when minimum drain field setback requirements cannot be met.

10. References

Anon., 2008. *Estimated Depth to Water Table – Surficial Aquifer System*. FGS Bulletin 67 ed. S.l.:s.n.

Arthur, J. D. et al., 2017. *Florida Aquifer Vulnerability Assessment: Contamination Potential Models of Florida's Principal Aquifer Systems*, Tallahassee, FL. Prepared by the Florida Geological Survey, Florida Department of Environmental Protection.

Baker, A. E., Wood, A. R., Chichon, J. R. & Johnson, J. L., 2007. *The Leon County Aquifer Vulnerability Assessment*, Tallahassee, FL Prepared by Advanced GeoSpatial Inc., for the Leon County Board of County Commissioners.

Baker, A. E., Wood, A. R. & Cichon, J. R., 2009a. *The Citrus County Aquifer Vulnerability Assessment*, Tallahassee, FL. Prepared by Advanced GeoSpatial Inc. for the Florida Department of Environmental Protection.

Baker, A. E., Wood, A. R. & Cichon, J. R., 2009b. *The Columbia County Aquifer Vulnerability Assessment*, Tallahassee, FL. Prepared by Advanced GeoSpatial Inc. for the Suwanee River Water Management District.

Bennett, M.W. 2003. Hydrogeologic Investigation of the Floridan Aquifer System, LaBelle, Hendry County Florida. Technical Publication WS-15, South Florida Water Management District.

Brewton, R.A., L.B. Kreiger, K.N. Tyre, D. Baladi, L.E. Wilking, L.W. Herren, and B. E. Lapointe. 2022. *Septic system–groundwater–surface water couplings in waterfront communities contribute to harmful algal blooms in Southwest Florida*. Science of the Total Environment, Volume 837, https://doi.org/10.1016/j.scitotenv.2022.155319.

BuildLLC. 2013. *Permeable Surfaces*. https://blog.buildllc.com/2013/04/permeable-surfaces/

Buss, S.R., A.W. Herbert, P. Morgan, S.F. Thornton, and J.W.N. Smith. 2004. A Review of Ammonium Attenuation in Soil and Groundwater. *Quarterly Journal of Engineering Geology and Hydrogeology*, 37: 347-359.

Central Florida Water Initiative (CFWI). 2022. *Water for Tomorrow: Value of Water*. https://cfwiwater.com/value_of_water.html

Central Florida Water Initiative (CFWI). 2020. *Model Documentation Report East-Central Florida Transient Expanded (ECFTX) Model*.

Cichon, J. R., Baker, A. E., Wood, A. R. & Arthur, J. D., 2005. *Wekiva Aquifer Vulnerability Assessment*, Tallahassee, FL. Prepared by the Florida Geological Survey, Florida Department of Environmental Protection.

Corbett, D.R., K. Dillon, W. Burnett, and G. Schafer. 2002. *The spatial variability of nitrogen and phosphorus concentration in a sand aquifer influenced by onsite sewage treatment and disposal systems: a case study on St. George Island, Florida*. Environmental Pollution 117: 337-345.

Digital Atlas of Idaho. 2022. *Groundwater Review*. https://digitalatlas.cose.isu.edu/hydr/concepts/gwater/gwtrvw.htm

Drummond Carpenter, PLLC. 2021. *Orange County TMDL BMAP Support: Nitrogen Modeling Assessment*. Technical Memorandum developed for Orange County's Environmental Protection Division. Orange County, FL.

Ellis & Associates, Inc. 2007. *Multiple Nitrogen Loading Assessments from Onsite Waste Treatment and Disposal Systems Within the Wekiva River Basin*. Prepared for the State of Florida, Department of Health, Division of Environmental Health, Bureau of Onsite Sewage Programs. Tallahassee, FL.

Florida Department of Environmental Protection (FDEP), 2019. *Elevations Contours and Depression Feature Layer*. FDEP Open Data Administrator: https://geodata.dep.state.fl.us/datasets/b5542800e51e4985a0c7cf3729ccd227_0/about

Florida Department of Environmental Protection (FDEP) and Florida Geological Survey (FGS), 2017. *The Favorability of Florida's Geology to Sinkhole Formation*. Prepared for the Florida Division of Emergency Management, Mitigation Section. http://publicfiles.dep.state.fl.us/FGS/FGS_Publications/FGS%20Library%20Documents/GreyLit/Misc/DEMSinkholeReport.pdf

Florida Department of Health (FDOH), 2015. *Florida Onsite Sewage Nitrogen Reduction Strategies Study*. https://www.floridahealth.gov/environmental-health/onsite-sewage/research/finalnitrogenlegislativereportsmall.pdf

Florida Geological Survey (FGS), 2004. *Closed Topographic Depressions in Florida*, Tallahassee: s.n.

Florida Geological Survey (FGS), 2021. *Subsidence Incident Reports*. https://floridadep.gov/fgs/sinkholes/content/subsidence-incident-reports

Florida Onsite Wastewater Association, Inc. 2018. Achieving Nitrogen Loading Reduction through Onsite Wastewater Treatment Technologies. https://o.b5z.net/i/u/6019781/f/White_Paper_rev01-19-18.pdf

Hansen et al 2006. Evaluation of Urea-Ammonium-Nitrate Fertigation with Drip Irrigation using Numerical Modeling. *Agricultural Water Management*, 86: 102-113.

Kadyampakeni, D..M, Nkedi-Kizza, P., Morgan, K.T., and A.W. Schumann. 2017. Characterizing sorption and modeling phosphorus movement on Candler and Immokalee fine sand. *Journal of Soil and Water Science* 1(1):8-14.

Krupka, K.M., R.J. Serne, and D.I. Kaplan. 2004. Geochemical Data Package for the 2005 Hanford Integrated Disposal Facility Performance Assessment. PNNL-13037, Rev 2., Pacific Northwest National Laboratory.

Lusk, M., A. Albertin, W. Elmore, W. Lester, and J. Moll. 2020. Septic Systems and Springs Water Quality: An Overview for Florida. SL476, UF/IFAS Extension. Original publication date: 2020.

Lusk, M., G.S. Toor, and T. Obreza. 2021. Onsite Sewage Treatment and Disposal Systems: Phosphorus. SL349, UF/IFAS Extension. Original publication date: 2011. Reviewed: 2021.

Magdoff, F.R., J. Bouma, and D.R. Keeney. 1974. Columns representing mound-type disposal systems for septic tank effluent: ii. nutrient transformations and bacterial populations. *Journal of Environmental Quality* 3: 228-34.

Mechtensimer, S. and G. S. Toor. 2016. Fate, mass balance, and transport of phosphorus in the septic system drainfields. *Chemosphere* 159: 153-158.

Mechtensimer, S. and G. S. Toor. 2017. Septic systems contribution to phosphorus in shallow groundwater: field-scale studies using conventional drainfield designs. *PLoS One* 12(1): e0170304.

Newby, D. T., I.L. Pepper, R. M. Maier, 2009. *Environmental Microbiology (Second Edition): Chapter 19—Microbial Transport*. Academic Press, Pages 365-383 https://doi.org/10.1016/B978-0-12-370519-8.00019-5.

Niswonger, R.G., Panday, S., & Ibaraki, M., 2011. *MODFLOW-NWT, A Newton formulation for MODFLOW-2005: U.S. Geological Survey Techniques and Methods 6-A37*, Reston, VA: United States Geological Survey

Orange County, G., 2021. *Hydrology*. FL: Orange County Government ftp://ftp.onetgov.net/divisions/Infomap/pub/GIS_Downloads/FTP%20Shapefiles/.Orange County Property Appraiser, 2021. *Hydro Polygon Shapefile.*

Pollock, D.W., 2016. *Users guide for MODPATH Version 7 – A particle-tracking model for MODFLOW: U.S. Geological Survey Open-File Report 2016-1086*, Reston, VA: United States Geological Survey

Puckett, L.J., A.J. Tesoriero, N.M. Dubrovsky. 2011. Nitrogen Contamination of Surficial Aquifers – A Growing Legacy. *Environmental Science and Technology* 45: 839-844.

QGIS, 2022. *QGIS Geographic Information System,* QGIS Association, http://www.qgis.org

Raines, G. L., 2001. *Resource Materials for a GIS Spatial Analysis Course*: U.S. Geological Survey Open File Report 01-221, 216 p.

Rios, J.F., Ye, M., Wang, L., & Lee, P., 2011. *ArcNLET: Technical Manual*. Tallahassee, FL: Florida Department of Environmental Protection.

Robertson W.D., Cherry J.A., and E.A. Sudicky. 1991. Ground-water contamination from two small septic systems on sand aquifer. *Groundwater* 29: 82-92.

Robertson W.D., Schiff S.L., and C.J. Ptacek. 1998. Review of phosphate mobility and persistence in 10 septic system plumes. *Groundwater* 36: 1000-1010.

Robertson, W.D. 2008. Irreversible phosphorus sorption in septic system plumes? *Groundwater* 46: 51-60.

Robertson, W.D. 2021. *Septic System Impacts on Groundwater Quality*. The Groundwater Project. Guelph, Ontario, Canada.

Roy, W.R., and I.G. Krapac. 2009. *Potential Soil Cleanup Objectives for Nitrogen-Containing Fertilizers at Agrichemical Facilities*. OFS 2009-2, Illinois State Geological Survey Institute of Natural Resource Sustainability.

Rumbaugh, J.O, and Rumbaugh, D.B., 2020. *Groundwater Vistas Version 8* [Computer Software]. Retrieved from https://www.groundwatermodels.com

Seminole County Information Services, 2013. *Water Bodies Shapefile*. https://www.seminolecountyfl.gov/departments-services/information-services/gis-geographic-information-systems/gis-data.stml#.

Silent Spring Institute, 2017. *Septic systems are a major source of emerging contaminants in drinking water*. © Phys.org 2003 - 2022 powered by Science X Network. https://phys.org/news/2017-06-septic-major-source-emerging-contaminants.html.

Šimůnek, J., and M. Sejna. 2018a. *User Manual, Version 3: Software Package for Simulating the Two- and Three-Dimensional Movements of Water, Heat, and Multiple Solutes in Variably Saturated Media*. Prague: PC-PROGRESS.

Šimůnek, J., and M. Sejna. 2018b. *Technical Manual, Version 3: Software Package for Simulating the Two- and Three- Dimensional Movements of Water, Heat, and Multiple Solutes in Variably Saturated Media*. Prague: PC-PROGRESS.

Simonne E. H., G. Liu, and B. Morgant. 2019. Denitrification in Seepage-Irrigated Vegetable Fields in South Florida. HS1004, UF/IFAS Extension. Original publication date: 2005. Revised: 2019.

Tihansky, A.B. 1999. *Sinkholes, West-Central Florida: A link between surface water and groundwater*. U.S. Geological Survey, Tampa, Florida.

Toor, G.S., M. Lusk, and T. Obreza. 2020. Onsite Sewage Treatment and Disposal Systems: Nitrogen. SL348, UF/IFAS Extension. Original publication date: 2011. Reviewed: 2020.

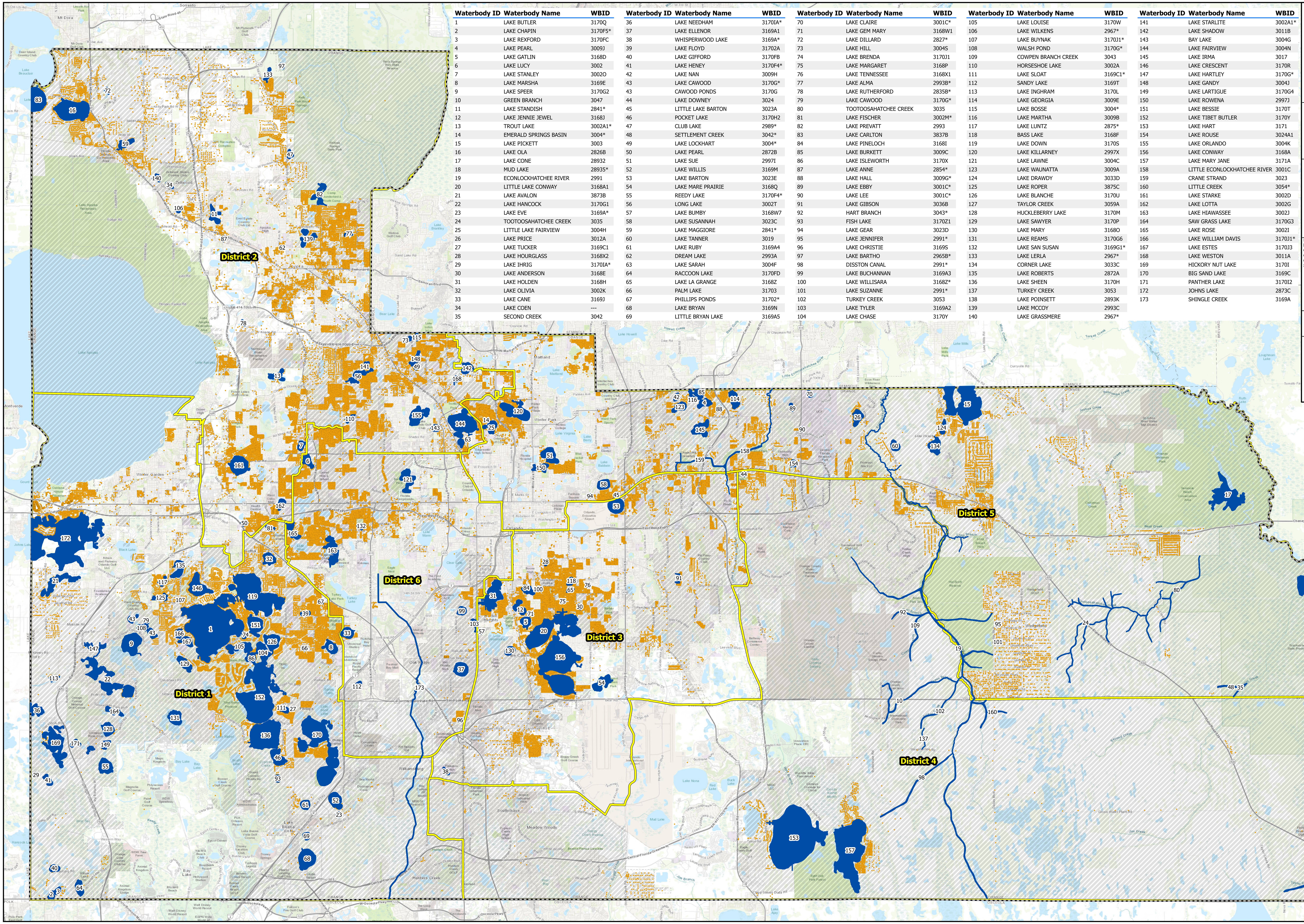
Uffink, G.J.M. 2003. Determination of Denitrification Parameters in Deep Groundwater. Rijksintituut voor Volksgezondheid en Milieu (Dutch National Institute for Public Health and the Environment) Report 703717011/2003.

Yan, X.Y. and W. Zhou. 2018. *Groundwater Nitrate Removal through Denitrification Under Farmland in Yangtze River Delta*. *Acta Pedol. Sin*., 11: 23-37. (In Chinese)

Yu, C., Kamboj, S., Wang, C., & Cheng, J.-J., 2015. *Data Collection Handbook to Support Modeling Impacts of Radioactive Material in Soil and Building Structures* ANL/EVS/TM-14/4. Argonne, IL: Argonne National Laboratory.

Zhang, H., R. Yang, S. Guo, and Q. Li. 2020. *Modeling fertilization impacts on nitrate leaching and groundwater contamination with HYDRUS-1D and MT3DMS*. Paddy and Water Environment 18(3): 481-498.

Exhibits



Waterbody ID	Waterbody Name	WBID
1	LAKE BUTLER	3170Q
2	LAKE CHAPIN	3170F5*
3	LAKE REXFORD	3170FC
4	LAKE PEARL	3009J
5	LAKE GATLIN	3168D
6	LAKE LUCY	3002
7	LAKE STANLEY	3002O
8	LAKE MARSHA	3169E
9	LAKE SPEER	3170G2
10	GREEN BRANCH	3047
11	LAKE STANDISH	2841*
12	LAKE JENNIE JEWEL	3168J
13	TROUT LAKE	3002A1*
14	EMERALD SPRINGS BASIN	3004*
15	LAKE PICKETT	3003
16	LAKE OLA	2826B
17	LAKE CONE	28932
18	MUD LAKE	28935*
19	ECONLOCKHATCHEE RIVER	2991
20	LITTLE LAKE CONWAY	3168A1
21	LAKE AVALON	3873B
22	LAKE HANCOCK	3170G1
23	LAKE EVE	3169A*
24	TOOTOOSAHATCHEE CREEK	3035
25	LITTLE LAKE FAIRVIEW	3004H
26	LAKE PRICE	3012A
27	LAKE TUCKER	3169C1
28	LAKE HOURGLASS	3168X2
29	LAKE IHRIG	3170IA*
30	LAKE ANDERSON	3168E
31	LAKE HOLDEN	3168H
32	LAKE OLIVIA	3002K
33	LAKE CANE	3169J
34	LAKE COEN	---
35	SECOND CREEK	3042
36	LAKE NEEDHAM	3170IA*
37	LAKE ELLENOR	3169A1
38	WHISPERWOOD LAKE	3169A*
39	LAKE FLOYD	31702A
40	LAKE GIFFORD	3170FB
41	LAKE HENEY	3170F4*
42	LAKE NAN	3009H
43	LAKE CAWOOD	3170G*
43	CAWOOD PONDS	3170G
44	LAKE DOWNEY	3024
45	LITTLE LAKE BARTON	3023A
46	POCKET LAKE	3170H2
47	CLUB LAKE	2989*
48	SETTLEMENT CREEK	3042*
49	LAKE LOCKHART	3004*
50	LAKE PEARL	2872B
51	LAKE SUE	2997I
52	LAKE WILLIS	3169M
53	LAKE BARTON	3023E
54	LAKE MARE PRAIRIE	3168Q
55	REEDY LAKE	3170F4*
56	LONG LAKE	3002T
57	LAKE BUMBY	3168W7
58	LAKE SUSANNAH	3023C
59	LAKE MAGGIORE	2841*
60	LAKE TANNER	3019
61	LAKE RUBY	3169A4
62	DREAM LAKE	2993A
63	LAKE SARAH	3004F
64	RACCOON LAKE	3170FD
65	LAKE LA GRANGE	3168Z
66	PALM LAKE	31703
67	PHILLIPS PONDS	31702*
68	LAKE BRYAN	3169N
69	LITTLE BRYAN LAKE	3169A5
70	LAKE CLAIRE	3001C*
71	LAKE GEM MARY	3168W1
72	LAKE DILLARD	2827*
73	LAKE HILL	3004S
74	LAKE BRENDA	3170J1
75	LAKE MARGARET	3168P
76	LAKE TENNESSEE	3168X1
77	LAKE ALMA	2993B*
78	LAKE RUTHERFORD	2835B*
79	LAKE CAWOOD	3170G*
80	TOOTOOSAHATCHEE CREEK	3035
81	LAKE FISCHER	3002M*
82	LAKE PREVATT	2993
83	LAKE CARLTON	3837B
84	LAKE PINELOCH	3168I
85	LAKE BURKETT	3009C
86	LAKE ISLEWORTH	3170X
87	LAKE ANNE	2854*
88	LAKE HALL	3009G*
89	LAKE EBBY	3001C*
90	LAKE LEE	3001C*
91	LAKE GIBSON	3036B
92	HART BRANCH	3043*
93	FISH LAKE	3170Z1
94	LAKE GEAR	3023D
95	LAKE JENNIFER	2991*
96	LAKE CHRISTIE	3169S
97	LAKE BARTHO	2965B*
98	DISSTON CANAL	2991*
99	LAKE BUCHANNAN	3169A3
100	LAKE WILLISARA	3168Z*
101	LAKE SUZANNE	2991*
102	TURKEY CREEK	3053
103	LAKE TYLER	3169A2
104	LAKE CHASE	3170Y
105	LAKE LOUISE	3170W
106	LAKE WILKENS	2967*
107	LAKE BUYNAK	3170J1*
108	WALSH POND	3170G*
109	COWPEN BRANCH CREEK	3043
110	HORSESHOE LAKE	3002A
111	LAKE SLOAT	3169C1*
112	SANDY LAKE	3169T
113	LAKE INGHRAM	3170L
114	LAKE GEORGIA	3009E
115	LAKE BOSSE	3004*
116	LAKE MARTHA	3009B
117	LAKE LUNTZ	2875*
118	BASS LAKE	3168F
119	LAKE DOWN	3170S
120	LAKE KILLARNEY	2997X
121	LAKE LAWNE	3004C
123	LAKE WAUNATTA	3009A
124	LAKE DRAWDY	3033D
125	LAKE ROPER	3875C
126	LAKE BLANCHE	3170U
127	TAYLOR CREEK	3059A
128	HUCKLEBERRY LAKE	3170M
129	LAKE SAWYER	3170P
130	LAKE MARY	3168O
131	LAKE REAMS	3170G6
132	LAKE SAN SUSAN	3169G1*
133	LAKE LERLA	2967*
134	CORNER LAKE	3033C
135	LAKE ROBERTS	2872A
136	LAKE SHEEN	3170H
137	TURKEY CREEK	3053
138	LAKE POINSETT	2893K
139	LAKE MCCOY	2993C
140	LAKE GRASSMERE	2967*
141	LAKE STARLITE	3002A1*
142	LAKE SHADOW	3011B
143	BAY LAKE	3004G
144	LAKE FAIRVIEW	3004N
145	LAKE IRMA	3017
146	LAKE CRESCENT	3170R
147	LAKE HARTLEY	3170G*
148	LAKE GANDY	3004J
149	LAKE LARTIGUE	3170G4
150	LAKE ROWENA	2997J
151	LAKE BESSIE	3170T
152	LAKE TIBET BUTLER	3170Y
153	LAKE HART	3171
154	LAKE ROUSE	3024A1
155	LAKE ORLANDO	3004K
156	LAKE CONWAY	3168A
157	LAKE MARY JANE	3171A
158	LITTLE ECONLOCKHATCHEE RIVER	3001C
159	CRANE STRAND	3023
160	LITTLE CREEK	3054*
161	LAKE STARKE	3002D
162	LAKE LOTTA	3002G
163	LAKE HIAWASSEE	3002J
164	SAW GRASS LAKE	3170G3
165	LAKE ROSE	3002I
166	LAKE WILLIAM DAVIS	3170J1*
167	LAKE ESTES	3170J3
168	LAKE WESTON	3011A
169	HICKORY NUT LAKE	3170I
170	BIG SAND LAKE	3169C
171	PANTHER LAKE	3170I2
172	JOHNS LAKE	2873C
173	SHINGLE CREEK	3169A

ORANGE COUNTY GOVERNMENT FLORIDA

DRUMMOND CARPENTER engineering + research

N

0 0.5 1 2 Miles

LEGEND

- Orange County Boundary
- Unincorporated Orange County
- Septic Tank
- Waterbodies of Interest
- Orange County BCC Districts

Sources:
Background: ESRI
Orange County Jurisdictions, 2017
Orange County Hydrology 2021
Orange County BCC Districts 2022
Septic (Includes Orange County Utilities 2021, FDOH Water Management Inventory 2017, Winter Garden Utilities 2021)

Exhibit

1

Waterbodies of Interest

Orange County
Groundwater Vulnerability Assessment

Appendix A: Orange County Groundwater Vulnerability Assessment – Data Review and Compilation

47 E. Robinson St.
Suite 210
Orlando, FL 32801
DrummondCarpenter.com

DATE: 12 October 2021

TO: Orange County

FROM: Lee Mullon, PE, CFM, D.WRE – Drummond Carpenter

CC: Chad Drummond, PE, D.WRE, BCEE – Drummond Carpenter
Ryan Hupfer, PG – Drummond Carpenter
Marion Divers, PhD – Drummond Carpenter
Olivia Warren, GIT – Drummond Carpenter

SUBJECT: Orange County Groundwater Vulnerability Assessment – Data Review and Compilation – Task 2 Deliverable.

Introduction

This memo summarizes the data collection efforts performed to assist the assessment of groundwater vulnerability in Orange County. The data is categorized consistent with the Drummond Carpenter scope of work, and will be used as the principal sourcing information used for subsequent project tasks. The below data and information has been collected by Drummond Carpenter. Separate data collection efforts are being performed by subconsultant Applied Ecology, Inc, which will be summarized as part of the Task 6 Interim Vulnerability Technical Memorandum.

Environmental GIS Data

A GIS layer of topographic data for the study area was obtained from Orange County (*Orange_County_Topo.gdb*).

A GIS shapefile for wastewater facilities in Orange County was downloaded from the Florida Department of Environmental Protection (FDEP) online database[1]. The Wastewater Facilities shapefile includes 2018 data for facilities that are active, closed but monitored, or under construction and facilities that are unpermitted but require a permit.

A GIS shapefile of 2017 drinking water source and domestic (household) wastewater disposal method (septic or sewer) for parcel polygons was obtained from an online Florida Department of Health (FDOH) database[2]. The data was compiled as part of the Florida Water Management Inventory Project (FLWMI).

A GIS shapefile of Orange County water supply wells (*Public_Water_Supply_(PWS)_Wells_(Non-Federal).shp*) with 2021 data was downloaded from the FDEP online database[3].

---

[1] https://floridadep.gov/water/domestic-wastewater/content/domestic-wastewater-biosolids
[2] http://ww10.doh.state.fl.us/pub/bos/Inventory/FloridaWaterManagementInventory/Orange/
[3] https://geodata.dep.state.fl.us/datasets/public-water-supply-pws-wells-non-federal?geometry=-99.910%2C24.608%2C-66.533%2C31.392&orderBy=PWS_CITY&orderByAsc=false

A GIS shapefile of 2020 Florida Waterbody IDs (WBIDs) was downloaded from the FDEP online database[4].

A GIS shapefile of 2020 Florida wetland extents was downloaded from the U.S. Fish & Wildlife National Wetlands Inventory database[5].

Surface water levels for the portion of Orange County within SJRWMD were downloaded from the SJRWMD online hydrologic database[6].

Bathymetric maps for Orange County lakes were obtained from the University of Florida Institute of Food and Agricultural Sciences (UF IFAS)[7].

A GIS shapefile of soils data for Orange County was obtained from the Natural Resources Conservation Service (NRCS) database[8]. The NRCS soils shapefile includes 2013 data of soil hydrologic group and runoff potential.

Wastewater coverage areas, provider information, septic locations, billing addresses, and location of rapid infiltration basins (RIBs) were collected by subconsultant Applied Ecology, Inc., and are detailed in their report to be submitted under separate cover.

Social GIS Data

Orange County demographic data was downloaded from the U.S. Census Bureau database[9] containing population estimates for 2015 (*Florida_Demographic_Information.shp*).

Florida population projections were obtained from the Bureau of Economic and Business Research (BEBR)[10]. Population projections for Orange County are available for five year increments up to the year 2045 (*FL_population_projections_2020.xlsx*). A GIS geodatabase of parcel polygons containing the population projections from BEBR was downloaded from the Central Florida Watershed Initiative (CFWI) online resources[11].

GIS shapefiles of Orlando political boundaries were obtained from the City of Orlando Open Data[12] including the Orlando city limits, annexations, neighborhoods, commissioner districts, and commissioner district divider.

Additional social GIS data were collected by subconsultant Applied Ecology, Inc., and are detailed in their report to be submitted under separate cover.

---

[4] https://geodata.dep.state.fl.us/datasets/waterbody-ids-wbids?geometry=-116.598%2C21.065%2C-49.845%2C34.616&orderBy=WATER_TYPE&orderByAsc=false
[5] https://www.fws.gov/wetlands/data/mapper.html
[6] http://webapub.sjrwmd.com/agws10/hdsnew/map.html
[7] https://lakewatch.ifas.ufl.edu/for-volunteers/bathymetric-maps/
[8] https://www.nrcs.usda.gov/wps/portal/nrcs/detail/?cid=nrcs144p2_065038
[9] https://hub.arcgis.com/datasets/61a30fb3ea4c43e4854fbb4c1be57394_0?geometry=-100.493%2C24.294%2C-67.116%2C31.097&orderBy=Median_Hou&where=NAMELSAD%20%3D%20%27Orange%20County%27
[10] https://www.bebr.ufl.edu/population/population-data/projections-florida-population-county-2020%E2%80%932045-estimates-2019
[11] https://www.cfwiwater.com/CFWIresources.html
[12] https://data.cityoforlando.net/

Hydrogeologic GIS Data

Hydrogeologic data were obtained from the Florida Geological Survey (FGS), including statewide surface geology (*Florida_Stratigraphic_Geology.shp*) and locations of wells within Orange County with available lithology logs (*Florida_Geological_Survey_(FGS)__Wells.shp*).

A GIS shapefile of aquifer performance tests was downloaded from the SFWMD online database[13]. The aquifer performance test shapefile includes 2021 data for locations of aquifer testing, testing period, and results such as transmissivity values. Similarly, a GIS shapefile of aquifer performance tests was downloaded from the SJRWMD online database[14] with data from 2020.

The file geodatabase of the Surficial Aquifer System (SAS) contamination potential (FAVA II 2019) was downloaded from the FDEP online database[15]. The SAS FAVA II displays the relative vulnerability of the SAS based on three classes: (1) more vulnerable, (2) vulnerable, and (3) less vulnerable.

Impaired Waters GIS Data

A GIS shapefile of Florida total maximum daily load (TMDL) areas was downloaded from the FDEP online database[16]. The TMDL shapefile includes 2021 data of TMDLs at the following stages: draft, state adopted, and state adopted and EPA approved.

A GIS shapefile of Florida basin management action plan (BMAP) areas was downloaded from the FDEP online database[17]. The BMAP shapefile includes 2020 data of adopted and pending BMAPs.

A GIS shapefile of Outstanding Florida Waters (OFW) was downloaded from the FDEP online database[18]. The OFW shapefile includes 2020 data of waters designated worthy of special protection based on their natural attributes.

A GIS shapefile of Waters Not Attaining Standards (WNAS) was downloaded from the FDEP online database[19]. The WNAS shapefile includes 2020 data of waters with various assessment statuses from impaired to ongoing restoration to TMDL complete.

East Central Florida Transient Expanded (ECFTX) Model

The East-Central Florida Transient Expanded (ECFTX) model (2019) is a three-dimensional, eleven-layer, regional MODFLOW model covering 23,800 square miles of Central Florida. This model was developed to inform management strategies within the CFWI area as part of a collaborative effort

[13] https://geo-sfwmd.hub.arcgis.com/datasets/aquifer-performance-test-locations-and-results-from-sfwmd-dbhydro-database?geometry=-89.783%2C25.184%2C-73.094%2C28.612
[14] https://data-floridaswater.opendata.arcgis.com/datasets/aquifer-performance-test-hydrologic-parametersjrwmd?geometry=-89.673%2C27.434%2C-72.985%2C30.793
[15] https://geodata.dep.state.fl.us/datasets/surficial-aquifer-system-contamination-potential-fava-ii
[16] https://geodata.dep.state.fl.us/datasets/florida-total-maximum-daily-load-tmdl?geometry=-100.353%2C24.973%2C-66.976%2C31.735&orderBy=TMDL_STATUS&orderByAsc=false
[17] https://geodata.dep.state.fl.us/datasets/statewide-basin-management-action-plan-bmap-general-areas?geometry=-91.961%2C26.949%2C-75.273%2C30.323&orderBy=STATUS&orderByAsc=false
[18] https://hub.arcgis.com/datasets/FDEP::outstanding-florida-waters?geometry=-83.000%2C28.089%2C-78.828%2C28.934
[19] https://geodata.dep.state.fl.us/datasets/waters-not-attaining-standards-wnas?geometry=-100.307%2C24.270%2C-66.930%2C31.074

among multiple state water management districts, FDEP, partner municipalities, public utilities, and other stakeholders. This model was previously obtained by Drummond Carpenter under Orange County project C18901108 *Wekiwa BMAP Site Assessment, Gap Analysis, and Review* project.

ArcGIS Spatial Data Modeller (Arc-SDM) Software Model

The Arc-GIS Spatial Data Modeller (Arc-SDM) toolbox provides geoprocessing tools for using categorical maps to produce a predictive map of where something of interest is likely to occur[20]. Arc-SDM will be used to predict aquifer vulnerability in this project based on key evidential theme layers.

Reclaimed Wastewater Coverage GIS Data

Reclaimed wastewater application information was obtained from the previously described wastewater facility shapefile[21], which shows one wastewater residuals application site within Orange County. A water reuse user area shapefile was downloaded from the SFWMD online database[22]. The water reuse shapefile contains polygon data from 2021 delineating where reclaimed was, is, or may be provided.

Previous Orange County and Other Relevant Studies

Final TMDL and BMAP reports for waterbodies within Orange County were downloaded from the FDEP website. A document of Minimum Flows and Levels (MFLs) for Orange County was downloaded from the SJRWMD website. No MFLs fall within the SFWMD portion of Orange County.

2005 Florida Aquifer Vulnerability Assessment (FAVA)

The FGS developed a GIS map of relative aquifer vulnerability across the state of Florida based on the local hydrogeologic setting, disregarding natural and anthropogenic sources of contamination [23]. This study, known as the Florida Aquifer Vulnerability Assessment (FAVA), maps three categories: (1) primary (more vulnerable), (2) secondary (vulnerable), and (3) tertiary (less vulnerable). A weight of evidence approach used large amounts of available data (DEM, Depth-to-water table, closed topographic depressions, soils, overburden thickness, geology, hydraulic head difference between water table and FAS, etc.) to map probabilities of vulnerability for three aquifer units across Florida: (1) SAS, (2) Intermediate Aquifer System (IAS), and (3) FAS. A limitation of the FAVA is the scale. Vulnerability is assessed relative to a statewide scale, which means use of the maps at small scale is not recommended.

---

[20] Sawatzky, D., G. Raines, and G. Bonham-Carter, 2010. *Spatial Data Modeller*.
[21] *Wastewater_Facility_Regulation_(WAFR)_-_Wastewater_Facilities.shp*
[22] https://geo-sfwmd.hub.arcgis.com/datasets/water-reuse-user-area?geometry=-97.846%2C23.109%2C-64.469%2C29.983&orderBy=COUNTY&where=COUNTY%20%3D%20%27ORANGE%27
[23] Arthur, J., A. Baker, J. Cichon, A. Wood, and A. Rudin, 2005. Florida Aquifer Vulnerability Assessment (FAVA): Contamination potential of Florida's principal aquifer systems. Florida Geological Survey: Division of Resource Assessment and Management.

2005 Wekiva Aquifer Vulnerability Assessment (WAVA)

The FGS developed a refined FAVA specific to the Wekiva area[24]. This Wekiva Aquifer Vulnerability Assessment (WAVA) estimated relative degrees of vulnerability of the Floridan Aquifer System (FAS) within the Wekiva study area.

2007 Florida Department of Health (FDOH) Study

A 2007 FDOH study assessed the role of OSTDS in contributing to nitrate loading within the Wekiva study area[25]. Based on mass loading calculations performed as part of the study, between half and three quarters of the nitrogen from the OSTDS sites was estimated to reach groundwater.

2009 Wakulla County Aquifer Vulnerability Assessment (WCAVA)

FDEP through the FGS contracted with Advanced GeoSpatial Inc. developed the Wakulla County Aquifer Vulnerability Assessment (WCAVA), a refinement of the FAVA to the FAS in Wakulla County[26].

2018 Wekiva Spring and Rock Springs Basin Management Action Plan (BMAP)

Based on elevated total phosphorus and nitrate-nitrogen concentrations and an imbalance in aquatic flora, the Wekiva River and Rock Spring Run were listed as impaired in 2007. In 2008, TMDLs for nitrate (286 µg/L) and total phosphorus (65 µg/L) were developed for Wekiva Spring and Rock Springs. A BMAP was adopted to implement the TMDLs. As part of the BMAP, FDEP developed the Wekiva and Rock Springs Nitrogen Source Inventory Loading Tool (NSILT). The NSILT estimated percent contributions of identified nitrogen sources to total nitrogen loading for the BMAP area. The top contributors to nitrogen loading to groundwater were estimated as the following:

(1) fertilizers (45%),

(2) OSTDS (29%),

(3) wastewater treatment facilities (16%), and

(4) atmospheric, nurseries, and livestock operations (10%).

There is uncertainty in these NSILT estimates created by model assumptions such as biochemical attenuation factors, density of septic systems, fertilizer application rates, and land use apportionments.

2019 Florida Department of Health STUMOD

STUMOD-FL is an analytical solution designed to evaluate nitrogen fate and transport processes in the Soil Treatment Unit (STU) the unsaturated soil zone below an Onsite Wastewater Treatment System (OWTS) and above the saturated groundwater table. This study, and associated STUMOD-FL model[27], will be used in Part 3 of this study.

---

[24] Cichon, J., A. Baker, A. Wood, and J. Arthur, 2005. *Wekiva Aquifer Vulnerability Assessment*. Florida Geological Survey: ISSN 0160-0931.
[25] Briggs, G.R., E. Roeder, and E. Ursin, 2007. *Nitrogen Impact of Onsite Sewage Treatment and Disposal Systems in the Wekiva Study Area*. Bureau of Onsite Sewage Programs, Division of Environmental Health, Florida Department of Health.
[26] Baker A., A. Wood, and J. Cichon, 2009. *The Wakulla County Aquifer Vulnerability Assessment*. Advanced GeoSpatial Inc. Prepared for FDEP, Contract No. RM059.
[27] http://www.floridahealth.gov/environmental-health/onsite-sewage/research/nitrogenstudydeliverables.html

Relevant Water Quality Data

A GIS shapefile of 2021 Watershed Information Network (WIN) Monitoring Locations in Orange County was downloaded from the FDEP online database[28] and will be used as the principal source of information for the Orange County Aquifer Vulnerability Assessment task associated with the identification of training points within the surficial aquifer. Surface water data will be obtained primarily from the Orange County Water Atlas as needed.

Regulatory Information

Standards for OSTDS are detailed in 381.0065, Florida Statutes (FS) and Chapter 64E-6, F.A.C. and include required installation distances from items such as wells and waterbodies. A GIS shapefile[29] of known OSTDS as of 2013 was obtained from the FDOH Bureau of Environmental Health's Database. Construction dates are included in the shapefile as well as if sewer is available. Holding tanks and abandonments are not included in this shapefile. This data is being updated based on the efforts completed by subconsultant Applied Ecology, Inc., to be submitted under separate cover.

Additional OSTDS regulation applies to areas within Priority Focus Areas (PFAs) that may be considered as part of this project:

- *"For new homes or businesses with new septic systems on lots less than one acres: Installation of new septic systems is prohibited unless the system includes enhanced treatment of nitrogen as described in the septic system remediation plan. This applies to all new system permits on lots less than one acre within the Priority Focus Area of an adopted BMAP. The installation or replacement of an enhanced system in these areas will not be required if central sewer connection is planned by the local government and identified as a BMAP-listed project.*
- *For existing septic systems: Nothing will immediately change. However, in the future, failing systems may need to be enhanced with nitrogen-removing technology or to connect to central sewer. These requirements will be put in place after certain programs, such as homeowner grant programs to assist with offsetting the cost of replacement systems, are established. These requirements will be phased in no later than five years after the adoption of the restoration plans.[30]"*

The Wekiwa-Rock Springs PFA falls within Orange County and is subject to these additional regulations.

WWTP wastewater permits (public and available private providers) are being researched and documented by subconsultant Applied Ecology, Inc., and will be included under separate cover.

---

[28] https://geodata.dep.state.fl.us/datasets/watershed-information-network-win-monitoring-locations?geometry=-99.910%2C24.608%2C-66.533%2C31.392&where=COUNTY%20%3D%20%27ORANGE%27
[29] *OSTDS_Septic_FDOH_EHD_11_15_2013.shp*
[30] FDEP, 2016. *Spring and Aquifer Protection Act*.

Appendix B: OCAVA Vulnerability Modeling

Aquifer Vulnerability Modeling – Orange County

1. Aquifer Vulnerability Modeling – Dissolved Inorganic Nitrogen

A countywide SAS Vulnerability Model, known herein as the Orange County Aquifer Vulnerability Assessment (OCAVA), was developed for Orange County using the Weights of Evidence (WOE) approach developed by the State of Florida and previously used in other Aquifer Vulnerability Assessments (AVA) statewide (e.g., Arthur et al. 2017, Baker et al. 2007, Baker et al. 2009a, Baker et al. 2009b, Cichon et al. 2005). The WOE approach was chosen to provide a methodology consistent with the statewide SAS vulnerability assessment completed by the Florida Geologic Survey (FGS) in the Florida Aquifer Vulnerability Assessment (FAVA) (Arthur et al. 2017). The WOE model is data-driven and does not rely on subjective, knowledge-driven approaches used in other vulnerability studies. This vulnerability study was conducted on the SAS as septic leachate to nearby lakes occurs primarily from this aquifer (Figure 1).

The WOE approach uses a probabilistic model that predicts the likelihood of a condition occurring based on known information. For this study, the WOE approach was used to estimate the likelihood for a pollutant to reach the top of the SAS once it's introduced to the top of or within the unsaturated soil zone. Areas with increased likelihood of a pollutant reaching the SAS are considered more vulnerable compared to areas with less likelihood.

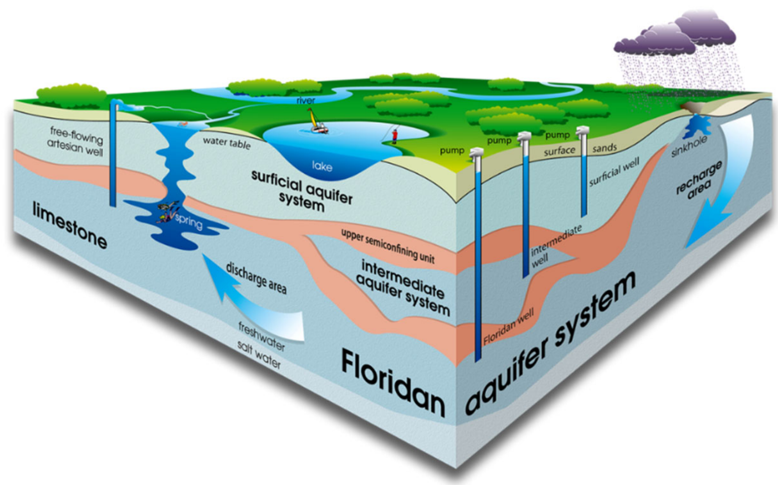


Figure 1. Florida's Aquifer Systems: Vulnerability modeling performed for the surficial aquifer system (SAS) (Figure from CFWI 2022).

The vulnerability modeling relies on two categories of user inputs: (1) training points and (2) evidential themes to produce the output response theme (Figure 2). Training points are selected wells in the aquifer of interest with the desired water quality data. Evidential themes are GIS layers of properties that influence aquifer vulnerability. The response theme delineates the model area into categories of relative vulnerability. WOE vulnerability mapping was conducted using the Arc Spatial Data Modeler (ArcSDM) toolbox for ArcGIS[1].

[1] (Available at: GitHub - gtkfi/ArcSDM: Spatial Data Modeler 5 for ArcGis Desktop and ArcGis Pro)

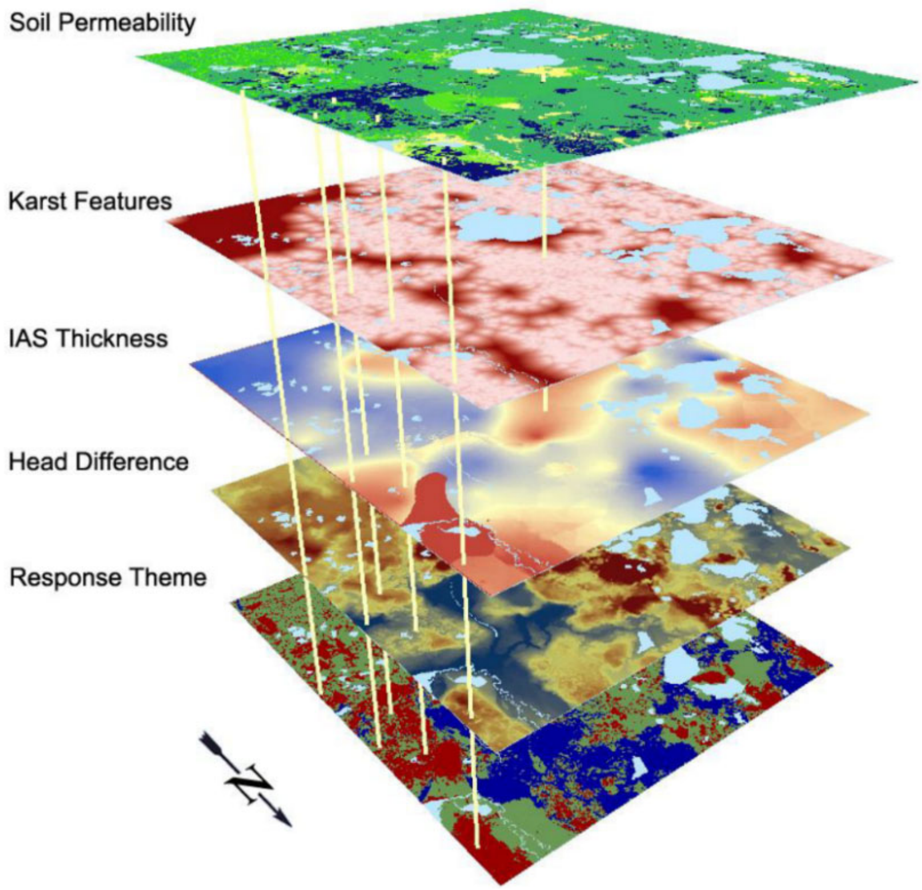


Figure 2. WOE Conceptual Model: The top four layers are evidential themes, the yellow lines represent training points (wells) projected throughout the layers, and the bottom layer is the response layer which shows More Vulnerable areas in red and Less Vulnerable in blue (Figure adopted from Arthur et al. 2017 Fig. 4).

1.1. Training Points

Training points represent actual groundwater quality data within the study area and are defined as wells screened in the SAS with available water quality data for the parameters of interest. Dissolved inorganic nitrogen (DIN) and dissolved oxygen (DO) are not typically found in high concentrations in groundwater and may be used as training points because they can serve as indicators of relative aquifer recharge (Arthur et al. 2017). Areas with higher intrinsic aquifer recharge potential are assumed to have increased likelihood for a pollutant introduced at the land surface or in the vadose zone to be transported to the aquifer (i.e., higher recharge potential represents higher aquifer vulnerability).

Training points were developed from SAS water quality data obtained from the St. John's River Water Management District, Florida Department of Environmental Protection (FDEP) Watershed Information Network (WIN), STORET database, Orange County Environmental Protection Division (OCEPD), and well records maintained by Water Management Districts. Acquiring data to identify sufficient training points within the County required multiple searches of available databases. In all, 541 data points were collected from 70 separate SAS wells in Orange County. Of the 70 SAS wells found with measured parameters of interest, 56 had measured DIN and 60 had measured DO (Table 1).

Table 1. Sources of Well Data Used for Training Points.

DATABASE SOURCE	WELLS	DATES SAMPLED	ORIGINAL PROJECT OR SAMPLING PROGRAM
ST. JOHNS RIVER WATER MANAGEMENT DISTRICT	12	-	-
DEPARTMENT OF ENVIRONMENTAL PROTECTION WIN WAVES	2	-	-
DEPARTMENT OF ENVIRONMENTAL PROTECTION STORET ARCHIVAL DATABASE	44	July 1985 – October 2019	GW-Trend, Background, STATUS GW-Trend, Background, STATUS, VISA, Wastewater Treatment Plant GW sampling
ORANGE COUNTY WATER ATLAS	2	September 19, 1989 – August 2, 2005	South Florida Water Management District
WEKIVA AQUIFER STUDY (OCEPD)	10	April 18, 2011-April 8, 2019	Orange County

Data processing required cross referencing the multiple datasets for duplicate wells, evaluation, and correction to achieve consistency in GPS format and ensure the data were consistent in parameters measured and units. Each study evaluated different nitrogen species. Total DIN ($NO_3^- + NO_2^- + NH_4^+$), therefore, was calculated individually for sites from available measurements of dissolved ammonia, ammonia-N, nitrate-N + nitrite-N, and nitrite + nitrate.

Consistent with the WOE methodology, the third quartile value was calculated for DO and DIN measurements from the collected well data. For wells with multiple recorded measurements of DO or DIN, the median value was calculated for each parameter for that well. Then, wells with median values greater than the third quartile values were selected to be part of the final training points dataset for that parameter. For DO, this procedure resulted in a training point dataset containing 8 wells, and for DIN, this resulted in a dataset containing 14 wells. Unfortunately, the DO training points did not produce sufficient differentiation in the model and were therefore not used in the final OCAVA model. The final training point set contained the 14 DIN wells. This is an increase from the statewide study, which had 1 training point for the SAS within Orange County.

Total Phosphorous Training Point Analysis

Subsequent to the DIN and DO analyses, an additional exploratory analysis (see Section 2) was performed gathering data to create training points from wells with Total Phosphorous (TP) measurements. As phosphorous is naturally occurring in Florida soils, additional consideration is necessary when using TP data to create training points. In the conceptual framework of WOE for assessing aquifer vulnerability, training points have traditionally served as indicators of higher aquifer recharge because aquifer recharge has traditionally been treated as the indicator governing potential aquifer vulnerability to pollution introduced at the surface. Therefore, parameters not typically found in high concentrations in groundwater naturally, such as DO and DIN, are often used for training points because they represent indicators of aquifer recharge. The natural occurrence of phosphorous in soils in conjunction with strong impact of geochemical processes governing phosphorus transport may influence the correlation between aquifer recharge and TP concentrations in groundwater.

The methodology for creating training points for TP mirrored the methodology described for DIN and DO training points. Multiple searches of online databases generated a total of 415 TP data points from

33 SAS wells in Orange County. Training points were selected as the SAS wells with median TP values greater than the upper third quartile value calculated from the entire TP dataset. A total of 8 training points were produced from the TP dataset. Similar to the DO training points, the TP training points did not produce sufficient differentiation in the model and were not used in the final OCAVA model. Appendix B contains results and discussion of the TP analysis.

1.2. Evidential Themes

The evidential themes included in the AVA process were intended to capture geologic controls on aquifer vulnerability. Selected evidential themes are individual GIS layers of geologic properties that can influence aquifer recharge potential. Consistent with the FAVA for SAS vulnerability, the evidential themes considered in this study included:

1. soil hydraulic conductivity,
2. depth of soil between the surface and the water table, and
3. distance to karst features.

For each evidential theme layer, multiple datasets were considered to determine the most appropriate GIS layers for this study, as further described below.

Soil Hydraulic Conductivity

Soil hydraulic conductivity is a parameter representing how well a fluid can move through pore spaces or fractures under nearly saturated conditions (Newby et al. 2009; see Figure 3). Two datasets were evaluated to serve as this evidential theme. The soil hydraulic conductivity within the East Central Florida Transient Expanded (ECFTX) groundwater model was the first dataset evaluated (CFWI 2020). The benefit of this layer is that it represents the hydraulic conductivity throughout the County and is sourced from a calibrated and peer reviewed groundwater model. Unfortunately, as the ECFTX is a regional model, the evidential theme produced with this dataset did not capture the anticipated variability in soil conductivity at the county-scale and was therefore not used in the final OCAVA model.

Figure 3. A visual representation of hydraulic conductivity: a measure of how easily water moves through soil and aquifer materials (Image from Build LLC 2013).

The second hydraulic conductivity dataset was obtained from the Natural Resources Conservation Service (NRCS) Soil Survey Geographic Database (SSURGO). The SSURGO dataset discriminated variability due to localized differences in soil conditions better than the dataset from the ECFTX model. The vertical soil hydraulic conductivity values from SSURGO ranged from 5 – 70 feet per day (ft/day) with most of training points in regions with values of less than 30 ft/day. Some areas within Orange County did not have SSURGO data, and these were generally areas associated with urban land uses. This dataset was used in the final OCAVA model, and the areas with missing data were filled using GIS functions: Raster Calculator and Focal Statistics. The filled areas represent 3.4% of the total area of Orange County.

Depth-to-Water

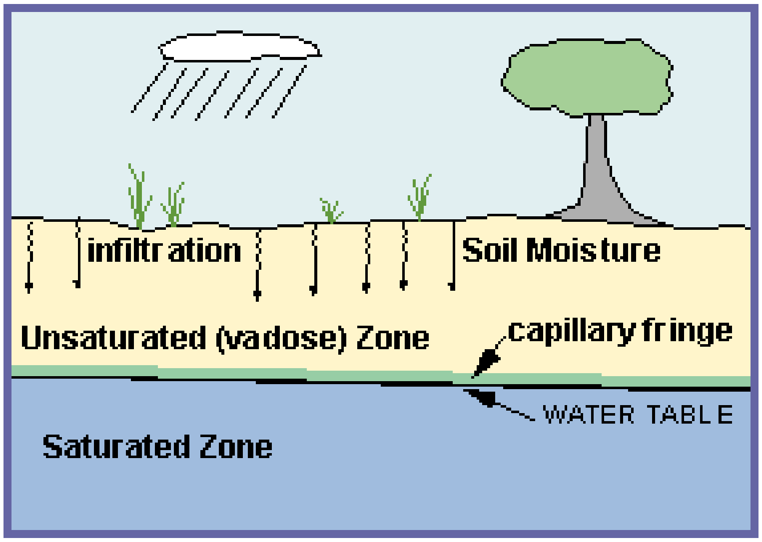


Figure 4. Diagram of delineation of unsaturated and saturated zones by the water table (Figure from Digital Atlas of Idaho 2022).

Depth to water is the vertical distance from the ground surface to the saturated water table (Figure 4). In this study, the two available datasets for the Depth to SAS evidential theme were found to be poor predictors of training points and thus were not used in the final OCAVA model. The available training points were in areas where the groundwater table was uniformly shallow, which may have caused this model result.

The first dataset evaluated was the statewide *Estimated Depth to Water Table - Surficial Aquifer System*, which was created by FDEP by subtracting a water table surface grid from a Digital Elevation Model (DEM) (Anon. 2008). Unfortunately, at the state-widescale at which this layer was produced, the data shows little variation within the County. All but three of the training points were in areas with depths to water of less than 10 ft. The second dataset evaluated was the average depth to saturated water table from the SSURGO database. In this dataset, hydrologic features such as lakes and rivers as well as areas with depth to water table greater than 160 centimeters were assigned “no data.” The lack of training points in regions with available water table data prevented this dataset from serving as an evidential theme.

The absence of a quality depth-to-water table layer across Orange County highlights the need for the County to develop this from available data or by installing a countywide SAS well network. Currently, the available datasets either do not sufficiently capture the variability across the County, are missing too much data to serve as evidential themes, or training points are not correlated with depth to water. A refined depth to SAS layer could help strengthen the OCAVA model if depth-to-water is a strong indicator of DIN vulnerability.

Karst Features

Karst features such as sinkholes can serve as conduits to directly route water from the surface to subsurface aquifers (Figure 5). Various vulnerability studies used evidential themes that quantified distance to karst features (Arthur et al. 2017 and Baker et al. 2009). Areas in greater proximity to karst features are considered more vulnerable compared to areas further away, so radial buffer zones around each karst feature were delineated to allow for distance to karst features from each training point to be measured.

This study examined multiple datasets in efforts to find the most effective dataset to represent the Buffered Effective Karst Feature evidential theme including:

1. Orange County High Resolution DEM (5 ft and 10 ft, based on available spatial coverage),
2. FGS Subsidence Incident Report (FGS 2021),
3. FGS Sinkhole Favorability Study (FDEP and FGS 2017), and
4. FGS Closed Topographic Depressions (FGS 2004).

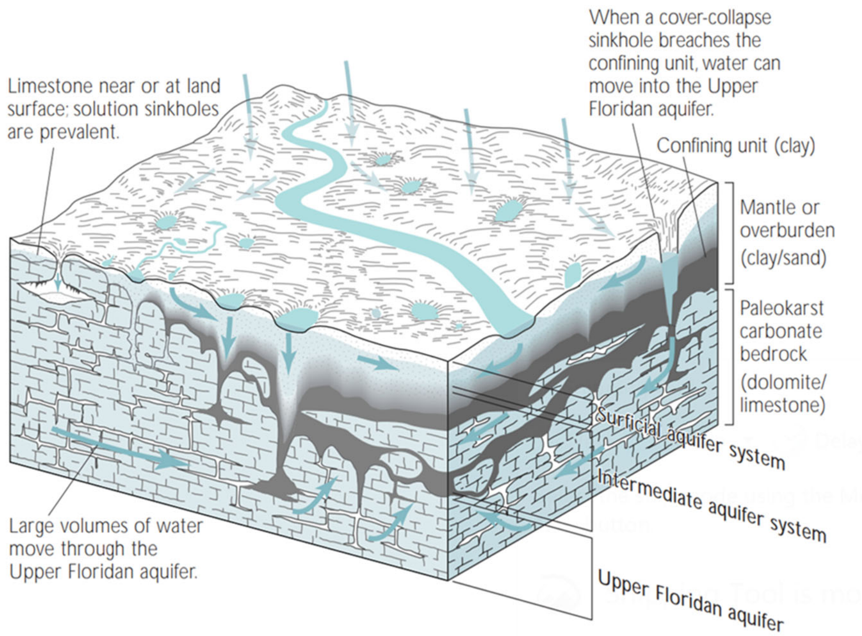


Figure 5. Karst features and connections to Florida's aquifers and surface waterbodies (modified from Tihansky 1999).

ArcGIS raster tools (contour, sink, fill) were used to identify potential karst features from the Orange County DEM. This processing did identify more topographic depressions when compared with the statewide FDEP Elevation Contour Depression dataset (FDEP 2019); however, the depressions were often low-lying areas representing likely GIS artifacts that may not represent evidence of sinkholes. Additionally, the detail did not translate well due to the resolution of the WOE model (30 x 30 meters). The Orange County DEMs therefore were not used as the basis for the evidential theme.

The FGS Subsidence Incidence Report contains subsidence incidents self-reported by citizens, the Department of Transportation, and state and local governments. The incidents did visually align with karst regions. However, these reports have not been field-verified nor has the cause of potential subsidence been identified. This layer was therefore not used as the basis for the evidential theme.

The FGS Sinkhole Favorability Study designates regions that are unfavorable, favorable, more favorable, and most favorable to sinkholes. The results of this study did align visually with the FGS Closed Topographic Depressions, but the scale of the analysis was too broad to serve as an evidential theme in this study. Therefore, this layer was not used.

Ultimately, the FGS Closed Topographic Depressions dataset was selected to create the karst features evidential theme. Following the methodology outlined in the FAVA Study and others, "Closed Depressions" were identified and selected from the FDEP Elevation Contour Depression dataset (Arthur et al. 2017; Baker, et al. 2009). Closed topographic depressions identified as lakes were removed. To filter out linear depressions, such as roadside swales and squared off detention ponds that do likely not represent former sinkholes, a roundness ratio was calculated for each closed depression, and any depression with a roundness ratio of less than 0.75 was removed from the karst feature dataset.

1.3. Model Extent

The study area extent for this model was delineated to be the same as Orange County. The model study area and the 56 wells from the DIN dataset, including the14 training points, are shown in Figure 6. The study area was comprised of 30 meter-square grid cells to cover the entirety of the County. Waterbodies listed in the Orange County Hydrology dataset (Orange County, 2021) were removed from the study area, consistent with previous studies as SAS water quality monitoring wells were not located within these waterbodies (Arthur et al. 2017; Cichon et al. 2005).

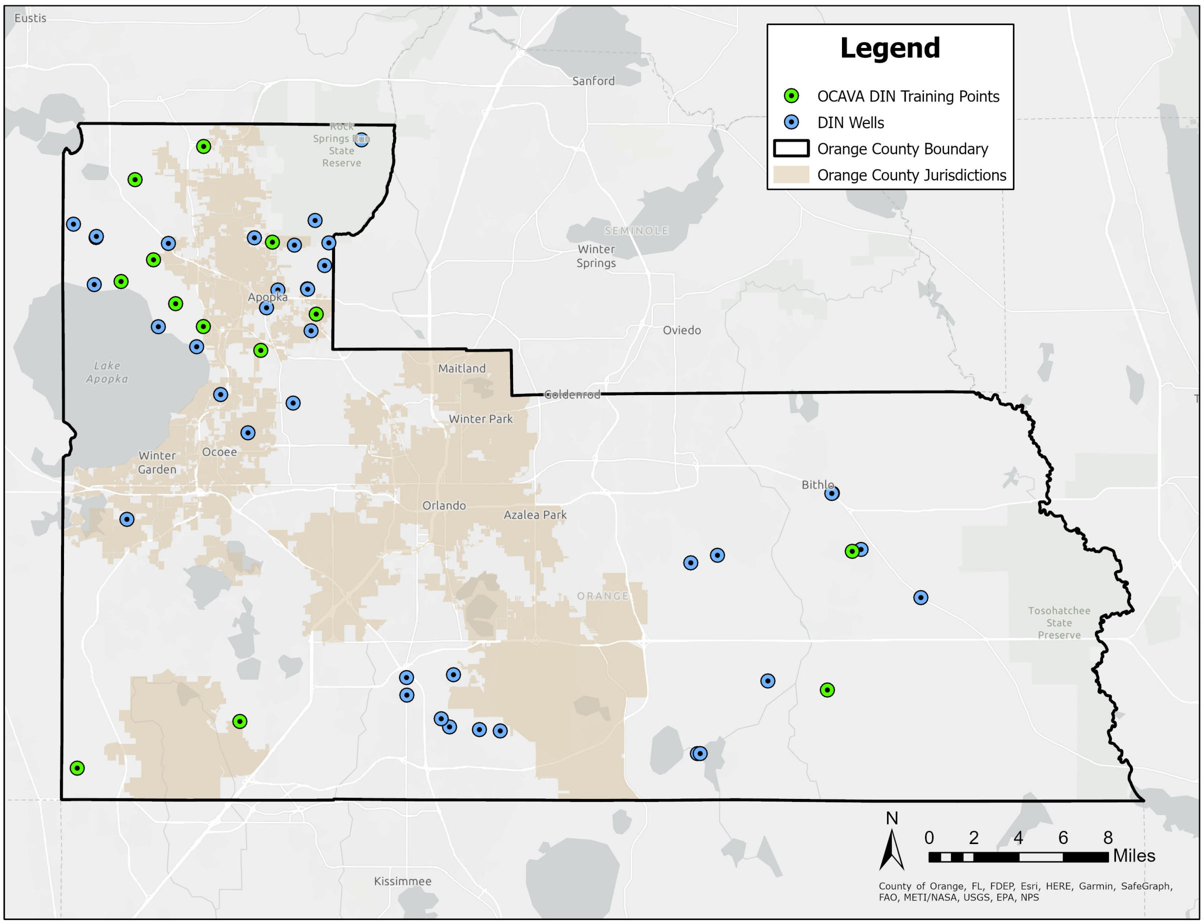


Figure 6. Aquifer Vulnerability Model Extent, DIN Wells, and Training Points.

1.4. Aquifer Vulnerability Modeling Results - DIN

The AVA process evaluates the inherent geologic properties of the evidential themes collocated with each training point. The model then applies a probability of finding training points in regions with the same combination of evidential themes. Model results at any one location are relative to each other in the study area.

The WOE model was used to classify regions within the study area into three vulnerability categories based on posterior probabilities: More Vulnerable, Vulnerable, and Less Vulnerable. These vulnerability categories can be viewed spatially in the “response theme” (Figure 7). The model that produced the response theme with the highest level of confidence across the study area incorporated the Buffered Effective Karst Features theme and the Soil Hydraulic Conductivity theme developed from the SSURGO NRCS soil data. Depth to SAS was not included as an evidential theme due to the lack of a sufficient countywide dataset and training point correlation to produce a valid response theme.

The *More Vulnerable* regions were correlated with shorter distances to karst features and higher soil hydraulic conductivity and were more likely to contain a training point. The *Less Vulnerable* areas were correlated with regions with longer distances to karst features and lower soil hydraulic conductivity and were less likely to contain a training point.

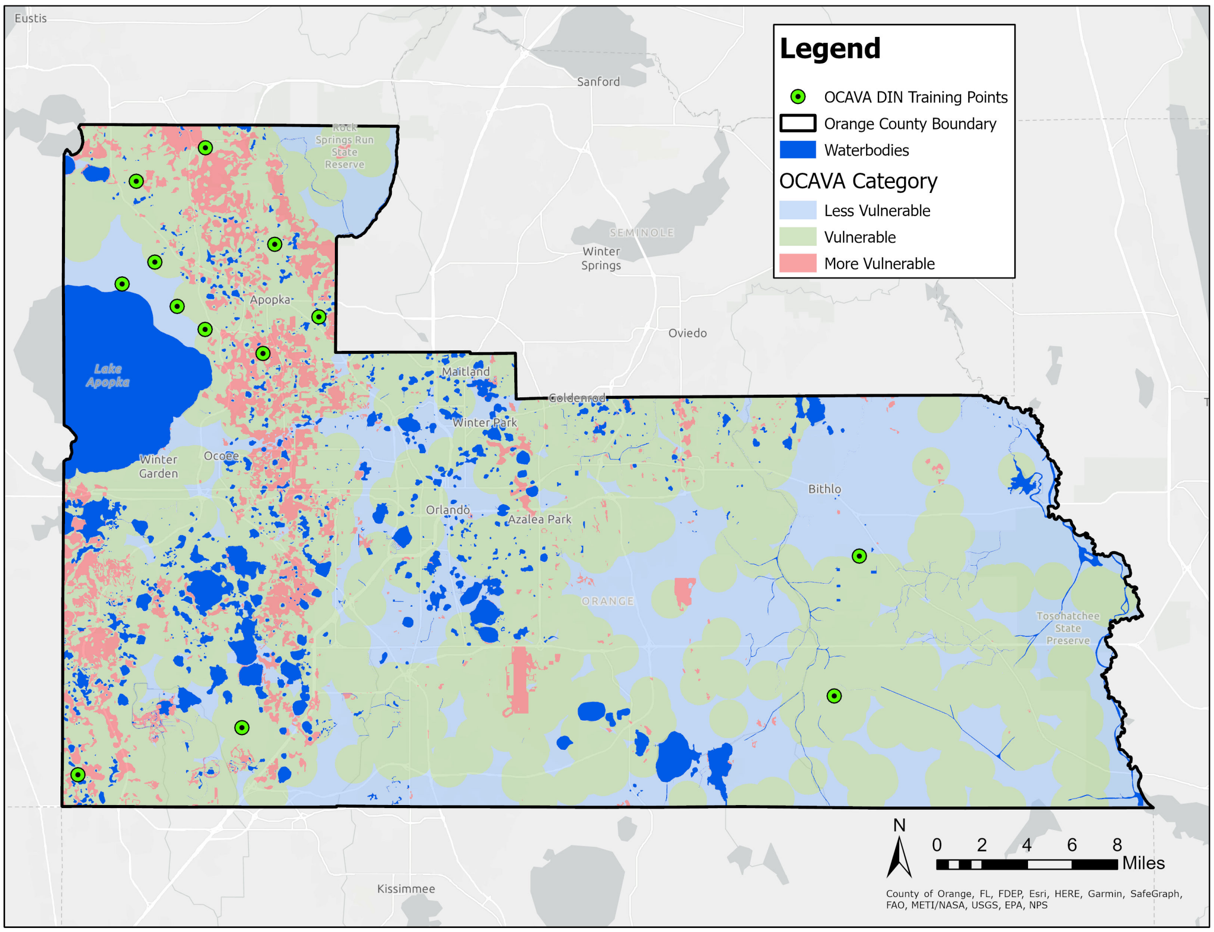


Figure 7. Response Theme: Relative Vulnerability of the SAS in Orange County.

The three vulnerability categories of the response theme are determined by the posterior probability that a training point will occupy a defined unit area within the study limits based on the evidential themes. Delineation of the specific vulnerability categories is determined by changes in the relationship between the posterior probabilities and the percent cumulative area (Figure 8). This delineation is performed using the ArcSDM toolbox and is consistent with the methodology followed for the statewide FAVA model. Regions with a posterior probability less than 0.0024 were considered *Less Vulnerable* (27% of the model area), regions with a posterior probability between 0.0024 and 0.0062 were considered *Vulnerable* (65% of the model area), and regions with a posterior probability greater than 0.0062 were considered *More Vulnerable* (8% of the model area).

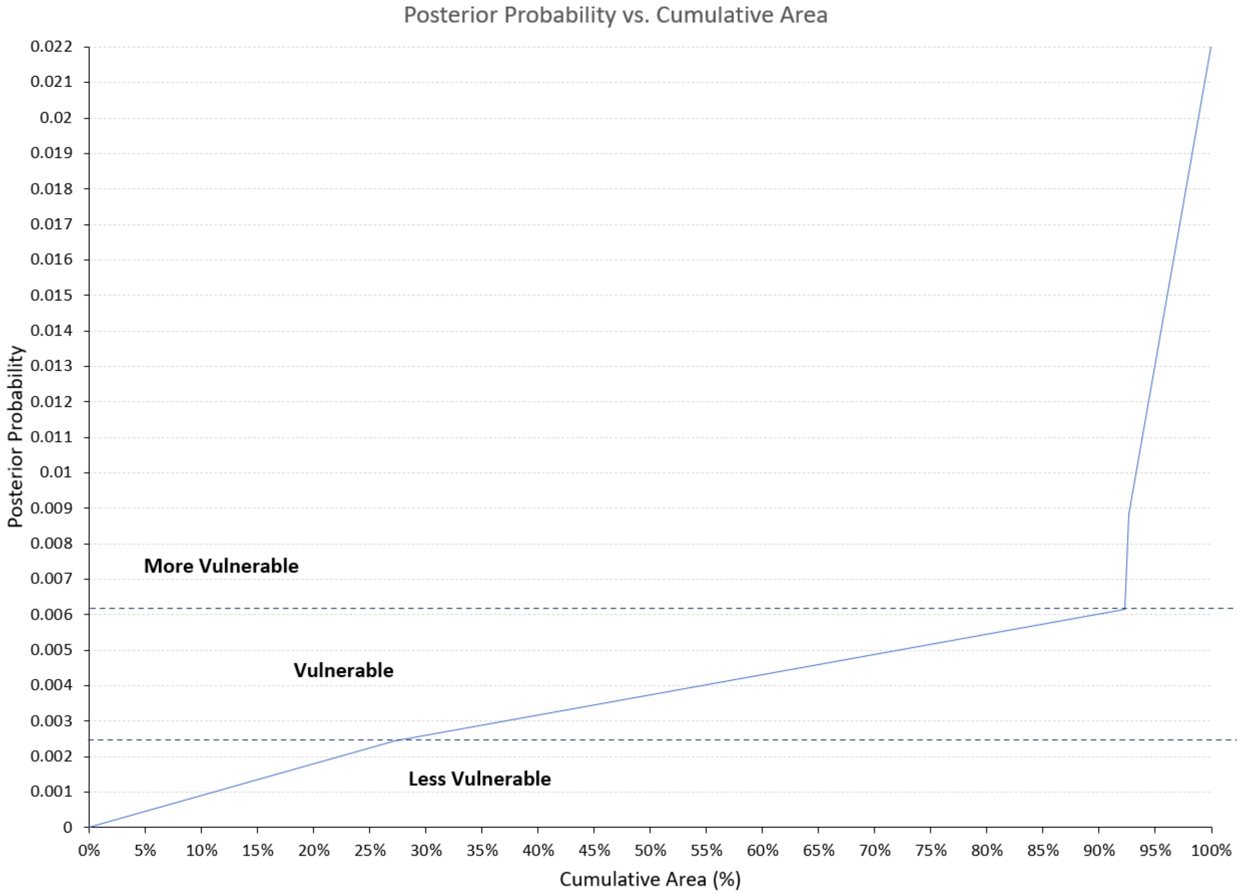


Figure 8. Posterior Probability versus Cumulative Area for the Model.

The prior probability for each model is calculated by dividing the training point unit area by the total study area, effectively calculating the proportion of known impacted regions (SAS wells with elevated DIN) in the study area. Prior probability for this model was calculated to be 0.0060 which is greater than the prior probability of 0.0014 for the FAVA SAS model (Arthur et al. 2017). This means the OCAVA model has more training points per model area compared to the FAVA SAS model. Posterior probability values generated during the response theme development are interpreted relative to the value of prior probability with higher values generally indicating areas with higher probability of containing a training point (Baker et al. 2009).

1.4.1. Conditional Independence

Conditional independence is a calculation performed during the execution of the WOE approach that determines validity of the posterior probability values. Conditional independence ensures that the probability of occurrence of one evidential theme does not influence the occurrence of another evidential theme. The conditional independence is calculated as a ratio of the product of the sum of each unique condition's area multiplied by its corresponding posterior probability. This calculation is performed within the WOE package. If conditional independence is met, then the calculated ratio should fall within the range 1.00 ± 0.15 (Raines 2001). The OCAVA conditional independence was calculated to be 0.94 and is within the acceptable range.

1.4.2. Model Confidence

Model confidence in the response theme is calculated by dividing the theme's posterior probability by its total uncertainty (standard deviation) (Arthur et al. 2017). This calculation produces a confidence map which shows the quality of the response theme spatially. The confidence map for this study, shown in Figure 9, reveals confidence in the response theme is 80% or higher. Generally, the higher confidence areas correspond with higher vulnerability areas, and lower confidence areas correspond to lower vulnerability areas.

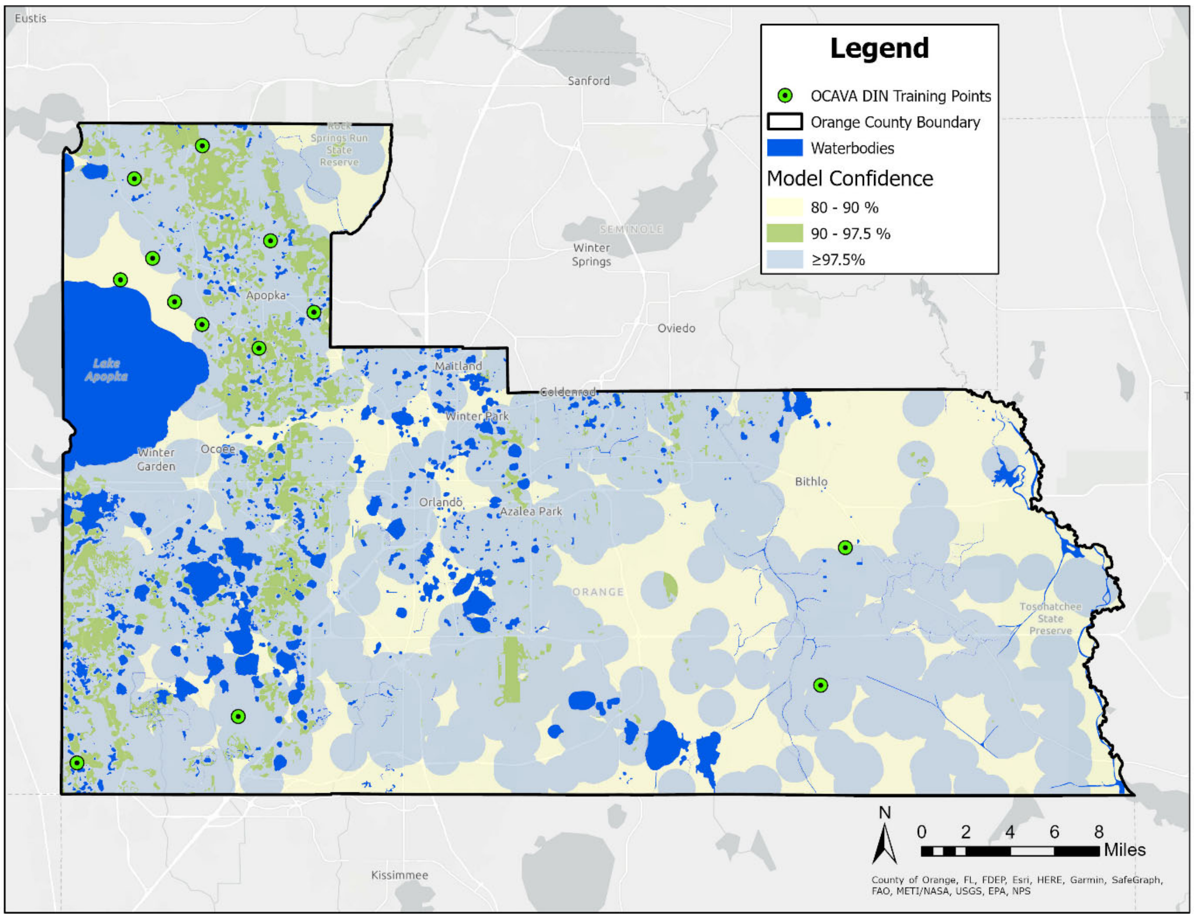


Figure 9. OCAVA Confidence Map.

1.4.3. Weights Calculations

The WOE approach calculates weights, contrast, and confidence values for each evidential theme that is used to generate the response theme. These values for the evidential themes in the OCAVA model are provided in Table 2. Similar to previous vulnerability assessments, a binary break was defined in the WOE analysis to generalize the evidential themes and generate weights for two categories (Baker et al. 2007; 2009a; 2009b). Positive weights correspond to areas where training points are likely to occur, and negative weights correspond to areas where training points are not likely to occur. Contrast is the difference between the highest and lowest weights and is a measure of how well the generalized evidential themes predict the training point locations. Higher contrast values indicate evidential themes that best predict training point locations. Confidence is a measure of significance and is equal to the contrast divided by its standard deviation. Confidence values approximately correspond to t-test levels of significance expressed as degree of confidence in Table 2 (Arthur et al. 2017).

The weights reveal that training points are more likely to occur in areas with higher hydraulic conductivity and within shorter distances to karst features. The model contrast and confidence are higher for the Soil Hydraulic Conductivity evidential theme indicating this evidential theme was a stronger predictor of training points. The Soil Hydraulic Conductivity evidential theme also has the highest absolute weight (W1: +1.1288). The strongest correlation of the evidential themes and training points was a positive correlation between vulnerability and high soil hydraulic conductivity. This weight was correlated with a generalized binary break value of the Soil Hydraulic Conductivity evidential theme at 38 feet/day.

Table 2. Weights calculated for each evidential theme and their associated contrast and confidence values.

Evidential Theme	W1 (+)	W2 (-)	Contrast	Confidence	Degree of Confidence*
Soil Hydraulic Conductivity	1.1288	-0.1693	1.2981	1.9798	97.5%
Buffered Effective Karst Features	0.1988	-0.7332	0.9321	1.2184	80%

*Degree of Confidence expressed as level of significance (Percentages obtained from Table 3 from Arthur et al. 2017).

1.4.4. Dissolved Inorganic Nitrogen (DIN) versus Posterior Probability

DIN values are expected to positively correlate with model posterior probability values based on the assumption that higher DIN concentrations in groundwater correlate with higher recharge, i.e., more vulnerable, areas of the surficial aquifer. To explore this relationship, posterior probability was determined for each of the 56 SAS wells with DIN data that were used to develop the training points by taking the posterior probability of the response theme at the location of each well. The wells were then binned into the three vulnerability classes based on posterior probability. Next, an average of the median DIN values of the wells falling in each in each vulnerability class was calculated. Median DIN values from each well were averaged because median values were used to develop the training points.

The average DIN values for each vulnerability class were plotted against the posterior probability to reveal any correlation (Figure 10). Results show a positive correlation between average DIN in the wells and vulnerability. This trend suggests the model predictions of relative vulnerability align with observations of DIN data.

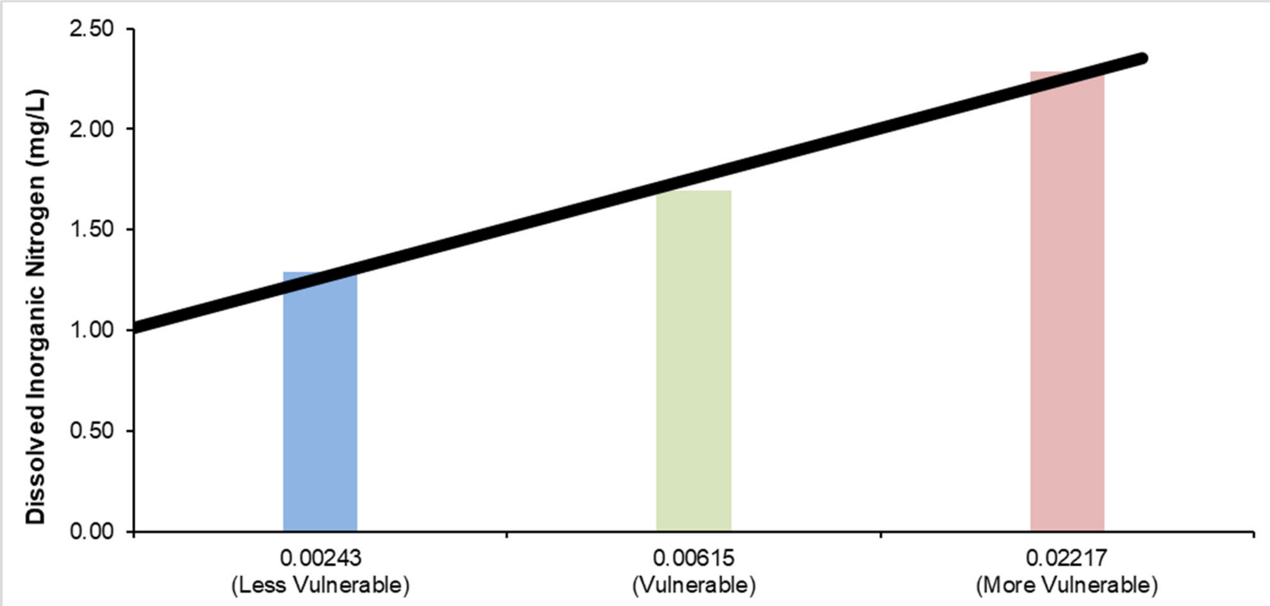


Figure 10. DIN values (averaged per vulnerability class) versus posterior probability values reveal a trend between increasing DIN concentrations and posterior probability (vulnerability).

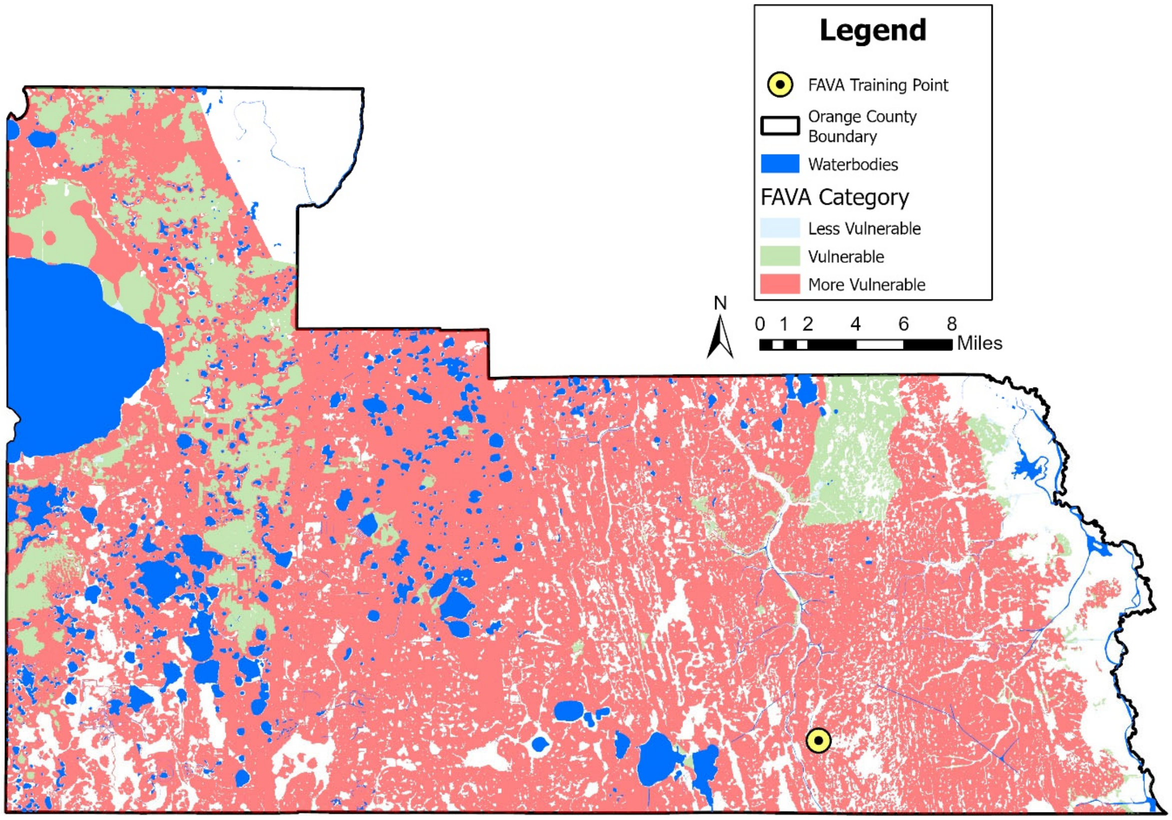
1.5. Comparison to Florida Aquifer Vulnerability Assessment (FAVA)

The statewide vulnerability model, FAVA, provides vulnerability of the SAS in Orange County relative to the entire state. The model created for this study, OCAVA, defines vulnerability regions of the SAS relative to the County. The refined scale of the model allows for greater distinction between regions within the County compared to the results from the statewide model (Figure 11).

Regional patterns between the FAVA study and this study show generally similar patterns of more vulnerable areas along a northwest to south-central corridor in the western half of the county and less vulnerable areas in the east. The Wekiva Springs Priority Focus Area (PFA) in the northwestern portion of the county is primarily *More Vulnerable*. Areas in the southwestern portion of the county are also categorized as *More Vulnerable*.

At the state scale of the FAVA model, the Orange County region was largely considered *More Vulnerable*. This vulnerability classification correlated with the shallow depths to the water table observed across Orange County compared to the deeper depths observed in other areas of the state. When the WOE approach was used to evaluate county-scale vulnerability, the relatively uniformly shallow depth to the SAS across the County did not provide a broad range of values for comparison within the region and were not correlated with training points. The soil hydraulic conductivity did provide valuable information to the vulnerability classification at the county-scale. Distance to karst features were also influential at the state-scale and county-scale.

The OCAVA model shows a pattern of higher vulnerability in the central and western portions of the County, including much of the Wekiwa Springs and Rock Springs PFA, as well as Winter Park and other areas along the western border. To the east, generally lower vulnerability is predicted. This is generally consistent with the prior understanding of high recharge areas located in the central and western portions of the County, as well as areas of higher sinkhole potential.



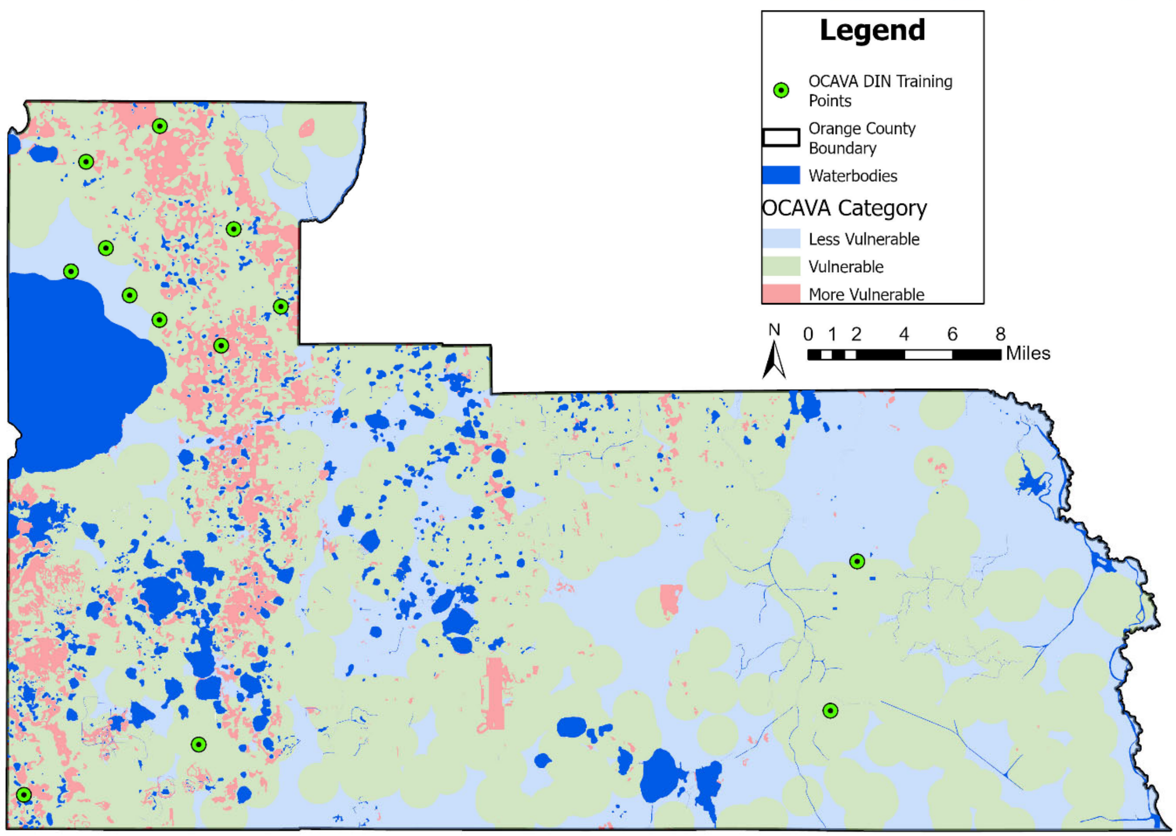


Figure 11. Comparison between the FAVA (Top) and OCAVA (Bottom) Results for the SAS.

1.6. Limitations and Future work

This study created a map of the relative vulnerability of the SAS to pollution in Orange County using a WOE approach. These results are not directly comparable to vulnerability assessments from other regions since the model defines vulnerability relative to the model extent.

This analysis was limited by the available well data used to develop training points. Spatially, the majority of training points were located in the northwestern portion of County. As additional data becomes available, the model would likely be improved by incorporating more well data which may lead to a training point dataset with greater spatial variability. Evidential themes, such as depth to water, that did not show sufficient generalization (i.e., the data was not predictive of training point locations) may show improved performance with additional data. Other sources for SAS water quality data within Orange County that were beyond the scope of this project could be explored in a future effort to increase the number and spatial distribution of training points.

This analysis assumed that the observed DIN in wells was independent of the landcover or human activity on the surface as the intent of the AVA process is to evaluate aquifer vulnerability based on nonanthropogenic properties. To assess this assumption, possible associations between land use and the distribution of mean posterior probabilities (i.e., vulnerability categories) were evaluated (Figure 12). A strong correlation between certain types of land uses and more vulnerable areas (i.e., areas of high posterior probabilities) was not found, which is an indicator that human activity has limited influence on the results.

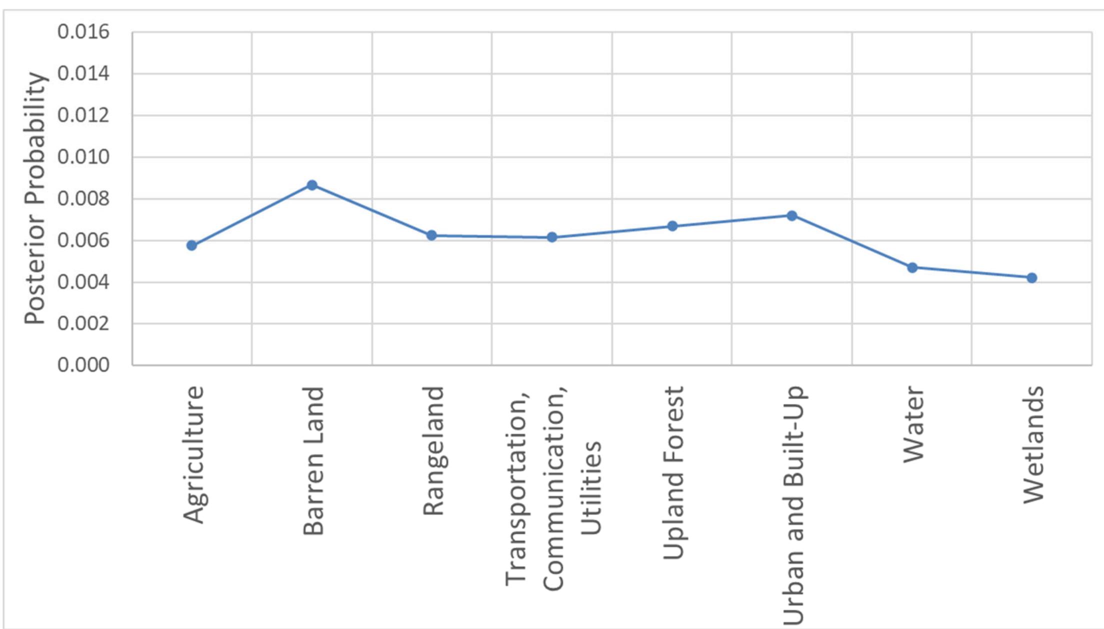


Figure 12. Posterior Probability Calculated for Each Land Use.

Aquifer Vulnerability Modeling
Total Phosphorus

2. Aquifer Vulnerability Modeling – Total Phosphorus

The purpose of this analysis was to explore the impact of using Total Phosphorous (TP) data to create training points as opposed to DIN or DO. The modeling was kept consistent with the OCAVA model described in main report with the exception that the training points were derived using wells with TP data in lieu of DIN data.

2.1. Evidential Themes

The evidential themes included in the AVA process were intended to capture geologic controls on aquifer vulnerability. Selected evidential themes are individual GIS layers of geologic properties that can influence how quickly water moves through the unsaturated zone. The same evidential themes used in the OCAVA model described in the main text were used in this analysis and included:

1. soil hydraulic conductivity,
2. and distance to karst features.

2.2. Training Points

The methodology for creating training points for TP mirrored the methodology described for DIN and DO training points. Multiple searches of online databases generated a total of 415 TP data points from 33 SAS wells in Orange County. Training points were selected as the SAS wells with median TP values greater than the third quartile value calculated from the entire TP dataset. A total of 8 training points were produced from the TP dataset.

As phosphorous is naturally occurring in Florida soils, additional consideration is necessary when using TP data to create training points. In the conceptual framework of WOE for assessing aquifer vulnerability, training points have traditionally served as indicators of higher aquifer recharge because aquifer recharge has traditionally been treated as the indicator governing potential aquifer vulnerability to pollution from the surface. Therefore, parameters not typically found in high concentrations in groundwater naturally, such as DO and DIN, are often used for training points because they represent indicators of aquifer recharge. The natural occurrence of phosphorous in soils in conjunction with strong the impact of geochemical processes on phosphorus transport may influence the correlation between aquifer recharge and TP concentrations in groundwater.

2.3. Model Extent

The study area extent for this model was kept consistent with the OCAVA model described in the main text. The model extent is shown in Figure 13 along with the 33 SAS wells with TP data and the corresponding 8 training points.

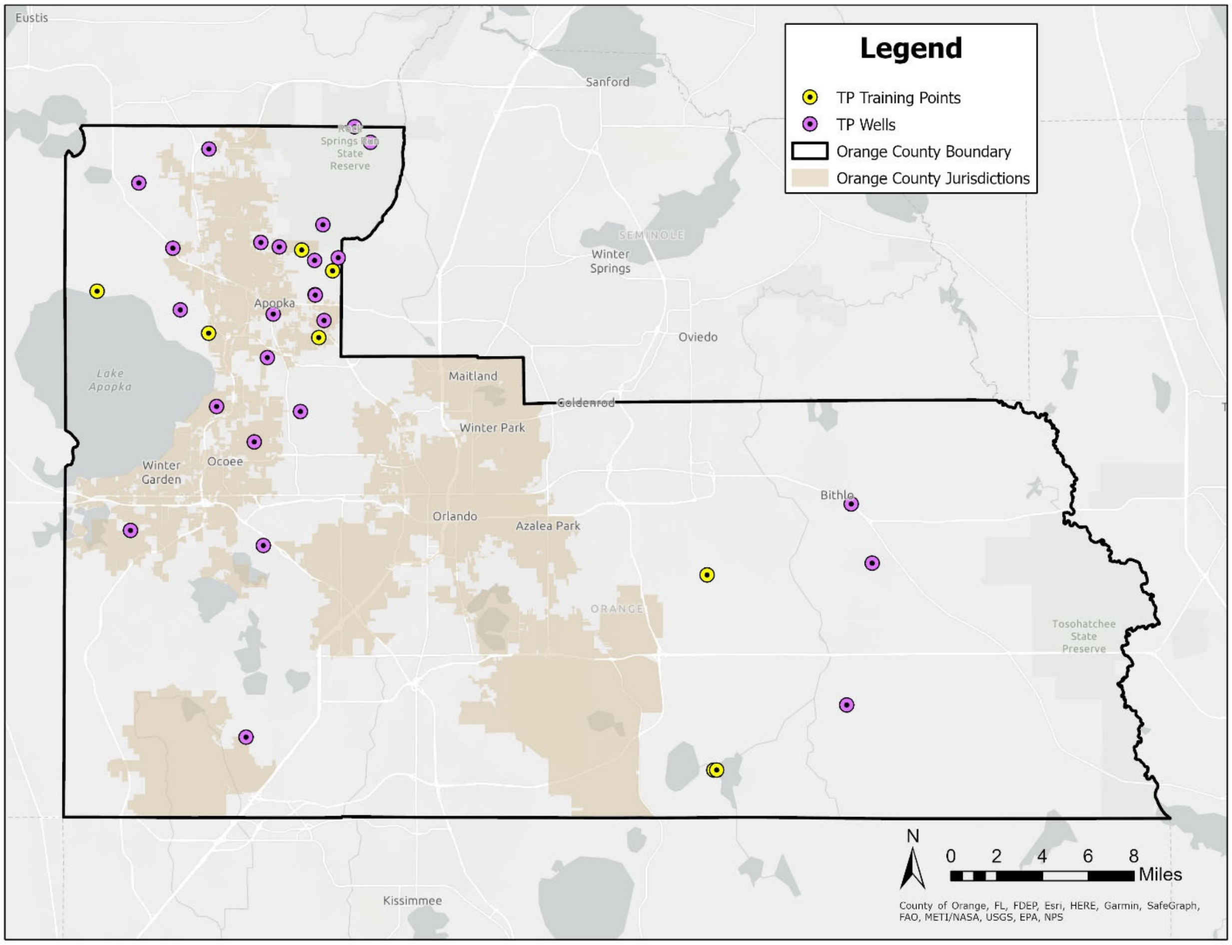


Figure 13. Model Extent, TP Wells, and Training Points.

2.4. Aquifer Vulnerability Modeling Results – Total Phosphorus

The AVA process evaluates the inherent geologic properties of the evidential themes collocated with each training point. The model then applies a probability of finding training points in regions with the same combination of evidential themes. Model results at any one location are relative to each other in the study area.

The model classifies regions within the study area into three vulnerability categories—More Vulnerable, Vulnerable, Less Vulnerable—that can be viewed spatially as the "response theme" seen in Figure 14. The response theme generated with the TP training points did not produce as much differentiation throughout the county when compared to the response theme generated with DIN training points (Section 3.2 of Main Text). This may be attributed to the fact that phosphorus is naturally occuring in Florida soils and its transport is largely influenced by geochemical processes.

Aquifer recharge generally serves to represent aquifer vulnerability in vulnerability assessments. In other words, areas with higher intrinsic aquifer recharge potential are assumed to have higher potential for contamination (i.e., vulnerability) from a pollutant introduced at the land surface or in the vadose zone.

However, elevated phosphorus levels in the SAS in Orange County may be more tied to natural phosphorus levels and geochemistry of the subsurface (soils/SAS) rather than aquifer recharge.

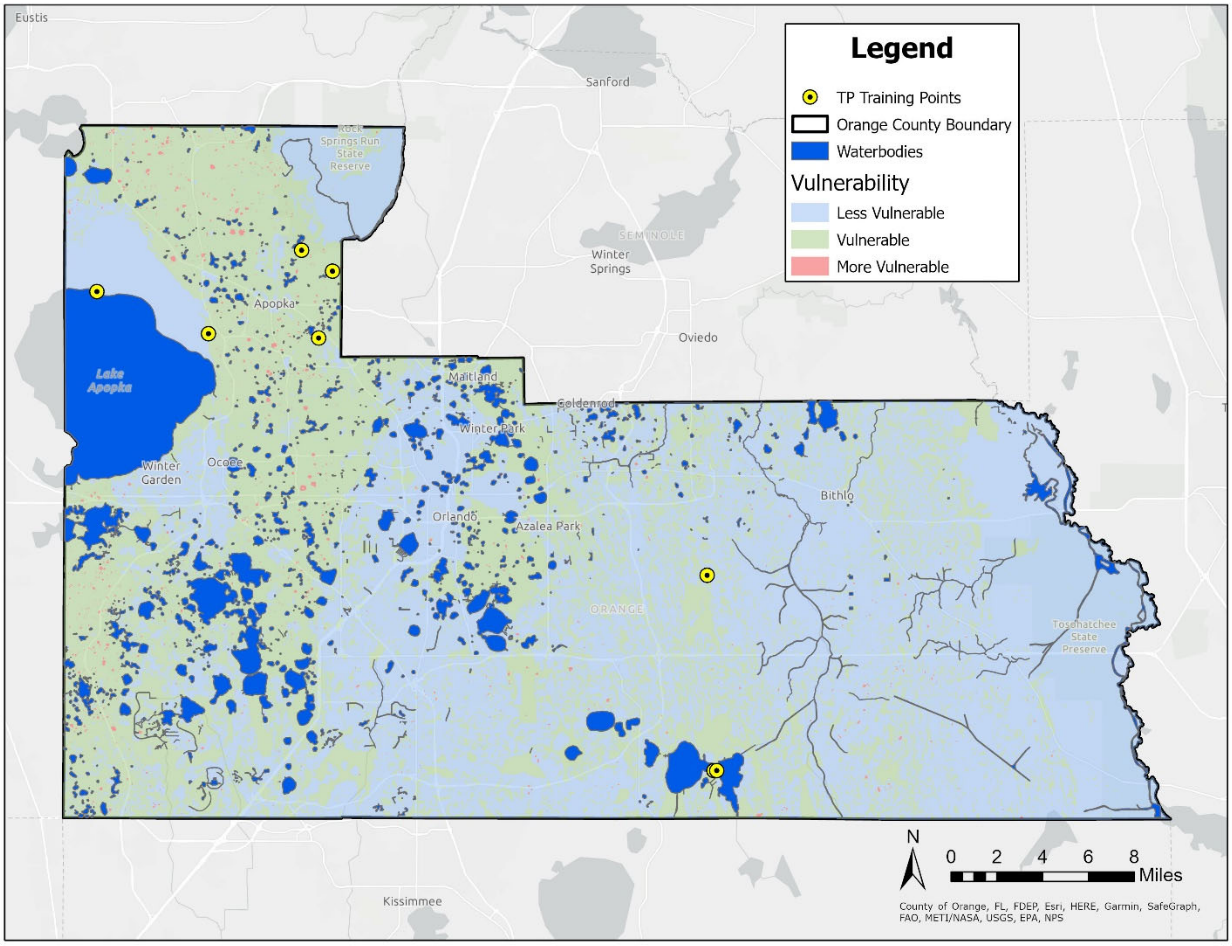


Figure 14. Response Theme produced with TP Training Points.

The three vulnerability categories of the total phosphorus response theme (Figure 15) were determined based on the distribution of posterior probability across the modeled area. Poster probability represents the probability that a training point will occupy a defined unit area within the study area based on the evidential themes. Delineation of the specific vulnerability categories is determined by changes in the relationship between the posterior probabilities and the percent cumulative area (Figure 15). Regions with a posterior probability less than 0.002 were considered *Less Vulnerable* (57% of the model area), regions with a posterior probability between 0.002 and 0.0044 were considered *Vulnerable* (42% of the model area), and regions with a posterior probability greater than 0.0044 were considered *More Vulnerable* (1% of the model area).

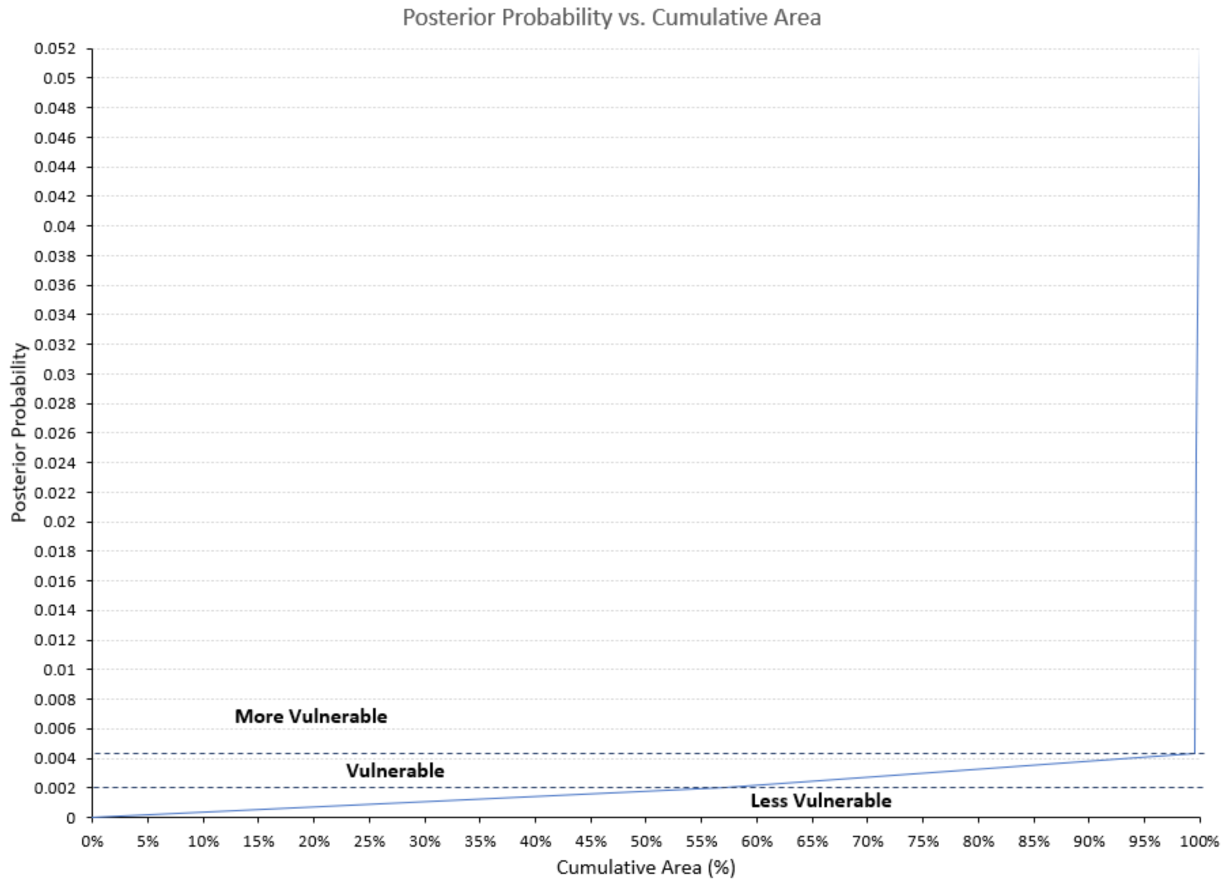


Figure 15. Posterior Probability versus Cumulative Area.

The prior probability for each model is calculated by dividing the model area occupied by training points by the total study area, effectively calculating the proportion of known impacted regions (SAS wells with elevated TP) in the study area independent of evidential themes. Prior probability for this model was calculated to be 0.0034. Posterior probability values generated during response theme development are interpreted relative to the value of prior probability with higher values generally indicating areas with higher probability of containing a training point (Baker et al. 2009).

2.4.1. Conditional Independence

Conditional independence is a calculation performed during the execution of the WoE approach that determines validity of the posterior probability values. Conditional independence ensures that the probability of occurrence of one evidential theme does not influence the occurrence of another evidential theme. The conditional independence is calculated as a ratio of the product of the sum of each unique condition's area multiplied by its corresponding posterior probability. This calculation is performed within the WoE package. If conditional independence is met, then the calculated ratio should fall within the range 1.00 ± 0.15 (Raines 2001). The model conditional independence was calculated to be 1.06 and is within the acceptable range.

2.4.2. Model Confidence

Model confidence in the response theme is calculated by dividing the theme's posterior probability by its total uncertainty (standard deviation) (Arthur et al. 2017). This calculation produces a confidence map which shows the quality of the response theme spatially (Figure 16).

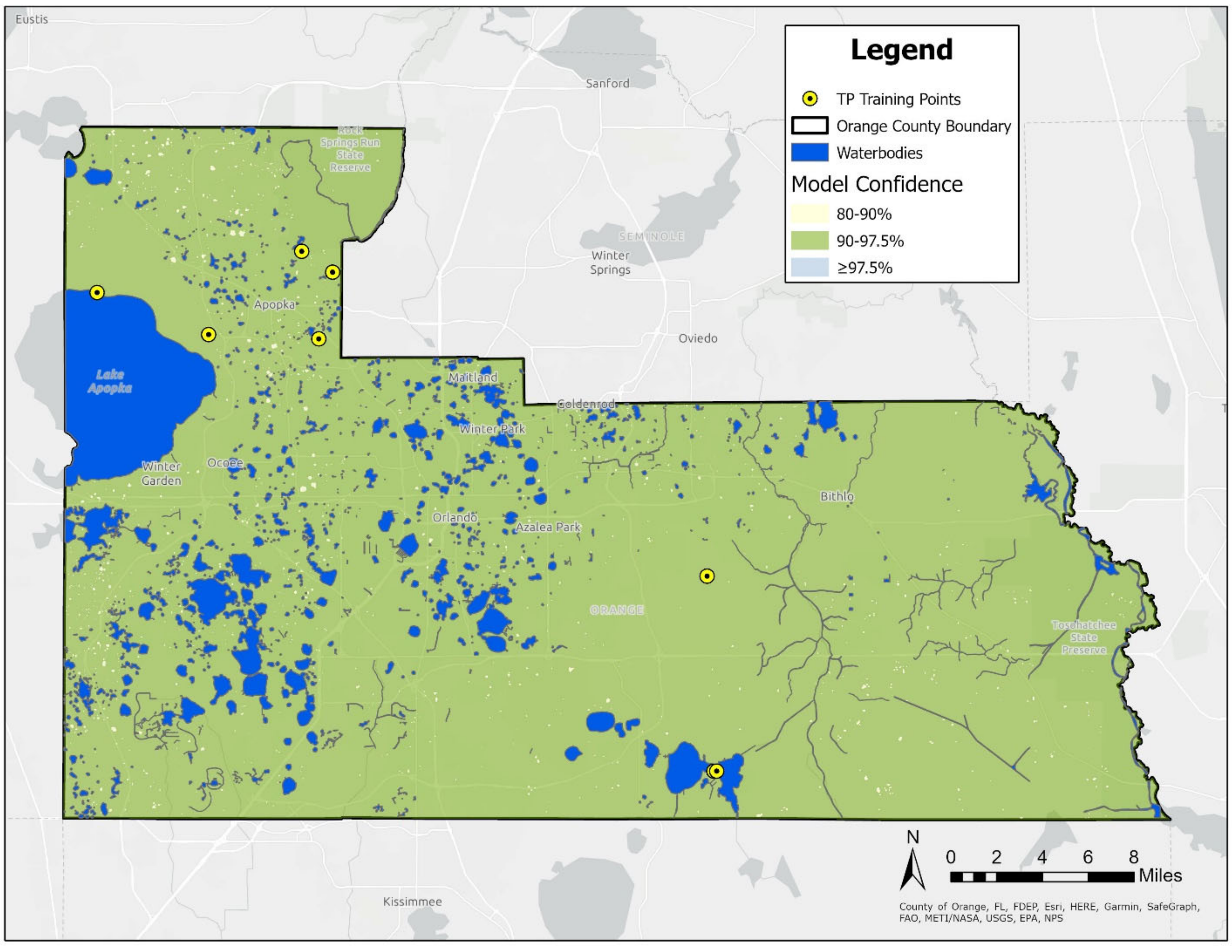


Figure 16. Model Confidence Map.

2.4.3. Weights Calculations

The WoE approach calculates weights, contrast, and confidence values for each evidential theme that is used to generate the response theme. These values for evidential themes used to generate the total phosphorus response theme are provided in Table 3. Similar to previous vulnerability assessments, a binary break was defined in the WOE analysis to generalize the evidential themes and generate weights for two spatial categories (Baker et al. 2007; 2009a; 2009b). Positive weights correspond to areas where training points are more likely to occur, and negative weights correspond to areas where training points are less likely to occur. Contrast is the difference between the highest and lowest weights and is a measure of how well the generalized evidential themes predict the training point locations. Higher contrast values indicate evidential themes that best predict training point locations. Confidence is a measure of significance and is equal to the contrast divided by its standard deviation. Confidence values approximately correspond to t-test levels of significance expressed as degree of confidence in Table 3 (Arthur et al. 2017).

Based on contrast, the results indicate that the Buffered Effective Karst Features evidential theme is a strong predictor of where training points are likely to occur, and training points are more likely to occur in areas near karst features (Table 3). The strongest weight (i.e., training point location predictor) associated with any evidential theme was the positive weight associated the Buffered Effective Karst Features evidential theme (W1 = 2.411). However, this weight was classified for a distance to karst features of 0 feet (W1 = 2.411), which comprised a very small portion of the study area. Any distance outside of a karst feature, which comprised most of the study area, was considered the weakest predictor of any evidential theme (W2 = -0.122, Table 3) and was associated with areas where training points were not likely to occur.

Though the contrast is not as great for the Soil Hydraulic Conductivity evidential theme, both weights (W1 = 0.368, W2 = -.414) were stronger predictors of association with training points than the negative weight of the Buffered Effective Karst Features evidential theme that comprised most of the study area (W2 = -0.122). Therefore, it would be expected that the response theme would more closely mimic the spatial distribution of the Soil Hydraulic Conductivity evidential theme rather than the Buffered Effective Kast Features evidential theme. Weights associated with the Soil Hydraulic Conductivity theme indicate training points are more likely to occur in areas with a soil hydraulic conductivity greater than 21 ft/day.

Table 3. Weights calculated for each evidential theme and their associated contrast and confidence values.

Evidential Theme	W1 (+)	W2 (-)	Contrast	Confidence	Degree of Confidence*
Soil Hydraulic Conductivity	0.368	-0.414	0.782	1.069	80%
Buffered Effective Karst Features	2.411	-0.122	2.533	2.334	99%

*Degree of Confidence expressed as level of significance (Percentages obtained from Table 3 from Arthur et al. 2017).

2.5. Discussion

The TP training point set model results were not as robust compared to the model results produced with the DIN training point set. This may be due to the size or spatial distribution of the training point set, the presence of naturally occuring phosphorus in Florida soils and groundwater, the evidential themes utilized in the analysis, or the impact of geochemistry on phosphorus transport. Though the TP training point set was not used in the final OCAVA model, the model results do show a similar trend with more vulnerable areas along a northwest to south-central corridor in the western half of the county and less vulnerable areas in the east.

The OCAVA presented in the main text represents relative aquifer vulnerability of the SAS throughout Orange County due to inherent geologic properties (i.e., soil hydraulic conductivity and karst features). The response theme of the OCAVA represents the likelihood of contamination at the surface to reach the SAS. These vulnerability categories may be used to understand where nitrate, phosphorous, or other pollutants from anthropogenic activities are more likely to contaminate the SAS independent of land use.

3. References

Arthur, J. D. et al., 2017. *Florida Aquifer Vulnerability Assessment: Contamination Potential Models of Florida's Principal Aquifer Systems*, Tallahassee, FL: Florida Geological Survey.

Baker, A. E., Wood, A. R. & Cichon, J. R., 2007. *The Leon County Aquifer Vulnerability Assessment*, Tallahassee, FL. Prepared by Advanced GeoSpatial Inc., for the Leon County Board of County Commissioners.

Baker, A. E., Wood, A. R. & Cichon, J. R., 2009a. *The Citrus County Aquifer Vulnerability Assessment*, Tallahassee, FL. Prepared by Advanced GeoSpatial Inc. for the Florida Department of Environmental Protection.

Baker, A. E., Wood, A. R. & Cichon, J. R., 2009b. *The Columbia County Aquifer Vulnerability Assessment*, Tallahassee, FL. Prepared by Advanced GeoSpatial Inc. for the Florida Department of Environmental Protection.

Appendix C: Waterbodies of Interest Memorandum

Waterbodies of Interest

Background

Drummond Carpenter has developed a countywide groundwater vulnerability framework to assess the County's groundwater regions and associated waterbodies that are vulnerable to onsite treatment and disposal system (OSTDS) (septic systems). An important element of this effort is identifying the Waterbodies of Interest (WOIs), which are defined as surface waterbodies such as lakes and rivers that are more likely to be susceptible to groundwater pollution within the surficial aquifer system (SAS), are already considered impaired for water quality, or are otherwise considered important waterbodies within the County in context with this project. Approximately 100-200 WOIs were targeted for selection across the County. The results of the WOI selection are used subsequently in the project to define priority focus areas (PFAs) for the County to prioritize septic systems interventions that can reduce the potential for nutrients to contribute to waterbody impairments through the groundwater pathway.

Waterbodies of Interest Screening and Selection

A screening process was conducted to identify recommended WOIs which are detailed below. A description of the Initial Screening Process and GIS data analysis used (See Exhibit 1 and Table 1):

1. *Waterbodies located within the jurisdiction of Orange County*

   Drummond Carpenter selected waterbodies from the Orange County Hydrology[1] data set that were within, either partially or fully, the jurisdiction of unincorporated Orange County. This resulted in a dataset with 806 records. Of these waterbodies, 320 were "Unnamed Lakes" and 64 were "Unnamed Canals." A visual examination of the Unnamed Lakes and Unnamed Canals indicated that they either had no acreage recorded or were under an acre in size and they often contained structures indicating that they were, functionally, stormwater ponds, roadside swales, drainage ditches, or other infrastructure (visual outlet structures or berms, visibly following road, etc.). These were removed from the dataset.

   The remaining 422 waterbodies were examined further by selecting various waterbody acreage thresholds. An examination of the attribute table after this selection showed that several river and creek segments were not included when the areas were selected by size (area). Similarly, with the selection of waterbodies at other thresholds areas, sections of relevant waterbodies were left off the resulting list. Therefore, we examined the list manually to ensure that relevant sections of creek and rivers were also included. When waterbodies greater than or equal to 10 acres were selected, and waterbodies were within Orange County, the resulting data set contained 279 waterbodies. This was considered the "INITIAL WOI LIST"

[1] Hydrology, *ftp://ftp.onetgov.net/divisions/Infomap/pub/GIS_Downloads/FTP%20Shapefiles/*, 2021

For this assessment it is noted that the naming convention for waterbodies between various data sets was found to be inconsistent. For example, the *Hydrology* data set listed a stream as "Little Econlockhatchee Tributary," however the name for the waterbody in this same physical location provided by the Florida Department of Environmental Protection *Florida Total Maximum Daily Load* dataset was listed as "Crane Strand" or "Crane Strand Drain." Inconsistencies like this between co-located waterbodies were common and created challenges when trying to join data based on waterbody name. Therefore, joins were conducted based on spatial relationships (overlapping or intersecting shapefiles) instead of waterbody names. The naming convention provided in the *Hydrology* data set supplied by Orange County was compared to the naming convention used by the Orange County Property Appraiser[2], and where inconsistencies were present, the name used by the Orange County Property Appraiser was generally used. In some circumstances, local names (e.g., Crane Strand, Little Lake Conway) were used instead of the names in either database. The state water body identification number (WBID) was preserved throughout the geospatial analysis. Waterbodies which did not have a unique WBID were assigned the WBID of the surrounding area.

2. *Waterbodies that are considered "Not Attaining," are part of a TMDL, are listed in BMAPs within the County, or are on the FDEP "Verified List of Non-Attaining Waters"*

   Drummond Carpenter cross-referenced the Initial WOI List with waterbodies that are within a Basin Management Action Plan region, waterbodies with a listed TMDL, waterbodies that were considered "Not Attaining" due to Algae, Chlorophyll-a, Escherichia Coli, Fecal Coliform, Macrophytes, all forms of nitrogen, and total phosphorus, and waterbodies on the FDEP "Verified List of Non-Attaining Waters" due to Algae, Chlorophyll-a, Escherichia Coli, Fecal Coliform, Macrophytes, total nitrogen, and total phosphorus to ensure that these were included in the Initial WOI List for further examination. Many of the waterbodies were cross listed in multiple categories. In all, these regulatory categories comprised 141 of the final WOIs.

3. *Waterbodies associated with Outstanding Florida Waters*

   The waterbodies associated with Outstanding Florida Waters were cross-referenced with the list of WOI's to ensure that these were included in the Initial WOI List. Many of the waterbodies were cross listed with waterbodies in the regulatory categories listed above. In all, the Outstanding Florida Waters database added an additional 13 WOIs to the list.

4. *Waterbodies within closed basins or karst areas that are considered more vulnerable to impairments (due to lack of flushing potential).*

   Waterbodies in closed basins are more vulnerable to water pollution because water will not flush through the basin to dilute or send water downstream. Closed basins are often associated with karst topography (sinkholes) where significant infiltration to the SAS can occur. In order to identify potential WOIs in closed basins, Drummond Carpenter examined GIS layers including the Florida Geological Survey *Swallets* dataset (although the published Swallet dataset did not identify any of these features within the boundaries of Orange County), the FDEP *Elevation*

[2] Orange County Property Appraiser, *Hydro Polygon Shapefile*, 2021.

Contour and Depression dataset, the *Subsidence Incident Reports* database published by the Florida Geological Survey, the *Sinkhole Vulnerability* dataset and model created by the Florida Geological Survey, and the Orange County 100 FT DEM.

The *Elevation Contour and Depression* (FDEP) dataset contained features labeled "Depressions." These were extracted from the dataset, converted from polylines to polygons, merged into singular polygons for each location, and the centroid of each polygon found. This formed a dataset of 4,309 depressions scattered throughout Orange County. A hotspot analysis of depressions did produce "hotspots" of depressions that corresponded with the *Sinkhole Vulnerability* dataset and model created by the Florida Geological Survey. Waterbodies within the regions identified as "Hot Spots" with a 90% or higher confidence level were selected.

The Subsidence Incident Report GIS database is compiled by the FL Geological Survey and maintains user-reported records of subsidence incidents throughout the Florida[3]. This dataset documented 211 Subsidence Incident report locations in Orange County, with recorded incidents dating back to 1960. This dataset was further refined by selecting incident sites that were either listed as a true sinkhole (3 locations) or contained comments in the incident report that indicated the sinkhole was a significant size or had significant impact on the landscape around it (44 locations). For this analysis, these sites were considered "likely sinkholes," although the database metadata states that the majority of the incidents have not been field-checked and the cause of subsidence is not confirmed.

The refined data was compared with the Florida Geological Society Sinkhole Favorability[4] model results. This effort worked to map sinkhole incidents across the state and model the corresponding favorability of the geology to sinkhole formation. Visually, the subsidence incident reports did appear to coincide with Sinkhole Favorability. A "hotspot" analysis of the subsidence incident report identified a region of high sinkhole incidence that corresponded with the "Favorable" region for sinkholes. The WOI dataset had 162 waterbodies that were either located fully within or partially within the regions considered "favorable" for sinkholes. There were 4 waterbodies partially within the areas considered "Most Favorable" for sinkholes. The 4 waterbodies partially within the "most favorable" areas also had areas partially within the "favorable" areas.

Drummond Carpenter also completed a modified fill and subtract analysis of the DEM to identify landscape sinks. The "FILL" geoprocessing tool fills sinks in a surface raster in preparation for other geoprocessing. However, a "filled" raster can also be used to identify surface sinks if the original raster is subtracted from the filled. While this process did identify surface sinks, it did not provide new information to help further identify WOIs.

[3] Subsidence Incident Reports, Florida Geological Survey, 2021, https://floridadep.gov/fgs/sinkholes/content/subsidence-incident-reports

[4] The Favorability of Florida's Geology to Sinkhole Formation, 2017, http://publicfiles.dep.state.fl.us/FGS/FGS_Publications/FGS%20Library%20Documents/GreyLit/Misc/DEMSinkholeReport.pdf

The various "Closed Basin and Karst Areas" analyses that were completed and the datasets that were examined identified regions with sinkholes or that were favorable to sinkholes. These datasets were cross-referenced with the list of WOIs, and these waterbodies were already identified as WOIs, which suggests that waterbodies in regions susceptible to sinkholes and karst topography may be more likely to be impaired. Many of the waterbodies were cross listed with waterbodies in the regulatory categories listed above. In all, the Sinkhole Hotspot did not add WOIs to the list.

5. *Other WOIs*

   Other WOIs were selected based on additional criteria, such as proximity to dense septic areas, previous studies that identified lakes as potentially impaired from groundwater, or other waterbodies that are considered important to Orange County. These account for an additional 18 waterbodies.

6. *Waterbodies in each BOCC district.*

   The final list of WOIs did contain waterbodies in each of the Board of County Commissioner's District in Orange County, with several waterbodies that spanned BOCC district boundaries.

Board Of County Commissioner's District	***Number of Recommended WOIs in District***
1	58
2	35
3	21
4	13
5	38
6	11

7. *Water Quality data availability*

   Of the Recommended WOIs, all but 29 had nutrient water quality data available through the Orange County Water Atlas. This water quality data varied in date collection range, agency or group that collected the data, and parameters measured.

Final examination and analysis:

As part of the final analysis, each waterbody was examined within the context of regulatory classification (i.e., part of a TMDL, BMAP, or with an impaired status), potential for sinkholes / closed basins, and septic system density with proximity to waterbodies. The finalized dataset of Recommended Waterbodies of Interest is presented as ***Table 1***. This dataset contains 173 Recommended WOIs. Refer to the location and status of each WOI is shown on the map ***Exhibit 1.***

Table 1
Waterbodies of Interest

Hydrologic ID Number	Waterbody Name	Waterbody ID	Recommended *Waterbody of Interest*	Considered "Not Attaining?"	TMDL Adopted?	Located in a BMAP Area?	In a Potential Karst Area?	On the FDEP List of Verified Impairments?[2]	Considered an "Outstanding Florida Water?"	Water Quality Data Available?
1	LAKE BUTLER	3170Q	Yes	Yes	No	Yes	No	Yes	Yes	Yes
2	LAKE CHAPIN	3170F5*	Yes	No	No	Yes	No	No	No	Yes
3	LAKE REXFORD	3170FC	Yes	No	No	Yes	No	No	No	Yes
4	LAKE PEARL EAST	3009J	Yes	Yes	No	Yes	No	No	No	Yes
5	LAKE GATLIN	3168D	Yes	No	No	Yes	No	No	No	Yes
6	LAKE LUCY	3002	Yes	No	No	Yes	No	No	No	Yes
7	LAKE STANLEY	3002O	Yes	No	No	Yes	No	No	No	Yes
8	LAKE MARSHA	3169E	Yes	No	No	Yes	No	No	No	Yes
9	LAKE SPEER	3170G2	Yes	No	No	Yes	Yes	No	No	Yes
10	GREEN BRANCH	3047	Yes	No	No	No	No	No	Yes	No
11	LAKE STANDISH	2841*	Yes	No	No	Yes	No	No	No	No
12	LAKE JENNIE JEWEL	3168J	Yes	No	No	Yes	No	No	No	Yes
13	TROUT LAKE	3002A1*	Yes	No	No	Yes	No	No	No	Yes
14	EMERALD SPRINGS BASIN	3004*	Yes	No	No	Yes	No	No	No	No
15	LAKE PICKETT	3003	Yes	No	No	No	No	No	No	Yes
16	LAKE OLA	2836B	Yes	No	No	Yes	No	No	No	Yes
17	LAKE CONE	28932	Yes	No	No	No	No	No	No	Yes
18	MUD LAKE	28935*	Yes	No	No	No	No	No	Yes	Yes
19	ECONLOCKHATCHEE RIVER	2991	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
20	LITTLE LAKE CONWAY	3168A1	Yes	No	No	Yes	No	No	No	Yes
21	LAKE AVALON	2873B	Yes	No	No	Yes	Yes	No	No	Yes
22	LAKE HANCOCK	3170G1	Yes	No	No	Yes	Yes	No	No	Yes
23	LAKE EVE	3169A*	Yes	No	No	Yes	No	Yes	No	Yes
24	TOOTOOSAHATCHEE CREEK	3035	Yes	No	No	No	No	No	Yes	Yes
25	LITTLE LAKE FAIRVIEW	3004H	Yes	No	No	Yes	No	No	No	Yes
26	LAKE PRICE	3012A	Yes	No	No	No	No	No	No	Yes
27	LAKE TUCKER	3169C1*	Yes	No	No	Yes	No	No	No	Yes
28	LAKE HOURGLASS	3168X2	Yes	Yes	No	Yes	No	Yes	No	Yes
29	LAKE IHRIG	3170IA*	Yes	No	No	Yes	Yes	No	No	Yes
30	LAKE ANDERSON	3168E	Yes	Yes	Yes	Yes	No	Yes	No	Yes
31	LAKE HOLDEN	3168H	Yes	Yes	Yes	Yes	No	No	No	Yes
32	LAKE OLIVIA	3002K	Yes	No	No	No	No	No	No	Yes
33	LAKE CANE	3169J	Yes	No	No	Yes	No	No	No	Yes
34	LAKE COHEN	2967*	Yes	No	No	Yes	No	No	No	No
35	SECOND CREEK	3042*	Yes	No	No	No	No	No	Yes	No
36	LAKE NEEDHAM	3170IA*	Yes	No	No	Yes	Yes	No	No	Yes
37	LAKE ELLENoR	3169A1	Yes	No	No	Yes	No	No	No	No
38	WHISPERWOOD LAKE	3169A*	Yes	No	No	Yes	No	No	No	No
39	LAKE FLOYD	31702A	Yes	No	No	Yes	No	No	No	Yes
40	LAKE GIFFORD	3170FB	Yes	No	No	Yes	No	No	No	Yes
41	LAKE HENEY	3170F4*	Yes	No	No	Yes	Yes	No	No	No
42	LAKE NAN	3009H	Yes	Yes	No	Yes	No	Yes	No	Yes
43	CARDINAL POND	3170G*	Yes	No	No	Yes	Yes	No	No	Yes
44	LAKE DOWNEY	3024	Yes	No	No	No	No	No	No	Yes
45	LITTLE LAKE BARTON	3023A*	Yes	Yes	No	No	No	Yes	No	No
46	POCKET LAKE	3170H2	Yes	No	No	Yes	No	No	Yes	Yes
47	CLUB LAKE	2989*	Yes	No	No	Yes	Yes	No	No	No
48	SETTLEMENT CREEK	3042*	Yes	No	No	No	No	No	Yes	No
49	LAKE LOCKHART	3004*	Yes	No	No	Yes	No	No	No	Yes
50	LAKE PEARL WEST	2872B	Yes	No	No	Yes	No	No	No	Yes
51	LAKE SUE	2997I	Yes	No	No	Yes	No	No	No	Yes
52	LAKE WILLIS	3169M	Yes	No	No	Yes	No	No	No	Yes

Table 1
Waterbodies of Interest

DRUMMOND CARPENTER

Hydrologic ID Number	Waterbody Name	Waterbody ID	Recommended *Waterbody of Interest*	Considered "Not Attaining?"	TMDL Adopted?	Located in a BMAP Area?	In a Potential Karst Area?	On the FDEP List of Verified Impairments?[2]	Considered an "Outstanding Florida Water?"	Water Quality Data Available?
53	LAKE BARTON	3023E	Yes	No	No	No	No	Yes	No	Yes
54	LAKE MARE PRAIRIE	3168Q	Yes	Yes	No	Yes	No	Yes	No	Yes
55	REEDY LAKE	3170F4*	Yes	No	No	Yes	No	No	No	Yes
56	LONG LAKE	3002T	Yes	No	No	Yes	No	No	No	Yes
57	LAKE BUMBY	3168W7	Yes	Yes	Yes	Yes	No	Yes	No	Yes
58	LAKE SUSANNAH	3023C	Yes	No	No	No	No	No	No	Yes
59	LAKE MAGGIORE	2841*	Yes	No	No	Yes	Yes	No	No	Yes
60	LAKE TANNER	3019	Yes	No	No	No	No	No	No	Yes
61	LAKE RUBY	3169A4	Yes	No	No	Yes	No	No	No	Yes
62	DREAM LAKE	2993A	Yes	No	No	Yes	No	No	No	Yes
63	LAKE SARAH	3004F	Yes	No	N	Yes	No	No	No	Yes
64	RACCOON LAKE	3170FD	Yes	No	No	Yes	No	No	No	Yes
65	LAKE LA GRANGE	3168Z*	Yes	No	No	Yes	No	No	No	Yes
66	PALM LAKE	31703	Yes	No	No	Yes	No	No	No	Yes
67	PHILLIPS PONDS	31702*	Yes	No	No	Yes	No	No	No	Yes
68	LAKE BRYAN	3169N	Yes	No	No	Yes	No	No	No	Yes
69	LITTLE BRYAN LAKE	3169A5	Yes	No	No	Yes	No	No	No	Yes
70	LAKE CLAIRE	3001C*	Yes	No	No	No	No	No	No	Yes
71	LAKE GEM MARY	3168W1	Yes	No	No	Yes	No	No	No	Yes
72	LAKE DILLARD	2827*	Yes	No	No	Yes	Yes	No	No	No
73	LAKE HILL	3004S	Yes	No	No	Yes	No	No	No	Yes
74	LAKE BRENDA	3170J1*	Yes	No	No	Yes	No	No	Yes	Yes
75	LAKE MARGARET	3168P	Yes	No	No	Yes	No	No	No	Yes
76	LAKE TENNESSEE	3168X1	Yes	No	No	Yes	No	No	No	Yes
77	LAKE ALMA	2993B*	Yes	No	No	Yes	No	No	No	No
78	LAKE RUTHERFORD	2835B*	Yes	No	No	Yes	No	No	No	No
79	LAKE CAWOOD	3170G*	Yes	No	No	Yes	Yes	No	No	No
80	TOOTOOSAHATCHEE CREEK	3035	Yes	No	No	No	No	No	Yes	Yes
81	LAKE FISCHER	3002M*	Yes	No	No	Yes	No	No	No	Yes
82	LAKE PREVATT	2993	Yes	Yes	No	Yes	No	No	Yes	Yes
83	LAKE CARLTON	2837B	Yes	Yes	Yes	Yes	No	No	No	Yes
84	LAKE PINELOCH	3168I	Yes	No	No	Yes	No	No	No	Yes
85	LAKE BURKETT	3009C	Yes	No	No	Yes	No	No	No	Yes
86	LAKE ISLEWORTH	3170X	Yes	No	No	Yes	No	No	Yes	Yes
87	LAKE ANNE	2854*	Yes	No	No	Yes	No	No	No	Yes
88	LAKE HALL	3009G*	Yes	No	No	Yes	No	No	No	No
89	LAKE EBBY	3001C*	Yes	No	No	No	No	No	No	Yes
90	LAKE LEE	3001C*	Yes	No	No	No	No	No	No	Yes
91	LAKE GIBSON	3036B*	Yes	No	No	No	No	No	No	No
92	HART BRANCH	3043*	Yes	No	No	No	No	No	Yes	Yes
93	FISH LAKE	3170Z1	Yes	No	No	Yes	No	No	Yes	Yes
94	LAKE GEAR	3023D	Yes	No	No	No	No	No	No	Yes
95	LAKE JENNIFER	2991*	Yes	No	No	No	No	No	No	Yes
96	LAKE CHRISTIE	3169S	Yes	No	No	Yes	No	No	No	Yes
97	LAKE BARTHO	2965B*	Yes	No	No	Yes	Yes	No	Yes	No
98	DISSTON CANAL	2991*	Yes	No	No	Yes	No	No	Yes	Yes
99	LAKE BUCHANNAN	3169A3	Yes	No	No	Yes	No	No	No	Yes
100	LAKE WILLISARA	3168Z*	Yes	No	No	Yes	No	No	No	Yes
101	LAKE SUZANNE	2991*	Yes	No	No	No	No	No	No	No
102	TURKEY CREEK	3053	Yes	No	No	No	No	No	Yes	No
103	LAKE TYLER	3169A2	Yes	Yes	No	Yes	No	No	No	Yes
104	LAKE CHASE	3170Y	Yes	No	No	Yes	No	No	Yes	Yes

Table 1
Waterbodies of Interest

Hydrologic ID Number	Waterbody Name	Waterbody ID	Recommended *Waterbody of Interest*	Considered "Not Attaining?"	TMDL Adopted?	Located in a BMAP Area?	In a Potential Karst Area?	On the FDEP List of Verified Impairments?[2]	Considered an "Outstanding Florida Water?"	Water Quality Data Available?
105	LAKE LOUISE	3170W	Yes	No	No	Yes	No	No	Yes	Yes
106	LAKE WILKENS	2967*	Yes	Yes	Yes	Yes	No	No	No	No
107	LAKE BUYNAK	3170J1*	Yes	No	No	Yes	No	No	No	No
108	WALSH POND	3170G*	Yes	No	No	Yes	Yes	No	No	No
109	COWPEN BRANCH CREEK	3043	Yes	No	No	No	No	No	Yes	Yes
110	HORSESHOE LAKE	3002A	Yes	No	No	Yes	No	No	No	Yes
111	LAKE SLOAT	3169C1*	Yes	No	No	Yes	No	No	No	Yes
112	SANDY LAKE	3169T	Yes	Yes	No	Yes	No	Yes	No	Yes
113	LAKE INGHRAM	3170L	Yes	No	No	Yes	Yes	No	No	Yes
114	LAKE GEORGIA	3009E	Yes	No	No	Yes	No	No	No	Yes
115	LAKE BOSSE	3004*	Yes	No	No	Yes	No	No	No	Yes
116	LAKE MARTHA	3009B	Yes	No	No	Yes	No	No	No	Yes
117	LAKE LUNTZ	2875*	Yes	No	No	Yes	No	No	No	No
118	BASS LAKE	3168F	Yes	Yes	Yes	Yes	No	Yes	No	Yes
119	LAKE DOWN	3170S	Yes	No	No	Yes	No	Yes	Yes	Yes
120	LAKE KILLARNEY	2997X	Yes	No	No	Yes	No	No	No	Yes
121	LAKE LAWNE	3004C	Yes	Yes	Yes	Yes	No	No	No	Yes
122	JIM CREEK	3042	Yes	No	No	Yes	No	No	Yes	Yes
123	LAKE WAUNATTA	3009A	Yes	No	No	Yes	No	No	No	Yes
124	LAKE DRAWDY	3033D	Yes	No	No	No	No	No	No	Yes
125	LAKE ROPER	2875C	Yes	No	No	Yes	Yes	No	No	Yes
126	LAKE BLANCHE	3170U	Yes	No	No	Yes	No	No	Yes	Yes
127	TAYLOR CREEK	3059A	Yes	No	No	No	No	No	Yes	Yes
128	HUCKLEBERRY LAKE	3170M	Yes	No	No	Yes	Yes	No	No	Yes
129	LAKE SAWYER	3170P	Yes	No	No	Yes	No	No	No	Yes
130	LAKE MARY	3168O	Yes	No	No	Yes	No	No	No	Yes
131	LAKE REAMS	3170G6	Yes	No	No	Yes	No	No	No	Yes
132	LAKE SAN SUSAN	3169G1*	Yes	No	No	Yes	No	No	No	Yes
133	LAKE LERLA	2967*	Yes	No	No	Yes	Yes	No	No	No
134	CORNER LAKE	3033C	Yes	No	No	No	No	No	No	Yes
135	LAKE ROBERTS	2872A	Yes	Yes	Yes	Yes	No	No	No	Yes
136	LAKE SHEEN	3170H1	Yes	No	No	Yes	No	No	Yes	Yes
137	TURKEY CREEK	3053	Yes	No	No	No	No	No	Yes	No
138	LAKE POINSETT	2893K	Yes	No	No	No	No	No	Yes	Yes
139	LAKE MCCOY	2993C	Yes	No	No	Yes	No	No	No	Yes
140	LAKE GRASSMERE	2967*	Yes	No	No	Yes	No	No	No	No
141	LAKE STARLITE	3002A1*	Yes	No	No	Yes	No	No	No	Yes
142	LAKE SHADOW	3011B	Yes	No	No	Yes	No	No	No	Yes
143	BAY LAKE	3004G	Yes	Yes	Yes	Yes	No	No	No	Yes
144	LAKE FAIRVIEW	3004N	Yes	No	No	Yes	No	No	No	Yes
145	LAKE IRMA	3017	Yes	No	No	No	No	No	No	Yes
146	LAKE CRESCENT	3170R	Yes	No	No	Yes	No	No	No	Yes
147	LAKE HARTLEY	3170G*	Yes	No	No	Yes	Yes	No	No	No
148	LAKE GANDY	3004J	Yes	No	No	Yes	No	No	No	Yes
149	LAKE LARTIGUE	3170G4	Yes	No	No	Yes	Yes	No	No	Yes
150	LAKE ROWENA	2997J	Yes	No	No	Yes	No	No	No	Yes
151	LAKE BESSIE	3170T	Yes	No	No	Yes	No	No	No	Yes
152	LAKE TIBET	3170Y	Yes	No	No	Yes	No	No	Yes	Yes
153	LAKE HART	3171	Yes	No	No	Yes	No	No	No	Yes
154	LAKE ROUSE	3024A1	Yes	No	No	No	No	No	No	Yes
155	LAKE ORLANDO	3004K	Yes	Yes	No	Yes	No	No	No	Yes
156	LAKE CONWAY	3168A	Yes	No	No	Yes	No	No	No	Yes

Table 1
Waterbodies of Interest

Hydrologic ID Number	Waterbody Name	Waterbody ID	Recommended *Waterbody of Interest*	Considered "Not Attaining?"	TMDL Adopted?	Located in a BMAP Area?	In a Potential Karst Area?	On the FDEP List of Verified Impairments?[2]	Considered an "Outstanding Florida Water?"	Water Quality Data Available?
157	LAKE MARY JANE	3171A	Yes	No	*No*	*Yes*	*No*	No	*No*	Yes
158	LITTLE ECONLOCKHATCHEE RIVER	3001B/C	Yes	*Yes*	*Yes*	*No*	*No*	*Yes*	No	*Yes*
159	CRANE STRAND	3023	Yes	Yes	*Yes*	*No*	*No*	No	*No*	Yes
160	LITTLE CREEK	3054	Yes	*No*	*No*	*No*	*No*	*No*	Yes	*No*
161	LAKE STARKE	3002D/E	Yes	Yes	*No*	*Yes*	*No*	Yes	*No*	Yes
162	LAKE LOTTA	3002G	Yes	Yes	*No*	*Yes*	*No*	Yes	*No*	Yes
163	LAKE HIAWASSEE	3002J	Yes	*No*	*No*	*Yes*	*No*	*No*	*No*	Yes
164	SAW GRASS LAKE	3170G3	Yes	*No*	*No*	*Yes*	Yes	*No*	*No*	Yes
165	LAKE ROSE	3002I	Yes	*No*	*No*	*Yes*	*No*	*No*	*No*	Yes
166	LAKE WILLIAM DAVIS	3170J1*	Yes	*No*	*No*	*Yes*	*No*	*No*	*No*	Yes
167	LAKE ESTES	3170J3	Yes	*No*	*No*	*Yes*	*No*	*No*	*No*	Yes
168	LAKE WESTON	3011A	Yes	Yes	*No*	*Yes*	*No*	Yes	*No*	Yes
169	HICKORY NUT LAKE	3170I	Yes	Yes	*No*	*Yes*	Yes	Yes	*No*	Yes
170	BIG SAND LAKE	3169C	Yes	No	*No*	*Yes*	*No*	No	*No*	Yes
171	PANTHER LAKE	3170I2	Yes	*No*	*No*	*Yes*	Yes	*No*	*No*	Yes
172	JOHNS LAKE	2873C	Yes	Yes	*No*	*Yes*	Yes	*No*	*No*	Yes
173	SHINGLE CREEK	3169A	Yes	Yes	*No*	*Yes*	No	*No*	*No*	Yes

Appendix D: Applied Ecology, Inc. Septic and Sewer Spatial Analysis Technical Memorandum

SEPTIC AND SEWER SPATIAL ANALYSIS TECHNICAL MEMORANDUM REPORT

DATA COLLECTION AND RECOMMENDATIONS REPORT

MARCH 2023

PREPARED FOR:

Drummond Carpenter, PLLC

47 E. Robinson St., Suite 210

Orlando, FL 32801

PREPARED BY:

Applied Ecology, Inc.

1080 Woodcock Road, Suite 245

Orlando, FL 32803

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

LIST OF APPENDICES

INTRODUCTION

Orange County has retained the team of Drummond Carpenter PLLC. (DC) and Applied Ecology, Inc. (AEI) to assist the County with developing an aquifer vulnerability assessment and management plan to address Onsite Sewage Treatment and Disposal systems' (OSTDS), also referred to as septic systems', influence on nitrogen pollution. AEI has developed a methodology for assigning confidence of parcel wastewater infrastructure that will help assess potential septic-based nitrogen pollution of the surficial aquifer countywide. This report describes the key variables and methodologies needed to prioritize retrofit areas and rank potential septic to sewer projects within Orange County to aid management plan development. In this report, a parcel serviced by central sewer is referred to as a "sewer" parcel and to those serviced by OSTDS as a "septic" parcel.

Septic systems are known inputs of nutrients to water systems, particularly those located near impaired waters, in soil with high hydraulic conductivity, and in areas with shallow groundwater. An overabundance of nutrients, eutrophication, has caused impairments in many of Florida's waters, resulting in overabundance of algal bloom conditions, reductions of dissolved oxygen, and subsequent loss of aquatic life. Clean Waterways Act, now Chapter 2020-150, Laws of Florida, places priority measures to minimize the impact of OSTDS by transferring authority for these systems to Florida Department of Environmental Protection (FDEP) from Florida Department of Health (FDOH) and prioritizing remediation plans for OSTDS in areas with Basin Management Plans (BMAPs). Through this bill FDEP has been directed to adopt new rules related to OSTDS. These rules will supersede the existing statutory requirements for setbacks and take into consideration conventional and advanced OSTDS designs, impaired water bodies, wastewater and drinking water infrastructure, potable water sources, non-potable wells, stormwater infrastructure, OSTDS remediation plans, and nutrient pollution. An important focus of this Act is the requirement that local governments develop OSTDS remediation plans within BMAPs if the FDEP determines that OSTDSs contribute at least 20 percent of the nutrient pollution or if the DEP determines remediation is necessary to achieve the total maximum daily load. Such plans must be adopted as part of the BMAPs no later than July 1, 2025. Orange County is being proactive in initiating a plan to identify the most vulnerable regions of the county to sources of septic-based groundwater solution before additional requirements have been identified by FDEP.

Identifying areas vulnerable to elevated sources of nutrient loads is important because total nitrogen and total phosphorus are major groundwater and surface water pollutants generated by OSTDS (Badruzzman et al 2012; Briggs et al. 2007; Wang et al. 2012; Ye et al. 2014; Ye et al. 2017; Zhu et al. 2016). There are many variables that influence pollution rates from OSTDS like soil denitrification rates and other variables considered in this analysis but converting existing septic systems to properly functioning sewer will help reduce pollution rates by eliminating septic leachate to the groundwater.

The scope of work completed by AEI included data acquisition, spatial analysis, and the development and implementation of a ranking system to prioritize subdivisions based on the potential for these areas to contribute to the eutrophication of the nearby water systems.

Deliverables for this work include:

- File Geodatabase with final spatial layers used in the reporting effort, including the septic inventory with associated level of confidence, distances to force/gravity mains, and priority areas for retrofit.
- Draft Septic and Sewer Spatial Analysis Technical Memorandum Report summarizing the above-described efforts with level of confidence tables, septic density maps (current and potential future), population household change maps, distance to current sewer infrastructure, and priority retrofit area.

To meet the objectives described above, AEI collected relevant ancillary GIS datasets, including septic inventory, current sewer infrastructure, current land use, hydrographic features, elevation datasets, census and census-derived datasets, Property Appraiser's (PA) data, among others. These data were organized in an ESRI File Geodatabase. Orange County's septic inventory was compared against FDEP's, FDOH's and infrastructure and billing records within the county to produce a refined septic inventory for the area of interest. For consistency purposes, AEI provided the septic inventory to Orange County's Utilities (OCU) and a consolidated final septic inventory layer, approved by OCU, was used for subsequent prioritization analysis. Orange County subdivisions served primarily by OSTDS (defined as greater than 50% of the total parcels) were selected for ranking based on their potential to contribute to nutrient pollution via groundwater sources (Figure 1).

Parameters used in the ranking process included:

- septic density (number divided by total area)
- mean Orange County Aquifer Vulnerability Assessment (OCAVA) class (provided by DC)
- percent subdivision in impaired surface or spring watershed
- housing density change (2020-2050)
- population density (2010) and population density change (2000-2020)
- mean year built
- percent of subdivision within an impaired surface watershed or springshed
- mean distance to water
- mean elevation

In order to prioritize subdivisions for potential retrofit (connection to a central sewer system), an additional vulnerability ranking system (connectivity ranking system) was developed to include an additional variable, the distance to existing infrastructure (force main & gravity main). This distance provides a generalized proxy for potential cost associated with connection, though an engineering evaluation would be required to provide a more detailed analysis of constraints and costs associated with each of high priority subdivision.

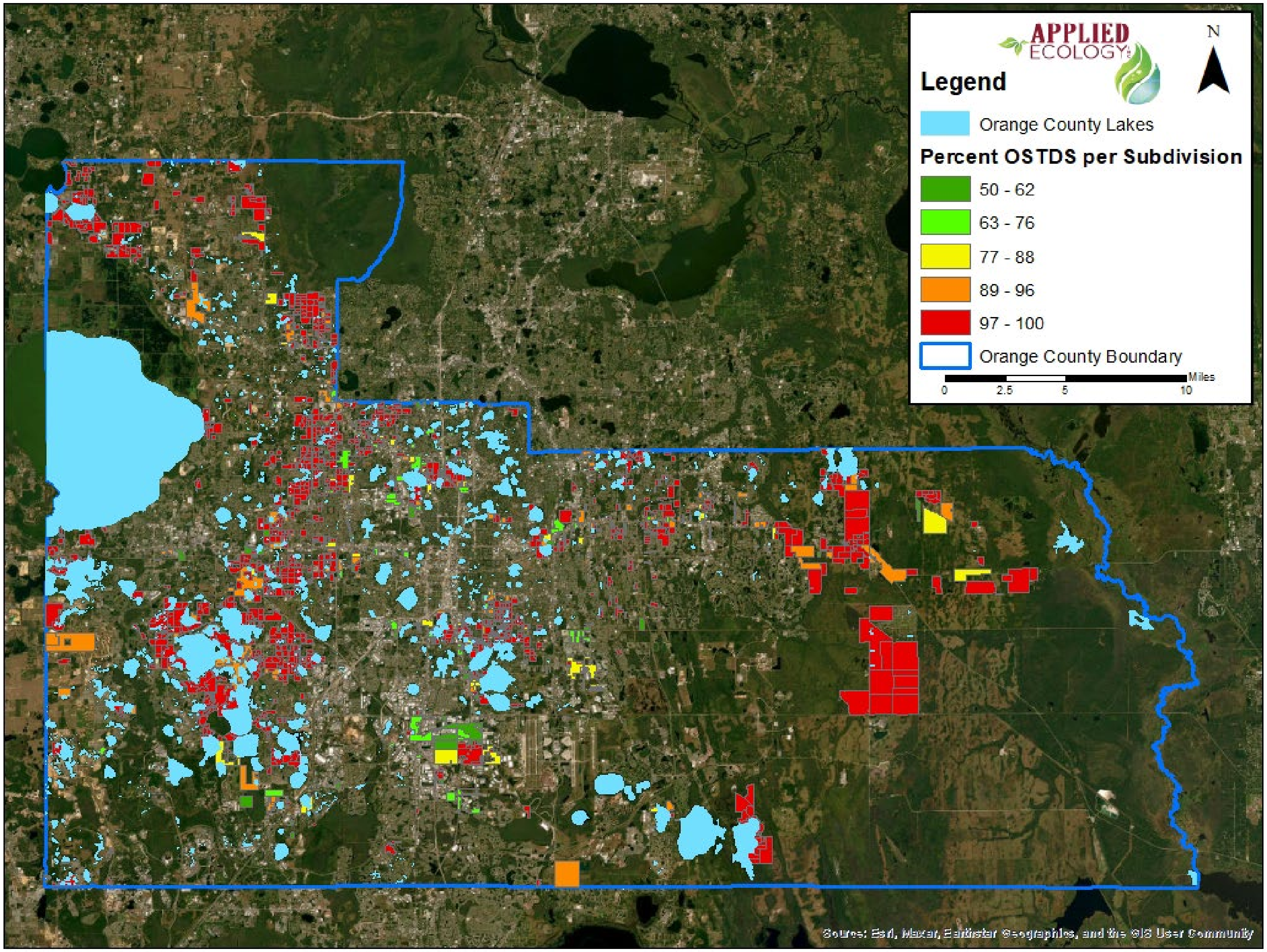


Figure 1. The geographic location of subdivisions with greater than 50% OSTDS with Orange County, Florida.

The final weighted and unweighted vulnerability ranking systems used the listed individual variables to determine locations that contribute nutrient source pollution into the groundwater. Examples would be areas with higher septic density, or higher population per household, and/or distance to waterbody, would be ranked as priority retrofit areas with high vulnerability of groundwater source pollution.

Results from the vulnerability and connectivity ranking systems are presented in Appendix A and B, while the top 15 subdivisions within Orange County are presented here in Table 1. Appendix A contains the raw values for each of the parameters used in the development of pollution potential and Appendix B contains the associated ranking values assigned to each of the parameters along with the final prioritization ranking systems values. The subdivisions were ranked using a ranking system of prioritization of the above listed individual parameters, with each ranking placing different weights to the parameters. In both vulnerability ranking systems, four subdivisions were ranked within the top 15 subdivisions for their likelihood to contribute nutrient pollution including Wekiwa Manor Section 1, Piedmont Estates, and Long Lake Villas Phase 1B, and Eden Park, respectively. The connectivity prioritization ranking system ranked highest priority among the four subdivisions from the vulnerability ranking system along with Lake Florence Highlands Phase 1 subdivision and the Lake Lucy Estates. All other subdivisions within the three ranking systems had different ranks. In addition to the overall vulnerability ranking, ancillary information associated with infrastructure can assist with the engineering planning and community outreach efforts.

Table 1.Top subdivisions among final ranking systems within the Orange County, Florida.

Rank	Unweighted Vulnerability Ranking System	Weighted Vulnerability Ranking System	Weighted Connectivity Ranking System
1	Wekiwa Manor Section 1	Lake Florence Highlands Phase 1	Lake Florence Highlands Phase 1
2	Piedmont Estates	Wekiwa Manor Section 1	Wekiwa Manor Section 1
3	Ranchette	Piedmont Estates	Piedmont Estates
4	Wells Gap	Lake Lucy Estates	Lake Lucy Estates
5	Suburban Homes	Long Lake Villas Phase 1B	Long Lake Villas Phase 1B
6	Long Lake Villas Phase 1B	Eden Park Estates	University Garden
7	Anderson George W	Sleepy Hollow Phase 1	Trout Lake Camp
8	Wentrop Shores	University Garden	Citrus Oaks Phase 4
9	Florence Park	Little Lake Georgia Terrace	Eden Park Estates
10	Riverside Acres	Trout Lake Camp	Sleepy Hollow Phase 1
11	Rio Grande Homesites	Citrus Oaks Phase 4	Riverside Acres 3rd Addition
12	Riverside Acres 2nd Addition	Troynelle By Big Lake Apopka	Lake Cortez Woods
13	Rimar Ridge	Lake Florence Estates	Lake Barton Park
14	Suburban Homes	Vanguard Heights	West Riverside Acres Rep
15	Eden Park Estates	Citrus Oaks Phase 3	Waikiki Beach 1st Addition

METHODOLOGY

The process of assessing Orange County aquifer vulnerability is data intensive, requiring many different data sources and types (Table 2). Assigning a level of confidence to the septic or sewer parcel identification (inventory) required developing systematic rules to compare various data sources and types (Table 3). The process of ranking priority retrofit areas also required the synthesis and aggregation of many data sets from a variety of sources and the use of statistical classification methods.

DATA SOURCES AND VARIABLES

This vulnerability assessment was able to integrate many previously disparate data sources. A table has been provided to identify the sources for each required data set in this study (Table 2).

Table 2. Data sources used as basis for ranking pollution potential for subdivisions within Orange County, Florida.

Name	Source	Data Purpose and Description
Subdivisions	Orange County	Orange county geographic data included subdivision features.
Septic Locations	FLWMI, Orange County, Orange County Utilities, & City of Ocoee	FLWMI septic data were used as the starting point for determining locations of the septic parcels. The FLWMI data were used as the base of the data because it appeared more complete compared to other sources, except for the data directly received from Orange County, Utilities, and cities, for septic tank information. These data were then compared to the existing sewer feature classes (sewer gravity line, pressure line, and manholes) to exclude areas that were serviced by central sewer. Final septic inventory used was approved by Orange County Utilities.
Sewer Infrastructure	Orange County Utilities, City of Apopka, Ocoee, Orlando, Maitland, Winter Garden, Winter Park, & Town of Mount Dora	Orange County Utilities geographic data included sewer infrastructure information. Orange County Utilities billing data was used to confirm addresses of parcels receiving sewer service. City and Town sewer infrastructure data also used to confirm sewer services to land parcel locations.
Demographic Variables	US Census, SILVIS, & SEDAC	Census data detailing population density, housing density, social and economic structure.
Waterbodies	Orange County	Orange County provided data including a hydrology shapefile containing lakes, ponds, rivers, canals, and springs.
Land Parcel	Orange County	Orange County Property Appraiser's parcel layer was used because it was the most complete source. Centroids of parcels were assumed as the location of the septic tanks. The edges of parcels were used to determine distances to sewer infrastructure (gravity and force mains). Land parcel maps were used to assess both status (vacant,

Name	Source	Data Purpose and Description
		single family, multi-family) for septic systems and proximity analysis to environmental and socioeconomic census data.
WBID	FDEP	Waterbody identification number is a State of Florida unique numeric identifier assigned to each waterbody. Used as an identifier for each waterbody throughout analysis. Also used to help identify impaired watershed areas within Orange County.
Spring Priority Focus Areas	FDEP	Area with the greatest potential impact to a specific spring within the State of Florida. Spring protection zones are priority areas for BMAP project identification and funding that are based on assumed or modeled groundwater travel time to target springs and high likelihood of land use activities to significantly influence the spring's water quality.
Total Maximum Daily Loads (TMDL)	FDEP	The maximum amount of a pollutant that a waterbody or water segment can assimilate from all sources without exceeding water quality standards. Used to identify concentration or load reduction targets needed to restore water quality.
Reasonable Assurance Plan (RAP)	FDEP	Under EPA regulations the state of Florida Watershed Restoration Act allows a RAP as a plan of restoring an impaired waterbody. Used to identify and track waterbodies with Reasonable Assurance Plans.
Orange County Aquifer Vulnerability Assessment (OCAVA)	Drummond Carpenter	This model predicts the relative vulnerability to the Surficial Aquifer System (SAS) within the boundaries of Orange County. The model estimates the likelihood for a pollutant to reach the top of the SAS once into is introduced to the top or within the unsaturated zone.

Level of Confidence Sewer and Septic with Decision Rules

Decision points were necessary to classify each parcel's confidence of wastewater infrastructure to better inform the accuracy of the wastewater type associated with each parcel (Table 3). It was important to go through this effort to make sure the wastewater infrastructure information was as complete and correct as possible so that accurate conclusions could be made in the prioritization process. Vacant data was also included in this effort because it could better inform the County if the parcels were developed after completion of prioritizing each subdivision. Directly below Table 3 is a detailed breakdown of how those decisions were made at each decision point supported by available data.

Sewer allocation Decision Rules

- There is an extremely high confidence that the parcel is serviced by central sewer, if billing data exists and there are sewer laterals connecting the parcel.
- There is a high confidence that the parcel is serviced by central sewer, if billing data exists and no sewer laterals exist, but there are nearby sewer gravity lines.
- There is a high confidence that the parcel is serviced by central sewer, if no billing data exists, but lateral data show the parcel is connected and FLWMI indicates it is likely sewer.
- There is a medium confidence that the parcel is serviced by central sewer, if there is no billing data and no nearby sewer laterals exist, but there are nearby sewer mains and FLWMI states it is likely sewer.
- There is a low confidence that the parcel is serviced by central sewer, if there is no billing data, no nearby sewer laterals or main and it is listed as likely sewer in FLWMI and not in the Orange County (OC) inventory as being vacant or not having wastewater data.
- There is a very low confidence that the parcel is serviced by central sewer, if no billing data exists, no sewer laterals or mains present, and it is listed as somewhat likely sewer in FLWMI and it is not in the OC inventory as being vacant or without wastewater.

Septic allocation Decision Rules

- There is an extremely high confidence that the parcel is serviced by septic, if no billing data exists, there is no infrastructure present, it is listed as known septic in FLWMI and not considered vacant by the Property Appraiser (PA), and the OC Property use inventory assigned it as not having wastewater data.
- Additionally, an extremely high confidence was assigned to septic parcels that were specifically identified by Orange County Utilities that were within the County's unincorporated areas.
- There is a very high confidence that the parcel is serviced by septic, if no billing data exists, there is no infrastructure present, it is listed as likely septic in FLWMI, not considered vacant in PA, and the OC Property use inventory assigned it as not having wastewater data.
- There is a high confidence that the parcel is serviced by septic, if no billing data exists, no infrastructure present, somewhat likely septic in FLWMI, not considered vacant by PA, but OC Property use inventory assigned it as not having wastewater data.

- There is medium confidence that the parcel is serviced by septic, if no billing data exists, no infrastructure present, likely or somewhat likely septic in FLWMI, not considered vacant by PA, and OC Property use inventory assigned without wastewater.
- There is a medium confidence that the parcel is serviced by septic, if there is billing data or nearby lateral infrastructure, considered known or likely septic by FLWMI, not vacant, OC property assigned without wastewater.
- There is low confidence that the parcel is serviced by septic, if there is billing data or nearby lateral infrastructure, considered somewhat likely septic by FLWMI, not vacant, OC property assigned without wastewater.
- There is very low confidence that the parcel is serviced by septic, if there is both billing data and lateral infrastructure, considered somewhat likely or unknow parcel by FLWMI, not vacant, OC still assigned to septic.

Table 3. Wastewater infrastructure level of confidence within Orange County, Florida.

Data Type	Level of Confidence					
	Extremely High	**Very High**	**High**	**Medium**	**Low**	**Very Low**
Sewer Infrastructure Information						
Municipality WW Billing Data	Billing information	Billing information				
Municipality WW Infra. Data	Lateral lines	Nearby gravity mains	Lateral line	Nearby gravity main		
Florida Water Management Inventory (FLWMI)			Likely sewer	Likely sewer	Likely sewer	Somewhat likely sewer
Septic Information						
FLWMI	Known septic	Likely septic	Somewhat likely septic	Likely or somewhat likely sewer OR known or likely septic	Somewhat likely septic	No information
Municipality WW Data	Known septic and no nearby sewer infrastructure, identified specifically by OC Utilities	Likely septic and no nearby sewer infrastructure	No nearby sewer infrastructure	No nearby sewer infrastructure OR somewhat nearby sewer infrastructure	Somewhat nearby sewer infrastructure	Somewhat nearby sewer infrastructure
Land Use/Vacant Information						
Orange County Property Use Codes	Known vacant parcel, not associated WW infrastructure		LU indicates vacant parcel			LU indicates vacant parcel, aerial has building

SPATIAL ANALYSIS FOR VARIABLE DEVELOPMENT

To facilitate this analysis, geographic data were gathered and analyzed in the ArcGIS environment. The first step after gathering the data, was to make sure the data are comparable and compatible. Below is a brief discussion of the spatial datasets and processing.

Septic Systems

Septic (OSTDS) FLWMI data were added to GIS database and clipped to match geographic boundaries of Orange County. For each parcel containing septic, an associated confidence attribute was assigned "very high, high, medium, low, or very low. The base layer, FLWMI layer, was then compared to the parcel layer, aerial imagery, septic tank locations, and sewer infrastructure data provided. For example, parcels from the FLWI data stated the parcels were on septic, but the sewer infrastructure data indicated that the parcel was served by a lateral, were considered to be on central sewer, and the attributes were updated accordingly. Parcels that were indicated to by vacant as reported by the property appraiser dataset, were updated to indicate that the parcels were vacant. The last step was quality control checks and final editing to ensure accuracy. For consistency purposes, this septic inventory was provided to Orange County Utilities and a final approved septic layer was used for subsequent analysis. The percentage of parcels serviced by septic system was calculated for each of the Orange County subdivisions. Subdivisions with greater than 50% septic parcels (out of the total number of developed parcels) were considered "septic". A frequency histogram of the % septic systems is displayed in Figure 2. As anticipated, subdivisions that had septic systems were typically dominated by those with no access to central sewer. Most of the subdivisions with greater than 50% of the parcels on septic used in the prioritization are completed dominated by parcels on septic (>97.8% septic, Figure 2).

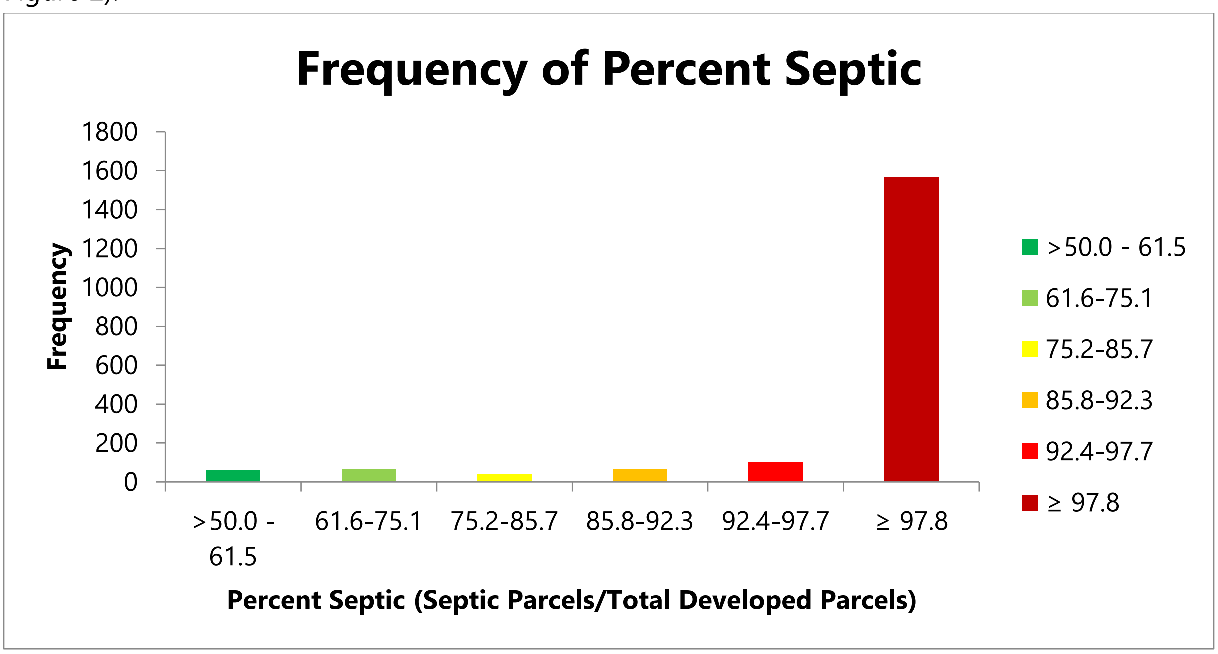


Figure 2. Frequency of percent septic parcels within subdivisions in Orange County, Florida, with greater than 50% septic parcels per subdivision.

Waterbodies

An Orange County hydrology feature class with lakes, rivers, ponds, canals, springs, and stream watershed areas was obtained from the County. These waterbodies were used for calculating distances between the edge of parcels and the closest waterbody.

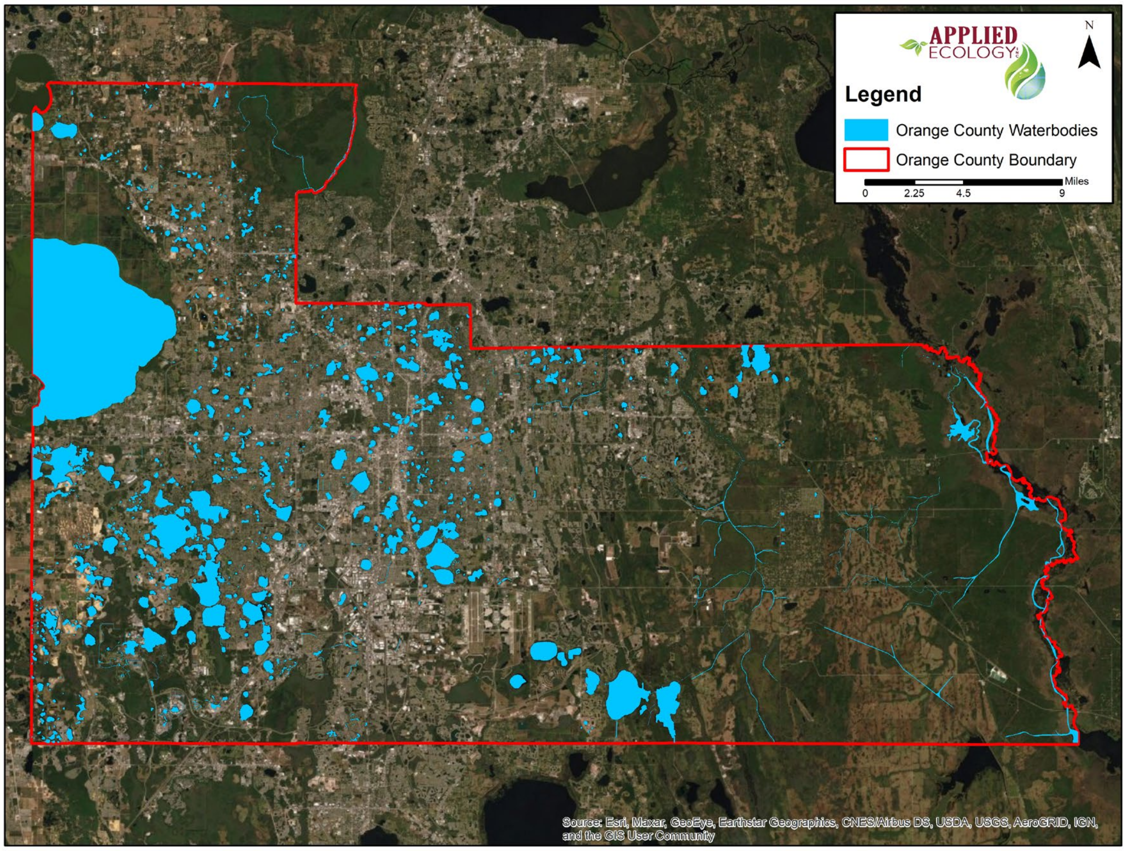


Figure 3. Geographic location of waterbodies within Orange County, Florida.

Orange County Property Appraiser Data

Orange County Property Appraiser land use code data was utilized and augmented with property use description information and added to land parcel geographic features. The data were obtained directly from the Orange County Property Appraiser's Office with associated parcel information, including but not limited to, land use code, land use description, and year built (actual and approximate).

The distance from the parcel boundary (edge of parcel) to the nearest force sewer main and gravity sewer main were measured using automated GIS measuring functions. The septic layer created for this project, and approved by Orange County Utilities, was used to identify the parcels as septic. If a parcel did not overlap with the septic points, it was then compared to municipal sewer infrastructure and Property Appraiser data to determine if it was a sewer or vacant parcel, and each parcel was labeled as septic, sewer, or vacant.

Subdivisions from the Property Appraiser were used as the boundaries used in determining priority retrofit areas. The parameters, Table 2, were then summarized by subdivisions completely or partially within unincorporated Orange County. Impaired waterbody watersheds (WBIDs) were used to determine the percentage of each subdivision within an impaired watershed.

Elevation data were derived by using NOAA provided LiDAR raster data based Digital Elevation Model (DEM) collected in March 2006. Each parcel was assigned a mean elevation value based on parcel boundary and LiDAR elevation data in the GIS for all subdivisions.

INDIVIDUAL PARAMETER RANKING

Each of the parameters that were used in final prioritization will be summarized in this section. Summarized parameters include septic density, OCAVA, subdivisions within impaired surface and spring watersheds, census data, distances to existing sewer infrastructure, subdivision age, distance to waterbodies, and mean elevation.

All the parameters were individually ranked with a score from 1 to 6. A rank of 1 was given to values that would have a lower pollution potential, whereas a rank of 6 was given to values that would have a higher pollution potential. For each of the individual parameters, a histogram is provided to show the frequency of subdivisions within each break point. The break points were determined using the Jenks natural breaks optimization method, which is a method in which natural breaks in the data are determined by reducing the variance within each of the classes and maximize the variance between the classes. This classification method provides more accurate visual representation of the data, often used when developing choropleth maps. For each of these breakpoints the rank (1-6) is shown above the bar along with a color (green to red, respectively to rank) within the graph. The Jenks method was used for septic density, percent of subdivisions within an impaired surface or spring watershed, the census data, and elevation. The breaks for subdivision age were created using significant legislative events pertaining to septic systems and groundwater. The break points for distances to sewer infrastructure and waterbodies were determined using bins of 500 to 1000 ft.

SEPTIC DENSITY

Septic density (number septic parcels divided by area in subdivision) is one of the most important indicators of pollution potential, the greater number of OSTDS within a small area the greater the loading potential into a nearby waterbody or groundwater. Population density, number of OSTDS within a subdivision, or typical land use density are often used to prioritize areas of interest and are critical input variables for groundwater water quality modeling (Keene, 2015; Harper & Baker, 2007; Briggs, Roeder, & Ursin, 2007; LaPointe & Herren, 2016). The higher the density of the houses and septic tanks within an area, the greater concentration and volume of wastewater. Thus, there is greater potential for groundwater contamination with higher septic densities within subdivisions (Figure 4). The subdivisions with higher septic tank density were ranked the highest, class 6, due to the increased potential for groundwater contamination. Some of the subdivisions have a septic density greater than

5 septic tanks per acre, these are generally associated with multi-family residential subdivisions like townhomes and condominiums. Townhomes and condominiums are not typically services by OSTDS, but were marked as serviced by septic due to lack of data or sewer infrastructure in the surrounding areas. Most of the subdivisions fell into the lowest three categories, with septic densities ranging from <01.15 to 3.70 septic tanks per acre. Figure 5 shows the distribution subdivision septic density across the County.

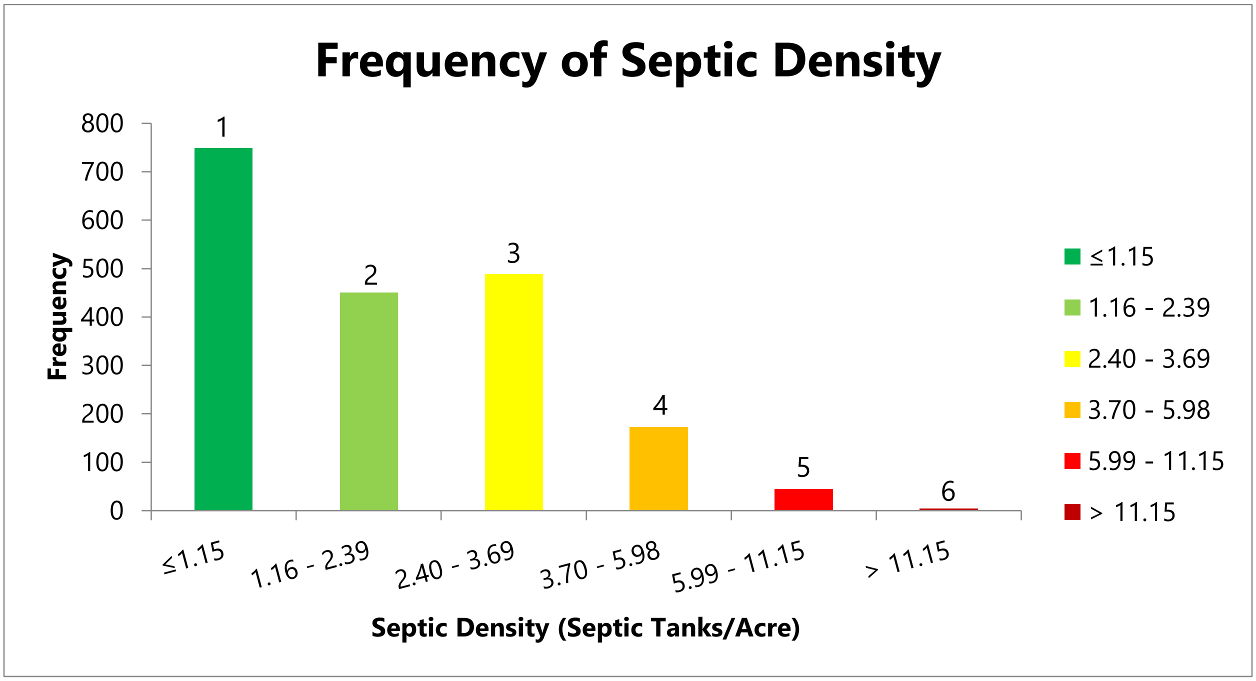


Figure 4. Frequency distribution of septic density in subdivisions comprised of greater than 50 percent septic within Orange County, Florida. * Generally, subdivisions with septic density greater than 5 septic tanks per acre are multi-family housing (like townhomes and condominiums).

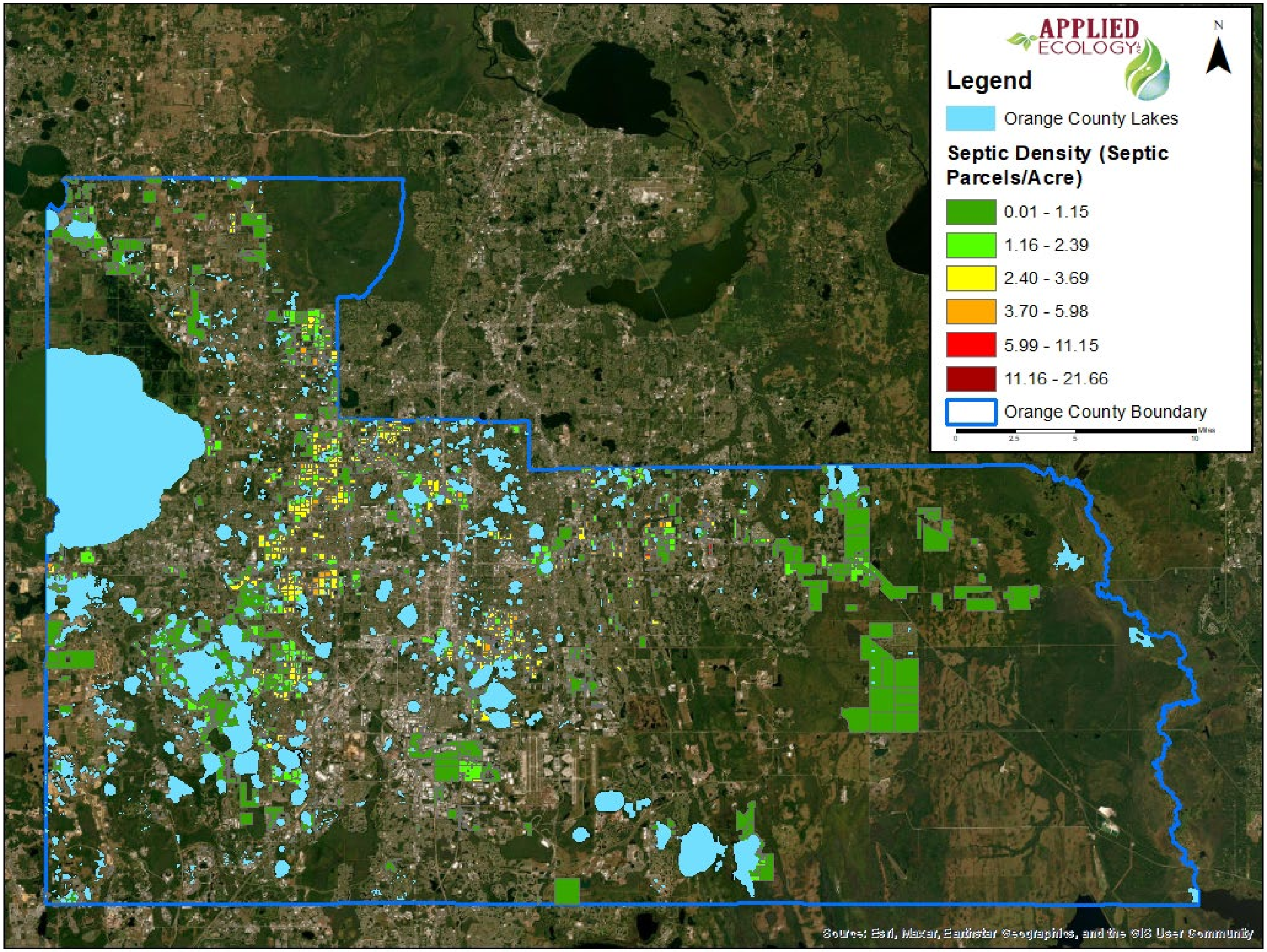


Figure 5. Septic density for subdivisions with greater than 50 percent septic within Orange County, Florida.

ORANGE COUNTY AQUIFER VULNERABILITY ASSESSMENT (OCAVA)

The Orange County Aquifer Vulnerability Assessment (OCAVA) is a model that was adapted by Drummond Carpenter from the Florida Aquifer Vulnerability Assessment (FAVA) model, developed by the Florida Geological Survey. The OCAVA model predicts the relative vulnerability of the Surficial Aquifer System (SAS) within the boundaries of Orange County. The assessment was conducted using the Weights of Evidence (WoE) Approach (Arthur, 2017), a probability model, to estimate the likelihood for a pollutant to reach the top of the SAS once it is introduced to the top of or within the unsaturated zone. The model classifies regions within the study area into three relative vulnerability categories (i.e., more vulnerable, vulnerable, less vulnerable) that can be viewed spatially as the response theme. These three categories were then given rank values of 6, 3, and 1, respectively. These values were then spatially averaged per subdivision with greater than 50% septic across Orange County. Figure 6 shows the frequency distribution and Figure 7 shows the spatial distribution of OCAVA class values for subdivisions in Orange County.

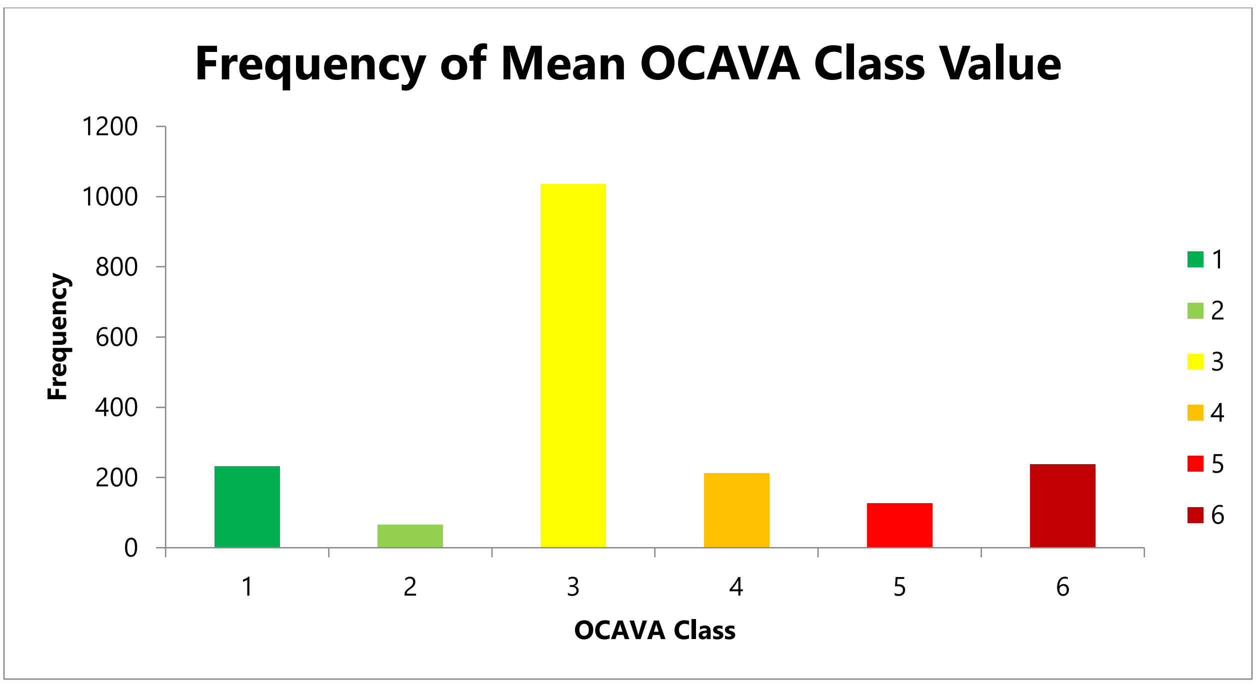


Figure 6. Frequency distribution of OCAVA classes for subdivisions of greater than 50 percent septic, in Orange County, Florida.

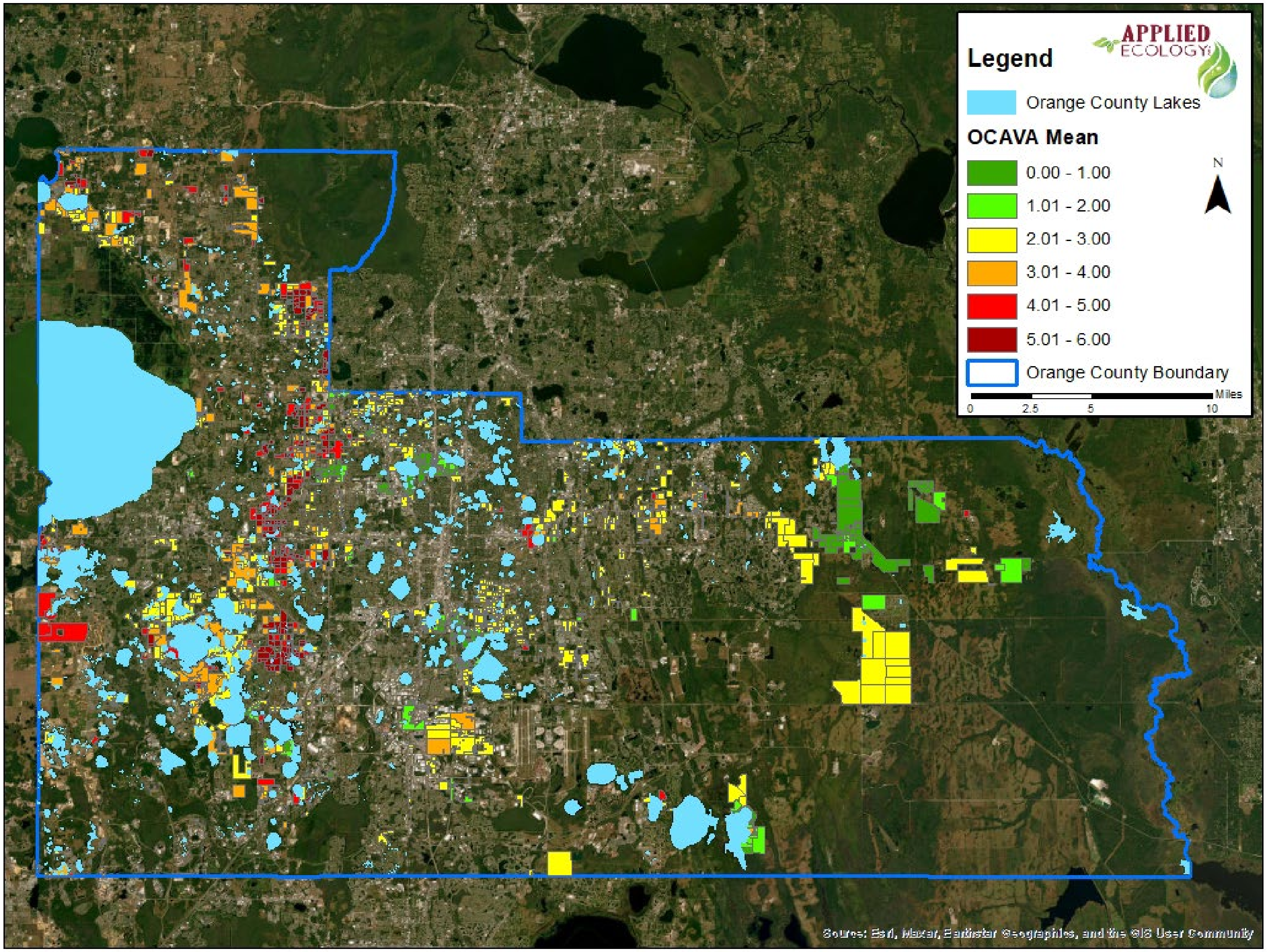


Figure 7. Mean OCAVA class for subdivisions with greater than 50 percent septic within Orange County, Florida.

SUBDIVISIONS WITHIN IMPAIRED SURFACE AND SPRING WATERSHEDS

Impaired waterbody watersheds were used to determine which subdivisions fell within an impaired surface or spring watershed. Highest priority was assigned to subdivisions with the highest percent acreage within an impaired watershed due to the chance that the septic tanks would have a greater negative impact on the impaired waterbody. Figure 8 provides the frequency of subdivisions using percentage of subdivision within an impaired watershed. Most subdivisions fell inside two classes, with class one having the highest frequency of subdivisions and class six having the second highest frequency. Class one or subdivisions with <10.8% within an impaired watershed and class six subdivision having 93.8-100%. Subdivisions with 93.8% or greater of the subdivision within an impaired watershed were prioritized to having the highest ranking, while those in the 0-10.8% category were classified as the lowest class. Figure 9 provides the watershed boundaries within Orange County and indicates if the watershed impaired or not impaired, while Figure 10 provides spatial distribution of the percentage of subdivisions within an impaired watershed.

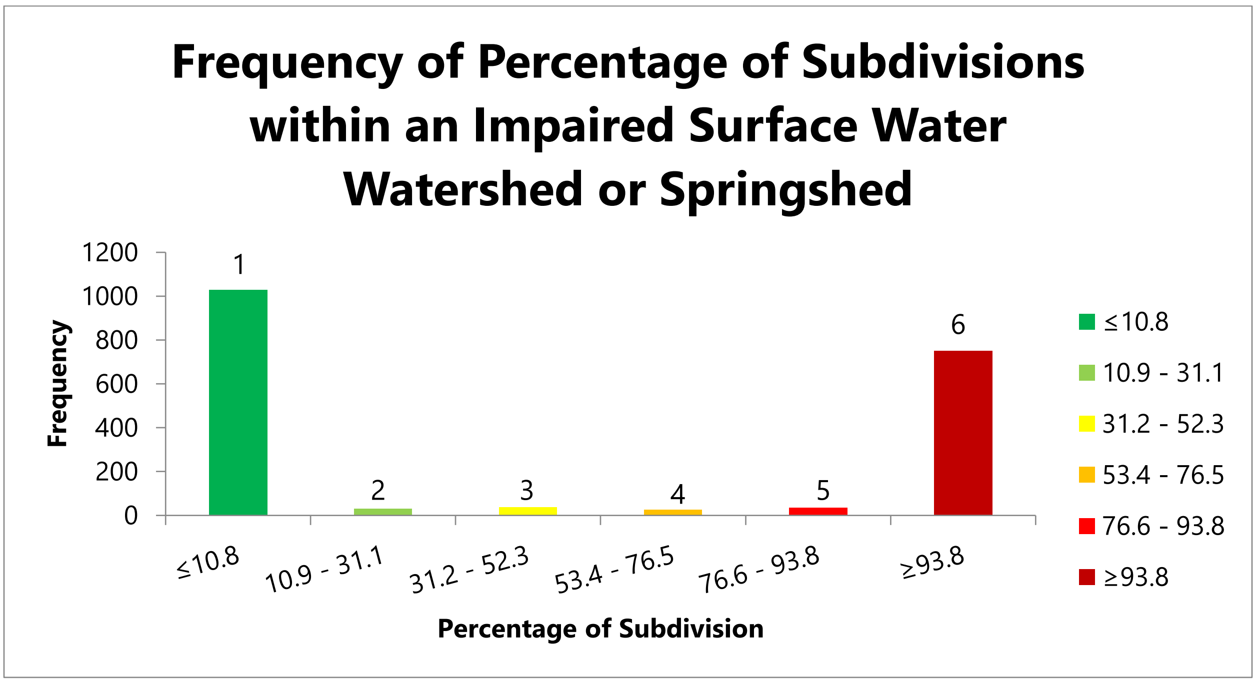


Figure 8. Frequency distribution of percentage of subdivision, of greater than 50 percent septic, within an impaired watershed, in Orange County, Florida.

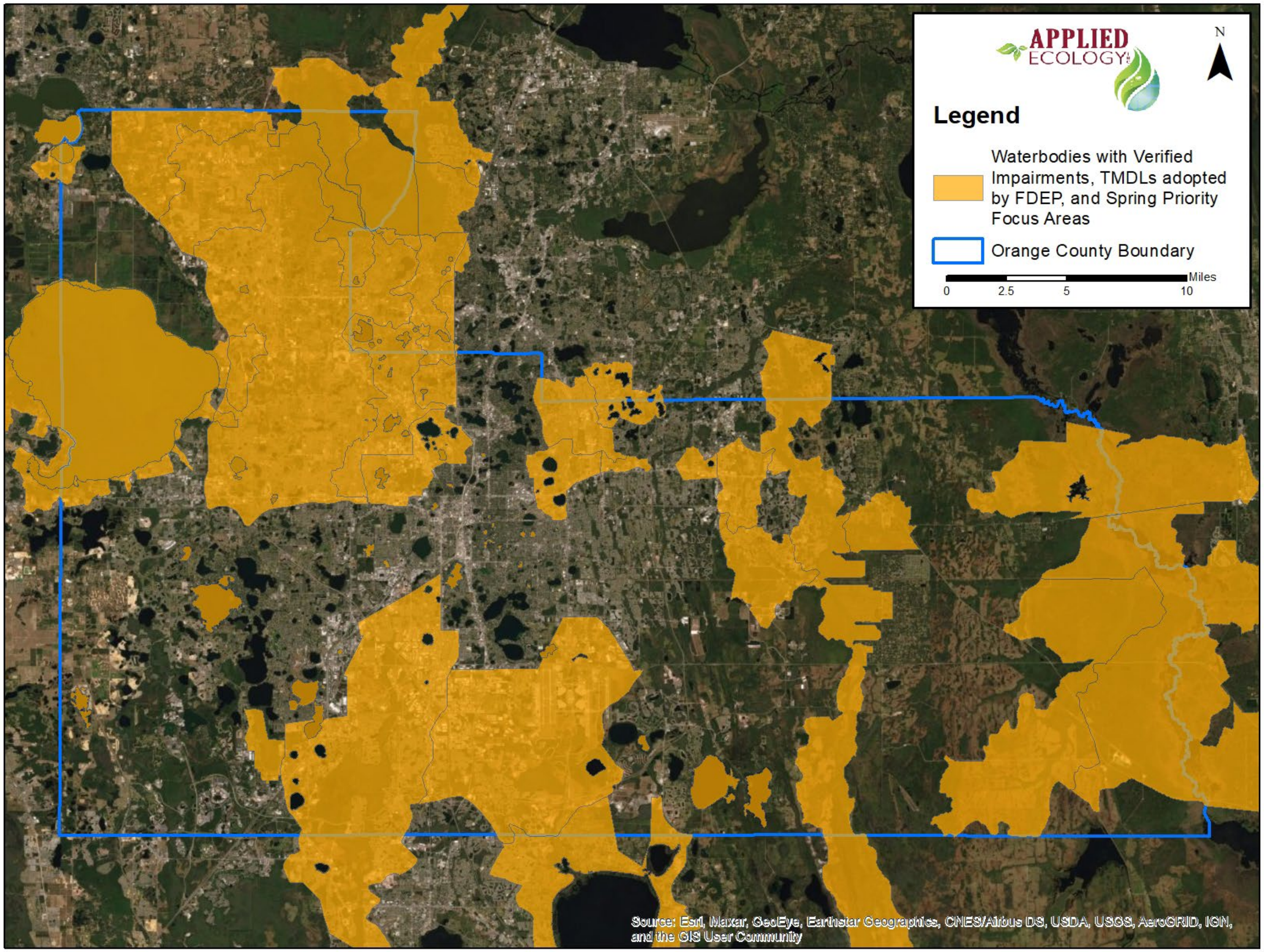


Figure 9. Waterbodies with verified impairments, TMDLs adopted by FDEP, and Spring Priority Focus Areas within Orange County, Florida.

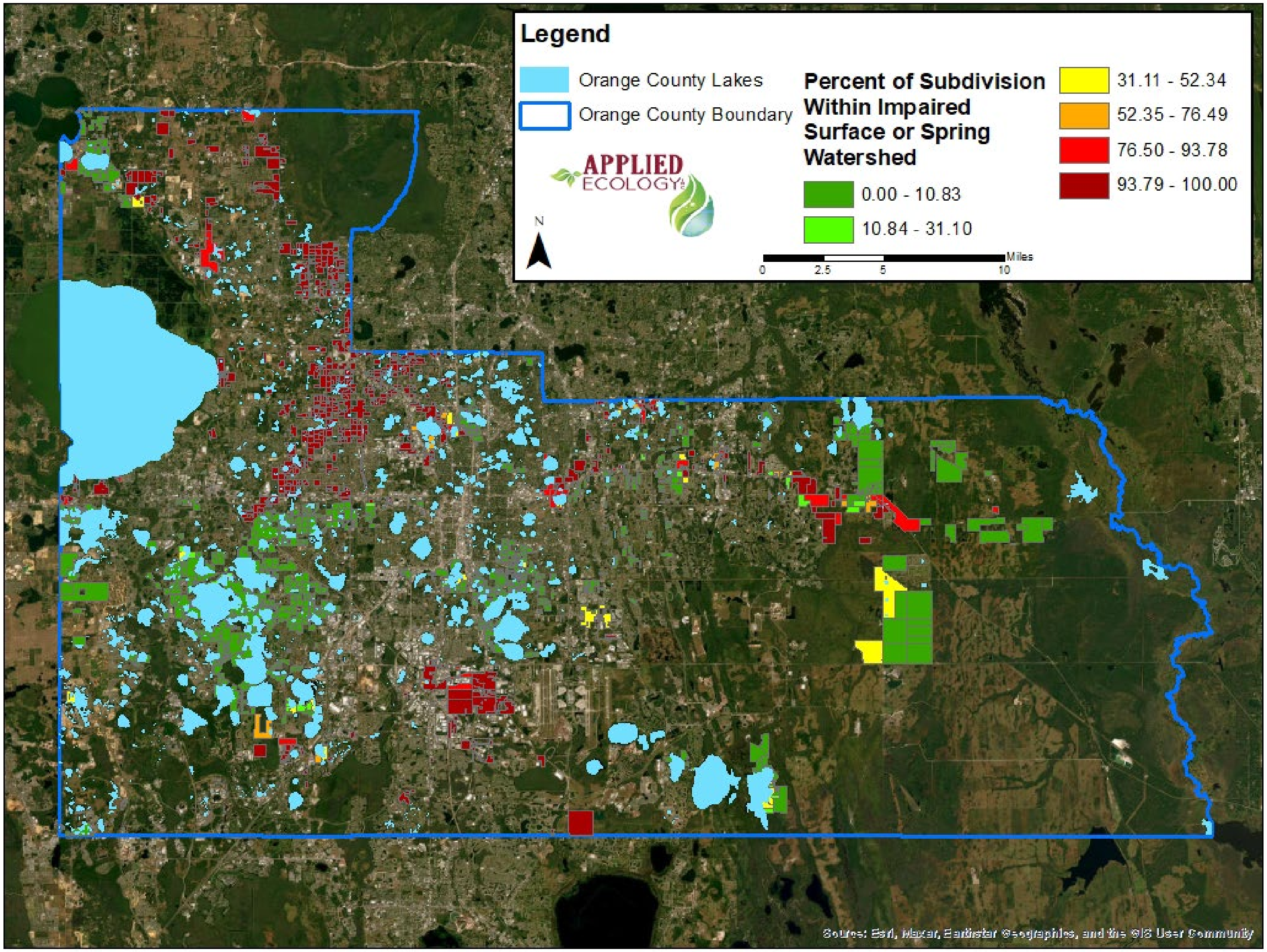


Figure 10. Percentage of subdivisions, of greater than 50 percent septic, within an impaired surface or spring watershed, in Orange County, Florida.

CENSUS DATA

Demographic data in this report were provided by the United States Census Bureau's 2010 Redistricting Data. The shapefile utilized in this report was received directly from data provided by Orange County to Applied Ecology. Geographic population and housing density data were also obtained from the Socioeconomic Data and Applications Center (SEDAC) and Spatial Analysis for Conservation and Sustainability SILVIS Lab raster data. These data were clipped to the Orange County boundary and used for spatial growth potential analysis. Key demographic factors selected were future housing density (2020-2050), 2010 census block population density, and 2000-2020 change in population density. More recent census data (2020) is currently only available for block group data (with non-randomized information, https://www.ncsl.org/research/redistricting/differential-privacy-for-census-data-explained.aspx) and was therefore not used for this analysis.

As some of the subdivisions spanned two or more census blocks or block groups, a weighted apportionment process was developed. This approach utilized the number of housing units identified in the American Community Survey (ACS) and then how many residential parcels were identified in the subdivision. The ACS housing units are divided by density type from single housing unit structures to 50+ housing unit structures. These values were compared against the identified multiunit residential parcels in each subdivision and corresponding census block group to determine their relative contribution. To obtain the 2010 population density information for each subdivision, a population density was calculated for each census block, by dividing the total population by the acres of census block. Then using ESRI automated tools, a spatial calculation was performed to determine the average population density for each subdivision. Percent weights of demographic data were generated by determining the percent of a census block group's housing units were in each subdivision. Demographic data frequency breakdowns are provided to show how the data are distributed in subdivisions with 50 percent or greater septic within Orange County, Florida (Figure 11 - Figure 13). Maps show the geographic distribution of the demographic variables included in this pollution potential analysis for Orange County, Florida (Figure 14 - Figure 16). Raw population values for both population density in 2010 and population density change from 2000-2020 are in Appendix A.

The 2019 socioeconomic data from the U.S. Census Bureau were included as a reference for Orange County. The data were evaluated at the census block group level for the following socioeconomic factors: number/percentage of households below poverty, number/percentage households on public assistance, and median household income. This data is presented in the Socioeconomics section of the report and was not used in the vulnerability and connectivity ranking systems but used as a visual reference. The median household income data were used directly from the U.S. Census Bureau, while both the households below poverty and on public assistance were calculated as the percent of households within the census block groups.

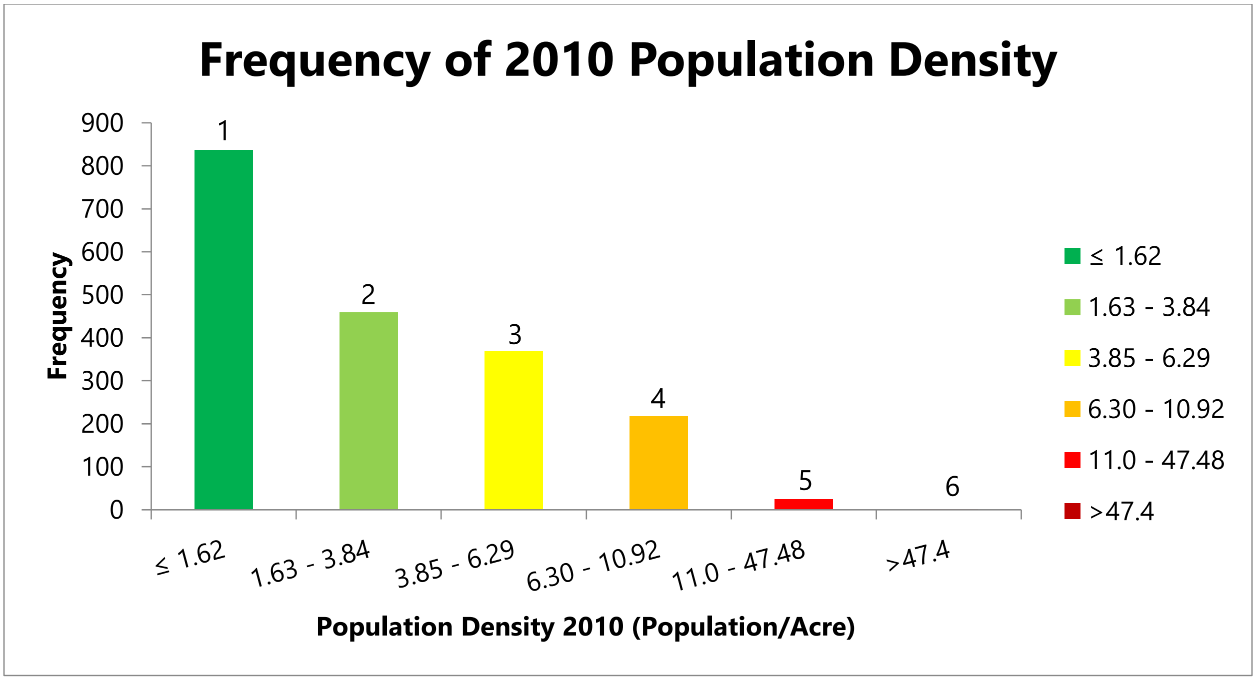


Figure 11. Frequency distribution of 2010 population density, within subdivisions containing greater than 50 percent septic within Orange County, Florida.

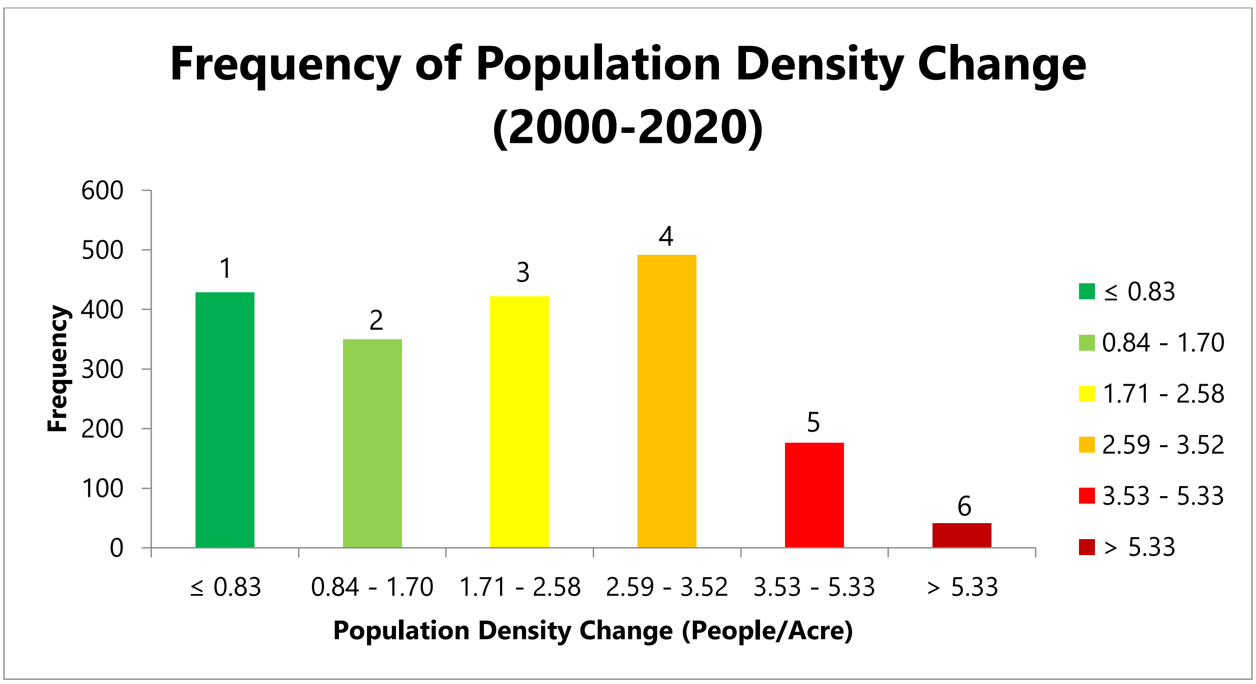


Figure 12. Frequency distribution of the change in population density (people/acre) from 2000-2020, within subdivisions containing greater than 50 percent septic within Orange County, Florida.

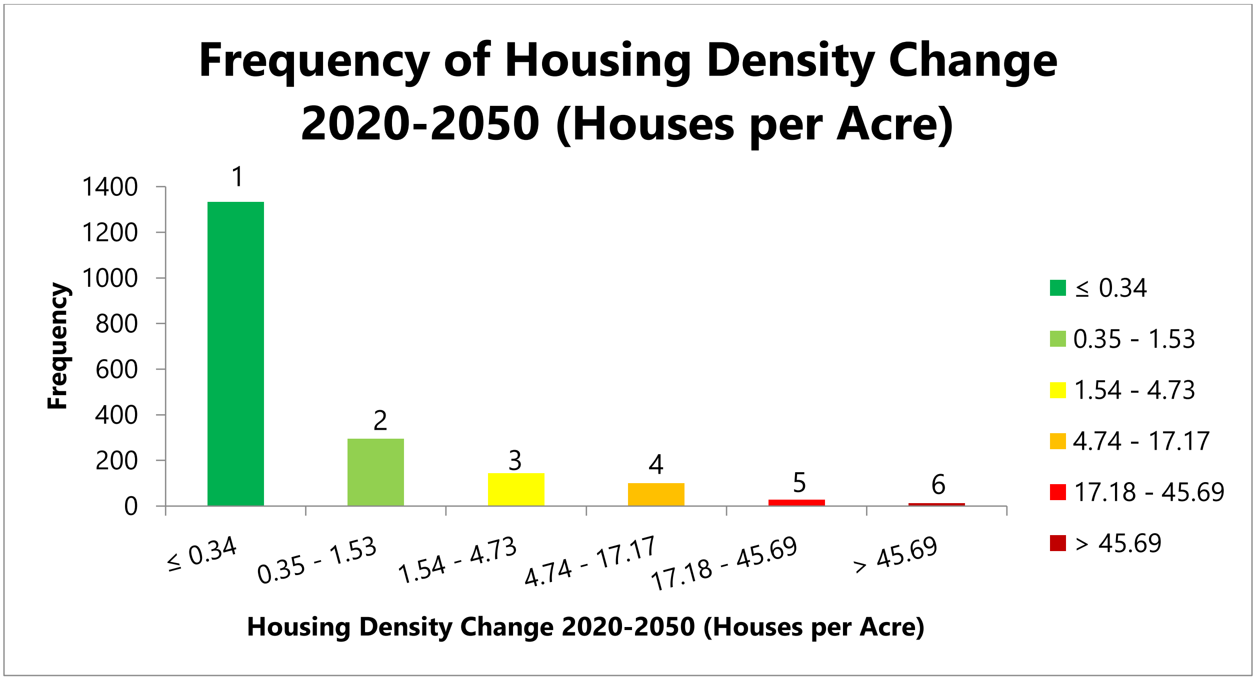


Figure 13. Frequency distribution of the potential change in housing density from 2020-2050, within subdivisions containing greater than 50 percent septic within Orange County, Florida.

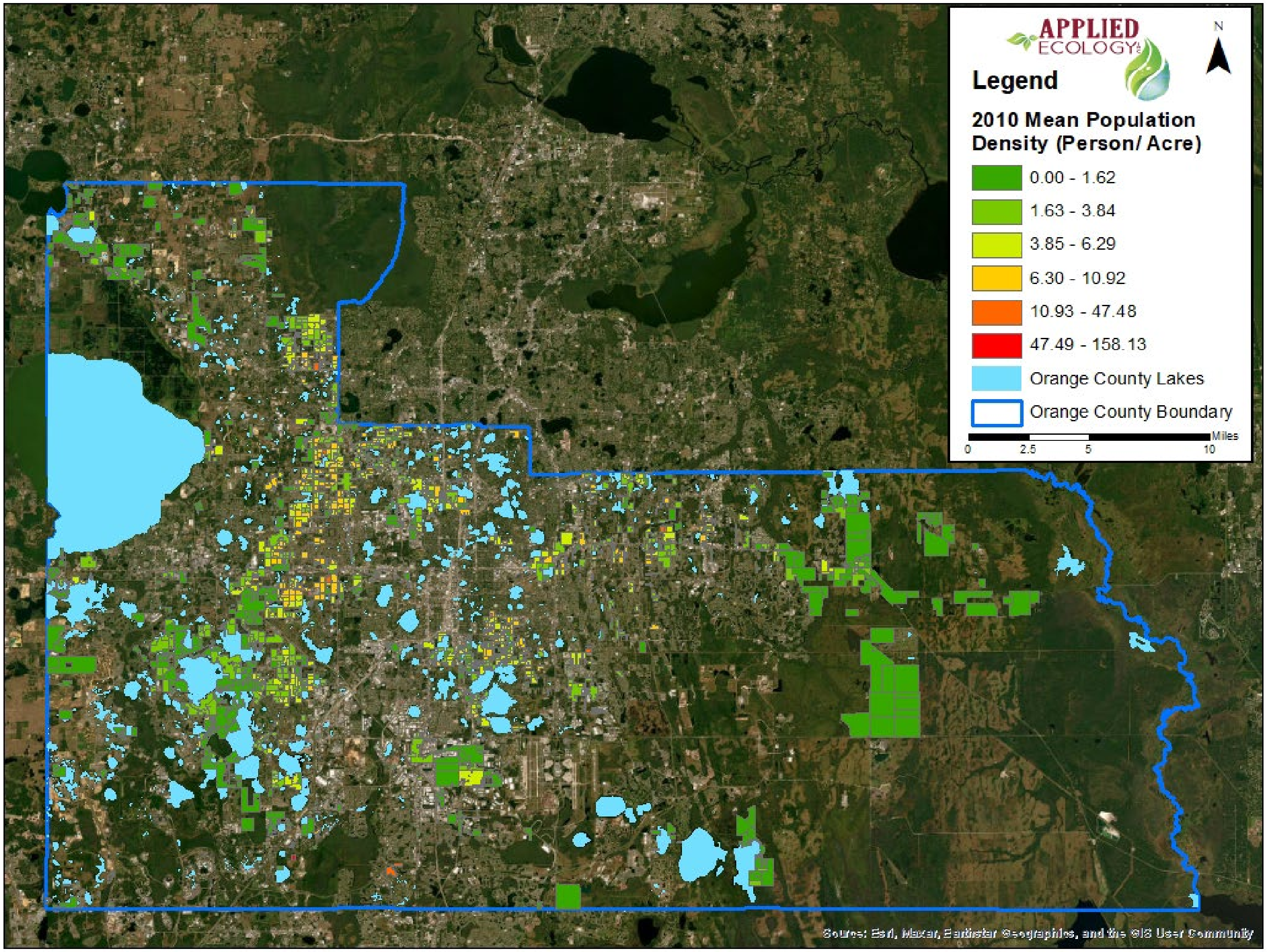


Figure 14. 2010 mean population density, person per acre within a subdivision greater than 50% septic, Orange County, Florida. Data source U.S. census bureau.

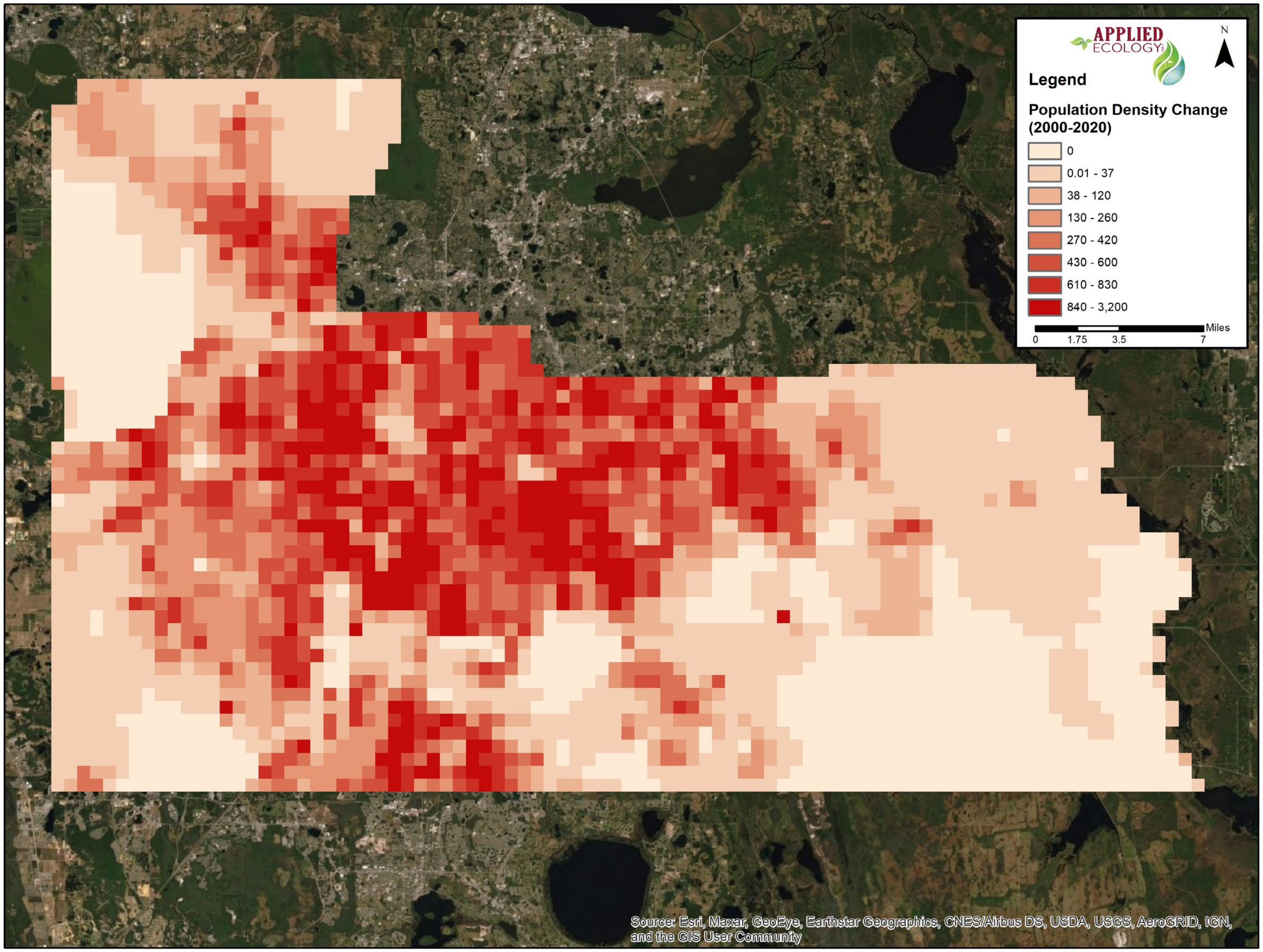


Figure 15. Population density change from 2000 to 2020, Orange County, Florida. Data source SEDAC.6.

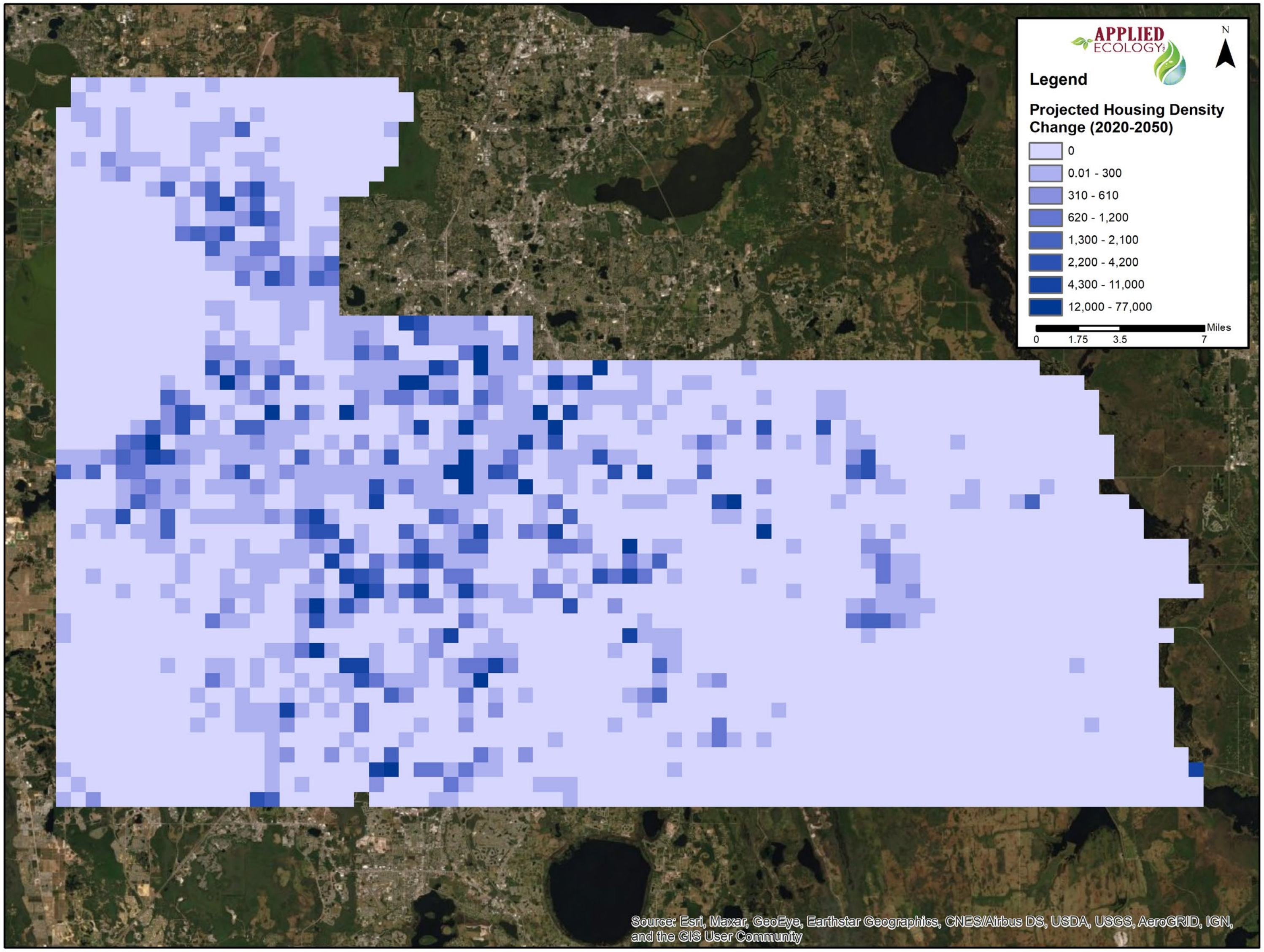


Figure 16. Projected housing density change, houses per acre, from 2020 to 2050, Orange County, Florida. Data source SILVUS.

DISTANCES TO EXISTING SEWER INFRASTRUCTURE

Subdivisions that are nearby existing sewer infrastructure, such as sewer force and gravity main lines, were prioritized to increase subdivision prioritization of subdivisions who are closer to existing infrastructure. Engineering feasibility was not considered for this report, only proximity to existing sewer infrastructure was factored into the ranking. Six prioritization classes were determined for distances to force and gravity mains, then the minimum classification was used to prioritize subdivisions. Subdivisions with the closest mean distances of less than or equal to 500 ft were given the highest priority, where the lowest priority was given to subdivisions with mean distances of greater than 4,000 ft from both the sewer force and gravity mains. The frequency distribution of distances to existing sewer infrastructure such as sewer force main and sewer gravity main is provided in Figure 17.

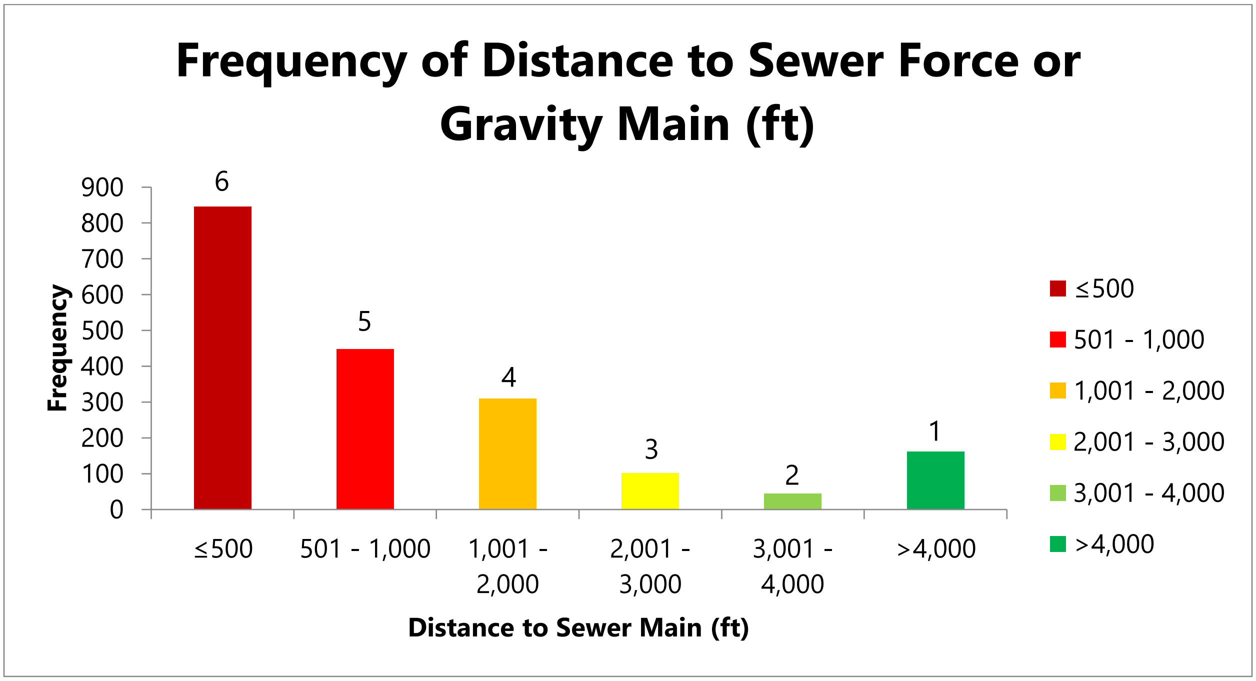


Figure 17. Frequency distribution of distance to sewer force main (ft), for subdivisions containing greater than 50 percent septic, within Orange County, Florida.

SUBDIVISION AGE

Older subdivisions have greater polluting potential based on the age of the infrastructure and the length of time that wastewater has been discharged. Other studies and research include the age of subdivisions as a predictor of pollution potential from subdivisions into local waterbodies (Badruzzman, Pinzon, Oppenheimer, & Jacangelo, 2012; Armstrong, 2015; Keene, 2015; Briggs *et al.*, 2007). Changes have occurred in regulatory requirements regarding OSTDS, which likely have impacted the contribution of each OSTDS to nutrient pollution of the groundwater or surface systems over time. Prior to 1962, no specific Florida Statute regulated conditions for siting septic tanks which might greatly increase the potential of poorly functioning drainfields. The first regulatory requirement of separation between bottom of drainfield and groundwater water table (12") was implemented in 1962. In 1983, the regulatory requirement was changed to be more conservative and require a 24" distance between the bottom of drainfield and the water table, which should have reduced the pollution potential of the OSTDS even further. In addition, newer OSTDS have improved technology and are more likely to be properly functioning in comparison to older systems. Figure 18 provides the frequency of subdivisions using mean year built for the subdivision, with break points in 1962 and 1983 due to increasing regulatory requirements in those years and Figure 19 provides the spatial distribution of subdivision mean year built. Subdivisions with a mean year built earlier than 1962 were prioritized with the highest score, with progressively newer subdivisions receiving lower scores.

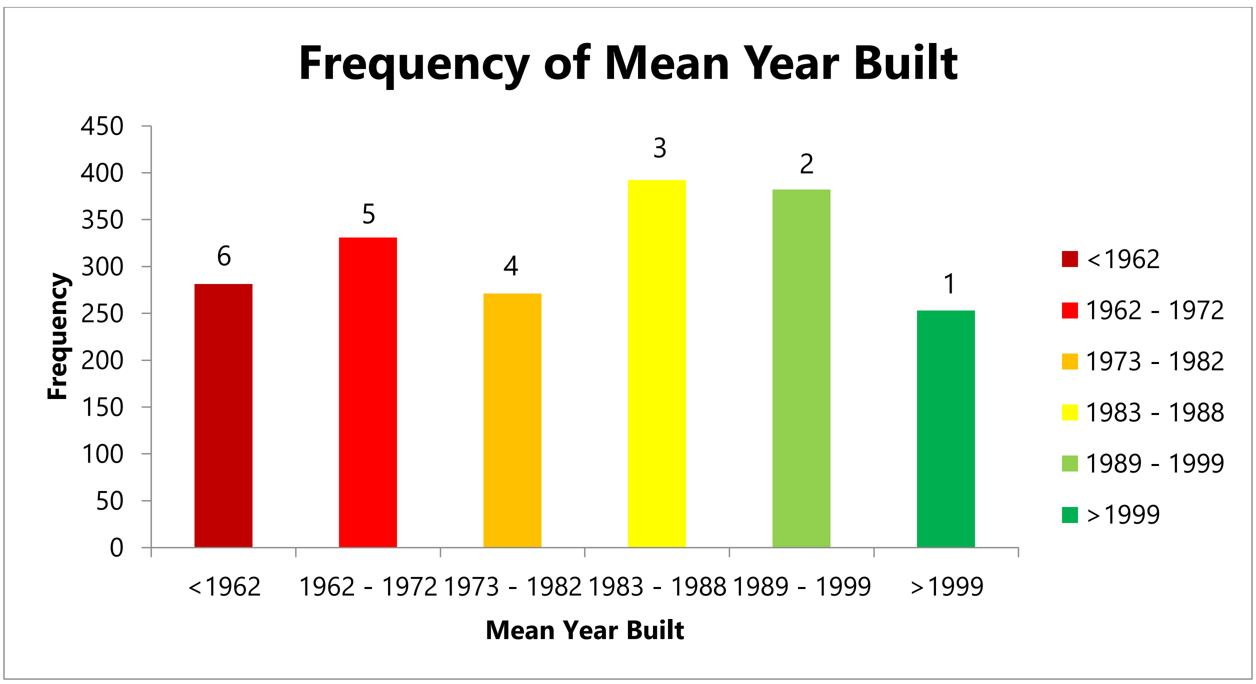


Figure 18. Frequency distribution of mean year built in subdivisions comprised of greater than 50 percent septic within Orange County, Florida.

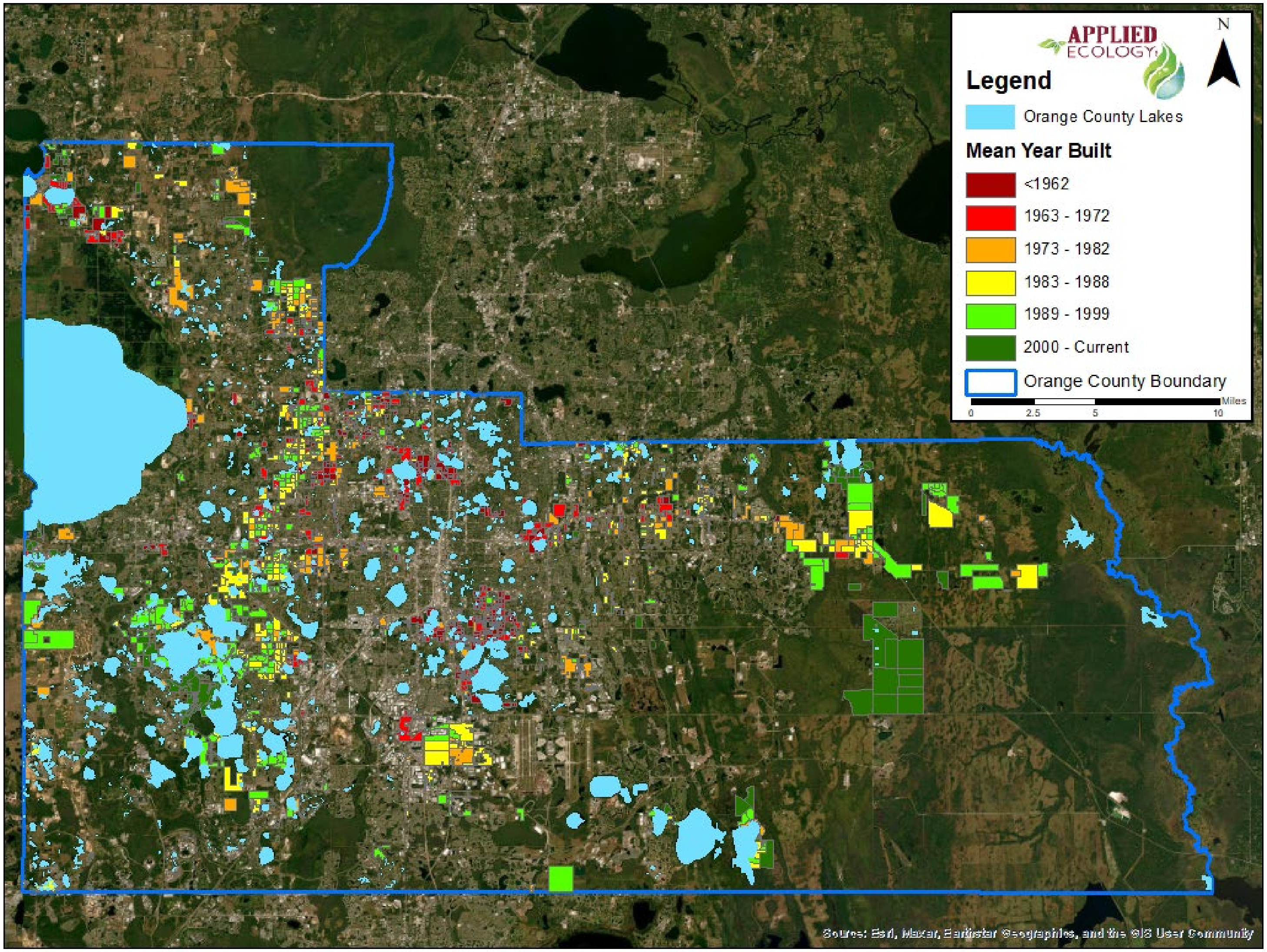


Figure 19. Mean year built for subdivisions with greater than 50 percent septic within Orange County, Florida.

WATERBODIES

Distance to waterbodies is a very important predictor of loading potential to the waterbody of concern (Keene, 2015; Briggs *et al.*, 2007). Most groundwater transport models (ArcNLET, STUMOD, etc.) take the distance from source loading to waterbody as a primary input variable to establish appropriate paths and estimated plumes (Rios, Wang, & Lee, 2011; Wang, Ye, Rios, & Lee, 2012; Ye & Sun, 2013; Ye, Sun, & Hallas, 2017).

Highest priority was assigned to the subdivisions closest to the waterbodies (Figure 20). Septic drain fields within 200 feet of a waterbody (essentially waterfront), have the greatest loading potential since the path from the septic location to the waterbody will limit the ability of the soils to reduce nutrients through absorption, nitrification, and denitrification processes. The waterbodies used in this analysis were based on a shapefile received from Orange County and it does not include some minor waterbodies like swales or small canals. The mean distance from a subdivision to nearest waterbody could decrease if a more detailed exploration of waterbodies could be completed in the future.

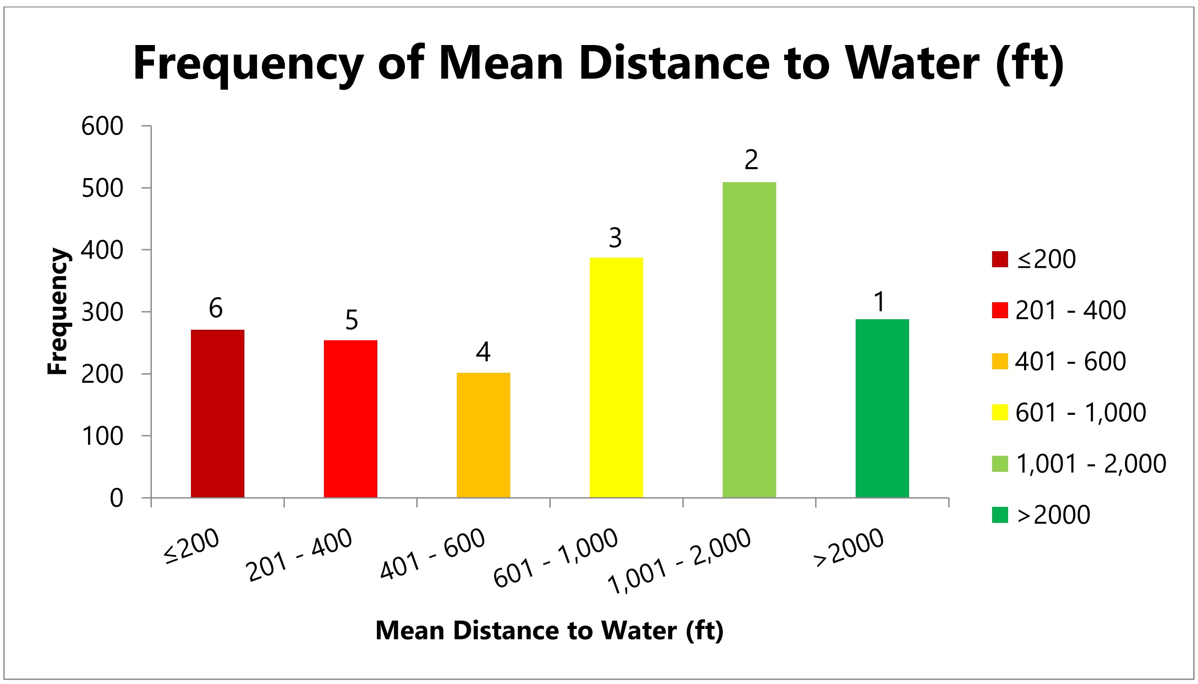


Figure 20. Frequency distribution of mean distance to waterbody in subdivisions comprised of greater than 50 percent septic within Orange County, Florida.

MEAN ELEVATION

Mean elevation above mean sea level (MSL) is a good predictor of water table, with strong correlation coefficients (often above 0.8-0.9, Rios *et al.* 2011). Often, depth to groundwater is not available at a landscape scale and topography is used as a subdued replica of the water table (Rios *et al.*, 2011; Wang *et al.*, 2012). Chapter 64E-6 of the *Florida Administrative Code* for the Standards for Onsite Sewage

Treatment and Disposal Systems has a criterion specifically designating a minimum water table elevation that is used for site evalutation when installing an OSTDS (Florida Administrative Code, 2018). The highest-ranking score was assigned to subdivisions located at lower elevation within Orange County, specifically less than 20.1 meters above mean sea level. Hydraulic head tends to be low when elevation above mean sea level is low, providing a proxy method of measuring mean groundwater levels. Subdivisions with septic drainfields located where groundwater levels are high, have the greatest polluting potential because there is insufficient time for denitrification processes to take place. Subdivisions with drainfields well above the water table allow sufficient time for effluent attenuation. The elevation above mean sea level data were obtained from Lidar mapping.

While typically elevation above mean sea level and depth to water table are highly correlated, there are exceptions to this, particularly in area with perched aquifers, former alluvial plains, and those dominated by manmade features (e.g. sand and gravel pits). In addition, since the source of the elevation data was Digital Elevation Models from airborne LiDAR datasets, drainfields located in shallower water tables were prioritized for their likely higher pollution potential to the groundwater (Figure 22). Both most commonly used OSTDS transport models (ArcNLET and STUMOD) use directly or indirectly (by estimating water table from a smoother DEM) depth to water table to predict plumes generated from septic tanks. Several other studies examining groundwater nutrient transport also consider the importance of water table depth in model predictons (Briggs *et al*., 2007; Keene, 2015).

Subdivisions with mean elevation equal or below 20.42 meter were prioritized into the highest classification, where subdivisions with mean elevation above 42.58 meters above mean sea level were placed into the lowest classification (Figure 21).

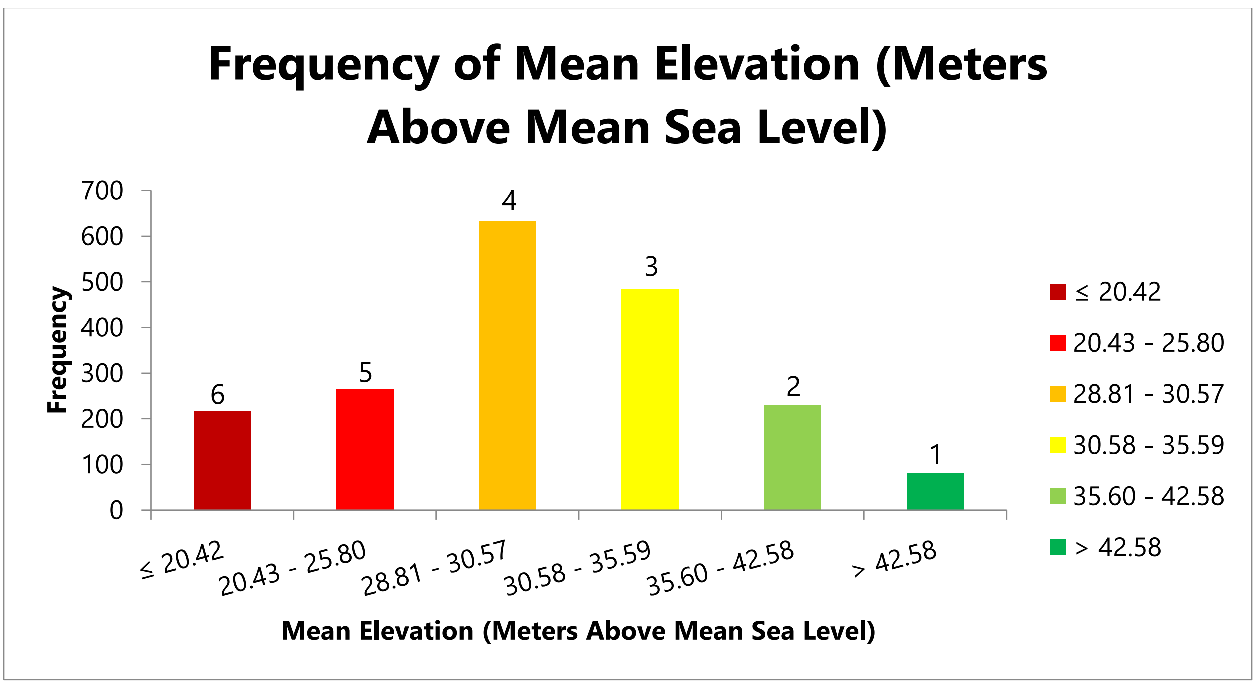


Figure 21. Frequency distribution of mean elevation (ft) within subdivisions containing greater than 50 percent septic within Orange County, Florida.

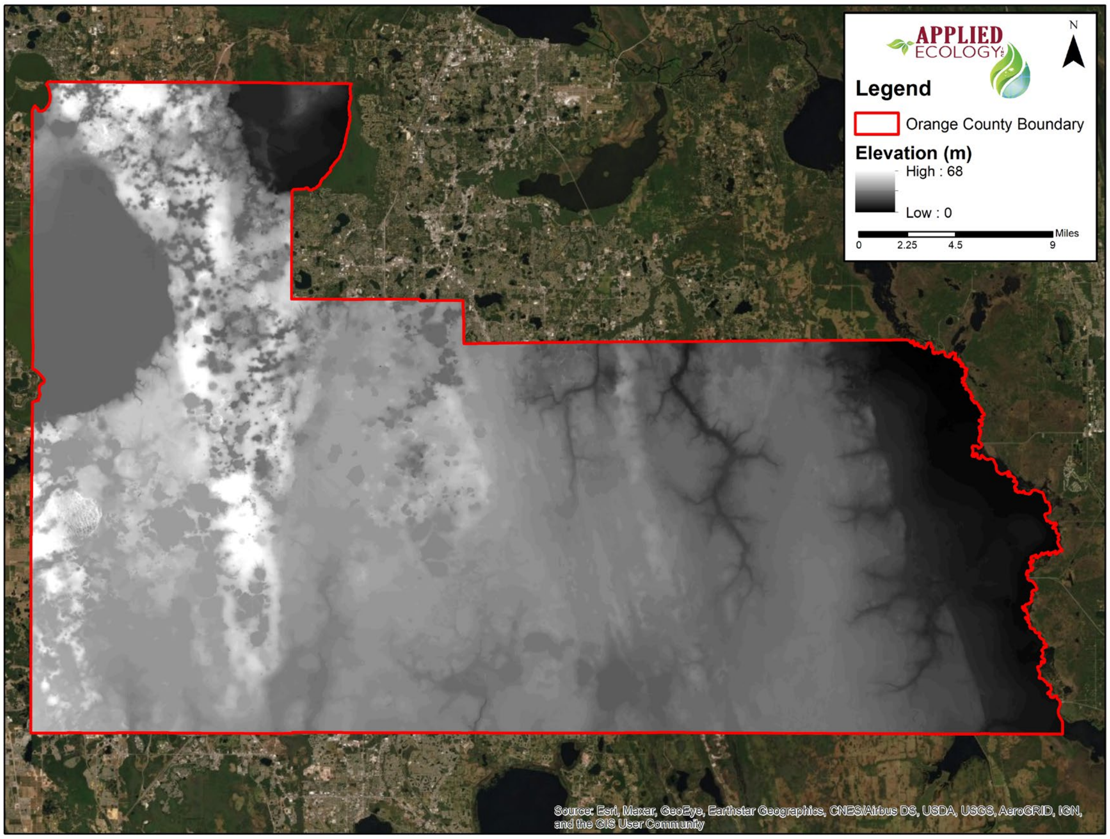


Figure 22. Elevation derived from Lidar Digital Elevation Model for subdivisions within Orange County, Florida.

FINAL POLLUTION POTENTIAL RANKING RESULTS

Two prioritization ranking systems of vulnerability pollution potential were developed to prioritize subdivisions that are greater than 50% septic within Orange County, FL. The variables included, in the vulnerability ranking systems, are the following: septic density (number divided by total area), mean year built, percent subdivision in impaired surface or spring watershed, mean distance to water, mean surface elevation, mean OCAVA class, housing density (predicted change 2020-2050), population density (change 2000-2020). A third prioritization ranking system was developed that included all the above parameters and an additional parameter of minimum distance to existing sewer infrastructure gravity or force main. This third ranking system would help prioritize high pollution potential subdivisions for potential retrofit (connection to central sewer infrastructure).

Each individual variable was ranked from 1-6 (lowest to highest pollution potential), based on the previously provided data distribution (See Individual Parameter Ranking Section). A summary of the ranks by individual parameter are included in Table 4.

Table 4. Break points for all parameters used for vulnerability and connectivity ranking systems within subdivisions dominated by OSTDS (≥ 50% septic parcels) within Orange County, Florida.

Score Value	Septic Density (#/Acres)	Mean OCAVA	% Subdivisions in Impaired Surface or Spring Watershed	Housing Density Change 2020-2050 (Houses per Acre)	Population Density 2010	Population Density 2000-2020 (People/ Acre)	Distance to Sewer Force Main (ft)	Distance to Sewer Gravity Main (ft)	Mean Year Built	Mean Distance to Water (ft)	Mean Surface Elevation (mABSL)
1	≤1.15	0.00-1.00	≤10.8	≤0.34	≤1.62	≤0.83	>4,000	>4,000	>1999	>2,000	≤20.42
2	1.16-2.39	1.01-2.00	10.9-31.1	0.35-1.53	1.63-3.84	0.84-1.70	3,001-4,000	3,001-4,000	1989-1999	1,001-2,000	20.43-25.80
3	2.40-3.69	2.01-3.00	31.2-52.3	1.54-4.73	3.85-6.29	1.71-2.58	2,001-3,000	2,001-3,000	1983-1988	601-1,000	28.81-30.57
4	3.70-5.98	3.01-4.00	52.4-76.5	4.74-17.17	6.30-10.92	2.59-3.52	1,001-2,000	1,001-2,000	1973-1982	401-600	30.58-35.59
5	5.99-11.15	4.01-5.00	76.6-93.8	17.18-45.69	10.93 - 47.48	3.53-5.33	501-1,000	501-1,000	1962-1972	201-400	35.60-42.58
6	>11.15	5.01-6.00	<93.8	>45.69	>47.48	>5.33	≤500	≤500	<1962	≤200	>42.58

Each individual parameter rank is aggregated, using one of three methods. The first ranking system (Unweighted Vulnerability Ranking System) uses equal weighting of all relevant variables, which corresponds simply to the mean of the individual ranks. The second ranking system (Weighted Vulnerability Ranking System) is based on a weighted average that allows the adjustment of the importance of certain variables that are known to carry a large influence for contributing to pollution potential. The vulnerability ranking systems are summarized below in Table 5. The third ranking system (Weighted Connectivity Ranking System) applies the same weighting values as the Weighted Vulnerability Ranking System, but includes distance to existing sewer infrastructure, with a factor of 2 (Table 6). For weighted ranking systems, variables that were found to be critical drivers of vulnerability from previous modeling efforts were provided weight with a factor of 2, while variables associated with greater uncertainty, correlated with other variables, or in mitigation planning stage received a weight of 0.5. For example, the weighted ranking systems increase the importance of subdivisions in impaired surface and spring watersheds, while reducing the weight of the future housing density (a predictive variable associated with larger uncertainty).

Table 5. Variable weights used in the final vulnerability ranking systems (unweighted and weighted) for Orange County.

Variable Name	Unweighted Vulnerability Ranking System	Weighted Vulnerability Ranking System
Septic Density (#/acre)	1	2
OCAVA Vulnerability Classes	1	2
Percent Subdivision in Impaired Surface Watershed or Spring shed	1	2
Housing Density Change (2020-2050)	1	0.5
Population Density Change	1	1
Mean Year Built	1	1
Mean Distance to Water (m)	1	2
Mean Surface Elevation (ft)	1	1

**Variables with higher ranking value are known to be influential factors contributing to pollution potential, therefore carry more influence in the weighted ranking.*

Table 6. Variable weights used in the final weighted connectivity ranking system for Orange County.

Variable Name	Weighted Connectivity Ranking System
Septic Density (#/acre)	2
OCAVA Vulnerability Classes	2
Percent Subdivision in Impaired Surface Watershed or Spring shed	2
Housing Density Change (2020-2050)	0.5
Population Density Change	1
Distance to Existing Sewer Infrastructure	2
Mean Year Built	1
Mean Distance to Water (m)	2
Mean Surface Elevation (ft)	1

The individual variables received values representing their contribution to pollution potential and these variables were converted to overall mean and weighted ranks and a color coding (Table 7) was utilized ranging from a cool color representing 1 (low pollution potential) to a warm color representing 6 (highest pollution potential).

Table 7. Pollution potential color ranking scale for Orange County, Florida. Coolest color representing rank 1 (low pollution potential) to hottest color rank 6 (highest pollution potential).

Pollution Potential Rank	Assigned Color
1	
2	
3	
4	
5	
6	

Table 8 shows the values greater than 4.40 for the unweighted vulnerability, Table 9 shows values greater than 4.20 for weighted vulnerability, and Table 10 shows the values greater than 4.40 for the weighted connectivity ranking system, for all subdivisions with greater than 50% septic within Orange County. For the vulnerability ranking systems, there were several subdivisions that ranked high. Wekiwa Manor Sec 1 was ranked the highest or second highest in all three prioritization ranking systems. The higher the value the higher the potential for nutrient pollution of the subdivision. There were two other subdivisions that ranked high in all three ranking systems including Piedmont Estates and Long Lake Villas Phase 1B.

The weighted connectivity ranking system weighs all the individual parameters the same as the weighted vulnerability ranking system, but it includes minimum distance to sewer main line (force and gravity), with a factor of 2. As for the weighted connectivity ranking system, the three subdivisions above are also listed as priorities, with Lake Florence Highlands Phase 1, Wekiwa Manor Section 1, and Piedmont Estates ranking in the top three subdivisions, and Long Lake Villas Phase 1B ranking in fifth place among hundreds of subdivisions.

A complete ranked listing of subdivisions dominated by septic parcels in Orange County can be found in Appendix B, whereas the complete list of subdivisions with raw parameter values is included in Appendix A. Appendix B has 1,910 subdivisions containing the raw variable scores as a reference.

The highest-ranking areas for all three ranking systems are located generally in the north-central part of Orange County (Figure 23 - Figure 25). The lowest priority ranking scores are geographically distributed in the eastern rural portions of Orange County. The subdivisions with the lower ranking system values should have a lower pollution potential than those subdivisions having higher values for the vulnerability ranking systems.

Table 8. Variable and overall Unweighted Vulnerability Ranking System for Orange County subdivisions with scores greater than 4.40.

Subdivision Name	Septic Density Score	OCAVA Score	Impaired WB Score	Population Density Score	Housing Density Score	Year Built Score	Distance to WB Score	Elevation Score	Unweighted Vulnerability Scheme
Wekiwa Manor Sec 1	4	3	6	4	4	6	6	3	4.45
Piedmont Estates	1	6	6	5	4	5	6	3	4.44
Ranchette	3	3	6	4	4	6	3	5	4.25
Wells Gap	1	3	6	3	3	6	6	6	4.19
Suburban Homes	2	3	6	3	6	6	3	5	4.19
Long Lake Villas Ph 1B	5	4	6	5	2	2	5	4	4.14
Anderson George W	1	3	6	2	3	6	6	6	4.13
Wentrop Shores	2	1	5	3	6	6	6	4	4.13
Florence Park	4	1	6	2	6	6	4	4	4.13
Riverside Acres	3	3	6	3	5	6	2	5	4.13
Rio Grande Homesites	2	3	6	6	4	6	3	3	4.13
Riverside Acres 2nd Add	3	3	6	2	5	6	3	5	4.13
Rimar Ridge	3	3	6	3	4	6	3	5	4.13
Suburban Homes	2	3	6	2	6	5	4	5	4.13
Eden Park Estates	4	3	6	3	2	5	5	5	4.13

**Subdivisions with lower mean scores can be found ranked in Appendix B. Higher values indicate greater potential for contributing nutrient pollution to nearby waterbodies.*

Table 9. Variable and overall Weighted Vulnerability Ranking System for Orange County subdivisions with scores greater than 4.20.

Subdivision name	Septic Density Score	OCAVA Score	Impaired WB Score	Population Density Score	Housing Density Score	Year Built Score	Distance to WB Score	Elevation Score	Weighted Vulnerability Scheme
Lake Florence Highlands Phase 1	3	6	6	4	1	3	6	4	4.60
Wekiwa Manor Section 1	4	3	6	4	4	6	6	3	4.59
Piedmont Estates	1	6	6	5	4	5	6	3	4.57
Lake Lucy Estates	4	6	6	1	1	5	5	4	4.57
Long Lake Villas Phase 1B	5	4	6	5	2	2	5	4	4.54
Eden Park Estates	4	3	6	3	2	5	5	5	4.35
Sleepy Hollow Phase 1	3	6	6	3	2	3	5	4	4.34
University Garden	3	3	6	5	1	3	6	5	4.26
Little Lake Georgia Terrace	2	4	6	3	1	4	6	6	4.23
Trout Lake Camp	1	4	6	2	1	6	6	6	4.21
Citrus Oaks Phase 4	5	6	6	5	1	2	3	2	4.20

**Subdivisions with lower mean scores can be found ranked in Appendix B. Higher values indicate greater potential for contributing nutrient pollution to nearby waterbodies.*

Table 10. Variable and overall Weighted Connectivity Ranking System for Orange County subdivisions with scores greater than 4.40.

Subdivision Name	Septic Density Score	OCAVA Score	Impaired WB Score	Population Density Score	Housing Density Score	WW Infra-structure Score	Year Built Score	Distance to WB Score	Elevation Score	Weighted Connectivity Scheme
Lake Florence Highlands Phase 1	3	6	6	4	1	6	3	6	4	4.81
Wekiwa Manor Section 1	4	3	6	4	4	6	6	6	3	4.80
Piedmont Estates	1	6	6	5	4	6	5	6	3	4.78
Lake Lucy Estates	4	6	6	1	1	5	5	5	4	4.63
Long Lake Villas Phase 1B	5	4	6	5	2	5	2	5	4	4.61
University Garden	3	3	6	5	1	6	3	6	5	4.52
Trout Lake Camp	1	4	6	2	1	6	6	6	6	4.47
Citrus Oaks Phase 4	5	6	6	5	1	6	2	3	2	4.47
Eden Park Estates	4	3	6	3	2	5	5	5	5	4.44
Sleepy Hollow Phase 1	3	6	6	3	2	5	3	5	4	4.44
Riverside Acres 3rd Addition	3	3	6	3	1	6	6	4	6	4.41
Lake Cortez Woods	2	4	6	4	4	6	3	5	4	4.40

**Subdivisions with lower mean scores can be found ranked in Appendix A. Higher values indicate greater potential for contributing nutrient pollution to nearby waterbodies.*

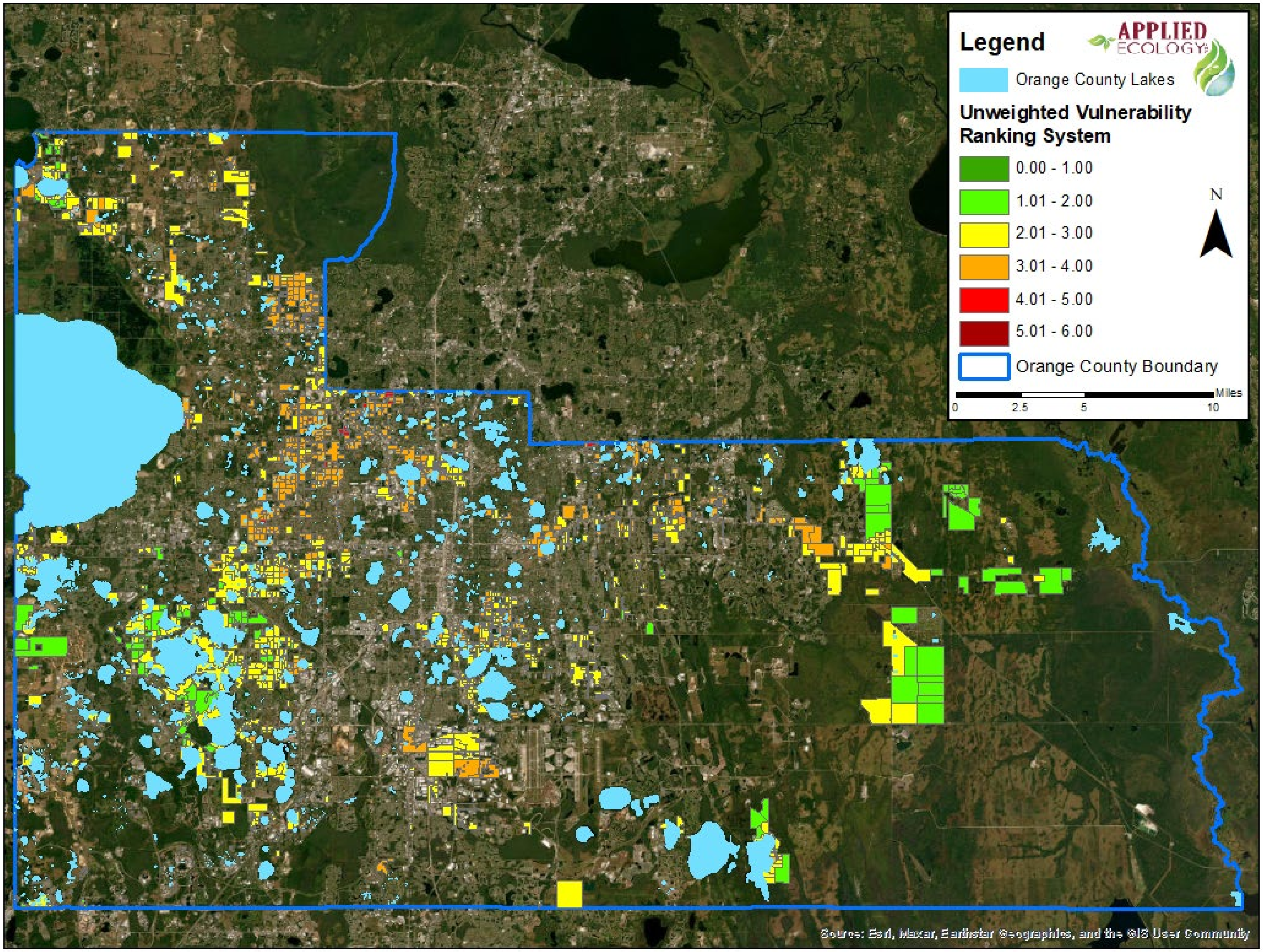


Figure 23. Unweighted Vulnerability Ranking System by subdivision, Orange County, Florida. The unweighted vulnerability ranking system values were generated by averaging the scores for each individual parameter for each subdivision. Higher values indicate higher potential for pollutant loading.

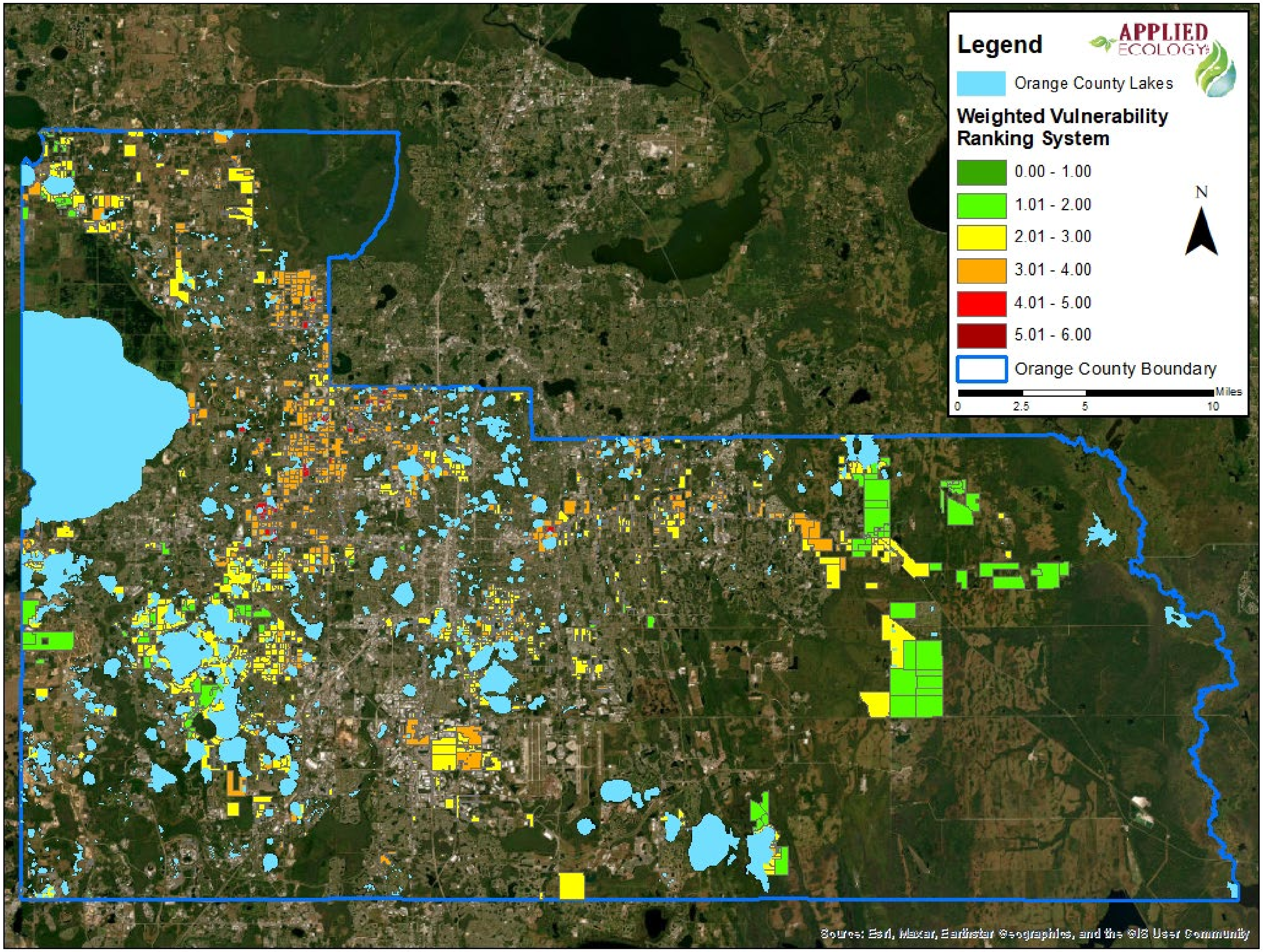


Figure 24. Weighted Vulnerability Ranking System by subdivision, Orange County, Florida. The weighted vulnerability ranking system values were generated by multiplying each individual parameter rank by an importance weight, summing, and then dividing by the number of individual parameters for each subdivision. Higher values indicate higher potential for pollutant loading.

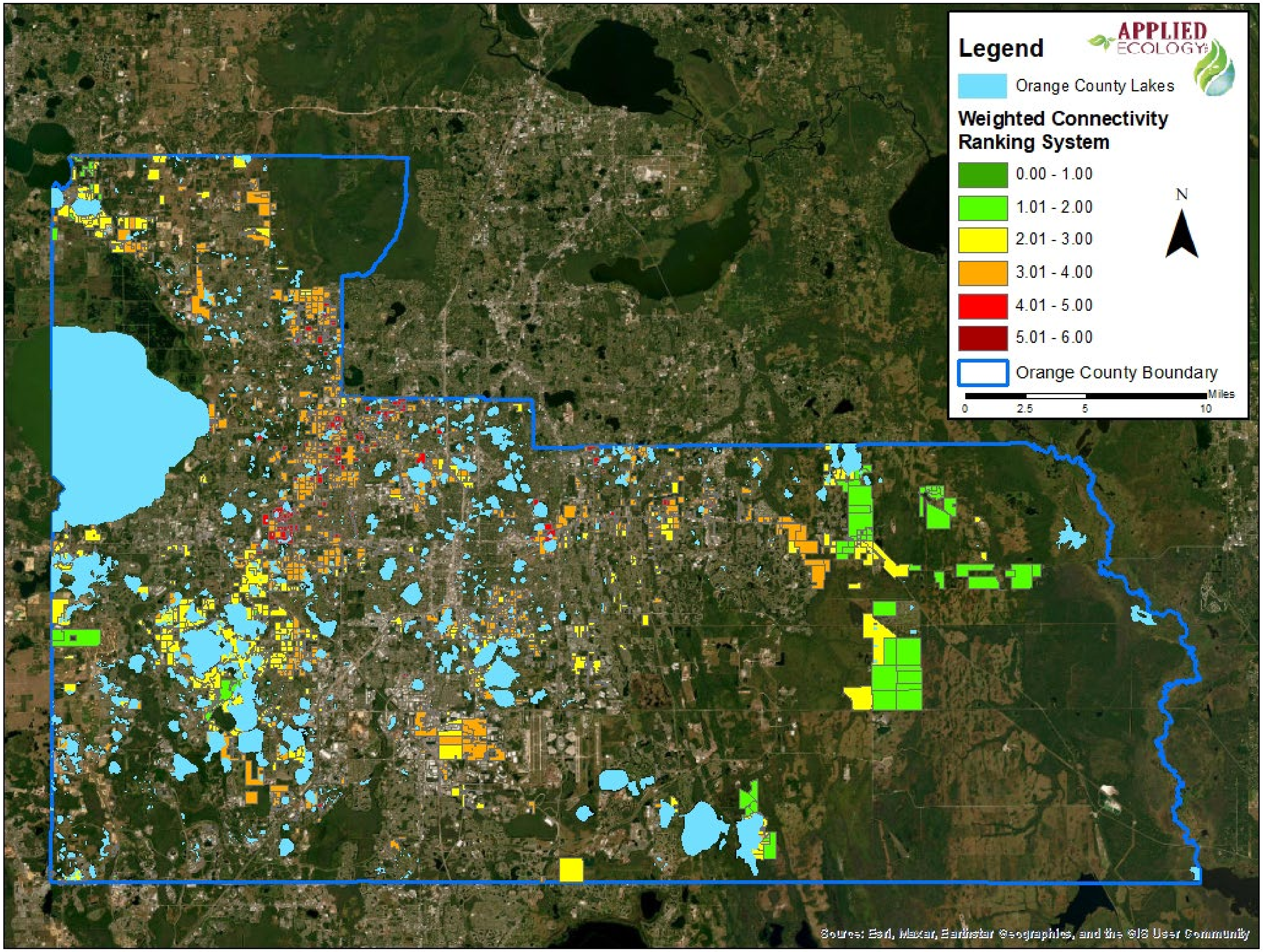


Figure 25. Weighted Connectivity Ranking System by subdivision, Orange County, Florida. The weighted vulnerability ranking system values were generated by multiplying each individual parameter rank by an importance weight, summing, and then dividing by the number of individual parameters for each subdivision. Higher values indicate higher potential for pollutant loading.

SOCIOECONOMICS

The 2019 socioeconomic data from the U.S. Census Bureau were included as a reference for Orange County. Socioeconomic data are an important consideration in prioritization and planning efforts.

Maintenance and replacement of septic systems are necessary in keeping a properly functioning septic tank. Maintenance and replacement of septic tanks can be costly, ranging in price from a couple of hundred to several thousands of dollars. Those who live in areas of lower household income, households below poverty, or households receiving public assistance may not have the economic ability to maintain and repair their septic tanks (*Capps et al., 2020*).

Figure 26 shows the percentage of households below poverty within the census block group level for Orange County, FL. The more central locations in Orange County tend to have the higher percentages of households below poverty, whereas the outer, more rural, areas tend to have lower percentages. The census block groups having the highest percentage of households below poverty ranged between 47-82% of the total households.

Figure 27 shows the percentage of households on public assistance within the census block group level. There were two census block groups that had 17.3% or greater of the households on public assistance. The census block groups that have the highest percentage of households that are below poverty are not the same as the highest percentage of households that are on public assistance but do show a similar pattern. This is anticipated due to the correlation between public assistance and below poverty households.

The median household income per census block group was also mapped as reference (Figure 28). The median household income for Orange County ranged from $0 (uninhabited census block group) to $250,001 annually. As with percentage of households below poverty and percentage of households on public assistance, the more central census block groups have the lower median household income. However, unlike the pattern described for the previous socioeconomic variables, more rural areas have about average median household incomes and some of the densest census group blocks present the lowest median household incomes.

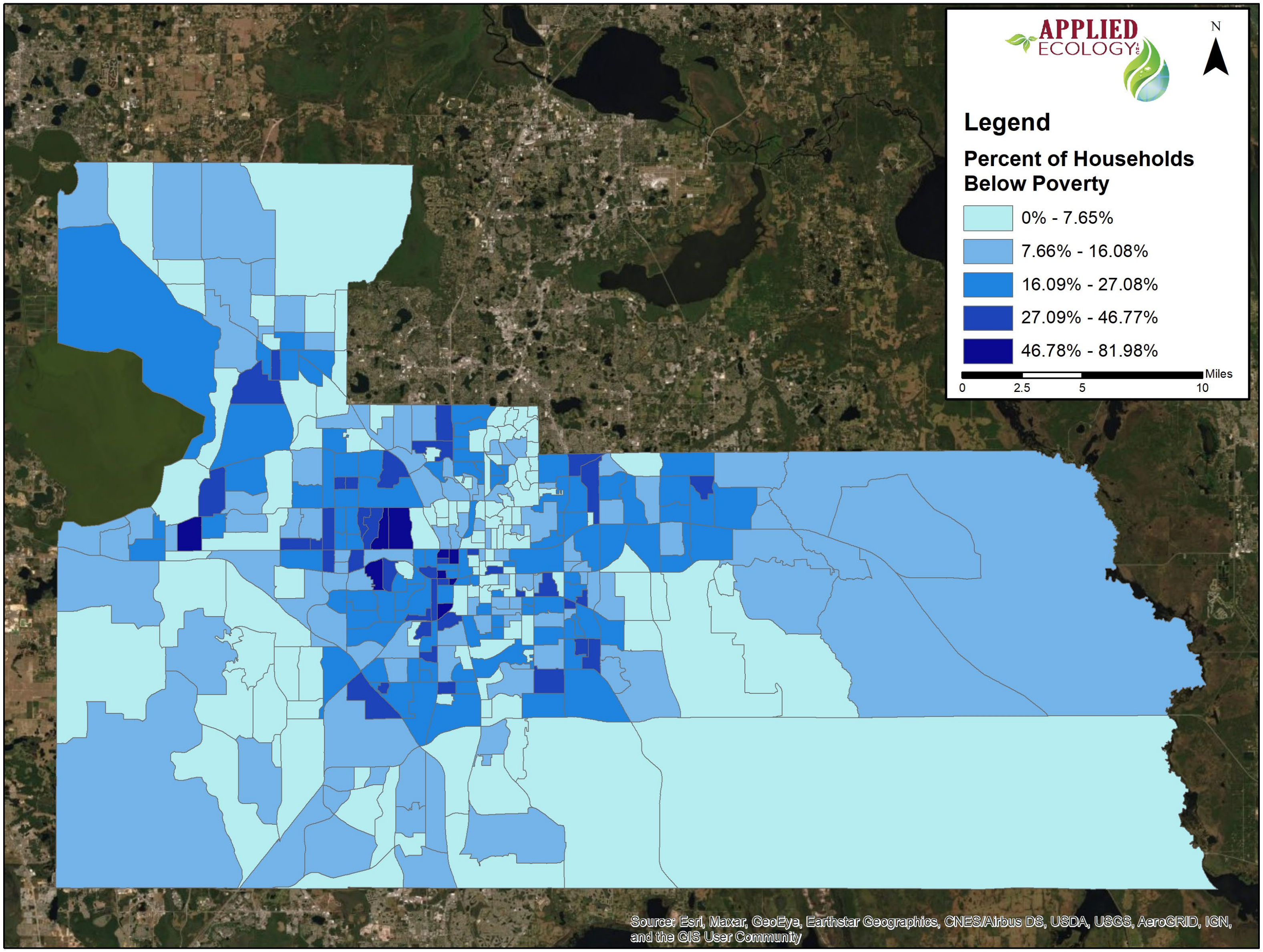


Figure 26. The percentage of households below poverty per census block group, Orange County, Florida. Data source U.S. census bureau.

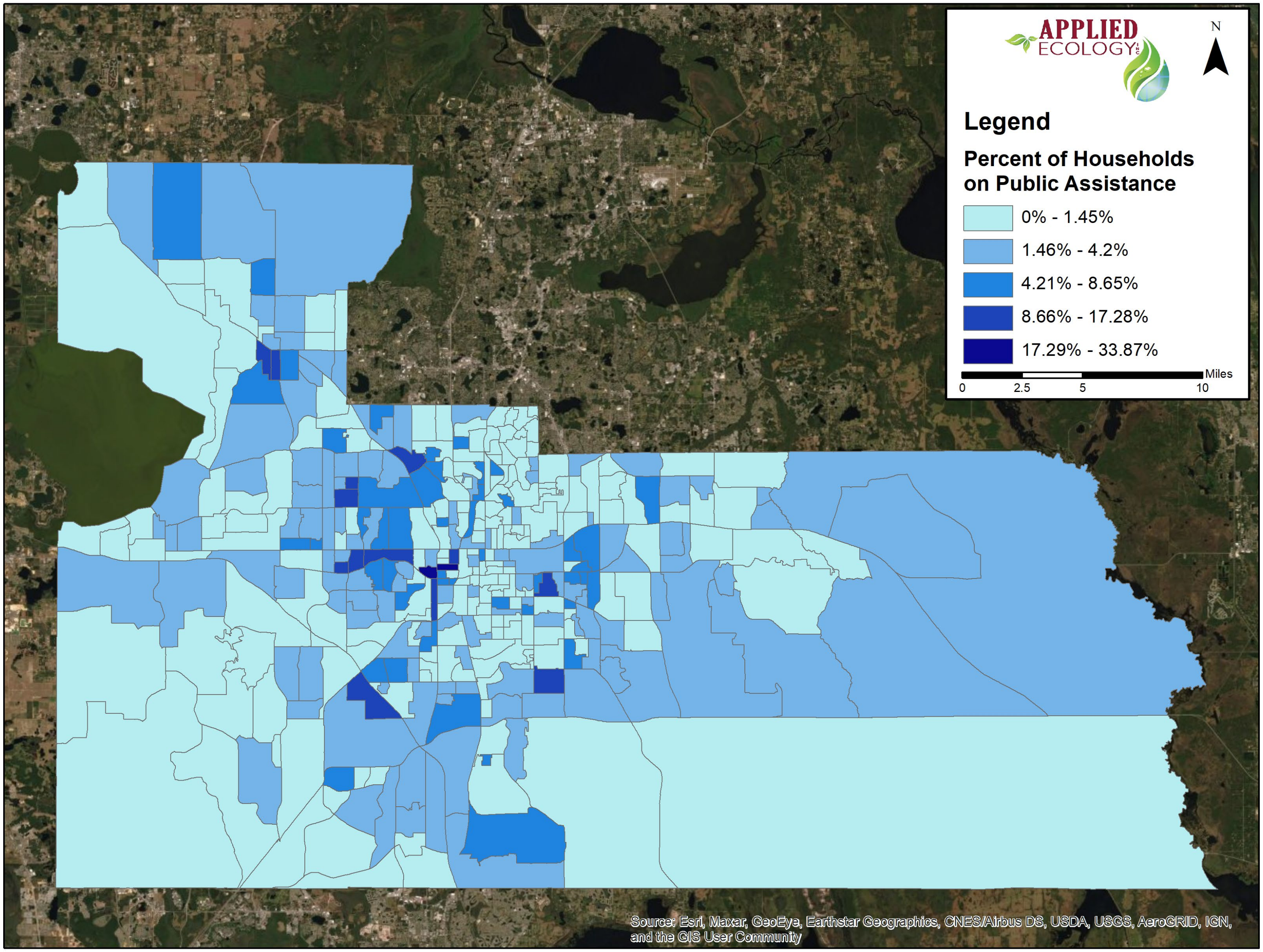


Figure 27. The percentage of households on public assistance per census block group, Orange County, Florida. Data source U.S. census bureau.

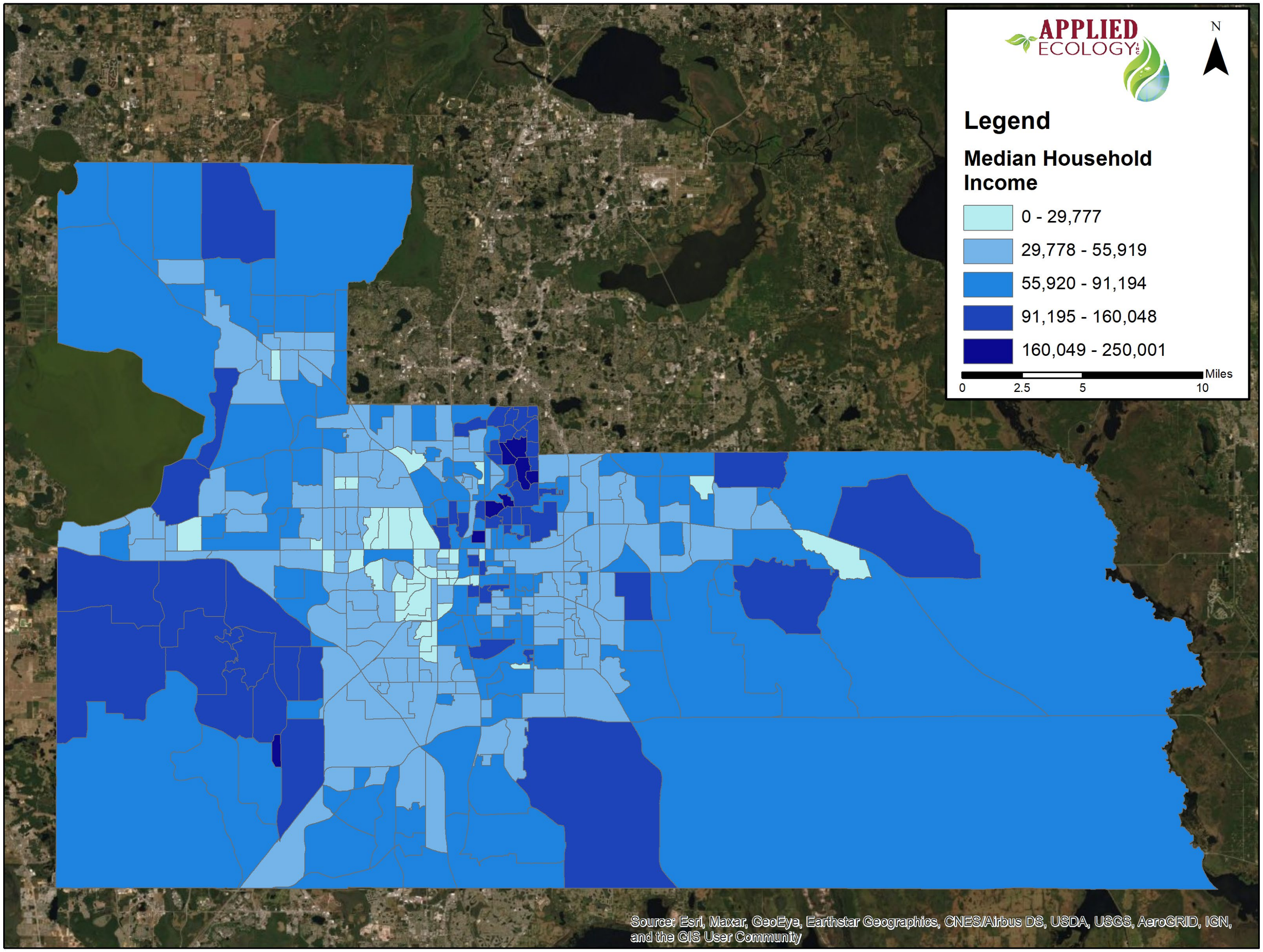


Figure 28. The median household income per census block group, Orange County, Florida. Data source U.S. census bureau.

REFERENCES

Armstrong, J.H. (2015). *Florida Onsite Sewage Nitrogen Reduction Strategies Study Final Report.* Florida Department of Health. Retrieved from http://www.floridahealth.gov/environmental-health/onsite-sewage/research/research-reports.html.

Arthur, J. D. et al., 2017. *Florida Aquifer Vulnerability Assessment: Contamination Potential Models of Florida's Principal Aquifer Systems*, Tallahassee, FL: Florida Geological Survey.

Badruzzman, M., Pinzon, J., Oppenheimer, J., & Jacangelo, J. (2012). Sources of nutrient impacting surface waters in Florida: A review. Journal of Environmental Management, 109, 80-92.

Briggs, G.R., Roeder, E., & Ursin, E. (2007). *Nitrogen Impact of Onsite Sewage Treatment and Disposal Systems in the Wekiva Study Area.* Tallahassee, FL: Florida Department of Health. Retrieved from http://www.floridahealth.gov/environmental-health/onsite-sewage/research/_documents/wekiva-final-report.pdf

Capps, K.A., Bateman, J.M., Gaur, N., & Parsons, R. (2020). *Assessing the Socio-Environmental Risk of Onsite Wastewater Treatment Systems to Inform Management Decisions*: Environmental Science & Technology, 54, 14843-14853. Retrieved from: Assessing the Socio-Environmental Risk of Onsite Wastewater Treatment Systems to Inform Management Decisions | Environmental Science & Technology (acs.org)

Fla. Admin. Code R. 64E-6. (2018).

Harper, H., & Baker, C. (2007). *Evaluation of Current Stormwater Design Criteria Within the State of Florida: Final Report*. Orlando, FL: Environmental Research & Design, Inc.

Keene, R. (2015). Martin County Septic System Elimination: Final Report. Stuart, FL: CAPTEC Engineering, Inc.

LaPointe, B.E. & Herren, L.W. (2016). *2015 Martin County Watershed to Reef Septic Study: Final Report.* Fort Pierce, FL: Harbor Branch Oceanographic Institute, Florida Atlantic University.

Listopad, C. & Soto, L. (2020). Brevard County Monitoring and Modeling Report, AEI, 2020.

Rios, J.F., Ye, M., Wang, L., & Lee, P. (2011). *ArcNLET: Technical Manual*. Tallahassee, FL: Florida Department of Environmental Protection.

Rios, J.F., Ye, M., Wang, L., Lee, P.Z., Davis, H., & Hicks, R.W. (2013). ArcNLET: A GIS-based software to simulate groundwater nitrate load from septic systems to surface water bodies. Computers and Geosciences, 52, 108-116. doi: 10.1016/j.cageo.2012.10.003.

Taylor, C., Yahner, J., & Jones, D. (1997). *An Evaluation of On-site Technology in Indiana: A Report to the Indiana State Department of Health*. Purdue University.

Wang, L., Ye, M., Rios, J.F., & Lee, P.Z. (2012). *Sensitivity Analysis and Uncertainty Assessment for ArcNLET-Estimated Nitrate Load from Septic Systems to Surface Water Bodies.*

Ye, M. & Sun, H. (2013). *Estimation of Nitrogen Load from Removed Septic Systems to Surface Water Bodies in the City of Port St. Lucie, the City of Stuart, and Martin County.* Tallahassee, FL: Department of Scientific Computing, Florida State University.

Ye, M., Zhu, H., and Sayemuzzaman, M. (2014). Estimation of Groundwater Seepage and Nitrogen Load from Septic Systems to Lakes Marshall, Roberts, Weir, and Denham. Tallahassee, FL: Department of Scientific Computing, Florida State University.

Ye, M., Sun, H., & Hallas, K. (2017). *Numerical estimation of nitrogen load from septic systems to surface water bodies in St. Lucie River and Estuary Basin, Florida*. Environmental Earth Sciences. 76. 10.1007/s12665-016-6358-y.

Zhu, Y., Ye, M., Roeder, E., Hicks, R., Liangshen, S., & Yang, J. (2016). Estimating ammonium and nitrate load from septic systems to surface water bodies within ArcGIS environment. *Journal of Hydrology*, 532, 177-1

APPENDIX A: PARAMETERS FOR THE DEVELOPMENT OF POLLUTION POTENTIAL INDEX

Appendix A

Parameters for the Development of Pollution Potential Scheme (Sorted by Subdivision Name)

Subdivision Name	Septic Density (Parcels/ Acre)	OCAVA Class Mean	% Subdivisions in Impaired Surface or Spring Watershed	Mean Population Density 2010	Population Density Change 2000-2020	Housing Density Change 2020-2050	Minimum Distance to Sewer Main (ft)	Mean Year Built	Mean Distance to Waterbody (ft)	Mean Elevation (mABSL)
1020 Buildings	3.87	3.00	100	0.15	672.65	0.00	167.50	1953	711.95	34.50
Aagaard Acres	0.17	3.00	100	3.32	445.94	402.83	7.41	1984	2061.02	27.32
Adams Ridge Ut 2	2.40	3.00	100	8.27	924.83	0.00	201.69	1985	1152.63	32.35
Adirondack Hgts	2.87	3.00	0	9.17	706.47	155.87	206.40	1963	852.48	31.59
Adventhealth Ruby Lake	0.09	1.13	100	0.00	14.24	2.36	2.28	2020	615.51	38.86
Aein Sub	0.55	3.00	0	1.36	292.62	0.00	1290.06	1979	295.65	17.59
Agnes Hgts	3.32	3.00	0	6.95	1639.06	0.00	309.16	1959	1401.81	32.96
Agnes Hgts 1St Add	3.90	3.00	0	8.24	1639.06	0.00	333.10	1959	2177.57	34.58
Ahern Park	2.35	4.64	100	0.10	224.59	239.93	523.89	1972	881.18	24.48
Alafaya Prof Park 2 Condo	5.16	3.00	100	0.04	459.08	757.18	121.82	2007	516.95	21.71
Alafaya Woods	3.29	4.67	0	5.95	529.60	3.30	605.72	1981	1587.90	23.94
Alden Court	1.35	3.08	100	0.75	778.91	30.53	286.21	1969	2998.82	37.84
Alice C Hill Add To Toronto	2.08	3.00	100	0.27	49.22	187.14	45.87	1954	3004.31	39.75
Aliso Ridge	2.61	3.00	0	4.36	919.65	59.46	323.98	1997	1239.98	35.51
All The Way Sub	3.17	5.77	0	0.05	601.55	602.64	1109.98	2000	565.99	40.66
Allen & Allen Sub	2.57	3.00	0	8.10	665.82	612.47	148.33	1986	333.18	27.00
Allways	2.05	6.00	100	0.08	778.83	47.57	1536.42	1954	1127.70	29.75
Almond Tree Ests	1.71	3.00	0	4.63	569.88	0.00	224.87	1988	290.62	31.62
Aloma Business Ctr Condo	8.55	3.00	100	0.00	358.88	0.00	208.37	1988	629.27	24.71
Aloma Ctr East	7.66	3.00	100	0.00	358.88	0.00	208.24	1986	1231.29	24.00
Alvin Sub	1.58	3.00	54	0.47	350.19	0.00	469.05	1980	701.15	17.37
Anderson George W	0.41	3.00	100	0.65	542.36	486.46	894.57	1944	0.00	19.24
Anderson George W	0.31	3.00	100	0.38	542.36	20.69	1363.59	1945	0.00	19.46
Anderson George W	0.22	3.00	100	2.73	256.83	20.69	1947.10	1933	0.00	21.25
Anderson George W	0.06	3.17	100	0.33	256.83	0.00	853.69	1974	105.10	22.08
Anderson Village	2.93	3.00	0	1.49	439.90	0.00	560.64	1989	520.37	21.35
Anderson Village 1St Add	4.00	3.00	0	0.01	412.65	0.00	573.78	1988	656.85	22.00
Angebilt Add	2.19	2.97	0	4.51	402.60	0.64	368.07	1961	584.98	30.67
Angebilt Add 2	2.00	3.00	4	5.23	796.38	0.00	462.86	1960	1402.23	30.38
Annandale Park	1.65	3.00	100	3.55	235.32	2.02	626.55	1960	816.64	27.00

Appendix A

Parameters for the Development of Pollution Potential Scheme (Sorted by Subdivision Name)

Subdivision Name	Septic Density (Parcels/ Acre)	OCAVA Class Mean	% Subdivisions in Impaired Surface or Spring Watershed	Mean Population Density 2010	Population Density Change 2000-2020	Housing Density Change 2020-2050	Minimum Distance to Sewer Main (ft)	Mean Year Built	Mean Distance to Waterbody (ft)	Mean Elevation (mABSL)
Apopka Ranches	0.19	3.05	100	1.14	308.38	1021.82	1053.06	1979	1890.77	31.27
Apopka Wekiva Homesites	2.25	3.00	100	5.11	728.06	0.00	139.43	1980	1519.27	23.90
Arbor Woods North	5.11	3.00	0	10.26	1248.04	0.00	260.91	1988	1782.19	20.31
Arbor Woods Ut 3	4.87	3.00	0	3.45	996.35	152.27	459.35	1984	497.06	17.06
Arcadia Terrace	2.33	3.00	8	4.75	200.39	0.00	625.60	1969	1491.92	27.00
Armstrong Acres	0.38	3.00	28	3.69	796.38	102.04	430.88	1956	134.43	29.81
Arnold H T Plan Of Conway	0.99	3.00	0	3.37	798.74	0.00	169.57	1972	1453.07	31.37
Arrowhead Lakes	0.38	3.58	0	0.61	372.97	0.00	3245.66	1987	16.38	32.56
Avon Vista	0.86	1.03	100	1.55	101.61	187.14	129.64	1962	2280.98	38.70
Avondale	0.82	3.00	100	1.00	568.42	0.00	307.49	1968	1301.32	34.94
Avondale	3.09	3.46	0	8.18	922.61	47.93	1451.73	1977	493.28	32.52
Avondale Add	2.08	3.04	0	5.79	922.61	151.46	1984.59	1974	295.57	37.43
Avondale Park 1St Add	3.32	3.00	100	7.48	555.66	402.83	543.89	1970	895.16	27.75
Avondale Park 2Nd Add	1.38	3.69	100	3.47	555.66	402.83	503.63	1966	601.89	27.55
Backachers Ests	1.89	2.75	0	4.02	659.64	0.00	1498.64	1985	10.05	26.00
Baileys Add To Plymouth	0.27	4.39	100	1.06	369.70	534.63	720.49	1983	1448.84	33.90
Balmoral	0.89	3.12	0	3.28	456.88	0.00	622.28	1996	2866.34	52.92
Banana Bay Ests	0.76	3.00	0	1.79	318.06	255.67	457.37	1995	147.23	34.84
Banana Bay Ests Lot 29	1.93	3.00	0	0.01	318.06	255.67	109.74	1997	275.76	37.00
Barbara Terrace	5.61	3.00	100	2.61	682.42	513.34	1080.49	1959	958.30	29.33
Barbara Terrace 1St Add	3.89	3.00	100	0.42	682.42	513.34	981.16	1963	985.18	28.00
Barnum Lillian Sub	0.79	1.00	0	3.03	369.29	1760.67	790.07	1949	66.29	27.76
Bass Lake Manor	3.33	3.00	3	5.01	806.05	0.00	282.55	1961	500.33	31.77
Bay Cove Ests	2.00	3.00	0	0.32	394.73	0.00	266.95	1987	477.45	43.30
Bay Lake Ests	1.32	2.48	100	0.94	72.71	692.41	917.60	1966	0.00	27.05
Bay Lake Manor	0.60	1.55	100	1.62	216.97	741.98	373.59	1980	157.48	27.00
Bay Lake Shores	1.72	1.00	100	1.73	216.97	692.41	461.12	1963	102.13	27.20
Bay Lakes At Granada Sec 3	2.13	1.58	0	3.75	443.22	0.00	440.53	1982	280.21	33.25
Bay Lakes At Granada Sec 4	2.35	1.81	0	1.85	661.96	34.86	486.36	1983	510.25	33.53
Bay Lakes At Granada Sec 5	2.60	4.55	0	4.35	661.96	0.00	536.11	1984	350.65	32.21

Appendix A

Parameters for the Development of Pollution Potential Scheme (Sorted by Subdivision Name)

Subdivision Name	Septic Density (Parcels/ Acre)	OCAVA Class Mean	% Subdivisions in Impaired Surface or Spring Watershed	Mean Population Density 2010	Population Density Change 2000-2020	Housing Density Change 2020-2050	Minimum Distance to Sewer Main (ft)	Mean Year Built	Mean Distance to Waterbody (ft)	Mean Elevation (mABSL)
Bay Lakes At Granada Sec 6	2.75	6.00	0	3.57	623.39	34.86	164.10	1985	838.22	35.63
Bay Park	1.92	5.98	0	5.64	454.77	0.00	400.60	1992	457.53	50.99
Bay Park Rep	2.99	5.70	0	0.04	454.77	0.00	857.07	1993	926.42	51.44
Bay Run Sec 1	2.00	3.00	0	5.65	542.76	0.00	313.60	1983	3230.61	24.00
Bay Run Sec 2	2.47	3.00	0	4.61	720.92	0.00	362.63	1983	3336.88	24.00
Bay Run Sec 3	1.50	3.00	0	4.61	506.20	0.00	203.67	1984	4090.24	24.00
Bay Vista Ests Ut 1	1.54	1.66	19	3.79	617.53	0.37	479.13	1986	342.37	32.45
Bay Vista Ests Ut 2	1.85	3.00	14	4.76	532.73	0.37	600.46	1988	552.40	32.18
Bay Vista Ests Ut 3	1.15	3.35	52	3.58	899.97	0.00	621.99	1991	323.42	29.17
Bay Vista Ests Ut 4	2.89	3.23	0	3.07	532.73	0.00	446.58	1991	912.15	33.32
Baybreeze Manor	1.76	3.00	100	0.45	216.97	741.98	462.49	1985	353.59	27.00
Baybreeze Manor	1.43	2.88	100	0.70	216.97	741.98	139.20	1980	718.09	27.00
Bayola Park	0.97	4.23	19	0.11	65.86	0.00	7177.82	1959	2.27	23.64
Bear Lake Highland Acres	0.43	6.00	100	2.11	474.97	0.00	663.91	1993	1349.44	36.54
Bear Lake Highlands	1.93	5.66	100	4.54	331.05	30.53	692.31	1974	1152.34	37.69
Bear Lake Highlands 1St Add	1.64	5.44	100	2.17	474.97	727.97	369.96	1975	1209.06	36.70
Beatrice Village	1.82	3.00	100	12.22	772.41	1.94	88.64	1972	1200.66	28.62
Beauclaire Estates Of Mt. Dora	0.33	4.61	0	0.02	49.22	71.05	13649.83	2004	1759.10	40.48
Beauclaire Ests Of Mount Dora Ph 2	0.31	3.62	0	0.22	49.22	70.29	12668.60	2019	2213.81	36.01
Becks Add To Zellwood	1.22	3.00	100	2.67	174.10	0.00	536.68	1960	2821.15	30.28
Bedford Hgts	4.37	3.00	0	11.51	605.40	0.00	192.79	1985	483.86	27.00
Beeman Park	2.63	3.00	0	5.83	741.96	198.95	412.57	1963	1057.28	29.51
Bella Vita Estates	0.29	3.00	0	2.09	476.64	100.76	782.81	2040	620.87	34.39
Bellanona Grande Ests	0.40	4.92	0	0.65	222.96	0.00	517.47	2015	804.76	21.59
Bellaria	0.84	3.02	0	0.76	137.86	0.00	399.65	2013	927.29	35.78
Belroi	5.18	3.00	100	0.54	1708.98	0.00	355.03	1973	3469.86	37.90
Bent Oak Ph 1	0.64	5.33	100	0.04	599.15	98.42	112.90	1986	262.53	23.00
Bent Oak Ph 1	1.89	3.28	100	5.19	599.15	0.00	576.73	1981	1693.96	30.98
Bent Oak Ph 2	1.75	6.00	100	4.54	599.15	20.22	717.59	1982	1667.22	30.03
Bent Oak Ph 3	2.04	6.00	100	5.39	599.15	98.42	1088.90	1984	953.55	28.21

Appendix A

Parameters for the Development of Pollution Potential Scheme (Sorted by Subdivision Name)

Subdivision Name	Septic Density (Parcels/ Acre)	OCAVA Class Mean	% Subdivisions in Impaired Surface or Spring Watershed	Mean Population Density 2010	Population Density Change 2000-2020	Housing Density Change 2020-2050	Minimum Distance to Sewer Main (ft)	Mean Year Built	Mean Distance to Waterbody (ft)	Mean Elevation (mABSL)
Bent Oak Ph 3	1.07	3.33	100	1.97	423.64	67.68	1793.38	1986	18.01	22.40
Bent Oak Ph 4	1.58	5.01	100	3.78	599.15	67.68	1665.97	1984	473.78	23.77
Bent Oak Ph 5	1.27	5.11	100	3.08	599.15	98.42	604.53	1986	386.87	24.91
Bentley Park 2Nd Rep	0.67	1.00	0	2.78	443.22	0.00	454.43	1999	309.51	31.30
Bentley Woods	3.20	5.90	100	6.72	630.02	0.00	469.21	1987	1214.82	33.76
Bentons Garden Cove	5.56	6.00	0	11.74	987.15	133.07	192.45	1985	850.55	40.98
Bentons Mohawk Ests	1.78	3.00	0	0.01	142.61	496.40	489.26	1989	0.00	24.00
Bentons Plymouth Oaks	0.42	3.00	100	1.43	144.92	0.00	1721.27	1988	641.71	23.24
Bentons Zellwood Sub	1.95	3.00	0	0.06	142.61	0.00	280.30	1988	360.96	23.33
Bentons Zellwood Sub	2.00	3.00	0	0.06	158.11	0.00	597.09	1988	1835.25	27.00
Betty Jo Sub	2.16	3.00	0	1.74	751.13	8246.55	22.19	1959	258.80	30.77
Biltmore Shores Sec 1	3.45	1.00	100	4.30	624.01	672.69	790.21	1952	594.81	28.82
Biltmore Shores Sec 2	1.93	1.00	79	4.01	544.49	672.69	1596.20	1956	205.43	27.88
Birr Court	3.66	1.00	0	3.96	435.77	495.87	71.13	1961	369.76	27.94
Bithlo (201-205, 301-305)	1.41	1.00	0	2.57	230.58	2571.83	4297.74	1987	2052.04	19.63
Bithlo (Blk 101-106)	0.07	1.00	0	0.05	104.70	521.08	3914.48	1975	4775.86	16.71
Bithlo (Blk 1-12)	0.02	1.00	14	0.29	29.39	1826.58	4984.33	1988	4399.36	17.97
Bithlo (Blk 1211)	2.11	1.00	0	0.44	230.58	521.08	3723.68	1940	3161.06	19.00
Bithlo (Blk 13-37)	0.01	1.00	21	0.17	29.39	0.00	5796.02	1971	2835.96	15.97
Bithlo (Blk 2000-2017)	0.41	1.00	81	1.21	152.65	3865.77	5583.58	1985	1714.08	19.58
Bithlo (Blk 201-1222)	0.26	1.00	8	0.98	230.58	2571.83	5080.57	1989	1309.23	18.40
Bithlo (Blk 2018-2240)	1.26	1.00	93	2.97	152.65	2571.83	6086.78	1986	884.91	19.06
Bithlo (Blk 406-410, 506-509)	0.66	1.00	0	1.29	110.94	2571.83	4959.69	1990	1333.88	19.89
Bithlo (Blk 510)	0.83	1.00	0	0.28	110.94	4.56	5333.31	2003	957.73	19.85
Bithlo (Blk A-X)	1.44	1.12	70	2.92	276.46	1826.58	6046.72	1988	2803.51	18.88
Bithlo Ranches Annex Unrec Plat	0.41	1.00	100	0.90	112.15	0.08	8808.63	1998	449.24	17.63
Bithlo Ranches Annex Unrec Plat	0.73	1.00	100	0.70	112.15	3865.77	8528.98	1980	1234.10	16.56
Bithlo Ranches First Add Unrec Plat	0.54	1.00	74	1.14	74.40	0.00	3811.21	1982	2773.32	15.39
Bithlo Ranches Unrec Plat	0.72	1.00	0	2.06	310.89	0.00	3680.89	1980	4528.78	17.49
Blackwood Acres Rep	1.15	3.67	100	3.07	828.83	3651.06	360.15	1967	629.84	39.54

Appendix A

Parameters for the Development of Pollution Potential Scheme (Sorted by Subdivision Name)

Subdivision Name	Septic Density (Parcels/ Acre)	OCAVA Class Mean	% Subdivisions in Impaired Surface or Spring Watershed	Mean Population Density 2010	Population Density Change 2000-2020	Housing Density Change 2020-2050	Minimum Distance to Sewer Main (ft)	Mean Year Built	Mean Distance to Waterbody (ft)	Mean Elevation (mABSL)
Blissfield Homes Sub	3.05	1.00	0	2.79	369.29	1303.76	395.95	1955	702.13	32.17
Blue Bird Park	0.40	3.00	100	0.69	332.48	103.99	299.55	1987	449.73	30.83
Blue Ridge Acres	0.50	5.29	100	1.08	227.56	0.00	1522.82	1982	2227.22	33.00
Boggy Creek Oaks	0.18	3.00	100	0.01	67.10	0.00	109.56	1978	13952.78	19.91
Bon Air 1St & 2Nd Secs	1.08	3.00	0	0.00	265.40	0.00	62.55	1954	384.91	28.00
Bon Air Rep	0.52	3.00	0	0.00	265.40	3.29	73.22	1947	486.85	28.00
Bonaventure	1.60	1.00	100	0.46	310.89	0.00	2434.40	1996	2862.53	16.71
Bonaventure 2	1.46	1.00	93	4.36	310.89	0.00	2953.86	1989	3455.39	18.35
Bonaventure 3	1.75	1.00	100	1.10	310.89	0.00	1745.74	1990	3664.13	17.46
Bonnie Belle Point	1.63	3.00	0	3.49	334.32	110.70	1286.98	1963	16.39	25.45
Bonnie Brae	3.06	1.00	100	5.26	753.27	149.39	229.86	1965	1069.81	24.39
Bonynge Add	0.21	6.00	0	0.51	144.84	0.00	9737.45	2003	2696.58	47.42
Bonynges Ed W 2Nd Add	1.73	4.18	0	2.64	214.53	93.67	8227.75	1991	1743.52	43.44
Boone Terrace	3.23	3.00	0	7.21	806.05	0.00	898.27	1956	676.82	32.00
Bowser Sub	0.80	3.00	65	0.53	200.39	71.03	555.73	1980	2365.28	26.35
Braemar	0.92	3.00	0	0.77	169.24	529.91	2481.84	2012	343.80	32.11
Braemar Ph 3	0.59	3.00	0	0.78	122.64	529.91	2410.60	2015	155.52	32.25
Braemar Phase 2	0.47	3.00	0	0.78	122.64	529.91	1863.29	2015	49.81	28.23
Breckenridge Estates	3.16	3.34	100	7.50	742.81	0.00	369.22	1986	864.59	37.20
Breezy Hgts	3.91	3.00	100	6.85	922.76	20.22	782.31	1968	944.59	29.96
Brentwood	2.35	3.00	97	2.31	499.90	0.00	950.51	1980	6408.24	26.84
Bretwood	2.96	1.00	100	3.67	825.06	0.00	281.33	1987	714.11	23.60
Bretwood 2	3.10	1.00	100	3.67	825.06	0.00	277.22	1992	1398.94	29.17
Brewer Court	1.74	1.00	100	0.02	624.01	1.82	557.64	1955	1311.27	29.00
Bronson Irlo O Sub	0.44	3.00	100	0.06	804.41	129.83	185.38	1986	3286.65	26.47
Brookwood	0.96	3.00	78	1.30	327.28	0.00	237.18	1988	253.53	19.49
Brosche Sub	1.17	3.23	41	0.76	608.49	134.03	693.27	1958	240.43	28.98
Brownie Villa	3.89	3.00	100	0.86	1078.15	0.00	29.81	1957	1297.48	27.00
Bryan & Hudson Sub	0.03	3.05	100	0.02	3.49	0.00	6754.35	1930	435.75	22.97
Buckeye Court Rep	3.36	1.00	100	4.28	624.01	1.82	299.41	1951	1005.87	28.39

Appendix A

Parameters for the Development of Pollution Potential Scheme (Sorted by Subdivision Name)

Subdivision Name	Septic Density (Parcels/ Acre)	OCAVA Class Mean	% Subdivisions in Impaired Surface or Spring Watershed	Mean Population Density 2010	Population Density Change 2000-2020	Housing Density Change 2020-2050	Minimum Distance to Sewer Main (ft)	Mean Year Built	Mean Distance to Waterbody (ft)	Mean Elevation (mABSL)
Buckingham At Lakeville Oaks Ph 1	1.45	6.00	100	3.95	368.25	0.00	1995.13	1990	248.02	25.80
Buckingham At Lakeville Oaks Ph 1	1.82	4.55	100	3.95	368.25	0.00	1784.72	1991	649.18	27.57
Buckingham At Lakeville Oaks Ph 2	1.83	5.10	100	3.82	368.25	0.00	1237.54	1993	1531.05	30.38
Buckwood Sub	3.54	1.56	0	1.60	821.19	1303.76	216.05	1957	1108.31	32.77
Buena Casa Ut 1	0.87	3.00	100	0.30	308.38	155.25	1166.26	1973	979.27	29.33
Buena Vista Commons Phase 2	0.38	3.00	100	1.36	160.97	0.42	3.96	2020	1609.60	35.82
Buff Sub	0.75	3.00	0	6.58	1033.90	155.87	46.54	1954	23.45	28.61
Bumby Hgts	3.41	3.00	0	3.35	674.46	144.64	354.21	1960	1381.67	32.05
Bungalow Park (Taft)	0.10	3.00	100	0.00	61.88	0.00	65.11	1978	2206.92	28.00
Bunker Hill	1.33	3.43	74	2.12	759.36	508.04	693.99	1987	1452.07	16.10
Bunker Hill 2Nd Sec	0.52	3.44	15	1.50	759.36	508.04	691.49	1982	403.83	16.57
Bunker Hill 3Rd Sec	0.60	3.00	0	5.84	781.15	508.04	28.07	1995	693.58	16.00
Bunker Hill Terrace	1.17	3.00	68	0.22	781.15	508.04	391.63	1986	829.24	16.88
Burke John W	0.54	1.00	0	0.09	821.19	1760.67	596.26	2005	0.00	31.00
Butler Bay Ut 1	0.51	3.00	0	1.31	215.24	137.79	4535.80	1987	135.99	32.65
Butler Bay Ut 2	0.68	3.00	0	1.40	159.16	137.79	2986.71	1990	307.13	33.19
Butler Bay Ut 3	0.39	3.00	31	1.13	189.90	0.00	2130.38	1998	125.08	33.40
Butler Bay Ut 3	0.50	3.00	0	1.16	180.08	0.00	3260.65	1992	454.87	34.50
Butler Bay Ut 3 Rep	1.10	3.00	0	0.02	202.03	0.00	3912.03	1995	11.03	32.42
Butler Bay Ut 3 Rep	0.51	3.00	0	0.01	159.16	0.00	3285.67	1991	282.83	32.89
Butler Manor	0.27	3.22	100	1.57	221.45	155.25	1524.17	2000	545.13	27.42
Butler Ridge	0.80	5.31	0	1.66	197.88	0.00	872.83	1990	1250.56	38.50
Callum Mac Sub	0.16	3.20	93	0.62	659.00	165.81	145.43	1965	84.52	27.99
Canyon Ridge Ph 1	2.76	5.23	100	7.33	292.41	193.40	1006.37	1987	1092.37	31.93
Canyon Ridge Ph 2	3.37	5.42	100	4.30	982.80	193.40	432.66	1988	1629.49	34.87
Cape Orl Ests Ut 4A	0.13	3.00	0	0.36	38.93	123.27	24835.68	2010	5200.90	21.39
Cape Orl Ests Ut 7A	0.34	3.00	0	0.60	53.81	1484.79	19668.91	2010	4113.57	19.71
Cape Orl Ests Ut 9A	0.16	3.00	0	0.38	41.09	241.71	17666.97	2008	2574.73	19.92
Cape Orl Ests Ut 11A	0.28	3.00	41	0.51	84.72	1732.02	14709.85	2010	1273.63	17.71
Cape Orl Ests Ut 12A	0.28	2.95	39	0.70	52.47	792.74	14587.16	2009	1114.21	19.10

Appendix A

Parameters for the Development of Pollution Potential Scheme (Sorted by Subdivision Name)

Subdivision Name	Septic Density (Parcels/ Acre)	OCAVA Class Mean	% Subdivisions in Impaired Surface or Spring Watershed	Mean Population Density 2010	Population Density Change 2000-2020	Housing Density Change 2020-2050	Minimum Distance to Sewer Main (ft)	Mean Year Built	Mean Distance to Waterbody (ft)	Mean Elevation (mABSL)
Cape Orl Ests Ut 2A	0.14	3.00	0	0.34	43.92	35.22	21816.44	2006	3486.66	20.11
Cape Orl Ests Ut 31A	0.37	1.05	0	0.95	123.26	0.00	15151.98	2006	4028.22	18.83
Cape Orl Ests Ut 3A	0.16	2.96	0	0.44	55.56	557.61	22678.93	2003	3770.33	20.69
Cape Orl Ests Ut 3A	0.43	2.92	0	0.86	97.71	557.61	23355.13	2008	3746.06	21.09
Cape Orl Ests Ut 3A	0.12	2.85	0	0.32	37.90	0.19	24112.93	2007	4337.70	21.20
Cape Orl Ests Ut 8A	0.15	3.00	2	0.33	43.73	69.26	18454.05	2007	2824.94	19.72
Carlson Park	2.85	1.00	100	4.28	591.78	15898.31	304.59	1959	611.53	28.32
Carlton Oaks	3.12	6.00	100	3.45	367.71	0.00	1034.89	2000	1848.73	25.96
Carmel Park	5.47	3.00	0	7.69	681.42	0.00	305.85	1988	1036.81	18.69
Carol Court	3.12	3.00	0	1.88	801.68	0.00	476.41	1956	1009.89	33.00
Carol Woods	2.92	5.73	100	3.34	630.02	98.42	541.07	1987	1384.20	29.44
Carol Woods Ph 2	4.10	6.00	100	0.02	445.17	98.42	598.99	1989	1642.96	29.60
Carolina Terrace	0.47	3.00	0	0.78	122.64	529.91	706.21	1980	520.00	33.26
Caroline Ests	2.41	4.40	100	5.78	742.81	0.00	783.84	1984	980.79	38.56
Caroline Ests 1St Add	2.93	6.00	100	1.91	742.81	0.00	463.99	1985	1270.36	40.36
Caroline Ests 2Nd Add	2.86	5.94	100	2.53	869.39	0.00	463.16	1986	1420.42	40.66
Carrigan Lot	0.46	1.00	0	0.00	230.58	521.08	4262.81	2001	3018.04	19.80
Carson Oaks	4.02	3.00	0	0.21	674.46	0.00	1778.29	1958	510.49	28.93
Castle Place	3.18	3.00	0	6.50	574.99	0.00	604.05	1973	316.95	28.98
Central Park	1.46	3.00	100	0.97	351.17	513.34	153.69	1949	1195.31	27.81
Central Park Village Condo	0.23	3.00	100	2.69	105.03	159.65	283.63	1974	3417.09	28.00
Chaine Du Lac	0.50	3.00	0	0.99	136.18	0.00	621.70	2002	190.13	32.96
Chaine Du Lac	0.63	3.00	0	0.99	159.16	0.00	2498.35	2018	624.44	34.26
Champions Point Of Isleworth	0.06	3.00	0	0.57	298.44	0.00	2589.30	1990	44.20	30.08
Chancellors Row Ph 1	6.28	1.00	100	0.59	1371.12	0.00	194.39	1985	1213.06	27.32
Chancellors Row Ph 2	7.66	1.00	100	0.42	1371.12	0.00	546.66	1987	974.25	26.92
Chateau De Ville Condo Ph 1	14.62	1.00	100	12.08	848.29	1328.52	155.66	1969	2026.09	29.06
Chateau De Ville Condo Ph 2	14.48	1.00	100	18.40	848.29	1328.52	129.73	1973	2338.10	28.94
Chaudoin Hills	0.76	5.57	100	0.26	28.80	1.66	2339.98	1982	0.00	47.03
Cheney Highlands	1.52	3.00	9	2.99	759.39	6.86	266.20	1971	578.85	24.00

Appendix A

Parameters for the Development of Pollution Potential Scheme (Sorted by Subdivision Name)

Subdivision Name	Septic Density (Parcels/ Acre)	OCAVA Class Mean	% Subdivisions in Impaired Surface or Spring Watershed	Mean Population Density 2010	Population Density Change 2000-2020	Housing Density Change 2020-2050	Minimum Distance to Sewer Main (ft)	Mean Year Built	Mean Distance to Waterbody (ft)	Mean Elevation (mABSL)
Cheney Highlands 2Nd Add	2.27	3.00	4	3.61	759.39	6.86	581.92	1968	474.46	24.00
Cheney Highlands 3Rd Add	2.16	3.00	0	3.11	665.56	6.86	785.54	1989	277.65	23.35
Cheney Hwy Acres 1St Add	2.21	3.00	100	3.42	419.85	0.00	353.93	1983	2251.40	17.64
Chesterhill Ests Ph 1	1.01	3.39	0	1.22	73.43	71.05	13787.44	1993	714.60	28.95
Chesterhill Ests Ph 2	0.71	3.20	0	0.77	73.43	71.05	13153.70	2001	239.14	25.60
Chesterhill Ests Ph 4	0.24	3.63	0	0.51	73.43	0.00	12233.04	2018	1245.66	34.03
Chickasaw Farms	0.35	3.00	0	2.51	379.60	0.00	291.10	1982	4154.48	24.93
Chickasaw Farms 1St Add	0.66	3.00	0	0.02	361.29	0.00	154.02	1984	3598.01	25.00
Chickasaw Farms Rep	0.24	3.00	0	0.12	379.60	0.00	134.96	1993	4078.49	24.76
Chickasaw Oaks Ph 1	2.81	1.00	0	3.80	841.09	1070.52	243.57	1983	5676.04	24.97
Chickasaw Pines	2.47	3.00	0	1.92	665.56	6.86	562.02	1973	421.45	22.45
Chickasaw Ranch Ests	0.33	3.00	0	2.34	331.94	0.00	651.57	2020	3269.08	25.00
Chickasaw Trail Ests	0.50	3.00	0	3.11	361.29	0.00	198.78	2013	3332.57	25.00
Christmas Ests Ut 1	0.38	1.00	0	0.17	7.99	0.00	16785.14	1989	5031.59	17.00
Christmas Ests Ut 2 Sec A Rep	0.48	1.00	0	0.36	38.39	0.00	18339.90	1991	6492.25	17.00
Christmas Ests Ut 2 Sec B	0.26	1.00	0	0.49	38.39	0.00	19399.76	1994	7497.57	16.96
Christmas Ests Ut 2 Sec C	0.30	1.00	0	0.80	38.39	0.00	19368.22	1996	7640.91	17.15
Christmas Ests Ut 2 Sec D	0.27	1.00	0	0.35	14.59	0.00	21055.84	1993	8469.85	15.50
Christmas Ests Ut 2 Sec E	0.23	1.00	0	0.52	51.30	0.00	19563.61	1992	7658.93	16.42
Christmas Gardens No 1	0.02	1.00	83	0.07	5.51	3.60	14802.43	1990	2152.05	18.99
Christmas Gardens No 2	0.02	2.39	0	0.04	4.13	3.19	30703.71	1990	4643.56	11.38
Christmas Gardens No 3	0.05	1.00	0	0.05	13.70	0.00	42619.26	1995	4432.56	5.25
Christmas Hgts	0.16	3.00	0	0.39	6.98	0.00	32802.82	1990	6956.25	15.23
Christmas Park	0.65	1.98	0	0.91	27.90	0.00	37389.34	1981	7949.48	8.50
Christmas Park 1St Add	0.71	1.39	0	1.53	166.35	0.02	40207.88	1987	5875.24	7.50
Christmas Pines Rep	0.11	1.00	0	0.17	3.71	0.00	23508.90	2009	7464.24	19.05
Christmas Ranch	0.04	1.00	0	0.03	3.04	0.00	20712.78	1986	6275.47	16.25
Chs Commercial	0.24	2.88	0	0.00	128.55	87.94	3411.28	2019	512.81	34.00
Circle Lake Co Rep	0.71	4.33	97	0.01	577.44	0.00	1131.60	1968	234.91	29.92
Citrus Oaks Landings Condo	3.54	3.00	100	6.27	456.06	0.00	452.67	2001	378.59	29.29

Appendix A

Parameters for the Development of Pollution Potential Scheme (Sorted by Subdivision Name)

Subdivision Name	Septic Density (Parcels/ Acre)	OCAVA Class Mean	% Subdivisions in Impaired Surface or Spring Watershed	Mean Population Density 2010	Population Density Change 2000-2020	Housing Density Change 2020-2050	Minimum Distance to Sewer Main (ft)	Mean Year Built	Mean Distance to Waterbody (ft)	Mean Elevation (mABSL)
Citrus Oaks Ph 1	5.19	3.00	100	8.80	919.65	0.00	583.05	1986	589.48	31.98
Citrus Oaks Ph 2	6.47	3.09	100	17.60	919.65	0.00	805.54	1988	500.11	34.44
Citrus Oaks Ph 2 Rep	8.61	5.00	100	5.94	919.65	0.00	762.94	1990	771.66	36.56
Citrus Oaks Ph 3	6.95	5.29	100	11.32	919.65	0.00	522.91	1992	656.91	37.33
Citrus Oaks Ph 4	6.88	5.68	100	8.04	919.65	0.00	209.74	1993	830.29	38.22
Clarcona Hgts	3.29	5.85	100	5.51	410.87	827.41	506.34	1970	1032.40	30.03
Clarcona Ridge Ph 1	4.36	3.00	100	0.87	982.80	1617.80	53.15	2001	1644.17	23.10
Clearview Hgts	3.85	3.00	100	3.58	550.27	0.00	405.70	1961	1137.18	25.50
Clearview Hgts 1St Add	2.75	3.26	100	6.11	636.36	0.00	532.56	1964	1798.52	27.68
Clearview Hgts 2Nd Add Sec 1	3.66	3.00	100	4.18	636.36	0.00	427.87	1967	1982.54	28.85
Clearview Hgts 2Nd Add Sec 2	3.58	3.00	100	2.56	636.36	0.00	526.45	1971	1812.63	31.00
Clearview Hgts 3Rd Add	3.21	3.00	100	4.31	636.36	0.00	201.08	1972	1364.27	33.60
Clover Hgts	2.32	3.00	0	0.56	706.47	155.87	395.57	1977	0.00	25.68
Clover Hgts	3.49	3.00	0	1.16	706.47	155.87	368.87	1948	613.78	32.40
Clover Hgts	1.46	3.00	0	0.69	706.47	144.64	344.12	1954	851.47	31.00
Clover Hgts Rep	2.95	3.00	0	5.64	706.47	144.64	430.12	1964	810.75	32.11
Cloverdale Hgts	3.36	3.00	0	2.17	844.26	155.87	425.73	1962	1282.06	29.95
Cloverdale Manor	3.39	3.00	0	5.93	844.26	155.87	780.89	1967	1221.60	29.50
Cloverdale Sub	1.58	3.00	0	7.19	844.26	155.87	68.91	1959	867.76	30.40
Cloverlawn	2.46	3.00	5	5.65	844.26	155.87	563.05	1962	644.91	27.75
Cobble Stone	3.00	3.00	100	5.12	600.46	0.00	195.93	1985	623.60	21.42
Cobblestone Walk At Kaley Condo Ph 1	8.30	3.00	0	6.82	844.26	155.87	920.00	2017	1018.36	29.00
Cobblestone Walk At Kaley Condo Phase 2	8.32	3.00	0	6.82	844.26	155.87	1025.71	2017	912.63	28.50
Coco Plum Villas Condo	8.67	3.00	0	8.92	706.47	144.64	212.72	1969	1707.58	32.23
Coconut Grove	1.50	2.94	0	4.08	801.14	0.00	1328.64	1989	5231.36	27.30
Coconut Grove Ut 2	1.81	3.00	0	2.25	167.03	0.00	569.18	1970	6366.22	27.00
College Cove	2.64	3.00	0	10.92	1099.05	43.06	232.68	1984	2596.62	23.65
Colony	2.33	3.07	100	5.63	869.39	0.00	705.64	1987	1810.59	31.20
Combs Add To Zellwood	2.41	3.00	100	1.69	174.10	0.00	2185.64	1981	1848.74	30.40

Appendix A

Parameters for the Development of Pollution Potential Scheme (Sorted by Subdivision Name)

Subdivision Name	Septic Density (Parcels/ Acre)	OCAVA Class Mean	% Subdivisions in Impaired Surface or Spring Watershed	Mean Population Density 2010	Population Density Change 2000-2020	Housing Density Change 2020-2050	Minimum Distance to Sewer Main (ft)	Mean Year Built	Mean Distance to Waterbody (ft)	Mean Elevation (mABSL)
Condel Gardens	2.81	3.00	6	6.80	829.72	878.86	540.85	1958	377.82	29.91
Conway Ests	0.23	3.00	0	1.08	893.34	0.00	0.00	1966	2.22	31.22
Conway Ests	3.53	3.00	0	5.10	893.34	0.00	1231.63	1979	1026.56	31.50
Conway Ests Rep	2.94	3.00	0	6.44	903.57	0.00	556.45	1973	1330.41	34.03
Conway Hgts	0.86	3.00	0	9.22	706.47	144.64	92.93	1975	1817.11	33.79
Conway Hills Ut 1	4.36	3.00	0	2.33	796.22	0.00	313.89	1963	3165.00	32.00
Conway Hills Ut 2	4.50	3.00	0	4.62	796.22	0.00	314.89	1964	3415.96	32.09
Conway Hills Ut 3	4.01	3.00	0	5.60	691.62	0.00	274.75	1970	3298.47	32.00
Conway Hills Ut 4	3.51	3.00	0	5.67	796.22	0.00	394.55	1961	2500.41	31.64
Conway Homesites	2.39	3.00	0	4.66	762.79	0.00	127.90	1976	1313.50	31.50
Conway Park	3.62	3.00	0	6.64	776.82	0.00	189.44	1962	1383.74	29.90
Conway Plaza	0.20	1.00	0	2.11	531.81	495.87	4.47	1920	329.57	28.00
Conway Terrace	3.48	3.00	0	11.60	776.82	0.00	273.94	1955	821.50	29.40
Conway Village	4.76	3.00	0	0.17	798.74	0.00	109.12	1971	1721.29	32.00
Conway Vista	2.51	3.00	0	0.86	861.99	0.00	158.98	1985	1141.74	29.69
Cooks Ests	1.08	3.00	0	0.21	334.32	110.70	1663.54	1985	98.22	32.76
Coronation Add	4.72	3.00	100	4.59	563.72	140.47	477.14	1983	1211.37	26.06
Cottage Hill Sub	0.69	3.00	0	1.70	260.35	64.78	163.67	1958	1484.84	30.00
Country Chase Ut 1	3.47	6.00	100	5.59	703.55	16.95	409.83	1990	1006.25	36.41
Country Chase Ut 2	3.69	6.00	100	4.20	703.55	16.95	117.11	1992	906.09	35.98
Country Ests	0.86	6.00	100	0.03	227.56	0.00	1675.96	1984	1643.82	28.45
Country Grove	3.16	6.00	0	6.76	780.71	354.59	402.47	1986	932.45	36.27
Country Lakes	0.45	3.00	0	1.02	310.39	0.00	500.79	1989	335.04	30.43
Country Shire	2.60	3.40	100	0.14	337.29	4.93	3352.03	1987	1236.71	26.75
Country Shire Ests	2.98	3.43	100	0.00	84.55	4.93	3282.15	2006	971.33	28.11
Country Trail Ests	0.29	3.00	0	0.47	145.18	162.43	604.90	1993	1604.49	32.64
Courtleigh Park	0.85	3.50	0	2.31	273.46	0.00	618.03	1991	2394.22	54.21
Coventry At Ocoee Ph 2	2.92	3.58	100	1.14	457.79	11641.27	686.59	1992	682.31	35.90
Cow Trail Sub	0.41	3.00	0	0.16	467.92	162.43	134.45	1990	887.92	33.88
Coward Ranches	0.04	1.01	0	0.05	35.03	0.00	22200.98	1998	5249.85	13.77

Appendix A

Parameters for the Development of Pollution Potential Scheme (Sorted by Subdivision Name)

Subdivision Name	Septic Density (Parcels/ Acre)	OCAVA Class Mean	% Subdivisions in Impaired Surface or Spring Watershed	Mean Population Density 2010	Population Density Change 2000-2020	Housing Density Change 2020-2050	Minimum Distance to Sewer Main (ft)	Mean Year Built	Mean Distance to Waterbody (ft)	Mean Elevation (mABSL)
Cox L C Add	2.03	1.47	0	3.56	363.15	151.78	219.41	1976	1547.86	28.14
Crescent Hgts	4.94	3.00	0	13.06	922.61	151.46	1275.01	1961	859.84	38.28
Crescent Hgts 1St Add	5.92	5.50	0	3.48	922.61	151.46	484.08	1962	1308.35	41.83
Crescent Hill	3.74	3.02	0	9.14	864.93	151.46	989.69	1962	529.91	38.05
Crescent Hills 1St Add	1.22	3.00	0	0.08	864.93	151.46	386.22	1962	855.18	40.00
Crescent Lake Ests	0.30	3.00	0	1.14	270.51	0.00	3272.50	1982	237.36	32.54
Crescent Lake Ests East	0.61	3.00	0	1.58	215.24	0.00	3287.56	1992	370.67	35.43
Crescent Pointe	0.84	3.00	0	2.02	270.51	0.00	2850.68	1995	940.06	36.75
Crestwood Ests	4.34	1.00	100	4.81	545.93	0.00	393.70	1949	723.25	29.76
Crittenden Camp Sites	0.88	3.00	46	0.32	699.50	0.00	541.66	1979	39.81	27.28
Crittenden Camp Sites	1.65	3.00	19	2.60	829.72	0.00	407.97	2018	60.21	27.17
Crocker Hgts	3.44	3.00	0	6.16	1639.06	0.00	131.69	1970	1707.50	33.00
Cross Rds Sub	2.07	1.00	100	3.52	289.94	290.55	1483.50	1970	1398.77	34.90
Cross State Hwy Hgts	0.94	3.00	0	3.10	400.46	0.00	19.68	1982	1134.06	21.75
Cross Winds Cove	2.56	3.00	0	0.03	682.42	0.13	69.36	1989	1596.19	48.83
Crown Point Woods	0.76	1.44	100	1.12	113.31	0.00	2072.04	1989	3477.13	31.27
Crown Point Woods Ph 2	0.83	1.31	100	0.80	113.31	0.00	1708.92	1992	3709.37	28.06
Crystal Lake Manor	3.65	3.00	0	5.52	801.68	0.00	490.38	1959	891.44	32.90
Crystal Lake Oaks	2.31	3.00	0	4.66	674.46	0.00	1639.95	1997	621.16	29.70
Crystal Lake Park	2.55	3.00	0	7.12	706.47	144.64	249.89	1958	354.14	30.10
Curry East	0.41	3.00	0	0.03	379.60	0.00	101.79	1996	5334.19	24.10
Cypress Isle	0.86	2.99	0	0.86	109.76	0.00	1046.77	1997	799.50	30.39
Cypress Landing Ph 1	2.30	6.00	0	5.03	469.17	43.49	1188.90	1996	493.19	47.87
Cypress Landing Ph 2	1.86	5.78	0	4.52	469.17	157.81	2020.54	1997	706.74	47.60
Cypress Landing Ph 2 1St Rep	3.15	6.00	0	0.95	469.17	157.81	2156.26	1997	717.83	47.90
Cypress Landing Ph 3	1.56	3.52	0	3.87	401.51	157.81	1279.38	1998	491.82	41.66
Cypress Park Ut No 1	4.70	3.00	100	8.54	380.01	741.92	461.08	2000	5724.07	28.00
Cypress Point	0.23	2.46	0	2.69	623.39	34.86	49.21	1980	1177.90	37.08
Cypress Shores	0.30	3.22	0	0.54	109.76	0.00	1713.83	1986	4.01	30.15
Cypress Shores 1St Add	1.49	5.45	0	0.83	109.76	0.00	1250.50	1988	36.71	30.80

Appendix A

Parameters for the Development of Pollution Potential Scheme (Sorted by Subdivision Name)

Subdivision Name	Septic Density (Parcels/Acre)	OCAVA Class Mean	% Subdivisions in Impaired Surface or Spring Watershed	Mean Population Density 2010	Population Density Change 2000-2020	Housing Density Change 2020-2050	Minimum Distance to Sewer Main (ft)	Mean Year Built	Mean Distance to Waterbody (ft)	Mean Elevation (mABSL)
Daniels Mrs A R Sub	0.04	1.00	100	0.50	72.71	741.98	47.63	1939	0.00	27.66
De Lome Ests	2.71	1.00	0	1.69	369.29	1760.67	903.16	1967	326.74	29.33
Dean Acres	6.03	3.00	0	7.90	664.71	0.00	370.55	1989	921.78	18.98
Dean Hilands	0.81	5.32	100	3.34	445.17	98.42	499.03	1980	1554.88	27.75
Deer Island	0.70	3.16	0	1.52	191.96	0.00	5758.91	1996	20.96	31.97
Deer Island Ph 2	0.66	3.01	0	1.46	191.96	0.00	5501.19	2003	346.38	34.93
Deer Lake Chase	1.50	5.04	100	1.57	367.71	0.00	1137.13	1992	968.96	23.14
Deer Lake Run	1.46	4.11	100	3.60	313.97	0.00	2775.88	1989	522.91	21.37
Diamondhead	0.18	3.00	0	0.06	404.56	219.86	1611.62	2003	43.34	28.93
Dickson H H Sub Of Livingston Sub	2.17	1.00	0	3.38	435.77	495.87	34.51	1958	604.97	27.63
Dommerich Hills	2.38	3.00	0	6.39	767.11	26.07	461.79	1961	2252.85	26.08
Dora Ests Ph 2	0.59	3.00	0	0.54	17.42	0.00	5299.14	2018	1104.95	28.14
Dora Ests Ph Two 17-18 Rep	0.45	3.00	0	0.54	17.42	0.00	5388.07	2010	1504.44	28.94
Dorscher Place	1.09	6.00	100	5.06	1643.22	15.01	0.00	1989	722.53	38.25
Dorwood	0.49	3.00	100	0.79	578.38	0.00	1239.85	2002	1986.28	34.37
Dovehill	6.13	3.00	100	5.17	449.94	103.99	310.39	1987	860.88	31.91
Dovehill Ut 2	4.67	3.00	100	0.43	449.94	103.99	315.46	2003	952.02	32.28
Dover Hgts	1.91	3.00	38	2.63	1112.54	0.00	413.54	1964	251.44	29.06
Dover Terrace	3.77	3.00	0	4.81	806.05	0.00	1572.74	1965	508.95	31.87
Dowd Park	2.69	1.00	100	4.28	624.01	1.82	26.18	1957	946.07	28.15
Down Acres Ests 1St Rep	1.88	3.00	0	1.83	226.54	0.00	243.37	1977	55.65	33.98
Downs Cove Camp Sites	1.87	3.00	0	1.71	226.54	0.00	1426.60	1959	37.47	31.32
Dubsdread Hgts	3.34	1.00	99	5.56	250.45	1266.89	673.55	1961	863.18	29.50
Duskin Frank Sub	1.45	1.00	100	6.29	649.78	0.00	102.53	1950	1319.09	28.00
Earlwood Manor	0.54	1.00	100	0.06	49.10	0.00	8982.32	2006	924.01	24.63
East Coast Villa	0.40	3.13	100	3.01	278.95	0.00	446.26	1977	733.03	33.89
East Dale Acres	2.99	3.00	0	0.26	1099.05	0.00	372.67	1959	224.85	17.00
East Dale Acres	2.95	3.00	0	6.47	1099.05	0.00	643.12	1959	558.87	20.50
East Dale Acres	1.48	3.00	0	0.00	166.18	0.00	84.34	1985	2.02	17.50
East Dale Acres	4.16	3.00	0	4.33	1099.05	0.00	647.98	1961	1177.49	22.00

Appendix A

Parameters for the Development of Pollution Potential Scheme (Sorted by Subdivision Name)

Subdivision Name	Septic Density (Parcels/ Acre)	OCAVA Class Mean	% Subdivisions in Impaired Surface or Spring Watershed	Mean Population Density 2010	Population Density Change 2000-2020	Housing Density Change 2020-2050	Minimum Distance to Sewer Main (ft)	Mean Year Built	Mean Distance to Waterbody (ft)	Mean Elevation (mABSL)
East Dale Acres	6.46	3.00	0	0.12	1099.05	0.00	313.62	1984	1091.72	21.00
East Dale Acres 2Nd Rep	4.95	3.00	0	0.21	1099.05	0.00	609.14	1962	240.57	18.60
East Dale Acres 2Nd Rep	4.08	3.00	0	2.31	1099.05	0.00	705.37	1966	1197.96	22.17
East Dale Acres Rep	4.05	3.00	0	9.16	1099.05	0.00	279.32	1962	1168.93	20.68
East Highlands Sub	2.24	3.00	0	3.16	327.28	6.86	202.11	1964	397.02	22.93
East Orange Park	3.39	3.00	0	2.63	440.62	0.00	147.34	1975	7004.35	21.45
East Orange Park	0.88	3.00	0	2.65	274.95	0.00	491.47	1978	6018.94	19.42
East Orlando Ests Sec 1 Unrec	0.62	1.00	0	1.37	172.07	25.40	2930.36	1988	3725.03	19.82
East Orlando Ests Sec 2 Unrec	0.94	1.00	0	0.20	104.70	521.08	1782.46	1986	5385.79	19.00
East Orlando Ests Sec 2 Unrec	0.27	1.00	0	0.37	104.70	521.08	2531.27	1980	4827.92	18.79
East Orlando Ests Sec A	0.64	1.00	0	1.42	154.77	189.11	3296.59	1989	4329.69	20.64
East Orlando Ests Sec B	0.52	1.00	0	1.09	168.40	0.00	3311.88	1990	2558.08	20.44
East Orlando Gateway Annex Unrec	1.91	1.00	100	5.27	227.57	0.00	2810.10	1986	2270.01	15.70
East Orlando Gateway Unrec	1.53	1.00	100	4.24	227.57	8.36	1409.30	1983	2753.97	17.13
East Pine Acres	1.37	3.00	23	2.69	634.83	0.00	811.91	1989	1712.36	14.37
Easton Sub	4.94	3.00	0	6.69	1000.16	0.00	748.71	1985	1507.12	19.08
Eastpoint Indus Park	0.34	3.00	100	2.34	563.72	140.47	461.85	1991	1283.99	26.38
Eastwood Park	0.66	3.00	100	3.42	504.28	0.00	161.55	1993	1116.91	18.61
Econ Place 2 Pd	0.22	3.00	0	0.02	245.16	0.00	60.46	2019	4771.61	17.79
Eden Acres	0.83	3.00	100	3.73	1146.58	11289.03	112.58	1977	967.31	27.00
Eden East	2.54	3.00	100	3.47	555.66	166.05	1198.51	1985	540.71	24.96
Eden Park	0.87	3.07	100	3.44	600.46	166.05	577.67	1992	520.98	21.60
Eden Park Ests	3.86	3.00	100	6.28	555.66	166.05	568.87	1967	368.48	24.46
Edenboro Hgts	3.88	3.00	0	5.29	806.05	0.00	954.33	1969	1620.14	33.54
Edgewater Beach 2Nd Rep	0.14	4.38	0	0.69	54.94	1.91	8417.77	1964	159.07	35.11
Edgewater Prof Ctr Condo	4.64	1.00	100	3.52	624.01	672.69	962.83	1970	446.30	28.00
Edgewood Sub	3.60	3.00	0	7.72	741.96	198.95	369.84	1965	1041.14	32.41
El Ranchero Farms	1.10	3.00	99	3.04	465.82	0.00	663.32	1980	1772.02	16.41
Elysium	0.69	3.00	0	0.47	307.89	0.00	16108.06	1990	3289.92	24.67
Elysium Club	0.67	3.91	0	0.37	67.30	0.00	16151.58	1994	4155.82	20.67

Appendix A

Parameters for the Development of Pollution Potential Scheme (Sorted by Subdivision Name)

Subdivision Name	Septic Density (Parcels/ Acre)	OCAVA Class Mean	% Subdivisions in Impaired Surface or Spring Watershed	Mean Population Density 2010	Population Density Change 2000-2020	Housing Density Change 2020-2050	Minimum Distance to Sewer Main (ft)	Mean Year Built	Mean Distance to Waterbody (ft)	Mean Elevation (mABSL)
Estates At Lake Clarice	0.64	3.00	0	0.95	137.86	103.69	1687.43	2011	195.74	33.37
Estates At Lake Pickett-Phase 2	0.86	3.00	0	0.52	47.62	205.12	3874.53	2019	939.41	19.13
Estates At Windermere	0.89	3.00	0	2.51	183.00	0.00	2190.91	1998	670.70	34.74
Estates At Windermere 1St Add	1.30	3.00	0	2.20	183.00	103.69	1893.36	1999	322.72	35.16
Estates At Windermere Rep No 1	1.89	3.00	0	0.01	180.08	0.00	1795.73	1999	629.04	35.50
Ests At Lake Pickett Ph 1	0.87	2.63	0	0.52	49.47	205.12	3670.59	2018	773.45	19.68
Ethans Cove	3.31	3.71	0	2.29	691.62	526.21	263.28	1987	2875.82	31.18
Ethans Glenn	2.54	4.60	0	5.56	691.62	526.21	628.39	1983	3114.94	30.92
Evans & Hart Sub	3.61	3.00	0	0.01	691.62	526.21	29.94	1958	2652.96	31.00
Event Warehouse Condo	1.73	3.00	100	0.00	0.00	0.94	666.22	1985	1776.44	27.00
Fair Plain Sub	1.01	3.00	100	1.82	700.54	0.00	401.02	1958	622.34	27.48
Fairbanks Shores	3.34	1.00	98	4.81	544.49	1266.89	901.31	1953	348.32	32.68
Fairbanks Shores	0.59	1.00	51	0.07	544.49	1266.89	1463.90	1960	186.97	28.61
Fairbanks Shores	0.39	1.00	28	1.05	544.49	1266.89	1103.69	1954	0.00	27.65
Fairbanks Shores 1St Add	4.47	1.00	100	0.51	544.49	70.31	1005.83	1952	575.26	31.00
Fairbanks Shores 1St Add	4.12	1.00	100	0.42	544.49	70.31	1285.34	1954	610.79	30.00
Fairbanks Shores 1St Add	4.07	1.00	0	5.67	544.49	70.31	590.11	1954	653.06	33.00
Fairbanks Shores 2Nd Add	3.52	1.00	34	7.13	544.49	70.31	843.97	1955	774.31	30.65
Fairbanks Shores 3Rd Add	4.10	1.00	0	5.53	544.49	70.31	758.59	1955	648.55	30.20
Fairbanks Shores 4Th Add	3.80	1.00	0	4.61	544.49	70.31	762.64	1956	411.90	29.85
Fairbanks Shores 5Th Add	3.42	1.00	0	4.80	544.49	70.31	679.37	1957	361.76	30.00
Fairbanks Shores 6Th Add	2.66	1.00	0	0.07	544.49	70.31	479.35	1958	10.04	29.36
Fairshores Place	4.07	1.00	29	0.70	544.49	70.31	755.26	1955	653.53	31.60
Fairview Court	3.42	1.00	100	4.28	624.01	1.82	177.80	1963	593.48	27.57
Fairview Gardens	3.05	3.00	100	8.26	235.32	2.02	484.32	1963	1072.90	27.00
Fairview Hgts Rep	1.75	1.00	57	2.66	544.49	1266.89	726.35	1949	876.15	31.22
Fairview Shores	1.45	2.79	98	4.18	591.78	15898.31	211.63	1964	622.62	28.64
Fairview Spgs	0.77	1.00	97	0.20	624.01	672.69	102.78	1946	0.00	26.67
Fairview Spgs	0.87	1.00	98	0.28	624.01	672.69	4.55	1983	0.00	26.92
Fairview Spgs	1.04	1.00	58	1.75	522.54	672.69	1035.21	1954	73.98	26.92

Appendix A

Parameters for the Development of Pollution Potential Scheme (Sorted by Subdivision Name)

Subdivision Name	Septic Density (Parcels/ Acre)	OCAVA Class Mean	% Subdivisions in Impaired Surface or Spring Watershed	Mean Population Density 2010	Population Density Change 2000-2020	Housing Density Change 2020-2050	Minimum Distance to Sewer Main (ft)	Mean Year Built	Mean Distance to Waterbody (ft)	Mean Elevation (mABSL)
Fairview Spgs Park	3.83	1.00	100	0.08	624.01	672.69	1083.52	1951	298.30	28.00
Fairview Spgs Park	2.10	1.00	100	0.14	624.01	1.82	275.68	1985	669.51	28.00
Fairview Spgs Rep 1St Add	2.32	1.00	100	0.02	624.01	1.82	79.37	1942	346.01	27.33
Fairview Spgs Rep 1St Add	0.20	1.00	100	4.29	752.19	1.82	382.98	1982	285.09	29.09
Fairview Spgs Rep 1St Add	0.45	1.00	100	5.34	624.01	1.82	66.65	1959	548.65	27.24
Fairview Terrace	0.88	1.00	100	6.58	716.85	15898.31	284.93	1964	348.57	27.23
Fairvilla Park	2.16	2.96	100	6.06	545.93	7010.80	93.51	1964	1395.77	30.00
Falcon Pointe 2Nd Rep	3.67	3.00	100	3.39	406.10	0.00	1673.95	2001	937.52	39.00
Falcon Pointe Rep	2.76	3.50	100	5.70	406.10	0.00	1333.44	2000	1364.58	38.18
Fan-San Manor	1.06	3.30	0	0.89	486.78	113.67	651.86	1957	37.80	32.84
Farmington Hgts	3.66	3.00	0	3.76	664.71	0.00	26.67	1985	1815.19	21.86
Farms	0.38	3.00	0	1.12	137.86	103.69	1026.94	1989	787.26	33.72
Fern Manor	2.69	2.88	0	1.28	716.10	0.00	724.23	1956	248.57	31.45
Fernway	4.05	3.00	0	8.40	893.34	0.00	1322.29	1968	1119.32	31.43
Ficquette-Thornal Sub No 2	1.33	3.00	0	5.43	242.03	121.23	30.00	1970	5693.49	36.42
Flamingo Shores	1.91	1.00	0	4.16	531.87	0.00	300.96	1958	357.92	26.21
Fleming Hgts	1.98	2.99	0	5.22	454.54	200.40	408.29	1980	620.74	25.98
Fleming Hgts Extended	0.58	3.15	20	2.05	454.54	200.40	480.03	1976	1172.19	25.11
Flemings D H Rev Add To Zellwood	0.48	3.24	42	1.06	130.57	0.00	160.81	1960	1274.04	27.87
Fletchers Cove	3.31	3.12	100	7.68	922.76	20.22	415.61	1986	1829.00	33.61
Flolando Gardens	0.72	3.00	0	4.30	312.35	151.78	70.60	1974	715.93	26.86
Floral Hgts	1.13	4.43	100	2.31	778.83	47.57	630.99	1975	1144.67	26.88
Floral Park Realty Co Sub	0.40	3.42	100	0.15	299.15	0.00	62.89	1966	701.41	21.00
Florence Hgts	3.81	3.00	0	4.54	576.00	0.00	80.56	1965	1136.04	29.00
Florence Park	4.50	1.00	100	0.04	591.78	15898.31	406.01	1953	461.50	27.80
Florida Humus Co Indus Area Plat	0.03	2.97	0	0.00	5.50	510.73	487.59	1964	1626.20	22.10
Florida Humus Co Indus Area Plat	0.52	3.00	0	0.00	0.52	496.40	1129.38	1990	1951.58	20.40
Florida Power Corp Intl Dr Substation	0.13	3.00	100	0.00	484.57	0.00	885.53	1998	1739.87	25.79
Florida Villas	5.57	3.00	0	7.94	550.14	27.34	1046.28	1986	2074.00	28.83
Flowers Manor	0.64	3.00	0	1.49	439.90	0.00	460.60	1975	93.16	20.42

Appendix A

Parameters for the Development of Pollution Potential Scheme (Sorted by Subdivision Name)

Subdivision Name	Septic Density (Parcels/ Acre)	OCAVA Class Mean	% Subdivisions in Impaired Surface or Spring Watershed	Mean Population Density 2010	Population Density Change 2000-2020	Housing Density Change 2020-2050	Minimum Distance to Sewer Main (ft)	Mean Year Built	Mean Distance to Waterbody (ft)	Mean Elevation (mABSL)
Fontana Ests	0.94	1.00	0	0.29	115.94	0.00	2843.84	2013	1506.22	20.76
Ford & Warren Sub	2.88	3.00	0	12.48	665.82	0.00	139.38	1972	712.34	27.15
Forest Pines	4.02	2.29	0	14.42	821.19	400.45	150.35	1975	668.40	30.67
Forests City Corners	0.13	3.00	100	0.86	558.00	0.00	7.88	2006	1193.91	27.00
Forests Park Homes	3.27	3.00	100	0.55	690.40	0.00	22.99	1973	1239.50	26.37
Forrest Cove	2.10	3.00	100	7.31	922.76	498.41	830.52	1980	2478.80	32.55
Forsyth Commerce Center	0.14	3.00	0	2.78	487.77	95.75	310.03	2020	1040.95	25.01
Forsythe Woods	3.30	1.00	0	0.90	834.49	0.00	102.97	1983	3169.68	27.00
Fort Christmas Retreat	0.42	4.04	0	0.18	4.99	0.00	28721.95	1979	975.40	11.76
Fort Gatlin Hgts	1.82	1.00	0	4.30	716.10	40.05	408.42	1957	36.71	27.00
Fox Division	3.23	3.00	0	0.08	274.95	0.00	499.99	1969	6229.58	20.50
Fox Division	1.08	3.00	0	3.27	274.95	0.00	92.27	1989	6680.96	21.15
Fox Hunt Lanes Ph 1	5.62	3.26	100	14.16	1372.96	0.00	163.59	1984	1221.73	26.81
Fox Hunt Lanes Ph 2	7.63	2.81	100	4.54	1372.96	0.00	400.83	1985	1522.22	26.70
Fox Hunt Lanes Ph 3	9.18	1.68	100	1.58	1372.96	0.00	505.90	1987	2010.97	27.92
Foxborough	0.52	5.22	100	3.45	313.97	0.00	2570.29	1982	1864.49	21.91
Foxborough 1St Add	0.83	3.58	100	0.27	313.97	0.00	2790.72	1981	1391.67	22.56
Foxborough 2Nd Add	0.78	3.00	100	2.65	313.97	0.00	3418.44	1989	834.82	22.63
Foxborough 3Rd Add	0.78	3.56	100	3.16	465.05	0.00	3399.32	1987	1387.36	21.42
Foxborough Farms	0.90	3.00	100	2.13	313.97	0.00	3687.08	1991	688.62	20.52
Foxborough Oaks	0.88	6.00	100	0.06	367.71	0.00	2767.56	1996	2261.69	22.82
Foxbower Manor	2.23	3.00	0	2.92	664.71	0.00	433.06	1967	848.56	16.07
Foxbriar Country Ests	0.63	5.30	100	0.51	30.49	0.00	385.61	1990	729.30	37.43
Franklin Estates	0.71	3.00	0	4.86	1054.18	0.00	95.71	1985	3740.30	25.33
Frisco Bay Ut 1	2.42	3.78	0	6.22	987.15	133.07	441.75	1989	364.54	33.58
Frisco Bay Ut 2	3.21	4.80	0	6.43	987.15	133.07	294.98	1989	320.20	35.31
Gaines Sub	0.37	3.33	5	1.30	178.19	0.00	986.37	1960	1161.51	29.94
Garcia Property	0.37	3.00	0	0.07	1142.30	0.00	442.88	2001	1827.23	19.00
Garden Farms Sub	0.23	3.00	0	0.06	312.35	22.08	297.99	1974	1620.84	29.91
Gardenia Sub	1.74	2.14	100	0.26	481.07	90.09	52.30	1952	1304.37	29.67

Appendix A

Parameters for the Development of Pollution Potential Scheme (Sorted by Subdivision Name)

Subdivision Name	Septic Density (Parcels/ Acre)	OCAVA Class Mean	% Subdivisions in Impaired Surface or Spring Watershed	Mean Population Density 2010	Population Density Change 2000-2020	Housing Density Change 2020-2050	Minimum Distance to Sewer Main (ft)	Mean Year Built	Mean Distance to Waterbody (ft)	Mean Elevation (mABSL)
Gardenia Sub No 2	2.17	2.00	100	3.43	481.07	1677.36	202.72	1978	1465.85	29.38
Gary Park	1.16	3.00	100	4.13	522.92	0.00	255.14	1973	673.63	20.47
Gatewood Ph 2	3.31	5.56	100	7.77	703.55	16.95	317.49	1986	2093.21	35.70
Gatlin Ests	2.93	1.00	0	2.24	716.10	40.05	884.67	1962	748.12	31.92
Gatlin Oaks	2.36	2.90	0	2.45	576.00	0.00	1089.60	1978	608.60	29.05
Gatlin With Hobbs	0.39	1.00	0	0.31	576.00	0.00	1742.64	1938	9.66	28.56
Gatlin With Hobbs	0.72	1.04	0	3.40	576.00	0.00	1096.33	1969	54.01	27.29
Gatlin With Hobbs	0.41	1.00	0	0.08	360.78	5.16	215.26	2002	0.00	25.73
Gatlin With Hobbs	3.48	1.00	0	0.36	489.70	40.05	1874.12	1972	519.03	29.00
Gatlin With Hobbs	0.19	1.00	0	0.32	360.78	5.16	161.29	1978	524.47	30.04
Gem Mary Ests	2.17	1.00	0	0.52	369.29	40.05	147.72	1979	107.26	29.50
Georgeann Homes	0.70	3.00	42	0.09	900.41	0.00	290.28	1979	0.00	18.23
Ghio Terrace 1St Sec	2.70	3.00	0	4.62	741.96	79.62	196.28	1962	1034.69	31.38
Gibons W C & J R Sub	0.25	4.44	100	0.29	35.07	0.00	5686.99	1977	2143.58	37.43
Gibons W C & J R Sub	0.51	4.00	100	0.53	57.72	0.00	5338.08	1974	2355.70	40.40
Glass Gardens	3.17	3.00	0	5.65	674.46	0.00	958.80	1959	538.18	30.46
Glencoe Sub	2.18	1.07	0	3.78	523.43	70.31	160.23	1955	656.25	29.14
Glencoe Sub Rep	1.90	1.00	0	4.87	544.49	70.31	41.64	1951	742.51	30.00
Glencoe Sub Sec 2	6.70	1.00	100	0.09	544.49	70.31	1168.02	2015	585.78	30.00
Glencoe Sub Sec 2	1.89	1.00	0	5.67	544.49	70.31	626.87	1948	656.47	32.33
Glenmoor	2.44	3.00	100	6.46	1074.79	0.00	337.61	1989	739.41	23.37
Glenmuir Ut 1	1.51	3.29	0	3.44	218.61	0.00	814.44	2002	531.28	34.06
Glenmuir Ut 2	1.49	3.88	0	2.72	209.00	0.00	800.98	2003	1693.35	33.07
Glenwood Oaks	2.85	3.00	100	3.67	1380.68	0.00	559.44	1985	1253.08	28.00
Glovers Sub	1.77	6.00	100	4.20	68.94	0.11	62.45	2038	2061.65	22.93
Golden Acres Sec A	0.25	1.00	0	0.15	1064.54	18.17	28.34	1950	1446.15	27.17
Golden Acres Sec A Extended	1.51	3.00	0	0.19	1316.57	0.00	84.23	1985	1197.48	27.00
Golden Acres Sec B	0.53	3.00	0	0.13	1064.54	0.00	107.56	1958	2035.92	27.00
Golden Acres Sec B	0.09	2.93	0	5.09	1051.43	345.07	129.02	1988	3074.58	27.90
Golfside Marketplace	0.21	5.21	0	0.00	307.89	0.00	15574.19	2008	1967.11	45.15

Appendix A

Parameters for the Development of Pollution Potential Scheme (Sorted by Subdivision Name)

Subdivision Name	Septic Density (Parcels/ Acre)	OCAVA Class Mean	% Subdivisions in Impaired Surface or Spring Watershed	Mean Population Density 2010	Population Density Change 2000-2020	Housing Density Change 2020-2050	Minimum Distance to Sewer Main (ft)	Mean Year Built	Mean Distance to Waterbody (ft)	Mean Elevation (mABSL)
Good Homes Vista	2.83	4.86	100	6.02	741.05	140.24	205.22	2003	1114.83	34.97
Gore Sub	0.73	1.00	0	2.21	369.29	5.16	270.72	1962	16.35	28.05
Gotha Town Of	0.32	3.09	1	1.18	187.73	7.69	459.63	1982	655.96	35.52
Gotha Town Of Rep	0.33	5.75	0	0.07	412.22	272.90	139.02	1957	2377.46	42.14
Gotha Town Of Rep	0.58	3.00	0	2.38	412.22	272.90	98.77	1984	1661.81	38.74
Graceland	0.95	3.61	100	2.71	699.31	15.98	621.48	1991	549.85	27.24
Granada Villas Ph 1	3.86	3.00	0	5.71	783.44	0.00	256.57	1985	998.26	40.42
Granada Villas Ph 2	3.60	3.00	0	5.44	783.44	0.00	279.32	1986	1315.23	38.31
Granada Villas Ph 3	4.58	3.00	0	7.50	783.44	0.00	361.39	1987	1176.25	38.59
Granada Villas Ph 4	4.18	3.00	0	2.00	783.44	0.00	338.33	1988	874.13	39.53
Greater Country Estates Ph Iii	0.81	3.00	0	1.34	172.00	0.00	1805.66	2006	1463.13	26.15
Greater Country Ests Ph 1	0.66	3.00	0	1.34	144.68	0.00	2432.68	1991	1140.48	25.12
Greater Country Ests Ph 2	0.86	3.00	0	0.02	172.00	0.00	1985.02	1996	1523.44	25.57
Greater Country Ests Ph 2	0.79	3.00	0	0.00	144.68	0.00	2155.46	1994	1757.86	24.49
Green Acres Ests	1.61	5.90	100	1.95	331.05	0.00	1405.71	1985	2259.33	37.90
Green Fields	2.23	3.00	26	0.84	806.05	0.00	1206.44	1967	133.73	30.98
Green Fields	2.91	3.00	0	4.15	806.05	0.00	1174.11	1961	1302.22	32.62
Green Manor	2.33	1.00	100	6.90	1019.59	0.00	36.77	1988	1165.82	30.00
Greenbriar	2.29	3.00	0	9.37	903.57	144.64	784.30	1968	331.90	30.28
Greenbriar Ut 2	3.43	3.00	0	5.29	893.34	144.64	901.35	1969	640.68	30.35
Greenbriar Ut 3	3.47	3.00	0	4.31	893.34	144.64	789.42	1968	960.70	29.77
Greenbriar Ut 4	3.38	3.00	0	2.45	893.34	144.64	897.66	1966	1201.91	31.28
Greenbriar Ut 5	1.37	3.00	0	3.87	1033.90	8246.55	259.87	1978	56.65	28.36
Greenbriar Ut 6	0.66	3.00	0	1.93	1033.90	144.64	294.89	1968	260.06	29.55
Greenfield Manor	3.33	3.00	0	2.34	893.34	144.64	614.87	1968	1320.36	31.15
Greenhurst	0.03	3.00	100	0.00	61.88	0.00	427.97	1997	1135.49	28.08
Greenleaf	1.44	3.69	0	2.79	755.36	414.94	252.81	1987	1555.91	44.30
Grenadier Woods	3.03	3.00	0	3.14	550.14	27.34	1233.46	1986	1326.87	27.42
Grenadier Woods Ph 2	7.16	3.00	0	0.01	550.14	27.34	963.99	1988	1614.97	28.00
Griffiths Add	3.41	3.00	98	5.45	454.54	200.40	432.87	1955	1903.28	27.00

Appendix A

Parameters for the Development of Pollution Potential Scheme (Sorted by Subdivision Name)

Subdivision Name	Septic Density (Parcels/ Acre)	OCAVA Class Mean	% Subdivisions in Impaired Surface or Spring Watershed	Mean Population Density 2010	Population Density Change 2000-2020	Housing Density Change 2020-2050	Minimum Distance to Sewer Main (ft)	Mean Year Built	Mean Distance to Waterbody (ft)	Mean Elevation (mABSL)
Grove Hill Ut 1	3.21	6.00	100	2.39	868.56	0.24	1047.99	1985	1003.64	37.32
Grove Hill Ut 2	3.16	6.00	100	2.92	868.56	0.24	420.30	1987	1134.64	37.58
Grove Hill Ut 3	3.18	6.00	100	2.14	868.56	0.24	393.74	1986	1400.08	38.68
Grove Hill Ut 4	3.02	6.00	100	1.91	868.56	0.24	994.97	1986	833.92	38.25
Grove Villa	3.79	3.00	0	8.39	1639.06	0.00	219.98	1960	1987.69	34.77
Groveland	3.28	3.00	0	2.97	806.05	0.00	1392.59	1966	981.06	32.00
Gruchole Magdalene Sub	0.66	2.14	0	8.80	834.49	0.00	88.91	2002	2086.98	27.00
Gulfstream Shores	4.00	3.00	0	5.39	703.71	6.76	385.06	1988	3865.85	28.00
Hacindas Bonita Del Pinos	0.27	4.54	0	0.34	42.97	70.29	12987.23	1966	2259.15	23.58
Hall Ests	1.08	5.84	100	5.94	778.91	30.53	1056.27	2010	2971.18	37.83
Hamlin Hgts	0.84	6.00	100	7.24	922.76	20.22	174.68	2008	1708.91	31.10
Hamptons	1.58	1.89	0	4.31	794.58	0.00	716.13	1995	770.72	30.90
Handsonhurst	2.61	3.00	0	4.56	762.79	0.00	294.36	1952	1511.13	30.97
Handsonhurst Park	2.54	3.00	0	6.56	844.26	155.87	251.20	1972	1318.14	29.54
Handsonhurst Park 1St Add	3.40	3.00	0	4.64	844.26	155.87	236.64	1980	1217.26	29.67
Hansel E W Add	0.65	1.00	0	0.00	376.16	495.87	84.27	1957	1108.85	29.86
Hansel E W Sub	0.46	3.00	0	0.49	574.99	0.00	347.26	1956	272.46	28.32
Harbor Hgts	5.71	3.23	0	1.66	1054.56	3.06	28.78	1982	1483.50	38.44
Harbor Hgts Ph 2	5.45	4.85	0	11.91	1054.56	3.06	119.75	1983	1765.38	38.65
Harbor Isle	0.80	3.00	0	1.79	226.54	0.00	821.96	2000	428.17	41.43
Harbor Isle Ut 2	0.93	3.00	0	1.30	226.54	0.00	611.06	2002	764.85	46.94
Harbour Island Sub	0.84	1.00	0	1.92	489.70	40.05	924.10	1981	62.92	26.00
Harney Homestead	0.52	2.60	0	2.31	433.55	495.87	536.39	1964	791.81	28.55
Harney W R Sub	0.26	1.00	0	1.34	376.16	8539.41	198.20	1953	1218.44	29.74
Harrell Hgts	0.57	3.02	17	2.73	350.19	0.00	93.65	1978	625.07	17.41
Harrell Hgts Rep	1.74	3.00	0	3.19	928.74	0.00	287.25	1980	942.84	18.40
Harriet Hgts	3.71	3.00	0	2.16	1112.54	878.86	276.66	1967	769.09	31.62
Hartzog Sub	0.20	3.00	0	0.00	30.56	0.00	566.17	1992	0.00	33.34
Harvey Hgts	3.59	3.00	0	1.84	893.34	0.00	395.06	1965	311.11	32.08
Hastings Sub	0.51	4.32	35	0.28	124.30	134.03	1106.97	1954	0.00	28.07

Appendix A

Parameters for the Development of Pollution Potential Scheme (Sorted by Subdivision Name)

Subdivision Name	Septic Density (Parcels/ Acre)	OCAVA Class Mean	% Subdivisions in Impaired Surface or Spring Watershed	Mean Population Density 2010	Population Density Change 2000-2020	Housing Density Change 2020-2050	Minimum Distance to Sewer Main (ft)	Mean Year Built	Mean Distance to Waterbody (ft)	Mean Elevation (mABSL)
Heart O Conway	4.78	3.00	0	8.55	798.74	0.00	174.80	1957	1543.93	31.39
Heatherwood	2.77	3.00	100	7.23	924.83	0.00	271.54	1989	1649.48	32.58
Henderson & Mcdonald Sub	1.54	1.00	100	4.28	624.01	1.82	280.94	1960	1163.56	28.33
Henderson & Mcdonald Sub	0.95	1.00	100	0.65	624.01	1.82	973.60	1953	1261.07	29.33
Henderson Shores	1.50	1.00	94	5.69	624.01	672.69	13.49	1959	133.75	26.95
Hewett Hgts	2.41	2.13	0	5.46	340.23	134.03	408.48	1967	548.58	29.73
Hi-Alta Sub	0.19	3.42	100	0.19	59.76	0.00	342.38	1986	3320.81	39.34
Hiawassa Highlands	3.50	3.00	100	8.40	1045.94	0.00	76.32	1962	1781.96	30.47
Hiawassa Highlands 1St Add	3.43	3.00	100	10.68	1045.94	0.00	156.22	1964	1670.60	36.59
Hiawassa Highlands 2Nd Add	3.11	3.00	100	8.53	1045.94	0.00	212.30	1968	927.96	35.21
Hiawassee Hills Ut 1	2.56	5.78	100	3.22	636.36	0.00	541.06	1984	2149.48	34.12
Hiawassee Hills Ut 2	2.11	4.99	100	6.39	636.36	0.00	749.97	1984	1737.24	29.44
Hiawassee Hills Ut 3	1.98	3.00	100	6.66	699.31	0.00	813.64	1986	1443.14	22.56
Hiawassee Hills Ut 3A	3.99	4.13	100	0.19	699.31	0.00	361.27	1986	1533.36	34.44
Hiawassee Hills Ut 3A	3.94	3.00	100	2.47	699.31	0.00	892.73	1986	1000.92	25.29
Hiawassee Hills Ut 3A	3.92	3.00	100	4.49	699.31	0.00	514.29	1986	1301.02	32.46
Hiawassee Hills Ut 3A	2.99	3.00	100	0.08	782.07	0.00	770.82	1986	1093.03	21.33
Hiawassee Hills Ut 4	2.70	3.23	100	7.37	699.31	848.30	885.12	1986	648.08	31.28
Hiawassee Hills Ut 5	3.13	5.87	100	4.39	699.31	0.00	436.20	1988	2081.87	36.91
Hiawassee Landings Ut 1	3.41	2.48	100	7.42	1132.79	0.00	283.20	1986	1178.98	33.15
Hiawassee Landings Ut 2	5.01	4.23	100	9.47	1132.79	104.40	284.07	1989	2047.99	30.17
Hiawassee Meadows Ph 1	3.28	3.76	100	7.93	869.39	15.98	515.38	1987	1409.74	23.19
Hiawassee Meadows Ph 2	3.25	3.40	100	1.40	869.39	15.98	527.54	1988	1330.32	26.87
Hiawassee Oaks	2.72	3.29	100	5.20	699.31	15.98	435.45	1989	1180.57	30.53
Hiawassee Oaks Ut 2	1.84	3.10	100	3.06	699.31	15.98	1212.47	1989	400.19	24.41
Hiawassee Oaks Ut 3	1.70	4.18	100	4.96	782.07	848.30	983.57	1990	494.99	35.62
Hiawassee Oaks Ut 4A Ph 1	2.86	5.73	100	2.50	782.07	848.30	697.30	1991	906.83	37.71
Hiawassee Oaks Ut 4A Ph 2	3.04	5.23	100	3.05	782.07	848.30	458.51	1993	1085.18	36.50
Hiawassee Oaks Ut 4B	2.73	5.25	100	3.72	782.07	848.30	406.00	1994	1537.05	36.19
Hiawassee Oaks Ut 5	2.83	4.26	100	7.35	782.07	0.00	621.72	1993	1154.50	31.07

Appendix A
Parameters for the Development of Pollution Potential Scheme (Sorted by Subdivision Name)

Subdivision Name	Septic Density (Parcels/ Acre)	OCAVA Class Mean	% Subdivisions in Impaired Surface or Spring Watershed	Mean Population Density 2010	Population Density Change 2000-2020	Housing Density Change 2020-2050	Minimum Distance to Sewer Main (ft)	Mean Year Built	Mean Distance to Waterbody (ft)	Mean Elevation (mABSL)
Hiawassee Point	4.34	5.35	100	10.10	1380.68	0.00	615.59	1989	860.58	32.33
Hiawassee Villas	4.83	3.24	100	3.64	801.81	0.00	204.31	1988	1690.79	32.47
Hickory Lake Ests	0.31	3.00	46	0.04	5.76	0.00	1078.49	1984	15.28	30.62
Hickory Lake Ests Rep Lot 36	0.14	3.00	67	0.00	5.76	0.00	588.76	1989	0.00	30.45
Hidden Ests	2.44	5.57	0	5.79	682.42	0.00	648.99	1986	753.67	50.04
Hidden Springs Ut 1	2.10	6.00	0	1.14	426.08	0.13	1250.35	1982	664.45	47.66
Hidden Springs Ut 2	1.90	5.67	0	5.95	682.42	0.00	1438.28	1982	431.58	47.13
Hidden Springs Ut 2 1St Add	1.85	6.00	0	0.49	682.42	0.13	1347.13	1984	265.53	48.13
Hidden Springs Ut 3	2.56	6.00	0	3.21	651.15	0.00	1197.29	1984	339.63	46.84
Hidden Springs Ut 4	2.45	6.00	0	2.19	651.15	0.00	884.01	1985	255.83	45.16
Hidden Springs Ut 5	2.02	6.00	0	4.83	651.15	0.00	384.13	1986	471.27	47.88
Hideaway Cove	0.19	3.00	0	0.78	223.86	0.00	1276.45	2010	149.50	29.64
Hideaway Cove First Replat	0.09	3.00	0	0.62	223.86	0.00	1323.34	2011	75.87	29.43
High Point Homes	0.63	1.00	100	0.03	289.94	290.55	938.63	2010	764.91	35.80
Highland Ests	1.10	6.00	100	4.04	331.05	0.00	1211.85	1981	1674.04	38.67
Highlands North	0.13	4.76	100	0.15	25.25	0.00	9234.64	1987	2302.81	44.66
Highlands North 2	0.16	6.00	100	0.15	33.17	0.00	8174.56	2003	2056.42	48.66
Hills J L Add To Lockhart	1.44	3.00	100	0.04	66.56	1677.36	15.96	1968	295.92	27.00
Hilltop Manor	3.29	3.00	100	0.44	400.46	0.00	526.33	1959	539.77	18.53
Hilltop Stable Sub	0.27	4.53	100	0.55	9.07	4.94	53.78	1995	661.81	36.80
Hi-Pines	4.42	3.00	0	0.09	798.74	0.00	263.64	1959	1460.49	31.46
Hiwassa Park	2.86	5.21	0	0.59	486.78	113.67	629.60	1978	235.77	38.52
Hoenstine Ests	1.34	3.00	100	2.71	554.54	9217.67	227.78	1983	5357.07	28.00
Holden Court	3.22	1.00	0	1.50	494.96	244.73	261.43	1962	1611.16	31.15
Holden Court 1St Add	3.22	1.00	0	1.50	494.96	244.73	193.87	1964	1489.22	31.08
Holden Grove	3.64	3.00	0	0.53	870.30	1917.58	702.53	1962	508.68	30.97
Holden Manor	5.18	3.00	0	4.53	870.30	102.04	748.49	1990	622.19	30.74
Holden Park	2.75	3.00	7	6.43	470.19	1917.58	396.49	1966	329.42	29.79
Holden Park 1St Add	3.92	1.00	0	0.16	470.19	244.73	296.47	1966	901.18	30.42
Holden Shores	1.57	3.00	0	5.00	402.60	0.64	839.00	1951	441.45	30.88

Appendix A

Parameters for the Development of Pollution Potential Scheme (Sorted by Subdivision Name)

Subdivision Name	Septic Density (Parcels/ Acre)	OCAVA Class Mean	% Subdivisions in Impaired Surface or Spring Watershed	Mean Population Density 2010	Population Density Change 2000-2020	Housing Density Change 2020-2050	Minimum Distance to Sewer Main (ft)	Mean Year Built	Mean Distance to Waterbody (ft)	Mean Elevation (mABSL)
Holiday Hgts	2.95	3.00	100	4.54	623.01	7928.67	379.50	1973	717.52	24.37
Holiday Hill	3.33	3.00	0	1.34	829.72	0.00	1013.12	1959	600.43	30.65
Holly Creek	0.81	3.00	0	2.74	158.11	0.00	294.35	1995	1300.53	24.50
Holly Street Sub	1.81	3.00	0	0.01	172.00	0.00	847.36	2005	2461.21	26.94
Holly Street Sub	1.81	3.00	0	1.34	144.68	0.00	1204.70	2006	2538.22	25.19
Horseshoe Bend Sec 1	2.59	3.25	100	3.42	837.68	0.00	273.14	1984	357.94	27.50
Horseshoe Bend Sec 2	2.47	1.33	100	5.91	837.68	15.98	789.59	1985	415.79	26.93
Hourglass Homes	4.26	3.00	0	5.91	844.26	155.87	895.32	1958	831.03	29.00
Hudson Isles	2.45	5.31	7	0.27	672.03	102.04	891.25	1970	34.41	29.00
Hudson Isles 1St Add	0.92	5.57	63	2.26	672.03	244.73	1299.40	1979	0.04	29.16
Hudson J A Add To Victoria	0.01	3.00	7	0.02	1.95	0.00	7355.48	1966	4770.52	27.74
Hudson Shores	0.52	3.00	52	3.26	796.38	102.04	992.60	1956	50.26	29.52
Hull Island At Oakland	0.45	3.00	100	0.78	111.41	0.00	9852.51	2026	195.70	20.78
Hull Island At Oakland	1.23	3.00	100	0.30	144.95	129.67	9362.83	2021	730.48	22.94
Hull Island Ests	1.38	3.00	100	3.09	111.41	0.00	9588.93	2003	0.00	21.23
Hull Island Ests 1St Add	1.02	5.10	100	3.54	144.95	112.18	8533.94	1982	1421.45	34.97
Hull J C Sub	0.40	1.21	62	4.68	844.26	155.87	77.33	1942	0.00	25.92
Hunter Land Co Sub	0.16	2.82	100	1.24	380.01	13922.95	435.17	1975	4473.87	28.00
Hunters Creek Tr 415	0.01	3.00	100	13.42	1403.94	2080.39	365.26	1999	1665.94	26.16
Hunters Ests	0.84	5.55	0	2.81	386.64	43.49	753.05	1985	882.86	50.62
Huntley Park	5.98	5.68	100	6.94	682.42	106.23	1025.24	1987	1264.11	28.47
Hunts Park	1.73	3.00	100	4.70	332.48	103.99	239.72	1973	326.86	28.70
Innisbrook	0.42	3.00	0	0.11	47.62	0.00	5299.47	1999	232.47	17.90
Innisbrook	0.69	3.00	0	0.11	14.14	0.00	5890.30	1997	925.99	17.55
Interlaken	0.65	1.00	66	1.89	557.01	0.00	548.66	1966	20.15	27.07
Interlaken 2Nd Add	3.64	1.00	100	0.08	545.93	0.00	449.65	1955	371.15	29.11
Interlaken Add	0.59	1.00	66	1.76	557.01	3.58	517.94	1962	11.61	26.54
Inwood Haven	1.43	3.00	0	4.87	699.50	0.00	273.04	1991	46.88	26.08
Inwood Landing	1.91	3.00	0	4.87	861.99	0.00	279.04	1988	338.94	28.11
Irma Shores Rep	2.33	3.49	10	2.69	482.87	5.65	349.89	1975	249.59	19.96

Appendix A
Parameters for the Development of Pollution Potential Scheme (Sorted by Subdivision Name)

Subdivision Name	Septic Density (Parcels/ Acre)	OCAVA Class Mean	% Subdivisions in Impaired Surface or Spring Watershed	Mean Population Density 2010	Population Density Change 2000-2020	Housing Density Change 2020-2050	Minimum Distance to Sewer Main (ft)	Mean Year Built	Mean Distance to Waterbody (ft)	Mean Elevation (mABSL)
Irwin Manor	2.56	3.00	0	2.32	490.91	1014.75	48.05	1962	1547.52	28.00
Isle Of Bali 2 Condo Ph 10	0.72	3.00	0	0.00	11.54	0.00	2142.40	1998	354.10	34.00
Isle Of Bali 2 Condo Ph 11	0.65	5.00	0	0.00	11.54	0.00	2196.06	1998	285.45	34.00
Isle Of Bali 2 Condo Ph 5	0.68	6.00	0	0.00	11.54	0.00	2396.86	1998	76.13	34.25
Isle Of Bali 2 Condo Ph 6	0.64	4.71	0	0.00	11.54	0.00	2327.68	1998	140.97	34.71
Isle Of Bali 2 Condo Ph 7	0.51	3.00	0	0.00	11.54	0.00	2298.69	1998	233.65	34.14
Isle Of Bali 2 Condo Ph 8	0.52	3.00	0	0.03	11.54	0.00	1763.68	1998	223.23	34.00
Isle Of Bali 2 Condo Ph 9	0.69	3.00	0	0.00	11.54	0.00	2074.48	1998	405.45	34.00
Isle Of Pines	0.34	3.37	52	0.90	180.47	0.00	12034.56	1987	74.91	17.37
Isle Of Pines	1.35	1.08	0	1.35	180.47	0.00	13058.18	1981	829.38	18.88
Isle Of Pines 1St Add	1.24	1.41	0	1.41	180.47	0.00	13530.34	1996	1190.90	19.07
Isle Of Pines 2Nd Add	1.89	1.00	0	1.42	204.72	0.00	13744.96	1991	855.16	19.20
Isle Of Pines 3Rd Add	1.20	1.04	18	1.64	204.72	0.00	13848.65	1985	760.20	19.15
Isle Of Pines 4Th Add	1.08	1.07	40	0.99	204.72	0.00	13729.13	1983	395.05	18.24
Isle Of Pines 5Th Add	0.92	1.16	33	1.56	204.72	0.00	14057.83	1989	517.61	18.33
Isle Of Pines 6Th Add	1.25	1.00	24	2.28	221.11	0.00	14987.93	1987	698.58	18.97
Isles Of Lake Hancock	0.55	3.00	0	0.51	60.68	0.00	394.46	2001	122.91	30.30
Isles Of Lake Hancock Ph 2	0.07	3.00	0	0.21	60.68	0.00	172.97	2011	263.29	29.94
Isles Of Lake Hancock Ph 3	0.26	2.67	0	0.45	60.68	0.00	691.99	2018	0.22	28.10
Isles Of Windermere	0.73	3.00	0	1.02	183.00	0.00	523.60	2003	322.41	34.00
Isleworth	0.62	3.00	0	0.00	143.71	1.35	1303.19	2002	0.00	32.25
Isleworth	0.32	2.95	7	0.69	101.22	0.00	2690.00	1993	266.49	32.63
Isleworth 1St Amnd	0.42	3.00	0	0.02	143.71	3.85	819.54	1996	0.00	28.73
Isleworth 1St Amnd	0.14	3.00	0	0.14	298.44	0.00	1228.65	1997	5.47	31.35
Isleworth 1St Amnd	0.15	3.00	0	0.01	143.71	219.86	1150.89	2004	0.00	28.06
Isleworth 1St Amnd	1.20	3.00	0	0.03	101.22	0.00	3668.22	1997	2.72	30.00
Isleworth 1St Amnd	1.06	3.00	0	0.04	143.71	1.35	1845.88	1997	319.13	32.63
Isleworth 1St Amnd	0.41	1.00	0	0.02	140.07	110.96	1300.13	1998	0.00	31.62
Isleworth 1St Amnd	0.95	3.52	0	1.17	121.92	0.00	2039.77	2000	221.24	31.33
Isleworth 1St Amnd	0.32	3.00	0	0.23	298.44	0.00	3311.43	2006	0.00	31.01

Appendix A

Parameters for the Development of Pollution Potential Scheme (Sorted by Subdivision Name)

Subdivision Name	Septic Density (Parcels/ Acre)	OCAVA Class Mean	% Subdivisions in Impaired Surface or Spring Watershed	Mean Population Density 2010	Population Density Change 2000-2020	Housing Density Change 2020-2050	Minimum Distance to Sewer Main (ft)	Mean Year Built	Mean Distance to Waterbody (ft)	Mean Elevation (mABSL)
Isleworth 1St Amnd	0.91	3.00	0	0.95	143.71	1.35	2112.42	2002	380.82	34.96
Isleworth 1St Amnd	1.07	3.00	0	0.09	143.71	3.85	938.22	1999	871.14	38.64
Isleworth 1St Amnd	1.05	3.00	0	0.02	143.71	3.85	916.86	1999	718.46	38.00
Isleworth 1St Amnd	0.80	4.65	0	0.03	105.95	1.68	5890.58	2002	249.05	34.58
Isleworth 1St Amnd	1.11	3.00	0	0.04	143.71	3.85	1319.96	2001	461.46	36.75
Isleworth 1St Amnd	0.95	3.00	0	0.06	105.95	1.68	4576.45	2005	22.85	32.63
Isleworth 1St Amnd	0.46	3.00	0	0.63	101.22	0.00	3531.51	2005	297.49	33.89
Isleworth 1St Amnd	0.98	3.94	0	0.04	105.95	1.68	5916.17	1999	506.38	34.56
Isleworth 1St Amnd	0.90	3.00	0	0.01	105.95	1.68	6261.38	2003	545.51	34.40
Isleworth 2Nd Amnd	0.30	3.00	0	0.50	105.95	4.23	6043.92	1999	174.67	31.41
Isleworth 3Rd Amnd	0.19	3.00	0	0.53	143.71	1.35	1629.17	2010	274.53	35.85
Isleworth 4Th Amnd	0.12	3.00	0	0.66	482.54	1.35	1343.85	2024	415.98	37.35
Isleworth 5Th Amnd	0.09	3.00	0	0.36	499.43	1.35	1648.47	2035	83.64	32.25
Isleworth Seventh Amendment	0.07	2.14	0	1.61	482.54	1.35	1066.88	2053	166.87	34.60
Isleworth Sixth Amnd	0.10	3.00	0	0.40	105.95	1.68	4812.29	1998	0.00	32.88
Isleworth West	0.45	4.52	0	1.08	157.84	4.23	4676.38	2004	190.96	32.37
J B Babcocks Sub	0.05	3.69	92	0.38	18.73	0.00	8571.67	1993	211.37	21.96
Jacquelyn Hgts	3.32	3.00	0	3.33	1639.06	0.00	314.05	1967	1622.03	33.04
Jamajo	2.32	4.40	91	6.26	577.44	0.00	367.67	1963	816.85	31.80
Jamajo 2Nd Add	3.19	3.00	100	2.38	577.44	0.00	206.98	1969	565.68	30.00
Jamajo Rep	2.28	3.00	100	6.74	577.44	0.00	32.62	1966	861.43	30.64
Jb & Te Walker Sub	1.18	3.00	100	3.45	542.36	486.46	777.99	1964	539.95	25.71
Jenny Jewel Point	3.44	1.00	0	5.03	821.19	1760.67	296.22	1985	514.57	32.18
Jewel Oaks	1.57	1.00	0	3.63	821.19	1760.67	745.27	1961	352.35	29.81
Jewel Shores	2.82	1.13	0	4.98	821.19	1760.67	229.99	1959	496.97	31.34
Jewel Shores Rep	3.45	1.00	0	1.71	821.19	1760.67	90.44	1959	397.44	31.00
John Heist Estates	0.61	3.82	100	0.50	10.91	0.00	8472.66	1976	54.12	19.79
John Young Commerce Ctr	0.18	3.00	0	0.03	260.35	64.78	144.93	1993	1207.57	30.00
Johnny Park	2.14	3.00	0	10.26	1248.04	0.00	154.25	1975	1391.42	21.00
Johns Cove	1.61	5.42	0	2.70	166.58	2113.05	6436.31	2004	200.63	36.77

Appendix A

Parameters for the Development of Pollution Potential Scheme (Sorted by Subdivision Name)

Subdivision Name	Septic Density (Parcels/ Acre)	OCAVA Class Mean	% Subdivisions in Impaired Surface or Spring Watershed	Mean Population Density 2010	Population Density Change 2000-2020	Housing Density Change 2020-2050	Minimum Distance to Sewer Main (ft)	Mean Year Built	Mean Distance to Waterbody (ft)	Mean Elevation (mABSL)
Johns J Sub	4.22	1.00	0	3.85	433.55	495.87	304.88	1999	1089.94	28.63
Johns Lake Homesites	1.86	5.78	0	1.71	166.58	112.18	5086.01	1979	22.14	29.81
Johns Lake Homesites 1St Add	2.03	6.00	0	4.76	166.58	112.18	5072.53	1981	367.64	39.92
Johns Landing Ph 1	2.21	3.96	10	5.38	396.89	112.18	4686.69	2004	632.36	39.42
Johns Rep	2.94	1.00	0	1.78	433.55	495.87	365.52	1947	1129.33	28.57
Joiner Glenn C C Ests	0.66	2.57	0	0.00	100.99	0.00	1194.34	1986	112.25	30.22
Joseph Jebailey Sub	0.31	3.00	0	1.07	226.54	0.00	2421.81	1995	290.81	35.64
Joslin Grove Park	3.83	4.94	0	8.10	780.71	354.59	562.45	1984	468.56	29.49
Justamere Camp Rep	1.59	1.28	0	3.79	562.32	70.31	435.20	1968	299.80	27.41
Kalina Rep	2.90	3.00	38	0.37	844.26	155.87	606.38	1953	63.85	24.20
Karolina On Killarney	3.90	1.04	0	7.11	523.43	0.00	508.24	1955	667.43	26.91
Kates J J Sub	1.01	3.00	100	4.54	747.40	3068.67	184.62	1967	2358.45	28.00
Keen Castle	2.09	3.00	0	4.06	433.55	495.87	395.76	1968	1631.87	29.48
Keen Theron H Sub	0.71	3.00	100	1.03	190.51	0.42	401.77	1994	702.42	36.19
Keenes Pointe Ut 1	0.72	3.16	0	1.30	165.59	114.93	2808.91	2001	1302.04	33.43
Keene'S Pointe Ut 10	0.62	3.00	0	0.98	133.83	114.93	3997.41	2013	228.39	31.04
Keenes Pointe Ut 10 First Rep	0.05	3.00	0	0.99	133.83	114.93	4547.60	2009	0.00	29.72
Keenes Pointe Ut 2	1.59	3.00	0	2.13	263.57	1036.73	997.13	2005	186.01	32.84
Keenes Pointe Ut 2	1.47	3.00	0	0.01	139.09	1036.73	1553.30	1999	28.33	32.80
Keenes Pointe Ut 2	2.12	3.00	0	0.01	139.09	1036.73	1667.46	2010	459.80	33.00
Keenes Pointe Ut 2	2.44	3.00	0	0.02	254.78	1036.73	2144.07	2001	1727.05	34.25
Keenes Pointe Ut 2	2.30	3.00	0	1.08	139.09	1036.73	2445.60	2003	808.60	32.51
Keenes Pointe Ut 2	2.37	3.00	0	1.08	254.78	114.93	2482.49	2004	1979.54	34.00
Keenes Pointe Ut 2	1.02	3.00	0	0.95	133.83	114.93	4740.79	2002	302.93	32.35
Keene'S Pointe Ut 2 First Amnd	1.63	3.00	0	0.00	133.83	114.93	2912.04	2002	822.06	32.00
Keenes Pointe Ut 3	0.36	3.00	0	1.19	164.17	4.21	3667.13	2007	197.71	30.60
Keenes Pointe Ut 3	1.98	3.00	0	1.08	139.09	114.93	2727.93	2006	719.01	31.87
Keenes Pointe Ut 3	0.70	3.00	0	0.92	118.09	0.00	4316.13	2006	813.38	32.69
Keenes Pointe Ut 4 (Sec 29)	0.62	3.00	0	0.01	133.83	114.93	4791.55	2009	0.00	31.98
Keenes Pointe Ut 4 (Sec 31)	2.88	3.00	0	7.01	603.81	0.00	412.48	2003	329.22	33.30

Appendix A

Parameters for the Development of Pollution Potential Scheme (Sorted by Subdivision Name)

Subdivision Name	Septic Density (Parcels/ Acre)	OCAVA Class Mean	% Subdivisions in Impaired Surface or Spring Watershed	Mean Population Density 2010	Population Density Change 2000-2020	Housing Density Change 2020-2050	Minimum Distance to Sewer Main (ft)	Mean Year Built	Mean Distance to Waterbody (ft)	Mean Elevation (mABSL)
Keenes Pointe Ut 5	1.85	3.38	0	1.18	254.78	0.00	2052.36	2007	2523.76	34.13
Keenes Pointe Ut 6 (Sec 30)	2.04	3.00	0	1.18	139.09	1036.73	1582.77	2005	567.03	33.00
Keenes Pointe Ut 6 (Sec 30)	2.80	3.00	0	1.08	139.09	0.00	1599.52	2002	906.42	33.00
Keenes Pointe Ut 6 (Sec 31)	1.71	3.00	0	1.08	157.32	0.00	422.95	2004	1548.03	32.13
Keenes Pointe Ut 7	2.27	4.04	0	4.02	254.78	0.00	817.16	2005	1746.04	34.88
Keenes Pointe Ut 7	2.36	3.74	0	0.93	254.78	1036.73	1639.00	2006	1431.99	35.40
Keenes Pointe Ut 8	1.38	3.53	0	1.18	254.78	1036.73	811.08	2007	813.01	34.14
Keenes Pointe Ut 9	2.48	5.53	0	3.48	254.78	0.00	654.71	2006	2213.50	35.21
Kelly Park Hills Rep	3.07	6.00	100	0.37	189.79	0.00	1921.00	1992	4129.11	40.91
Kelly Park Hills South Ph 1	3.43	4.04	100	2.13	662.55	1700.20	307.17	1994	5518.49	36.80
Kelly Park Hills South Ph 2	2.92	3.98	100	6.43	662.55	1700.20	1039.91	1995	6141.44	33.49
Kelly Park Hills South Ph 3	3.26	6.00	100	2.51	662.55	1700.20	319.82	1996	5920.53	39.78
Kelly Park Hills South Ph 4	3.46	5.51	100	6.81	662.55	1700.20	1004.82	1997	6544.37	34.79
Kelly Park Hills Ut 1	3.45	5.07	100	1.04	189.79	0.00	376.75	1988	4870.05	35.92
Kelly Park Hills Ut 2	3.59	6.00	100	2.20	189.79	0.00	959.45	1989	4486.18	36.50
Kelly Park Hills Ut 3	1.78	4.65	100	4.07	189.79	0.00	1443.60	1990	4238.74	38.35
Kelly Park Hills Ut 4	2.40	4.81	100	5.33	189.79	0.00	1970.78	1990	3720.18	35.76
Kelso On Lake Butler	0.47	4.73	0	0.93	128.84	26.06	1636.72	1989	25.20	31.18
Kensington Sec 1	2.48	4.86	100	8.88	1132.79	104.40	1102.41	1986	2349.22	30.24
Kensington Sec 2	3.08	5.56	100	3.70	1132.79	0.00	1056.82	1987	1528.87	34.27
Kensington Sec 3	2.99	4.28	100	4.27	1132.79	0.00	990.88	1988	837.68	28.10
Kensington Sec 4	2.99	5.88	100	3.09	1132.79	0.00	1935.57	1988	1336.00	39.43
Kensington Sec 5	1.48	2.28	100	4.33	1132.79	0.00	1216.64	1992	460.03	26.10
Kentzelmans Rep	1.92	3.28	100	6.03	261.60	0.00	840.05	1974	2581.73	28.90
Killarney Circle	3.29	1.36	0	5.00	425.65	70.31	259.99	1967	201.19	28.29
Kimmell Park	2.60	3.00	100	0.02	351.17	166.05	23.72	1930	1181.20	28.00
Kings Cove	6.35	3.00	0	4.21	550.14	27.34	619.79	1983	1315.02	29.55
Kingstown Reef	0.39	4.50	100	0.00	484.57	0.00	9.95	2020	65.07	32.29
Klondike	2.01	1.20	0	2.77	454.54	200.40	354.88	1974	667.05	27.32
Knollwood Park	1.06	3.20	100	2.33	381.97	0.00	559.27	1980	2287.07	17.49

Appendix A

Parameters for the Development of Pollution Potential Scheme (Sorted by Subdivision Name)

Subdivision Name	Septic Density (Parcels/ Acre)	OCAVA Class Mean	% Subdivisions in Impaired Surface or Spring Watershed	Mean Population Density 2010	Population Density Change 2000-2020	Housing Density Change 2020-2050	Minimum Distance to Sewer Main (ft)	Mean Year Built	Mean Distance to Waterbody (ft)	Mean Elevation (mABSL)
Krick Sub	1.52	3.00	9	0.00	240.74	64.78	37.98	1950	1274.30	30.00
L C O No 1	0.87	3.00	100	0.06	150.33	196.70	845.47	1982	5555.76	27.00
Lafayette Club	2.16	5.79	0	2.08	426.08	1.84	1829.24	1997	350.66	41.96
Lake And Pines Ests	0.11	1.03	0	0.87	75.20	0.00	15286.47	2000	2092.02	20.31
Lake Angelina Ests	0.76	4.13	0	0.05	135.35	93.67	8606.96	2003	485.33	35.53
Lake Apopka 1St Add	2.66	3.00	100	5.66	256.83	20.69	1750.22	1965	942.33	27.63
Lake Apopka 2Nd Add	2.45	3.00	100	3.43	256.83	20.69	1564.70	1978	1398.53	30.87
Lake Apopka Beach Rep	1.88	3.00	100	4.68	256.83	20.69	1776.24	1965	451.63	23.87
Lake Avalon Ests	0.16	3.12	0	0.17	25.05	0.00	172.84	1956	7.70	32.21
Lake Avalon Ests 2Nd Rep	0.17	3.04	0	0.30	50.24	0.00	1235.36	1962	0.00	29.22
Lake Avalon Groves Rep	0.11	4.68	0	0.25	19.23	0.00	1151.29	1989	1199.03	42.87
Lake Avalon Groves 2Nd Replat	0.18	4.72	0	0.47	48.28	0.00	5991.72	1993	2700.30	35.20
Lake Avalon Groves Rep	0.06	4.68	0	0.17	17.49	0.00	3768.95	1991	3453.84	41.43
Lake Avalon Hgts	0.34	4.19	0	0.48	50.24	0.00	2518.14	1981	8.21	30.84
Lake Barton Manor	1.72	3.00	100	1.36	400.10	0.00	38.28	1976	2252.21	28.00
Lake Barton Manor 1St Add	0.82	3.00	100	3.16	747.40	3068.67	100.30	1967	2175.36	28.00
Lake Barton Manor 2Nd Add	0.81	3.00	100	0.00	747.40	134.03	27.69	1956	1761.54	29.00
Lake Barton Park	1.84	3.00	100	10.76	747.40	134.03	165.55	1961	399.51	28.92
Lake Barton Shores Sec 1	0.88	4.94	89	2.69	577.44	0.00	502.86	1958	934.30	31.18
Lake Barton Village	1.76	3.07	100	7.03	608.49	134.03	318.63	1959	594.29	30.00
Lake Bell Terrace	2.20	3.00	0	3.43	605.40	0.00	542.39	1958	294.80	26.69
Lake Blanche Terrace	2.50	3.00	100	1.71	568.42	368.46	225.83	1985	175.05	31.20
Lake Bosse Oaks	2.38	3.00	100	5.91	600.46	0.00	396.45	1984	727.58	23.73
Lake Bryan Shores	0.26	3.00	33	1.02	490.32	377.10	1103.95	1975	6.94	29.67
Lake Buynak Ests	0.56	3.00	0	1.00	183.00	0.00	1282.66	1979	260.21	34.96
Lake Cane Ests	2.93	5.58	0	6.04	516.08	602.64	1079.22	1973	574.59	38.79
Lake Cane Ests 1St Add	3.33	6.00	0	4.19	516.08	0.00	742.69	1978	1020.67	39.99
Lake Cane Hills	1.90	3.79	0	3.91	516.08	602.64	1760.24	1965	204.48	36.78
Lake Cane Hills 1St Add	2.98	5.96	0	7.12	601.55	602.64	961.05	1966	690.83	39.35
Lake Cane Place Condo	0.91	6.00	0	0.00	67.21	602.64	805.26	2000	541.46	36.82

Appendix A

Parameters for the Development of Pollution Potential Scheme (Sorted by Subdivision Name)

Subdivision Name	Septic Density (Parcels/ Acre)	OCAVA Class Mean	% Subdivisions in Impaired Surface or Spring Watershed	Mean Population Density 2010	Population Density Change 2000-2020	Housing Density Change 2020-2050	Minimum Distance to Sewer Main (ft)	Mean Year Built	Mean Distance to Waterbody (ft)	Mean Elevation (mABSL)
Lake Cane Shores	0.67	4.28	0	2.40	67.21	602.64	1047.99	1971	27.20	32.15
Lake Cane Villa	1.24	5.71	0	1.50	743.89	0.00	309.59	1960	165.46	34.83
Lake Cawood Ests Ph 2	0.77	4.38	0	2.18	261.21	0.00	573.21	2007	561.39	35.18
Lake Cawood Ests Rep	0.85	3.22	0	2.14	261.21	0.00	677.67	2003	234.68	33.30
Lake Clarice Plantation	0.71	3.00	0	1.12	137.86	103.69	1360.70	2017	187.67	34.12
Lake Cortez Woods	2.27	4.46	100	4.85	780.99	1649.57	197.41	1986	282.68	29.04
Lake Cypress Cove	0.35	3.00	0	0.99	132.98	26.06	858.52	2001	0.00	32.24
Lake Cypress Cove Ph 2	0.66	3.00	0	0.99	132.98	26.06	456.77	2015	527.36	32.90
Lake Cypress Cove Ph 3	0.65	3.00	0	0.99	132.98	26.06	1283.75	2015	355.02	33.07
Lake Davis Ests	0.58	4.08	0	0.82	171.97	68.72	2384.80	2004	123.51	33.42
Lake Davis Reserve	0.41	3.00	0	0.49	171.97	26.06	2219.07	2017	113.81	32.91
Lake Down Cove	0.82	3.00	0	2.71	371.41	0.00	783.78	1999	1431.07	46.55
Lake Down Crest	0.85	3.00	0	2.80	456.88	0.00	537.37	2000	2035.57	54.55
Lake Down Hollow	0.48	3.00	0	1.44	220.15	100.76	1045.60	1986	348.78	34.92
Lake Down Pointe	0.25	3.00	0	1.23	226.54	0.00	2072.84	2005	299.80	35.63
Lake Down Shores	0.73	3.00	0	0.91	259.79	0.00	2866.00	1990	0.00	29.77
Lake Down Shores Rep	0.47	3.00	0	1.17	371.41	0.00	1420.46	1988	218.39	32.15
Lake Down Village	0.64	3.00	0	0.09	259.79	0.00	2574.52	1991	303.68	32.70
Lake Down Woods	0.88	3.00	0	0.37	331.55	164.61	343.73	1989	702.46	35.43
Lake Downey Terrace	2.19	3.00	0	0.11	412.65	0.00	482.00	1980	1208.68	22.27
Lake Drawdy Ests	0.78	3.00	0	0.52	47.62	205.12	4403.96	1993	502.70	17.26
Lake Drawdy Reserve	0.71	3.26	0	0.11	35.04	12.39	2399.97	2013	202.86	18.34
Lake Drawdy Terrace	0.95	3.00	0	0.11	14.14	12.39	4185.87	1996	320.92	17.30
Lake Fischer Ests	2.81	3.39	0	4.08	122.64	529.91	1051.10	2000	627.45	36.81
Lake Fischer Ests 2	0.70	3.00	0	0.03	169.24	529.91	1640.25	2008	0.00	28.10
Lake Florence Ests	2.52	5.56	100	5.42	741.05	0.24	678.85	1984	504.13	27.84
Lake Florence Highlands Ph 1	2.62	5.71	100	6.51	868.56	0.24	343.39	1987	151.64	30.48
Lake Florence Highlands Ph 2	2.51	6.00	100	6.39	530.82	0.24	785.76	1988	722.31	31.75
Lake Florence Highlands Ph 3	2.81	6.00	100	4.22	530.82	0.24	379.42	1989	777.98	33.94
Lake Gandy Cove	3.43	3.00	100	6.99	555.66	166.05	1040.78	1989	417.16	25.23

Appendix A

Parameters for the Development of Pollution Potential Scheme (Sorted by Subdivision Name)

Subdivision Name	Septic Density (Parcels/ Acre)	OCAVA Class Mean	% Subdivisions in Impaired Surface or Spring Watershed	Mean Population Density 2010	Population Density Change 2000-2020	Housing Density Change 2020-2050	Minimum Distance to Sewer Main (ft)	Mean Year Built	Mean Distance to Waterbody (ft)	Mean Elevation (mABSL)
Lake Gandy Ests	1.42	3.00	100	3.50	555.66	166.05	887.80	1983	87.58	24.08
Lake Gandy Shores	2.08	3.00	100	4.76	839.94	166.05	686.26	1988	132.22	23.44
Lake Georgia Shores	0.59	4.59	51	1.35	390.47	28.64	862.61	1972	0.00	17.61
Lake Hancock Shores	0.22	3.00	0	0.37	118.23	0.00	49.65	1995	0.00	28.66
Lake Hart Ests	0.74	2.32	11	0.76	80.00	0.00	1520.17	1993	0.00	18.55
Lake Haven	0.79	3.50	100	0.21	84.58	0.00	10296.34	1956	0.00	18.59
Lake Hiawassa Terrace	0.83	3.00	0	2.11	671.05	16.88	220.35	1974	254.80	26.76
Lake Hiawassa Terrace Rep	1.60	3.00	0	6.23	671.05	16.88	295.90	1955	29.97	24.75
Lake Hiawassa Terrace Rep	2.12	3.00	0	2.47	671.05	16.88	375.55	1973	487.14	28.35
Lake Hiawassa Terrace Rep	3.55	3.00	0	4.38	671.05	3.06	194.43	1974	841.15	33.17
Lake Hiawassa Terrace Rep	1.79	3.00	0	3.86	671.05	16.88	87.82	1973	793.68	31.08
Lake Hiawassa Terrace Rep	2.02	3.00	0	6.23	671.05	3.06	58.21	1974	1050.53	35.02
Lake Hiawassee Landings	0.25	3.13	0	0.20	512.47	8.32	7.79	1989	0.00	26.61
Lake Hiawassee Landings	0.33	3.55	0	0.11	512.47	8.32	231.81	1990	66.35	26.11
Lake Hill	2.51	3.22	0	5.10	486.78	113.67	292.60	1974	1053.64	39.53
Lake Hill	0.70	3.00	0	0.00	486.78	22.08	53.67	1990	1033.28	35.00
Lake Hill Groves Rep	0.74	3.00	0	3.38	486.78	22.08	22.35	1940	782.15	36.00
Lake Holden Gardens	2.18	3.00	14	3.40	470.19	102.04	699.62	1960	311.81	30.41
Lake Holden Grove	1.29	1.02	34	3.02	363.72	244.73	788.18	1981	296.15	30.28
Lake Holden Hills	0.73	1.02	6	3.41	470.19	244.73	706.19	1961	154.67	28.96
Lake Inwood Shores	2.76	3.00	0	3.18	699.50	0.00	314.58	1970	367.03	28.54
Lake Irma Park	1.66	3.00	17	0.52	766.40	0.00	9.41	1987	377.35	20.23
Lake Jennie Jewell Hgts	2.26	1.00	0	5.23	821.19	1760.67	652.00	1950	419.44	32.36
Lake Jewell Hills	2.53	1.00	0	1.10	821.19	1760.67	392.55	1968	339.83	29.14
Lake Johns Shores	1.27	4.91	0	0.39	321.97	1275.96	2972.96	1974	449.55	34.56
Lake Lagrange Hgts	3.48	3.00	0	5.52	806.05	0.00	306.11	1970	704.57	31.35
Lake Lagrange Hgts 1St Add	2.99	3.00	0	3.06	806.05	0.00	260.67	1971	308.31	30.79
Lake Lagrange Manor	2.55	3.00	0	1.14	674.46	0.00	923.28	1973	384.91	29.05
Lake Lagrange Terrace	2.47	3.00	0	0.14	674.46	0.00	1004.49	1959	0.00	29.81
Lake Lovely Ests	3.97	3.00	100	6.49	286.22	0.00	476.31	1971	524.67	29.70

Appendix A

Parameters for the Development of Pollution Potential Scheme (Sorted by Subdivision Name)

Subdivision Name	Septic Density (Parcels/ Acre)	OCAVA Class Mean	% Subdivisions in Impaired Surface or Spring Watershed	Mean Population Density 2010	Population Density Change 2000-2020	Housing Density Change 2020-2050	Minimum Distance to Sewer Main (ft)	Mean Year Built	Mean Distance to Waterbody (ft)	Mean Elevation (mABSL)
Lake Lovely Ests 1St Add	2.98	3.00	100	4.57	286.22	0.00	150.62	1969	413.15	29.00
Lake Lucy Ests	3.89	6.00	100	0.13	125.98	20.52	913.72	1967	357.81	29.50
Lake Lucy Ests	2.16	5.87	100	2.11	530.82	20.52	1546.04	2002	424.55	26.44
Lake Mabel Ests	1.59	3.00	0	0.00	465.97	222.25	44.38	2001	1048.41	31.25
Lake Mabel Shores Sub	0.17	3.00	0	0.14	223.86	0.00	569.88	1988	23.21	29.51
Lake Maggiore Ests	1.53	3.00	100	2.90	99.58	79.28	467.83	1984	267.90	27.31
Lake Margaret Court	2.85	3.00	0	0.33	674.46	0.00	1561.47	1962	454.82	29.36
Lake Margaret Ests	3.34	3.00	0	1.70	893.34	144.64	317.37	1972	790.82	32.56
Lake Margaret Hgts Sec 1	5.46	3.00	0	4.52	829.72	0.00	11.78	1963	429.54	29.22
Lake Margaret Hgts Sec 2	4.15	3.00	0	4.63	829.72	878.86	259.33	1962	622.85	29.62
Lake Margaret Hills	3.71	3.00	0	1.59	893.34	144.64	197.15	1980	823.65	30.06
Lake Margaret Manor Sec 1	3.28	3.00	0	2.01	893.34	0.00	311.13	1964	684.29	30.57
Lake Margaret Manor Sec 2	1.71	3.00	0	0.41	674.46	0.00	846.55	1965	147.41	27.66
Lake Margaret Manor Sec 3	2.42	3.00	0	1.24	674.46	0.00	471.51	1966	440.84	30.49
Lake Margaret Shores	3.90	3.00	0	0.18	674.46	0.00	1742.18	1958	419.12	28.83
Lake Margaret Terrace	3.27	3.00	0	5.91	829.72	0.00	396.41	1958	651.70	28.65
Lake Margaret Terrace 1St Add	3.24	3.00	0	3.78	674.46	0.00	1010.27	1960	1037.95	28.44
Lake Margaret Terrace 2Nd Add	4.68	3.00	0	6.89	674.46	0.00	1051.65	1959	1059.17	30.20
Lake Margaret Terrace 3Rd Add	4.57	3.00	0	5.78	829.72	0.00	383.53	1959	1087.16	28.96
Lake Margaret Terrace 4Th Add	2.23	3.00	0	1.16	829.72	0.00	367.55	1961	152.30	26.65
Lake Marsha	0.51	5.02	0	0.14	601.55	602.64	1047.68	1970	0.00	38.56
Lake Marsha 1St Add	0.64	5.81	0	2.38	651.15	0.00	1495.71	1976	3.90	40.54
Lake Marsha 1St Add Rep	0.37	3.38	0	1.32	651.15	5.33	1425.46	1972	0.00	38.21
Lake Marsha 2Nd Add	2.26	6.00	0	4.92	601.55	602.64	1567.92	1977	403.96	41.00
Lake Marsha Highlands	3.21	6.00	0	0.42	516.08	602.64	1888.76	1962	288.86	37.94
Lake Marsha Highlands 1St Add	2.77	6.00	0	0.98	516.08	0.00	2268.24	1965	171.04	41.30
Lake Marsha Highlands 2Nd Add	3.91	6.00	0	1.68	516.08	602.64	2422.49	1971	428.70	43.41
Lake Marsha Highlands 3Rd Add	2.72	5.45	0	0.68	516.08	602.64	2202.13	1972	244.49	39.13
Lake Marsha Highlands 4Th Add	2.68	6.00	0	2.14	516.08	602.64	2451.98	1974	117.30	42.48
Lake Mary Jane Ests	0.19	1.00	30	0.05	180.47	0.00	11084.41	1979	0.00	17.00

Appendix A

Parameters for the Development of Pollution Potential Scheme (Sorted by Subdivision Name)

Subdivision Name	Septic Density (Parcels/ Acre)	OCAVA Class Mean	% Subdivisions in Impaired Surface or Spring Watershed	Mean Population Density 2010	Population Density Change 2000-2020	Housing Density Change 2020-2050	Minimum Distance to Sewer Main (ft)	Mean Year Built	Mean Distance to Waterbody (ft)	Mean Elevation (mABSL)
Lake Mary Jane Ests Rep	0.30	1.00	46	0.93	180.47	3.59	10946.52	2010	0.00	17.00
Lake Mary Jane Ests Rep	1.15	1.00	0	1.97	180.47	0.00	12031.22	2009	630.13	18.80
Lake Mary Jane Ests Rep	0.57	1.00	0	1.05	180.47	3.59	11896.74	2012	458.27	18.31
Lake Mary Jane Shores	0.44	1.00	0	0.81	71.11	3.59	9621.24	1980	11.22	18.02
Lake Mary Jane Shores 1St Rep	1.03	1.00	1	0.13	180.47	3.59	11484.17	1993	82.10	17.22
Lake Mary Jess Shores	1.54	1.00	0	3.31	531.81	8539.41	330.43	1983	233.26	29.03
Lake Mendelin Ests	2.31	2.93	100	4.90	780.99	941.82	758.26	1979	408.83	23.62
Lake Mendelin Ests 1St Add	2.47	3.75	100	6.05	780.99	0.00	869.60	1981	631.91	34.15
Lake Mendelin Ests 2Nd Add	2.97	3.00	100	7.10	780.99	0.00	737.11	1979	1349.09	38.68
Lake Of Pines	2.01	3.00	100	6.58	694.84	1686.69	688.03	1980	253.51	40.00
Lake Ola Ests	0.32	3.00	0	1.24	144.68	0.00	3327.08	1992	6.25	22.90
Lake Ola Farms Groves	0.36	3.07	2	0.70	65.86	0.00	5442.99	1964	276.34	24.97
Lake Ola Terrace	1.69	3.00	0	0.03	214.53	0.00	5885.66	1980	137.46	24.28
Lake Ola-Carlton Ests Ut 1	0.96	1.46	95	0.01	49.10	19.57	9018.34	1994	1003.78	27.93
Lake Olivia Reserve Rep	0.08	2.03	0	0.77	386.09	7.69	609.42	2037	51.20	32.13
Lake Park Highlands	0.21	4.80	100	2.53	558.79	20.52	991.12	1966	113.51	26.83
Lake Park Highlands	0.19	4.51	100	1.06	125.98	0.00	984.89	1984	79.71	26.14
Lake Park Highlands Rep	1.91	3.36	100	0.04	530.82	20.52	1885.48	1980	162.80	22.53
Lake Park Highlands Rep	2.72	3.00	100	0.00	530.82	20.52	1533.22	1991	60.62	22.67
Lake Pickett Reserve	0.64	1.00	0	0.11	20.95	0.00	4512.35	2017	495.34	18.27
Lake Pine Loch Hgts	0.29	3.00	0	1.41	821.19	400.45	73.49	1939	98.16	29.57
Lake Pointe Cove	1.03	3.00	0	0.01	504.01	0.00	913.26	1998	0.00	16.00
Lake Roper Pointe	0.71	3.00	0	2.18	269.48	103.69	1101.92	2002	241.28	32.56
Lake Rose Pointe	2.13	3.00	0	5.25	569.88	0.00	370.33	1986	533.01	33.66
Lake Rose Pointe Ph 2	2.39	3.00	0	1.13	334.32	110.70	787.40	1987	397.89	33.44
Lake Rose Pointe Ph 2	2.91	3.00	0	1.55	569.88	0.00	500.23	1987	555.36	34.01
Lake Rose Ridge Rep	2.02	4.96	0	3.75	757.96	0.00	355.68	1990	361.81	33.98
Lake Rouse Ests	0.74	3.00	100	3.42	419.85	0.00	685.16	1969	1049.79	19.87
Lake Sheen Ests	0.71	3.08	0	0.80	131.10	0.00	374.50	1999	163.46	31.58
Lake Sherwood Cove	0.87	3.89	0	1.14	1089.31	354.59	320.25	1990	402.54	31.85

Appendix A

Parameters for the Development of Pollution Potential Scheme (Sorted by Subdivision Name)

Subdivision Name	Septic Density (Parcels/ Acre)	OCAVA Class Mean	% Subdivisions in Impaired Surface or Spring Watershed	Mean Population Density 2010	Population Density Change 2000-2020	Housing Density Change 2020-2050	Minimum Distance to Sewer Main (ft)	Mean Year Built	Mean Distance to Waterbody (ft)	Mean Elevation (mABSL)
Lake Sherwood Hills Ph 3 Ut 1	4.64	4.97	100	2.80	596.13	0.00	1539.92	1985	438.11	34.08
Lake Sherwood Hills Ph 3 Ut 2	3.68	5.39	100	2.49	596.13	0.00	1230.23	1985	229.82	33.52
Lake Sherwood Hills West Sec	3.05	6.00	100	6.79	596.13	0.00	1368.94	1982	732.92	34.71
Lake Shore Ests	1.24	3.89	92	2.49	577.44	134.03	609.25	1966	275.95	29.34
Lake Sue Park	2.06	3.00	0	4.85	598.57	11.22	355.96	1953	1115.07	29.36
Lake View Farms	0.23	3.00	100	2.43	954.45	1677.36	57.47	1959	629.49	28.94
Lake Waunatta Cove	2.28	3.00	86	4.94	1074.79	0.00	189.71	1986	357.81	22.42
Lake Whippoorwill Ests	0.12	3.00	0	0.54	95.00	0.00	208.09	1995	130.53	20.85
Lake Willis Camps	0.18	4.05	63	0.02	16.74	0.00	711.10	1988	6.94	32.84
Lake Willis Camps 1St Add	0.21	3.00	37	0.13	16.74	0.00	327.98	1977	7.60	32.18
Lakebreeze Park 1St Add	2.93	3.00	100	0.55	216.97	741.98	248.46	1977	841.96	27.00
Lakes	0.62	3.00	0	1.88	331.55	164.61	1115.43	1987	512.41	36.17
Lakeside Ests	0.20	3.05	91	0.75	340.23	134.03	85.29	1968	160.93	28.53
Lakeside Place	0.45	5.65	0	2.81	469.17	43.49	1336.94	1998	124.67	47.44
Lakeside Place Annex	0.69	5.21	0	2.81	469.17	43.49	1827.59	2001	142.24	48.03
Lakeside Terrace	0.59	3.00	72	3.13	609.54	0.00	277.56	1971	277.08	18.11
Lakeside Village	2.53	1.00	0	3.28	576.00	0.00	1473.59	1962	374.36	27.69
Lakeside Woods	3.53	3.00	100	8.46	821.55	0.00	733.80	1987	639.32	26.26
Lakeside Woods Ut 2	0.95	3.00	100	0.23	821.55	0.00	1067.18	1997	91.20	25.61
Lakeview (Conway)	1.80	1.00	0	3.53	435.77	495.87	329.08	1965	325.84	26.53
Lakeview Acres	0.65	3.00	0	1.79	482.87	5.65	437.61	1984	272.43	18.44
Lakeview Hgts	0.32	3.00	0	0.97	334.32	110.70	874.23	1977	116.81	29.73
Lakeview Hgts Rep	1.92	3.00	0	3.29	1089.31	110.70	201.05	1966	54.01	27.61
Lakeview Hgts Rep	0.61	3.00	0	0.65	334.32	110.70	869.79	1973	300.13	31.95
Lakeview Park	2.04	1.00	86	4.53	624.01	672.69	1012.39	1961	262.34	26.88
Lakeville	0.02	4.48	100	0.20	30.49	0.00	1797.81	1970	235.77	30.27
Lakewood Park	0.49	3.42	4	1.52	482.87	5.65	240.56	1975	74.98	18.72
Lakewood Park	1.14	3.00	45	4.07	482.87	0.00	114.28	2000	845.81	20.95
Landings Of Lake Sawyer	0.65	3.00	0	1.42	237.29	0.00	473.66	1998	311.27	33.61
Landstar Business Center	1.67	3.00	100	9.98	1049.83	0.11	181.01	2010	12198.50	26.00

Appendix A

Parameters for the Development of Pollution Potential Scheme (Sorted by Subdivision Name)

Subdivision Name	Septic Density (Parcels/ Acre)	OCAVA Class Mean	% Subdivisions in Impaired Surface or Spring Watershed	Mean Population Density 2010	Population Density Change 2000-2020	Housing Density Change 2020-2050	Minimum Distance to Sewer Main (ft)	Mean Year Built	Mean Distance to Waterbody (ft)	Mean Elevation (mABSL)
Las Alamedas	2.51	3.00	100	3.41	198.32	47.41	694.51	1998	666.11	30.10
Laurels Of Mount Dora	0.77	5.28	0	0.97	135.35	19.57	9423.96	2004	479.83	34.73
Lawndale	1.66	2.30	0	7.30	728.53	0.00	204.22	1965	2527.50	28.11
Lawndale Annex	1.52	1.96	0	0.36	728.53	0.00	201.49	1966	1440.42	28.03
Leawood	0.67	3.00	100	3.14	400.10	0.00	223.72	1977	2692.09	27.43
Leawood 1St Add	0.48	2.81	100	4.81	656.44	0.00	1041.25	1971	2778.49	26.98
Lees Ests	0.75	3.30	100	3.80	400.46	0.00	575.28	1981	115.35	16.36
Leeside Ests	0.89	3.00	0	2.94	371.41	173.85	253.67	1991	1254.28	39.44
Leprechaun Park	0.72	3.00	51	0.16	829.72	0.00	223.25	1962	0.00	26.42
Les Terraces	0.90	3.00	0	2.94	371.41	0.00	1527.35	1989	953.53	39.82
Lewis Manor	4.09	3.00	0	5.98	806.05	0.00	255.80	1961	1190.39	32.00
Liberty Hgts	2.38	3.86	100	2.08	331.05	0.00	1125.60	1974	1787.27	38.83
Liberty Hgts 1St Add	2.18	1.95	100	5.82	331.05	0.00	1547.30	1963	2027.45	37.75
Liberty Hgts 2Nd Add	1.87	6.00	100	4.11	331.05	30.53	1278.60	1974	1620.52	39.00
Lifepointe Village	0.01	1.11	0	0.00	32.89	0.00	234.87	2008	4004.03	22.49
Liki Tiki Village 3 South	0.09	3.00	0	0.00	67.20	87.94	3182.41	2009	545.37	34.00
Lincklaen Hgts	0.66	1.54	0	1.39	363.15	151.78	213.53	1985	970.30	27.95
Little Lake Bryan Parcel 8	0.05	3.62	100	158.13	2590.27	0.00	30.38	2008	1478.20	34.13
Little Lake Georgia Terrace	1.92	3.60	99	8.08	396.57	0.00	644.24	1980	196.34	18.00
Little Lake Park	1.53	3.47	100	3.20	304.24	1617.80	768.73	1975	126.26	24.53
Live Oak Ests Ph 1	0.57	2.33	0	0.77	75.59	0.00	8035.06	1992	1590.44	19.05
Live Oak Ests Ph 2	0.54	1.05	0	0.55	37.16	0.00	7354.95	1997	1106.05	19.66
Live Oak Ests Ph 3	0.24	2.43	0	0.36	75.59	0.00	5944.61	2003	3345.82	19.20
Live Oak Manor	2.82	3.00	0	0.11	674.46	0.00	1112.50	1975	881.80	30.39
Live Oaks Ests Ph 4	0.36	3.00	0	0.29	33.04	0.00	4935.71	2011	5220.27	20.16
Livingston J H Land Sub	0.36	1.00	73	1.40	545.93	0.00	512.23	1956	303.05	27.84
Livingston J H Sub	0.76	1.03	0	2.71	435.77	495.87	506.52	1971	330.71	27.99
Lockhart Hgts	1.46	1.00	100	0.36	954.45	1677.36	25.00	1960	1165.24	30.00
Lockhart Manor	2.20	3.00	100	6.01	445.94	402.83	92.33	1963	1549.42	27.05
Lockhart Sub No 1	2.09	3.00	100	4.27	351.17	513.34	268.50	1972	480.23	26.19

Appendix A

Parameters for the Development of Pollution Potential Scheme (Sorted by Subdivision Name)

Subdivision Name	Septic Density (Parcels/ Acre)	OCAVA Class Mean	% Subdivisions in Impaired Surface or Spring Watershed	Mean Population Density 2010	Population Density Change 2000-2020	Housing Density Change 2020-2050	Minimum Distance to Sewer Main (ft)	Mean Year Built	Mean Distance to Waterbody (ft)	Mean Elevation (mABSL)
Lockmere	0.48	3.49	100	0.00	445.94	402.83	77.62	1983	2774.38	25.69
Lockwood Stephen Sub	0.45	1.00	0	2.39	424.52	2.76	125.68	1969	2383.22	29.67
Loes Add To Lockhart	2.11	3.56	100	1.44	351.17	513.34	440.61	1957	1322.95	29.14
Long Lake Ests	2.01	2.93	100	1.84	791.80	290.55	602.74	1985	347.26	30.04
Long Lake Park Replat Ut 1	3.16	5.82	100	8.20	841.00	61.77	1065.33	1990	856.18	33.32
Long Lake Park Replat Ut 2	1.71	3.72	100	4.79	791.80	61.77	1466.29	1991	271.35	23.73
Long Lake Shores	1.98	3.31	100	4.13	791.80	193.40	1700.79	1996	359.64	23.56
Long Lake Sub	1.63	2.92	100	3.97	791.80	61.77	778.08	1970	40.84	26.55
Long Lake Villas Ph 1A	3.39	4.05	100	8.05	919.19	204.80	979.64	1991	527.79	32.72
Long Lake Villas Ph 1B	6.09	4.11	100	11.39	919.19	204.80	780.88	1995	381.89	29.94
Long Shores	0.70	3.00	100	3.47	791.80	61.77	1393.79	1984	228.46	27.03
Longenecker Park	2.42	3.00	100	0.00	59.76	0.46	27.54	1937	2875.50	39.75
Lorena Gardens	1.13	1.00	100	4.28	624.01	1.82	237.36	1951	659.50	27.75
Los Terranos	0.14	3.00	100	1.74	499.90	0.00	619.38	1980	5573.86	26.95
Los Terranos	0.27	2.88	37	1.89	150.33	0.00	556.40	1978	5634.55	27.23
Ltv 1400 Timeshare Resort	1.75	6.00	0	0.03	67.20	0.00	3336.39	2007	175.27	34.00
Lukas Ests	0.46	3.00	0	0.11	174.69	205.12	2164.67	2009	332.18	19.05
M & H Citrus Inc	0.03	1.00	0	0.05	49.47	0.00	3522.09	2015	18.77	16.41
Magerstadt Sub	1.78	3.00	0	8.04	665.82	0.00	136.90	1980	828.98	28.93
Magnolia Ests	3.43	3.00	100	0.51	821.55	0.00	773.37	1963	1068.79	26.89
Magnolia Lakes	5.13	3.00	100	9.96	839.94	0.00	145.85	1990	665.43	26.44
Magnolia Manor Sec 1	3.43	3.00	100	0.25	839.94	0.00	230.06	1970	900.08	26.21
Magnolia Oaks	0.72	4.25	100	0.29	35.07	0.00	6155.84	1996	2604.23	37.32
Magnolia Park Of Windermere	0.80	4.08	0	1.12	407.73	0.00	753.01	1997	785.24	35.91
Magnolia Springs	2.54	4.92	100	4.90	584.21	140.24	460.73	1987	559.82	38.74
Magnolia Village Ut 1	2.53	3.00	100	5.79	839.94	0.00	368.42	1982	482.65	26.03
Magnolia Villas Orlando Condo	9.17	3.00	0	7.18	893.34	144.64	385.89	1973	1116.34	29.71
Maitland Preserve	0.05	2.15	100	0.46	286.22	0.00	9.45	1998	113.20	28.01
Majestic Oaks	2.67	5.91	100	3.86	399.88	0.00	594.75	1988	1618.64	22.27
Mandalay Sub	1.00	1.28	0	2.70	203.34	205.12	1571.13	2014	2030.90	20.36

Appendix A

Parameters for the Development of Pollution Potential Scheme (Sorted by Subdivision Name)

Subdivision Name	Septic Density (Parcels/ Acre)	OCAVA Class Mean	% Subdivisions in Impaired Surface or Spring Watershed	Mean Population Density 2010	Population Density Change 2000-2020	Housing Density Change 2020-2050	Minimum Distance to Sewer Main (ft)	Mean Year Built	Mean Distance to Waterbody (ft)	Mean Elevation (mABSL)
Mandalay Sub Replat	1.30	1.00	0	0.01	203.34	0.00	2573.64	2014	850.31	18.72
Marbella Pointe	0.05	1.24	0	12.75	1064.54	345.07	100.02	2008	2037.58	27.26
Marots Add To Tangerine	0.34	4.68	0	0.03	53.24	70.29	10162.42	2001	182.42	31.14
Marots Add To Tangerine	0.39	3.06	0	1.15	135.35	19.57	7890.97	1967	409.32	29.85
Marsell Manor Sub	2.00	3.00	0	0.01	77.78	0.00	546.60	1985	3391.36	24.50
Martins Preserve	0.76	3.00	0	0.77	214.53	0.00	6660.78	2015	887.97	38.06
Marwood	2.44	1.20	0	1.48	716.10	40.05	528.68	1962	608.32	31.26
Mason Add	1.50	3.00	100	5.97	728.06	1168.50	294.16	1972	913.43	29.36
Mc Queen Select Homesites	0.55	5.21	100	0.21	16.85	0.00	865.02	1971	615.67	26.39
Mcbride Sub	3.69	3.00	0	0.62	1033.90	155.87	84.69	1954	233.48	30.00
Mccormack Place	2.77	3.00	0	4.66	674.46	0.00	1393.67	1980	642.42	30.00
Mcdonald & Wilkins Sub	0.40	4.61	100	0.71	21.23	0.00	283.79	1983	1199.90	42.40
Mcewan Place	3.60	3.00	0	5.47	796.22	0.00	246.88	1971	2522.13	32.44
Mcleisch Terrace	3.56	3.00	0	9.91	844.26	155.87	720.59	1959	396.13	27.82
Mcneils Orange Villa	0.86	3.00	100	0.02	839.94	166.05	325.57	1968	0.00	23.86
Mcneils Orange Villa	0.29	3.00	100	2.91	555.66	166.05	505.30	1970	0.00	22.43
Mcneils Orange Villa	3.87	3.00	100	0.01	445.94	402.83	21.10	1925	1760.72	28.00
Mcneils Orange Villa	0.50	3.00	100	3.85	555.66	166.05	1320.69	1973	261.68	23.95
Mcneils Orange Villa	1.66	3.00	100	3.47	445.94	402.83	10.40	1925	1557.41	28.00
Mcneils Orange Villa	0.51	3.00	100	3.47	555.66	166.05	979.16	1975	564.05	26.79
Meadowbrook Acres	3.22	1.00	100	6.56	1083.53	0.00	521.03	1958	588.06	22.24
Meadowbrook Acres 1St Add	3.27	1.00	100	7.36	753.27	0.00	502.88	1959	849.68	22.63
Meadowbrook Annex	3.82	2.21	100	6.88	932.39	149.39	241.66	1959	975.99	21.74
Meadowbrook Annex 1St Add	4.10	1.67	100	8.00	932.39	149.39	150.41	1959	1177.98	24.40
Meadowbrook Annex 2Nd Add	3.15	2.57	100	7.31	753.27	149.39	142.03	1959	910.32	21.50
Meadows At Rio Pinar	1.49	3.00	0	0.41	361.29	0.00	463.41	1983	2363.25	25.66
Medallion Ests Sec 1	3.25	1.00	0	4.60	494.96	244.73	629.55	1960	1228.60	31.08
Medallion Ests Sec 2	3.09	1.00	0	4.56	494.96	244.73	757.39	1962	936.28	32.06
Medallion Ests Sec 3	1.44	2.53	46	0.32	672.03	244.73	1478.33	1962	215.14	29.42
Medallion Ests Sec 4	3.19	1.00	0	4.84	363.72	244.73	1020.05	1963	611.33	31.19

Appendix A

Parameters for the Development of Pollution Potential Scheme (Sorted by Subdivision Name)

Subdivision Name	Septic Density (Parcels/ Acre)	OCAVA Class Mean	% Subdivisions in Impaired Surface or Spring Watershed	Mean Population Density 2010	Population Density Change 2000-2020	Housing Density Change 2020-2050	Minimum Distance to Sewer Main (ft)	Mean Year Built	Mean Distance to Waterbody (ft)	Mean Elevation (mABSL)
Medallion Ests Sec 5	1.06	1.00	62	0.02	672.03	244.73	971.38	1970	0.00	29.00
Medallion Ests Sec 6	1.15	1.00	59	0.02	363.72	244.73	929.12	1985	0.00	29.07
Mejo Oscar Property	0.42	3.00	0	3.48	395.85	0.00	664.25	2002	1283.48	27.00
Mercerdees Grove	2.35	2.00	0	2.07	576.00	0.00	1244.82	1971	200.41	29.41
Meres	0.22	3.00	0	0.34	41.52	0.00	14654.51	1992	3889.42	25.20
Merritt Park	2.47	3.00	0	5.79	598.57	11.22	456.64	1960	296.94	24.64
Metcalf Park Rep	0.33	3.12	29	1.22	288.16	0.00	4076.45	1994	25.71	31.54
Michael Terrace	3.39	3.00	0	1.29	806.05	0.00	734.65	1968	1283.91	32.00
Michigan Hgts	2.06	3.00	100	1.30	351.17	513.34	453.73	1960	1291.60	27.52
Michigan Oaks	4.23	3.00	0	9.21	706.47	144.64	425.50	1984	1839.31	32.80
Middlebrook Oaks	1.69	1.00	0	1.00	489.70	40.05	1860.65	1971	317.74	28.38
Mier Manor	2.29	1.00	100	1.84	1083.53	0.00	45.88	1965	1021.72	26.72
Miller And Pownall Sub	1.42	3.00	100	0.98	408.51	15898.31	174.34	1952	2360.41	27.00
Millers Sub (Lockhart)	2.47	3.15	100	6.23	304.24	402.83	220.67	1970	1605.60	28.54
Mockingbird Hill	1.58	3.00	100	1.86	542.36	20.69	1157.44	1982	1100.68	28.96
Mohr Cove	0.80	3.00	0	0.05	300.25	164.61	346.08	1994	150.89	35.08
Monroe Manor	3.40	3.00	100	8.41	623.01	7928.67	827.13	1965	800.35	25.95
Montovallo	0.96	1.00	100	0.15	753.27	2.28	22.27	1959	234.63	24.50
Moore Cecil D Sub	0.69	1.00	0	0.26	821.19	400.45	90.72	1978	1030.96	32.00
Morningside	0.20	3.48	76	9.40	459.08	0.00	347.19	1983	104.23	20.69
Morningside Park	2.15	1.12	73	2.97	302.21	83.07	629.81	1962	367.62	29.79
Morrisons Sub	3.98	5.85	100	4.48	90.06	0.00	980.91	1949	2429.45	37.88
Morrisons Sub 1St Add	3.12	6.00	100	6.46	90.06	16.59	404.24	1981	2051.89	37.75
Mountain Park Orange Groves	0.16	3.12	0	0.03	4.80	0.00	2264.61	1978	179.45	32.58
Mt Pleasant	1.43	3.00	100	0.53	174.10	36.32	1844.10	1965	660.23	29.88
Mt Pleasant 1St Add	1.43	3.00	100	0.53	174.10	36.32	2205.65	1970	593.55	30.15
Mt Plymouth Lakes	1.98	3.00	100	0.50	337.29	0.00	4074.35	1972	108.55	20.00
Mt Plymouth Lakes	2.96	3.00	100	0.68	337.29	0.00	3653.81	1957	478.09	23.33
Mt Plymouth Lakes 1St Add	2.42	3.00	100	1.04	337.29	0.00	3543.18	1965	590.21	24.00
Mt Plymouth Lakes 1St Add	0.97	3.03	100	1.14	337.29	0.00	4745.77	1976	170.43	19.62

Appendix A

Parameters for the Development of Pollution Potential Scheme (Sorted by Subdivision Name)

Subdivision Name	Septic Density (Parcels/ Acre)	OCAVA Class Mean	% Subdivisions in Impaired Surface or Spring Watershed	Mean Population Density 2010	Population Density Change 2000-2020	Housing Density Change 2020-2050	Minimum Distance to Sewer Main (ft)	Mean Year Built	Mean Distance to Waterbody (ft)	Mean Elevation (mABSL)
Mt Plymouth Lakes Rep	3.23	3.40	100	9.03	337.29	0.00	3900.00	1973	622.73	22.45
Mtp Enterprises Inc	0.38	3.00	0	2.48	505.95	38.09	230.31	1981	749.56	27.00
Munger Willis R Land Co	0.05	2.51	100	4.38	837.68	0.00	139.63	1958	3.79	20.87
Munger Willis R Land Co	0.39	4.23	100	3.41	772.68	149.39	435.03	1980	371.15	25.98
Munger Willis R Land Co	0.10	3.44	100	3.90	778.83	47.57	930.42	1984	181.60	25.18
Munger Willis R Land Co	0.10	3.00	100	2.71	699.31	848.30	868.60	1995	0.00	22.39
Munger Willis R Land Co	1.91	5.42	100	6.81	772.68	0.00	200.88	1986	1500.40	35.13
Munger Willis R Land Co	0.22	2.32	100	4.38	603.96	15.98	100.17	1975	321.59	27.32
Munger Willis R Land Co	0.16	1.52	100	0.46	1380.68	0.00	49.66	1970	421.14	23.78
Munger Willis R Land Co	0.36	3.00	100	4.71	591.78	1.94	262.32	1970	941.32	27.53
Munger Willis R Land Co	0.09	4.74	100	2.01	430.71	0.00	184.37	1982	1755.08	28.55
Munger Willis R Land Co	2.42	1.00	100	0.01	825.06	0.00	8.21	1975	631.75	23.50
Munger Willis R Land Co	0.49	2.97	100	4.49	682.42	106.23	341.14	1973	1083.62	27.37
Munger Willis R Land Co	0.23	3.00	100	0.03	699.31	15.98	43.46	1982	1328.75	21.56
Munger Willis R Land Co	0.20	3.00	100	1.65	690.40	1677.36	578.89	1992	693.95	27.00
Munger Willis R Land Co	2.20	1.00	100	0.44	825.06	0.00	268.15	1956	1196.27	29.75
Munger Willis R Land Co	0.57	1.00	100	0.19	825.06	0.00	9.01	1971	929.56	25.63
Munger Willis R Land Co	0.11	1.87	100	9.23	1083.53	0.00	2.15	1984	664.36	32.80
Munger Willis R Land Co	0.14	2.55	100	5.63	825.06	0.00	121.32	1976	1277.80	31.89
Munger Willis R Land Co	1.09	4.50	100	0.27	869.39	0.00	12.39	1997	1474.63	37.25
Munger Willis R Land Co	0.04	4.30	93	0.46	160.97	6358.64	89.30	1992	1900.83	35.56
Munger Willis R Land Co	0.10	3.00	100	2.12	166.70	32.36	0.00	1997	1735.71	26.97
Munger Willis R Land Co	0.01	3.05	100	0.60	54.44	22.30	216.36	1982	3839.21	30.73
Munger Willis R Land Co	0.31	3.00	89	0.00	3.36	0.00	2069.82	1980	781.94	30.00
Mungers Willis R Land Co	0.06	3.00	67	0.75	96.67	0.00	383.33	1987	30.15	29.80
Mungers Willis R Land Co	0.19	1.00	100	0.03	26.64	16.49	238.56	1978	3077.87	30.38
Musick Manor	2.84	3.00	0	0.58	861.99	0.00	306.97	1972	779.45	30.38
Nela Isle	2.79	3.00	0	4.78	574.99	0.00	731.52	1960	625.14	28.24
Nelaview	0.87	3.00	0	4.70	574.99	0.00	216.52	1966	577.12	28.73
Nob Hill	3.12	3.00	100	1.40	778.91	0.00	253.35	1968	2186.16	40.92

Appendix A

Parameters for the Development of Pollution Potential Scheme (Sorted by Subdivision Name)

Subdivision Name	Septic Density (Parcels/ Acre)	OCAVA Class Mean	% Subdivisions in Impaired Surface or Spring Watershed	Mean Population Density 2010	Population Density Change 2000-2020	Housing Density Change 2020-2050	Minimum Distance to Sewer Main (ft)	Mean Year Built	Mean Distance to Waterbody (ft)	Mean Elevation (mABSL)
North 441 Indus Park	0.46	6.00	100	0.58	331.05	30.53	460.80	1985	1352.46	37.46
North Bay Sec 1	1.32	3.66	0	3.31	499.43	3.20	600.26	1989	575.36	33.01
North Bay Sec 1 Rep	2.37	3.00	0	3.73	301.87	3.20	574.27	1988	395.50	32.25
North Bay Sec 1 Rep	1.55	3.83	0	3.86	499.43	0.00	500.59	1990	909.52	35.59
North Bay Sec 2	1.67	3.42	0	3.86	499.43	0.00	1017.52	1989	412.54	33.14
North Bay Sec 3	2.48	3.75	0	0.28	499.43	81.52	870.71	1993	444.47	34.89
North Bay Sec 4	2.02	3.97	0	3.73	499.43	81.52	438.61	1994	705.02	33.93
North Bay Sec 4-A	0.42	3.00	0	0.65	499.43	1.35	970.14	2008	10.46	29.15
North Pine Hills	3.23	3.00	100	8.40	1418.61	2.28	314.30	1964	672.92	25.58
Northshore	1.33	1.00	0	3.84	576.00	0.00	1747.80	1995	313.66	29.44
Northwood Terrace	3.61	4.23	0	5.48	973.41	198.95	321.93	1954	951.10	35.40
Oak Acres	2.10	3.00	100	5.19	449.94	0.00	1070.52	1978	1617.97	29.74
Oak Clusters West	2.80	3.18	100	1.38	982.80	47.57	306.61	1984	1496.96	27.50
Oak Ests	2.59	1.00	0	3.56	821.19	400.45	269.11	1988	732.26	31.05
Oak Forest Sub	3.89	3.00	0	4.78	706.47	144.64	429.75	1955	1839.35	32.78
Oak Heights Rep	0.23	5.95	100	0.56	439.23	107.11	525.29	1978	980.78	32.60
Oak Hills Subdivision	0.72	5.80	100	0.19	221.44	0.00	2615.90	1999	579.98	29.18
Oak Hollow	0.45	3.00	100	1.11	153.85	18.59	492.24	1987	3369.96	21.28
Oak Lakes	0.98	3.00	40	1.97	301.41	15.87	502.06	1985	365.92	19.37
Oak Meadows P D Ph 3 Ut 1	4.43	5.88	0	8.83	1054.56	3.06	191.34	1985	1445.29	41.11
Oak Meadows P D Ph 3 Ut 2	5.16	3.99	0	6.63	611.07	15.01	126.07	1989	467.45	27.65
Oak Meadows P D Ph 3 Villas/Oak Meadows Ph 2 R	5.35	6.00	0	12.88	1054.56	133.07	260.56	1991	1020.30	39.87
Oak Park Manor	1.49	3.22	100	4.13	1185.64	0.00	1093.88	1976	766.02	39.51
Oak Pasture Sub	0.93	3.79	100	0.05	530.82	16.95	183.72	1993	608.54	23.58
Oak Ridge Manor	2.74	1.00	100	6.03	88.68	0.00	367.69	1976	1348.10	31.82
Oak Ridge Manor 1St Add	0.39	1.00	100	0.74	88.68	0.00	630.73	1965	1891.89	32.60
Oak Ridge Manor Annex	2.51	1.00	100	2.49	88.68	0.00	587.46	1965	2270.93	32.82
Oak Terrace	3.20	3.00	100	8.07	682.42	106.23	1308.88	1969	934.04	27.70
Oak Vista	1.73	3.00	100	3.33	954.45	1677.36	98.48	1973	1181.10	30.00

Appendix A

Parameters for the Development of Pollution Potential Scheme (Sorted by Subdivision Name)

Subdivision Name	Septic Density (Parcels/ Acre)	OCAVA Class Mean	% Subdivisions in Impaired Surface or Spring Watershed	Mean Population Density 2010	Population Density Change 2000-2020	Housing Density Change 2020-2050	Minimum Distance to Sewer Main (ft)	Mean Year Built	Mean Distance to Waterbody (ft)	Mean Elevation (mABSL)
Oakland Park Unit 6A	0.22	2.97	87	0.00	80.35	0.00	287.90	2035	656.57	27.60
Oakland Pointe	2.05	3.00	100	3.17	378.80	0.00	4180.40	2000	339.19	24.61
Oakland Shores 2Nd Add	1.08	3.00	0	2.10	443.04	375.90	641.98	1965	31.42	21.70
Oakland Town Of	1.48	3.23	100	3.06	273.69	196.55	4291.34	1976	2161.69	34.78
Oakland Trails Phase 1	7.61	6.00	100	0.00	54.94	2113.05	8458.83	2022	592.36	36.00
Oakland Trails Phase 1	0.72	6.00	100	0.00	54.94	2113.05	8574.16	2022	677.79	36.50
Oakland Trails Phase 1	3.48	4.90	89	0.17	54.94	2113.05	9335.43	2018	1364.71	38.54
Oakland Trails Phase 1	0.65	3.92	100	0.00	143.21	129.67	8809.80	2018	1359.32	25.37
Oakland Trails Phase 2	5.57	4.50	100	0.00	54.94	2113.05	8428.87	2019	1201.18	29.61
Oakland Trails Phase 2	4.43	5.20	97	0.17	143.21	129.67	10166.74	2019	1541.41	35.91
Oakmont Park	1.10	3.00	100	4.85	770.65	727.97	261.62	1972	525.74	23.91
Oaks At Paradise	1.39	3.00	100	1.98	542.36	356.85	323.24	1992	1930.41	33.89
Oaks Of Mt. Dora	0.61	6.00	0	0.01	53.24	0.00	10423.88	1994	1517.68	46.25
Oaks On The Lake	2.44	3.00	100	5.42	441.98	0.00	582.99	1990	550.00	20.02
Oakwater Ests	0.71	3.00	100	2.01	441.98	41.84	637.51	1990	130.91	19.86
Oakwater Prof Park Condo	0.46	1.00	0	1.28	363.72	1760.67	805.24	1990	289.79	32.17
Oasis At Grande Pines	0.06	6.00	100	7.96	511.15	0.00	100.38	2002	174.66	33.07
Oasis Terrace	2.61	4.54	100	4.56	869.39	0.00	705.16	1983	778.48	32.83
Ocb Acres	0.02	3.42	100	0.04	12.07	0.00	5302.56	2007	4914.36	41.41
Ocfs/Bhn Service Facilities	0.27	5.80	0	0.00	289.55	0.00	3151.10	2008	226.48	36.73
Ola Beach	2.07	5.00	0	0.25	207.91	0.00	3233.39	1945	90.41	23.50
Ola Beach	3.73	3.00	0	0.28	117.10	0.00	2747.58	1957	497.69	29.50
Ola Beach On Lake Ola 2Nd Rep	1.52	3.42	0	3.62	117.10	0.00	2792.84	1965	645.53	27.76
Oleander	2.61	3.21	100	6.37	778.91	0.00	624.69	1972	2421.21	40.68
Olympia Hgts	1.78	1.00	0	1.48	527.38	0.00	373.01	1958	1738.22	28.91
Olympia Hgts Annex	2.92	1.00	98	4.07	527.38	1266.89	556.70	1960	1812.69	29.29
Olympia Hgts Annex	2.11	1.00	0	4.01	523.43	0.00	374.66	1952	1923.98	29.13
Olympia Hgts Rep	2.19	1.00	0	0.15	531.87	0.00	317.88	1944	1434.21	28.67
Orange Acres	2.01	3.00	100	1.55	700.54	0.00	245.49	1963	1214.04	27.84
Orange Blossom Indus Pk	1.22	1.00	100	0.00	101.61	187.14	683.48	1988	831.83	37.15

Appendix A

Parameters for the Development of Pollution Potential Scheme (Sorted by Subdivision Name)

Subdivision Name	Septic Density (Parcels/ Acre)	OCAVA Class Mean	% Subdivisions in Impaired Surface or Spring Watershed	Mean Population Density 2010	Population Density Change 2000-2020	Housing Density Change 2020-2050	Minimum Distance to Sewer Main (ft)	Mean Year Built	Mean Distance to Waterbody (ft)	Mean Elevation (mABSL)
Orange County Acres Sec 18	0.01	1.00	0	0.02	9.37	0.00	16514.12	2006	5345.45	18.15
Orange County Acres Sec 36	0.04	1.00	0	0.02	1.98	0.00	17268.23	1982	3404.81	19.07
Orange County Indus Pk	0.33	5.40	100	3.41	646.43	204.80	1268.62	1991	1299.61	39.20
Orange County Indus Pk Ph 2	0.12	3.34	100	3.02	854.91	204.80	476.83	1989	1140.44	31.70
Orange Ctr	0.34	3.13	100	1.04	190.51	0.42	447.71	1985	1318.37	35.85
Orange Hgts	1.41	3.00	100	4.57	568.42	0.00	215.55	1974	884.15	37.16
Orange Hill	2.03	3.00	0	4.31	394.73	0.00	331.80	1987	676.79	43.54
Orange Hill Park	3.41	3.00	100	0.25	821.55	0.00	414.59	1968	1950.90	27.36
Orange Lake C C Villas 3 Ph 1	0.43	3.00	0	0.00	0.99	0.00	1567.53	2000	1448.16	35.11
Orange Lake C C Villas 3 Ph 2	1.90	6.00	0	0.00	0.06	0.00	946.11	2000	822.89	37.50
Orange Lake C C Villas 3 Ph 2	0.63	4.71	0	0.00	0.06	0.00	1166.32	2000	1032.59	37.50
Orange Lake C C Villas 3 Ph 2	1.86	3.00	0	0.00	0.06	0.00	1346.16	2000	1267.69	37.00
Orange Lake C C Villas 3 Ph 3	1.86	6.00	0	0.00	0.06	0.00	802.87	2000	791.62	36.50
Orange Lake C C Villas 3 Ph 3	0.92	6.00	0	0.00	0.06	0.00	828.07	2000	737.58	35.75
Orange Lake C C Villas 3 Ph 3	0.60	5.57	0	0.00	0.06	0.00	971.28	2000	950.51	37.17
Orange Lake C C Villas 3 Ph 4	1.81	3.00	0	0.00	0.99	0.00	1973.97	2000	1431.15	34.20
Orange Lake C C Villas 3 Ph 5	0.46	6.00	0	0.00	0.06	0.00	896.70	2000	743.99	37.73
Orange Lake C C Villas 3 Ph 6	1.45	6.00	0	0.00	0.99	0.00	1454.41	2000	681.31	38.27
Orange Lake C C Villas 3 Ph 6	2.08	6.00	0	0.00	0.06	0.00	1193.89	2000	893.13	38.00
Orange Lake C C Villas 3 Ph 7	0.47	3.00	0	0.00	0.99	0.00	2593.26	2000	811.08	36.20
Orange Lake C C Villas Ph 1	0.52	3.00	0	0.00	364.13	0.00	6515.32	1982	362.25	33.00
Orange Lake C C Villas Ph 7-A	0.25	3.00	0	0.00	14.91	0.00	4170.93	1982	649.11	32.38
Orange Lake East Town Ctr Rep	0.22	3.16	0	0.00	89.63	0.00	8025.04	2004	4326.91	30.14
Orange Lake East Town Ctr Rep 2	0.08	3.89	0	0.00	0.00	0.00	6611.96	2003	3642.50	32.58
Orange Land Gardens	2.73	3.00	100	6.99	568.42	0.00	408.49	1977	336.91	34.58
Orange Terrace	3.56	1.00	0	3.60	523.43	0.00	331.29	1953	715.93	27.67
Orange View	4.06	3.00	100	9.09	778.91	0.00	127.75	1968	1716.53	42.70
Orange View	1.81	3.00	100	3.66	568.42	0.00	245.87	1973	668.33	37.80
Orange Villa	1.82	3.00	0	2.85	776.82	0.00	87.49	1958	1624.78	30.32
Orangewood Ests	2.95	1.00	0	3.06	716.10	1303.76	79.49	1966	356.26	31.11

Appendix A

Parameters for the Development of Pollution Potential Scheme (Sorted by Subdivision Name)

Subdivision Name	Septic Density (Parcels/ Acre)	OCAVA Class Mean	% Subdivisions in Impaired Surface or Spring Watershed	Mean Population Density 2010	Population Density Change 2000-2020	Housing Density Change 2020-2050	Minimum Distance to Sewer Main (ft)	Mean Year Built	Mean Distance to Waterbody (ft)	Mean Elevation (mABSL)
Orchard Acres	6.18	3.00	0	0.28	903.57	8246.55	1011.83	1948	275.43	30.00
Orlaman Park	0.98	3.00	6	0.95	240.74	64.78	92.26	1941	1027.60	30.00
Orlando Acres 1St Add	1.62	3.07	89	4.04	299.15	0.00	784.09	1969	310.97	20.47
Orlando Acres 2Nd Add	2.79	3.00	46	5.88	249.41	0.00	1700.23	1958	612.12	18.67
Orlando Acres Business Sec	1.77	3.00	0	0.00	439.90	0.00	166.50	1984	541.01	21.88
Orlando Acres Sec 1	1.19	3.00	100	2.70	299.15	0.00	168.41	1969	1790.81	21.29
Orlando Commerce Center Condominium	0.29	3.00	100	0.30	167.03	196.70	534.73	2018	6948.23	27.00
Orlando Groves Assoc	0.03	2.29	100	3.67	456.06	0.00	174.39	1999	851.33	28.98
Orlando Improvement Co No 1	1.17	3.00	46	2.61	748.26	0.00	422.74	1974	2841.80	21.52
Orlando Improvement Co No 1	0.96	3.00	27	2.28	439.90	0.00	140.12	1981	1326.33	21.82
Orlando Improvement Co No 2	1.96	3.00	0	3.74	664.71	0.00	592.45	1963	736.74	21.77
Orlando Improvement Co No 2	0.65	3.29	0	3.47	412.65	0.00	365.99	1979	1480.66	22.43
Orlando Improvement Co No 2	0.10	3.00	0	2.81	748.26	0.00	41.18	1995	2152.19	22.15
Orlando Improvement Co No 3	0.46	3.07	0	3.36	970.21	0.00	272.92	1984	3235.08	23.21
Orlando Kissimmee Farms	0.16	2.88	100	0.40	50.26	3.60	2908.80	1990	10646.42	22.87
Orlando Terrace Sec 8	0.57	3.00	0	2.48	505.95	38.09	151.24	1991	690.61	27.00
Orlando Terrace Sec 9	0.43	3.00	0	1.73	665.28	0.00	3.26	1979	647.87	27.19
Orlo Vista Hgts	3.54	4.52	0	6.36	916.91	113.67	603.13	1981	432.51	39.92
Orlo Vista Hgts Add	3.33	3.39	0	8.94	864.93	113.67	1081.54	1981	436.95	41.72
Orlo Vista Hgts Add Rep Blk P	4.15	3.00	0	1.26	864.93	151.46	1701.29	1981	915.30	43.00
Orlo Vista Terrace	3.16	5.16	0	8.14	486.78	22.08	935.09	1974	692.71	34.26
Orlo Vista Terrace Annex	1.62	3.41	0	4.15	429.00	22.08	348.89	1974	474.24	29.49
Orlo Vista Terrace Annex	0.86	4.08	0	0.47	486.78	22.08	579.85	1978	860.13	31.99
Overlake Terrace	2.94	2.03	0	3.05	716.10	1303.76	236.51	1967	746.39	31.98
Overstreet	0.17	3.00	100	0.09	200.38	0.46	142.79	1971	2557.19	39.01
Overstreet Crate Co	0.40	3.00	0	0.87	657.56	188.32	51.52	1974	1216.56	34.87
Overstreet Crate Co	0.27	3.00	0	0.51	657.56	188.32	243.16	1980	1319.23	33.93
Overstreet Crate Co	0.12	2.28	0	0.16	9.10	61.94	496.95	1969	2863.41	35.43
Oxford Moor	1.00	3.00	0	2.09	411.89	0.00	1497.65	2004	608.12	35.21

Appendix A

Parameters for the Development of Pollution Potential Scheme (Sorted by Subdivision Name)

Subdivision Name	Septic Density (Parcels/ Acre)	OCAVA Class Mean	% Subdivisions in Impaired Surface or Spring Watershed	Mean Population Density 2010	Population Density Change 2000-2020	Housing Density Change 2020-2050	Minimum Distance to Sewer Main (ft)	Mean Year Built	Mean Distance to Waterbody (ft)	Mean Elevation (mABSL)
Oxford Place	2.79	3.00	100	0.33	459.08	0.00	433.10	1986	237.62	22.00
Oxford Place	1.51	3.00	100	0.79	459.08	0.00	312.65	1985	357.60	23.00
Palm Cove Ests	3.07	2.77	0	5.30	637.97	0.00	443.74	1990	493.22	32.94
Palm Cove Ests 2	2.05	3.00	0	4.23	637.97	353.90	374.64	1992	142.30	31.06
Palm Cove Ests 3	2.10	3.00	0	4.23	569.88	0.00	1144.34	1993	196.83	32.96
Palm Cove Ests 4	1.77	3.00	0	3.81	569.88	0.00	765.52	1994	291.30	28.91
Palm Cove Ests 5	3.05	3.00	0	4.21	569.88	0.00	1166.17	1994	258.98	29.80
Palm Cove Ests 6	0.09	3.00	0	0.83	569.88	0.00	1240.06	2013	152.80	28.27
Palm Hgts	2.82	1.00	100	3.70	481.07	513.34	442.85	1962	614.68	27.89
Palm Lake	2.10	6.00	0	4.94	407.71	0.00	536.78	1998	1339.39	47.80
Palm Lake Ests	1.14	3.00	100	3.26	636.77	0.00	67.64	1979	4426.40	17.53
Palm Lake Ests 1St Add	1.18	3.00	0	5.32	675.28	0.00	333.33	1989	820.96	16.40
Palm Lake Ests 2Nd Add	0.71	3.00	0	3.00	504.01	0.00	496.47	1993	722.19	16.82
Palm Lake Ests 3Rd Add	0.36	3.00	0	0.98	972.66	0.00	283.66	1988	259.77	15.70
Palm Lake Ests 4Th Add	0.86	3.00	0	2.24	504.01	0.00	409.95	1982	155.66	15.72
Palm Lake Ests 5Th Add	1.33	3.00	100	4.52	636.77	460.68	17.08	1976	3191.69	17.76
Palm Lake Manor	0.43	5.44	0	3.00	407.71	0.00	839.23	1991	607.62	46.59
Palm Lake Manor 1St Add	0.44	5.46	0	3.10	454.77	0.00	702.38	1997	244.19	46.30
Palmhurst	2.05	3.00	100	2.89	256.83	20.69	1625.61	1974	687.15	26.63
Palms Sec 1	2.13	3.94	100	4.71	454.95	0.00	387.49	1985	3715.43	25.88
Palms Sec 2	2.19	5.79	100	4.75	454.95	0.00	820.31	1988	2885.98	20.34
Palms Sec 3	2.58	6.00	100	6.03	465.05	0.00	2104.69	1993	2885.70	20.26
Palms Sec 4	2.57	5.90	100	5.08	538.08	0.00	2214.98	1992	2148.85	23.51
Paradise Hgts 1St Add	2.32	3.00	100	6.33	542.36	20.69	514.40	1959	1271.71	30.20
Park Avenue West	0.36	3.00	0	0.99	132.57	0.00	1681.81	2034	495.60	33.99
Park Manor Ests Ut 11 C	0.80	3.00	0	6.32	782.62	0.00	212.82	1983	3007.65	22.55
Park Ridge	0.97	3.62	100	2.73	406.10	0.00	1298.28	1974	2095.00	40.86
Park Springs	1.61	5.65	0	2.89	426.08	1.84	1882.82	1992	355.19	41.43
Parker Hgts	1.70	3.00	0	7.70	706.90	0.00	187.26	1973	838.39	20.60
Parkway Dist Ctr Condo	1.24	3.00	100	2.85	75.02	0.00	339.61	1984	3743.68	27.00

Appendix A

Parameters for the Development of Pollution Potential Scheme (Sorted by Subdivision Name)

Subdivision Name	Septic Density (Parcels/ Acre)	OCAVA Class Mean	% Subdivisions in Impaired Surface or Spring Watershed	Mean Population Density 2010	Population Density Change 2000-2020	Housing Density Change 2020-2050	Minimum Distance to Sewer Main (ft)	Mean Year Built	Mean Distance to Waterbody (ft)	Mean Elevation (mABSL)
Parkway Dist Ctr Condo Ph 2	2.99	3.00	100	0.00	0.88	0.94	145.87	1986	1982.08	27.00
Partin Oaks	0.05	2.92	100	0.32	84.12	0.00	2665.40	1996	543.69	12.43
Partin Park	0.04	1.00	100	0.06	3.85	0.00	8441.36	2002	2440.52	17.97
Partridge Terrace	4.54	3.00	100	1.65	618.87	0.00	652.52	1986	1418.09	22.65
Pasatiempo	1.74	6.00	0	0.78	426.08	0.13	703.45	1983	914.43	48.35
Paulana Park	4.35	3.00	0	2.22	806.05	0.00	1194.54	1951	717.03	32.17
Pearl Lake Park	1.21	3.00	100	2.51	414.40	48.27	1165.31	1986	153.28	36.43
Pearl Lake Sub	1.38	5.04	100	1.32	828.83	3651.06	732.53	1973	869.07	41.36
Pelham Park 1St Add	3.59	3.00	0	7.25	706.47	144.64	268.19	1972	1834.51	32.17
Pelham Park 2Nd Add Rep	0.75	3.00	0	0.27	806.05	0.00	39.52	1952	0.00	29.29
Pell Ests	1.46	3.00	100	2.01	262.26	0.00	310.40	1986	1233.55	15.56
Pember Terrace	1.96	3.00	12	3.04	813.83	155.87	109.46	1951	251.64	26.77
Pennsy Park	1.81	4.50	100	0.58	278.95	0.00	122.63	1967	305.08	33.76
Perez Sub	0.20	1.00	0	0.20	210.85	25.40	430.85	1987	5858.86	19.30
Pershing Grove	3.54	3.00	0	1.56	576.00	0.00	544.26	1969	1204.85	30.12
Pershing Manor	3.47	3.00	0	2.16	576.00	0.00	271.77	1963	1248.94	29.06
Pershing Oaks	2.83	3.00	0	2.16	659.64	0.00	556.03	1984	735.02	28.47
Pershing Terrace	3.87	3.00	0	7.62	576.00	0.00	835.86	1959	960.41	32.58
Pershing Terrace 1St Add	3.47	3.00	0	2.65	716.10	0.00	552.65	1959	400.39	31.96
Pershing Terrace 2Nd Add	3.11	3.00	0	2.75	576.00	0.00	1168.29	1960	302.70	29.38
Pershing Villas	5.00	3.00	0	8.59	570.80	345.07	502.10	1994	2804.47	28.00
Persian Wood Ests	3.61	3.00	0	1.37	893.34	0.00	271.27	1964	548.52	30.00
Peters Arthur Sub	0.04	4.34	100	0.53	57.72	0.00	3907.84	1988	1338.54	40.27
Phillips View Tower	0.21	3.00	0	0.00	3.72	0.00	58.07	2019	0.00	32.17
Phoenicia Center Condo	5.37	3.18	0	2.42	536.55	7.20	190.11	2005	267.63	34.26
Picketts Cove	0.32	3.00	0	0.32	21.45	0.00	10069.49	1995	253.58	17.57
Picketts J T	0.48	3.00	100	1.08	174.10	50.50	2226.69	1966	892.01	29.81
Piedmont Ests	0.21	6.00	100	7.63	924.83	1649.57	160.26	1962	111.13	31.00
Piedmont Ests	0.75	6.00	100	0.06	924.83	0.00	32.48	1959	464.57	32.50
Piedmont Ests	2.50	6.00	100	5.27	630.02	0.00	123.44	1967	1458.52	34.12

Appendix A

Parameters for the Development of Pollution Potential Scheme (Sorted by Subdivision Name)

Subdivision Name	Septic Density (Parcels/ Acre)	OCAVA Class Mean	% Subdivisions in Impaired Surface or Spring Watershed	Mean Population Density 2010	Population Density Change 2000-2020	Housing Density Change 2020-2050	Minimum Distance to Sewer Main (ft)	Mean Year Built	Mean Distance to Waterbody (ft)	Mean Elevation (mABSL)
Piedmont Ests	1.99	3.00	100	7.20	924.83	0.00	191.95	1976	1356.92	33.00
Piedmont Ests	1.47	3.00	100	7.20	924.83	0.00	261.69	1969	2337.14	32.66
Piedmont Ests 1St Add	0.40	4.67	100	3.61	599.15	98.42	164.80	1980	1017.18	28.58
Pinar Hgts Ut 3	3.94	3.00	0	1.62	505.95	38.09	90.80	1986	1813.07	27.00
Pine Acres Sub	2.16	3.00	0	7.21	550.14	27.34	775.49	1965	2014.07	27.91
Pine Acres Sub 1St Add	0.62	3.00	0	3.14	400.10	27.34	395.79	1966	1677.21	27.16
Pine Acres Sub 1St Add	2.35	3.00	0	0.12	550.14	27.34	1430.97	1972	1596.45	28.00
Pine Castle	0.04	3.16	100	0.00	0.00	1.17	151.95	1983	860.03	28.12
Pine Castle Pines	2.31	3.00	0	5.26	433.55	0.00	386.97	1964	1129.56	29.77
Pine Flex Ctr Condo	3.99	3.00	100	0.00	0.00	1.17	183.55	1985	1119.84	28.00
Pine Harbor Point	2.45	1.00	0	2.62	716.10	40.05	1082.29	1977	505.97	30.80
Pine Hill Ests	1.39	1.00	100	4.23	753.27	0.00	398.82	1966	778.65	23.93
Pine Hills Manor	0.54	1.17	100	4.36	1141.33	367.03	234.80	1974	324.49	27.57
Pine Hills Manor No 2	2.45	3.00	100	6.41	860.46	479.15	127.13	1953	983.50	34.92
Pine Hills Manor No 3	2.45	3.00	100	1.45	1315.75	0.00	309.79	1957	740.29	35.25
Pine Hills Manor No 3	3.13	3.00	100	4.72	1315.75	0.00	136.73	1954	1243.36	32.66
Pine Hills Manor No 4	2.94	3.00	100	1.23	672.65	479.15	111.17	1953	1307.63	35.40
Pine Hills Park	1.01	3.35	100	3.41	778.83	47.57	528.68	1982	411.07	27.70
Pine Hills Park Sub 1St Rep	3.06	3.00	100	7.66	778.83	47.57	783.11	1958	520.73	30.00
Pine Hills Park Sub 2Nd Rep	2.19	4.41	100	1.79	778.83	47.57	181.40	1974	288.88	28.26
Pine Hills Park Sub 3Rd Rep	3.36	4.15	100	2.85	778.83	47.57	785.55	1980	323.39	28.56
Pine Hills Retail/Office Condo	4.09	3.00	100	0.00	1069.12	453.76	188.77	1974	1272.85	32.00
Pine Hills Rev	2.44	3.00	100	1.65	860.46	479.15	104.21	1952	1462.47	35.00
Pine Hills Sub No 2	1.34	3.00	100	2.75	672.65	0.00	108.61	1954	555.82	34.15
Pine Loch Grove	1.86	1.00	0	1.25	821.19	1303.76	275.47	1967	640.68	30.90
Pine Loch Hgts	4.41	3.00	0	4.41	751.13	400.45	70.17	1953	182.96	31.00
Pine Meadows Ph 1	2.49	3.00	0	4.85	395.61	116.94	355.21	1987	4969.48	24.00
Pine Meadows Ph 1 Rep	3.88	3.00	0	0.02	395.61	116.94	507.35	1988	4897.27	24.00
Pine Meadows Ph 2A	3.05	3.00	0	0.34	395.61	116.94	118.04	1988	4263.21	24.00
Pine Oaks	2.25	3.00	100	3.37	370.80	0.00	272.48	1983	630.92	21.11

Appendix A

Parameters for the Development of Pollution Potential Scheme (Sorted by Subdivision Name)

Subdivision Name	Septic Density (Parcels/ Acre)	OCAVA Class Mean	% Subdivisions in Impaired Surface or Spring Watershed	Mean Population Density 2010	Population Density Change 2000-2020	Housing Density Change 2020-2050	Minimum Distance to Sewer Main (ft)	Mean Year Built	Mean Distance to Waterbody (ft)	Mean Elevation (mABSL)
Pine Ridge Ests	3.26	1.00	100	7.82	1083.53	0.00	367.75	1959	685.72	29.06
Pine Ridge Ests Sec 2	3.56	1.00	100	9.99	825.06	0.00	350.42	1960	737.57	25.76
Pine Ridge Ests Sec 3	3.78	1.00	100	5.71	825.06	0.00	441.53	1961	1347.48	27.93
Pine Ridge Ests Sec 4	3.53	1.15	100	0.17	825.06	0.00	285.23	1963	1579.10	30.77
Pine Ridge Ests Sec 5	3.97	1.00	100	4.35	932.39	0.00	685.61	1962	1359.25	29.65
Pine Ridge Ests Sec 7	3.74	1.00	100	3.71	932.39	0.00	746.73	1962	1458.73	29.03
Pine Ridge Ests Sec 8	4.05	1.00	100	0.50	825.06	0.00	526.18	1963	1018.58	28.63
Pine Shores	0.72	3.00	0	0.47	80.00	0.00	1767.40	1986	264.30	19.95
Pine Villa	0.85	2.17	100	0.10	187.65	2.76	28.80	1959	2545.71	29.53
Pineloch Shores	0.52	2.17	0	0.76	821.19	8246.55	39.14	1972	0.00	28.67
Pineloch Terrace	3.17	3.00	0	7.92	751.13	8246.55	213.17	1958	553.41	31.18
Pines	2.55	3.00	0	0.71	728.53	31.73	134.68	1925	2509.72	29.00
Piney Oak Shores	1.83	3.00	0	2.34	743.89	0.00	387.31	1972	440.52	30.44
Piney Oak Shores 1St Add	0.64	3.00	0	1.93	743.89	0.00	379.38	1998	274.79	29.66
Piney Wood Lakes	1.61	3.00	0	4.40	699.50	0.00	1402.05	1970	489.00	28.10
Piney Woods Point	4.63	3.00	0	9.17	782.62	0.00	709.24	1988	836.04	18.78
Pink & Monells Sub	1.29	3.00	0	0.46	751.13	8246.55	18.63	1970	0.00	28.75
Pink & Monells Sub	1.20	3.00	0	0.85	751.13	8246.55	166.85	1959	687.98	30.33
Plainfield Rep	4.62	3.00	0	2.45	806.05	0.00	1053.26	1971	1060.12	32.35
Plat Of Rosen Trustee	0.07	3.00	0	0.00	0.01	3359.46	7.20	1972	1985.56	40.16
Plaza Park	2.06	3.00	0	1.08	893.34	0.00	89.18	1970	131.35	29.09
Plaza Place	3.59	3.00	0	1.83	893.34	0.00	396.72	1969	157.40	30.07
Pleasant Oaks	4.90	4.06	100	3.90	682.42	106.23	1182.46	1988	782.44	27.62
Plymouth	0.13	3.16	89	0.73	430.80	0.00	555.79	1974	1051.88	33.93
Plymouth Hills	3.64	3.40	100	6.11	224.55	16.59	323.65	1974	1802.32	42.90
Polo Glen At Lake Betty	0.02	1.55	100	0.00	558.44	6.15	307.13	2020	124.20	33.21
Ponce De Leon	1.63	3.00	96	4.59	744.19	3068.67	348.23	1970	541.14	28.28
Ponkan Pines	0.38	3.64	100	0.89	130.03	0.00	1172.07	1978	1094.61	25.77
Ponkan Pines 1St Add	0.38	4.86	100	0.46	130.03	3.52	1909.68	1980	1263.08	26.16
Ponkan Terrace	2.01	3.00	100	0.68	62.79	0.00	2293.42	1974	1745.41	34.70

Appendix A

Parameters for the Development of Pollution Potential Scheme (Sorted by Subdivision Name)

Subdivision Name	Septic Density (Parcels/ Acre)	OCAVA Class Mean	% Subdivisions in Impaired Surface or Spring Watershed	Mean Population Density 2010	Population Density Change 2000-2020	Housing Density Change 2020-2050	Minimum Distance to Sewer Main (ft)	Mean Year Built	Mean Distance to Waterbody (ft)	Mean Elevation (mABSL)
Ponkan Terrace 1St Add	2.01	3.00	100	0.01	117.63	0.00	1566.65	1977	913.15	40.54
Ponyland Ests	0.41	3.00	100	4.07	778.83	47.57	347.24	1978	77.60	25.55
Porter Place	2.11	3.00	0	5.63	801.68	155.87	451.67	1998	1112.72	31.48
Powers Pointe North	2.47	4.54	100	6.50	869.39	0.00	334.20	1985	1905.50	32.45
Powers Ridge	2.79	1.00	100	4.29	837.68	0.00	426.92	1985	1154.10	29.72
Prairie Oaks Sub	2.64	5.77	100	5.84	457.79	292.83	908.80	1997	1573.84	36.33
Priscilla Place	2.01	3.00	100	0.43	778.91	30.53	261.75	1970	2620.86	39.65
Pros Ranch	2.10	3.00	100	2.42	106.34	4.93	1826.22	1978	3118.55	23.28
Prosper Colony	0.02	3.00	100	0.00	0.00	0.00	60.41	1984	2660.90	27.00
Prosper Colony	0.06	3.00	100	0.00	0.00	0.00	297.85	2007	1028.71	26.00
Prosper Colony Blk 1	0.20	3.00	100	1.58	554.54	9217.67	352.72	1984	5676.43	27.53
Prosper Colony Blk D	0.04	2.75	94	0.00	11.68	0.00	182.47	1989	4108.25	28.47
Prosper Colony Blk D	0.18	3.00	0	0.00	0.00	0.00	150.55	1996	3142.85	28.00
Prosper Colony Blk E	0.26	1.90	99	1.73	136.29	83.07	697.03	1965	857.95	29.79
Prosper Colony Blk H	0.16	3.16	100	0.01	1.22	4.33	1601.69	1986	3347.27	27.95
Prosper Colony Blk T	0.06	1.91	100	0.80	208.63	31.11	897.23	1992	4587.00	24.99
Queenswood Manor 2	2.07	3.00	100	7.90	772.41	1.94	113.15	1985	474.92	26.96
R L Vacation Suites Ph 1	0.05	2.85	100	0.12	75.71	6358.64	266.35	2010	963.79	37.00
Rabbits Run	1.57	3.82	0	0.34	796.22	526.21	41.13	1990	2882.42	32.00
Raintree Place Ph 1	2.55	4.92	0	5.70	512.47	8.32	612.72	1986	740.20	37.11
Raintree Place Ph 2	2.17	4.71	0	6.51	794.58	0.00	619.31	1986	556.03	35.38
Ramir	4.33	1.15	100	5.09	481.07	1677.36	382.02	1959	1398.44	29.81
Ranchette	2.67	3.00	100	6.44	778.83	1617.80	757.94	1959	739.04	23.90
Ranchette 1St Rep	3.19	3.00	100	2.70	304.24	1617.80	1032.55	1969	215.59	23.02
Rancho Bay Villa	0.90	5.84	0	0.88	532.73	0.00	418.56	1987	1058.75	37.24
Randolph Land Rep	0.19	1.00	0	1.89	369.29	40.05	160.40	1937	38.70	26.73
Randolph Plat	1.94	3.00	0	0.19	716.10	1303.76	148.76	1928	676.31	32.50
Randolph Plat	0.95	1.00	0	1.26	369.29	1760.67	246.30	1958	119.35	28.17
Randolph Plat	0.59	1.00	0	0.28	716.10	40.05	176.18	1964	64.32	29.15
Randolph Plat	3.85	1.00	0	0.52	716.10	40.05	921.26	1959	653.07	32.00

Appendix A

Parameters for the Development of Pollution Potential Scheme (Sorted by Subdivision Name)

Subdivision Name	Septic Density (Parcels/ Acre)	OCAVA Class Mean	% Subdivisions in Impaired Surface or Spring Watershed	Mean Population Density 2010	Population Density Change 2000-2020	Housing Density Change 2020-2050	Minimum Distance to Sewer Main (ft)	Mean Year Built	Mean Distance to Waterbody (ft)	Mean Elevation (mABSL)
Randolph Plat	4.17	1.00	0	0.12	716.10	40.05	952.60	1971	618.45	32.00
Randolph Plat	0.06	1.00	0	0.38	369.29	5.16	303.72	1996	0.00	27.17
Randolph Plat	0.50	1.00	0	0.28	369.29	5.16	21.75	1967	657.97	32.00
Ravens Haven	0.86	3.95	100	0.18	367.71	0.00	340.24	1985	1051.40	22.89
Ravens Haven Sec 2	0.83	3.33	100	3.37	370.80	0.00	809.85	1983	562.56	22.54
Raymar Manor	3.94	3.00	0	0.29	870.30	1917.58	422.06	1965	534.55	31.75
Raymar Manor Add	1.65	3.00	41	0.19	870.30	102.04	1216.98	1971	68.23	28.74
Reagans Reserve	3.10	5.77	100	3.45	367.71	0.00	1397.77	2002	2345.96	22.81
Reaves J J Sub	0.45	1.00	0	1.31	531.81	1045.04	95.14	1968	625.27	28.74
Recherche Villas	0.21	4.48	100	0.60	498.67	0.00	8608.41	2002	505.70	21.93
Red Gate	0.23	3.88	100	2.11	530.82	16.95	8.55	1975	249.67	27.18
Regency Indus Park Sec 15	0.20	3.00	100	0.00	0.88	0.94	110.88	1984	1937.81	27.00
Regency Indus Pk Sec 14	0.12	3.00	100	0.00	0.00	0.00	514.20	1986	1715.80	26.61
Regency Indus Pk Sec 17	0.09	2.99	100	0.66	32.40	0.00	589.34	1995	2370.15	25.00
Regency Park	3.32	5.80	100	8.52	841.00	0.00	450.04	1988	1958.19	35.85
Regency Village Square Condo	4.44	3.00	100	0.06	104.70	0.00	787.24	2007	2901.48	38.17
Reserve At Lake Butler Sound	0.40	3.93	0	1.70	267.50	0.00	2499.82	2008	326.29	32.21
Reserve At Lake Butler Sound Ut 2	0.96	3.46	0	2.90	309.92	0.00	2986.09	2005	1647.46	33.89
Reserve At Waterford Pointe Ph 1	0.89	3.00	31	2.12	189.90	1854.46	375.37	2002	328.27	34.08
Rests Haven	3.77	3.00	1	7.32	1112.54	0.00	476.76	1969	473.79	32.16
Richland Rep	1.18	3.00	0	1.84	279.69	0.00	265.44	1974	689.67	20.74
Richmond Terrace	3.48	3.00	7	7.70	844.26	155.87	361.15	1950	235.62	26.73
Richmond Terrace 1St Add	2.58	3.00	0	6.43	844.26	155.87	84.63	1955	245.90	28.51
Richwood Ests	4.00	3.00	0	4.25	665.56	6.86	735.61	1983	234.89	21.42
Ridge Manor	3.31	2.57	100	3.38	825.06	0.00	81.87	1960	1367.64	28.89
Ridge Manor 1St Add	2.81	2.53	100	6.52	825.06	0.00	337.91	1967	1332.41	30.49
Ridgemoore Ph 1	2.48	4.15	0	6.05	389.62	8.32	893.74	1989	974.51	37.70
Ridgemoore Ph 2	3.31	4.60	0	1.92	389.62	8.32	642.72	1992	1379.57	40.32
Ridgemoore Ph 3	2.75	1.56	0	5.82	700.91	0.00	503.93	1993	1256.68	32.94
Ridgemoore Ph 4	3.28	2.22	0	2.68	794.58	0.00	556.42	1993	1191.60	36.43

Appendix A

Parameters for the Development of Pollution Potential Scheme (Sorted by Subdivision Name)

Subdivision Name	Septic Density (Parcels/ Acre)	OCAVA Class Mean	% Subdivisions in Impaired Surface or Spring Watershed	Mean Population Density 2010	Population Density Change 2000-2020	Housing Density Change 2020-2050	Minimum Distance to Sewer Main (ft)	Mean Year Built	Mean Distance to Waterbody (ft)	Mean Elevation (mABSL)
Rimar Ridge	2.85	3.00	100	7.70	304.24	1617.80	398.43	1961	857.56	21.49
Rimar Ridge 1St Add	3.63	3.00	100	4.42	982.80	1617.80	261.84	1996	1431.58	23.37
Rio Grande Homesites	1.15	3.00	100	47.48	3069.64	1289.74	108.14	1957	800.81	31.00
Rio Grande Terrace	4.01	3.00	24	4.64	1707.55	1289.74	534.62	1958	1326.62	30.00
Rio Grande Terrace 1St Add	3.93	3.00	7	3.45	1707.55	1289.74	680.62	1961	1102.43	30.00
Rio Grande Terrace 3Rd Add	4.33	3.00	91	17.49	1707.55	1289.74	411.39	1965	1678.00	30.00
Rio Grande Terrace 4Th Add	3.10	3.00	0	12.34	1707.55	1289.74	853.28	1959	1017.31	30.00
Rio Grande Terrace 7Th Add	4.30	3.00	0	4.45	1707.55	138.98	974.25	1961	1117.78	30.00
Rio Pinar Lakes Ut 2 Ph 1	4.90	3.00	0	0.74	1050.19	0.00	299.33	1983	191.89	26.00
Rio Pinar Lakes Ut 2 Ph 2	6.32	3.00	0	0.71	1050.19	0.00	315.27	1984	125.53	25.85
Rio Pinar Lakes Ut 2 Ph 3	5.74	3.00	0	0.60	1050.19	0.00	175.28	1984	207.93	25.00
Rio Pinar Lakes Ut 2 Ph 3 Rep	6.24	3.00	0	0.08	1050.19	0.00	314.65	1985	0.00	25.00
Rio Pinar Lakes Ut 2 Ph 3 Rep	5.27	3.00	0	0.04	1050.19	0.00	338.66	1985	0.00	25.00
Rio Pines Ut 1	0.95	3.00	0	1.78	260.60	0.00	611.65	1983	1334.96	25.97
Rio Pines Ut 2	3.06	3.00	0	3.34	552.26	0.00	495.30	1985	1230.45	25.93
River Crests	5.27	3.00	0	6.45	664.71	0.00	196.37	1986	1121.76	18.42
River Oaks East Condo	6.20	3.00	0	3.89	681.42	0.00	235.35	1986	834.20	17.07
River Pines	3.39	3.00	0	6.45	782.62	0.00	472.44	1984	955.82	18.55
Riverbend Ests	5.59	3.00	0	7.39	759.39	2328.00	542.06	1985	326.25	24.00
Riverdale Farms	0.73	2.96	0	1.85	542.93	0.00	420.14	1979	284.95	14.27
Rivers Edge	2.09	3.00	0	4.33	783.94	0.00	436.23	1987	344.94	16.13
Rivers Edge Rep	5.86	3.00	0	4.07	424.01	0.00	304.69	1997	292.19	16.65
Rivers Edge Rep	6.93	3.00	0	0.08	664.71	0.00	780.45	1998	470.08	16.00
Rivers Edge Rep	4.23	3.00	0	0.02	279.69	0.00	41.77	1997	502.41	14.75
Rivers Edge Rep	5.23	3.00	0	0.01	279.69	0.00	230.47	1997	453.36	16.00
Riverside Acres	2.64	3.00	100	5.23	623.01	7928.67	119.15	1956	1989.08	25.01
Riverside Acres 1St Add	1.95	3.00	100	4.17	623.01	7928.67	345.15	1957	1585.47	24.79
Riverside Acres 2Nd Add	2.54	3.00	100	0.43	623.01	7928.67	456.66	1957	956.16	22.99
Riverside Acres 3Rd Add	2.66	3.00	100	4.43	623.01	0.00	461.54	1959	401.20	19.63
Riverside Acres 4Th Add	2.85	3.00	100	3.22	839.94	0.00	519.79	1963	333.47	26.53

Appendix A

Parameters for the Development of Pollution Potential Scheme (Sorted by Subdivision Name)

Subdivision Name	Septic Density (Parcels/ Acre)	OCAVA Class Mean	% Subdivisions in Impaired Surface or Spring Watershed	Mean Population Density 2010	Population Density Change 2000-2020	Housing Density Change 2020-2050	Minimum Distance to Sewer Main (ft)	Mean Year Built	Mean Distance to Waterbody (ft)	Mean Elevation (mABSL)
Riverside Park	2.63	3.00	100	4.26	821.55	0.00	276.32	1948	1132.98	25.57
Riverside Park Ests	3.50	3.00	100	7.05	690.40	0.00	439.70	1958	1753.94	24.60
Riverside Park Ests Ut 2	2.50	3.00	100	5.89	690.40	0.00	389.27	1959	1923.27	25.71
Riverside Woods	3.41	3.00	100	8.03	821.55	0.00	892.84	1984	1062.16	27.72
Riverwood	5.16	3.00	0	5.85	681.42	0.00	500.09	1984	339.06	14.83
Robert Robertsons Rep	0.96	3.00	100	0.17	174.10	0.00	2384.50	1994	1172.04	29.88
Roberta Place	2.79	3.00	11	5.30	699.50	0.00	619.27	1962	275.89	26.83
Roberts Island	0.47	1.21	21	1.38	180.47	0.00	11834.38	2004	361.81	17.95
Roberts Landing	0.75	3.00	0	1.43	386.09	173.85	562.86	1986	378.49	32.65
Robinsdale	3.10	3.00	5	6.74	1692.31	878.86	395.29	1959	351.45	30.14
Robinson Oaks	3.94	3.00	0	5.34	829.72	0.00	298.08	1957	834.47	29.98
Robinson R G Sub	0.85	3.00	100	1.10	174.10	36.32	959.47	1966	1279.90	30.25
Robinsville Sec 1	2.43	1.00	100	5.32	932.39	0.00	209.67	1964	648.52	25.51
Robinsville Sec 2	3.94	1.00	100	1.60	932.39	0.00	292.55	1968	790.22	23.63
Rock Spgs Park	0.79	5.70	100	1.88	46.82	0.00	307.47	1983	1489.28	21.16
Rock Spgs Park Rep	2.50	6.00	100	0.95	46.82	0.00	250.55	1972	1770.89	19.75
Rock Springs	0.19	3.62	100	0.60	84.55	4.93	904.64	1980	3082.83	24.93
Rock Springs Homesites	0.92	3.25	100	2.10	233.19	0.00	947.52	1975	3612.68	21.27
Rock Springs Ridge Ph 1	0.97	3.35	100	1.22	148.02	0.00	1203.35	2000	3913.66	21.23
Rockinghorse Ranches Ut 1	0.20	3.00	0	0.18	217.79	0.00	592.17	1988	1486.71	15.85
Rockinghorse Ranches Ut 2	0.23	3.00	0	3.23	444.86	0.00	455.63	1992	541.27	15.04
Rolling Green Ridge	2.96	3.00	100	6.69	842.91	9.59	481.21	1972	1379.65	26.90
Rolling Green Ridge 1St Add	3.09	3.00	100	0.40	708.27	498.41	766.29	1975	2020.43	27.61
Rolling Hills Of Avalon Annex	0.36	3.86	0	0.46	13.36	0.00	2831.56	1978	5687.57	37.63
Rolling Oaks Ut 1	2.58	6.00	100	3.79	367.71	0.00	2217.24	1984	2067.17	26.27
Rolling Oaks Ut 2	2.11	6.00	100	4.79	538.08	0.00	2748.19	1984	2520.35	22.16
Rolling Oaks Ut 3	2.70	6.00	100	1.68	538.08	0.00	2773.88	1985	2926.39	23.63
Rolling Oaks Ut 4	2.35	5.54	100	3.81	423.64	67.68	2219.16	1988	1248.17	23.35
Rolling Pines Manor	2.85	1.00	100	0.33	1141.33	367.03	393.75	1974	490.74	27.58
Rose Gardens	1.67	6.00	100	3.32	445.94	402.83	143.36	1991	1185.44	29.00

Appendix A

Parameters for the Development of Pollution Potential Scheme (Sorted by Subdivision Name)

Subdivision Name	Septic Density (Parcels/ Acre)	OCAVA Class Mean	% Subdivisions in Impaired Surface or Spring Watershed	Mean Population Density 2010	Population Density Change 2000-2020	Housing Density Change 2020-2050	Minimum Distance to Sewer Main (ft)	Mean Year Built	Mean Distance to Waterbody (ft)	Mean Elevation (mABSL)
Rose Hill	2.61	3.75	100	4.73	657.15	109.82	766.38	1985	319.83	31.90
Rose Hill Groves	0.07	5.38	100	3.17	741.05	140.24	276.27	1975	747.62	33.08
Rose Hill Groves Ut No 1	2.48	5.22	100	8.41	741.05	0.24	288.74	1990	537.97	33.89
Rose Hill Groves Ut No 2	3.19	5.61	100	3.62	868.56	0.24	861.79	1992	534.24	34.12
Rose Hill Groves Ut No 3	3.14	4.68	100	3.87	741.05	140.24	342.05	1994	1100.22	36.47
Rose Manor	2.46	3.00	100	0.07	304.24	1617.80	720.63	1976	707.19	25.75
Rose W W Rep	0.20	3.00	0	0.87	334.32	0.00	37.51	1943	678.96	34.10
Roselle Park	3.87	3.00	0	4.86	806.05	0.00	1559.88	1958	1153.19	32.07
Roselle Park 2Nd Rep	5.18	3.00	0	4.97	806.05	0.00	1395.99	1961	986.38	32.15
Roseview Sub	2.90	5.01	0	5.85	757.96	0.00	377.45	1987	965.04	35.05
Rosewood	7.38	3.00	0	2.94	893.34	0.00	757.50	1984	631.00	32.75
Round Lake	0.13	3.54	100	0.19	14.93	0.00	7824.60	1977	2031.06	46.63
Round Lake Hgts Rep	0.13	3.67	100	0.53	57.72	0.00	3744.26	2008	643.06	37.87
Royal Ests Sec 1	4.04	3.76	0	11.98	996.35	0.00	920.05	1962	170.64	19.87
Royal Ests Sec 2	4.22	4.23	0	12.16	996.35	0.00	821.06	1968	262.08	17.75
Royal Ranch Ests	0.11	3.00	0	1.99	217.71	0.00	38.87	1993	0.00	28.71
Royal Ranch Ests 1St Add Sec 1	0.44	3.00	0	1.53	223.86	0.00	639.40	1991	834.23	31.88
Royal Ranch Ests 1St Add Sec 2	0.44	3.00	0	1.25	223.86	0.00	463.37	1993	496.24	31.02
Royal Ranch Ests 1St Add Sec 3	0.29	3.00	0	1.98	223.86	0.00	264.72	1996	400.86	30.27
Royal Villa	1.91	3.00	100	1.03	66.56	2.02	141.74	1973	748.75	27.00
Ruthwood Acres	1.76	3.00	98	1.08	499.90	0.00	457.49	1979	6174.58	27.00
Rvs At Orlando 2	0.53	6.00	100	0.05	511.15	0.00	233.26	2001	23.05	33.00
Rvs At Orlando Ph 1	0.39	6.00	100	2.67	511.15	0.00	7.01	1997	35.85	33.44
S & S Acres	1.63	6.00	100	0.48	729.79	20.52	303.44	1981	801.38	33.00
Saddlebrook Rep	2.74	3.92	100	5.15	414.40	48.27	1754.88	1996	1155.07	42.15
San Susan	0.28	3.27	0	0.88	486.78	113.67	383.13	1954	2.24	33.92
Sand Lake Hills Sec 10	2.67	5.76	0	4.00	761.73	0.00	592.00	1985	1191.09	48.29
Sand Lake Hills Sec 10A	2.58	4.67	0	0.53	761.73	0.00	152.66	1986	1549.03	48.90
Sand Lake Hills Sec 11	2.48	3.58	0	5.27	761.73	0.00	397.49	1987	1919.27	48.06
Sand Lake Hills Sec 8	2.56	6.00	0	3.83	757.37	0.00	313.20	1984	1067.42	48.89

Appendix A

Parameters for the Development of Pollution Potential Scheme (Sorted by Subdivision Name)

Subdivision Name	Septic Density (Parcels/ Acre)	OCAVA Class Mean	% Subdivisions in Impaired Surface or Spring Watershed	Mean Population Density 2010	Population Density Change 2000-2020	Housing Density Change 2020-2050	Minimum Distance to Sewer Main (ft)	Mean Year Built	Mean Distance to Waterbody (ft)	Mean Elevation (mABSL)
Sand Lake Hills Sec 9	2.55	5.68	0	6.23	761.73	0.00	549.71	1985	924.49	48.48
Sand Lake Hills Sec 9A	0.72	3.26	0	3.30	761.73	0.00	970.46	1992	294.71	44.35
Sand Lake Point Ut 1	1.36	2.47	28	4.67	899.97	0.37	774.37	1989	604.20	29.00
Sand Lake Point Ut 2	1.75	1.00	26	4.84	627.65	0.00	1602.48	1990	766.21	30.96
Sand Lake Point Ut 3	1.29	1.60	35	1.08	627.65	0.00	2069.96	1993	287.35	30.70
Sand Lake Point Ut 4	2.16	1.94	7	4.69	709.85	108.86	638.68	1995	907.37	33.10
Sand Pines	2.20	5.30	0	5.03	492.27	5.33	429.54	1987	916.25	47.07
Sandlake Courtyards Condo	21.66	1.00	100	0.74	88.68	0.00	353.38	1974	1921.15	31.29
Sandy Shores	1.93	3.00	0	0.99	218.61	0.00	412.23	1976	4.58	30.94
Sandy Springs	2.43	4.58	0	6.20	682.42	0.13	540.39	1988	812.83	49.42
Saracity Gardens Sub	3.24	2.43	0	5.09	1000.16	114.13	1255.45	1995	3143.20	22.98
Sawmill Ph 1	2.24	5.66	100	6.32	739.84	827.41	1214.02	1990	1199.36	31.81
Sawmill Ph 2	2.60	4.45	100	7.29	739.84	3550.64	980.51	1990	1676.16	31.79
Sawyer Shores Sub	0.99	3.00	0	1.49	218.61	4.85	312.08	1980	135.24	32.32
School Terrace	3.21	1.00	10	4.03	523.43	1266.89	385.44	1952	1104.85	29.91
Scotts Moor Terrace	3.58	3.00	0	0.29	674.46	0.00	944.96	1964	703.87	30.84
Sea World Theme Park	0.03	1.00	100	0.00	430.64	9.00	24.30	1996	1349.51	25.55
Seaward Plantation Ests	0.32	3.00	100	1.33	262.26	3.44	320.56	1980	655.23	12.58
Seaward Plantation Ests	0.15	3.00	100	0.88	73.26	3.44	1430.10	1980	226.61	9.54
Seaward Plantation Ests 1St Add	0.34	3.00	100	0.67	74.57	0.00	1007.46	1980	413.18	13.71
Seaward Plantation Ests 2Nd Add	0.16	2.77	94	1.05	90.80	0.00	1926.88	1987	375.01	11.11
Seaward Plantation Ests 3Rd Add	0.23	3.00	100	1.14	158.29	0.00	1265.90	1994	1736.48	14.83
Seaward Plantation Ests 4Th Add	0.25	2.97	100	0.80	58.51	0.00	1227.48	1990	1406.96	14.80
Seaward Plantation Ests 5Th Add	0.17	3.00	88	0.76	82.52	0.00	3176.02	1996	374.20	12.34
Sells Terrace	1.41	1.00	44	0.11	544.49	1266.89	1435.85	1962	193.24	28.61
Semoran Business Ctr	0.51	4.02	100	2.34	922.76	498.41	331.88	1987	1879.38	32.52
Seneca Ests Sub	0.19	3.00	82	0.03	14.32	0.00	30845.11	1991	1952.11	12.06
Shadow Bay Spgs Ut 1	2.21	5.92	0	1.38	682.42	0.00	1908.51	1984	182.08	44.07
Shadow Bay Spgs Ut 1	2.51	6.00	0	5.78	426.08	0.13	1753.45	1985	443.51	46.66
Shadow Bay Spgs Ut 2	2.62	6.00	0	6.06	682.42	0.00	1953.61	1983	572.15	45.60

Appendix A

Parameters for the Development of Pollution Potential Scheme (Sorted by Subdivision Name)

Subdivision Name	Septic Density (Parcels/ Acre)	OCAVA Class Mean	% Subdivisions in Impaired Surface or Spring Watershed	Mean Population Density 2010	Population Density Change 2000-2020	Housing Density Change 2020-2050	Minimum Distance to Sewer Main (ft)	Mean Year Built	Mean Distance to Waterbody (ft)	Mean Elevation (mABSL)
Shadow Bay Spgs Ut 3	2.45	5.90	0	3.52	682.42	0.00	2350.13	1985	467.87	44.76
Shadow Bay Spgs Ut 4	2.37	6.00	0	5.35	682.42	0.13	2037.98	1985	386.23	45.74
Shadow Bay Spgs Ut 5	3.09	6.00	0	6.93	651.15	0.00	1640.15	1986	350.84	43.35
Shadowridge	2.78	5.02	100	5.56	741.05	140.24	563.63	1987	615.03	37.80
Shady Acres	2.87	3.00	0	6.71	801.68	0.00	272.61	1958	1058.55	33.00
Shady Oak Cove	2.89	3.00	100	5.19	728.06	103.99	771.45	1984	83.54	30.73
Shady Oaks Sub	3.49	3.00	0	1.73	806.05	0.00	1052.15	1968	413.38	31.64
Shenna Hill	3.11	3.43	100	6.02	741.05	140.24	190.04	1991	630.77	31.40
Sherman Farms	0.09	3.00	35	1.91	443.54	0.00	426.53	1947	638.99	12.05
Sherman Farms	0.24	3.00	21	4.58	465.82	0.00	435.24	1979	1628.97	15.88
Sherwood Forest	4.17	3.00	0	9.24	1904.48	0.00	247.89	1986	2001.20	17.05
Sherwood Park Ut 1	0.40	3.00	0	3.66	366.41	9.16	415.02	1961	832.74	20.73
Shiocton Hgts	2.93	3.00	64	1.65	443.54	0.00	416.59	1993	2204.39	14.69
Shuman Acres	0.78	2.39	100	0.35	825.06	0.00	350.32	1972	1387.40	32.22
Siesta Hills	4.53	3.00	100	6.92	742.81	0.00	188.96	1970	460.95	31.68
Siesta Hills 1St Add	4.03	3.00	100	0.24	742.81	0.00	527.71	1973	187.25	30.65
Sillers Add To Gotha	0.40	3.00	0	2.32	356.75	164.61	87.90	1982	482.15	34.85
Silver Beach Sub	3.57	3.00	0	9.48	651.79	0.00	495.78	1959	853.09	27.82
Silver Beach Sub 1St Add	4.46	3.00	0	3.45	651.79	0.00	642.22	1958	868.15	27.43
Silver Beach Sub 2Nd Add	4.56	3.00	0	4.91	651.79	0.00	479.92	1958	690.20	27.90
Silver Beach Sub 3Rd Add	4.73	3.00	0	4.73	183.39	0.00	846.43	1962	600.58	27.04
Silver Ridge Ph 1	2.34	5.10	100	8.25	924.49	1297.49	908.54	1986	2132.85	30.08
Silver Ridge Ph 2	3.11	5.89	100	5.21	924.49	1297.49	1283.74	1987	1932.40	31.31
Silver Ridge Ph 3	2.62	6.00	100	7.68	870.95	1297.49	2303.72	1988	1081.41	38.77
Silver Ridge Ph 4 Ut 1	1.54	3.98	100	5.99	870.95	0.00	1506.93	1994	448.11	31.71
Silver Ridge Ph 4 Ut 2	1.90	2.50	100	5.37	870.95	0.00	1610.43	1995	516.23	31.51
Silver Ridge Ph 4 Ut 3	2.13	3.88	100	5.34	870.95	0.00	782.36	1996	390.48	28.05
Silver Ridge Ph 4 Ut 3A	2.56	2.67	100	0.01	497.63	0.00	264.78	1996	815.44	23.10
Silver Rose	2.40	6.00	100	7.20	924.83	20.22	544.36	1988	2160.11	32.10
Silver Rose Ph 2	3.60	6.00	100	0.23	924.83	20.22	370.54	1988	2089.80	32.47

Appendix A

Parameters for the Development of Pollution Potential Scheme (Sorted by Subdivision Name)

Subdivision Name	Septic Density (Parcels/ Acre)	OCAVA Class Mean	% Subdivisions in Impaired Surface or Spring Watershed	Mean Population Density 2010	Population Density Change 2000-2020	Housing Density Change 2020-2050	Minimum Distance to Sewer Main (ft)	Mean Year Built	Mean Distance to Waterbody (ft)	Mean Elevation (mABSL)
Silver Star Ests	3.17	3.00	100	4.01	924.49	1297.49	1220.13	1960	1281.77	30.38
Silver Star Ests 1St Add	2.73	2.20	100	6.05	870.95	0.00	2026.92	1969	247.69	29.39
Silver Star Homes	3.50	3.00	100	5.85	1599.69	0.00	560.32	1961	1246.56	32.15
Silver Star Manor	3.28	3.00	100	7.13	1599.69	0.00	437.78	1962	1776.88	29.57
Silver Woods Ph 1	2.60	4.74	0	5.94	482.54	81.52	1054.13	1986	1222.31	44.33
Silver Woods Ph 2	3.11	4.40	0	3.14	482.54	3.85	477.77	1985	1711.30	45.06
Silver Woods Ph 3	2.80	3.63	0	5.28	482.54	3.85	640.38	1986	1370.77	41.73
Silver Woods Ph 3A	3.26	3.47	0	7.84	482.54	81.52	1219.25	1986	890.73	42.43
Silver Woods Ph 4	2.65	3.05	0	5.57	482.54	81.52	1189.40	1987	617.30	39.84
Silver Woods Ph 5	2.98	3.00	0	6.13	482.54	81.52	290.36	1987	1047.76	40.63
Simmons Road Sub	3.09	3.00	0	0.13	796.22	0.00	32.25	1992	1971.99	32.00
Sinclair Park	1.36	3.00	0	2.02	1000.16	0.00	280.89	1968	2042.08	21.72
Sky Acres	1.72	3.00	100	1.51	299.15	0.00	237.85	1978	1379.94	16.30
Skycrests	2.53	3.00	0	5.19	903.57	1303.76	481.48	1959	508.86	31.42
Skycrests 1St Add	1.23	3.00	0	2.19	903.57	8246.55	659.02	1964	81.52	28.02
Slauson And Gibons	1.52	3.00	100	6.78	1121.91	30.53	402.39	1972	2249.14	41.48
Sleepy Hollow Ph 1	3.42	5.70	100	1.19	791.80	193.40	847.88	1988	224.48	27.67
Sleepy Hollow Ph 2	1.95	3.60	100	3.47	791.80	193.40	1347.06	1986	181.04	28.53
Sloewood East Ut 1	0.80	3.00	0	1.24	172.00	1.65	3225.91	1993	156.40	23.36
Smith Emery Sub	0.25	3.00	100	0.26	34.88	0.00	947.21	1983	948.36	41.70
Smith G T Sub No 6	2.08	3.00	0	0.00	693.15	2625.47	35.83	1964	2341.88	35.67
Smith G T Sub No 7	0.93	3.00	0	1.76	657.56	188.32	361.15	1960	1897.53	35.40
Smith Manlie Lands	0.34	6.00	0	3.34	755.36	10836.98	63.82	1992	2109.89	44.00
Somerset At Lakeville Oaks	2.48	4.02	100	6.51	854.91	0.00	1224.59	1990	1297.95	26.93
Somerset At Lakeville Oaks Ph 2	2.87	5.41	100	7.42	368.25	0.00	572.16	1995	1721.40	30.32
South Bay Sec 2	1.27	1.78	0	3.15	443.22	0.00	247.52	1988	743.52	34.11
South Bay Sec 3	0.95	3.00	0	2.81	340.26	0.00	306.63	1991	335.05	33.11
South Bay Sec 4	1.90	2.26	0	2.61	661.96	0.00	226.53	1990	981.12	35.00
South Bay Sec 5	1.54	1.00	0	0.06	402.99	0.00	509.24	1990	978.77	35.53
South Bay Sec 6	1.63	2.90	0	4.05	402.99	0.00	254.92	1989	870.62	35.55

Appendix A

Parameters for the Development of Pollution Potential Scheme (Sorted by Subdivision Name)

Subdivision Name	Septic Density (Parcels/ Acre)	OCAVA Class Mean	% Subdivisions in Impaired Surface or Spring Watershed	Mean Population Density 2010	Population Density Change 2000-2020	Housing Density Change 2020-2050	Minimum Distance to Sewer Main (ft)	Mean Year Built	Mean Distance to Waterbody (ft)	Mean Elevation (mABSL)
South Bay Villas	2.41	2.81	0	2.81	402.99	0.00	289.26	1991	467.81	34.77
South Orange Park Sec 1	0.25	3.00	0	0.00	265.40	17.00	236.10	1978	854.80	28.00
South Side	0.82	1.00	0	0.47	821.19	1760.67	82.41	1965	1031.80	31.87
Southern Acres Sub	0.88	5.31	0	0.99	197.88	0.00	963.83	2000	956.38	37.00
Southernaire	1.86	1.00	0	0.41	716.10	40.05	633.01	1977	207.19	28.88
Southfork Sub Ut 1	1.38	3.00	0	2.84	820.76	0.00	548.52	1990	460.83	31.57
Southfork Sub Ut 2	3.30	3.00	0	7.06	820.76	0.00	437.72	1990	613.40	32.00
Southridge	4.10	4.60	0	7.90	864.93	15.01	709.35	1987	1109.31	36.09
Sparling Hills	2.79	4.10	100	7.72	772.68	0.00	392.89	1983	1402.44	34.36
Spences Point	1.63	3.00	0	2.33	334.32	110.70	1597.37	1989	103.85	30.75
Sphaler Add To Prosper Colony	0.06	3.00	100	0.00	1.22	4.33	439.03	1986	4784.20	28.00
Sphaler Add To Taft	6.65	3.00	100	0.04	61.88	0.00	44.92	1974	2253.42	28.00
Sphaler Add To Taft	1.42	3.00	100	3.31	310.76	741.92	775.88	1988	3156.05	28.00
Sphaler Add To Taft	0.07	3.00	100	0.00	1.42	1.17	343.99	2016	2007.60	28.08
Sphaler Add To Taft Resub	2.12	3.00	100	7.83	695.49	741.92	928.44	1958	2765.90	28.00
Sphalers Rev	0.22	3.00	100	0.05	61.88	1.17	20.63	1983	1630.50	28.00
Spillmans Ridge	6.36	3.00	100	3.47	555.66	166.05	615.49	1989	826.32	27.68
Spring Hollow Ph 1	0.54	3.86	100	1.48	148.02	87.46	1081.96	1992	2189.44	21.38
Spring Pine Villas	4.83	3.00	0	6.44	1099.05	0.00	1271.27	1984	1351.61	22.04
Spring Pines	2.62	2.89	0	8.48	1099.05	43.06	859.47	1982	2621.71	22.70
Spring Pines 1St Add	2.83	3.00	0	6.47	1099.05	0.00	947.28	1982	1265.99	22.46
Stansbury Ests	3.03	3.00	0	7.71	728.53	31.73	129.77	1942	2152.03	30.00
Steeplechase	0.83	4.24	100	0.54	313.41	0.00	489.71	1987	1749.56	38.05
Stewart Homestead	0.57	3.00	100	3.87	728.06	0.00	627.56	1973	1465.73	26.33
Stokes Sub	0.76	1.00	33	0.94	250.45	1266.89	573.28	1973	0.00	26.24
Suburban Homes	1.67	3.00	100	0.13	500.46	11757.90	250.46	1967	421.80	24.55
Suburban Homes	2.03	3.00	100	1.93	500.46	11757.90	62.21	1959	897.87	24.91
Suburban Homes 1St Add	2.33	3.00	100	6.41	500.46	0.00	88.17	1973	1400.56	24.98
Sue Harbor	1.44	3.00	0	0.63	598.57	11.22	512.79	1976	452.14	26.86
Sue Haven	3.39	3.00	0	4.51	801.68	0.00	497.29	1973	793.82	33.00

Appendix A

Parameters for the Development of Pollution Potential Scheme (Sorted by Subdivision Name)

Subdivision Name	Septic Density (Parcels/ Acre)	OCAVA Class Mean	% Subdivisions in Impaired Surface or Spring Watershed	Mean Population Density 2010	Population Density Change 2000-2020	Housing Density Change 2020-2050	Minimum Distance to Sewer Main (ft)	Mean Year Built	Mean Distance to Waterbody (ft)	Mean Elevation (mABSL)
Summer Lakes	1.80	3.18	0	4.05	512.47	8.32	516.71	1987	302.18	27.56
Summer Oaks	2.24	3.00	60	1.84	204.42	0.00	422.61	1984	816.57	18.24
Summerbrook	3.47	4.70	100	7.71	791.80	204.80	610.70	1985	605.27	34.16
Summerfield Ests	2.95	3.86	100	5.79	646.43	290.55	335.27	1981	628.53	34.87
Summerport Beach	2.25	5.82	0	0.99	171.97	68.72	2560.77	1974	0.00	34.24
Summerport Beach	1.17	3.00	0	0.01	128.84	68.72	2296.38	1966	0.00	31.92
Summerport Beach Corrective Plat	1.90	3.00	0	0.00	128.84	68.72	2144.88	1940	0.00	33.44
Summerport Beach Rep	2.48	3.00	0	0.00	128.84	68.72	2423.46	1988	0.00	31.33
Summit Park Place	0.04	3.00	100	4.24	1135.27	4169.51	0.00	2001	2733.39	27.04
Sun Acres	3.29	1.00	100	3.63	753.27	149.39	115.67	1958	1428.81	23.63
Sun Kist Park	0.39	3.00	0	1.29	363.15	151.78	345.43	1965	100.04	27.52
Sunday Blk	1.36	1.00	0	0.33	376.16	495.87	40.83	1951	784.01	29.00
Sunrise City Rep	0.12	3.00	0	1.27	1000.16	0.00	102.43	1945	1519.77	20.68
Sunset Bay	0.40	3.00	0	0.95	182.72	3.85	496.02	1997	189.84	30.64
Sunset Lakes	0.59	3.00	0	1.76	269.48	1854.46	1614.27	1997	149.06	33.34
Sunset Preserve Phase 1	0.75	1.00	0	0.15	25.95	0.00	7597.11	2032	1140.21	18.20
Sunset Preserve Phase 4	0.07	0.85	0	0.08	20.95	0.00	5967.64	2020	244.19	17.49
Sunshine Gardens	3.32	1.00	37	6.68	425.65	1.82	1112.88	1962	1137.55	29.98
Sunshine Gardens 1St Add	3.42	1.00	74	4.72	752.19	1.82	383.50	1961	1356.36	29.85
Sunshine Gardens 2Nd Add	2.48	1.00	100	1.52	624.01	1.82	658.89	1957	1380.60	29.12
Sunshine Sub	3.42	3.00	100	15.45	1380.68	0.00	160.11	1967	1175.67	26.35
Sunshine Sub Rep	3.26	3.00	100	1.39	1380.68	0.00	283.37	1964	1090.72	27.25
Surrey Ridge	3.50	3.00	0	7.34	309.23	0.00	470.78	1988	1013.49	21.37
Sussex Place Ph 1	6.21	3.00	100	11.98	1647.21	220.54	228.97	1984	2654.34	25.45
Sussex Place Ph 2	8.33	4.70	98	0.55	1647.21	0.00	893.38	1987	3657.83	25.96
Sweetaire Of Wekiva	3.03	5.15	100	6.73	630.02	98.42	252.88	1986	1193.44	32.26
Sweetbriar	2.91	1.08	0	1.43	821.19	1303.76	360.34	1964	1044.98	33.08
Sweetwater Country Club Place	2.56	5.08	100	3.34	445.17	0.00	263.42	1987	2137.91	27.65
Sweetwater West	1.95	4.26	100	5.02	465.05	0.00	1439.01	1995	3135.38	19.44
Tabory-Pult Sub	0.18	1.00	100	1.06	481.07	106.23	206.65	1966	526.77	28.71

Appendix A

Parameters for the Development of Pollution Potential Scheme (Sorted by Subdivision Name)

Subdivision Name	Septic Density (Parcels/ Acre)	OCAVA Class Mean	% Subdivisions in Impaired Surface or Spring Watershed	Mean Population Density 2010	Population Density Change 2000-2020	Housing Density Change 2020-2050	Minimum Distance to Sewer Main (ft)	Mean Year Built	Mean Distance to Waterbody (ft)	Mean Elevation (mABSL)
Taft	1.59	2.99	100	4.02	310.76	741.92	1150.40	1979	4478.62	28.00
Taft (Tier 10 & Above)	3.22	3.00	100	6.66	380.01	13922.95	683.77	1986	5823.29	28.00
Taft Rep Blk C Tier 2	4.01	3.00	100	6.21	310.76	741.92	737.07	1951	3539.91	28.00
Tamarack Village	2.73	3.66	100	2.36	702.60	0.00	346.22	1986	2193.09	17.62
Tangerine	1.81	4.66	0	3.99	214.53	93.67	8475.64	1975	2273.70	46.25
Tangerine Hgts	0.24	3.00	0	0.40	73.43	71.05	13823.22	1986	287.34	24.73
Tangerine Prof Ctr	8.91	3.00	100	0.00	358.88	0.00	3.33	1986	1166.63	24.00
Tangerine Reserve	0.89	6.00	0	0.97	144.84	0.00	9257.41	2014	1853.88	47.90
Tangerine Shores	1.81	3.00	0	0.04	214.53	93.67	6511.60	1953	204.70	26.41
Tangerine Terrace On Lake Ola	0.40	3.00	0	1.35	214.53	93.67	6942.00	1968	345.32	27.89
Tangerine Woods	0.09	1.00	68	0.16	49.10	19.57	8789.86	2009	971.51	27.11
Taylor Creek Hgts	1.06	3.00	0	0.09	10.85	0.00	36750.60	1988	4992.70	13.71
Teeples Add	1.86	3.00	100	2.35	130.57	0.00	218.01	1965	1509.69	27.61
Tennessee Terrace	3.59	3.00	0	4.96	801.68	0.00	760.15	1955	1150.11	33.00
Terrell Terrace	2.10	6.00	100	0.32	52.71	0.00	10108.74	2008	2616.55	45.02
Thompson John A Sub	0.33	1.00	0	0.00	494.96	1760.67	258.12	1992	189.20	32.65
Thompson Manor	2.84	3.00	100	0.04	370.80	0.00	525.71	1979	1080.66	23.78
Tiffany Acres	1.71	3.06	100	1.24	618.87	0.00	571.16	1976	1600.84	23.43
Tiffany Terrace	2.79	3.00	100	7.24	381.58	0.00	371.15	1966	2178.46	25.17
Tilden Manor	0.25	3.00	100	0.55	200.39	71.03	105.71	1978	3084.95	25.18
Tildens Grove Ph 1	0.67	3.20	0	1.36	171.97	68.72	1758.24	2004	362.58	34.55
Tildens Grove Ph 2	1.18	3.11	0	2.74	197.88	0.00	817.43	2006	866.88	36.89
Tindaro Pine Ests	4.05	3.00	0	6.08	664.71	0.00	459.51	1984	1195.38	21.89
Torey Pines Ut 1	1.04	5.05	0	2.96	447.39	81.52	793.70	1990	1067.82	42.36
Torey Pines Ut 2	1.58	5.82	0	4.37	447.39	0.00	840.75	1991	1769.44	48.33
Torey Pines Ut 3	1.33	5.68	0	3.38	386.64	0.00	847.98	1993	1490.17	52.03
Toronto	0.10	1.00	100	0.07	49.22	187.14	704.08	1984	2655.12	37.00
Touraine Ests	1.30	3.00	34	0.27	806.05	0.00	20.75	1969	0.00	27.04
Townhomes At Tuscany Condo	9.95	3.00	0	8.17	728.53	31.73	47.77	2003	2746.39	28.00
Traylor Terrace	2.89	1.00	0	0.83	716.10	0.00	1418.30	1958	471.30	31.15

Appendix A

Parameters for the Development of Pollution Potential Scheme (Sorted by Subdivision Name)

Subdivision Name	Septic Density (Parcels/ Acre)	OCAVA Class Mean	% Subdivisions in Impaired Surface or Spring Watershed	Mean Population Density 2010	Population Density Change 2000-2020	Housing Density Change 2020-2050	Minimum Distance to Sewer Main (ft)	Mean Year Built	Mean Distance to Waterbody (ft)	Mean Elevation (mABSL)
Treasure Oaks	5.11	3.00	0	2.67	796.22	0.00	31.35	1985	2249.00	30.94
Trenton Terrace	1.85	1.00	0	0.10	470.19	244.73	436.14	1952	130.35	28.50
Trentonian Court	1.72	3.00	0	4.87	861.99	0.00	307.91	1949	457.69	29.32
Triangle Terrace	0.85	3.00	100	1.78	1078.15	2.02	175.92	1955	1587.49	27.00
Trocadero Sub	1.11	3.00	0	1.71	279.69	0.00	93.93	1979	1213.65	18.20
Tropical Waterways	1.10	3.00	100	0.23	2994.29	4243.43	50.89	1965	416.30	28.00
Trotwood Park	1.49	3.00	100	3.37	1078.15	2.02	463.77	1964	1441.47	27.00
Trout Lake Camp	0.28	4.21	100	0.40	324.86	0.78	353.15	1949	166.92	19.24
Troynelle By Big Lake Apopka	1.62	4.61	100	5.54	143.21	129.67	11225.92	1960	330.26	26.34
Tuckaway Terrace	2.97	3.00	100	6.84	644.19	166.05	183.71	1966	581.70	27.53
Turnbury Woods	1.08	5.99	0	2.82	407.71	81.52	1130.49	1986	1627.43	43.44
Tuscany Village Vacation Suites Ph 7	0.06	3.00	100	0.98	104.70	0.00	396.79	2004	1575.90	34.89
Tuxedo Ests	0.41	1.00	0	0.15	489.70	40.05	1388.01	1963	0.00	26.82
Twin Oaks	3.88	1.00	100	4.64	752.19	1.82	385.48	1983	896.43	28.20
Twin Oaks Manor	1.56	2.89	0	2.25	245.16	0.00	162.46	1970	2922.94	19.19
U-Haul Of Apopoka	0.37	3.00	100	0.67	332.48	103.99	147.85	1996	862.66	33.10
Union Park Ests	2.07	3.00	0	3.33	279.69	11.45	517.34	1969	886.07	15.61
University Forest	2.68	3.00	96	9.21	900.41	0.00	243.97	1986	443.50	20.79
University Garden	2.62	3.00	100	16.04	867.00	21.23	483.52	1985	159.49	23.07
University Hgts	2.43	1.00	98	5.50	522.54	672.69	321.86	1968	572.38	28.17
University Hills	3.20	4.48	100	8.46	1372.96	0.00	1173.73	1983	2266.74	25.78
University Place Ut 1	5.31	2.95	89	5.37	1372.96	3.30	795.57	1982	2619.85	28.15
University Place Ut 2	3.62	3.83	100	7.63	1372.96	0.00	937.03	1983	2154.87	26.85
University Prof Ctr	3.65	3.00	100	0.05	867.00	21.23	91.91	1987	462.36	23.00
University South Ut 1	0.14	5.49	99	0.26	1372.96	3.30	112.46	1982	2934.52	26.11
University Woods Ph 1	2.90	3.00	0	8.72	1248.04	0.00	149.19	1987	584.58	18.90
University Woods Ph 2	2.11	3.00	0	9.87	1248.04	127.39	593.58	1987	343.07	19.45
University Woods Ph 3A	2.58	3.00	0	0.04	1248.04	127.39	168.64	1987	599.09	20.00
Unrecorded Plat Of Dorwood Manor	0.56	3.69	100	1.16	497.63	0.00	596.58	1969	2307.03	37.79
Unrecored Fleckenstein-Grier	1.77	1.00	93	5.82	624.01	672.69	483.78	1957	354.36	27.31

Appendix A

Parameters for the Development of Pollution Potential Scheme (Sorted by Subdivision Name)

Subdivision Name	Septic Density (Parcels/ Acre)	OCAVA Class Mean	% Subdivisions in Impaired Surface or Spring Watershed	Mean Population Density 2010	Population Density Change 2000-2020	Housing Density Change 2020-2050	Minimum Distance to Sewer Main (ft)	Mean Year Built	Mean Distance to Waterbody (ft)	Mean Elevation (mABSL)
Valencia Acres	3.87	3.00	0	0.05	534.46	0.00	318.95	1957	2396.36	30.00
Valencia Hills Ut 1	2.69	6.00	0	7.51	987.15	133.07	640.56	1985	1330.16	40.36
Valencia Hills Ut 2	2.69	6.00	0	6.32	987.15	133.07	372.15	1986	1368.34	40.36
Valencia Hills Ut 3	2.67	6.00	0	6.83	757.96	0.00	594.45	1988	1563.12	38.96
Valeview	2.90	3.00	100	1.65	224.55	47.41	422.13	1990	1658.82	38.55
Vanguard Hgts	4.61	5.56	100	2.04	828.83	3651.06	753.39	1960	1917.65	42.58
Veradale	3.86	3.00	0	5.06	829.72	0.00	1037.29	1958	946.17	30.50
Verhovay Colony	0.10	3.00	100	0.00	2.02	0.00	503.47	1999	1794.87	24.13
Victor Hgts	0.96	3.00	100	4.22	842.91	1324.08	316.26	1963	919.04	30.65
Victoria	0.02	3.01	84	0.03	10.91	0.00	7494.95	1982	474.20	23.60
Victoria Place Ut 1	2.75	5.55	0	7.26	757.96	0.00	908.46	1989	868.87	37.48
Victoria Place Ut 2	3.33	5.88	0	4.29	757.96	0.00	944.61	1989	895.67	37.57
Village Of Bithlo - A Rep	2.94	1.00	0	5.54	230.58	521.08	3361.25	2003	3021.66	19.02
Villages At Zellwood	0.46	3.00	100	0.16	65.49	2.69	2007.06	1991	768.99	40.29
Villas At Pine Hills	0.10	3.00	100	8.74	1083.53	20010.51	135.52	1984	1449.64	32.10
Villas Of Lake Destiny	7.40	3.00	100	4.45	166.70	32.36	542.61	1998	400.20	27.64
Villas Of Oak Meadows	6.10	6.00	0	0.35	755.17	15.01	84.42	1984	975.78	35.73
Vineland Oaks	1.82	3.26	0	6.00	757.96	0.00	253.08	1996	188.99	25.88
Vineyard Ph 1	10.16	3.00	100	5.19	449.94	0.00	421.27	1981	1043.84	24.60
Vineyard Ph 2	10.97	3.00	100	8.25	449.94	0.00	631.41	1983	1011.11	25.25
Vineyard Ph 3	11.15	3.00	100	5.19	449.94	103.99	754.07	1983	668.97	29.33
Vineyard Ph 4	10.74	3.00	100	5.19	449.94	0.00	789.06	1984	792.10	28.25
Vineyard Ph 5	8.79	3.00	100	6.87	449.94	0.00	846.76	1984	934.90	27.60
Vineyard Ph 6	8.95	3.00	100	5.19	449.94	0.00	338.59	1988	875.75	26.00
Vista Del Lago P D	0.11	4.24	0	0.80	372.97	0.00	4690.95	2007	26.14	33.67
Vista Hills Ut 1	2.71	4.79	100	6.70	841.00	0.00	598.39	1983	1102.17	34.59
Vista Hills Ut 2	3.03	5.88	100	3.43	841.00	0.00	675.93	1984	1467.94	34.89
Vlg F Vlg Ctr	0.06	4.77	0	0.01	0.97	0.00	21.70	2018	142.64	34.22
Votaw Manor	3.03	3.00	100	2.43	370.80	0.00	928.78	1981	1003.21	25.55
W E Hudson	0.27	3.19	0	1.24	144.68	0.00	2983.91	1971	218.24	23.94

Appendix A

Parameters for the Development of Pollution Potential Scheme (Sorted by Subdivision Name)

Subdivision Name	Septic Density (Parcels/ Acre)	OCAVA Class Mean	% Subdivisions in Impaired Surface or Spring Watershed	Mean Population Density 2010	Population Density Change 2000-2020	Housing Density Change 2020-2050	Minimum Distance to Sewer Main (ft)	Mean Year Built	Mean Distance to Waterbody (ft)	Mean Elevation (mABSL)
Wagner Nicholas Sub	1.00	3.00	0	1.62	260.35	64.78	210.23	1955	1716.12	30.00
Waikiki Beach	0.37	5.74	100	1.32	596.13	0.00	727.48	1962	205.84	30.91
Waikiki Beach 1St Add	0.11	4.24	100	0.99	596.13	0.00	116.29	1951	31.97	26.94
Waits W H Sub	2.18	3.00	0	2.66	798.74	0.00	245.70	1955	1462.54	31.22
Walden Grove Ut 1	3.13	5.82	100	9.96	1471.25	0.00	269.62	1985	1559.60	38.92
Walden Grove Ut 2	3.64	6.00	100	2.27	1471.25	0.00	493.90	1988	1607.00	38.98
Walden Woods	5.13	3.00	0	5.70	1904.48	0.00	27.18	1982	707.75	14.61
Walker-Dean Sub	2.91	1.67	0	1.33	245.16	6444.40	438.90	2006	2659.06	17.33
Walker-Dean Sub Ut 2	0.72	3.00	0	3.43	279.69	0.00	210.89	1971	1018.04	18.46
Walker-Rouse Sub	0.08	3.00	100	1.37	249.41	0.00	55.63	1990	648.73	13.36
Wallington Hgts	3.50	3.00	100	1.25	690.40	0.00	422.13	1973	1981.79	27.00
Walmar	0.25	4.80	100	0.43	52.27	0.00	1121.98	1987	5258.12	39.46
Walnut Creek	3.21	3.00	100	7.08	1116.48	0.00	328.53	1991	2797.55	37.62
Warner Sub	4.69	3.00	0	6.70	806.05	0.00	999.75	1962	1450.24	33.28
Warren H T Sub	1.03	3.00	86	1.00	396.57	28.64	1432.70	1966	112.99	18.37
Washington Manor	0.74	3.00	0	1.27	260.35	0.22	165.15	1952	1696.95	30.00
Waterford Chase East Ph 2 Vlg G	0.16	3.00	0	0.09	728.68	0.00	240.00	2009	490.21	18.10
Waterford Pointe	0.58	3.00	0	1.82	360.53	1854.46	1036.97	1994	217.45	34.91
Waterford Pointe Lot 59 Rep	0.64	3.00	0	0.02	360.53	1854.46	17.21	2000	297.73	33.44
Waterford Pointe Lots 67 & 68 Rep	0.84	3.00	0	0.15	180.08	1854.46	957.81	1994	136.12	33.96
Waterford Pointe Ph 2 Rep	0.39	3.00	51	0.99	180.08	0.00	672.30	1998	139.85	33.72
Waterfront Ests	2.30	3.00	0	2.43	659.64	0.00	2058.20	1959	227.69	26.92
Waterfront Ests 1St Add	2.86	3.00	0	4.58	659.64	0.00	801.79	1959	293.82	27.65
Waterfront Ests 2Nd Add	3.79	3.00	0	2.97	659.64	0.00	2249.48	1959	308.52	27.02
Waterfront Ests 3Rd Add	2.00	3.12	0	0.73	659.64	0.00	2124.01	1968	20.94	25.44
Waterfront Ests 4Th Add	2.48	2.95	0	1.04	659.64	0.00	1253.42	1962	4.93	26.30
Watermill Sec 1	1.51	3.00	88	3.74	624.31	0.00	731.72	1983	333.08	17.06
Watermill Sec 1 Rep	3.23	3.00	100	0.01	624.31	0.00	193.26	1983	211.27	16.33
Watermill Sec 2	1.65	3.00	100	3.22	624.31	6.67	1870.37	1984	661.99	17.17
Watermill Sec 2	1.78	3.00	91	3.27	360.36	28.64	2138.09	1986	593.81	16.97

Appendix A

Parameters for the Development of Pollution Potential Scheme (Sorted by Subdivision Name)

Subdivision Name	Septic Density (Parcels/ Acre)	OCAVA Class Mean	% Subdivisions in Impaired Surface or Spring Watershed	Mean Population Density 2010	Population Density Change 2000-2020	Housing Density Change 2020-2050	Minimum Distance to Sewer Main (ft)	Mean Year Built	Mean Distance to Waterbody (ft)	Mean Elevation (mABSL)
Watermill Sec 2 Rep	0.35	3.00	100	2.58	624.31	6.67	1455.48	1984	306.75	17.00
Watermill Sec 3	2.76	3.00	100	4.70	368.16	28.64	1474.09	1986	892.17	17.91
Watermill Sec 4	2.18	3.00	100	4.36	368.16	28.64	783.13	1987	418.60	17.77
Watermill Sec 5	2.22	3.00	84	5.26	360.36	28.64	1982.27	1988	335.41	17.75
Watermill Sec 6	1.73	3.00	100	1.54	399.41	6.67	1147.14	1993	263.85	17.59
Watermill Sec 7	1.72	3.00	90	4.10	399.41	6.67	1216.79	1992	250.54	17.42
Watermill Sec 7 Rep	0.90	3.00	100	0.11	399.41	6.67	487.32	1994	38.55	18.79
Watermill Sec 8	0.80	3.00	56	2.91	624.31	6.67	1243.76	1992	163.37	16.46
Watermill West	2.25	3.00	100	5.18	482.87	0.00	166.88	1985	523.95	18.57
Waterwitch Club	2.41	1.00	0	5.19	489.70	40.05	1974.47	1962	495.01	30.55
Waterwitch Point	1.66	1.00	0	2.03	489.70	40.05	1589.47	1970	342.98	27.62
Watson Ranch Ests	3.32	3.00	0	1.04	1112.54	878.86	222.93	1970	643.67	30.00
Waunatta Shores	0.63	3.00	49	2.28	765.50	0.00	262.35	1980	73.88	18.91
Wawa Store At Avalon Road	0.10	5.63	0	0.65	128.55	87.94	3327.97	2014	0.00	33.17
Weatherstone On Lake Olivia	0.32	3.00	0	0.68	187.73	7.69	128.33	2002	153.24	33.15
Weissinger Fairvilla Resub Lot 42	1.42	1.67	100	0.23	545.93	7010.80	169.33	1962	1240.93	30.00
Weissinger Fairvilla Sub	0.28	2.79	100	0.09	233.41	7010.80	179.59	1972	1924.36	30.00
Wekiva Forest Trails	0.05	3.00	100	0.07	43.50	208.95	2402.44	2016	711.64	26.40
Wekiva Landing Partial Rep	0.29	3.00	100	2.54	370.80	0.00	674.02	1991	167.62	19.67
Wekiva Landing Sub	0.51	3.00	100	2.49	370.80	0.00	559.17	1990	207.35	19.73
Wekiva Ridge	2.84	4.71	100	3.34	630.02	98.42	593.07	1982	1372.94	30.80
Wekiwa Highlands	0.86	3.00	100	2.92	399.88	0.00	153.18	1959	2437.11	17.90
Wekiwa Highlands	1.72	3.23	100	4.49	465.05	0.00	2037.62	1971	2477.76	24.72
Wekiwa Hills	1.17	3.95	100	3.07	399.88	67.68	1574.78	1979	1051.59	23.15
Wekiwa Hills 1St Addition	1.18	3.92	100	0.21	399.88	0.00	198.09	1972	2048.76	20.48
Wekiwa Hills 2Nd Add	1.14	5.38	100	3.25	538.08	67.68	2787.05	1980	1168.52	23.97
Wekiwa Manor Sec 1	3.93	3.13	100	3.02	924.83	1649.57	476.11	1959	193.79	30.77
Wekiwa Manor Sec 2	4.15	3.00	100	12.43	924.83	498.41	572.96	1963	758.47	31.83
Wekiwa Manor Sec 3	3.41	3.06	100	9.07	924.83	0.00	51.82	1971	443.69	31.47
Wekiwa Woods Ph 1	1.97	3.00	100	3.30	221.45	155.25	3350.94	1994	628.88	19.97

Appendix A

Parameters for the Development of Pollution Potential Scheme (Sorted by Subdivision Name)

Subdivision Name	Septic Density (Parcels/ Acre)	OCAVA Class Mean	% Subdivisions in Impaired Surface or Spring Watershed	Mean Population Density 2010	Population Density Change 2000-2020	Housing Density Change 2020-2050	Minimum Distance to Sewer Main (ft)	Mean Year Built	Mean Distance to Waterbody (ft)	Mean Elevation (mABSL)
Wekiwa Woods Ph 2	1.99	3.00	100	1.74	221.45	155.25	3103.56	1995	679.91	22.40
Wells Gap	0.70	3.00	100	2.38	542.36	486.46	1252.93	1945	0.00	19.18
Wentrop Shores	2.06	1.00	93	2.60	716.85	15898.31	297.08	1951	117.91	26.52
Werber Hgts	3.66	3.00	0	3.74	699.50	0.00	1213.02	1963	630.52	30.00
West Lake Butler Ests	0.29	4.88	0	0.00	171.97	26.06	2935.83	2002	0.00	32.41
West Orlando	0.97	3.00	100	0.06	415.89	2.76	100.86	1963	2488.54	29.91
West Orlando 1St Add	1.11	1.50	100	0.00	187.65	39.76	128.23	1967	2126.83	28.00
West Riverside Acres Rep	4.26	3.00	100	1.77	600.46	0.00	241.91	1962	713.69	20.36
West Winter Park	0.24	3.00	0	2.39	562.32	0.00	256.47	1969	286.69	27.35
Westmont	4.03	3.72	0	8.21	916.91	3.06	555.89	1979	741.48	41.91
Westmont Rep	6.36	3.00	0	0.22	916.91	3.06	146.33	1959	225.42	39.00
Westmont Rep	6.26	3.00	0	0.28	916.91	3.06	145.53	1959	515.00	39.00
Westmont Rep	3.40	3.00	0	0.33	916.91	3.06	198.56	1960	0.00	40.00
Westmont Rep	6.65	3.00	0	0.17	1054.56	3.06	144.29	1950	807.01	37.00
Westmoor Ph 1	1.97	4.44	0	5.53	755.17	15.01	885.94	1984	707.08	32.82
Westmoor Ph 2	3.76	5.38	0	1.93	755.17	15.01	656.58	1986	838.37	37.15
Westmoor Ph 3	3.26	6.00	0	6.60	755.17	15.01	436.54	1988	967.70	37.98
Westmoor Ph 4A	2.71	5.36	0	3.85	755.17	133.07	326.38	1986	1401.76	39.73
Westmoor Ph 4B	2.70	5.13	0	6.84	755.17	15.01	724.85	1987	1008.24	37.80
Westmoor Ph 4C	3.21	5.95	0	2.40	755.17	15.01	549.17	1989	763.25	39.26
Westmoor Ph 4D	2.31	4.31	0	5.45	755.17	15.01	522.38	1989	316.31	36.20
Westmoor Ph 4E	3.17	6.00	0	0.44	780.71	15.01	212.67	1990	798.14	38.66
Weston Woods	3.10	6.00	100	4.24	596.13	0.00	1772.51	1993	675.94	33.89
Westover Hills	3.15	4.76	100	7.65	657.15	109.82	797.33	1989	648.87	34.21
Westwind	0.75	6.00	100	0.26	368.25	0.00	2431.51	1981	1172.84	30.21
Westwind Ut 2	0.75	6.00	100	1.67	368.25	0.00	2964.00	1981	1234.90	29.10
Westwind Ut 3	0.70	4.78	100	1.28	131.78	0.00	2600.14	1985	975.29	25.45
Whipple Bishop Sub	0.98	1.00	100	0.98	72.71	692.41	891.60	1967	395.13	29.61
Whipple Bishop Sub	0.17	1.00	100	0.84	72.71	0.00	223.53	1976	1858.54	29.99
Whippoorwill Acres	0.17	4.20	0	0.01	49.07	0.00	4.92	2007	0.00	21.18

Appendix A

Parameters for the Development of Pollution Potential Scheme (Sorted by Subdivision Name)

Subdivision Name	Septic Density (Parcels/ Acre)	OCAVA Class Mean	% Subdivisions in Impaired Surface or Spring Watershed	Mean Population Density 2010	Population Density Change 2000-2020	Housing Density Change 2020-2050	Minimum Distance to Sewer Main (ft)	Mean Year Built	Mean Distance to Waterbody (ft)	Mean Elevation (mABSL)
Whisper Ridge	2.45	6.00	100	7.08	772.68	0.00	325.87	1991	1395.20	34.55
Whispering Hills	2.61	2.89	100	6.49	646.43	290.55	630.20	1974	239.97	34.37
Whispering Pines	3.61	3.00	0	9.22	706.47	144.64	554.45	1983	1832.68	32.33
Whispering Pines Ests	3.35	3.00	100	5.59	674.70	7928.67	189.68	1963	2580.52	27.11
Whispering Pines Ests 1St Add	2.60	3.00	100	4.78	674.70	7928.67	203.13	1972	2803.07	27.09
Whispering Pines Place Condo	16.07	3.00	0	9.22	706.47	144.64	387.35	1984	2109.68	33.00
Wildwood Homes	2.73	3.00	0	2.36	659.64	0.00	597.18	1965	587.03	28.72
Wildwood Terrace	3.61	3.00	0	1.37	893.34	0.00	277.19	1969	849.59	30.00
Wiles Carl Resub	0.36	3.00	0	1.13	135.35	93.67	8033.19	1993	603.98	31.13
Wilk J A Sub	2.39	1.00	0	4.96	433.55	495.87	113.76	1955	847.96	28.11
William Grove	4.04	3.00	0	5.27	659.64	0.00	1549.04	1961	1067.25	29.31
Willis And Brundidge Rep	3.41	3.00	0	0.10	674.46	0.00	1454.54	1965	346.31	29.29
Willis And Brundidge Rep Annex	5.36	3.00	0	0.04	674.46	0.00	1557.89	1967	491.91	29.40
Willis And Brundidge Sub	2.58	3.00	0	4.65	674.46	0.00	1502.92	1967	318.32	29.15
Willis And Brundidge Sub	2.22	3.00	0	0.04	674.46	0.00	1927.72	1973	65.38	27.44
Willis And Brundidge Sub	0.99	3.00	0	0.05	674.46	0.00	1335.43	1958	39.36	29.25
Willis R Mungers Land	0.07	3.05	100	4.69	841.00	0.00	8.51	1955	966.81	27.21
Willis R Mungers Land Sub	0.03	3.01	9	1.34	465.97	222.25	284.69	1992	254.63	29.56
Willow Creek Ph 1	2.15	3.30	100	5.74	919.19	0.00	903.00	1986	612.80	34.19
Willow Creek Ph 2	2.83	3.94	100	7.78	919.19	0.00	1609.80	1988	1113.45	34.93
Willow Creek Ph 3 A	3.13	5.90	100	7.79	919.19	0.00	1522.05	1989	1535.53	38.56
Willow Creek Ph 3B	3.25	5.73	100	5.46	919.19	0.00	1042.64	1992	1797.08	35.96
Willow Creek Ph 4	2.76	3.00	100	7.85	919.19	204.80	844.29	1995	776.97	33.52
Willow St Manor	0.87	3.00	0	0.02	142.61	496.40	121.50	1981	239.84	23.97
Willowbrook Cove	4.80	1.71	0	5.49	550.14	27.34	524.61	1985	1775.17	28.61
Willows At Lake Rhea Ph 1	1.03	3.00	0	2.31	284.65	0.00	988.25	1990	1399.74	36.95
Willows At Lake Rhea Ph 2	1.09	3.00	0	2.16	270.51	0.00	1792.98	1993	1535.29	35.72
Willows At Lake Rhea Ph 2A	1.53	3.00	0	0.01	270.51	4.41	1847.62	1994	1770.85	34.50
Willows At Lake Rhea Ph 3	0.63	3.00	0	2.39	430.99	4.41	873.55	1994	568.34	36.05
Willowwood Ut 1	0.94	5.04	0	2.56	469.17	157.81	1682.22	1986	981.31	44.91

Appendix A

Parameters for the Development of Pollution Potential Scheme (Sorted by Subdivision Name)

Subdivision Name	Septic Density (Parcels/ Acre)	OCAVA Class Mean	% Subdivisions in Impaired Surface or Spring Watershed	Mean Population Density 2010	Population Density Change 2000-2020	Housing Density Change 2020-2050	Minimum Distance to Sewer Main (ft)	Mean Year Built	Mean Distance to Waterbody (ft)	Mean Elevation (mABSL)
Willowwood Ut 2	0.97	3.92	0	2.17	368.72	0.00	656.94	1987	1630.51	43.96
Winderlakes	1.49	5.34	0	2.09	426.08	1.84	1517.50	1980	256.42	45.58
Winderlakes 2	1.57	5.27	0	3.15	453.98	1.84	924.97	1984	436.20	41.87
Windermere	0.95	3.08	11	2.06	405.24	0.00	4069.34	1973	343.72	33.04
Windermere (Blk A-F)	0.10	3.00	78	0.04	288.16	0.00	3901.54	2008	0.00	29.16
Windermere Downs Ph 3	0.90	3.00	0	2.79	331.55	164.61	524.16	2000	1298.72	38.52
Windermere Grande	0.88	3.00	0	1.61	180.73	20.76	1846.11	2005	575.46	34.42
Windermere Hgts 1St Sec	0.26	3.44	0	3.14	469.17	43.49	1287.29	1979	447.25	47.26
Windermere Hgts 2Nd Sec	0.79	6.00	0	2.93	386.64	43.49	571.68	1993	1944.62	52.81
Windermere Hgts 3Rd Sec	0.88	5.60	0	3.04	386.64	43.49	381.86	1991	1750.14	51.61
Windermere Pointe At Lake Roper	0.53	3.00	0	1.43	269.48	103.69	1427.75	2003	12.86	32.00
Windermere Town Of Rep	0.89	3.00	0	2.35	404.56	219.86	1789.00	1979	142.46	32.86
Windermere Wylde	0.82	3.09	0	0.99	273.63	146.16	703.88	1979	694.97	48.22
Winderwood	2.50	5.21	0	3.29	426.08	0.13	721.47	1987	722.75	48.49
Windridge	3.65	3.00	100	3.47	555.66	166.05	570.63	1981	1296.95	27.87
Windridge Ut 2	2.68	3.00	100	3.60	555.66	166.05	1515.25	1983	600.51	24.51
Windsor Hill	1.19	3.03	0	3.54	456.88	0.00	1121.14	1998	2133.19	49.50
Windsor Hill	0.20	3.00	0	2.94	371.41	0.00	2252.36	2007	1057.06	39.88
Windsor Hill Reserve	0.58	3.00	0	2.94	371.41	0.00	1705.02	2008	1540.94	44.76
Windward Ests	3.02	3.00	0	8.20	861.99	0.00	236.15	1989	1736.33	31.33
Windward Place	2.99	3.00	0	5.54	861.99	0.00	347.61	1987	1388.15	31.33
Windward Place 1St Rep	4.09	3.00	0	0.01	861.99	0.00	492.79	1986	1510.23	31.00
Wingrove Ests	2.75	4.01	0	3.21	469.17	43.49	1034.58	1991	938.69	49.83
Winter Garden Manor	1.36	3.00	0	3.13	321.04	61.94	206.45	1952	2042.69	35.90
Winter Ridge	5.11	5.19	0	10.35	1054.56	3.06	324.72	1985	2003.90	39.68
Winwood	2.66	3.97	0	5.77	426.08	0.13	276.88	1987	1172.35	48.28
Wofford Property	0.08	2.74	61	1.68	244.81	692.41	103.47	1972	338.59	27.00
Wood Green	3.23	3.00	0	7.59	838.31	0.00	346.41	1987	2021.34	31.40
Woodbery Sub	2.99	3.00	0	0.34	798.74	0.00	220.48	1972	1560.48	32.56
Woodbridge On The Green	1.79	3.00	0	0.24	407.73	70.36	574.05	1998	1549.48	32.44

Appendix A

Parameters for the Development of Pollution Potential Scheme (Sorted by Subdivision Name)

Subdivision Name	Septic Density (Parcels/ Acre)	OCAVA Class Mean	% Subdivisions in Impaired Surface or Spring Watershed	Mean Population Density 2010	Population Density Change 2000-2020	Housing Density Change 2020-2050	Minimum Distance to Sewer Main (ft)	Mean Year Built	Mean Distance to Waterbody (ft)	Mean Elevation (mABSL)
Woodbridge Ph 2	0.64	2.84	0	1.24	100.99	0.00	627.38	1998	328.52	31.00
Woodhaven	0.36	3.00	0	0.02	700.85	0.00	260.43	1973	1704.49	29.63
Woodhaven 1St Add	0.08	3.00	0	1.48	356.29	34.87	51.60	1995	699.10	29.50
Woodhaven Rep	0.55	3.00	0	2.96	700.85	34.87	34.72	1962	933.66	30.00
Woodlands Of Windermere Ut 1	1.54	3.00	0	0.36	513.82	0.00	819.37	1979	1827.26	42.93
Woodlands Of Windermere Ut 2	1.56	3.47	0	1.48	513.82	0.13	1055.29	1981	1414.90	44.72
Woodlands Of Windermere Ut 2 1St Add	1.95	5.17	0	0.41	513.82	0.13	1403.51	1983	1348.41	44.57
Woodlands Of Windermere Ut 3	1.58	4.41	0	0.81	513.82	1.84	970.12	1984	1371.72	44.09
Woodlands Of Windermere Ut 3 1St Add	2.05	3.62	0	3.37	513.82	303.21	280.23	1987	1840.17	43.62
Woodlands Village	1.76	3.56	0	3.95	513.82	0.00	517.39	1987	1500.45	40.73
Woodlands Village Rep	1.47	3.00	0	3.37	513.82	0.00	444.20	1988	1509.51	37.91
Woodlawn Hgts	1.60	3.00	0	0.77	214.53	93.67	7396.10	1949	1191.08	40.23
Woodsmere Manor	0.66	3.20	100	0.79	125.98	0.00	1724.06	1974	75.78	24.85
Woodsmere Manor 1St Add	0.68	2.47	100	0.02	351.09	0.00	1657.05	1983	0.00	25.08
World Design Center Parcels 5 6B 7A	0.14	3.00	100	0.00	0.02	0.00	9.20	2019	1949.59	27.05
Worthington Park	0.86	3.00	0	2.32	356.75	164.61	189.67	2011	582.88	35.33
Wyldwoode	2.68	3.00	0	5.22	674.46	0.00	1731.77	1961	334.96	27.10
Wyldwoode Ests Sub	2.61	3.00	0	0.30	659.64	0.00	1895.22	1968	737.01	28.88
Wyldwoode Manor	2.90	3.00	0	1.32	659.64	0.00	1778.55	1963	850.05	28.45
Wynglow Acres	0.84	3.16	100	0.37	869.39	0.00	598.48	1970	1166.99	35.53
Zellwood	0.08	3.04	96	0.42	99.58	2.69	1010.29	1957	499.85	33.12
Zellwood Partners Sub	1.77	3.00	0	0.72	158.11	0.00	635.10	1988	1042.58	25.41
Zellwood Ranch Ests	0.21	3.00	100	0.31	50.85	2.69	2683.45	1999	1557.31	41.50

APPENDIX B: POLLUTION POTENTIAL PRIORITIZATION RANKING

Appendix B

Pollution Potential Prioritization Schemes (sorted by the Weighted Vulnerability Ranking System)

Subdivision Name	Septic Density Score	OCAVA Score	Impaired WB Score	Population Density Score	Housing Density Score	WW Infra-structure Score	Year Built Score	Distance to WB Score	Elevation Score	Unweighted Vulnerability Ranking System	Weighted Vulnerability Ranking System	Weighted Connectivity Ranking System
Lake Florence Highlands Ph 1	3	6	6	4	1	6	3	6	4	4.09	4.60	4.81
Wekiwa Manor Sec 1	4	3	6	4	4	6	6	6	3	4.45	4.59	4.80
Piedmont Ests	1	6	6	5	4	6	5	6	3	4.44	4.57	4.78
Lake Lucy Ests	4	6	6	1	1	5	5	5	4	4.00	4.57	4.63
Long Lake Villas Ph 1B	5	4	6	5	2	5	2	5	4	4.14	4.54	4.61
Eden Park Ests	4	3	6	3	2	5	5	5	5	4.13	4.35	4.44
Sleepy Hollow Ph 1	3	6	6	3	2	5	3	5	4	3.90	4.34	4.44
University Garden	3	3	6	5	1	6	3	6	5	3.94	4.26	4.52
Little Lake Georgia Terrace	2	4	6	3	1	5	4	6	6	3.95	4.23	4.35
Trout Lake Camp	1	4	6	2	1	6	6	6	6	3.96	4.21	4.47
Citrus Oaks Ph 4	5	6	6	5	1	6	2	3	2	3.65	4.20	4.47
Troynelle By Big Lake Apopka	2	5	6	2	2	1	6	5	4	3.95	4.19	3.72
Lake Florence Ests	3	6	6	4	1	5	3	4	4	3.76	4.18	4.31
Vanguard Hgts	4	6	6	3	4	5	6	2	2	4.07	4.18	4.31
Citrus Oaks Ph 3	5	5	6	5	1	5	2	3	2	3.66	4.18	4.30
Siesta Hills 1St Add	4	3	6	3	1	5	4	6	3	3.69	4.17	4.30
Wells Gap	1	3	6	3	3	4	6	6	6	4.19	4.17	4.15
Ranchette 1St Rep	3	3	6	2	4	4	5	5	5	4.13	4.17	4.15
Buckingham At Lakeville Oaks Ph 1	2	6	6	3	1	4	2	5	5	3.69	4.17	4.15
Oakland Trails Phase 1	5	6	6	1	4	1	1	4	2	3.63	4.17	3.70
Little Lake Park	2	3	6	2	4	5	4	6	5	4.06	4.17	4.29
Pine Hills Park Sub 3Rd Rep	3	4	6	3	1	5	4	5	4	3.77	4.16	4.28
Lake Sherwood Hills Ph 3 Ut 2	3	5	6	3	1	4	3	5	3	3.61	4.15	4.13
Bent Oak Ph 5	2	5	6	3	2	5	3	5	5	3.83	4.15	4.27
Citrus Oaks Ph 2	5	3	6	5	1	5	3	4	3	3.76	4.15	4.27
Lake Park Highlands	1	5	6	3	1	5	5	6	4	3.79	4.14	4.27
Riverside Acres 3Rd Add	3	3	6	3	1	6	6	4	6	4.00	4.13	4.41
Anderson George W	1	3	6	2	3	5	6	6	6	4.13	4.13	4.26
Lake Cortez Woods	2	4	6	4	4	6	3	5	4	4.00	4.12	4.40
Huntley Park	4	6	6	4	2	4	3	2	4	3.84	4.12	4.10
Hiawassee Point	4	5	6	5	1	5	2	3	3	3.67	4.10	4.24
Lake Barton Park	2	3	6	4	2	6	6	5	4	4.00	4.09	4.37

Appendix B

Pollution Potential Prioritization Schemes (sorted by the Weighted Vulnerability Ranking System)

Subdivision Name	Septic Density Score	OCAVA Score	Impaired WB Score	Population Density Score	Housing Density Score	WW Infra-structure Score	Year Built Score	Distance to WB Score	Elevation Score	Unweighted Vulnerability Ranking System	Weighted Vulnerability Ranking System	Weighted Connectivity Ranking System
West Riverside Acres Rep	4	3	6	3	1	6	6	3	6	3.94	4.09	4.37
Ranchette	3	3	6	4	4	5	6	3	5	4.25	4.09	4.22
Lake Sherwood Hills West Sec	3	6	6	4	1	4	4	3	3	3.69	4.09	4.07
Mt Plymouth Lakes	2	3	6	2	1	1	5	6	6	3.81	4.09	3.63
Waikiki Beach 1St Add	1	4	6	2	1	6	6	6	4	3.78	4.08	4.37
Lake Sherwood Hills Ph 3 Ut 1	4	5	6	3	1	4	3	4	3	3.56	4.08	4.07
Meadowbrook Annex	4	2	6	5	2	6	6	3	5	4.09	4.08	4.36
Long Lake Sub	2	3	6	4	1	5	5	6	4	3.80	4.07	4.21
Clarcona Hgts	3	6	6	3	3	5	5	2	4	3.92	4.06	4.20
Piedmont Ests	1	6	6	3	1	6	6	4	3	3.75	4.04	4.33
Siesta Hills	4	3	6	4	1	6	5	4	3	3.75	4.04	4.33
Lake Lovely Ests	4	3	6	3	1	6	5	4	4	3.75	4.04	4.33
Rock Spgs Park Rep	3	6	6	1	1	6	5	2	6	3.75	4.04	4.33
Pine Hills Park Sub 1St Rep	3	3	6	4	1	5	6	4	4	3.88	4.04	4.19
Wekiwa Manor Sec 2	4	3	6	5	3	5	5	3	3	4.00	4.04	4.19
Riverside Acres 4Th Add	3	3	6	3	1	5	5	5	4	3.75	4.04	4.19
Shady Oak Cove	3	3	6	4	2	5	3	6	3	3.69	4.04	4.19
Lake Gandy Shores	2	3	6	4	2	5	3	6	5	3.81	4.04	4.19
Citrus Oaks Ph 2 Rep	5	5	6	4	1	5	2	3	2	3.50	4.04	4.19
Anderson George W	1	3	6	2	1	4	6	6	6	3.88	4.04	4.04
Barbara Terrace	4	3	6	3	3	4	6	3	4	4.00	4.04	4.04
Lake Haven	1	4	6	1	1	1	6	6	6	3.81	4.04	3.59
Pine Hills Park Sub 2Nd Rep	2	4	6	3	1	6	4	5	4	3.68	4.03	4.32
Lake Park Highlands Rep	2	3	6	2	1	4	4	6	5	3.67	4.02	4.02
Sleepy Hollow Ph 2	2	4	6	3	2	4	3	6	4	3.70	4.02	4.01
Royal Ests Sec 1	4	4	1	5	1	5	5	6	6	3.97	4.00	4.15
Munger Willis R Land Co	1	3	6	4	1	6	6	6	5	3.88	4.00	4.30
Rimar Ridge	3	3	6	3	4	6	6	3	5	4.13	4.00	4.30
Tuckaway Terrace	3	3	6	4	2	6	5	4	4	3.88	4.00	4.30
Rvs At Orlando Ph 1	1	6	6	3	1	6	2	6	3	3.44	4.00	4.30
Oasis At Grande Pines	1	6	6	4	1	6	1	6	3	3.44	4.00	4.30
Hilltop Manor	3	3	6	2	1	5	6	4	6	3.81	4.00	4.15

Appendix B

Pollution Potential Prioritization Schemes (sorted by the Weighted Vulnerability Ranking System)

Subdivision Name	Septic Density Score	OCAVA Score	Impaired WB Score	Population Density Score	Housing Density Score	WW Infra-structure Score	Year Built Score	Distance to WB Score	Elevation Score	Unweighted Vulnerability Ranking System	Weighted Vulnerability Ranking System	Weighted Connectivity Ranking System
Breezy Hgts	4	3	6	5	1	5	5	3	4	3.81	4.00	4.15
Rose Hill	3	4	6	4	2	5	3	5	3	3.66	4.00	4.15
Lake Florence Highlands Ph 2	3	6	6	4	1	5	3	3	3	3.56	4.00	4.15
Carol Woods Ph 2	4	6	6	2	2	5	3	2	4	3.63	4.00	4.15
Waikiki Beach	1	6	6	2	1	5	5	5	3	3.59	4.00	4.15
Rose Hill Groves Ut No 1	3	5	6	4	1	6	2	4	3	3.53	3.99	4.29
Silver Star Ests 1St Add	3	2	6	4	1	3	5	5	4	3.77	3.99	3.84
Whispering Hills	3	3	6	4	2	5	4	5	3	3.74	3.98	4.13
Silver Ridge Ph 2	3	6	6	4	4	4	3	2	3	3.86	3.98	3.98
Rose Hill Groves Ut No 2	3	6	6	3	1	5	2	4	3	3.45	3.98	4.13
Bent Oak Ph 1	1	5	6	2	2	6	3	5	5	3.67	3.97	4.27
Pleasant Oaks	4	4	6	4	2	4	3	3	4	3.69	3.97	3.97
Riverside Acres 2Nd Add	3	3	6	2	5	6	6	3	5	4.13	3.96	4.26
North Pine Hills	3	3	6	5	1	6	5	3	5	3.88	3.96	4.26
Piedmont Ests	3	6	6	3	1	6	5	2	3	3.63	3.96	4.26
Mcneils Orange Villa	1	3	6	3	2	6	5	6	5	3.81	3.96	4.26
Holiday Hgts	3	3	6	3	5	6	5	3	5	4.13	3.96	4.26
Watermill Sec 1 Rep	3	3	6	2	1	6	3	5	6	3.63	3.96	4.26
Lake Blanche Terrace	3	3	6	3	2	6	3	6	3	3.56	3.96	4.26
Mcneils Orange Villa	1	3	6	3	2	5	5	6	5	3.81	3.96	4.11
Lake Gandy Ests	2	3	6	3	2	5	3	6	5	3.69	3.96	4.11
Anderson George W	1	3	6	2	1	4	6	6	5	3.75	3.96	3.96
Fairview Spgs Park	4	1	6	2	3	4	6	5	4	3.88	3.96	3.96
Lake Park Highlands Rep	3	3	6	2	1	4	2	6	5	3.50	3.96	3.96
Silver Ridge Ph 3	3	6	6	5	4	3	3	2	2	3.81	3.96	3.81
Meadowbrook Annex 2Nd Add	3	3	6	4	2	6	6	3	5	3.95	3.93	4.23
Hudson Isles 1St Add	1	6	4	3	2	4	4	6	4	3.70	3.93	3.94
John Heist Estates	1	4	6	1	1	1	4	6	6	3.60	3.92	3.49
Long Lake Park Replat Ut 1	3	6	6	4	1	4	2	3	3	3.48	3.92	3.94
Wekiwa Manor Sec 3	3	3	6	5	1	6	5	4	3	3.69	3.92	4.23
Lees Ests	1	3	6	2	1	5	4	6	6	3.66	3.92	4.08
Bent Oak Ph 4	2	5	6	3	1	4	3	4	5	3.56	3.91	3.93

Appendix B

Pollution Potential Prioritization Schemes (sorted by the Weighted Vulnerability Ranking System)

Subdivision Name	Septic Density Score	OCAVA Score	Impaired WB Score	Population Density Score	Housing Density Score	WW Infra-structure Score	Year Built Score	Distance to WB Score	Elevation Score	Unweighted Vulnerability Ranking System	Weighted Vulnerability Ranking System	Weighted Connectivity Ranking System
Florence Park	4	1	6	2	6	6	6	4	4	4.13	3.91	4.22
Rio Grande Homesites	2	3	6	6	4	6	6	3	3	4.13	3.91	4.22
Suburban Homes	2	3	6	2	6	6	5	4	5	4.13	3.91	4.22
Pennsy Park	2	5	6	2	1	6	5	5	3	3.50	3.91	4.22
Orange Land Gardens	3	3	6	4	1	6	4	5	3	3.56	3.91	4.22
Ponyland Ests	1	3	6	4	1	6	4	6	5	3.69	3.91	4.22
University Forest	3	3	6	5	1	6	3	4	5	3.69	3.91	4.22
Barbara Terrace 1St Add	4	3	6	3	3	5	5	3	4	3.81	3.91	4.07
Monroe Manor	3	3	6	4	5	5	5	3	4	4.06	3.91	4.07
Vineyard Ph 3	5	3	6	3	2	5	3	3	4	3.63	3.91	4.07
Vineyard Ph 5	5	3	6	4	1	5	3	3	4	3.56	3.91	4.07
Citrus Oaks Ph 1	4	3	6	5	1	5	3	4	3	3.56	3.91	4.07
Allways	2	6	6	3	1	4	6	2	4	3.69	3.91	3.93
Bent Oak Ph 3	2	6	6	3	2	4	3	3	4	3.63	3.91	3.93
Mt Plymouth Lakes	3	3	6	2	1	2	6	4	5	3.69	3.91	3.63
Horseshoe Bend Sec 1	3	3	6	3	1	6	3	5	4	3.53	3.91	4.22
Royal Ests Sec 2	4	4	1	5	1	5	5	5	6	3.90	3.91	4.07
Munger Willis R Land Co	1	3	6	4	1	5	3	6	5	3.62	3.90	4.06
Magnolia Springs	3	5	6	3	2	6	3	4	2	3.49	3.90	4.21
Majestic Oaks	3	6	6	3	1	5	3	2	5	3.55	3.90	4.06
Lake Barton Village	2	3	6	4	2	6	6	4	4	3.82	3.88	4.20
Long Lake Villas Ph 1A	3	4	6	5	2	5	2	4	3	3.57	3.88	4.05
Pine Hills Manor No 2	3	3	6	4	3	6	6	3	3	3.88	3.87	4.19
Riverside Acres	3	3	6	3	5	6	6	2	5	4.13	3.87	4.19
Suburban Homes	2	3	6	3	6	6	6	3	5	4.19	3.87	4.19
Rio Grande Terrace 3Rd Add	4	3	5	6	4	6	5	2	4	4.06	3.87	4.19
Ponce De Leon	2	3	6	4	4	6	5	4	4	3.94	3.87	4.19
Vineyard Ph 1	5	3	6	3	1	6	4	2	5	3.63	3.87	4.19
Sussex Place Ph 1	5	3	6	6	2	6	3	1	5	3.81	3.87	4.19
Oxford Place	3	3	6	2	1	6	3	5	5	3.50	3.87	4.19
Vineyard Ph 6	5	3	6	3	1	6	3	3	4	3.50	3.87	4.19
Lake Florence Highlands Ph 3	3	6	6	3	1	6	2	3	3	3.38	3.87	4.19

Appendix B

Pollution Potential Prioritization Schemes (sorted by the Weighted Vulnerability Ranking System)

Subdivision Name	Septic Density Score	OCAVA Score	Impaired WB Score	Population Density Score	Housing Density Score	WW Infra-structure Score	Year Built Score	Distance to WB Score	Elevation Score	Unweighted Vulnerability Ranking System	Weighted Vulnerability Ranking System	Weighted Connectivity Ranking System
Rvs At Orlando 2	1	6	6	2	1	6	1	6	3	3.25	3.87	4.19
Kalina Rep	3	3	3	3	2	5	6	6	5	3.81	3.87	4.04
Vineyard Ph 4	5	3	6	3	1	5	3	3	4	3.50	3.87	4.04
Grove Hill Ut 4	3	6	6	3	1	5	3	3	2	3.38	3.87	4.04
Villas Of Lake Destiny	5	3	6	2	1	5	2	4	4	3.38	3.87	4.04
Lake Gandy Cove	3	3	6	4	2	4	3	4	5	3.69	3.87	3.89
Weston Woods	3	6	6	3	1	4	2	3	3	3.38	3.87	3.89
Bay Lake Ests	2	2	6	1	3	5	5	6	4	3.69	3.87	4.03
Munger Willis R Land Co	1	4	6	3	2	6	4	5	4	3.65	3.87	4.18
Long Lake Park Replat Ut 2	2	4	6	4	1	4	2	5	5	3.53	3.86	3.88
Summerbrook	3	5	6	4	2	5	3	3	3	3.59	3.86	4.03
Sussex Place Ph 2	5	5	6	4	1	5	3	1	4	3.52	3.86	4.03
Lake Shore Ests	2	4	5	3	2	5	5	5	4	3.67	3.85	4.02
Silver Ridge Ph 4 Ut 3	2	4	6	4	1	5	2	5	4	3.48	3.85	4.02
Morrisons Sub	4	6	6	2	1	5	6	1	2	3.48	3.84	4.02
Circle Lake Co Rep	1	4	6	2	1	4	5	5	4	3.54	3.84	3.86
Walden Grove Ut 1	3	6	6	5	1	6	3	2	2	3.48	3.84	4.16
Long Lake Shores	2	3	6	4	2	4	2	5	5	3.60	3.84	3.86
Mt Plymouth Lakes 1St Add	1	3	6	2	1	1	4	6	6	3.57	3.83	3.41
Kensington Sec 3	3	4	6	4	1	5	3	3	4	3.54	3.83	4.00
Wentrop Shores	2	1	5	3	6	6	6	6	4	4.13	3.83	4.15
1020 Buildings	4	3	6	3	1	6	6	3	3	3.56	3.83	4.15
Clearview Hgts	4	3	6	3	1	6	6	2	5	3.69	3.83	4.15
Hills J L Add To Lockhart	2	3	6	1	4	6	5	5	4	3.75	3.83	4.15
Lake Lovely Ests 1St Add	3	3	6	3	1	6	5	4	4	3.56	3.83	4.15
Jamajo 2Nd Add	3	3	6	3	1	6	5	4	4	3.56	3.83	4.15
S & S Acres	2	6	6	3	1	6	4	3	3	3.44	3.83	4.15
Magnolia Village Ut 1	3	3	6	4	1	6	4	4	4	3.56	3.83	4.15
Dovehill	5	3	6	3	2	6	3	3	3	3.50	3.83	4.15
Aloma Business Ctr Condo	5	3	6	2	1	6	3	3	5	3.44	3.83	4.15
Country Chase Ut 2	3	6	6	4	1	6	2	3	2	3.31	3.83	4.15
Fairbanks Shores	3	1	6	3	4	5	6	5	3	3.88	3.83	4.00

Appendix B

Pollution Potential Prioritization Schemes (sorted by the Weighted Vulnerability Ranking System)

Subdivision Name	Septic Density Score	OCAVA Score	Impaired WB Score	Population Density Score	Housing Density Score	WW Infra-structure Score	Year Built Score	Distance to WB Score	Elevation Score	Unweighted Vulnerability Ranking System	Weighted Vulnerability Ranking System	Weighted Connectivity Ranking System
Meadowbrook Acres	3	1	6	5	1	5	6	4	5	3.81	3.83	4.00
Jb & Te Walker Sub	2	3	6	3	3	5	5	4	5	3.81	3.83	4.00
Avondale Park 1St Add	3	3	6	4	3	5	5	3	4	3.81	3.83	4.00
Lake Of Pines	2	3	6	4	4	5	4	5	2	3.75	3.83	4.00
Vineyard Ph 2	5	3	6	4	1	5	3	2	5	3.56	3.83	4.00
Silver Star Ests	3	3	6	4	4	4	6	2	4	4.00	3.83	3.85
Oak Terrace	3	3	6	4	2	4	5	3	4	3.75	3.83	3.85
Mcneils Orange Villa	1	3	6	3	2	4	5	5	5	3.75	3.83	3.85
Mt Plymouth Lakes 1St Add	3	3	6	2	1	2	5	4	5	3.56	3.83	3.56
Carol Woods	3	6	6	3	2	5	3	2	4	3.53	3.82	4.00
Hiawassee Oaks Ut 4A Ph 1	3	6	6	3	3	5	2	3	2	3.47	3.82	4.00
Lake Mendelin Ests	2	3	6	4	3	5	4	4	5	3.80	3.81	3.99
Canyon Ridge Ph 2	3	5	6	4	2	6	3	2	3	3.55	3.81	4.14
Meadowbrook Annex 1St Add	4	2	6	5	2	6	6	2	5	3.90	3.81	4.14
Bentley Woods	3	6	6	4	1	6	3	2	3	3.42	3.81	4.13
Willow Creek Ph 3 A	3	6	6	5	1	4	3	2	2	3.42	3.81	3.84
Ahern Park	2	5	6	2	2	5	5	3	5	3.64	3.81	3.98
Lake Lucy Ests	2	6	6	3	1	4	1	4	4	3.30	3.80	3.83
Bent Oak Ph 3	1	3	6	3	1	4	3	6	5	3.48	3.80	3.83
Chaudoin Hills	1	6	6	1	1	3	4	6	1	3.20	3.80	3.68
Fox Hunt Lanes Ph 2	5	3	6	5	1	6	3	2	4	3.54	3.79	4.12
Pearl Lake Sub	2	5	6	3	4	5	5	3	2	3.69	3.79	3.97
Shadowridge	3	5	6	4	2	5	3	3	2	3.44	3.79	3.97
Westover Hills	3	5	6	4	2	5	2	3	3	3.47	3.78	3.96
Lake Park Highlands	1	5	6	1	1	5	3	6	4	3.31	3.78	3.96
Fox Hunt Lanes Ph 1	4	3	6	6	1	6	3	2	4	3.59	3.78	4.11
Mcneils Orange Villa	4	3	6	2	3	6	6	2	4	3.75	3.78	4.11
Brownie Villa	4	3	6	3	1	6	6	2	4	3.63	3.78	4.11
Riverside Park Ests	3	3	6	4	1	6	6	2	5	3.75	3.78	4.11
Chateau De Ville Condo Ph 1	6	1	6	5	4	6	5	1	4	3.94	3.78	4.11
Hunts Park	2	3	6	3	2	6	4	5	4	3.56	3.78	4.11
Walden Grove Ut 2	3	6	6	4	1	6	3	2	2	3.38	3.78	4.11

Appendix B
Pollution Potential Prioritization Schemes (sorted by the Weighted Vulnerability Ranking System)

Subdivision Name	Septic Density Score	OCAVA Score	Impaired WB Score	Population Density Score	Housing Density Score	WW Infra-structure Score	Year Built Score	Distance to WB Score	Elevation Score	Unweighted Vulnerability Ranking System	Weighted Vulnerability Ranking System	Weighted Connectivity Ranking System
Whisper Ridge	3	6	6	4	1	6	2	2	3	3.38	3.78	4.11
Alafaya Prof Park 2 Condo	4	3	6	2	3	6	1	4	5	3.50	3.78	4.11
Bent Oak Ph 2	2	6	6	3	1	5	4	2	4	3.50	3.78	3.96
Spillmans Ridge	5	3	6	3	2	5	2	3	4	3.44	3.78	3.96
Oaks On The Lake	3	3	6	3	1	5	2	4	6	3.50	3.78	3.96
Munger Willis R Land Co	1	3	6	3	3	5	2	6	5	3.63	3.78	3.96
Orchard Acres	5	3	1	3	5	4	6	5	4	4.00	3.78	3.81
Eden East	3	3	6	3	2	4	3	4	5	3.56	3.78	3.81
Palms Sec 3	3	6	6	3	1	3	2	1	6	3.50	3.78	3.67
University Hills	3	4	6	5	1	4	4	1	5	3.69	3.78	3.81
Lakeville	1	4	6	1	1	4	5	5	4	3.43	3.78	3.81
Anderson George W	1	3	6	2	1	5	4	6	5	3.46	3.77	3.95
Mt Plymouth Lakes Rep	3	3	6	3	1	2	4	3	5	3.55	3.77	3.50
Vista Hills Ut 2	3	6	6	3	1	5	3	2	3	3.36	3.76	3.95
Summerfield Ests	3	4	6	4	2	6	4	3	3	3.54	3.76	4.09
Orlando Acres 1St Add	2	3	5	3	1	5	5	5	5	3.57	3.75	3.94
Kensington Sec 2	3	6	6	4	1	4	3	2	3	3.38	3.75	3.79
Hudson Isles	3	5	1	3	2	5	5	6	4	3.60	3.75	3.93
Regency Park	3	6	6	4	1	6	3	2	2	3.35	3.75	4.08
Oasis Terrace	3	5	6	4	1	5	3	3	3	3.38	3.75	3.93
Riverside Park	3	3	6	4	1	6	6	2	5	3.69	3.74	4.07
Riverside Park Ests Ut 2	3	3	6	4	1	6	6	2	5	3.69	3.74	4.07
Tropical Waterways	1	3	6	4	5	6	5	4	4	3.94	3.74	4.07
Sunshine Sub	3	3	6	6	1	6	5	2	4	3.69	3.74	4.07
Hiawassa Highlands 2Nd Add	3	3	6	5	1	6	5	3	3	3.56	3.74	4.07
Lockhart Sub No 1	2	3	6	3	3	6	5	4	4	3.69	3.74	4.07
Oakmont Park	1	3	6	4	3	6	5	4	5	3.81	3.74	4.07
University Prof Ctr	3	3	6	3	1	6	3	4	5	3.44	3.74	4.07
Glenmoor	3	3	6	5	1	6	3	3	5	3.56	3.74	4.07
Edgewater Prof Ctr Condo	4	1	6	3	3	5	5	4	4	3.69	3.74	3.93
Silver Rose	3	6	6	5	1	5	3	1	3	3.44	3.74	3.93
Oakwater Ests	1	3	6	3	1	5	2	6	6	3.44	3.74	3.93

Appendix B

Pollution Potential Prioritization Schemes (sorted by the Weighted Vulnerability Ranking System)

Subdivision Name	Septic Density Score	OCAVA Score	Impaired WB Score	Population Density Score	Housing Density Score	WW Infra-structure Score	Year Built Score	Distance to WB Score	Elevation Score	Unweighted Vulnerability Ranking System	Weighted Vulnerability Ranking System	Weighted Connectivity Ranking System
Lake Apopka Beach Rep	2	3	6	3	1	4	5	4	5	3.56	3.74	3.78
Warren H T Sub	1	3	5	2	1	4	5	6	6	3.56	3.74	3.78
Rolling Oaks Ut 3	3	6	6	3	1	3	3	1	5	3.44	3.74	3.63
Woodsmere Manor	1	3	6	1	1	4	4	6	5	3.40	3.73	3.77
Callum Mac Sub	1	3	5	3	2	6	5	6	4	3.59	3.73	4.07
Long Lake Ests	2	3	6	3	2	5	3	5	4	3.49	3.73	3.92
Sweetaire Of Wekiva	3	5	6	4	2	6	3	2	3	3.46	3.72	4.06
Red Gate	1	4	6	3	1	6	4	5	4	3.42	3.72	4.06
Kensington Sec 4	3	6	6	4	1	4	3	2	2	3.30	3.72	3.76
Deer Lake Run	2	4	6	2	1	3	3	4	5	3.39	3.72	3.61
Fairview Shores	2	3	6	3	6	6	5	3	4	3.97	3.70	4.04
Pine Hills Sub No 2	2	3	6	3	1	6	6	4	3	3.50	3.70	4.04
Interlaken 2Nd Add	3	1	6	2	1	6	6	5	4	3.50	3.70	4.04
Riverside Acres 1St Add	2	3	6	3	5	6	6	2	5	4.00	3.70	4.04
Pine Hills Manor No 3	3	3	6	3	1	6	6	3	3	3.50	3.70	4.04
Henderson Shores	2	1	5	3	3	6	6	6	4	3.75	3.70	4.04
Silver Star Manor	3	3	6	5	1	6	5	2	4	3.63	3.70	4.04
Bay Lake Shores	2	1	6	2	3	6	5	6	4	3.63	3.70	4.04
Chateau De Ville Condo Ph 2	6	1	6	5	4	6	4	1	4	3.81	3.70	4.04
Caroline Ests 1St Add	3	6	6	3	1	6	3	2	2	3.25	3.70	4.04
Watermill West	2	3	6	3	1	6	3	4	6	3.50	3.70	4.04
Oxford Place	2	3	6	2	1	6	3	5	5	3.38	3.70	4.04
Lake Waunatta Cove	2	3	5	4	1	6	3	5	5	3.50	3.70	4.04
Grove Hill Ut 3	3	6	6	3	1	6	3	2	2	3.25	3.70	4.04
Grove Hill Ut 2	3	6	6	3	1	6	3	2	2	3.25	3.70	4.04
Magnolia Lakes	4	3	6	4	1	6	2	3	4	3.38	3.70	4.04
Citrus Oaks Landings Condo	3	3	6	3	1	6	1	5	4	3.25	3.70	4.04
Biltmore Shores Sec 1	3	1	6	3	3	5	6	4	4	3.75	3.70	3.89
Rose Manor	3	3	6	2	4	5	4	3	5	3.69	3.70	3.89
Lake Mendelin Ests 1St Add	3	4	6	4	1	5	4	3	3	3.41	3.70	3.89
Wekiva Landing Partial Rep	1	3	6	2	1	5	2	6	6	3.38	3.70	3.89
Windridge Ut 2	3	3	6	3	2	4	4	3	5	3.56	3.70	3.74

Appendix B

Pollution Potential Prioritization Schemes (sorted by the Weighted Vulnerability Ranking System)

Subdivision Name	Septic Density Score	OCAVA Score	Impaired WB Score	Population Density Score	Housing Density Score	WW Infra-structure Score	Year Built Score	Distance to WB Score	Elevation Score	Unweighted Vulnerability Ranking System	Weighted Vulnerability Ranking System	Weighted Connectivity Ranking System
Grove Hill Ut 1	3	6	6	3	1	4	3	2	2	3.25	3.70	3.74
Canyon Ridge Ph 1	3	5	6	3	2	4	3	2	3	3.40	3.69	3.74
Caroline Ests 2Nd Add	3	6	6	3	1	6	3	2	2	3.24	3.69	4.03
Avondale Park 2Nd Add	2	4	6	3	3	5	5	3	4	3.65	3.69	3.88
Somerset At Lakeville Oaks Ph 2	3	5	6	3	1	5	2	2	4	3.30	3.68	3.88
Palms Sec 4	3	6	6	3	1	3	2	1	5	3.36	3.68	3.58
Kensington Sec 1	3	5	6	5	2	4	3	1	4	3.54	3.67	3.72
Lake Georgia Shores	1	5	3	2	1	5	5	6	6	3.51	3.67	3.86
Rolling Oaks Ut 4	2	6	6	3	1	3	3	2	5	3.38	3.66	3.56
Palms Sec 2	2	6	6	3	1	5	3	1	6	3.47	3.66	3.86
Vista Hills Ut 1	3	5	6	4	1	5	3	2	3	3.35	3.66	3.86
Hiawassee Meadows Ph 1	3	4	6	4	1	5	3	2	5	3.47	3.65	3.85
Kelly Park Hills South Ph 4	3	6	6	4	4	4	2	1	3	3.56	3.65	3.70
Pine Loch Hgts	4	3	1	4	3	6	6	6	3	3.69	3.65	4.00
Griffiths Add	3	3	6	3	2	6	6	2	4	3.63	3.65	4.00
Carlson Park	3	1	6	3	6	6	6	3	4	4.00	3.65	4.00
Hiawassa Highlands	3	3	6	5	1	6	5	2	4	3.56	3.65	4.00
Fairview Terrace	1	1	6	4	6	6	5	5	4	4.00	3.65	4.00
Magnolia Manor Sec 1	3	3	6	3	1	6	5	3	4	3.44	3.65	4.00
Mason Add	2	3	6	4	3	6	5	3	4	3.69	3.65	4.00
Coronation Add	4	3	6	3	2	6	4	2	4	3.50	3.65	4.00
Baybreeze Manor	2	3	6	2	3	6	3	5	4	3.44	3.65	4.00
Tangerine Prof Ctr	5	3	6	2	1	6	3	2	5	3.31	3.65	4.00
Aloma Ctr East	5	3	6	2	1	6	3	2	5	3.31	3.65	4.00
Country Chase Ut 1	3	6	6	4	1	6	2	2	2	3.19	3.65	4.00
Rose Gardens	2	6	6	3	3	6	2	2	4	3.44	3.65	4.00
Watermill Sec 7 Rep	1	3	6	2	1	6	2	6	6	3.31	3.65	4.00
Taft Rep Blk C Tier 2	4	3	6	3	3	5	6	1	4	3.69	3.65	3.85
Silver Star Homes	3	3	6	5	1	5	6	2	3	3.56	3.65	3.85
Watermill Sec 1	2	3	5	3	1	5	3	5	6	3.44	3.65	3.85
Watermill Sec 4	2	3	6	3	1	5	3	4	6	3.44	3.65	3.85
Lake Apopka 1St Add	3	3	6	3	1	4	5	3	4	3.44	3.65	3.70

Appendix B

Pollution Potential Prioritization Schemes (sorted by the Weighted Vulnerability Ranking System)

Subdivision Name	Septic Density Score	OCAVA Score	Impaired WB Score	Population Density Score	Housing Density Score	WW Infra-structure Score	Year Built Score	Distance to WB Score	Elevation Score	Unweighted Vulnerability Ranking System	Weighted Vulnerability Ranking System	Weighted Connectivity Ranking System
Watermill Sec 2 Rep	1	3	6	3	1	4	3	5	6	3.44	3.65	3.70
Watermill Sec 3	3	3	6	3	1	4	3	3	6	3.44	3.65	3.70
Watermill Sec 5	2	3	5	3	1	4	3	5	6	3.44	3.65	3.70
Watermill Sec 6	2	3	6	2	1	4	2	5	6	3.31	3.65	3.70
Lakeside Woods Ut 2	1	3	6	3	1	4	2	6	5	3.31	3.65	3.70
Lake Marsha Highlands 4Th Add	3	6	1	3	3	3	4	6	2	3.44	3.65	3.56
Hull Island Ests	2	3	6	2	1	1	1	6	5	3.19	3.65	3.26
Willow Creek Ph 3B	3	6	6	4	1	4	2	2	2	3.22	3.65	3.70
Hiawassee Landings Ut 2	4	4	6	5	2	6	2	1	4	3.47	3.65	4.00
Hiawassee Hills Ut 4	3	3	6	4	3	5	3	3	3	3.53	3.65	3.85
Woodsmere Manor 1St Add	1	2	6	2	1	4	4	6	5	3.37	3.65	3.70
Wekiva Ridge	3	5	6	3	2	5	4	2	3	3.40	3.65	3.85
Sawmill Ph 2	3	4	6	4	4	5	2	2	3	3.56	3.64	3.85
Oak Heights Rep	1	6	6	2	2	5	4	3	3	3.37	3.64	3.84
Sawmill Ph 1	2	6	6	4	3	4	2	2	3	3.46	3.64	3.69
Caroline Ests	3	4	6	4	1	5	3	3	2	3.24	3.63	3.84
Rose Hill Groves	1	5	6	3	2	6	4	3	3	3.42	3.63	3.98
Silver Ridge Ph 1	2	5	6	5	4	5	3	1	4	3.70	3.63	3.83
Oak Hills Subdivision	1	6	6	2	1	3	2	4	4	3.16	3.62	3.53
Lakeside Ests	1	3	5	2	2	6	5	6	4	3.44	3.62	3.97
Powers Pointe North	3	5	6	4	1	6	3	2	3	3.32	3.62	3.97
Prairie Oaks Sub	3	6	6	3	2	5	2	2	2	3.22	3.61	3.82
Fairview Spgs	1	1	6	2	3	6	6	6	4	3.63	3.61	3.96
Crestwood Ests	4	1	6	3	1	6	6	3	4	3.50	3.61	3.96
Pine Hills Rev	3	3	6	3	3	6	6	2	3	3.63	3.61	3.96
Pine Hills Manor No 3	3	3	6	4	1	6	6	2	3	3.50	3.61	3.96
Lake View Farms	1	3	6	4	4	6	6	3	4	3.81	3.61	3.96
Pine Ridge Ests Sec 2	3	1	6	4	1	6	6	3	5	3.63	3.61	3.96
Robinsville Sec 2	4	1	6	3	1	6	5	3	5	3.50	3.61	3.96
University Hgts	3	1	6	3	3	6	5	4	4	3.63	3.61	3.96
Rolling Green Ridge	3	3	6	4	1	6	5	2	4	3.50	3.61	3.96
Gary Park	2	3	6	3	1	6	5	3	5	3.50	3.61	3.96

Appendix B

Pollution Potential Prioritization Schemes (sorted by the Weighted Vulnerability Ranking System)

Subdivision Name	Septic Density Score	OCAVA Score	Impaired WB Score	Population Density Score	Housing Density Score	WW Infra-structure Score	Year Built Score	Distance to WB Score	Elevation Score	Unweighted Vulnerability Ranking System	Weighted Vulnerability Ranking System	Weighted Connectivity Ranking System
Pine Hills Retail/Office Condo	4	3	6	3	3	6	4	2	3	3.50	3.61	3.96
Queenswood Manor 2	2	3	6	4	1	6	3	4	4	3.38	3.61	3.96
Cobble Stone	3	3	6	3	1	6	3	3	5	3.38	3.61	3.96
Rio Pinar Lakes Ut 2 Ph 3 Rep	5	3	1	3	1	6	3	6	5	3.38	3.61	3.96
Silver Rose Ph 2	3	6	6	3	1	6	3	1	3	3.25	3.61	3.96
Kingstown Reef	1	5	6	2	1	6	1	6	3	3.06	3.61	3.96
Meadowbrook Acres 1St Add	3	1	6	4	1	5	6	3	5	3.63	3.61	3.81
East Dale Acres 2Nd Rep	4	3	1	3	1	5	6	5	6	3.63	3.61	3.81
Hiawassee Hills Ut 3A	4	3	6	3	1	5	3	2	5	3.38	3.61	3.81
Lakeside Woods	3	3	6	4	1	5	3	3	4	3.38	3.61	3.81
Fairbanks Shores 1St Add	4	1	6	2	1	4	6	4	3	3.38	3.61	3.67
Lake Marsha Highlands	3	6	1	2	3	4	6	5	2	3.50	3.61	3.67
Seaward Plantation Ests	1	3	6	1	1	4	4	5	6	3.38	3.61	3.67
Pearl Lake Park	2	3	6	2	1	4	3	6	2	3.13	3.61	3.67
Carlton Oaks	3	6	6	2	1	4	1	2	4	3.13	3.61	3.67
Lake Marsha Highlands 1St Add	3	6	1	2	1	3	5	6	2	3.25	3.61	3.52
Rolling Oaks Ut 1	3	6	6	2	1	3	3	1	4	3.25	3.61	3.52
Rolling Oaks Ut 2	2	6	6	3	1	3	3	1	5	3.38	3.61	3.52
Silver Ridge Ph 4 Ut 1	2	4	6	4	1	4	2	4	3	3.25	3.61	3.66
Lake Cane Villa	2	6	1	3	1	6	6	6	3	3.40	3.60	3.96
Hiawassee Oaks Ut 3	2	4	6	4	3	5	2	4	2	3.34	3.60	3.80
Munger Willis R Land Co	2	5	6	4	1	6	3	2	3	3.30	3.60	3.95
Ramir	4	1	6	3	4	6	6	2	4	3.77	3.59	3.95
Millers Sub (Lockhart)	3	3	6	3	3	6	5	2	4	3.58	3.59	3.95
Hiawassee Hills Ut 3A	4	4	6	3	1	6	3	2	3	3.20	3.59	3.94
University Place Ut 2	3	4	6	5	1	5	4	1	4	3.48	3.58	3.79
Deer Lake Chase	2	5	6	2	1	4	2	3	5	3.19	3.57	3.64
Clearview Hgts 1St Add	3	3	6	3	1	5	5	2	4	3.41	3.57	3.78
Pine Hills Manor No 4	3	3	6	3	3	6	6	2	3	3.56	3.57	3.93
Pine Ridge Ests	3	1	6	5	1	6	6	3	4	3.56	3.57	3.93
Whispering Pines Ests	3	3	6	4	5	6	5	1	4	3.81	3.57	3.93
Sunshine Sub Rep	3	3	6	4	1	6	5	2	4	3.44	3.57	3.93

Appendix B

Pollution Potential Prioritization Schemes (sorted by the Weighted Vulnerability Ranking System)

Subdivision Name	Septic Density Score	OCAVA Score	Impaired WB Score	Population Density Score	Housing Density Score	WW Infra-structure Score	Year Built Score	Distance to WB Score	Elevation Score	Unweighted Vulnerability Ranking System	Weighted Vulnerability Ranking System	Weighted Connectivity Ranking System
Whispering Pines Ests 1St Add	3	3	6	4	5	6	5	1	4	3.81	3.57	3.93
Lakebreeze Park 1St Add	3	3	6	2	3	6	4	3	4	3.44	3.57	3.93
Morrisons Sub 1St Add	3	6	6	3	1	6	4	1	2	3.19	3.57	3.93
Lake Maggiore Ests	2	3	6	2	1	6	3	5	4	3.19	3.57	3.93
Dorscher Place	1	6	6	5	1	6	2	3	2	3.19	3.57	3.93
Hiawassee Oaks Ut 4B	3	5	6	3	3	6	2	2	2	3.28	3.57	3.93
Rimar Ridge 1St Add	3	3	6	4	4	6	2	2	5	3.63	3.57	3.93
Kelly Park Hills South Ph 3	3	6	6	3	4	6	2	1	2	3.38	3.57	3.93
Clarcona Ridge Ph 1	4	3	6	3	4	6	1	2	5	3.50	3.57	3.93
Partridge Terrace	4	3	6	3	1	5	3	2	5	3.31	3.57	3.78
Chancellors Row Ph 2	5	1	6	4	1	5	3	3	4	3.31	3.57	3.78
Liberty Hgts 2Nd Add	2	6	6	3	1	4	4	2	2	3.19	3.57	3.63
Watermill Sec 7	2	3	5	3	1	4	2	5	6	3.31	3.57	3.63
Ola Beach	2	5	1	2	1	2	6	6	5	3.44	3.57	3.33
Oakland Trails Phase 2	4	5	6	1	4	1	1	2	4	3.31	3.57	3.19
Hiawassee Hills Ut 2	2	5	6	4	1	5	3	2	4	3.31	3.56	3.78
Morningside	1	3	4	4	1	6	3	6	5	3.37	3.56	3.92
Hiawassee Oaks Ut 4A Ph 2	3	5	6	3	3	6	2	2	2	3.28	3.56	3.92
Mc Queen Select Homesites	1	5	6	1	1	5	5	3	4	3.28	3.56	3.77
Willow Creek Ph 2	3	4	6	5	1	4	3	2	3	3.31	3.56	3.62
Bear Lake Highlands 1St Add	2	5	6	3	3	6	4	2	2	3.37	3.56	3.92
Wekiwa Hills 2Nd Add	1	5	6	3	1	3	4	2	5	3.36	3.54	3.46
Hiawassee Hills Ut 5	3	6	6	4	1	6	3	1	2	3.17	3.54	3.91
Sparling Hills	3	4	6	4	1	6	3	2	3	3.26	3.54	3.90
Hiawassee Oaks Ut 2	2	3	6	3	1	4	2	4	5	3.26	3.54	3.61
Hastings Sub	1	4	3	1	2	4	6	6	4	3.42	3.53	3.60
Ridge Manor	3	3	6	3	1	6	6	2	4	3.45	3.53	3.90
Gatewood Ph 2	3	6	6	4	1	6	3	1	2	3.19	3.53	3.90
Bryan & Hudson Sub	1	3	6	1	1	1	6	4	5	3.38	3.53	3.16
Bay Lake Manor	1	2	6	2	3	6	4	6	4	3.44	3.53	3.90
Ridge Manor 1St Add	3	3	6	4	1	6	5	2	4	3.44	3.53	3.89
Hiawassee Hills Ut 1	3	6	6	3	1	5	3	1	3	3.16	3.53	3.74

Appendix B

Pollution Potential Prioritization Schemes (sorted by the Weighted Vulnerability Ranking System)

Subdivision Name	Septic Density Score	OCAVA Score	Impaired WB Score	Population Density Score	Housing Density Score	WW Infra-structure Score	Year Built Score	Distance to WB Score	Elevation Score	Unweighted Vulnerability Ranking System	Weighted Vulnerability Ranking System	Weighted Connectivity Ranking System
Somerset At Lakeville Oaks	3	4	6	4	1	4	2	2	4	3.25	3.53	3.60
Kimmell Park	3	3	6	2	2	6	6	2	4	3.44	3.52	3.89
Daniels Mrs A R Sub	1	1	6	1	3	6	6	6	4	3.50	3.52	3.89
Fairview Spgs Rep 1St Add	2	1	6	2	1	6	6	5	4	3.38	3.52	3.89
Unrecored Fleckenstein-Grier	2	1	5	3	3	6	6	5	4	3.63	3.52	3.89
Robinsdale	3	3	1	5	3	6	6	5	4	3.75	3.52	3.89
Fairview Court	3	1	6	3	1	6	5	4	4	3.38	3.52	3.89
Fairview Gardens	3	3	6	3	1	6	5	2	4	3.38	3.52	3.89
Robinsville Sec 1	3	1	6	4	1	6	5	3	5	3.50	3.52	3.89
Clearview Hgts 2Nd Add Sec 1	3	3	6	3	1	6	5	2	4	3.38	3.52	3.89
Orange View	4	3	6	4	1	6	5	2	1	3.25	3.52	3.89
Oak Vista	2	3	6	4	4	6	5	2	4	3.69	3.52	3.89
Rio Pinar Lakes Ut 2 Ph 2	5	3	1	3	1	6	3	6	4	3.25	3.52	3.89
Annandale Park	2	3	6	2	1	5	6	3	4	3.38	3.52	3.74
Dubsdread Hgts	3	1	6	3	4	5	6	3	4	3.69	3.52	3.74
Pine Ridge Ests Sec 5	4	1	6	4	1	5	6	2	4	3.50	3.52	3.74
Wekiva Landing Sub	1	3	6	2	1	5	2	5	6	3.25	3.52	3.74
Willow Creek Ph 4	3	3	6	5	2	5	2	3	3	3.31	3.52	3.74
Fairbanks Shores 1St Add	4	1	6	2	1	4	6	3	4	3.38	3.52	3.59
Biltmore Shores Sec 2	2	1	5	3	3	4	6	5	4	3.63	3.52	3.59
Lakeview Park	2	1	5	3	3	4	6	5	4	3.63	3.52	3.59
Raymar Manor Add	2	3	3	3	2	4	5	6	4	3.44	3.52	3.59
Long Shores	1	3	6	3	1	4	3	5	4	3.25	3.52	3.59
Mt Pleasant 1St Add	2	3	6	1	1	3	5	4	4	3.25	3.52	3.44
Westwind Ut 2	1	6	6	2	1	3	4	2	4	3.25	3.52	3.44
Oakland Pointe	2	3	6	2	1	1	1	5	5	3.13	3.52	3.15
Fairvilla Park	2	3	6	3	5	6	5	2	4	3.75	3.51	3.88
Rock Spgs Park	1	6	6	2	1	6	4	2	5	3.28	3.51	3.88
Shenna Hill	3	3	6	4	2	6	2	3	3	3.24	3.51	3.88
Bear Lake Highlands	2	6	6	3	1	5	4	2	2	3.15	3.51	3.73
Jamajo	2	4	5	3	1	6	5	3	3	3.30	3.50	3.87
Good Homes Vista	3	5	6	4	2	6	1	2	3	3.17	3.50	3.87

Appendix B

Pollution Potential Prioritization Schemes (sorted by the Weighted Vulnerability Ranking System)

Subdivision Name	Septic Density Score	OCAVA Score	Impaired WB Score	Population Density Score	Housing Density Score	WW Infra-structure Score	Year Built Score	Distance to WB Score	Elevation Score	Unweighted Vulnerability Ranking System	Weighted Vulnerability Ranking System	Weighted Connectivity Ranking System
Pine Hills Park	1	3	6	3	1	5	4	4	4	3.29	3.50	3.72
Breckenridge Estates	3	3	6	4	1	6	3	3	2	3.17	3.49	3.86
Coventry At Ocoee Ph 2	3	4	6	2	6	5	2	3	2	3.45	3.49	3.72
Sweetwater Country Club Place	3	5	6	3	1	6	3	1	4	3.20	3.49	3.86
Munger Willis R Land Co	1	2	6	3	1	6	4	5	4	3.29	3.49	3.86
Dean Hilands	1	5	6	3	2	6	4	2	4	3.35	3.49	3.86
Loes Add To Lockhart	2	4	6	2	3	6	6	2	4	3.51	3.49	3.86
Willis R Mungers Land	1	3	6	4	1	6	6	3	4	3.44	3.49	3.86
Buckingham At Lakeville Oaks Ph 1	2	5	6	3	1	4	2	3	4	3.13	3.49	3.56
Johns Lake Homesites	2	6	1	2	2	1	4	6	4	3.28	3.48	3.11
Reagans Reserve	3	6	6	2	1	4	1	1	5	3.10	3.48	3.56
Hiawassee Oaks Ut 5	3	4	6	4	1	5	2	2	3	3.16	3.48	3.70
Mcneils Orange Villa	2	3	6	3	3	6	6	2	4	3.56	3.48	3.85
Montovallo	1	1	6	3	1	6	6	5	5	3.44	3.48	3.85
Pine Ridge Ests Sec 3	4	1	6	4	1	6	6	2	4	3.44	3.48	3.85
Palm Hgts	3	1	6	3	3	6	6	3	4	3.56	3.48	3.85
Hiawassa Highlands 1St Add	3	3	6	5	1	6	5	2	2	3.31	3.48	3.85
Jamajo Rep	2	3	6	4	1	6	5	3	3	3.31	3.48	3.85
Orange Hill Park	3	3	6	3	1	6	5	2	4	3.31	3.48	3.85
Touraine Ests	2	3	3	3	1	6	5	6	4	3.31	3.48	3.85
Lakeside Terrace	1	3	4	3	1	6	5	5	6	3.44	3.48	3.85
Beatrice Village	2	3	6	5	1	6	5	2	4	3.44	3.48	3.85
Suburban Homes 1St Add	2	3	6	4	1	6	5	2	5	3.44	3.48	3.85
Wallington Hgts	3	3	6	3	1	6	5	2	4	3.31	3.48	3.85
Forests Park Homes	3	3	6	3	1	6	5	2	4	3.31	3.48	3.85
Rolling Pines Manor	3	1	6	3	2	6	4	4	4	3.38	3.48	3.85
Eden Acres	1	3	6	4	5	6	4	3	4	3.69	3.48	3.85
Hudson Shores	1	3	3	3	2	5	6	6	4	3.50	3.48	3.70
Paradise Hgts 1St Add	2	3	6	4	1	5	6	2	4	3.44	3.48	3.70
Magnolia Ests	3	3	6	3	1	5	5	2	4	3.31	3.48	3.70
Riverbend Ests	4	3	1	4	4	5	3	5	5	3.63	3.48	3.70

Appendix B

Pollution Potential Prioritization Schemes (sorted by the Weighted Vulnerability Ranking System)

Subdivision Name	Septic Density Score	OCAVA Score	Impaired WB Score	Population Density Score	Housing Density Score	WW Infra-structure Score	Year Built Score	Distance to WB Score	Elevation Score	Unweighted Vulnerability Ranking System	Weighted Vulnerability Ranking System	Weighted Connectivity Ranking System
Hiawassee Hills Ut 3A	4	3	6	4	1	5	3	2	3	3.19	3.48	3.70
Watermill Sec 2	2	3	6	3	1	4	3	3	6	3.31	3.48	3.56
Lake Marsha Highlands 2Nd Add	4	6	1	3	3	3	5	4	1	3.31	3.48	3.41
Westwind	1	6	6	2	1	3	4	2	4	3.19	3.48	3.41
Hiawassee Villas	4	3	6	3	1	6	3	2	3	3.15	3.48	3.85
Foxborough	1	5	6	2	1	3	4	2	5	3.28	3.47	3.40
Lake Barton Shores Sec 1	1	5	5	3	1	5	6	3	3	3.31	3.47	3.70
Joslin Grove Park	4	5	1	4	2	5	3	4	4	3.37	3.47	3.69
Rose Hill Groves Ut No 3	3	5	6	4	2	6	2	2	2	3.15	3.47	3.84
Tamarack Village	3	4	6	3	1	6	3	1	6	3.33	3.46	3.84
Horseshoe Bend Sec 2	3	1	6	4	1	5	3	4	4	3.23	3.45	3.68
Hiawassee Oaks	3	3	6	4	1	6	3	2	4	3.22	3.44	3.82
Dowd Park	3	1	6	3	1	6	6	3	4	3.38	3.43	3.81
Fair Plain Sub	1	3	6	3	1	6	6	3	4	3.38	3.43	3.81
Westmont Rep	5	3	1	3	1	6	6	5	2	3.25	3.43	3.81
East Dale Acres	3	3	1	3	1	6	6	5	6	3.50	3.43	3.81
Lockhart Manor	2	3	6	3	3	6	5	2	4	3.50	3.43	3.81
Victor Hgts	1	3	6	4	4	6	5	3	3	3.56	3.43	3.81
Tiffany Terrace	3	3	6	3	1	6	5	1	5	3.38	3.43	3.81
Clearview Hgts 3Rd Add	3	3	6	3	1	6	5	2	3	3.25	3.43	3.81
Sphaler Add To Taft	5	3	6	1	1	6	4	1	4	3.13	3.43	3.81
Georgeann Homes	1	3	3	3	1	6	4	6	6	3.38	3.43	3.81
Waunatta Shores	1	3	3	3	1	6	4	6	6	3.38	3.43	3.81
Lake Bosse Oaks	2	3	6	3	1	6	3	3	5	3.25	3.43	3.81
Rio Pinar Lakes Ut 2 Ph 3 Rep	4	3	1	3	1	6	3	6	5	3.25	3.43	3.81
Condel Gardens	3	3	1	4	3	5	6	5	4	3.63	3.43	3.67
Sphaler Add To Taft Resub	2	3	6	4	3	5	6	1	4	3.63	3.43	3.67
Mcneils Orange Villa	1	3	6	3	2	5	4	4	4	3.31	3.43	3.67
Windridge	3	3	6	3	2	5	4	2	4	3.31	3.43	3.67
Votaw Manor	3	3	6	2	1	5	4	2	5	3.25	3.43	3.67
Riverside Woods	3	3	6	4	1	5	3	2	4	3.25	3.43	3.67
Glenwood Oaks	3	3	6	4	1	5	3	2	4	3.25	3.43	3.67

Appendix B

Pollution Potential Prioritization Schemes (sorted by the Weighted Vulnerability Ranking System)

Subdivision Name	Septic Density Score	OCAVA Score	Impaired WB Score	Population Density Score	Housing Density Score	WW Infra-structure Score	Year Built Score	Distance to WB Score	Elevation Score	Unweighted Vulnerability Ranking System	Weighted Vulnerability Ranking System	Weighted Connectivity Ranking System
Seaward Plantation Ests 1St Add	1	3	6	1	1	4	4	4	6	3.25	3.43	3.52
Glencoe Sub Sec 2	5	1	6	2	1	4	1	4	4	3.00	3.43	3.52
Waterfront Ests 2Nd Add	4	3	1	3	1	3	6	5	4	3.38	3.43	3.37
Watermill Sec 2	2	3	5	2	1	3	3	4	6	3.25	3.43	3.37
Hull Island At Oakland	1	3	6	1	1	1	1	6	5	3.00	3.43	3.07
Brosche Sub	2	3	3	2	2	5	6	5	4	3.40	3.43	3.66
Recherche Villas	1	4	6	2	1	1	1	4	5	3.06	3.43	3.07
Lake Marsha Highlands 3Rd Add	3	5	1	2	3	3	5	5	2	3.31	3.43	3.36
Oakland Trails Phase 2	4	5	6	1	2	1	1	2	2	2.90	3.43	3.07
Wekiwa Hills	2	4	6	2	1	4	4	2	5	3.24	3.43	3.51
Blackwood Acres Rep	1	4	6	3	4	6	5	3	2	3.46	3.42	3.80
Pine Hills Manor	1	1	6	4	2	6	4	5	4	3.40	3.42	3.80
Fletchers Cove	3	3	6	5	1	6	3	2	3	3.20	3.41	3.80
Isle Of Pines	1	3	4	1	1	1	3	6	6	3.17	3.41	3.05
Ravens Haven Sec 2	1	3	6	2	1	5	3	4	5	3.17	3.41	3.64
Frisco Bay Ut 2	3	5	1	5	2	6	3	5	3	3.29	3.40	3.79
Willow Creek Ph 1	2	3	6	4	1	5	3	3	3	3.16	3.40	3.64
Westwind Ut 3	1	5	6	1	1	3	3	3	5	3.10	3.40	3.34
Kensington Sec 5	2	2	6	4	1	4	2	4	4	3.16	3.40	3.49
Munger Willis R Land Co	1	2	6	4	1	6	5	4	5	3.38	3.40	3.78
Central Park	2	3	6	2	3	6	6	2	4	3.44	3.39	3.78
Richmond Terrace	3	3	1	4	2	6	6	5	4	3.50	3.39	3.78
Richmond Terrace 1St Add	3	3	1	4	2	6	6	5	4	3.50	3.39	3.78
Lake Hiawassa Terrace Rep	2	3	1	4	1	6	6	6	5	3.44	3.39	3.78
Crystal Lake Park	3	3	1	4	2	6	6	5	4	3.50	3.39	3.78
Sun Acres	3	1	6	3	2	6	6	2	5	3.50	3.39	3.78
Michigan Hgts	2	3	6	2	3	6	6	2	4	3.44	3.39	3.78
Dover Hgts	2	3	3	4	1	6	5	5	4	3.31	3.39	3.78
Trotwood Park	2	3	6	4	1	6	5	2	4	3.31	3.39	3.78
Plaza Place	3	3	1	4	1	6	5	6	4	3.31	3.39	3.78
Apopka Wekiva Homesites	2	3	6	4	1	6	4	2	5	3.31	3.39	3.78
Twin Oaks	4	1	6	4	1	6	3	3	4	3.19	3.39	3.78

Appendix B

Pollution Potential Prioritization Schemes (sorted by the Weighted Vulnerability Ranking System)

Subdivision Name	Septic Density Score	OCAVA Score	Impaired WB Score	Population Density Score	Housing Density Score	WW Infra-structure Score	Year Built Score	Distance to WB Score	Elevation Score	Unweighted Vulnerability Ranking System	Weighted Vulnerability Ranking System	Weighted Connectivity Ranking System
Chancellors Row Ph 1	5	1	6	4	1	6	3	2	4	3.19	3.39	3.78
Adams Ridge Ut 2	3	3	6	5	1	6	3	2	3	3.19	3.39	3.78
Bentons Garden Cove	4	6	1	5	2	6	3	3	2	3.25	3.39	3.78
Brookwood	1	3	5	2	1	6	3	5	6	3.19	3.39	3.78
Heatherwood	3	3	6	5	1	6	3	2	3	3.19	3.39	3.78
Dovehill Ut 2	4	3	6	2	2	6	1	3	3	3.00	3.39	3.78
Hamlin Hgts	1	6	6	5	1	6	1	2	3	3.06	3.39	3.78
Mcleisch Terrace	3	3	1	4	2	5	6	5	4	3.50	3.39	3.63
Olympia Hgts Annex	3	1	6	3	4	5	6	2	4	3.63	3.39	3.63
Pine Ridge Ests Sec 7	4	1	6	4	1	5	5	2	4	3.31	3.39	3.63
Roberta Place	3	3	2	4	1	5	5	5	4	3.31	3.39	3.63
Skycrests 1St Add	2	3	1	4	5	5	5	6	4	3.69	3.39	3.63
Clearview Hgts 2Nd Add Sec 2	3	3	6	3	1	5	5	2	3	3.19	3.39	3.63
Thompson Manor	3	3	6	2	1	5	4	2	5	3.19	3.39	3.63
Riverwood	4	3	1	4	1	5	3	5	6	3.31	3.39	3.63
Taft (Tier 10 & Above)	3	3	6	3	6	5	3	1	4	3.63	3.39	3.63
Hiawassee Hills Ut 3A	3	3	6	3	1	5	3	2	5	3.19	3.39	3.63
Orlando Acres 2Nd Add	3	3	3	3	1	4	6	3	6	3.44	3.39	3.48
Lake Lagrange Terrace	3	3	1	3	1	4	6	6	4	3.31	3.39	3.48
Highland Ests	1	6	6	3	1	4	4	2	2	3.06	3.39	3.48
Country Ests	1	6	6	2	1	4	3	2	4	3.06	3.39	3.48
Watermill Sec 8	1	3	4	3	1	4	2	6	6	3.19	3.39	3.48
Wekiwa Woods Ph 1	2	3	6	2	2	2	2	3	6	3.25	3.39	3.19
University South Ut 1	1	5	6	4	1	6	4	1	4	3.25	3.39	3.78
Bayola Park	1	4	2	1	1	1	6	6	5	3.28	3.39	3.03
Kelly Park Hills South Ph 2	3	4	6	4	4	4	2	1	3	3.37	3.39	3.48
Oak Park Manor	2	3	6	4	1	4	4	3	2	3.15	3.39	3.48
Hull J C Sub	1	1	4	4	2	6	6	6	4	3.46	3.39	3.77
Waterfront Ests 4Th Add	3	3	1	3	1	4	6	6	4	3.31	3.38	3.47
University Place Ut 1	4	3	5	5	1	5	4	1	4	3.31	3.38	3.62
Oak Clusters West	3	3	6	3	1	6	3	2	4	3.15	3.38	3.77
Piedmont Ests 1St Add	1	5	6	3	2	6	4	2	4	3.27	3.38	3.77

Appendix B

Pollution Potential Prioritization Schemes (sorted by the Weighted Vulnerability Ranking System)

Subdivision Name	Septic Density Score	OCAVA Score	Impaired WB Score	Population Density Score	Housing Density Score	WW Infra-structure Score	Year Built Score	Distance to WB Score	Elevation Score	Unweighted Vulnerability Ranking System	Weighted Vulnerability Ranking System	Weighted Connectivity Ranking System
Floral Park Realty Co Sub	1	3	6	2	1	6	5	3	5	3.24	3.38	3.77
Silver Ridge Ph 4 Ut 3A	3	3	6	2	1	6	2	3	5	3.08	3.38	3.77
Hiawassee Meadows Ph 2	3	3	6	3	1	5	3	2	4	3.11	3.37	3.61
Baybreeze Manor	2	3	6	2	3	6	4	3	4	3.30	3.37	3.76
Graceland	1	4	6	3	1	5	2	4	4	3.08	3.37	3.61
Buckingham At Lakeville Oaks Ph 2	2	5	6	2	1	4	2	2	4	3.01	3.37	3.46
Eden Park	1	3	6	3	2	5	2	4	5	3.20	3.36	3.60
Zellwood	1	3	6	1	1	4	6	4	3	3.13	3.35	3.45
Silver Ridge Ph 4 Ut 2	2	3	6	4	1	4	2	4	3	3.06	3.35	3.45
Miller And Pownall Sub	2	3	6	2	6	6	6	1	4	3.69	3.35	3.74
Merritt Park	3	3	1	3	1	6	6	5	5	3.38	3.35	3.74
Bonnie Brae	3	1	6	4	2	6	5	2	5	3.44	3.35	3.74
Holden Park	3	3	1	4	4	6	5	5	4	3.56	3.35	3.74
Orlando Acres Sec 1	2	3	6	2	1	6	5	2	5	3.25	3.35	3.74
Munger Willis R Land Co	1	3	6	3	1	6	5	3	4	3.25	3.35	3.74
Royal Villa	2	3	6	1	1	6	5	3	4	3.13	3.35	3.74
Sandlake Courtyards Condo	6	1	6	1	1	6	4	2	3	3.00	3.35	3.74
Palm Lake Ests 5Th Add	2	3	6	3	3	6	4	1	6	3.50	3.35	3.74
Greenbriar Ut 5	2	3	1	4	5	6	4	6	4	3.63	3.35	3.74
Fairview Spgs	1	1	6	2	3	6	3	6	4	3.25	3.35	3.74
Rio Pinar Lakes Ut 2 Ph 1	4	3	1	3	1	6	3	6	4	3.13	3.35	3.74
Pine Oaks	2	3	6	2	1	6	3	3	5	3.13	3.35	3.74
Pine Flex Ctr Condo	4	3	6	1	1	6	3	2	4	3.00	3.35	3.74
Cypress Park Ut No 1	4	3	6	3	3	6	2	1	4	3.25	3.35	3.74
Glovers Sub	2	6	6	2	1	6	1	1	5	3.00	3.35	3.74
Rio Grande Terrace	4	3	2	5	4	5	6	2	4	3.69	3.35	3.59
Lake Mendelin Ests 2Nd Add	3	3	6	4	1	5	4	2	2	3.13	3.35	3.59
Hiawassee Hills Ut 3	2	3	6	4	1	5	3	2	5	3.25	3.35	3.59
Mt Pleasant	2	3	6	1	1	4	5	3	4	3.13	3.35	3.44
Palmhurst	2	3	6	2	1	4	4	3	4	3.13	3.35	3.44
Shadow Bay Spgs Ut 5	3	6	1	4	1	4	3	5	1	3.00	3.35	3.44

Appendix B

Pollution Potential Prioritization Schemes (sorted by the Weighted Vulnerability Ranking System)

Subdivision Name	Septic Density Score	OCAVA Score	Impaired WB Score	Population Density Score	Housing Density Score	WW Infra-structure Score	Year Built Score	Distance to WB Score	Elevation Score	Unweighted Vulnerability Ranking System	Weighted Vulnerability Ranking System	Weighted Connectivity Ranking System
Munger Willis R Land Co	1	5	6	3	1	6	4	2	4	3.15	3.35	3.74
Fox Hunt Lanes Ph 3	5	2	6	4	1	5	3	1	4	3.15	3.34	3.58
Floral Hgts	1	4	6	3	1	5	4	2	4	3.18	3.34	3.58
Maitland Preserve	1	2	6	2	1	6	2	6	4	2.96	3.33	3.73
Summerport Beach	2	6	1	1	1	3	4	6	3	2.98	3.32	3.27
Seaward Plantation Ests 2Nd Add	1	3	5	1	1	4	3	5	6	3.10	3.31	3.41
Sweetwater West	2	4	6	3	1	4	2	1	6	3.16	3.31	3.41
Pember Terrace	2	3	2	3	2	6	6	5	4	3.38	3.30	3.70
Mcbride Sub	3	3	1	3	2	6	6	5	4	3.38	3.30	3.70
Triangle Terrace	1	3	6	4	1	6	6	2	4	3.31	3.30	3.70
Armstrong Acres	1	3	2	3	2	6	6	6	4	3.38	3.30	3.70
Leprechaun Park	1	3	3	3	1	6	5	6	4	3.19	3.30	3.70
Orange Acres	2	3	6	3	1	6	5	2	4	3.19	3.30	3.70
Pine Hill Ests	2	1	6	4	1	6	5	3	5	3.31	3.30	3.70
Pink & Monells Sub	2	3	1	3	5	6	5	6	4	3.56	3.30	3.70
Orange View	2	3	6	3	1	6	5	3	2	3.06	3.30	3.70
Belroi	4	3	6	4	1	6	4	1	2	3.06	3.30	3.70
Munger Willis R Land Co	3	1	6	3	1	6	4	3	5	3.19	3.30	3.70
Piedmont Ests	2	3	6	5	1	6	4	2	3	3.19	3.30	3.70
Sky Acres	2	3	6	2	1	6	4	2	6	3.19	3.30	3.70
Seaward Plantation Ests	1	3	6	2	1	6	4	3	6	3.19	3.30	3.70
Fairview Spgs Rep 1St Add	1	1	6	4	1	6	4	5	4	3.19	3.30	3.70
Villas Of Oak Meadows	5	6	1	3	1	6	3	3	2	2.94	3.30	3.70
East Dale Acres	3	3	1	5	1	5	6	4	5	3.44	3.30	3.56
Waterfront Ests 1St Add	3	3	1	4	1	5	6	5	4	3.31	3.30	3.56
Pine Ridge Ests Sec 8	4	1	6	3	1	5	5	2	4	3.19	3.30	3.56
Lake Rouse Ests	1	3	6	3	1	5	5	2	6	3.31	3.30	3.56
Rolling Green Ridge 1St Add	3	3	6	3	3	5	4	1	4	3.31	3.30	3.56
Richwood Ests	4	3	1	4	1	5	3	5	5	3.19	3.30	3.56
Kelly Park Hills Ut 2	3	6	6	2	1	5	2	1	2	2.81	3.30	3.56
Las Alamedas	3	3	6	2	1	5	2	3	4	2.94	3.30	3.56
Fairview Spgs	1	1	4	3	3	4	6	6	4	3.44	3.30	3.41

Appendix B

Pollution Potential Prioritization Schemes (sorted by the Weighted Vulnerability Ranking System)

Subdivision Name	Septic Density Score	OCAVA Score	Impaired WB Score	Population Density Score	Housing Density Score	WW Infra-structure Score	Year Built Score	Distance to WB Score	Elevation Score	Unweighted Vulnerability Ranking System	Weighted Vulnerability Ranking System	Weighted Connectivity Ranking System
Wyldwoode	3	3	1	4	1	4	6	5	4	3.31	3.30	3.41
Combs Add To Zellwood	3	3	6	2	1	3	4	2	4	3.06	3.30	3.26
Wekiwa Woods Ph 2	2	3	6	2	2	2	2	3	5	3.13	3.30	3.11
Oakland Trails Phase 1	1	6	6	1	4	1	1	3	2	3.00	3.30	2.96
Wofford Property	1	3	4	2	3	6	5	5	4	3.34	3.30	3.70
Wekiwa Highlands	2	3	6	3	1	3	5	1	5	3.28	3.30	3.26
Hiawassee Landings Ut 1	3	2	6	5	1	6	3	2	3	3.12	3.30	3.70
Oleander	3	3	6	4	1	5	5	1	2	3.15	3.30	3.55
Lake Cane Hills 1St Add	3	6	1	4	3	5	5	3	2	3.31	3.30	3.55
J B Babcocks Sub	1	4	5	1	1	1	2	5	5	2.96	3.29	2.95
Wekiwa Hills 1St Addition	2	4	6	2	1	6	5	1	5	3.18	3.29	3.69
Country Shire	3	3	6	2	1	2	3	2	4	2.99	3.29	3.10
Hull Island Ests 1St Add	1	5	6	2	2	1	4	2	3	3.08	3.28	2.94
Lake Cane Ests	3	6	1	3	3	4	4	4	2	3.20	3.27	3.38
Tiffany Acres	2	3	6	2	1	5	4	2	5	3.13	3.27	3.53
Lake Willis Camps	1	4	4	1	1	5	3	6	3	2.88	3.27	3.53
Medallion Ests Sec 3	2	3	3	3	2	4	5	5	4	3.25	3.27	3.38
Buckeye Court Rep	3	1	6	3	1	6	6	2	4	3.25	3.26	3.67
Buff Sub	1	3	1	5	2	6	6	6	4	3.44	3.26	3.67
Lake Barton Manor 2Nd Add	1	3	6	3	2	6	6	2	4	3.31	3.26	3.67
Pineloch Terrace	3	3	1	4	5	6	6	4	3	3.63	3.26	3.67
Westmont Rep	5	3	1	3	1	6	6	4	2	3.13	3.26	3.67
Fairview Spgs Rep 1St Add	1	1	6	3	1	6	6	4	4	3.25	3.26	3.67
Westmont Rep	3	3	1	3	1	6	6	6	2	3.13	3.26	3.67
Lakeview Hgts Rep	2	3	1	4	2	6	5	6	4	3.31	3.26	3.67
Orange Hgts	2	3	6	3	1	6	4	3	2	3.00	3.26	3.67
Villas At Pine Hills	1	3	6	5	6	6	3	2	3	3.56	3.26	3.67
Arbor Woods Ut 3	4	3	1	4	2	6	3	4	6	3.31	3.26	3.67
Rio Pinar Lakes Ut 2 Ph 3	4	3	1	3	1	6	3	5	5	3.13	3.26	3.67
Pell Ests	2	3	6	2	1	6	3	2	6	3.13	3.26	3.67
Bretwood	3	1	6	3	1	6	3	3	5	3.13	3.26	3.67
Dean Acres	5	3	1	4	1	6	3	3	6	3.25	3.26	3.67

Appendix B

Pollution Potential Prioritization Schemes (sorted by the Weighted Vulnerability Ranking System)

Subdivision Name	Septic Density Score	OCAVA Score	Impaired WB Score	Population Density Score	Housing Density Score	WW Infra-structure Score	Year Built Score	Distance to WB Score	Elevation Score	Unweighted Vulnerability Ranking System	Weighted Vulnerability Ranking System	Weighted Connectivity Ranking System
Rivers Edge Rep	4	3	1	3	1	6	2	5	6	3.13	3.26	3.67
Lake Holden Gardens	2	3	2	3	2	5	6	5	4	3.31	3.26	3.52
Whipple Bishop Sub	1	1	6	1	3	5	5	5	4	3.25	3.26	3.52
Hidden Springs Ut 4	3	6	1	3	1	5	3	5	1	2.88	3.26	3.52
Lake Bryan Shores	1	3	3	2	3	4	4	6	4	3.25	3.26	3.37
Oak Acres	2	3	6	3	1	4	4	2	4	3.13	3.26	3.37
Lake Apopka 2Nd Add	3	3	6	2	1	4	4	2	3	3.00	3.26	3.37
Hidden Springs Ut 3	3	6	1	3	1	4	3	5	1	2.88	3.26	3.37
Kelly Park Hills Rep	3	6	6	1	1	4	2	1	2	2.75	3.26	3.37
Seaward Plantation Ests 5Th Add	1	3	5	1	1	2	2	5	6	3.00	3.26	3.07
Hunters Creek Tr 415	1	3	6	6	4	6	2	2	4	3.44	3.26	3.67
Hiwassa Park	3	5	1	2	2	5	4	5	2	3.03	3.25	3.51
Country Shire Ests	3	3	6	1	1	2	1	3	4	2.80	3.25	3.06
Partin Oaks	1	3	6	1	1	3	2	4	6	2.99	3.25	3.21
Green Acres Ests	2	6	6	2	1	4	3	1	2	2.86	3.24	3.36
Gardenia Sub	2	2	6	2	2	6	6	2	4	3.27	3.24	3.65
Waterfront Ests 3Rd Add	2	3	1	3	1	3	5	6	5	3.20	3.24	3.20
Ponkan Pines 1St Add	1	5	6	1	1	4	4	2	4	2.98	3.24	3.35
Lake Marsha 1St Add	1	6	1	3	1	4	4	6	2	2.98	3.23	3.34
Bay Lakes At Granada Sec 5	3	5	1	4	1	5	3	5	3	3.01	3.23	3.49
Kelly Park Hills South Ph 1	3	4	6	3	4	6	2	1	2	3.13	3.22	3.64
Oak Pasture Sub	1	4	6	2	1	6	2	3	5	2.97	3.22	3.64
Bent Oak Ph 1	2	3	6	3	1	5	4	2	3	3.04	3.22	3.49
Semoran Business Ctr	1	4	6	4	3	6	3	2	3	3.19	3.22	3.63
Skycrests	3	3	1	4	4	6	6	4	3	3.50	3.22	3.63
Lockhart Hgts	2	1	6	3	4	6	6	2	4	3.50	3.22	3.63
Lake Margaret Terrace 4Th Add	2	3	1	3	1	6	6	6	4	3.19	3.22	3.63
Lake Margaret Hgts Sec 1	4	3	1	4	1	6	5	4	4	3.19	3.22	3.63
Teeples Add	2	3	6	2	1	6	5	2	4	3.06	3.22	3.63
Piedmont Ests	2	3	6	5	1	6	5	1	3	3.19	3.22	3.63
Rests Haven	4	3	1	5	1	6	5	4	3	3.19	3.22	3.63
Walden Woods	4	3	1	5	1	6	4	3	6	3.31	3.22	3.63

Appendix B
Pollution Potential Prioritization Schemes (sorted by the Weighted Vulnerability Ranking System)

Subdivision Name	Septic Density Score	OCAVA Score	Impaired WB Score	Population Density Score	Housing Density Score	WW Infra-structure Score	Year Built Score	Distance to WB Score	Elevation Score	Unweighted Vulnerability Ranking System	Weighted Vulnerability Ranking System	Weighted Connectivity Ranking System
North 441 Indus Park	1	6	6	2	1	6	3	2	2	2.81	3.22	3.63
Bunker Hill Terrace	2	3	4	3	3	6	3	3	6	3.31	3.22	3.63
River Oaks East Condo	5	3	1	4	1	6	3	3	6	3.19	3.22	3.63
Interlaken Add	1	1	4	3	1	5	6	6	4	3.19	3.22	3.48
Stewart Homestead	1	3	6	4	1	5	5	2	4	3.19	3.22	3.48
Castle Place	3	3	1	4	1	5	5	5	4	3.19	3.22	3.48
Crittenden Camp Sites	1	3	3	3	1	5	4	6	4	3.06	3.22	3.48
El Ranchero Farms	1	3	6	3	1	5	4	2	6	3.19	3.22	3.48
Forrest Cove	2	3	6	5	3	5	4	1	3	3.31	3.22	3.48
Munger Willis R Land Co	1	3	6	3	4	5	2	3	4	3.25	3.22	3.48
Bear Lake Highland Acres	1	6	6	3	1	5	2	2	2	2.81	3.22	3.48
Rivers Edge Rep	5	3	1	3	1	5	2	4	6	3.06	3.22	3.48
Carson Oaks	4	3	1	3	1	4	6	4	4	3.19	3.22	3.33
Lake Margaret Shores	4	3	1	3	1	4	6	4	4	3.19	3.22	3.33
Pershing Terrace 2Nd Add	3	3	1	3	1	4	6	5	4	3.19	3.22	3.33
Sells Terrace	2	1	3	2	4	4	5	6	4	3.38	3.22	3.33
Bonnie Belle Point	2	3	1	2	2	4	5	6	5	3.25	3.22	3.33
Green Fields	2	3	2	3	1	4	5	6	3	3.06	3.22	3.33
Willis And Brundidge Sub	3	3	1	4	1	4	5	5	4	3.19	3.22	3.33
Mockingbird Hill	2	3	6	3	1	4	4	2	4	3.06	3.22	3.33
Foxborough Oaks	1	6	6	2	1	3	2	1	5	2.94	3.22	3.19
Windermere (Blk A-F)	1	3	5	2	1	2	1	6	4	2.81	3.22	3.04
Johns Lake Homesites 1St Add	2	6	1	2	2	1	4	5	2	3.00	3.22	2.89
Oak Meadows P D Ph 3 Ut 2	4	4	1	4	1	6	3	4	4	3.06	3.22	3.63
Saddlebrook Rep	3	4	6	3	1	4	2	2	2	2.80	3.20	3.32
Shadow Bay Spgs Ut 1	2	6	1	3	1	4	3	6	1	2.80	3.20	3.32
Weissinger Fairvilla Resub Lot 42	2	2	6	2	5	6	5	2	4	3.46	3.20	3.62
Orange County Indus Pk	1	5	6	3	2	4	2	2	2	2.93	3.20	3.32
Plymouth Hills	3	3	6	3	1	6	4	2	1	2.86	3.20	3.61
Baileys Add To Plymouth	1	4	6	2	3	5	4	2	3	3.11	3.20	3.46
Kelly Park Hills Ut 1	3	5	6	1	1	6	3	1	2	2.76	3.19	3.60
Weissinger Fairvilla Sub	1	3	6	2	5	6	5	2	4	3.41	3.18	3.60

Appendix B

Pollution Potential Prioritization Schemes (sorted by the Weighted Vulnerability Ranking System)

Subdivision Name	Septic Density Score	OCAVA Score	Impaired WB Score	Population Density Score	Housing Density Score	WW Infra-structure Score	Year Built Score	Distance to WB Score	Elevation Score	Unweighted Vulnerability Ranking System	Weighted Vulnerability Ranking System	Weighted Connectivity Ranking System
Frisco Bay Ut 1	3	4	1	4	2	6	3	5	3	3.10	3.18	3.60
Orlo Vista Hgts	3	5	1	5	2	5	4	4	2	3.13	3.18	3.45
Lake Marsha	1	5	1	2	3	4	5	6	2	3.13	3.18	3.30
Victoria	1	3	5	1	1	1	4	4	5	3.00	3.18	2.85
Wekiwa Highlands	1	3	6	2	1	6	6	1	6	3.25	3.17	3.59
Betty Jo Sub	2	3	1	3	5	6	6	5	3	3.50	3.17	3.59
Crescent Hgts 1St Add	4	6	1	4	2	6	5	2	2	3.13	3.17	3.59
Raymar Manor	4	3	1	3	4	6	5	4	3	3.31	3.17	3.59
Kates J J Sub	1	3	6	4	4	6	5	1	4	3.44	3.17	3.59
Plaza Park	2	3	1	3	1	6	5	6	4	3.13	3.17	3.59
Lake Inwood Shores	3	3	1	3	1	6	5	5	4	3.13	3.17	3.59
Clover Hgts	2	3	1	3	2	6	4	6	5	3.19	3.17	3.59
Gardenia Sub No 2	2	2	6	3	4	6	4	2	4	3.31	3.17	3.59
Parkway Dist Ctr Condo Ph 2	3	3	6	1	1	6	3	2	4	2.88	3.17	3.59
Allen & Allen Sub	3	3	1	4	3	6	3	5	4	3.25	3.17	3.59
Blue Bird Park	1	3	6	2	2	6	3	4	3	2.94	3.17	3.59
Mungers Willis R Land Co	1	3	4	1	1	6	3	6	4	2.88	3.17	3.59
Sunshine Gardens 2Nd Add	3	1	6	2	1	5	6	2	4	3.13	3.17	3.44
Hourglass Homes	4	3	1	4	2	5	6	3	4	3.31	3.17	3.44
Greenbriar	2	3	1	5	2	5	5	5	4	3.31	3.17	3.44
Medallion Ests Sec 5	1	1	4	3	2	5	5	6	4	3.19	3.17	3.44
University Woods Ph 2	2	3	1	5	2	5	3	5	6	3.31	3.17	3.44
Hickory Lake Ests Rep Lot 36	1	3	4	1	1	5	3	6	4	2.88	3.17	3.44
Buena Casa Ut 1	1	3	6	2	2	4	4	3	4	3.06	3.17	3.30
Lake Marsha 2Nd Add	2	6	1	3	3	4	4	4	2	3.13	3.17	3.30
Picketts J T	1	3	6	1	1	3	5	3	4	3.00	3.17	3.15
Foxborough 2Nd Add	1	3	6	2	1	2	3	3	5	3.00	3.17	3.00
Northwood Terrace	3	4	1	4	2	6	6	3	3	3.28	3.17	3.59
Munger Willis R Land Co	1	3	6	4	2	6	4	2	4	3.18	3.17	3.59
Cypress Shores 1St Add	2	5	1	1	1	4	3	6	3	2.81	3.17	3.29
Palms Sec 1	2	4	6	3	1	6	3	1	4	2.99	3.16	3.58
Bunker Hill	2	3	4	3	3	5	3	2	6	3.30	3.16	3.43

Appendix B
Pollution Potential Prioritization Schemes (sorted by the Weighted Vulnerability Ranking System)

Subdivision Name	Septic Density Score	OCAVA Score	Impaired WB Score	Population Density Score	Housing Density Score	WW Infra-structure Score	Year Built Score	Distance to WB Score	Elevation Score	Unweighted Vulnerability Ranking System	Weighted Vulnerability Ranking System	Weighted Connectivity Ranking System
Morningside Park	2	1	4	2	2	5	5	5	4	3.14	3.15	3.42
Liberty Hgts	2	4	6	2	1	4	4	2	2	2.86	3.15	3.28
Foxborough 1St Add	1	4	6	2	1	3	4	2	5	3.01	3.14	3.12
Colony	2	3	6	4	1	5	3	2	3	2.95	3.14	3.42
Foxborough 3Rd Add	1	4	6	3	1	2	3	2	5	3.01	3.14	2.97
Kelly Park Hills Ut 4	3	5	6	2	1	4	2	1	2	2.73	3.14	3.27
Foxbriar Country Ests	1	5	6	1	1	6	2	3	2	2.66	3.14	3.56
Crescent Hill	4	3	1	4	2	5	5	4	2	3.13	3.13	3.41
Falcon Pointe Rep	3	4	6	3	1	4	2	2	2	2.75	3.13	3.26
Lake Pine Loch Hgts	1	3	1	3	3	6	6	6	4	3.31	3.13	3.56
Duskin Frank Sub	2	1	6	4	1	6	6	2	4	3.19	3.13	3.56
Robinson Oaks	4	3	1	4	1	6	6	3	4	3.19	3.13	3.56
Silver Beach Sub 2Nd Add	4	3	1	4	1	6	6	3	4	3.19	3.13	3.56
Lake Margaret Hgts Sec 2	4	3	1	4	3	6	5	3	4	3.31	3.13	3.56
Harvey Hgts	3	3	1	4	1	6	5	5	3	3.06	3.13	3.56
Tabory-Pult Sub	1	1	6	2	2	6	5	4	4	3.13	3.13	3.56
Lake Barton Manor 1St Add	1	3	6	3	4	6	5	1	4	3.38	3.13	3.56
Nob Hill	3	3	6	3	1	6	5	1	2	2.94	3.13	3.56
Slauson And Gibons	2	3	6	5	1	6	5	1	2	3.06	3.13	3.56
Alvin Sub	2	3	4	2	1	6	4	3	6	3.06	3.13	3.56
Munger Willis R Land Co	1	3	6	3	1	6	4	2	5	3.06	3.13	3.56
Hoenstine Ests	2	3	6	3	5	6	3	1	4	3.31	3.13	3.56
Cheney Hwy Acres 1St Add	2	3	6	3	1	6	3	1	6	3.06	3.13	3.56
Country Grove	3	6	1	4	2	6	3	3	2	3.00	3.13	3.56
University Woods Ph 1	3	3	1	5	1	6	3	4	6	3.19	3.13	3.56
Lake Irma Park	2	3	2	3	1	6	3	5	6	3.06	3.13	3.56
Walker-Rouse Sub	1	3	6	2	1	6	2	3	6	2.94	3.13	3.56
Oak Meadows P D Ph 3 Villas/Oak Meadows Ph 2 R	4	6	1	5	2	6	2	2	2	3.00	3.13	3.56
Glass Gardens	3	3	1	4	1	5	6	4	4	3.19	3.13	3.41
Becks Add To Zellwood	2	3	6	2	1	5	6	1	4	3.06	3.13	3.41
Rio Grande Terrace 1St Add	4	3	1	4	4	5	6	2	4	3.50	3.13	3.41

Appendix B
Pollution Potential Prioritization Schemes (sorted by the Weighted Vulnerability Ranking System)

Subdivision Name	Septic Density Score	OCAVA Score	Impaired WB Score	Population Density Score	Housing Density Score	WW Infra-structure Score	Year Built Score	Distance to WB Score	Elevation Score	Unweighted Vulnerability Ranking System	Weighted Vulnerability Ranking System	Weighted Connectivity Ranking System
Lake Margaret Manor Sec 2	2	3	1	3	1	5	5	6	4	3.06	3.13	3.41
Interlaken	1	1	4	3	1	5	5	6	4	3.06	3.13	3.41
Veradale	4	3	1	4	1	4	6	3	4	3.19	3.13	3.26
Fairbanks Shores	1	1	3	2	4	4	6	6	4	3.38	3.13	3.26
Crescent Hgts	4	3	1	5	2	4	6	3	2	3.25	3.13	3.26
Willis And Brundidge Rep	3	3	1	3	1	4	5	5	4	3.06	3.13	3.26
Dover Terrace	4	3	1	4	1	4	5	4	3	3.06	3.13	3.26
Willis And Brundidge Rep Annex	4	3	1	3	1	4	5	4	4	3.06	3.13	3.26
Willis And Brundidge Sub	2	3	1	3	1	4	5	6	4	3.06	3.13	3.26
Shadow Bay Spgs Ut 2	3	6	1	4	1	4	3	4	1	2.81	3.13	3.26
Shadow Bay Spgs Ut 4	2	6	1	4	1	3	3	5	1	2.81	3.13	3.11
Hull Island At Oakland	2	3	6	1	2	1	1	3	5	2.88	3.13	2.81
Taft	2	3	6	3	3	4	4	1	4	3.19	3.13	3.26
Irma Shores Rep	2	3	1	3	1	6	4	5	6	3.12	3.13	3.55
Butler Manor	1	3	6	2	2	4	1	4	4	2.84	3.13	3.25
Ravens Haven	1	4	6	2	1	6	3	2	5	2.93	3.12	3.55
Oakland Trails Phase 1	3	5	5	1	4	1	1	2	2	2.86	3.11	2.80
Ponkan Pines	1	4	6	1	1	4	4	2	5	2.96	3.11	3.24
Oak Meadows P D Ph 3 Ut 1	4	6	1	5	1	6	3	2	2	2.92	3.11	3.54
East Coast Villa	1	3	6	2	1	6	4	3	3	2.89	3.11	3.54
Fern Manor	3	3	1	3	1	5	6	5	3	3.05	3.11	3.39
Little Lake Bryan Parcel 8	1	4	6	6	1	6	1	2	3	2.95	3.11	3.54
Polo Glen At Lake Betty	1	2	6	2	1	6	1	6	3	2.69	3.10	3.53
Blue Ridge Acres	1	5	6	2	1	4	4	1	3	2.85	3.09	3.23
Kentzelmans Rep	2	3	6	3	1	5	4	1	4	2.97	3.09	3.37
Lake Cane Shores	1	4	1	2	3	4	5	6	3	3.10	3.09	3.23
Longenecker Park	3	3	6	1	1	6	6	1	2	2.88	3.09	3.52
Westmont Rep	5	3	1	3	1	6	6	3	2	3.00	3.09	3.52
Lorena Gardens	1	1	6	3	1	6	6	3	4	3.13	3.09	3.52
Henderson & Mcdonald Sub	2	1	6	3	1	6	6	2	4	3.13	3.09	3.52
Lake Lagrange Hgts 1St Add	3	3	1	3	1	6	5	5	3	3.00	3.09	3.52
Magnolia Villas Orlando Condo	5	3	1	5	2	6	4	2	4	3.19	3.09	3.52

Appendix B

Pollution Potential Prioritization Schemes (sorted by the Weighted Vulnerability Ranking System)

Subdivision Name	Septic Density Score	OCAVA Score	Impaired WB Score	Population Density Score	Housing Density Score	WW Infra-structure Score	Year Built Score	Distance to WB Score	Elevation Score	Unweighted Vulnerability Ranking System	Weighted Vulnerability Ranking System	Weighted Connectivity Ranking System
Bedford Hgts	4	3	1	4	1	6	3	4	4	3.00	3.09	3.52
Westmoor Ph 3	3	6	1	4	1	6	3	3	2	2.88	3.09	3.52
Silver Beach Sub 1St Add	4	3	1	3	1	5	6	3	4	3.13	3.09	3.37
Rio Grande Terrace 4Th Add	3	3	1	6	4	5	6	2	4	3.56	3.09	3.37
East Dale Acres	4	3	1	4	1	5	6	2	5	3.25	3.09	3.37
Rio Grande Terrace 7Th Add	4	3	1	5	2	5	6	2	4	3.31	3.09	3.37
Holden Grove	3	3	1	3	4	5	6	4	3	3.31	3.09	3.37
Oakland Shores 2Nd Add	1	3	1	3	2	5	5	6	5	3.19	3.09	3.37
Chickasaw Pines	3	3	1	3	1	5	5	4	5	3.13	3.09	3.37
Oak Lakes	1	3	3	2	1	5	3	5	6	3.00	3.09	3.37
Piney Woods Point	4	3	1	4	1	5	3	3	6	3.13	3.09	3.37
Downs Cove Camp Sites	2	3	1	2	1	4	6	6	3	3.00	3.09	3.22
Ponkan Terrace 1St Add	2	3	6	1	1	4	4	3	2	2.75	3.09	3.22
Shadow Bay Spgs Ut 1	3	6	1	3	1	4	3	4	1	2.75	3.09	3.22
Bentons Plymouth Oaks	1	3	6	1	1	4	3	3	5	2.88	3.09	3.22
Falcon Pointe 2Nd Rep	3	3	6	2	1	4	1	3	2	2.63	3.09	3.22
Ola Beach	4	3	1	1	1	3	6	4	4	3.00	3.09	3.07
Waterfront Ests	2	3	1	3	1	3	6	5	4	3.13	3.09	3.07
Foxborough Farms	1	3	6	2	1	2	2	3	5	2.88	3.09	2.93
Ltv 1400 Timeshare Resort	2	6	1	1	1	2	1	6	3	2.63	3.09	2.93
Lockmere	1	3	6	2	3	6	4	1	5	3.19	3.08	3.52
Lakewood Park	1	3	1	2	1	6	4	6	6	3.05	3.07	3.51
Wynglow Acres	1	3	6	3	1	5	5	2	3	2.96	3.07	3.36
Orlo Vista Terrace	3	5	1	4	1	5	4	3	3	2.96	3.07	3.36
Prosper Colony Blk E	1	2	6	2	2	5	5	3	4	3.05	3.07	3.36
Pine Ridge Ests Sec 4	3	1	6	3	1	6	5	2	3	2.96	3.07	3.50
Shadow Bay Spgs Ut 3	3	6	1	3	1	3	3	4	1	2.74	3.07	3.06
Westmoor Ph 2	4	5	1	3	1	5	3	3	2	2.80	3.07	3.35
Lake Cane Hills	2	4	1	3	3	4	5	5	2	3.10	3.05	3.19
Sherman Farms	1	3	3	3	1	6	6	3	6	3.19	3.04	3.48
Pelham Park 2Nd Add Rep	1	3	1	3	1	6	6	6	4	3.06	3.04	3.48
Conway Terrace	3	3	1	5	1	6	6	3	4	3.19	3.04	3.48

Appendix B

Pollution Potential Prioritization Schemes (sorted by the Weighted Vulnerability Ranking System)

Subdivision Name	Septic Density Score	OCAVA Score	Impaired WB Score	Population Density Score	Housing Density Score	WW Infra-structure Score	Year Built Score	Distance to WB Score	Elevation Score	Unweighted Vulnerability Ranking System	Weighted Vulnerability Ranking System	Weighted Connectivity Ranking System
Munger Willis R Land Co	2	1	6	3	1	6	6	2	4	3.06	3.04	3.48
Bass Lake Manor	3	3	1	4	1	6	6	4	3	3.06	3.04	3.48
East Dale Acres Rep	4	3	1	5	1	6	5	2	5	3.19	3.04	3.48
Mier Manor	2	1	6	4	1	6	5	2	4	3.06	3.04	3.48
Harriet Hgts	4	3	1	4	3	6	5	3	3	3.19	3.04	3.48
Coco Plum Villas Condo	5	3	1	4	2	6	5	2	3	3.13	3.04	3.48
Munger Willis R Land Co	1	1	6	3	1	6	5	3	5	3.06	3.04	3.48
Palm Lake Ests	1	3	6	3	1	6	4	1	6	3.06	3.04	3.48
Palm Lake Ests 4Th Add	1	3	1	3	1	6	4	6	6	3.06	3.04	3.48
Summer Oaks	2	3	4	2	1	6	3	3	6	2.94	3.04	3.48
Powers Ridge	3	1	6	4	1	6	3	2	4	2.94	3.04	3.48
Rivers Edge	2	3	1	4	1	6	3	5	6	3.06	3.04	3.48
University Woods Ph 3A	3	3	1	3	2	6	3	4	6	3.13	3.04	3.48
Walnut Creek	3	3	6	5	1	6	2	1	2	2.81	3.04	3.48
Eastwood Park	1	3	6	3	1	6	2	2	6	2.94	3.04	3.48
Lake Bell Terrace	2	3	1	3	1	5	6	5	4	3.06	3.04	3.33
Pershing Terrace	4	3	1	4	1	5	6	3	3	3.06	3.04	3.33
Lake Lagrange Manor	3	3	1	3	1	5	4	5	4	2.94	3.04	3.33
Brentwood	2	3	6	3	1	5	4	1	4	2.94	3.04	3.33
Willis And Brundidge Sub	1	3	1	3	1	4	6	6	4	3.06	3.04	3.19
Roselle Park 2Nd Rep	4	3	1	4	1	4	6	3	3	3.06	3.04	3.19
Lake Margaret Court	3	3	1	3	1	4	6	4	4	3.06	3.04	3.19
Pros Ranch	2	3	6	2	1	4	4	1	5	2.94	3.04	3.19
Hidden Springs Ut 2 1St Add	2	6	1	3	1	4	3	5	1	2.69	3.04	3.19
Lake Ola Terrace	2	3	1	2	1	1	4	6	5	2.94	3.04	2.74
Avondale	3	3	1	5	1	4	4	4	3	2.99	3.04	3.18
Knollwood Park	1	3	6	2	1	5	4	1	6	3.02	3.03	3.33
Bunker Hill 2Nd Sec	1	3	2	3	3	5	4	4	6	3.24	3.03	3.32
Pine Castle	1	3	6	1	1	6	3	3	4	2.77	3.03	3.47
Munger Willis R Land Co	1	2	6	5	1	6	3	3	3	2.92	3.02	3.46
Mcdonald & Wilkins Sub	1	5	6	1	1	6	4	2	2	2.70	3.02	3.46
Bay Vista Ests Ut 3	1	3	3	4	1	5	2	5	4	2.86	3.02	3.31

Appendix B

Pollution Potential Prioritization Schemes (sorted by the Weighted Vulnerability Ranking System)

Subdivision Name	Septic Density Score	OCAVA Score	Impaired WB Score	Population Density Score	Housing Density Score	WW Infra-structure Score	Year Built Score	Distance to WB Score	Elevation Score	Unweighted Vulnerability Ranking System	Weighted Vulnerability Ranking System	Weighted Connectivity Ranking System
Hall Ests	1	6	6	4	1	4	1	1	2	2.67	3.02	3.16
Winderlakes	2	5	1	3	1	4	4	5	1	2.73	3.02	3.16
Leawood 1St Add	1	3	6	4	1	4	5	1	4	3.04	3.01	3.16
Fan-San Manor	1	3	1	2	2	5	6	6	3	3.04	3.01	3.30
Victoria Place Ut 1	3	6	1	4	1	5	3	3	2	2.82	3.01	3.30
Lafayette Club	2	6	1	3	1	4	2	5	2	2.66	3.01	3.15
Hilltop Stable Sub	1	5	6	1	1	6	2	3	2	2.57	3.00	3.45
San Susan	1	3	1	2	2	6	6	6	3	3.03	3.00	3.45
Vineland Oaks	2	3	1	4	1	6	2	6	4	2.85	3.00	3.45
Fairbanks Shores 6Th Add	3	1	1	2	1	6	6	6	4	3.00	3.00	3.44
Silver Beach Sub	3	3	1	4	1	6	6	3	4	3.13	3.00	3.44
Grove Villa	4	3	1	5	1	6	6	2	3	3.13	3.00	3.44
Birr Court	3	1	1	3	3	6	6	5	4	3.25	3.00	3.44
East Highlands Sub	2	3	1	2	1	6	5	5	5	3.00	3.00	3.44
Persian Wood Ests	3	3	1	3	1	6	5	4	4	3.00	3.00	3.44
Avondale	1	3	6	2	1	6	5	2	3	2.88	3.00	3.44
Lake Willis Camps 1St Add	1	3	3	1	1	6	4	6	3	2.75	3.00	3.44
Ruthwood Acres	2	3	6	2	1	6	4	1	4	2.88	3.00	3.44
East Dale Acres	2	3	1	1	1	6	3	6	6	2.88	3.00	3.44
Valencia Hills Ut 2	3	6	1	5	2	6	3	2	2	2.94	3.00	3.44
Valeview	3	3	6	2	1	6	2	2	2	2.63	3.00	3.44
Oaks At Paradise	2	3	6	3	2	6	2	2	3	2.81	3.00	3.44
Crittenden Camp Sites	2	3	2	3	1	6	1	6	4	2.75	3.00	3.44
Brewer Court	2	1	6	2	1	5	6	2	4	3.00	3.00	3.30
Livingston J H Land Sub	1	1	4	2	1	5	6	5	4	3.00	3.00	3.30
Pershing Terrace 1St Add	3	3	1	3	1	5	6	4	3	3.00	3.00	3.30
Silver Beach Sub 3Rd Add	4	3	1	2	1	5	6	3	4	3.00	3.00	3.30
Wildwood Homes	3	3	1	3	1	5	5	4	4	3.00	3.00	3.30
Robinson R G Sub	1	3	6	1	1	5	5	2	4	2.88	3.00	3.30
Valencia Hills Ut 1	3	6	1	5	2	5	3	2	2	2.94	3.00	3.30
Event Warehouse Condo	2	3	6	1	1	5	3	2	4	2.75	3.00	3.30
Sphaler Add To Taft	2	3	6	2	3	5	3	1	4	3.00	3.00	3.30

Appendix B

Pollution Potential Prioritization Schemes (sorted by the Weighted Vulnerability Ranking System)

Subdivision Name	Septic Density Score	OCAVA Score	Impaired WB Score	Population Density Score	Housing Density Score	WW Infra-structure Score	Year Built Score	Distance to WB Score	Elevation Score	Unweighted Vulnerability Ranking System	Weighted Vulnerability Ranking System	Weighted Connectivity Ranking System
Paulana Park	4	3	1	3	1	4	6	3	3	3.00	3.00	3.15
Lake Margaret Terrace 2Nd Add	4	3	1	4	1	4	6	2	4	3.13	3.00	3.15
Backachers Ests	2	3	1	4	1	4	3	6	4	2.91	3.00	3.15
Summerport Beach Corrective Plat	2	3	1	1	1	3	6	6	3	2.88	3.00	3.00
Ponkan Terrace	2	3	6	1	1	3	4	2	3	2.75	3.00	3.00
Isle Of Bali 2 Condo Ph 5	1	6	1	1	1	3	2	6	3	2.63	3.00	3.00
Tangerine Shores	2	3	1	2	2	1	6	5	4	3.06	3.00	2.70
Bithlo (Blk 2018-2240)	2	1	5	2	4	1	3	3	6	3.19	3.00	2.70
Oakland Town Of	2	3	6	2	2	1	4	1	3	2.90	3.00	2.70
Westmont	4	4	1	5	1	5	4	3	2	2.90	2.99	3.29
Lake Rose Ridge Rep	2	5	1	3	1	6	2	5	3	2.74	2.99	3.44
Westmoor Ph 4C	3	6	1	3	1	5	3	3	2	2.74	2.99	3.29
Pineloch Shores	1	2	1	3	5	6	5	6	4	3.33	2.99	3.43
Hidden Springs Ut 2	2	6	1	4	1	4	4	4	1	2.77	2.99	3.14
Lake Johns Shores	2	5	1	2	4	3	4	4	3	3.05	2.98	2.99
Park Springs	2	6	1	3	1	4	2	5	2	2.64	2.98	3.13
Edgewater Beach 2Nd Rep	1	4	1	1	1	1	5	6	3	2.80	2.98	2.69
Harbor Hgts Ph 2	4	5	1	5	1	6	3	2	2	2.86	2.97	3.42
Alden Court	2	3	6	3	1	6	5	1	2	2.82	2.97	3.42
Hunter Land Co Sub	1	3	6	2	6	6	4	1	4	3.29	2.97	3.42
Apopka Ranches	1	3	6	2	3	4	4	2	3	2.94	2.96	3.12
Munger Willis R Land Co	1	3	6	4	1	6	4	2	3	2.88	2.96	3.41
All The Way Sub	3	6	1	2	3	4	1	4	2	2.72	2.96	3.11
Roseview Sub	3	5	1	4	1	6	3	3	3	2.81	2.96	3.41
Trentonian Court	2	3	1	4	1	6	6	4	4	3.06	2.96	3.41
Alice C Hill Add To Toronto	2	3	6	1	2	6	6	1	2	2.88	2.96	3.41
Fort Gatlin Hgts	2	1	1	4	1	6	6	6	4	3.06	2.96	3.41
Lake Margaret Terrace	3	3	1	4	1	6	6	3	4	3.06	2.96	3.41
Jewel Shores Rep	3	1	1	3	4	6	6	5	3	3.25	2.96	3.41
Lake Margaret Terrace 3Rd Add	4	3	1	4	1	6	6	2	4	3.06	2.96	3.41
Sunshine Gardens 1St Add	3	1	4	4	1	6	6	2	4	3.06	2.96	3.41

Appendix B

Pollution Potential Prioritization Schemes (sorted by the Weighted Vulnerability Ranking System)

Subdivision Name	Septic Density Score	OCAVA Score	Impaired WB Score	Population Density Score	Housing Density Score	WW Infra-structure Score	Year Built Score	Distance to WB Score	Elevation Score	Unweighted Vulnerability Ranking System	Weighted Vulnerability Ranking System	Weighted Connectivity Ranking System
Lake Margaret Manor Sec 3	3	3	1	3	1	6	5	4	4	2.94	2.96	3.41
Priscilla Place	2	3	6	3	1	6	5	1	2	2.81	2.96	3.41
Ford & Warren Sub	3	3	1	5	1	6	5	3	4	3.06	2.96	3.41
Lake Barton Manor	2	3	6	2	1	6	4	1	4	2.81	2.96	3.41
Lake Margaret Hills	4	3	1	3	2	6	4	3	4	3.00	2.96	3.41
Bay Lakes At Granada Sec 6	3	6	1	3	1	6	3	3	2	2.69	2.96	3.41
Hidden Springs Ut 5	2	6	1	4	1	6	3	4	1	2.69	2.96	3.41
Arbor Woods North	4	3	1	5	1	6	3	2	6	3.06	2.96	3.41
Green Manor	2	1	6	5	1	6	3	2	4	2.94	2.96	3.41
Inwood Haven	2	3	1	4	1	6	2	6	4	2.81	2.96	3.41
Munger Willis R Land Co	1	5	6	3	1	6	2	2	2	2.63	2.96	3.41
Rivers Edge Rep	4	3	1	2	1	6	2	4	6	2.81	2.96	3.41
Rivers Edge Rep	4	3	1	2	1	6	2	4	6	2.81	2.96	3.41
Landstar Business Center	2	3	6	5	1	6	1	1	4	2.81	2.96	3.41
East Dale Acres 2Nd Rep	4	3	1	4	1	5	5	2	5	3.06	2.96	3.26
Greenbriar Ut 3	3	3	1	4	2	5	5	3	4	3.13	2.96	3.26
Greenbriar Ut 2	3	3	1	4	2	5	5	3	4	3.13	2.96	3.26
Rosewood	5	3	1	4	1	5	3	3	3	2.81	2.96	3.26
Easton Sub	4	3	1	5	1	5	3	2	6	3.06	2.96	3.26
Fairbanks Shores	1	1	2	2	4	4	6	6	4	3.25	2.96	3.11
William Grove	4	3	1	4	1	4	6	2	4	3.06	2.96	3.11
Cobblestone Walk At Kaley Condo Phase 2	5	3	1	4	2	4	1	3	4	2.88	2.96	3.11
Rock Springs Homesites	1	3	6	2	1	5	4	1	5	2.91	2.96	3.26
Raintree Place Ph 2	2	5	1	4	1	5	3	4	3	2.84	2.95	3.25
Alafaya Woods	3	5	1	3	1	5	4	2	5	2.96	2.94	3.25
Oakland Trails Phase 1	1	4	6	1	2	1	1	2	5	2.74	2.94	2.65
Kelly Park Hills Ut 3	2	5	6	2	1	4	2	1	2	2.58	2.94	3.10
Shuman Acres	1	2	6	3	1	6	5	2	3	2.86	2.94	3.39
Orlo Vista Hgts Add	3	3	1	4	2	4	4	4	2	2.92	2.94	3.09
Victoria Place Ut 2	3	6	1	4	1	5	2	3	2	2.67	2.94	3.24
Rock Springs	1	4	6	1	1	5	4	1	5	2.83	2.93	3.24

Appendix B
Pollution Potential Prioritization Schemes (sorted by the Weighted Vulnerability Ranking System)

Subdivision Name	Septic Density Score	OCAVA Score	Impaired WB Score	Population Density Score	Housing Density Score	WW Infra-structure Score	Year Built Score	Distance to WB Score	Elevation Score	Unweighted Vulnerability Ranking System	Weighted Vulnerability Ranking System	Weighted Connectivity Ranking System
Orange County Indus Pk Ph 2	1	3	6	3	2	6	2	2	3	2.79	2.93	3.38
Westmoor Ph 4D	2	4	1	4	1	5	3	5	2	2.73	2.92	3.23
Orlando Groves Assoc	1	2	6	3	1	6	2	3	4	2.72	2.92	3.38
Forest Pines	4	2	1	5	3	6	4	3	3	3.10	2.92	3.38
Oak Forest Sub	4	3	1	4	2	6	6	2	3	3.06	2.91	3.37
Heart O Conway	4	3	1	4	1	6	6	2	3	3.00	2.91	3.37
Sun Kist Park	1	3	1	2	2	6	5	6	4	2.94	2.91	3.37
Conway Ests	1	3	1	3	1	6	5	6	3	2.88	2.91	3.37
Greenbriar Ut 6	1	3	1	4	2	6	5	5	4	3.06	2.91	3.37
Lake Jewell Hills	3	1	1	3	4	6	5	5	4	3.19	2.91	3.37
Watson Ranch Ests	3	3	1	3	3	6	5	3	4	3.13	2.91	3.37
Cheney Highlands	2	3	1	3	1	6	5	4	5	3.00	2.91	3.37
Flowers Manor	1	3	1	2	1	6	4	6	5	2.88	2.91	3.37
Oak Ridge Manor	3	1	6	2	1	6	4	2	3	2.75	2.91	3.37
Down Acres Ests 1St Rep	2	3	1	2	1	6	4	6	3	2.75	2.91	3.37
Boggy Creek Oaks	1	3	6	1	1	6	4	1	6	2.88	2.91	3.37
Prosper Colony Blk 1	1	3	6	2	5	6	3	1	4	3.13	2.91	3.37
East Dale Acres	5	3	1	3	1	6	3	2	5	2.88	2.91	3.37
River Pines	3	3	1	4	1	6	3	3	6	3.00	2.91	3.37
Fairview Spgs Park	2	1	6	2	1	6	3	3	4	2.75	2.91	3.37
River Crests	4	3	1	4	1	6	3	2	6	3.00	2.91	3.37
Carmel Park	4	3	1	4	1	6	3	2	6	3.00	2.91	3.37
Bentons Mohawk Ests	2	3	1	1	3	6	2	6	5	2.88	2.91	3.37
Eastpoint Indus Park	1	3	6	3	2	6	2	2	4	2.81	2.91	3.37
Bretwood 2	3	1	6	3	1	6	2	2	4	2.75	2.91	3.37
U-Haul Of Apopoka	1	3	6	2	2	6	2	3	3	2.69	2.91	3.37
Fairview Hgts Rep	2	1	4	3	4	5	6	3	3	3.19	2.91	3.22
Boone Terrace	3	3	1	4	1	5	6	3	3	3.00	2.91	3.22
Fairbanks Shores 4Th Add	4	1	1	3	1	5	6	4	4	3.00	2.91	3.22
Fairbanks Shores 5Th Add	3	1	1	3	1	5	6	5	4	3.00	2.91	3.22
Nela Isle	3	3	1	3	1	5	6	3	4	3.00	2.91	3.22
Warner Sub	4	3	1	4	1	5	6	2	3	3.00	2.91	3.22

Appendix B

Pollution Potential Prioritization Schemes (sorted by the Weighted Vulnerability Ranking System)

Subdivision Name	Septic Density Score	OCAVA Score	Impaired WB Score	Population Density Score	Housing Density Score	WW Infra-structure Score	Year Built Score	Distance to WB Score	Elevation Score	Unweighted Vulnerability Ranking System	Weighted Vulnerability Ranking System	Weighted Connectivity Ranking System
Cloverlawn	3	3	1	4	2	5	5	3	4	3.06	2.91	3.22
Cheney Highlands 2Nd Add	2	3	1	3	1	5	5	4	5	3.00	2.91	3.22
Stokes Sub	1	1	3	2	4	5	4	6	4	3.06	2.91	3.22
Lake Cane Ests 1St Add	3	6	1	3	1	5	4	2	2	2.75	2.91	3.22
Medallion Ests Sec 6	1	1	4	2	2	5	3	6	4	2.81	2.91	3.22
Valencia Hills Ut 3	3	6	1	4	1	5	3	2	2	2.75	2.91	3.22
Florida Power Corp Intl Dr Substation	1	3	6	2	1	5	2	2	5	2.75	2.91	3.22
Shady Oaks Sub	3	3	1	3	1	4	5	4	3	2.88	2.91	3.07
Hickory Lake Ests	1	3	3	1	1	4	3	6	3	2.63	2.91	3.07
Palm Cove Ests 5	3	3	1	3	1	4	2	5	4	2.75	2.91	3.07
Seaward Plantation Ests 3Rd Add	1	3	6	1	1	4	2	2	6	2.75	2.91	3.07
Summerport Beach	2	3	1	1	1	3	5	6	3	2.75	2.91	2.93
Munger Willis R Land Co	1	3	5	1	1	3	4	3	4	2.75	2.91	2.93
Summerport Beach Rep	3	3	1	1	1	3	3	6	3	2.63	2.91	2.93
Bithlo Ranches Annex Unrec Plat	1	1	6	1	1	1	2	4	6	2.75	2.91	2.63
Terrell Terrace	2	6	6	1	1	1	1	1	1	2.38	2.91	2.63
Steeplechase	1	4	6	2	1	6	3	2	2	2.59	2.91	3.37
Seaward Plantation Ests 4Th Add	1	3	6	1	1	4	2	2	6	2.75	2.91	3.07
Sand Lake Hills Sec 9	3	6	1	4	1	5	3	3	1	2.65	2.90	3.21
Phoenicia Center Condo	4	3	1	3	1	6	1	5	3	2.58	2.90	3.36
Johns Cove	2	5	1	2	4	1	1	5	2	2.74	2.90	2.62
Lakeside Place	1	6	1	3	1	4	2	6	1	2.52	2.90	3.06
Wawa Store At Avalon Road	1	6	1	1	2	2	1	6	3	2.58	2.89	2.76
Killarney Circle	3	1	1	3	1	6	5	5	4	2.92	2.89	3.35
Peters Arthur Sub	1	4	6	1	1	2	3	2	2	2.54	2.89	2.75
Hidden Ests	3	6	1	4	1	5	3	3	1	2.63	2.88	3.20
Munger Willis R Land Co	1	4	5	1	5	6	2	2	3	2.91	2.88	3.34
Avondale Add	2	3	1	4	2	4	4	5	2	2.88	2.88	3.04
Lake Holden Grove	2	1	3	2	2	5	4	5	4	2.88	2.87	3.19
Trenton Terrace	2	1	1	2	2	6	6	6	4	3.00	2.87	3.33
Cloverdale Sub	2	3	1	4	2	6	6	3	4	3.13	2.87	3.33

Appendix B

Pollution Potential Prioritization Schemes (sorted by the Weighted Vulnerability Ranking System)

Subdivision Name	Septic Density Score	OCAVA Score	Impaired WB Score	Population Density Score	Housing Density Score	WW Infra-structure Score	Year Built Score	Distance to WB Score	Elevation Score	Unweighted Vulnerability Ranking System	Weighted Vulnerability Ranking System	Weighted Connectivity Ranking System
Pink & Monells Sub	2	3	1	3	5	6	6	3	4	3.31	2.87	3.33
Crystal Lake Manor	3	3	1	4	1	6	6	3	3	2.94	2.87	3.33
Lewis Manor	4	3	1	4	1	6	6	2	3	2.94	2.87	3.33
Adirondack Hgts	3	3	1	4	2	6	5	3	3	3.00	2.87	3.33
West Orlando	1	3	6	2	1	6	5	1	4	2.81	2.87	3.33
Orangewood Ests	3	1	1	3	4	6	5	5	3	3.13	2.87	3.33
Sandy Shores	2	3	1	2	1	6	4	6	3	2.69	2.87	3.33
Aagaard Acres	1	3	6	3	3	6	3	1	4	2.94	2.87	3.33
Parkway Dist Ctr Condo	2	3	6	2	1	6	3	1	4	2.69	2.87	3.33
Whispering Pines Place Condo	6	3	1	4	2	6	3	1	3	2.88	2.87	3.33
Inwood Landing	2	3	1	4	1	6	3	5	4	2.81	2.87	3.33
Westmoor Ph 4E	3	6	1	3	1	6	2	3	2	2.56	2.87	3.33
Palm Cove Ests 2	2	3	1	3	2	6	2	6	3	2.75	2.87	3.33
Shiocton Hgts	3	3	4	3	1	6	2	1	6	2.81	2.87	3.33
Summit Park Place	1	3	6	4	4	6	1	1	4	3.00	2.87	3.33
Fairbanks Shores 2Nd Add	3	1	3	4	1	5	6	3	3	2.94	2.87	3.19
Jewel Oaks	2	1	1	3	4	5	6	5	4	3.25	2.87	3.19
De Lome Ests	3	1	1	2	4	5	5	5	4	3.13	2.87	3.19
Los Terranos	1	3	6	3	1	5	4	1	4	2.81	2.87	3.19
Roselle Park	4	3	1	4	1	4	6	2	3	2.94	2.87	3.04
Fernway	4	3	1	5	1	4	5	2	3	2.94	2.87	3.04
Cross Rds Sub	2	1	6	2	2	4	5	2	3	2.88	2.87	3.04
Piney Wood Lakes	2	3	1	4	1	4	5	4	4	2.94	2.87	3.04
Spring Pine Villas	4	3	1	5	1	4	3	2	5	2.94	2.87	3.04
Spences Point	2	3	1	2	2	4	3	6	3	2.75	2.87	3.04
Wekiva Forest Trails	1	3	6	1	2	3	1	3	4	2.63	2.87	2.89
Bithlo Ranches Annex Unrec Plat	1	1	6	1	4	1	4	2	6	3.13	2.87	2.59
Kelso On Lake Butler	1	5	1	1	1	4	3	6	3	2.59	2.87	3.03
Riverdale Farms	1	3	1	3	1	6	4	5	6	2.93	2.86	3.33
Unrecorded Plat Of Dorwood Manor	1	4	6	2	1	5	5	1	2	2.71	2.86	3.18
Lake Avalon Hgts	1	4	1	1	1	3	4	6	3	2.65	2.86	2.88

Appendix B

Pollution Potential Prioritization Schemes (sorted by the Weighted Vulnerability Ranking System)

Subdivision Name	Septic Density Score	OCAVA Score	Impaired WB Score	Population Density Score	Housing Density Score	WW Infra-structure Score	Year Built Score	Distance to WB Score	Elevation Score	Unweighted Vulnerability Ranking System	Weighted Vulnerability Ranking System	Weighted Connectivity Ranking System
Summer Lakes	2	3	1	3	1	5	3	5	4	2.77	2.86	3.18
Hewett Hgts	3	2	1	3	2	6	5	4	4	2.95	2.85	3.32
Jewel Shores	3	1	1	4	4	6	6	4	3	3.20	2.85	3.32
Lake Marsha 1St Add Rep	1	3	1	3	1	4	5	6	2	2.73	2.85	3.02
Lake Avalon Ests	1	3	1	1	1	6	6	6	3	2.76	2.85	3.31
Spring Hollow Ph 1	1	4	6	1	2	4	2	1	5	2.73	2.85	3.02
Southridge	4	5	1	4	1	5	3	2	2	2.70	2.84	3.16
Lake Avalon Ests 2Nd Rep	1	3	1	1	1	4	5	6	4	2.76	2.83	3.01
Winderlakes 2	2	5	1	3	1	5	3	4	2	2.60	2.83	3.15
Clover Hgts	3	3	1	3	2	6	6	3	3	2.94	2.83	3.30
Hansel E W Sub	1	3	1	2	1	6	6	5	4	2.88	2.83	3.30
Agnes Hgts	3	3	1	5	1	6	6	2	3	3.00	2.83	3.30
Agnes Hgts 1St Add	4	3	1	5	1	6	6	1	3	3.00	2.83	3.30
Clover Hgts Rep	3	3	1	4	2	6	5	3	3	2.94	2.83	3.30
Florence Hgts	4	3	1	3	1	6	5	2	4	2.88	2.83	3.30
Foxbower Manor	2	3	1	3	1	6	5	3	6	3.00	2.83	3.30
Wildwood Terrace	3	3	1	3	1	6	5	3	4	2.88	2.83	3.30
Piney Oak Shores	2	3	1	3	1	6	5	4	4	2.88	2.83	3.30
Lake Margaret Ests	3	3	1	4	2	6	5	3	3	2.94	2.83	3.30
Lake Hiawassa Terrace Rep	2	3	1	3	1	6	5	4	4	2.88	2.83	3.30
Central Park Village Condo	1	3	6	2	2	6	4	1	4	2.81	2.83	3.30
Leawood	1	3	6	2	1	6	4	1	4	2.75	2.83	3.30
Tilden Manor	1	3	6	1	1	6	4	1	5	2.75	2.83	3.30
Sphalers Rev	1	3	6	1	1	6	3	2	4	2.63	2.83	3.30
Regency Indus Park Sec 15	1	3	6	1	1	6	3	2	4	2.63	2.83	3.30
Sherwood Forest	4	3	1	5	1	6	3	1	6	3.00	2.83	3.30
Bronson Irlo O Sub	1	3	6	3	2	6	3	1	4	2.81	2.83	3.30
Palm Lake Ests 3Rd Add	1	3	1	3	1	6	3	5	6	2.88	2.83	3.30
Henderson & Mcdonald Sub	1	1	6	2	1	5	6	2	4	2.88	2.83	3.15
Lakeview Hgts	1	3	1	2	2	5	4	6	4	2.81	2.83	3.15
Kings Cove	5	3	1	3	1	5	3	2	4	2.75	2.83	3.15
Smith Emery Sub	1	3	6	1	1	5	3	3	2	2.50	2.83	3.15

Appendix B

Pollution Potential Prioritization Schemes (sorted by the Weighted Vulnerability Ranking System)

Subdivision Name	Septic Density Score	OCAVA Score	Impaired WB Score	Population Density Score	Housing Density Score	WW Infra-structure Score	Year Built Score	Distance to WB Score	Elevation Score	Unweighted Vulnerability Ranking System	Weighted Vulnerability Ranking System	Weighted Connectivity Ranking System
Regency Indus Pk Sec 14	1	3	6	1	1	5	3	2	4	2.63	2.83	3.15
Cheney Highlands 3Rd Add	2	3	1	3	1	5	2	5	5	2.75	2.83	3.15
Lake Pointe Cove	1	3	1	2	1	5	2	6	6	2.75	2.83	3.15
Waterford Pointe Ph 2 Rep	1	3	3	1	1	5	2	6	3	2.50	2.83	3.15
Verhovay Colony	1	3	6	1	1	5	2	2	5	2.63	2.83	3.15
Regency Village Square Condo	4	3	6	1	1	5	1	1	2	2.38	2.83	3.15
Werber Hgts	3	3	1	3	1	4	5	3	4	2.88	2.83	3.00
Palm Cove Ests 3	2	3	1	3	1	4	2	6	3	2.63	2.83	3.00
Cypress Landing Ph 1	2	6	1	3	1	4	2	4	1	2.50	2.83	3.00
Bay Park	2	6	1	3	1	6	2	4	1	2.50	2.82	3.29
Winter Ridge	4	5	1	5	1	6	3	1	2	2.71	2.82	3.29
Gibons W C & J R Sub	1	4	6	1	1	1	4	1	2	2.55	2.81	2.55
Raintree Place Ph 1	3	5	1	3	1	5	3	3	2	2.61	2.81	3.14
Orlo Vista Terrace Annex	2	3	1	3	1	6	4	4	4	2.80	2.81	3.28
Westmoor Ph 4A	3	5	1	4	2	6	3	2	2	2.73	2.80	3.28
R L Vacation Suites Ph 1	1	3	6	1	5	6	1	3	2	2.73	2.80	3.27
Lake Hart Ests	1	2	2	1	1	4	2	6	6	2.66	2.79	2.97
Walmar	1	5	6	1	1	4	3	1	2	2.48	2.79	2.97
Karolina On Killarney	4	1	1	4	1	5	6	3	4	2.94	2.79	3.12
Bon Air 1St & 2Nd Secs	1	3	1	2	1	6	6	5	4	2.81	2.78	3.26
Hi-Pines	4	3	1	3	1	6	6	2	3	2.81	2.78	3.26
Irwin Manor	3	3	1	3	3	6	6	2	4	3.06	2.78	3.26
Cloverdale Hgts	3	3	1	3	2	6	6	2	4	3.00	2.78	3.26
Lake Margaret Manor Sec 1	3	3	1	4	1	6	5	3	3	2.81	2.78	3.26
West Winter Park	1	3	1	3	1	6	5	5	4	2.81	2.78	3.26
Lake Lagrange Hgts	3	3	1	4	1	6	5	3	3	2.81	2.78	3.26
Musick Manor	3	3	1	3	1	6	5	3	4	2.81	2.78	3.26
Handsonhurst Park	3	3	1	4	2	6	5	2	4	3.00	2.78	3.26
Harrell Hgts Rep	2	3	1	4	1	6	4	3	6	2.94	2.78	3.26
Tindaro Pine Ests	4	3	1	4	1	6	3	2	5	2.81	2.78	3.26
Lakeview Acres	1	3	1	3	1	6	3	5	6	2.81	2.78	3.26
Munger Willis R Land Co	1	3	6	2	1	6	2	2	4	2.56	2.78	3.26

Appendix B

Pollution Potential Prioritization Schemes (sorted by the Weighted Vulnerability Ranking System)

Subdivision Name	Septic Density Score	OCAVA Score	Impaired WB Score	Population Density Score	Housing Density Score	WW Infra-structure Score	Year Built Score	Distance to WB Score	Elevation Score	Unweighted Vulnerability Ranking System	Weighted Vulnerability Ranking System	Weighted Connectivity Ranking System
Keenes Pointe Ut 4 (Sec 31)	3	3	1	4	1	6	1	5	3	2.56	2.78	3.26
Barnum Lillian Sub	1	1	1	2	4	5	6	6	4	3.13	2.78	3.11
Holden Shores	2	3	1	3	1	5	6	4	3	2.81	2.78	3.11
Oak Ridge Manor Annex	3	1	6	2	1	5	5	1	3	2.69	2.78	3.11
Edenboro Hgts	4	3	1	4	1	5	5	2	3	2.81	2.78	3.11
L C O No 1	1	3	6	1	2	5	4	1	4	2.75	2.78	3.11
Spring Pines 1St Add	3	3	1	5	1	5	4	2	5	2.94	2.78	3.11
Anderson Village 1St Add	4	3	1	2	1	5	3	3	5	2.69	2.78	3.11
Cobblestone Walk At Kaley Condo Ph 1	5	3	1	4	2	5	1	2	4	2.75	2.78	3.11
Holiday Hill	3	3	1	3	1	4	6	3	3	2.81	2.78	2.96
Sunshine Gardens	3	1	3	4	1	4	6	2	4	2.94	2.78	2.96
Lakeside Village	3	1	1	3	1	4	5	5	4	2.81	2.78	2.96
Wyldwoode Manor	3	3	1	3	1	4	5	3	4	2.81	2.78	2.96
Wyldwoode Ests Sub	3	3	1	3	1	4	5	3	4	2.81	2.78	2.96
Mercerdees Grove	2	2	1	3	1	4	5	5	4	2.81	2.78	2.96
Aein Sub	1	3	1	2	1	4	4	5	6	2.81	2.78	2.96
Windermere Town Of Rep	1	3	1	2	2	4	4	6	3	2.75	2.78	2.96
Mccormack Place	3	3	1	4	1	4	4	3	4	2.81	2.78	2.96
East Orlando Gateway Unrec	2	1	6	3	1	4	3	1	6	2.81	2.78	2.96
East Orlando Gateway Annex Unrec	2	1	6	3	1	3	3	1	6	2.81	2.78	2.81
Cypress Landing Ph 2 1St Rep	3	6	1	2	2	3	2	3	1	2.50	2.78	2.81
Angebilt Add	2	3	1	3	1	6	6	4	3	2.81	2.78	3.25
Isle Of Bali 2 Condo Ph 6	1	5	1	1	1	3	2	6	3	2.46	2.78	2.81
Liberty Hgts 1St Add	2	2	6	3	1	4	5	1	2	2.68	2.77	2.96
Whippoorwill Acres	1	4	1	1	1	6	1	6	5	2.53	2.77	3.25
W E Hudson	1	3	1	1	1	3	5	5	5	2.77	2.77	2.81
Pine Villa	1	2	6	1	1	6	6	1	4	2.77	2.77	3.25
Round Lake Hgts Rep	1	4	6	1	1	2	1	3	2	2.33	2.77	2.65
Plymouth	1	3	5	2	1	5	4	2	3	2.65	2.77	3.10
Lake Hiawassee Landings	1	3	1	2	1	6	3	6	4	2.64	2.76	3.24

Appendix B

Pollution Potential Prioritization Schemes (sorted by the Weighted Vulnerability Ranking System)

Subdivision Name	Septic Density Score	OCAVA Score	Impaired WB Score	Population Density Score	Housing Density Score	WW Infra-structure Score	Year Built Score	Distance to WB Score	Elevation Score	Unweighted Vulnerability Ranking System	Weighted Vulnerability Ranking System	Weighted Connectivity Ranking System
Westmoor Ph 4B	3	5	1	4	1	5	3	2	2	2.64	2.76	3.09
Park Ridge	1	4	6	2	1	4	4	1	2	2.58	2.76	2.94
Isle Of Pines 4Th Add	1	1	3	1	1	1	4	5	6	2.76	2.75	2.49
Lake Ola Farms Groves	1	3	1	1	1	1	5	5	5	2.76	2.75	2.49
Lake Hiawassee Landings	1	4	1	2	1	6	2	6	4	2.57	2.75	3.23
Lake Holden Hills	1	1	1	3	2	5	6	6	4	2.94	2.74	3.08
Sand Lake Hills Sec 10	3	6	1	4	1	5	3	2	1	2.53	2.74	3.08
Randolph Plat	2	3	1	3	4	6	6	3	3	3.06	2.74	3.22
Randolph Plat	1	1	1	2	4	6	6	6	4	3.06	2.74	3.22
Shady Acres	3	3	1	4	1	6	6	2	3	2.88	2.74	3.22
Flamingo Shores	2	1	1	3	1	6	6	5	4	2.88	2.74	3.22
Conway Park	3	3	1	4	1	6	5	2	4	2.88	2.74	3.22
Beeman Park	3	3	1	4	2	6	5	2	4	2.94	2.74	3.22
Parker Hgts	2	3	1	4	1	6	4	3	5	2.88	2.74	3.22
Lake Hiawassa Terrace	1	3	1	3	1	6	4	5	4	2.75	2.74	3.22
Bungalow Park (Taft)	1	3	6	1	1	6	4	1	4	2.63	2.74	3.22
Willow St Manor	1	3	1	1	3	6	4	5	5	2.88	2.74	3.22
Sand Lake Hills Sec 8	3	6	1	3	1	6	3	2	1	2.50	2.74	3.22
Oak Hollow	1	3	6	1	1	6	3	1	5	2.63	2.74	3.22
Bentons Zellwood Sub	2	3	1	1	1	6	3	5	5	2.63	2.74	3.22
Almond Tree Ests	2	3	1	3	1	6	3	5	3	2.63	2.74	3.22
Keen Theron H Sub	1	3	6	1	1	6	2	3	2	2.38	2.74	3.22
Greenhurst	1	3	6	1	1	6	2	2	4	2.50	2.74	3.22
Forests City Corners	1	3	6	2	1	6	1	2	4	2.50	2.74	3.22
Fairbanks Shores 3Rd Add	4	1	1	3	1	5	6	3	4	2.88	2.74	3.07
Fairshores Place	4	1	2	2	1	5	6	3	3	2.75	2.74	3.07
Orlando Improvement Co No 2	2	3	1	3	1	5	5	3	5	2.88	2.74	3.07
Cloverdale Manor	3	3	1	4	2	5	5	2	4	2.94	2.74	3.07
Union Park Ests	2	3	1	2	1	5	5	3	6	2.88	2.74	3.07
Bay Vista Ests Ut 2	2	3	2	3	1	5	3	4	3	2.63	2.74	3.07
Grenadier Woods Ph 2	5	3	1	2	1	5	3	2	4	2.63	2.74	3.07
Anderson Village	3	3	1	2	1	5	2	4	5	2.63	2.74	3.07

Appendix B

Pollution Potential Prioritization Schemes (sorted by the Weighted Vulnerability Ranking System)

Subdivision Name	Septic Density Score	OCAVA Score	Impaired WB Score	Population Density Score	Housing Density Score	WW Infra-structure Score	Year Built Score	Distance to WB Score	Elevation Score	Unweighted Vulnerability Ranking System	Weighted Vulnerability Ranking System	Weighted Connectivity Ranking System
Holden Manor	4	3	1	4	2	5	2	3	3	2.69	2.74	3.07
Keenes Pointe Ut 2	2	3	1	2	3	5	1	6	3	2.63	2.74	3.07
Lake Margaret Terrace 1St Add	3	3	1	3	1	4	6	2	4	2.88	2.74	2.93
Waterwitch Club	3	1	1	3	1	4	6	4	4	2.88	2.74	2.93
Groveland	3	3	1	3	1	4	5	3	3	2.75	2.74	2.93
Plainfield Rep	4	3	1	3	1	4	5	2	3	2.75	2.74	2.93
Hidden Springs Ut 1	2	6	1	2	1	4	4	3	1	2.50	2.74	2.93
Keenes Pointe Ut 2	2	3	1	1	3	4	2	6	3	2.63	2.74	2.93
Villages At Zellwood	1	3	6	1	1	3	2	3	2	2.38	2.74	2.78
Robert Robertsons Rep	1	3	6	1	1	3	2	2	4	2.50	2.74	2.78
Isleworth 1St Amnd	2	3	1	1	1	2	2	6	4	2.50	2.74	2.63
Tangerine Terrace On Lake Ola	1	3	1	2	2	1	5	5	4	2.81	2.74	2.48
Gibons W C & J R Sub	1	4	6	1	1	1	4	1	2	2.50	2.74	2.48
Lake Mary Jane Ests	1	1	2	1	1	1	4	6	6	2.75	2.74	2.48
Seneca Ests Sub	1	3	5	1	1	1	2	2	6	2.63	2.74	2.48
Highlands North 2	1	6	6	1	1	1	1	1	1	2.25	2.74	2.48
Lakeside Place Annex	1	5	1	3	1	4	1	6	1	2.34	2.73	2.92
Winderwood	3	5	1	3	1	5	3	3	1	2.46	2.73	3.07
West Lake Butler Ests	1	5	1	1	1	3	1	6	3	2.36	2.72	2.76
Metcalf Park Rep	1	3	2	2	1	1	2	6	3	2.45	2.72	2.46
Ethans Glenn	3	5	1	4	3	5	4	1	3	2.89	2.71	3.05
Rock Springs Ridge Ph 1	1	3	6	1	1	4	2	1	5	2.54	2.71	2.90
Arrowhead Lakes	1	4	1	2	1	2	3	6	3	2.51	2.71	2.60
Sandy Springs	3	5	1	4	1	5	3	3	1	2.51	2.71	3.05
Overlake Terrace	3	2	1	3	4	6	5	3	3	3.00	2.70	3.19
Vlg F Vlg Ctr	1	5	1	1	1	6	1	6	3	2.35	2.70	3.19
Highlands North	1	5	6	1	1	1	3	1	1	2.34	2.70	2.45
Handsonhurst	3	3	1	4	1	6	6	2	3	2.81	2.70	3.19
Bumby Hgts	3	3	1	3	2	6	6	2	3	2.88	2.70	3.19
Edgewood Sub	3	3	1	4	2	6	5	2	3	2.88	2.70	3.19
Lakeview (Conway)	2	1	1	3	3	6	5	5	4	2.94	2.70	3.19
Crocker Hgts	3	3	1	5	1	6	5	2	3	2.81	2.70	3.19

Appendix B

Pollution Potential Prioritization Schemes (sorted by the Weighted Vulnerability Ranking System)

Subdivision Name	Septic Density Score	OCAVA Score	Impaired WB Score	Population Density Score	Housing Density Score	WW Infra-structure Score	Year Built Score	Distance to WB Score	Elevation Score	Unweighted Vulnerability Ranking System	Weighted Vulnerability Ranking System	Weighted Connectivity Ranking System
Conway Village	4	3	1	3	1	6	5	2	3	2.69	2.70	3.19
Pelham Park 1St Add	3	3	1	4	2	6	5	2	3	2.88	2.70	3.19
Sue Haven	3	3	1	4	1	6	4	3	3	2.69	2.70	3.19
Lake Hiawassa Terrace Rep	3	3	1	4	1	6	4	3	3	2.69	2.70	3.19
Sawyer Shores Sub	1	3	1	2	1	6	4	6	3	2.56	2.70	3.19
Lake Mary Jess Shores	2	1	1	3	5	6	4	5	4	3.06	2.70	3.19
Michigan Oaks	4	3	1	4	2	6	3	2	3	2.75	2.70	3.19
Granada Villas Ph 1	4	3	1	4	1	6	3	3	2	2.56	2.70	3.19
Palm Lake Ests 1St Add	2	3	1	4	1	6	3	3	6	2.81	2.70	3.19
Tennessee Terrace	3	3	1	4	1	5	6	2	3	2.81	2.70	3.04
Scotts Moor Terrace	3	3	1	3	1	5	5	3	3	2.69	2.70	3.04
Conway Ests Rep	3	3	1	5	1	5	5	2	3	2.81	2.70	3.04
Lake Mabel Shores Sub	1	3	1	2	1	5	3	6	4	2.56	2.70	3.04
Orange Blossom Indus Pk	2	1	6	1	2	5	3	3	2	2.50	2.70	3.04
North Bay Sec 3	3	4	1	2	1	5	2	4	3	2.47	2.70	3.04
Palm Cove Ests 4	2	3	1	3	1	5	2	5	4	2.56	2.70	3.04
Green Fields	3	3	1	4	1	4	6	2	3	2.81	2.70	2.89
Live Oak Manor	3	3	1	3	1	4	4	3	4	2.69	2.70	2.89
Sunset Lakes	1	3	1	2	4	4	2	6	3	2.75	2.70	2.89
Cypress Shores	1	3	1	1	1	4	3	6	4	2.53	2.69	2.88
Palm Lake Manor 1St Add	1	5	1	3	1	5	2	5	1	2.37	2.69	3.03
Bay Park Rep	3	6	1	2	1	5	2	3	1	2.34	2.69	3.03
Westmoor Ph 1	2	4	1	4	1	5	3	3	3	2.62	2.69	3.03
Marots Add To Tangerine	1	5	1	1	1	1	1	6	3	2.34	2.68	2.43
Prosper Colony Blk H	1	3	6	1	1	4	3	1	4	2.52	2.68	2.88
Orange Ctr	1	3	6	1	1	6	3	2	2	2.39	2.68	3.17
Mountain Park Orange Groves	1	3	1	1	1	3	4	6	3	2.52	2.67	2.72
Sand Lake Point Ut 3	2	2	3	2	1	3	2	5	3	2.45	2.67	2.72
Ocfs/Bhn Service Facilities	1	6	1	2	1	2	1	5	2	2.29	2.66	2.56
Munger Willis R Land Co	1	3	6	1	1	6	4	1	3	2.51	2.66	3.15
Cypress Landing Ph 2	2	6	1	3	2	3	2	3	1	2.47	2.66	2.71
Justamere Camp Rep	2	1	1	3	1	6	5	5	4	2.72	2.66	3.15

Appendix B

Pollution Potential Prioritization Schemes (sorted by the Weighted Vulnerability Ranking System)

Subdivision Name	Septic Density Score	OCAVA Score	Impaired WB Score	Population Density Score	Housing Density Score	WW Infra-structure Score	Year Built Score	Distance to WB Score	Elevation Score	Unweighted Vulnerability Ranking System	Weighted Vulnerability Ranking System	Weighted Connectivity Ranking System
Isleworth West	1	5	1	1	1	1	1	6	3	2.32	2.66	2.41
Harrell Hgts	1	3	2	2	1	6	4	3	6	2.75	2.66	3.15
Randolph Land Rep	1	1	1	2	1	6	6	6	4	2.75	2.65	3.15
Stansbury Ests	3	3	1	4	1	6	6	1	4	2.88	2.65	3.15
Clover Hgts	2	3	1	3	2	6	6	3	3	2.81	2.65	3.15
Carol Court	3	3	1	3	1	6	6	2	3	2.75	2.65	3.15
Valencia Acres	4	3	1	2	1	6	6	1	4	2.75	2.65	3.15
Nelaview	1	3	1	3	1	6	5	4	4	2.75	2.65	3.15
Jacquelyn Hgts	3	3	1	4	1	6	5	2	3	2.75	2.65	3.15
Overstreet	1	3	6	1	1	6	5	1	2	2.50	2.65	3.15
Orlando Improvement Co No 1	2	3	3	3	1	6	4	1	5	2.75	2.65	3.15
Magerstadt Sub	2	3	1	4	1	6	4	3	4	2.75	2.65	3.15
Handsonhurst Park 1St Add	3	3	1	4	2	6	4	2	4	2.81	2.65	3.15
Prosper Colony	1	3	6	1	1	6	3	1	4	2.50	2.65	3.15
Orlando Acres Business Sec	2	3	1	2	1	6	3	4	5	2.63	2.65	3.15
Sphaler Add To Prosper Colony	1	3	6	1	1	6	3	1	4	2.50	2.65	3.15
Granada Villas Ph 4	4	3	1	3	1	6	3	3	2	2.50	2.65	3.15
Royal Ranch Ests	1	3	1	2	1	6	2	6	4	2.50	2.65	3.15
Lake Whippoorwill Ests	1	3	1	1	1	6	2	6	5	2.50	2.65	3.15
Lakewood Park	1	3	3	3	1	6	2	3	5	2.63	2.65	3.15
Prosper Colony	1	3	6	1	1	6	1	2	4	2.38	2.65	3.15
World Design Center Parcels 5 6B 7A	1	3	6	1	1	6	1	2	4	2.38	2.65	3.15
Lake Jennie Jewell Hgts	2	1	1	4	4	5	6	4	3	3.06	2.65	3.00
Fairbanks Shores 1St Add	4	1	1	3	1	5	6	3	3	2.75	2.65	3.00
Greenbriar Ut 4	3	3	1	4	2	5	5	2	3	2.81	2.65	3.00
Greenfield Manor	3	3	1	4	2	5	5	2	3	2.81	2.65	3.00
Sue Harbor	2	3	1	2	1	5	4	4	4	2.63	2.65	3.00
Pasatiempo	2	6	1	2	1	5	3	3	1	2.38	2.65	3.00
Pershing Oaks	3	3	1	3	1	5	3	3	4	2.63	2.65	3.00
Lake Rose Pointe Ph 2	2	3	1	2	2	5	3	5	3	2.56	2.65	3.00
Lake Rose Pointe Ph 2	3	3	1	2	1	5	3	4	3	2.50	2.65	3.00

Appendix B

Pollution Potential Prioritization Schemes (sorted by the Weighted Vulnerability Ranking System)

Subdivision Name	Septic Density Score	OCAVA Score	Impaired WB Score	Population Density Score	Housing Density Score	WW Infra-structure Score	Year Built Score	Distance to WB Score	Elevation Score	Unweighted Vulnerability Ranking System	Weighted Vulnerability Ranking System	Weighted Connectivity Ranking System
North Bay Sec 1 Rep	2	3	1	2	1	5	3	5	3	2.50	2.65	3.00
Gatlin With Hobbs	1	1	1	2	1	4	6	6	4	2.75	2.65	2.85
Orlo Vista Hgts Add Rep Blk P	4	3	1	3	2	4	4	3	1	2.56	2.65	2.85
Cooks Ests	1	3	1	2	2	4	3	6	3	2.56	2.65	2.85
Pine Shores	1	3	1	1	1	4	3	5	6	2.63	2.65	2.85
Dorwood	1	3	6	2	1	4	1	2	3	2.38	2.65	2.85
Isle Of Bali 2 Condo Ph 11	1	5	1	1	1	3	2	5	3	2.38	2.65	2.70
Butler Bay Ut 3	1	3	2	1	1	3	2	6	3	2.38	2.65	2.70
Lake Ola Ests	1	3	1	1	1	2	2	6	5	2.50	2.65	2.56
Sloewood East Ut 1	1	3	1	1	1	2	2	6	5	2.50	2.65	2.56
Butler Bay Ut 1	1	3	1	2	2	1	3	6	3	2.56	2.65	2.41
Lake Mary Jane Ests Rep	1	1	3	1	1	1	1	6	6	2.50	2.65	2.41
Regency Indus Pk Sec 17	1	3	6	1	1	5	2	1	5	2.50	2.65	3.00
Vista Del Lago P D	1	4	1	2	1	1	1	6	3	2.34	2.65	2.41
Harbor Hgts	4	3	1	4	1	6	4	2	2	2.59	2.65	3.15
Oakland Park Unit 6A	1	3	5	1	1	6	1	3	4	2.37	2.65	3.14
Sand Lake Point Ut 1	2	2	2	4	1	5	3	3	4	2.68	2.65	3.00
North Bay Sec 2	2	3	1	3	1	4	3	4	3	2.55	2.64	2.84
North Bay Sec 1	2	4	1	3	1	5	3	4	3	2.52	2.64	2.99
Bay Vista Ests Ut 1	2	2	2	3	1	6	3	5	3	2.52	2.64	3.13
Orlando Kissimmee Farms	1	3	6	1	1	3	2	1	5	2.49	2.63	2.69
Sand Pines	2	5	1	3	1	6	3	3	1	2.41	2.62	3.12
Gatlin With Hobbs	1	1	1	3	1	4	5	6	4	2.69	2.62	2.82
Palm Cove Ests	3	3	1	3	1	6	2	4	3	2.47	2.61	3.11
Conway Plaza	1	1	1	3	3	6	6	5	4	2.94	2.61	3.11
Bon Air Rep	1	3	1	2	1	6	6	4	4	2.69	2.61	3.11
Angebilt Add 2	2	3	1	4	1	6	6	2	4	2.81	2.61	3.11
Ghio Terrace 1St Sec	3	3	1	4	1	6	5	2	3	2.69	2.61	3.11
Pershing Manor	3	3	1	3	1	6	5	2	4	2.69	2.61	3.11
Conway Hills Ut 2	4	3	1	4	1	6	5	1	3	2.69	2.61	3.11
Randolph Plat	1	1	1	3	1	6	5	6	4	2.69	2.61	3.11
Holden Park 1St Add	4	1	1	2	2	6	5	3	4	2.75	2.61	3.11

Appendix B

Pollution Potential Prioritization Schemes (sorted by the Weighted Vulnerability Ranking System)

Subdivision Name	Septic Density Score	OCAVA Score	Impaired WB Score	Population Density Score	Housing Density Score	WW Infra-structure Score	Year Built Score	Distance to WB Score	Elevation Score	Unweighted Vulnerability Ranking System	Weighted Vulnerability Ranking System	Weighted Connectivity Ranking System
Conway Hills Ut 3	4	3	1	4	1	6	5	1	3	2.69	2.61	3.11
Lake Hiawassa Terrace Rep	2	3	1	4	1	6	5	3	3	2.69	2.61	3.11
Johnny Park	2	3	1	5	1	6	4	2	5	2.81	2.61	3.11
Gem Mary Ests	2	1	1	2	1	6	4	6	4	2.56	2.61	3.11
Pinar Hgts Ut 3	4	3	1	3	1	6	3	2	4	2.56	2.61	3.11
Banana Bay Ests	1	3	1	2	2	6	2	6	3	2.50	2.61	3.11
Randolph Plat	4	1	1	3	1	5	6	3	3	2.69	2.61	2.96
Whispering Pines	3	3	1	4	2	5	4	2	3	2.75	2.61	2.96
East Pine Acres	2	3	2	3	1	5	3	2	6	2.69	2.61	2.96
Waterford Pointe Lots 67 & 68 Rep	1	3	1	1	4	5	2	6	3	2.63	2.61	2.96
Traylor Terrace	3	1	1	3	1	4	6	4	3	2.69	2.61	2.81
Waterwitch Point	2	1	1	3	1	4	5	5	4	2.69	2.61	2.81
Bonaventure 3	2	1	6	2	1	4	2	1	6	2.56	2.61	2.81
Lake Down Shores	1	3	1	2	1	3	2	6	4	2.44	2.61	2.67
Champions Point Of Isleworth	1	3	1	2	1	3	2	6	4	2.44	2.61	2.67
Bonaventure	2	1	6	2	1	3	2	1	6	2.56	2.61	2.67
Bithlo (Blk 2000-2017)	1	1	5	1	4	1	3	2	6	2.88	2.61	2.37
Magnolia Oaks	1	4	6	1	1	1	2	1	2	2.28	2.61	2.37
Flemings D H Rev Add To Zellwood	1	3	3	1	1	6	6	2	4	2.66	2.61	3.11
Fleming Hgts	2	3	1	3	2	6	4	3	4	2.75	2.61	3.11
Silver Woods Ph 3A	3	3	1	4	1	4	3	3	2	2.50	2.60	2.81
Ola Beach On Lake Ola 2Nd Rep	2	3	1	2	1	3	5	3	4	2.62	2.59	2.65
Spring Pines	3	3	1	5	1	5	4	1	5	2.80	2.59	2.95
Lake Davis Ests	1	4	1	1	1	3	1	6	3	2.26	2.58	2.64
Windermere	1	3	1	2	1	1	4	5	3	2.51	2.58	2.34
Joiner Glenn C C Ests	1	3	1	1	1	4	3	6	4	2.45	2.58	2.79
Fort Christmas Retreat	1	4	1	1	1	1	4	3	6	2.63	2.57	2.34
Round Lake	1	4	6	1	1	1	4	1	1	2.32	2.57	2.34
Lake Sue Park	2	3	1	3	1	6	6	2	4	2.75	2.57	3.07
Orange Villa	2	3	1	3	1	6	6	2	4	2.75	2.57	3.07

Appendix B

Pollution Potential Prioritization Schemes (sorted by the Weighted Vulnerability Ranking System)

Subdivision Name	Septic Density Score	OCAVA Score	Impaired WB Score	Population Density Score	Housing Density Score	WW Infra-structure Score	Year Built Score	Distance to WB Score	Elevation Score	Unweighted Vulnerability Ranking System	Weighted Vulnerability Ranking System	Weighted Connectivity Ranking System
Sherwood Park Ut 1	1	3	1	2	1	6	6	3	5	2.75	2.57	3.07
Gore Sub	1	1	1	2	1	6	5	6	4	2.63	2.57	3.07
Conway Hills Ut 1	4	3	1	3	1	6	5	1	3	2.63	2.57	3.07
West Orlando 1St Add	1	2	6	1	1	6	5	1	4	2.56	2.57	3.07
Keen Castle	2	3	1	3	3	6	5	2	4	2.88	2.57	3.07
Richland Rep	2	3	1	2	1	6	4	3	5	2.63	2.57	3.07
Whipple Bishop Sub	1	1	6	1	1	6	4	2	4	2.50	2.57	3.07
Sherman Farms	1	3	2	3	1	6	4	2	6	2.75	2.57	3.07
College Cove	3	3	1	5	1	6	3	1	5	2.75	2.57	3.07
Jenny Jewel Point	3	1	1	4	4	6	3	4	3	2.81	2.57	3.07
Farmington Hgts	3	3	1	3	1	6	3	2	5	2.63	2.57	3.07
Lake Rose Pointe	2	3	1	3	1	6	3	4	3	2.50	2.57	3.07
Granada Villas Ph 3	4	3	1	4	1	6	3	2	2	2.50	2.57	3.07
Surrey Ridge	3	3	1	3	1	6	3	2	5	2.63	2.57	3.07
Southfork Sub Ut 2	3	3	1	4	1	6	2	3	3	2.50	2.57	3.07
Mohr Cove	1	3	1	2	2	6	2	6	3	2.44	2.57	3.07
Lake Hancock Shores	1	3	1	1	1	6	2	6	4	2.38	2.57	3.07
Sea World Theme Park	1	1	6	2	1	6	2	2	5	2.50	2.57	3.07
Piney Oak Shores 1St Add	1	3	1	3	1	6	2	5	4	2.50	2.57	3.07
Reserve At Waterford Pointe Ph 1	1	3	2	2	4	6	1	5	3	2.56	2.57	3.07
Townhomes At Tuscany Condo	5	3	1	4	1	6	1	1	4	2.50	2.57	3.07
Tuscany Village Vacation Suites Ph 7	1	3	6	1	1	6	1	2	3	2.25	2.57	3.07
Oak Ridge Manor 1St Add	1	1	6	1	1	5	5	2	3	2.50	2.57	2.93
Pershing Grove	3	3	1	2	1	5	5	2	4	2.63	2.57	2.93
Lakeview Hgts Rep	1	3	1	2	2	5	4	5	3	2.56	2.57	2.93
Isleworth 1St Amnd	1	3	1	1	1	5	2	6	4	2.38	2.57	2.93
Lake Cane Place Condo	1	6	1	1	3	5	1	4	2	2.38	2.57	2.93
North Bay Sec 4-A	1	3	1	2	1	5	1	6	4	2.38	2.57	2.93
Tuxedo Ests	1	1	1	2	1	4	5	6	4	2.63	2.57	2.78
Middlebrook Oaks	2	1	1	2	1	4	5	5	4	2.63	2.57	2.78
Gatlin With Hobbs	3	1	1	2	1	4	5	4	4	2.63	2.57	2.78

Appendix B

Pollution Potential Prioritization Schemes (sorted by the Weighted Vulnerability Ranking System)

Subdivision Name	Septic Density Score	OCAVA Score	Impaired WB Score	Population Density Score	Housing Density Score	WW Infra-structure Score	Year Built Score	Distance to WB Score	Elevation Score	Unweighted Vulnerability Ranking System	Weighted Vulnerability Ranking System	Weighted Connectivity Ranking System
Conway Ests	3	3	1	4	1	4	4	2	3	2.63	2.57	2.78
Estates At Windermere 1St Add	2	3	1	2	2	4	2	5	3	2.44	2.57	2.78
Diamondhead	1	3	1	2	2	4	1	6	4	2.44	2.57	2.78
Lake Fischer Ests 2	1	3	1	1	3	4	1	6	4	2.50	2.57	2.78
Palm Cove Ests 6	1	3	1	2	1	4	1	6	4	2.38	2.57	2.78
Braemar Phase 2	1	3	1	1	3	4	1	6	4	2.50	2.57	2.78
Zellwood Ranch Ests	1	3	6	1	1	3	2	2	2	2.25	2.57	2.63
Lake Mary Jane Shores	1	1	1	1	1	1	4	6	6	2.63	2.57	2.33
Tangerine Hgts	1	3	1	1	1	1	3	5	5	2.50	2.57	2.33
Picketts Cove	1	3	1	1	1	1	2	5	6	2.50	2.57	2.33
Lake Drawdy Terrace	1	3	1	1	1	1	2	5	6	2.50	2.57	2.33
Innisbrook	1	3	1	1	1	1	2	5	6	2.50	2.57	2.33
Earlwood Manor	1	1	6	1	1	1	1	3	5	2.38	2.57	2.33
Hi-Alta Sub	1	3	6	1	1	6	3	1	2	2.30	2.55	3.06
Ridgemoore Ph 1	3	4	1	3	1	5	2	3	2	2.33	2.55	2.91
Bithlo (Blk A-X)	2	1	4	2	4	1	3	1	6	2.89	2.54	2.31
Bay Lakes At Granada Sec 3	2	2	1	3	1	6	4	5	3	2.51	2.54	3.05
South Bay Villas	3	3	1	2	1	6	2	4	3	2.35	2.53	3.05
Livingston J H Sub	1	1	1	3	3	5	5	5	4	2.82	2.53	2.89
Willis R Mungers Land Sub	1	3	1	2	2	6	2	5	4	2.50	2.52	3.04
Lake Drawdy Reserve	1	3	1	1	1	3	1	5	6	2.41	2.52	2.59
Pines	3	3	1	3	1	6	6	1	4	2.69	2.52	3.04
School Terrace	3	1	1	3	4	6	6	2	4	3.00	2.52	3.04
Orange Terrace	3	1	1	3	1	6	6	3	4	2.69	2.52	3.04
Blissfield Homes Sub	3	1	1	2	4	6	6	3	3	2.88	2.52	3.04
Evans & Hart Sub	3	3	1	3	3	6	6	1	3	2.81	2.52	3.04
Conway Hills Ut 4	3	3	1	4	1	6	6	1	3	2.69	2.52	3.04
Woodbery Sub	3	3	1	3	1	6	5	2	3	2.56	2.52	3.04
Windward Place 1St Rep	4	3	1	3	1	6	3	2	3	2.44	2.52	3.04
Gulfstream Shores	4	3	1	4	1	6	3	1	4	2.56	2.52	3.04
Rockinghorse Ranches Ut 2	1	3	1	3	1	6	2	4	6	2.56	2.52	3.04
Bunker Hill 3Rd Sec	1	3	1	4	3	6	2	3	6	2.81	2.52	3.04

Appendix B
Pollution Potential Prioritization Schemes (sorted by the Weighted Vulnerability Ranking System)

Subdivision Name	Septic Density Score	OCAVA Score	Impaired WB Score	Population Density Score	Housing Density Score	WW Infra-structure Score	Year Built Score	Distance to WB Score	Elevation Score	Unweighted Vulnerability Ranking System	Weighted Vulnerability Ranking System	Weighted Connectivity Ranking System
Medallion Ests Sec 2	3	1	1	3	2	5	6	3	3	2.75	2.52	2.89
Michael Terrace	3	3	1	3	1	5	5	2	3	2.56	2.52	2.89
Randolph Plat	4	1	1	3	1	5	5	3	3	2.56	2.52	2.89
Southernaire	2	1	1	3	1	5	4	5	4	2.56	2.52	2.89
Harbour Island Sub	1	1	1	3	1	5	4	6	4	2.56	2.52	2.89
Orlando Commerce Center Condominium	1	3	6	1	2	5	1	1	4	2.38	2.52	2.89
Florida Villas	4	3	1	4	1	4	3	1	4	2.56	2.52	2.74
Waterford Pointe	1	3	1	2	4	4	2	5	3	2.63	2.52	2.74
Isleworth 1St Amnd	1	3	1	2	1	4	2	6	3	2.31	2.52	2.74
Isleworth 1St Amnd	1	3	1	1	2	4	1	6	4	2.38	2.52	2.74
Hideaway Cove	1	3	1	2	1	4	1	6	4	2.31	2.52	2.74
Hideaway Cove First Replat	1	3	1	2	1	4	1	6	4	2.31	2.52	2.74
Bonaventure 2	2	1	5	3	1	3	2	1	6	2.56	2.52	2.59
Lukas Ests	1	3	1	1	2	3	1	5	6	2.50	2.52	2.59
Crescent Lake Ests	1	3	1	2	1	2	4	5	3	2.44	2.52	2.44
Orange Lake C C Villas Ph 1	1	3	1	2	1	1	4	5	3	2.44	2.52	2.30
Keenes Pointe Ut 10 First Rep	1	3	1	1	2	1	1	6	4	2.38	2.52	2.30
Silver Woods Ph 1	3	5	1	3	1	4	3	2	1	2.34	2.52	2.74
Deer Island	1	3	1	1	1	1	2	6	3	2.27	2.51	2.28
Prosper Colony Blk T	1	2	6	2	1	5	2	1	5	2.43	2.51	2.88
Gatlin Oaks	2	3	1	3	1	4	4	3	4	2.55	2.51	2.73
Fleming Hgts Extended	1	3	2	3	2	6	4	2	5	2.71	2.50	3.02
Isleworth 1St Amnd	1	5	1	1	1	1	1	5	3	2.21	2.50	2.28
Lake Sherwood Cove	1	4	1	3	2	6	2	4	3	2.49	2.50	3.02
Lake Sheen Ests	1	3	1	1	1	6	2	6	3	2.26	2.49	3.01
Marots Add To Tangerine	1	3	1	1	1	1	5	4	4	2.51	2.49	2.27
Buckwood Sub	3	2	1	3	4	6	6	2	3	2.88	2.49	3.01
Silver Woods Ph 4	3	3	1	3	1	4	3	3	2	2.38	2.49	2.71
Cypress Landing Ph 3	2	4	1	3	2	4	2	4	2	2.38	2.48	2.71
Sunrise City Rep	1	3	1	3	1	6	6	2	5	2.75	2.48	3.00
Wilk J A Sub	2	1	1	3	3	6	6	3	4	2.88	2.48	3.00

Appendix B

Pollution Potential Prioritization Schemes (sorted by the Weighted Vulnerability Ranking System)

Subdivision Name	Septic Density Score	OCAVA Score	Impaired WB Score	Population Density Score	Housing Density Score	WW Infra-structure Score	Year Built Score	Distance to WB Score	Elevation Score	Unweighted Vulnerability Ranking System	Weighted Vulnerability Ranking System	Weighted Connectivity Ranking System
Waits W H Sub	2	3	1	3	1	6	6	2	3	2.63	2.48	3.00
Dommerich Hills	2	3	1	4	1	6	6	1	4	2.75	2.48	3.00
Crescent Hills 1St Add	2	3	1	3	2	6	5	3	2	2.56	2.48	3.00
Woodhaven Rep	1	3	1	3	1	6	5	3	4	2.63	2.48	3.00
Pine Castle Pines	2	3	1	3	1	6	5	2	4	2.63	2.48	3.00
Windward Ests	3	3	1	4	1	6	3	2	3	2.50	2.48	3.00
Sunset Bay	1	3	1	1	1	6	2	6	3	2.25	2.48	3.00
Banana Bay Ests Lot 29	2	3	1	2	2	6	2	5	2	2.31	2.48	3.00
Isles Of Lake Hancock	1	3	1	1	1	6	1	6	4	2.25	2.48	3.00
Sphaler Add To Taft	1	3	6	1	1	6	1	1	4	2.25	2.48	3.00
Buena Vista Commons Phase 2	1	3	6	1	1	6	1	2	2	2.13	2.48	3.00
Roberts Landing	1	3	1	2	2	5	3	5	3	2.44	2.48	2.85
Pine Meadows Ph 1 Rep	4	3	1	2	2	5	3	1	5	2.56	2.48	2.85
Southfork Sub Ut 1	2	3	1	3	1	5	2	4	3	2.38	2.48	2.85
Hartzog Sub	1	3	1	1	1	5	2	6	3	2.25	2.48	2.85
Pershing Villas	4	3	1	4	2	5	2	1	4	2.56	2.48	2.85
Orange Lake C C Villas 3 Ph 2	2	6	1	1	1	5	1	3	2	2.13	2.48	2.85
Orange Lake C C Villas 3 Ph 3	2	6	1	1	1	5	1	3	2	2.13	2.48	2.85
Pine Harbor Point	3	1	1	3	1	4	4	4	3	2.50	2.48	2.70
Lake Buynak Ests	1	3	1	1	1	4	4	5	3	2.38	2.48	2.70
Lake Down Hollow	1	3	1	2	2	4	3	5	3	2.44	2.48	2.70
Orange Lake C C Villas 3 Ph 6	2	6	1	1	1	4	1	3	2	2.13	2.48	2.70
Orange Lake C C Villas 3 Ph 6	2	6	1	1	1	4	1	3	2	2.13	2.48	2.70
Windermere Pointe At Lake Roper	1	3	1	2	2	4	1	6	3	2.31	2.48	2.70
Isleworth 5Th Amnd	1	3	1	2	1	4	1	6	3	2.25	2.48	2.70
Braemar Ph 3	1	3	1	1	3	3	1	6	3	2.38	2.48	2.56
Butler Bay Ut 3 Rep	1	3	1	1	1	2	2	6	3	2.25	2.48	2.41
Isleworth Sixth Amnd	1	3	1	1	1	1	2	6	3	2.25	2.48	2.26
Isleworth 2Nd Amnd	1	3	1	1	1	1	2	6	3	2.25	2.48	2.26
Bay Vista Ests Ut 4	3	3	1	3	1	6	2	3	3	2.34	2.47	3.00
Lake Hill	3	3	1	3	2	6	4	2	2	2.53	2.47	3.00

Appendix B

Pollution Potential Prioritization Schemes (sorted by the Weighted Vulnerability Ranking System)

Subdivision Name	Septic Density Score	OCAVA Score	Impaired WB Score	Population Density Score	Housing Density Score	WW Infra-structure Score	Year Built Score	Distance to WB Score	Elevation Score	Unweighted Vulnerability Ranking System	Weighted Vulnerability Ranking System	Weighted Connectivity Ranking System
Lake Ola-Carlton Ests Ut 1	1	1	6	1	1	1	2	2	4	2.31	2.47	2.25
Reserve At Lake Butler Sound	1	4	1	2	1	3	1	5	3	2.24	2.47	2.55
Sand Lake Hills Sec 10A	3	5	1	3	1	6	3	2	1	2.27	2.46	2.99
Lake Fischer Ests	3	3	1	2	3	4	2	3	2	2.42	2.46	2.69
Harney Homestead	1	3	1	3	3	5	5	3	4	2.76	2.45	2.83
North Bay Sec 1 Rep	2	4	1	3	1	5	2	3	3	2.35	2.45	2.83
Torey Pines Ut 2	2	6	1	3	1	5	2	2	1	2.23	2.45	2.82
Laurels Of Mount Dora	1	5	1	1	1	1	1	4	3	2.16	2.44	2.23
Avon Vista	1	1	6	1	2	6	6	1	2	2.50	2.44	2.97
Wingrove Ests	3	4	1	3	1	4	2	3	1	2.19	2.44	2.67
Johns Rep	3	1	1	3	3	6	6	2	4	2.81	2.43	2.96
Krick Sub	2	3	1	2	1	6	6	2	4	2.56	2.43	2.96
Gotha Town Of Rep	1	6	1	2	2	6	6	1	2	2.53	2.43	2.96
Dickson H H Sub Of Livingston Sub	2	1	1	3	3	6	6	3	4	2.81	2.43	2.96
Sinclair Park	2	3	1	4	1	6	5	1	5	2.69	2.43	2.96
Fox Division	3	3	1	2	1	6	5	1	5	2.56	2.43	2.96
Mcewan Place	3	3	1	4	1	6	5	1	3	2.56	2.43	2.96
East Orange Park	3	3	1	3	1	6	4	1	5	2.56	2.43	2.96
Orlando Improvement Co No 1	1	3	2	3	1	6	4	2	5	2.56	2.43	2.96
Sillers Add To Gotha	1	3	1	2	2	6	4	4	3	2.50	2.43	2.96
Bay Run Sec 2	3	3	1	4	1	6	3	1	5	2.56	2.43	2.96
Rio Pines Ut 2	3	3	1	3	1	6	3	2	4	2.44	2.43	2.96
Conway Vista	3	3	1	3	1	6	3	2	4	2.44	2.43	2.96
Windward Place	3	3	1	4	1	6	3	2	3	2.44	2.43	2.96
Waterford Chase East Ph 2 Vlg G	1	3	1	3	1	6	1	4	6	2.44	2.43	2.96
Country Lakes	1	3	1	2	1	5	2	5	4	2.31	2.43	2.81
Palm Lake	2	6	1	3	1	5	2	2	1	2.19	2.43	2.81
Grenadier Woods	3	3	1	3	1	4	3	2	4	2.44	2.43	2.67
Lake Down Shores Rep	1	3	1	2	1	4	3	5	3	2.31	2.43	2.67
Crystal Lake Oaks	2	3	1	4	1	4	2	3	4	2.44	2.43	2.67
Estates At Lake Clarice	1	3	1	1	2	4	1	6	3	2.25	2.43	2.67

Appendix B

Pollution Potential Prioritization Schemes (sorted by the Weighted Vulnerability Ranking System)

Subdivision Name	Septic Density Score	OCAVA Score	Impaired WB Score	Population Density Score	Housing Density Score	WW Infra-structure Score	Year Built Score	Distance to WB Score	Elevation Score	Unweighted Vulnerability Ranking System	Weighted Vulnerability Ranking System	Weighted Connectivity Ranking System
Lake Clarice Plantation	1	3	1	1	2	4	1	6	3	2.25	2.43	2.67
Isleworth 1St Amnd	1	3	1	2	1	2	1	6	3	2.19	2.43	2.37
Lake Drawdy Ests	1	3	1	1	2	1	2	4	6	2.50	2.43	2.22
Keenes Pointe Ut 4 (Sec 29)	1	3	1	1	2	1	1	6	3	2.25	2.43	2.22
Cape Orl Ests Ut 11A	1	3	3	1	4	1	1	2	6	2.63	2.43	2.22
North Bay Sec 4	2	4	1	3	1	6	2	3	3	2.31	2.43	2.96
Willowbrook Cove	4	2	1	3	1	5	3	2	4	2.46	2.43	2.81
Ethans Cove	3	4	1	3	3	6	3	1	3	2.59	2.43	2.96
Chesterhill Ests Ph 2	1	3	1	1	1	1	1	5	5	2.28	2.43	2.22
Isles Of Lake Hancock Ph 3	1	3	1	1	1	5	1	6	4	2.21	2.42	2.80
Bellanona Grande Ests	1	5	1	2	1	5	1	3	5	2.30	2.42	2.80
Isle Of Pines 5Th Add	1	1	3	1	1	1	2	4	6	2.40	2.42	2.21
Silver Woods Ph 2	3	4	1	3	1	6	3	2	1	2.24	2.42	2.95
Silver Woods Ph 3	3	4	1	3	1	5	3	2	2	2.33	2.41	2.80
Ridgemoore Ph 2	3	5	1	2	1	5	2	2	2	2.20	2.41	2.79
Orlo Vista Terrace Annex	1	4	1	2	1	5	4	3	3	2.39	2.41	2.79
Hunters Ests	1	6	1	2	1	5	3	3	1	2.19	2.40	2.78
Willowwood Ut 1	1	5	1	3	2	4	3	3	1	2.32	2.40	2.64
Keenes Pointe Ut 9	3	6	1	2	1	5	1	1	3	2.19	2.40	2.78
Glencoe Sub Rep	2	1	1	3	1	6	6	3	4	2.63	2.39	2.93
Walker-Dean Sub Ut 2	1	3	1	2	1	6	5	2	6	2.63	2.39	2.93
Flolando Gardens	1	3	1	3	2	6	4	3	4	2.56	2.39	2.93
Mungers Willis R Land Co	1	1	6	1	1	6	4	1	4	2.38	2.39	2.93
Orlando Terrace Sec 9	1	3	1	3	1	6	4	3	4	2.50	2.39	2.93
Treasure Oaks	4	3	1	3	1	6	3	1	3	2.38	2.39	2.93
Pine Meadows Ph 1	3	3	1	3	2	6	3	1	5	2.56	2.39	2.93
South Bay Sec 3	1	3	1	2	1	6	2	5	3	2.25	2.39	2.93
Aliso Ridge	3	3	1	4	1	6	2	2	3	2.38	2.39	2.93
Waterford Pointe Lot 59 Rep	1	3	1	2	4	6	1	5	3	2.44	2.39	2.93
Weatherstone On Lake Olivia	1	3	1	1	1	6	1	6	3	2.13	2.39	2.93
Phillips View Tower	1	3	1	1	1	6	1	6	3	2.13	2.39	2.93
Gatlin Ests	3	1	1	3	1	5	5	3	3	2.50	2.39	2.78

Appendix B

Pollution Potential Prioritization Schemes (sorted by the Weighted Vulnerability Ranking System)

Subdivision Name	Septic Density Score	OCAVA Score	Impaired WB Score	Population Density Score	Housing Density Score	WW Infra-structure Score	Year Built Score	Distance to WB Score	Elevation Score	Unweighted Vulnerability Ranking System	Weighted Vulnerability Ranking System	Weighted Connectivity Ranking System
Arcadia Terrace	2	3	1	2	1	5	5	2	4	2.50	2.39	2.78
Bowser Sub	1	3	4	1	1	5	4	1	4	2.38	2.39	2.78
Carolina Terrace	1	3	1	1	3	5	4	4	3	2.50	2.39	2.78
Lake Cypress Cove	1	3	1	1	1	5	1	6	3	2.13	2.39	2.78
Chaine Du Lac	1	3	1	1	1	5	1	6	3	2.13	2.39	2.78
High Point Homes	1	1	6	2	2	5	1	3	2	2.19	2.39	2.78
Medallion Ests Sec 4	3	1	1	3	2	4	5	3	3	2.56	2.39	2.63
Pine Acres Sub 1St Add	2	3	1	2	1	4	5	2	4	2.50	2.39	2.63
Isleworth	1	3	1	1	1	4	1	6	3	2.13	2.39	2.63
Lake Davis Reserve	1	3	1	1	1	3	1	6	3	2.13	2.39	2.48
Isle Of Pines 6Th Add	2	1	2	2	1	1	3	3	6	2.50	2.39	2.19
Lake Mary Jane Shores 1St Rep	1	1	1	1	1	1	2	6	6	2.38	2.39	2.19
Isleworth 1St Amnd	1	3	1	1	1	1	1	6	3	2.13	2.39	2.19
Keenes Pointe Ut 3	1	3	1	1	1	2	1	6	3	2.12	2.39	2.33
Winwood	3	4	1	3	1	6	3	2	1	2.25	2.39	2.92
Cape Orl Ests Ut 12A	1	3	3	1	3	1	1	2	6	2.49	2.38	2.18
Marwood	3	1	1	3	1	5	5	3	3	2.46	2.38	2.77
Ocb Acres	1	3	6	1	1	1	1	1	2	2.05	2.38	2.17
Twin Oaks Manor	2	3	1	2	1	6	5	1	6	2.61	2.37	2.91
Lake Cawood Ests Ph 2	1	4	1	2	1	5	1	4	3	2.17	2.37	2.76
Rancho Bay Villa	1	6	1	2	1	6	3	2	2	2.23	2.36	2.90
Sand Lake Hills Sec 11	3	4	1	4	1	6	3	2	1	2.26	2.36	2.90
Glencoe Sub	2	1	1	3	1	6	6	3	4	2.57	2.36	2.90
Bay Lakes At Granada Sec 4	2	2	1	3	1	6	3	4	3	2.35	2.36	2.90
Glenmuir Ut 1	2	3	1	2	1	5	1	4	3	2.16	2.36	2.75
Isle Of Pines 3Rd Add	2	1	2	2	1	1	3	3	6	2.44	2.35	2.15
Sand Lake Hills Sec 9A	1	3	1	3	1	5	2	5	1	2.16	2.35	2.74
Lake Hill Groves Rep	1	3	1	3	1	6	6	3	2	2.44	2.35	2.89
Rose W W Rep	1	3	1	2	1	6	6	3	3	2.44	2.35	2.89
Sunday Blk	2	1	1	2	3	6	6	3	4	2.69	2.35	2.89
Smith G T Sub No 7	1	3	1	3	2	6	6	2	3	2.63	2.35	2.89
Lake Hiawassa Terrace Rep	2	3	1	4	1	6	4	2	3	2.44	2.35	2.89

Appendix B

Pollution Potential Prioritization Schemes (sorted by the Weighted Vulnerability Ranking System)

Subdivision Name	Septic Density Score	OCAVA Score	Impaired WB Score	Population Density Score	Housing Density Score	WW Infra-structure Score	Year Built Score	Distance to WB Score	Elevation Score	Unweighted Vulnerability Ranking System	Weighted Vulnerability Ranking System	Weighted Connectivity Ranking System
Conway Homesites	2	3	1	4	1	6	4	2	3	2.44	2.35	2.89
Lake Downey Terrace	2	3	1	2	1	6	4	2	5	2.44	2.35	2.89
Mtp Enterprises Inc	1	3	1	3	1	6	4	3	4	2.44	2.35	2.89
Golden Acres Sec A Extended	2	3	1	4	1	6	3	2	4	2.44	2.35	2.89
Granada Villas Ph 2	3	3	1	4	1	6	3	2	2	2.31	2.35	2.89
Thompson John A Sub	1	1	1	2	4	6	2	6	3	2.50	2.35	2.89
Palm Lake Ests 2Nd Add	1	3	1	3	1	6	2	3	6	2.44	2.35	2.89
Landings Of Lake Sawyer	1	3	1	2	1	6	2	5	3	2.19	2.35	2.89
Medallion Ests Sec 1	3	1	1	3	2	5	6	2	3	2.63	2.35	2.74
Pine Acres Sub	2	3	1	4	1	5	5	1	4	2.56	2.35	2.74
Northshore	2	1	1	3	1	4	2	5	4	2.31	2.35	2.59
Lake Roper Pointe	1	3	1	2	2	4	1	5	3	2.25	2.35	2.59
Butler Bay Ut 2	1	3	1	1	2	3	2	5	3	2.25	2.35	2.44
Lake Down Village	1	3	1	2	1	3	2	5	3	2.19	2.35	2.44
Crescent Lake Ests East	1	3	1	2	1	2	2	5	3	2.19	2.35	2.30
Prosper Colony Blk D	1	3	5	1	1	6	2	1	4	2.22	2.35	2.89
Lake Cawood Ests Rep	1	3	1	2	1	5	1	5	3	2.15	2.34	2.74
Roberts Island	1	1	2	1	1	1	1	5	6	2.28	2.34	2.14
Windermere Hgts 1St Sec	1	3	1	3	1	4	4	4	1	2.24	2.34	2.58
Saracity Gardens Sub	3	2	1	4	2	4	2	1	5	2.55	2.34	2.58
Torey Pines Ut 3	2	6	1	2	1	5	2	2	1	2.08	2.34	2.73
Woodlands Of Windermere Ut 2 1St Add	2	5	1	2	1	4	3	2	1	2.15	2.33	2.58
South Bay Sec 6	2	3	1	3	1	6	3	3	3	2.30	2.33	2.87
Isleworth Seventh Amendment	1	2	1	2	1	4	1	6	3	2.14	2.33	2.58
Adventhealth Ruby Lake	1	1	6	1	1	6	1	3	2	2.02	2.33	2.87
Sweetbriar	3	1	1	3	4	6	5	2	3	2.70	2.32	2.86
Hacindas Bonita Del Pinos	1	5	1	1	1	1	5	1	5	2.44	2.31	2.12
Isleworth 1St Amnd	1	4	1	1	1	3	1	5	3	2.07	2.31	2.41
Cottage Hill Sub	1	3	1	2	1	6	6	2	4	2.50	2.30	2.85
Pine Loch Grove	2	1	1	3	4	6	5	3	3	2.69	2.30	2.85
Trocadero Sub	1	3	1	2	1	6	4	2	6	2.50	2.30	2.85

Appendix B

Pollution Potential Prioritization Schemes (sorted by the Weighted Vulnerability Ranking System)

Subdivision Name	Septic Density Score	OCAVA Score	Impaired WB Score	Population Density Score	Housing Density Score	WW Infra-structure Score	Year Built Score	Distance to WB Score	Elevation Score	Unweighted Vulnerability Ranking System	Weighted Vulnerability Ranking System	Weighted Connectivity Ranking System
Bay Run Sec 1	2	3	1	3	1	6	4	1	5	2.50	2.30	2.85
Silver Woods Ph 5	3	3	1	3	1	6	3	2	2	2.25	2.30	2.85
Wood Green	3	3	1	4	1	6	3	1	3	2.38	2.30	2.85
Pine Meadows Ph 2A	3	3	1	2	2	6	3	1	5	2.44	2.30	2.85
Oak Ests	3	1	1	3	3	6	3	3	3	2.50	2.30	2.85
Smith Manlie Lands	1	6	1	3	5	6	2	1	1	2.50	2.30	2.85
Royal Ranch Ests 1St Add Sec 3	1	3	1	2	1	6	2	4	4	2.25	2.30	2.85
Johns J Sub	4	1	1	3	3	6	2	2	4	2.50	2.30	2.85
Isles Of Lake Hancock Ph 2	1	3	1	1	1	6	1	5	4	2.13	2.30	2.85
Glencoe Sub Sec 2	2	1	1	3	1	5	6	3	3	2.50	2.30	2.70
Orange Lake C C Villas 3 Ph 5	1	6	1	1	1	5	1	3	2	2.00	2.30	2.70
Orange Lake C C Villas 3 Ph 3	1	6	1	1	1	5	1	3	2	2.00	2.30	2.70
Burke John W	1	1	1	3	4	5	1	6	3	2.44	2.30	2.70
Isleworth 1St Amnd	1	3	1	1	1	4	2	5	3	2.13	2.30	2.56
Isle Of Bali 2 Condo Ph 8	1	3	1	1	1	4	2	5	3	2.13	2.30	2.56
Keenes Pointe Ut 6 (Sec 30)	2	3	1	1	3	4	1	4	3	2.25	2.30	2.56
Keenes Pointe Ut 2	2	3	1	1	3	4	1	4	3	2.25	2.30	2.56
Isle Of Bali 2 Condo Ph 10	1	3	1	1	1	3	2	5	3	2.13	2.30	2.41
Isle Of Bali 2 Condo Ph 7	1	3	1	1	1	3	2	5	3	2.13	2.30	2.41
Braemar	1	3	1	1	3	3	1	5	3	2.25	2.30	2.41
Butler Bay Ut 3 Rep	1	3	1	1	1	2	2	5	3	2.13	2.30	2.26
M & H Citrus Inc	1	1	1	1	1	2	1	6	6	2.25	2.30	2.26
Woodlawn Hgts	2	3	1	2	2	1	6	2	2	2.44	2.30	2.11
Partin Park	1	1	6	1	1	1	1	1	6	2.25	2.30	2.11
Turnbury Woods	1	6	1	2	1	4	3	2	1	2.12	2.30	2.55
Florida Humus Co Indus Area Plat	1	3	1	1	3	6	5	2	5	2.62	2.30	2.85
Johns Landing Ph 1	2	4	1	3	2	1	1	3	2	2.18	2.30	2.10
Isleworth	1	3	1	1	1	3	2	5	3	2.12	2.30	2.40
Isleworth 1St Amnd	1	4	1	1	1	1	2	4	3	2.12	2.29	2.10
Palm Lake Manor	1	5	1	2	1	5	2	3	1	2.05	2.29	2.69
Lake Angelina Ests	1	4	1	1	2	1	1	4	3	2.14	2.28	2.09
Woodbridge Ph 2	1	3	1	1	1	5	2	5	3	2.10	2.28	2.68

Appendix B

Pollution Potential Prioritization Schemes (sorted by the Weighted Vulnerability Ranking System)

Subdivision Name	Septic Density Score	OCAVA Score	Impaired WB Score	Population Density Score	Housing Density Score	WW Infra-structure Score	Year Built Score	Distance to WB Score	Elevation Score	Unweighted Vulnerability Ranking System	Weighted Vulnerability Ranking System	Weighted Connectivity Ranking System
Gaines Sub	1	3	1	1	1	5	6	2	4	2.42	2.27	2.68
Crown Point Woods Ph 2	1	1	6	1	1	4	2	1	4	2.16	2.27	2.53
Southern Acres Sub	1	5	1	1	1	5	2	3	2	2.04	2.27	2.68
Lawndale	2	2	1	4	1	6	5	1	4	2.54	2.27	2.82
Orlando Improvement Co No 2	1	3	1	2	1	6	4	2	5	2.41	2.27	2.82
Lake Olivia Reserve Rep	1	2	1	2	1	5	1	6	3	2.07	2.27	2.67
Keenes Pointe Ut 8	2	4	1	2	3	5	1	3	3	2.25	2.27	2.67
Orlaman Park	1	3	1	2	1	6	6	2	4	2.44	2.26	2.81
Washington Manor	1	3	1	2	1	6	6	2	4	2.44	2.26	2.81
Wagner Nicholas Sub	1	3	1	2	1	6	6	2	4	2.44	2.26	2.81
Woodhaven	1	3	1	3	1	6	5	2	4	2.44	2.26	2.81
Conway Hgts	1	3	1	4	2	6	4	2	3	2.50	2.26	2.81
South Orange Park Sec 1	1	3	1	2	1	6	4	3	4	2.31	2.26	2.81
Bay Cove Ests	2	3	1	2	1	6	3	4	1	2.06	2.26	2.81
Simmons Road Sub	3	3	1	3	1	6	2	2	3	2.19	2.26	2.81
Randolph Plat	1	1	1	2	1	6	2	6	4	2.19	2.26	2.81
Gatlin With Hobbs	1	1	1	2	1	6	1	6	5	2.19	2.26	2.81
Lakes	1	3	1	2	2	4	3	4	2	2.25	2.26	2.52
Joseph Jebailey Sub	1	3	1	2	1	3	2	5	2	2.06	2.26	2.37
Keene'S Pointe Ut 10	1	3	1	1	2	2	1	5	3	2.13	2.26	2.22
Keenes Pointe Ut 2	1	3	1	1	2	1	1	5	3	2.13	2.26	2.07
Lawndale Annex	2	2	1	3	1	6	5	2	4	2.43	2.25	2.81
Tildens Grove Ph 1	1	3	1	1	1	4	1	5	3	2.03	2.25	2.51
Klondike	2	1	1	3	2	6	4	3	4	2.46	2.25	2.81
Greenleaf	2	4	1	3	3	6	3	2	1	2.34	2.25	2.81
Tangerine	2	5	1	3	2	1	4	1	1	2.27	2.25	2.06
Los Terranos	1	3	3	2	1	5	4	1	4	2.30	2.24	2.65
Isle Of Pines	2	1	1	1	1	1	4	3	6	2.39	2.23	2.05
Orange Lake C C Villas 3 Ph 3	1	6	1	1	1	5	1	3	2	1.95	2.23	2.64
Woodlands Village	2	4	1	3	1	5	3	2	2	2.20	2.23	2.64
Deer Island Ph 2	1	3	1	1	1	1	1	5	3	2.00	2.22	2.04
Olympia Hgts Annex	2	1	1	3	1	6	6	2	4	2.50	2.22	2.78

Appendix B

Pollution Potential Prioritization Schemes (sorted by the Weighted Vulnerability Ranking System)

Subdivision Name	Septic Density Score	OCAVA Score	Impaired WB Score	Population Density Score	Housing Density Score	WW Infra-structure Score	Year Built Score	Distance to WB Score	Elevation Score	Unweighted Vulnerability Ranking System	Weighted Vulnerability Ranking System	Weighted Connectivity Ranking System
Golden Acres Sec B	1	3	1	3	1	6	6	1	4	2.50	2.22	2.78
Smith G T Sub No 6	2	3	1	3	4	6	5	1	2	2.56	2.22	2.78
Pine Acres Sub 1St Add	1	3	1	2	1	6	5	2	4	2.38	2.22	2.78
Arnold H T Plan Of Conway	1	3	1	3	1	6	5	2	3	2.38	2.22	2.78
Cross State Hwy Hgts	1	3	1	2	1	6	4	2	5	2.38	2.22	2.78
Chickasaw Oaks Ph 1	3	1	1	3	3	6	4	1	5	2.63	2.22	2.78
Park Manor Ests Ut 11 C	1	3	1	4	1	6	4	1	5	2.50	2.22	2.78
Bay Run Sec 3	2	3	1	3	1	6	3	1	5	2.38	2.22	2.78
Porter Place	2	3	1	4	2	6	2	2	3	2.31	2.22	2.78
Zellwood Partners Sub	2	3	1	1	1	5	3	2	5	2.25	2.22	2.63
Windermere Hgts 2Nd Sec	1	6	1	2	1	5	2	2	1	2.00	2.22	2.63
Isles Of Windermere	1	3	1	1	1	5	1	5	3	2.00	2.22	2.63
Keenes Pointe Ut 6 (Sec 30)	3	3	1	1	1	4	1	3	3	2.00	2.22	2.48
Lake Cypress Cove Ph 3	1	3	1	1	1	4	1	5	3	2.00	2.22	2.48
Isleworth 1St Amnd	1	3	1	1	1	3	1	5	3	2.00	2.22	2.33
Bithlo Ranches First Add Unrec Plat	1	1	4	1	1	2	4	1	6	2.38	2.22	2.19
Isleworth 1St Amnd	1	3	1	1	1	2	1	5	3	2.00	2.22	2.19
Christmas Gardens No 1	1	1	5	1	1	1	2	1	6	2.25	2.22	2.04
Innisbrook	1	3	1	1	1	1	2	3	6	2.25	2.22	2.04
Sand Lake Point Ut 4	2	2	1	4	2	5	2	3	3	2.31	2.21	2.62
Crown Point Woods	1	1	6	1	1	3	2	1	3	2.05	2.21	2.32
Woodlands Of Windermere Ut 3	2	4	1	2	1	5	3	2	1	2.05	2.20	2.62
Torey Pines Ut 1	1	5	1	3	1	5	2	2	2	2.07	2.18	2.60
Keenes Pointe Ut 7	2	4	1	3	1	5	1	2	3	2.07	2.18	2.60
South Bay Sec 4	2	2	1	3	1	6	2	3	3	2.16	2.18	2.74
Holden Court	3	1	1	2	2	6	5	2	3	2.38	2.17	2.74
Holden Court 1St Add	3	1	1	2	2	6	5	2	3	2.38	2.17	2.74
Orange Hill	2	3	1	3	1	6	3	3	1	2.06	2.17	2.74
Orlando Terrace Sec 8	1	3	1	3	1	6	2	3	4	2.19	2.17	2.74
Royal Ranch Ests 1St Add Sec 2	1	3	1	2	1	6	2	4	3	2.06	2.17	2.74
Worthington Park	1	3	1	2	2	6	1	4	3	2.13	2.17	2.74

Appendix B
Pollution Potential Prioritization Schemes (sorted by the Weighted Vulnerability Ranking System)

Subdivision Name	Septic Density Score	OCAVA Score	Impaired WB Score	Population Density Score	Housing Density Score	WW Infra-structure Score	Year Built Score	Distance to WB Score	Elevation Score	Unweighted Vulnerability Ranking System	Weighted Vulnerability Ranking System	Weighted Connectivity Ranking System
Coconut Grove Ut 2	2	3	1	2	1	5	5	1	4	2.31	2.17	2.59
Toronto	1	1	6	1	2	5	3	1	2	2.13	2.17	2.59
Rockinghorse Ranches Ut 1	1	3	1	2	1	5	3	2	6	2.31	2.17	2.59
Willows At Lake Rhea Ph 3	1	3	1	3	1	5	2	4	2	2.06	2.17	2.59
Isleworth 1St Amnd	1	1	1	1	2	4	2	6	3	2.13	2.17	2.44
Keenes Pointe Ut 2	3	3	1	2	3	3	1	2	3	2.19	2.17	2.30
Lake Down Pointe	1	3	1	2	1	3	1	5	2	1.94	2.17	2.30
Bithlo (Blk 1211)	2	1	1	2	3	2	6	1	6	2.69	2.17	2.15
Estates At Lake Pickett-Phase 2	1	3	1	1	2	2	1	3	6	2.25	2.17	2.15
Hamptons	2	2	1	4	1	5	2	3	3	2.17	2.16	2.58
Woodlands Of Windermere Ut 3 1St Add	2	4	1	3	2	6	3	2	1	2.14	2.15	2.72
Windermere Hgts 3Rd Sec	1	6	1	2	1	6	2	2	1	1.95	2.15	2.72
Gotha Town Of	1	3	1	1	1	6	4	3	3	2.14	2.15	2.72
Rabbits Run	2	4	1	3	3	6	2	1	3	2.29	2.14	2.71
Butler Ridge	1	5	1	2	1	5	2	2	2	1.98	2.14	2.56
South Bay Sec 2	2	2	1	3	1	6	3	3	3	2.16	2.14	2.71
Olympia Hgts Rep	2	1	1	2	1	6	6	2	4	2.38	2.13	2.70
Winter Garden Manor	2	3	1	2	1	6	6	1	2	2.25	2.13	2.70
Olympia Hgts	2	1	1	2	1	6	6	2	4	2.38	2.13	2.70
Reaves J J Sub	1	1	1	2	3	6	5	3	4	2.50	2.13	2.70
Ficquette-Thornal Sub No 2	2	3	1	3	2	6	5	1	2	2.31	2.13	2.70
Overstreet Crate Co	1	3	1	3	2	6	4	2	3	2.31	2.13	2.70
East Orange Park	1	3	1	2	1	6	4	1	6	2.38	2.13	2.70
Overstreet Crate Co	1	3	1	3	2	6	4	2	3	2.31	2.13	2.70
Franklin Estates	1	3	1	4	1	6	3	1	5	2.38	2.13	2.70
Garcia Property	1	3	1	3	1	6	1	2	6	2.25	2.13	2.70
Rio Pines Ut 1	1	3	1	2	1	5	4	2	4	2.25	2.13	2.56
Bentons Zellwood Sub	2	3	1	1	1	5	3	2	4	2.13	2.13	2.56
Oakwater Prof Park Condo	1	1	1	2	4	5	2	5	3	2.31	2.13	2.56
Florida Humus Co Indus Area Plat	1	3	1	1	3	4	2	2	6	2.38	2.13	2.41
Sand Lake Point Ut 2	2	1	2	3	1	4	2	3	3	2.13	2.13	2.41

Appendix B

Pollution Potential Prioritization Schemes (sorted by the Weighted Vulnerability Ranking System)

Subdivision Name	Septic Density Score	OCAVA Score	Impaired WB Score	Population Density Score	Housing Density Score	WW Infra-structure Score	Year Built Score	Distance to WB Score	Elevation Score	Unweighted Vulnerability Ranking System	Weighted Vulnerability Ranking System	Weighted Connectivity Ranking System
Estates At Windermere Rep No 1	2	3	1	1	1	4	2	3	3	2.00	2.13	2.41
Isleworth 3Rd Amnd	1	3	1	1	1	4	1	5	2	1.88	2.13	2.41
Isle Of Bali 2 Condo Ph 9	1	3	1	1	1	3	2	4	3	2.00	2.13	2.26
Keenes Pointe Ut 2	2	3	1	1	3	3	1	3	3	2.13	2.13	2.26
Butler Bay Ut 3	1	3	1	1	1	2	2	4	3	2.00	2.13	2.11
Orange Lake C C Villas Ph 7-A	1	3	1	1	1	1	4	3	3	2.13	2.13	1.96
Oaks Of Mt. Dora	1	6	1	1	1	1	2	2	1	1.88	2.13	1.96
Tangerine Woods	1	1	4	1	1	1	1	3	4	2.00	2.13	1.96
Keenes Pointe Ut 7	2	4	1	2	3	4	1	2	3	2.15	2.13	2.41
Woodlands Of Windermere Ut 2	2	3	1	2	1	4	4	2	1	2.06	2.12	2.40
Bonynges Ed W 2Nd Add	2	4	1	2	2	1	2	2	1	2.02	2.12	1.95
Walker-Dean Sub	3	2	1	2	5	6	1	1	6	2.52	2.12	2.69
Chesterhill Ests Ph 1	1	3	1	1	1	1	2	3	4	2.05	2.11	1.95
Glenmuir Ut 2	2	4	1	2	1	5	1	2	3	1.99	2.11	2.54
Ests At Lake Pickett Ph 1	1	3	1	1	2	2	1	3	6	2.20	2.11	2.09
Sunset Preserve Phase 4	1	1	1	1	1	1	1	5	6	2.11	2.10	1.94
Magnolia Park Of Windermere	1	4	1	2	1	5	2	3	2	1.95	2.10	2.53
Orlando Improvement Co No 3	1	3	1	4	1	6	3	1	5	2.32	2.10	2.68
Ridgemoore Ph 3	3	2	1	4	1	5	2	2	3	2.13	2.10	2.53
Harney W R Sub	1	1	1	2	5	6	6	2	4	2.69	2.09	2.67
Plat Of Rosen Trustee	1	3	1	1	4	6	5	2	2	2.38	2.09	2.67
Garden Farms Sub	1	3	1	2	1	6	4	2	4	2.19	2.09	2.67
Gatlin With Hobbs	1	1	1	2	1	6	4	4	4	2.19	2.09	2.67
Meadows At Rio Pinar	2	3	1	2	1	6	3	1	5	2.19	2.09	2.67
Woodlands Village Rep	2	3	1	3	1	6	3	2	2	2.06	2.09	2.67
Cross Winds Cove	3	3	1	3	1	6	2	2	1	1.94	2.09	2.67
Cow Trail Sub	1	3	1	2	2	6	2	3	3	2.13	2.09	2.67
Woodhaven 1St Add	1	3	1	2	1	6	2	3	4	2.06	2.09	2.67
Bentley Park 2Nd Rep	1	1	1	3	1	6	2	5	3	2.06	2.09	2.67
Keene'S Pointe Ut 2 First Amnd	2	3	1	1	2	3	1	3	3	2.00	2.09	2.22
Keenes Pointe Ut 3	2	3	1	1	2	3	1	3	3	2.00	2.09	2.22
Liki Tiki Village 3 South	1	3	1	1	2	2	1	4	3	2.00	2.09	2.07

Appendix B
Pollution Potential Prioritization Schemes (sorted by the Weighted Vulnerability Ranking System)

Subdivision Name	Septic Density Score	OCAVA Score	Impaired WB Score	Population Density Score	Housing Density Score	WW Infra-structure Score	Year Built Score	Distance to WB Score	Elevation Score	Unweighted Vulnerability Ranking System	Weighted Vulnerability Ranking System	Weighted Connectivity Ranking System
Ridgemoore Ph 4	3	2	1	3	1	5	2	2	2	2.03	2.08	2.51
Cox L C Add	2	1	1	2	2	6	4	2	4	2.31	2.08	2.66
Coconut Grove	2	3	1	4	1	4	2	1	4	2.18	2.08	2.36
Golden Acres Sec B	1	3	1	4	2	6	3	1	4	2.37	2.08	2.66
Chs Commercial	1	3	1	1	2	2	1	4	3	1.98	2.07	2.06
Windermere Wylde	1	3	1	2	2	5	4	3	1	2.07	2.06	2.49
Golden Acres Sec A	1	1	1	3	1	6	6	2	4	2.38	2.04	2.63
Chickasaw Farms	1	3	1	2	1	6	4	1	5	2.25	2.04	2.63
Lake Down Woods	1	3	1	2	2	6	2	3	3	2.06	2.04	2.63
Lake Cypress Cove Ph 2	1	3	1	1	1	6	1	4	3	1.88	2.04	2.63
Forsyth Commerce Center	1	3	1	3	2	6	1	2	5	2.19	2.04	2.63
Woodlands Of Windermere Ut 1	2	3	1	2	1	5	4	2	1	2.00	2.04	2.48
Marsell Manor Sub	2	3	1	1	1	5	3	1	5	2.13	2.04	2.48
Harbor Isle	1	3	1	2	1	5	1	4	2	1.88	2.04	2.48
Bella Vita Estates	1	3	1	3	2	5	1	3	3	2.06	2.04	2.48
Windermere Grande	1	3	1	1	1	4	1	4	3	1.88	2.04	2.33
Isleworth 4Th Amnd	1	3	1	2	1	4	1	4	2	1.88	2.04	2.33
Park Avenue West	1	3	1	1	1	4	1	4	3	1.88	2.04	2.33
Isle Of Pines 2Nd Add	2	1	1	1	1	1	2	3	6	2.13	2.04	1.89
Isleworth 1St Amnd	1	3	1	1	1	1	1	4	3	1.88	2.04	1.89
Tangerine Reserve	1	6	1	1	1	1	1	2	1	1.75	2.04	1.89
Cypress Isle	1	3	1	1	1	4	2	3	4	2.00	2.04	2.33
Tildens Grove Ph 2	2	3	1	2	1	5	1	3	2	1.83	2.02	2.46
Hansel E W Add	1	1	1	2	3	6	6	2	4	2.44	2.00	2.59
Holly Creek	1	3	1	2	1	6	2	2	5	2.06	2.00	2.59
Lake Mabel Ests	2	3	1	2	2	6	1	2	3	2.00	2.00	2.59
Royal Ranch Ests 1St Add Sec 1	1	3	1	2	1	5	2	3	3	1.94	2.00	2.44
Woodbridge On The Green	2	3	1	2	1	5	2	2	3	1.94	2.00	2.44
Farms	1	3	1	1	2	4	2	3	3	2.00	2.00	2.30
Willows At Lake Rhea Ph 2A	2	3	1	2	1	4	2	2	3	1.94	2.00	2.30
Estates At Windermere	1	3	1	2	1	3	2	3	3	1.94	2.00	2.15
Village Of Bithlo - A Rep	3	1	1	3	3	2	1	1	6	2.31	2.00	2.00

Appendix B
Pollution Potential Prioritization Schemes (sorted by the Weighted Vulnerability Ranking System)

Subdivision Name	Septic Density Score	OCAVA Score	Impaired WB Score	Population Density Score	Housing Density Score	WW Infra-structure Score	Year Built Score	Distance to WB Score	Elevation Score	Unweighted Vulnerability Ranking System	Weighted Vulnerability Ranking System	Weighted Connectivity Ranking System
Bithlo (201-205, 301-305)	2	1	1	2	4	1	3	1	6	2.50	2.00	1.85
Wiles Carl Resub	1	3	1	1	2	1	2	3	3	2.00	2.00	1.85
Lake Mary Jane Ests Rep	2	1	1	2	1	1	1	3	6	2.06	2.00	1.85
Lincklaen Hgts	1	2	1	2	2	6	3	3	4	2.13	1.96	2.56
South Side	1	1	1	3	4	6	5	2	3	2.44	1.96	2.56
Orlando Improvement Co No 2	1	3	1	3	1	6	2	1	5	2.13	1.96	2.56
Les Terraces	1	3	1	2	1	4	2	3	2	1.88	1.96	2.26
Greater Country Ests Ph 2	1	3	1	1	1	4	2	2	5	2.00	1.96	2.26
Isleworth 1St Amnd	1	3	1	1	1	4	1	4	2	1.75	1.96	2.26
Oxford Moor	1	3	1	2	1	4	1	3	3	1.88	1.96	2.26
Greater Country Ests Ph 1	1	3	1	1	1	3	2	2	5	2.00	1.96	2.11
Greater Country Ests Ph 2	1	3	1	1	1	3	2	2	5	2.00	1.96	2.11
Crescent Pointe	1	3	1	2	1	3	2	3	2	1.88	1.96	2.11
Keenes Pointe Ut 2	2	3	1	2	2	3	1	2	3	1.94	1.96	2.11
Mandalay Sub Replat	2	1	1	1	1	3	1	3	6	2.00	1.96	2.11
Hudson J A Add To Victoria	1	3	1	1	1	1	5	1	4	2.13	1.96	1.81
Bithlo (Blk 13-37)	1	1	2	1	1	1	5	1	6	2.25	1.96	1.81
Taylor Creek Hgts	1	3	1	1	1	1	3	1	6	2.13	1.96	1.81
Bithlo (Blk 201-1222)	1	1	1	2	4	1	3	2	6	2.44	1.96	1.81
Lake Mary Jane Ests Rep	1	1	1	1	1	1	1	4	6	2.00	1.96	1.81
Lake Pickett Reserve	1	1	1	1	1	1	1	4	6	2.00	1.96	1.81
Golfside Marketplace	1	5	1	2	1	1	1	2	1	1.71	1.95	1.81
Willowwood Ut 2	1	4	1	2	1	5	3	2	1	1.87	1.94	2.40
Isle Of Pines 1St Add	2	1	1	1	1	1	2	2	6	2.05	1.94	1.80
Elysium Club	1	4	1	1	1	1	2	1	5	1.99	1.94	1.80
Live Oak Ests Ph 1	1	2	1	1	1	1	2	2	6	2.04	1.93	1.79
Randolph Plat	1	1	1	2	1	6	5	3	3	2.06	1.91	2.52
Forsythe Woods	3	1	1	3	1	6	3	1	4	2.06	1.91	2.52
Chickasaw Farms 1St Add	1	3	1	2	1	6	3	1	5	2.06	1.91	2.52
Gotha Town Of Rep	1	3	1	2	2	6	3	2	2	2.00	1.91	2.52
John Young Commerce Ctr	1	3	1	2	1	6	2	2	4	1.94	1.91	2.52
Bithlo (Blk 1-12)	1	1	2	1	4	1	3	1	6	2.38	1.91	1.78

Appendix B

Pollution Potential Prioritization Schemes (sorted by the Weighted Vulnerability Ranking System)

Subdivision Name	Septic Density Score	OCAVA Score	Impaired WB Score	Population Density Score	Housing Density Score	WW Infra-structure Score	Year Built Score	Distance to WB Score	Elevation Score	Unweighted Vulnerability Ranking System	Weighted Vulnerability Ranking System	Weighted Connectivity Ranking System
Cape Orl Ests Ut 7A	1	3	1	1	4	1	1	1	6	2.25	1.91	1.78
Lake Avalon Groves 2Nd Replat	1	5	1	1	1	1	2	1	3	1.84	1.91	1.77
Orange Lake C C Villas 3 Ph 2	1	5	1	1	1	4	1	2	2	1.71	1.91	2.22
Cypress Point	1	2	1	3	1	6	4	2	2	1.99	1.91	2.51
Lake Avalon Groves Rep	1	5	1	1	1	4	2	2	1	1.71	1.90	2.21
Beauclaire Estates Of Mt. Dora	1	5	1	1	1	1	1	2	2	1.70	1.89	1.76
Fox Division	1	3	1	2	1	6	2	1	5	2.00	1.87	2.48
Lake Hill	1	3	1	2	1	6	2	2	3	1.88	1.87	2.48
Keenes Pointe Ut 6 (Sec 31)	2	3	1	1	1	6	1	2	3	1.75	1.87	2.48
Isleworth 1St Amnd	1	3	1	1	1	5	2	3	2	1.75	1.87	2.33
Isleworth 1St Amnd	1	3	1	1	1	5	2	3	2	1.75	1.87	2.33
Mejo Oscar Property	1	3	1	2	1	5	1	2	4	1.88	1.87	2.33
Orange Lake C C Villas 3 Ph 4	2	3	1	1	1	4	1	2	3	1.75	1.87	2.19
Holly Street Sub	2	3	1	1	1	4	1	1	5	1.88	1.87	2.19
Chaine Du Lac	1	3	1	1	1	3	1	3	3	1.75	1.87	2.04
Christmas Hgts	1	3	1	1	1	1	2	1	6	2.00	1.87	1.74
Bonynge Add	1	6	1	1	1	1	1	1	1	1.63	1.87	1.74
Keenes Pointe Ut 3	1	3	1	1	1	1	1	3	3	1.75	1.87	1.74
Christmas Park	1	2	1	1	1	1	4	1	6	2.12	1.87	1.74
Reserve At Lake Butler Sound Ut 2	1	3	1	2	1	3	1	2	3	1.81	1.86	2.03
Rolling Hills Of Avalon Annex	1	4	1	1	1	3	4	1	2	1.86	1.84	2.02
Moore Cecil D Sub	1	1	1	3	3	6	4	2	3	2.19	1.83	2.44
Leeside Ests	1	3	1	2	2	6	2	2	2	1.88	1.83	2.44
Chickasaw Farms Rep	1	3	1	2	1	6	2	1	5	1.94	1.83	2.44
Curry East	1	3	1	2	1	6	2	1	5	1.94	1.83	2.44
Econ Place 2 Pd	1	3	1	2	1	6	1	1	6	1.94	1.83	2.44
South Bay Sec 5	2	1	1	2	1	5	2	3	3	1.81	1.83	2.30
Country Trail Ests	1	3	1	1	2	5	2	2	3	1.88	1.83	2.30
Elysium	1	3	1	2	1	1	2	1	5	1.94	1.83	1.70
Bithlo (Blk 406-410, 506-509)	1	1	1	1	4	1	2	2	6	2.25	1.83	1.70
Cape Orl Ests Ut 9A	1	3	1	1	2	1	1	1	6	2.00	1.83	1.70

Appendix B

Pollution Potential Prioritization Schemes (sorted by the Weighted Vulnerability Ranking System)

Subdivision Name	Septic Density Score	OCAVA Score	Impaired WB Score	Population Density Score	Housing Density Score	WW Infra-structure Score	Year Built Score	Distance to WB Score	Elevation Score	Unweighted Vulnerability Ranking System	Weighted Vulnerability Ranking System	Weighted Connectivity Ranking System
Martins Preserve	1	3	1	2	1	1	1	3	2	1.69	1.83	1.70
Lake Avalon Groves Rep	1	5	1	1	1	2	2	1	2	1.71	1.81	1.84
Chesterhill Ests Ph 4	1	4	1	1	1	1	1	2	3	1.70	1.80	1.69
Keenes Pointe Ut 5	2	3	1	2	1	3	1	1	3	1.73	1.80	1.98
Bellaria	1	3	1	1	1	6	1	3	2	1.63	1.79	2.41
Chickasaw Trail Ests	1	3	1	2	1	6	1	1	5	1.88	1.78	2.41
Willows At Lake Rhea Ph 1	1	3	1	2	1	5	2	2	2	1.75	1.78	2.26
Holly Street Sub	2	3	1	1	1	5	1	1	4	1.75	1.78	2.26
Chickasaw Ranch Ests	1	3	1	2	1	5	1	1	5	1.88	1.78	2.26
Willows At Lake Rhea Ph 2	1	3	1	2	1	4	2	2	2	1.75	1.78	2.11
Orange Lake C C Villas 3 Ph 2	2	3	1	1	1	4	1	2	2	1.63	1.78	2.11
Greater Country Estates Ph Iii	1	3	1	1	1	4	1	2	4	1.75	1.78	2.11
East Orlando Ests Sec 2 Unrec	1	1	1	1	3	3	4	1	6	2.25	1.78	1.96
Orange Lake C C Villas 3 Ph 7	1	3	1	1	1	3	1	3	2	1.63	1.78	1.96
Bithlo (Blk 101-106)	1	1	1	1	3	2	4	1	6	2.25	1.78	1.81
Bithlo Ranches Unrec Plat	1	1	1	2	1	2	4	1	6	2.13	1.78	1.81
Meres	1	3	1	1	1	1	2	1	5	1.88	1.78	1.67
Bithlo (Blk 510)	1	1	1	1	1	1	1	3	6	1.88	1.78	1.67
Cape Orl Ests Ut 2A	1	3	1	1	1	1	1	1	6	1.88	1.78	1.67
Cape Orl Ests Ut 8A	1	3	1	1	1	1	1	1	6	1.88	1.78	1.67
Dora Ests Ph Two 17-18 Rep	1	3	1	1	1	1	1	2	4	1.75	1.78	1.67
Live Oaks Ests Ph 4	1	3	1	1	1	1	1	1	6	1.88	1.78	1.67
Dora Ests Ph 2	1	3	1	1	1	1	1	2	4	1.75	1.78	1.67
Cape Orl Ests Ut 3A	1	3	1	1	3	1	1	1	5	2.00	1.78	1.66
Cape Orl Ests Ut 3A	1	3	1	1	3	1	1	1	5	1.99	1.77	1.66
Keenes Pointe Ut 1	1	3	1	1	2	3	1	2	3	1.77	1.77	1.95
Christmas Gardens No 2	1	2	1	1	1	1	2	1	6	1.92	1.76	1.65
Overstreet Crate Co	1	2	1	1	1	6	5	1	3	1.91	1.75	2.38
Windsor Hill	2	3	1	3	1	4	2	1	1	1.69	1.74	2.08
Lockwood Stephen Sub	1	1	1	3	1	6	5	1	4	2.06	1.74	2.37
Windermere Downs Ph 3	1	3	1	2	2	5	1	2	2	1.75	1.74	2.22
Harbor Isle Ut 2	1	3	1	2	1	5	1	3	1	1.56	1.74	2.22

Appendix B

Pollution Potential Prioritization Schemes (sorted by the Weighted Vulnerability Ranking System)

Subdivision Name	Septic Density Score	OCAVA Score	Impaired WB Score	Population Density Score	Housing Density Score	WW Infra-structure Score	Year Built Score	Distance to WB Score	Elevation Score	Unweighted Vulnerability Ranking System	Weighted Vulnerability Ranking System	Weighted Connectivity Ranking System
Cape Orl Ests Ut 4A	1	3	1	1	2	1	1	1	5	1.87	1.74	1.63
Gruchole Magdalene Sub	1	2	1	4	1	6	1	1	4	1.89	1.72	2.35
Live Oak Ests Ph 2	1	1	1	1	1	1	2	2	6	1.88	1.70	1.60
Prosper Colony Blk D	1	3	1	1	1	6	2	1	4	1.75	1.70	2.33
Lake Down Cove	1	3	1	2	1	5	2	2	1	1.63	1.70	2.19
East Orlando Ests Sec 2 Unrec	1	1	1	1	3	4	3	1	6	2.13	1.70	2.04
Orange Lake C C Villas 3 Ph 1	1	3	1	1	1	4	1	2	3	1.63	1.70	2.04
Windsor Hill	1	3	1	2	1	3	1	2	2	1.63	1.70	1.89
Orange County Acres Sec 36	1	1	1	1	1	1	4	1	6	2.00	1.70	1.59
Marbella Pointe	1	1	1	5	2	6	1	1	4	2.03	1.69	2.33
Live Oak Ests Ph 3	1	2	1	1	1	1	1	1	6	1.80	1.68	1.58
Orange Lake East Town Ctr Rep 2	1	4	1	1	1	1	1	1	3	1.61	1.68	1.58
Christmas Park 1St Add	1	1	1	1	1	1	3	1	6	1.92	1.68	1.58
Cape Orl Ests Ut 3A	1	3	1	1	1	1	1	1	5	1.73	1.67	1.57
Perez Sub	1	1	1	2	1	6	3	1	6	1.94	1.65	2.30
Orange Lake East Town Ctr Rep	1	3	1	1	1	1	1	1	4	1.64	1.64	1.54
Windsor Hill Reserve	1	3	1	2	1	4	1	2	1	1.50	1.61	1.96
East Orlando Ests Sec 1 Unrec	1	1	1	1	1	3	3	1	6	1.88	1.61	1.81
Christmas Ranch	1	1	1	1	1	1	3	1	6	1.88	1.61	1.52
Christmas Ests Ut 1	1	1	1	1	1	1	3	1	6	1.88	1.61	1.52
Sunset Preserve Phase 1	1	1	1	1	1	1	1	2	6	1.75	1.61	1.52
Courtleigh Park	1	3	1	2	1	5	2	1	1	1.56	1.61	2.11
Balmoral	1	3	1	3	1	5	2	1	1	1.58	1.59	2.09
Mandalay Sub	1	1	1	2	2	4	1	1	6	1.85	1.57	1.93
Lake Down Crest	1	3	1	3	1	5	2	1	1	1.56	1.57	2.07
Carrigan Lot	1	1	1	2	3	1	1	1	6	1.94	1.57	1.48
Beauclaire Ests Of Mount Dora Ph 2	1	4	1	1	1	1	1	1	2	1.45	1.54	1.46
Coward Ranches	1	1	1	1	1	1	2	1	6	1.75	1.52	1.45
Fontana Ests	1	1	1	1	1	3	1	2	5	1.63	1.52	1.74
Christmas Ests Ut 2 Sec A Rep	1	1	1	1	1	1	2	1	6	1.75	1.52	1.44
Christmas Ests Ut 2 Sec E	1	1	1	1	1	1	2	1	6	1.75	1.52	1.44

Appendix B

Pollution Potential Prioritization Schemes (sorted by the Weighted Vulnerability Ranking System)

Subdivision Name	Septic Density Score	OCAVA Score	Impaired WB Score	Population Density Score	Housing Density Score	WW Infra-structure Score	Year Built Score	Distance to WB Score	Elevation Score	Unweighted Vulnerability Ranking System	Weighted Vulnerability Ranking System	Weighted Connectivity Ranking System
Christmas Ests Ut 2 Sec D	1	1	1	1	1	1	2	1	6	1.75	1.52	1.44
Christmas Ests Ut 2 Sec B	1	1	1	1	1	1	2	1	6	1.75	1.52	1.44
Christmas Gardens No 3	1	1	1	1	1	1	2	1	6	1.75	1.52	1.44
Christmas Ests Ut 2 Sec C	1	1	1	1	1	1	2	1	6	1.75	1.52	1.44
East Orlando Ests Sec A	1	1	1	1	2	2	2	1	5	1.75	1.48	1.56
Cape Orl Ests Ut 31A	1	1	1	1	1	1	1	1	6	1.63	1.44	1.38
Lake And Pines Ests	1	1	1	1	1	1	1	1	6	1.63	1.44	1.38
East Orlando Ests Sec B	1	1	1	1	1	2	2	1	5	1.63	1.43	1.52
Orange County Acres Sec 18	1	1	1	1	1	1	1	1	6	1.63	1.43	1.37
Christmas Pines Rep	1	1	1	1	1	1	1	1	6	1.63	1.43	1.37
Lifepointe Village	1	1	1	1	1	6	1	1	5	1.51	1.37	2.05

Appendix E: Initial Septic-to-Sewer Connectivity Priority Ranking

Regional Septic & Sanitary Sewer Spatial Analysis – Weighted Connectivity Ranking Summary

Background

The following subsections briefly summarize key points of the Weighted Connectivity Ranking System performed by Applied Ecology, Inc. (AEI) and described in AEI's Septic and Sewer Spatial Analysis Technical Memorandum Report provided in Appendix D of the Orange County Groundwater Vulnerability Assessment - Final Report (OCGWV report).

Initial Priority Weighted Connectivity Ranking

The two vulnerability ranking systems strictly concerned with groundwater pollution potential, the Unweighted Vulnerability Ranking System and Weighted Vulnerability Ranking System, are described in in Section 5.3: Initial Priority Ranking Methodology of the OCGWV report and AEI's Septic and Sewer Spatial Analysis Technical Memorandum Report.

To add an element of retrofit feasibility, a Weighted Connectivity Ranking System was also developed in conjunction with the Unweighted and Weighted Vulnerability Ranking Systems. The Weighted Connectivity Ranking System included the distance to existing force and gravity mains. Greater detail on feasibility, including costs, capacity, and constraints would require an engineering evaluation which was not part of this assessment. The Weighted Connectivity Ranking System was created by adding the parameter for distance to existing infrastructure to the parameters used in the Weighted Vulnerability Ranking System (Section 5.3 of the OCGWV report). Parameters used in the Weighted Connectivity Ranking System are provided in Table 1.

*Table 1. Weighted Connectivity Ranking System Parameters and Weight Values.**

VARIABLE NAME	WEIGHTED CONNECTIVITY RANKING SYSTEM
SEPTIC DENSITY (#/ACRE)	2
OCAVA VULNERABILITY CATEGORY	2
PERCENT SUBDIVISION IN IMPAIRED WATERSHED OR SPRINGSHED	2
HOUSING DENSITY CHANGE (2020-2050)	0.5
POPULATION DENSITY CHANGE	1
MEAN YEAR BUILT	1
MEAN DISTANCE TO WATERBODY (METERS)	2
MEAN SURFACE ELEVATION (FT)	1
DISTANCE TO EXISTING SEWER INFRASTRUCTURE	2

**Table 6 From AEI's Septic and Sewer Spatial Analysis Technical Memorandum Report provided in Appendix D of the Orange County Groundwater Vulnerability Assessment - Final Report.*

Initial Priority Ranking Results – Weighted Connectivity

Results from Weighted Connectivity Ranking System can be viewed spatially in Figure 1. Table 2 shows the top 15 ranking subdivisions for the Weighted Connectivity Ranking System along with the top ranked subdivisions for the Unweighted Vulnerability Ranking System and Weighted Vulnerability Ranking System (as described in in Section 5.3 of the OCGWV report). Higher priority subdivisions were commonly characterized by older developments, higher housing and population densities, shorter distances to waterbodies, the OCAVA More Vulnerable category, and being within an impaired watershed. Socioeconomic factors, while an important consideration in County planning, were not incorporated into the ranking systems as their impact on feasibility for retrofit can be difficult to establish. Incorporating the distance to existing sewer infrastructure to the ranking for Weighted Connectivity Ranking System increased the total number of higher priority subdivisions.

Table 2. Top Priority Ranking Subdivisions among Three Ranking Systems per the Initial Priority Rankings (Table 1 from Appendix D of the Orange County Groundwater Vulnerability Assessment – Final Report).

RANK	UNWEIGHTED VULNERABILITY RANK	WEIGHTED VULNERABILITY RANK	WEIGHTED CONNECTIVITY RANK
1	Wekiwa Manor Sec 1	Lake Florence Highlands Phase 1	Lake Florence Highlands Phase 1
2	Piedmont Estates	Wekiwa Manor Sec 1	Wekiwa Manor Section 1
3	Ranchette	Piedmont Estates	Piedmont Estates
4	Wells Gap	Lake Lucy Estates	Lake Lucy Estates
5	Suburban Homes	Long Lake Villas Phase 1B	Long Lake Villas Phase 1B
6	Long Lake Villas Phase 1B	Eden Park Estates	University Garden
7	Anderson George W	Sleepy Hollow Phase 1	Trout Lake Camp
8	Wentrop Shores	University Garden	Citrus Oaks Phase 4
9	Florence Park	Little Lake Georgia Terrace	Eden Park Estates
10	Riverside Acres	Trout Lake Camp	Sleepy Hollow Phase 1
11	Rio Grande Homesites	Citrus Oaks Phase 4	Riverside Acres 3rd Addition
12	Riverside Acres 2nd Addition	Troynelle By Big Lake Apopka	Lake Cortez Woods
13	Rimar Ridge	Lake Florence Estates	Lake Barton Park
14	Suburban Homes	Vanguard Heights	West Riverside Acres Rep
15	Eden Park Estates	Citrus Oaks Phase 3	Waikiki Beach 1st Addition

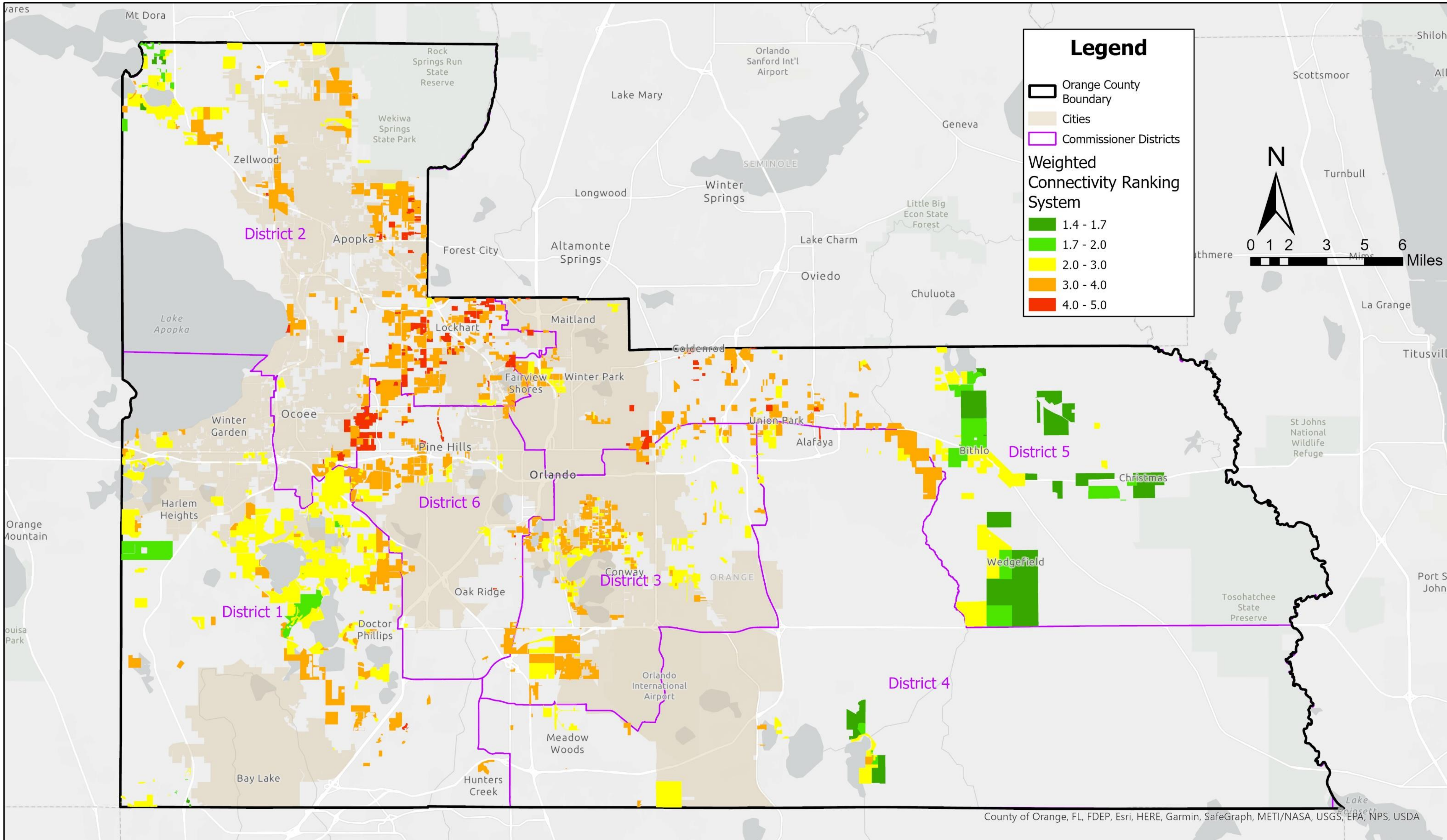


Figure 1. Weighted Connectivity Ranking System Results: Increasing Priority (from 1 – 5) Corresponds to Increasing Pollution Potential and Opportunity to Connect to Existing Sanitary Sewer Infrastructure.

Appendix F: Applied Ecology, Inc. STUMOD-FL Memorandum

ORANGE COUNTY STUMOD-FL MODEL RUNS

FINAL MEMORANDUM

UNSATURATED WATER QUALITY MODELING OF SEPTIC LEACHATE

PREPARED FOR:

PREPARED BY:

April 10, 2023

CONTENTS

List of Tables

List of Figures

INTRODUCTION

The first step in assessing Onsite Wastewater Treatment System (OWTS) or septic tank contamination of groundwater is to estimate the attenuation of nitrogen from the septic drain field as it percolates through the unsaturated soil zone. To accomplish this, Applied Ecology, Inc. (AEI) applied the Soil Treatment Unit Model for Florida (STUMOD-FL) that was developed under the direction of the Florida Department of Health (FDOH) as part of the Florida Onsite Sewage Nitrogen Reduction Strategies project (2015).

STUMOD is a one-dimensional unsaturated flow water quality model developed by Geza et al (2014) specifically to evaluate nitrogen loading from septic systems. The model operates in Microsoft Excel through VBA scripting to estimate nitrogen fate and transport from the septic drain field, through the unsaturated vadose zone, and into the surficial groundwater layer. The model provides a user-friendly interface to adjust a variety of model factors such as the hydraulic characteristics of the soil layers, septic leachate infiltration and nitrogen loading rates, and bacterial nitrification/denitrification. Hazen and Sawyer (2015) had created a Florida localized version (STUMOD-FL) which was modified to utilize soil characteristics, climatic conditions, and other factors representative of Florida based on mesocosm and field studies.

STUMOF-FL was designed to be able to perform the following:

- Source nitrogen can be provided as either NH_4 or NO_3
- Removal of nitrogen through soil sorption, bacterial reactions, and plant uptake.
- Effect of soil saturation and temperature on nitrification and denitrification rates
- Impact of soil carbon content on by depth on denitrification
- Multiple, heterogeneous soil or biomat layers with capillary zone effects

PROJECT OBJECTIVES

STUMOD-FL was used to estimate nitrogen concentration from septic systems at the water table for 8 vulnerability scenarios identified by Drummond-Carpenter (DC) in their Orange County Vulnerability Technical Memorandum. Representative model parameters of each scenario were used based on the best available data, which considered parameterization recommended by FDOH, Florida Department of Environmental Protection (FDEP), and Orange County Environmental Protection Division (OCEPD). The results from the 8 model scenarios will be utilized as inputs for the saturated soil transport model developed by DC.

STUMOD-FL SCENARIO PARAMETERS

8 model scenarios were provided by DC to represent the most likely potential conditions of depth to groundwater from the septic field, soil hydraulic conductivity, and the type of septic systems to be found in Orange County, FL (Table 1). All other available parameters for STUMOD-FL were set using the default conditions provided by the program or set to be more representative of Orange County, FL as recommended by DC (Table 2). The default depth interval of 65 slices was also utilized, where the 2- and 10-feet depths were automatically apportioned by the model.

Table 1 – STUMOD-FL scenario parameters for likely Orange County, FL conditions.

Modeling Scenario	Depth to Groundwater from Septic Field (ft)	Soil Hydraulic Conductivity (ft/Day)	Starting Nitrogen Concentration by Septic System Type (mg/L)
1	2	1.5	30
2	2	1.5	60
3	2	10	30
4	2	10	60
5	10	1.5	30
6	10	1.5	60
7	10	10	30
8	10	10	60

Table 2 – STUMOD-FL scenario parameters kept constant for all model runs

STUMOD-FL Parameter	Condition
Layers	1
Layer 1 Soil:	Sand, more permeable
Effluent Concentration (NO_3)	0.01 mg/L
Hydraulic Loading Rate	3 cm/D
Soil Temperature (T)	22 °C
Soil Temperature (Top T1)	25 °C
Soil Temperature (Top T2)	25 °C
Water & Nutrient Uptake	No
ET Air Temp	Calculated
Carbon Function	Yes

STUMOD-FL SCENARIO RESULTS

In the section below, the results of the 8 STUMOD-FL runs are depicted by scenario in a chart and table format. The charts depict the modeled NH_4 and NO_3 concentrations for depths between the septic drain field and the groundwater table.

SCENARIO 1

GRAPH

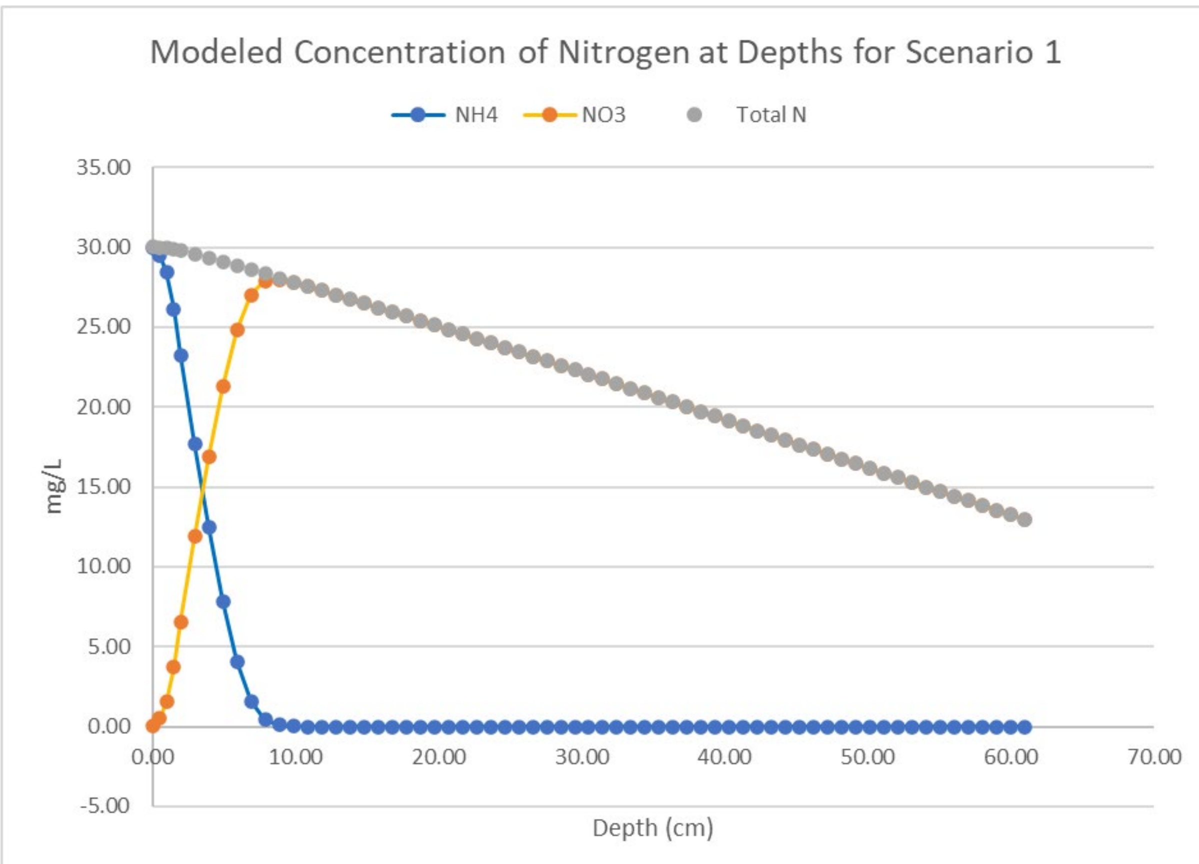


Figure 1 – STUMOD-FL modeled septic leachate nitrogen concentrations as NH_4 and NO_3 under the drain field by depth for Scenario 1. Depth to groundwater of 2 feet, hydraulic conductivity of 1.5 ft/day, and septic system nitrogen loading of 30 mg/L.

TABLE

Table 3 - STUMOD-FL modeled septic leachate nitrogen concentrations as NH_4 and NO_3 under the drain field by depth for Scenario 1. Depth to groundwater of 2 feet, hydraulic conductivity of 1.5 ft/day, and septic system nitrogen loading of 30 mg/L.

Depth (cm)	NH4 (mg/L)	NO3 (mg/L)	Total N (mg/L)
0.00	30.00	0.01	30.01
0.50	29.49	0.50	29.99
1.00	28.41	1.54	29.95
1.50	26.15	3.72	29.87
2.00	23.23	6.55	29.78
2.98	17.68	11.90	29.57
3.97	12.48	16.86	29.34
4.95	7.83	21.27	29.10
5.93	4.05	24.79	28.84
6.91	1.57	27.02	28.59
7.90	0.44	27.89	28.33
8.88	0.09	27.98	28.07
9.86	0.01	27.80	27.81
10.84	0.00	27.54	27.54
11.83	0.00	27.28	27.28
12.81	0.00	27.02	27.02
13.79	0.00	26.75	26.75
14.77	0.00	26.48	26.48
15.76	0.00	26.22	26.22
16.74	0.00	25.95	25.95
17.72	0.00	25.68	25.68
18.71	0.00	25.40	25.40
19.69	0.00	25.13	25.13
20.67	0.00	24.86	24.86
21.65	0.00	24.58	24.58
22.64	0.00	24.30	24.30
23.62	0.00	24.03	24.03
24.60	0.00	23.75	23.75
25.58	0.00	23.46	23.46
26.57	0.00	23.18	23.18
27.55	0.00	22.90	22.90
28.53	0.00	22.61	22.61

Depth (cm)	NH4 (mg/L)	NO3 (mg/L)	Total N (mg/L)
29.51	0.00	22.33	22.33
30.50	0.00	22.04	22.04
31.48	0.00	21.75	21.75
32.46	0.00	21.46	21.46
33.45	0.00	21.17	21.17
34.43	0.00	20.88	20.88
35.41	0.00	20.59	20.59
36.39	0.00	20.30	20.30
37.38	0.00	20.01	20.01
38.36	0.00	19.71	19.71
39.34	0.00	19.42	19.42
40.32	0.00	19.12	19.12
41.31	0.00	18.83	18.83
42.29	0.00	18.53	18.53
43.27	0.00	18.24	18.24
44.25	0.00	17.94	17.94
45.24	0.00	17.64	17.64
46.22	0.00	17.35	17.35
47.20	0.00	17.05	17.05
48.19	0.00	16.75	16.75
49.17	0.00	16.46	16.46
50.15	0.00	16.16	16.16
51.13	0.00	15.87	15.87
52.12	0.00	15.58	15.58
53.10	0.00	15.28	15.28
54.08	0.00	14.99	14.99
55.06	0.00	14.70	14.70
56.05	0.00	14.42	14.42
57.03	0.00	14.13	14.13
58.01	0.00	13.84	13.84
58.99	0.00	13.56	13.56
59.98	0.00	13.28	13.28
60.96	0.00	12.99	12.99

SCENARIO 2

GRAPH

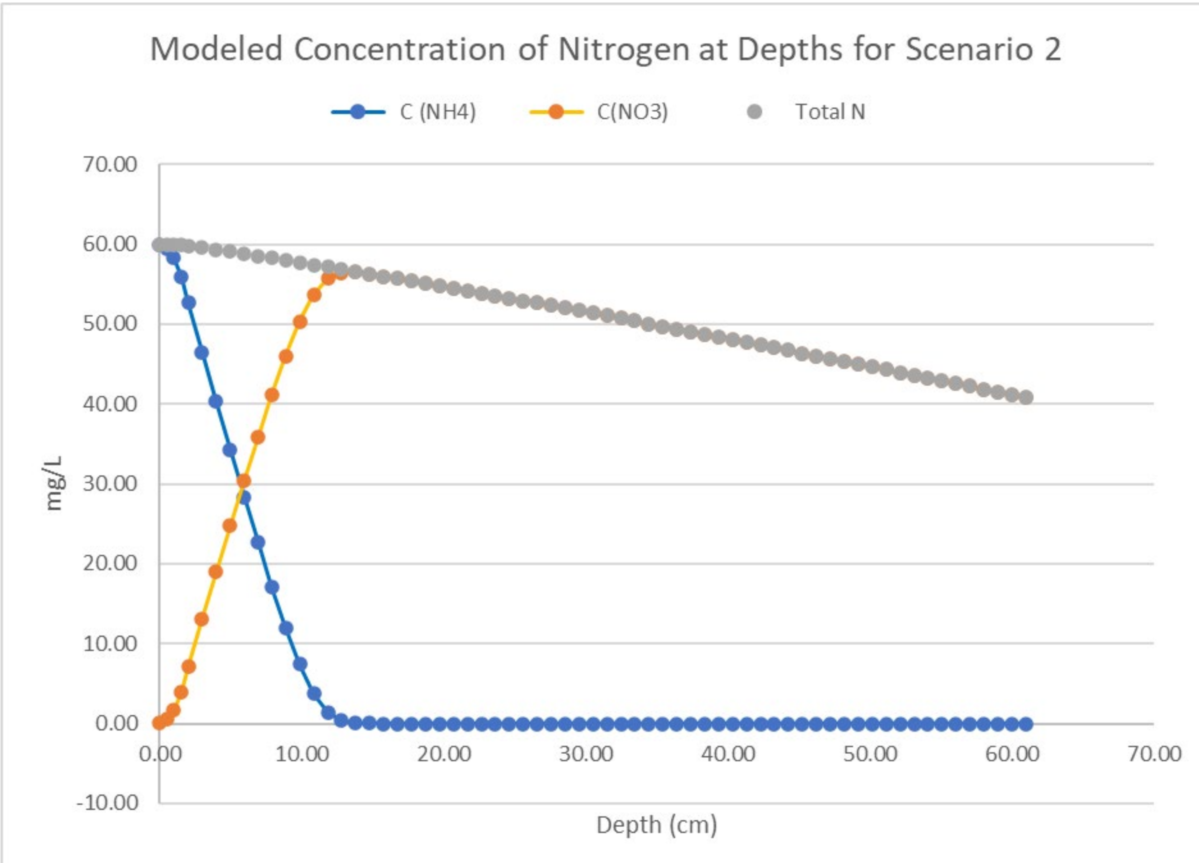


Figure 2 - STUMOD-FL modeled septic leachate nitrogen concentrations as NH_4 and NO_3 under the drain field by depth for Scenario 2. Depth to groundwater of 2 feet, hydraulic conductivity of 1.5 ft/day, and septic system nitrogen loading of 60 mg/L.

TABLE

Table 4 - STUMOD-FL modeled septic leachate nitrogen concentrations as NH_4 and NO_3 under the drain field by depth for Scenario 2. Depth to groundwater of 2 feet, hydraulic conductivity of 1.5 ft/day, and septic system nitrogen loading of 60 mg/L.

Depth (cm)	NH4 (mg/L)	NO3 (mg/L)	Total N (mg/L)
0.00	60.00	0.01	60.01
0.50	59.45	0.54	59.99
1.00	58.29	1.65	59.94
1.50	55.86	4.00	59.86
2.00	52.68	7.09	59.77
2.98	46.47	13.08	59.56
3.97	40.34	18.98	59.32
4.95	34.31	24.76	59.07
5.93	28.39	30.42	58.81
6.91	22.64	35.90	58.54
7.90	17.14	41.13	58.27
8.88	11.99	46.01	57.99
9.86	7.41	50.30	57.71
10.84	3.75	53.68	57.43
11.83	1.41	55.73	57.14
12.81	0.38	56.47	56.85
13.79	0.07	56.49	56.56
14.77	0.01	56.26	56.27
15.76	0.00	55.98	55.97
16.74	0.00	55.68	55.68
17.72	0.00	55.38	55.38
18.71	0.00	55.09	55.09
19.69	0.00	54.79	54.79
20.67	0.00	54.48	54.48
21.65	0.00	54.18	54.18
22.64	0.00	53.87	53.87
23.62	0.00	53.57	53.57
24.60	0.00	53.26	53.26
25.58	0.00	52.95	52.95
26.57	0.00	52.63	52.63
27.55	0.00	52.32	52.32

Depth (cm)	NH4 (mg/L)	NO3 (mg/L)	Total N (mg/L)
28.53	0.00	52.00	52.00
29.51	0.00	51.68	51.68
30.50	0.00	51.36	51.36
31.48	0.00	51.04	51.04
32.46	0.00	50.71	50.71
33.45	0.00	50.39	50.39
34.43	0.00	50.06	50.06
35.41	0.00	49.73	49.73
36.39	0.00	49.40	49.40
37.38	0.00	49.07	49.07
38.36	0.00	48.73	48.73
39.34	0.00	48.40	48.40
40.32	0.00	48.06	48.06
41.31	0.00	47.72	47.72
42.29	0.00	47.39	47.39
43.27	0.00	47.04	47.04
44.25	0.00	46.70	46.70
45.24	0.00	46.36	46.36
46.22	0.00	46.02	46.02
47.20	0.00	45.67	45.67
48.19	0.00	45.33	45.33
49.17	0.00	44.98	44.98
50.15	0.00	44.64	44.64
51.13	0.00	44.29	44.29
52.12	0.00	43.94	43.94
53.10	0.00	43.60	43.60
54.08	0.00	43.25	43.25
55.06	0.00	42.90	42.90
56.05	0.00	42.55	42.55
57.03	0.00	42.21	42.21
58.01	0.00	41.86	41.86
58.99	0.00	41.51	41.51
59.98	0.00	41.17	41.17
60.96	0.00	40.82	40.82

SCENARIO 3

GRAPH

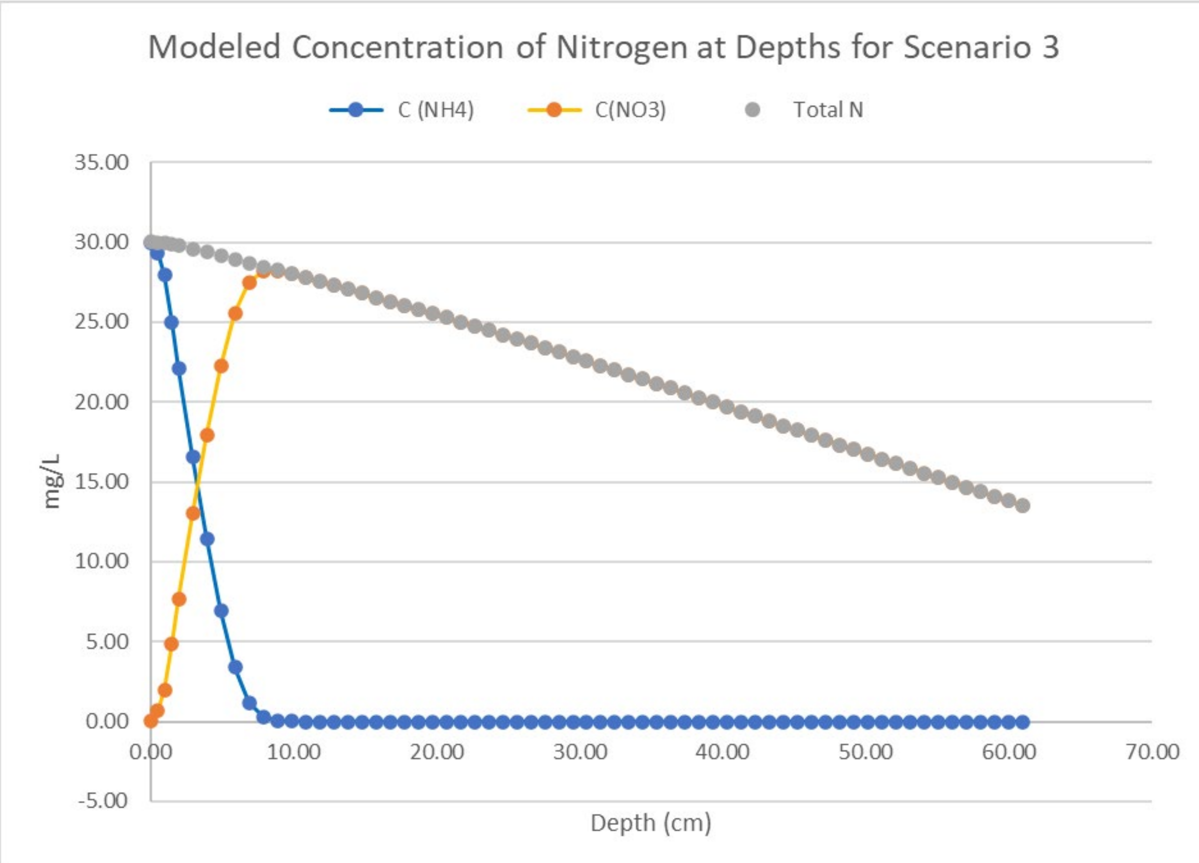


Figure 3 - STUMOD-FL modeled septic leachate nitrogen concentrations as NH_4 and NO_3 under the drain field by depth for Scenario 3. Depth to groundwater of 2 feet, hydraulic conductivity of 10 ft/day, and septic system nitrogen loading of 30 mg/L.

TABLE

Table 5 STUMOD-FL modeled septic leachate nitrogen concentrations as NH_4 and NO_3 under the drain field by depth for Scenario 3. Depth to groundwater of 2 feet, hydraulic conductivity of 10 ft/day, and septic system nitrogen loading of 30 mg/L.

Depth (cm)	NH4 (mg/L)	NO3 (mg/L)	Total N (mg/L)
0.00	30.00	0.01	30.01
0.50	29.33	0.65	29.99
1.00	27.93	2.00	29.93
1.50	24.99	4.86	29.85
2.00	22.08	7.69	29.77
2.98	16.56	13.02	29.58
3.97	11.44	17.94	29.37
4.95	6.92	22.24	29.16
5.93	3.37	25.56	28.93
6.91	1.20	27.51	28.71
7.90	0.30	28.17	28.47
8.88	0.05	28.19	28.24
9.86	0.00	28.00	28.01
10.84	0.00	27.77	27.77
11.83	0.00	27.53	27.53
12.81	0.00	27.29	27.29
13.79	0.00	27.04	27.04
14.77	0.00	26.80	26.80
15.76	0.00	26.55	26.55
16.74	0.00	26.30	26.30
17.72	0.00	26.05	26.05
18.71	0.00	25.79	25.79
19.69	0.00	25.54	25.54
20.67	0.00	25.28	25.28
21.65	0.00	25.02	25.02
22.64	0.00	24.75	24.75
23.62	0.00	24.49	24.49
24.60	0.00	24.22	24.22
25.58	0.00	23.95	23.95
26.57	0.00	23.68	23.68

Depth (cm)	NH4 (mg/L)	NO3 (mg/L)	Total N (mg/L)
27.55	0.00	23.41	23.41
28.53	0.00	23.13	23.13
29.51	0.00	22.85	22.85
30.50	0.00	22.57	22.57
31.48	0.00	22.29	22.29
32.46	0.00	22.01	22.01
33.45	0.00	21.73	21.73
34.43	0.00	21.44	21.44
35.41	0.00	21.15	21.15
36.39	0.00	20.86	20.86
37.38	0.00	20.57	20.57
38.36	0.00	20.28	20.28
39.34	0.00	19.99	19.99
40.32	0.00	19.70	19.70
41.31	0.00	19.40	19.40
42.29	0.00	19.11	19.11
43.27	0.00	18.81	18.81
44.25	0.00	18.52	18.52
45.24	0.00	18.22	18.22
46.22	0.00	17.92	17.92
47.20	0.00	17.63	17.63
48.19	0.00	17.33	17.33
49.17	0.00	17.03	17.03
50.15	0.00	16.74	16.74
51.13	0.00	16.44	16.44
52.12	0.00	16.14	16.14
53.10	0.00	15.85	15.85
54.08	0.00	15.56	15.56
55.06	0.00	15.26	15.26
56.05	0.00	14.97	14.97
57.03	0.00	14.68	14.68
58.01	0.00	14.39	14.39
58.99	0.00	14.10	14.10
59.98	0.00	13.82	13.82
60.96	0.00	13.53	13.53

SCENARIO 4

GRAPH

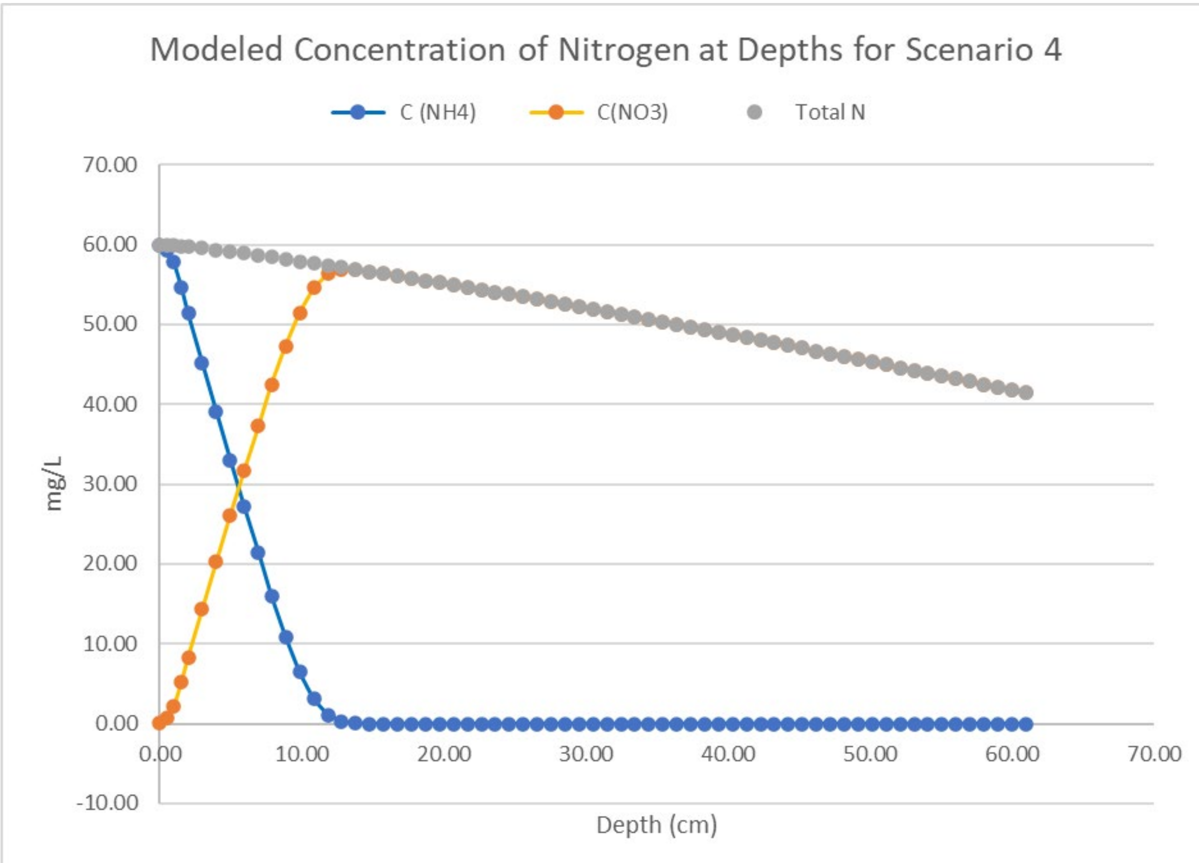


Figure 4 - STUMOD-FL modeled septic leachate nitrogen concentrations as NH_4 and NO_3 under the drain field by depth for Scenario 4. Depth to groundwater of 2 feet, hydraulic conductivity of 10 ft/day, and septic system nitrogen loading of 60 mg/L.

TABLE

Table 6- STUMOD-FL modeled septic leachate nitrogen concentrations as NH_4 and NO_3 under the drain field by depth for Scenario 4. Depth to groundwater of 2 feet, hydraulic conductivity of 10 ft/day, and septic system nitrogen loading of 60 mg/L.

Depth (cm)	NH4 (mg/L)	NO3 (mg/L)	Total N (mg/L)
0.00	60.00	0.01	60.01
0.50	59.29	0.70	59.99
1.00	57.78	2.15	59.93
1.50	54.60	5.24	59.84
2.00	51.42	8.34	59.76
2.98	45.21	14.36	59.57
3.97	39.08	20.27	59.35
4.95	33.05	26.08	59.13
5.93	27.16	31.75	58.90
6.91	21.44	37.23	58.66
7.90	15.98	42.45	58.42
8.88	10.91	47.26	58.17
9.86	6.48	51.43	57.92
10.84	3.08	54.58	57.66
11.83	1.06	56.34	57.40
12.81	0.26	56.88	57.14
13.79	0.04	56.83	56.87
14.77	0.00	56.60	56.60
15.76	0.00	56.33	56.33
16.74	0.00	56.06	56.06
17.72	0.00	55.78	55.78
18.71	0.00	55.50	55.50
19.69	0.00	55.22	55.22
20.67	0.00	54.94	54.94
21.65	0.00	54.65	54.65
22.64	0.00	54.36	54.36
23.62	0.00	54.07	54.07
24.60	0.00	53.77	53.77
25.58	0.00	53.47	53.47
26.57	0.00	53.17	53.17

Depth (cm)	NH4 (mg/L)	NO3 (mg/L)	Total N (mg/L)
27.55	0.00	52.87	52.87
28.53	0.00	52.56	52.56
29.51	0.00	52.26	52.26
30.50	0.00	51.94	51.94
31.48	0.00	51.63	51.63
32.46	0.00	51.32	51.32
33.45	0.00	51.00	51.00
34.43	0.00	50.68	50.68
35.41	0.00	50.35	50.35
36.39	0.00	50.03	50.03
37.38	0.00	49.70	49.70
38.36	0.00	49.37	49.37
39.34	0.00	49.04	49.04
40.32	0.00	48.71	48.71
41.31	0.00	48.37	48.37
42.29	0.00	48.03	48.03
43.27	0.00	47.70	47.70
44.25	0.00	47.36	47.36
45.24	0.00	47.02	47.02
46.22	0.00	46.67	46.67
47.20	0.00	46.33	46.33
48.19	0.00	45.98	45.98
49.17	0.00	45.64	45.64
50.15	0.00	45.29	45.29
51.13	0.00	44.95	44.95
52.12	0.00	44.60	44.60
53.10	0.00	44.25	44.25
54.08	0.00	43.90	43.90
55.06	0.00	43.55	43.55
56.05	0.00	43.21	43.21
57.03	0.00	42.86	42.86
58.01	0.00	42.51	42.51
58.99	0.00	42.16	42.16
59.98	0.00	41.81	41.81
60.96	0.00	41.47	41.47

SCENARIO 5

GRAPH

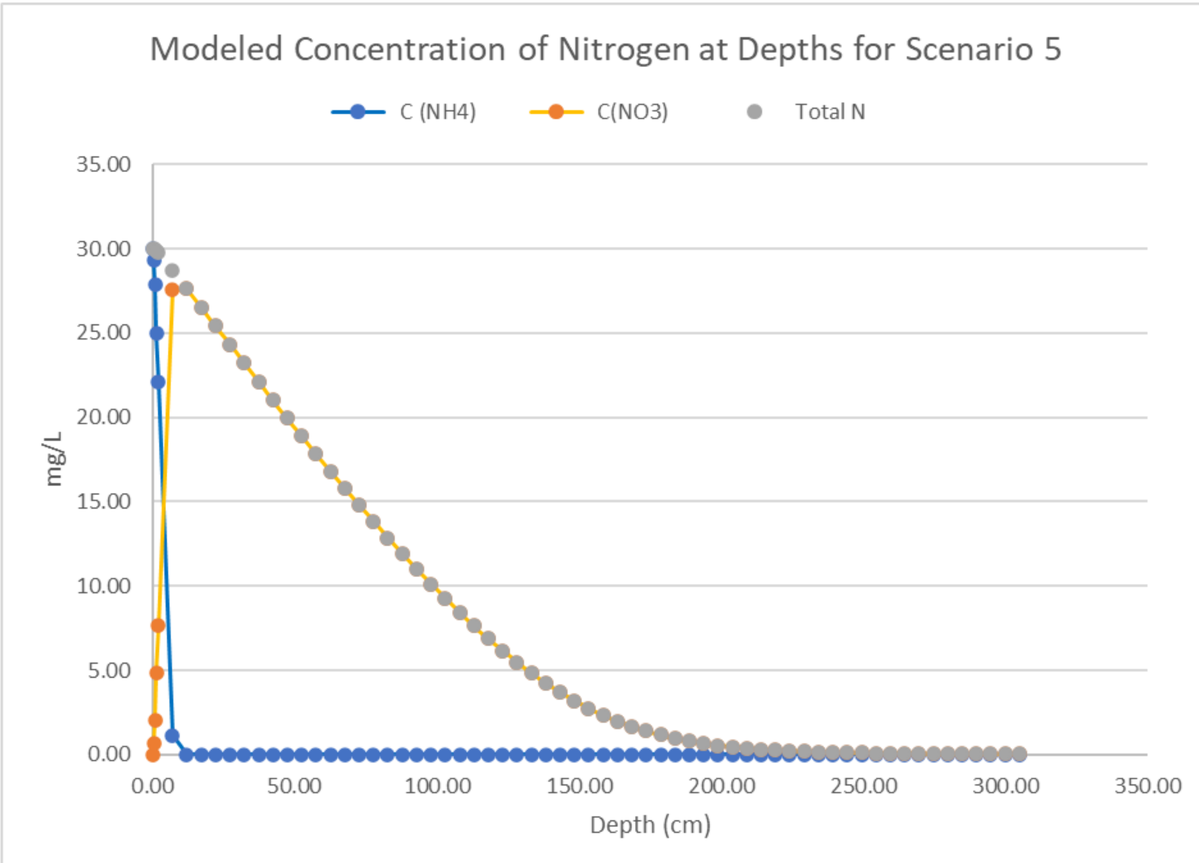


Figure 5 - STUMOD-FL modeled septic leachate nitrogen concentrations as NH_4 and NO_3 under the drain field by depth for Scenario 5. Depth to groundwater of 10 feet, hydraulic conductivity of 1.5 ft/day, and septic system nitrogen loading of 30 mg/L.

TABLE

Table 7- STUMOD-FL modeled septic leachate nitrogen concentrations as NH_4 and NO_3 under the drain field by depth for Scenario 5. Depth to groundwater of 10 feet, hydraulic conductivity of 1.5 ft/day, and septic system nitrogen loading of 30 mg/L.

Depth (cm)	NH4 (mg/L)	NO3 (mg/L)	Total N (mg/L)
0.00	30.00	0.01	30.01
0.50	29.32	0.67	29.99
1.00	27.91	2.02	29.93
1.50	24.99	4.85	29.85
2.00	22.08	7.68	29.77
7.05	1.14	27.56	28.70
12.09	0.00	27.61	27.61
17.14	0.00	26.52	26.52
22.19	0.00	25.42	25.42
27.23	0.00	24.31	24.31
32.28	0.00	23.20	23.20
37.33	0.00	22.11	22.11
42.37	0.00	21.02	21.02
47.42	0.00	19.95	19.95
52.47	0.00	18.89	18.89
57.51	0.00	17.85	17.85
62.56	0.00	16.81	16.81
67.61	0.00	15.80	15.80
72.65	0.00	14.80	14.80
77.70	0.00	13.82	13.82
82.75	0.00	12.86	12.86
87.79	0.00	11.93	11.93
92.84	0.00	11.02	11.02
97.89	0.00	10.13	10.13
102.93	0.00	9.27	9.27
107.98	0.00	8.45	8.45
113.03	0.00	7.65	7.65
118.07	0.00	6.89	6.89
123.12	0.00	6.17	6.17
128.17	0.00	5.49	5.49

Depth (cm)	NH4 (mg/L)	NO3 (mg/L)	Total N (mg/L)
133.21	0.00	4.85	4.85
138.26	0.00	4.25	4.25
143.31	0.00	3.71	3.71
148.35	0.00	3.20	3.20
153.40	0.00	2.75	2.75
158.45	0.00	2.35	2.35
163.49	0.00	1.99	1.99
168.54	0.00	1.68	1.68
173.59	0.00	1.40	1.40
178.63	0.00	1.17	1.17
183.68	0.00	0.98	0.98
188.73	0.00	0.81	0.81
193.77	0.00	0.67	0.67
198.82	0.00	0.56	0.56
203.87	0.00	0.47	0.47
208.91	0.00	0.39	0.39
213.96	0.00	0.33	0.33
219.01	0.00	0.27	0.27
224.05	0.00	0.23	0.23
229.10	0.00	0.20	0.20
234.15	0.00	0.17	0.17
239.19	0.00	0.15	0.15
244.24	0.00	0.13	0.13
249.29	0.00	0.11	0.11
254.33	0.00	0.10	0.10
259.38	0.00	0.09	0.09
264.43	0.00	0.08	0.08
269.47	0.00	0.07	0.07
274.52	0.00	0.07	0.07
279.57	0.00	0.07	0.07
284.61	0.00	0.06	0.06
289.66	0.00	0.06	0.06
294.71	0.00	0.06	0.06
299.75	0.00	0.06	0.06
304.80	0.00	0.06	0.06

SCENARIO 6

GRAPH

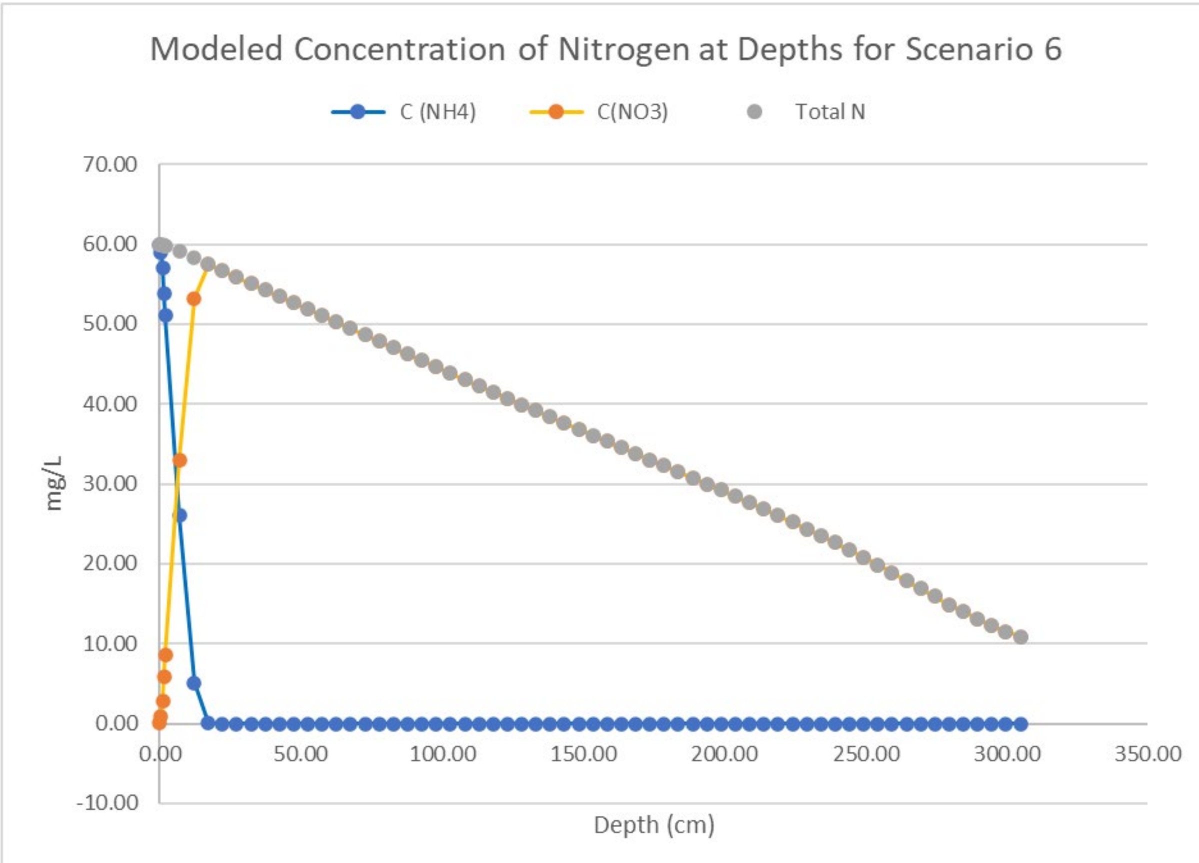


Figure 6- STUMOD-FL modeled septic leachate nitrogen concentrations as NH_4 and NO_3 under the drain field by depth for Scenario 6. Depth to groundwater of 10 feet, hydraulic conductivity of 1.5 ft/day, and septic system nitrogen loading of 60 mg/L.

TABLE

Table 8- STUMOD-FL modeled septic leachate nitrogen concentrations as NH_4 and NO_3 under the drain field by depth for Scenario 6. Depth to groundwater of 10 feet, hydraulic conductivity of 1.5 ft/day, and septic system nitrogen loading of 60 mg/L.

Depth (cm)	NH4 (mg/L)	NO3 (mg/L)	Total N (mg/L)
0.00	60.00	0.01	60.01
0.50	59.05	0.93	59.98
1.00	57.07	2.84	59.91
1.50	53.89	5.94	59.82
2.00	51.10	8.67	59.77
7.05	26.01	33.05	59.06
12.09	5.08	53.22	58.30
17.14	0.03	57.48	57.52
22.19	0.00	56.72	56.72
27.23	0.00	55.91	55.91
32.28	0.00	55.09	55.09
37.33	0.00	54.28	54.28
42.37	0.00	53.47	53.47
47.42	0.00	52.65	52.65
52.47	0.00	51.84	51.84
57.51	0.00	51.03	51.03
62.56	0.00	50.23	50.23
67.61	0.00	49.42	49.42
72.65	0.00	48.62	48.62
77.70	0.00	47.82	47.82
82.75	0.00	47.02	47.02
87.79	0.00	46.22	46.22
92.84	0.00	45.43	45.43
97.89	0.00	44.63	44.63
102.93	0.00	43.84	43.84
107.98	0.00	43.06	43.06
113.03	0.00	42.27	42.27
118.07	0.00	41.49	41.49
123.12	0.00	40.71	40.71
128.17	0.00	39.93	39.93

Depth (cm)	NH4 (mg/L)	NO3 (mg/L)	Total N (mg/L)
133.21	0.00	39.16	39.16
138.26	0.00	38.39	38.39
143.31	0.00	37.62	37.62
148.35	0.00	36.85	36.85
153.40	0.00	36.08	36.08
158.45	0.00	35.32	35.32
163.49	0.00	34.56	34.56
168.54	0.00	33.80	33.80
173.59	0.00	33.04	33.04
178.63	0.00	32.29	32.29
183.68	0.00	31.53	31.53
188.73	0.00	30.76	30.76
193.77	0.00	30.00	30.00
198.82	0.00	29.23	29.23
203.87	0.00	28.45	28.45
208.91	0.00	27.67	27.67
213.96	0.00	26.87	26.87
219.01	0.00	26.06	26.06
224.05	0.00	25.23	25.23
229.10	0.00	24.39	24.39
234.15	0.00	23.52	23.52
239.19	0.00	22.63	22.63
244.24	0.00	21.72	21.72
249.29	0.00	20.79	20.79
254.33	0.00	19.84	19.84
259.38	0.00	18.86	18.86
264.43	0.00	17.88	17.88
269.47	0.00	16.88	16.88
274.52	0.00	15.89	15.89
279.57	0.00	14.92	14.92
284.61	0.00	13.98	13.98
289.66	0.00	13.10	13.10
294.71	0.00	12.27	12.27
299.75	0.00	11.53	11.53
304.80	0.00	10.87	10.87

SCENARIO 7

GRAPH

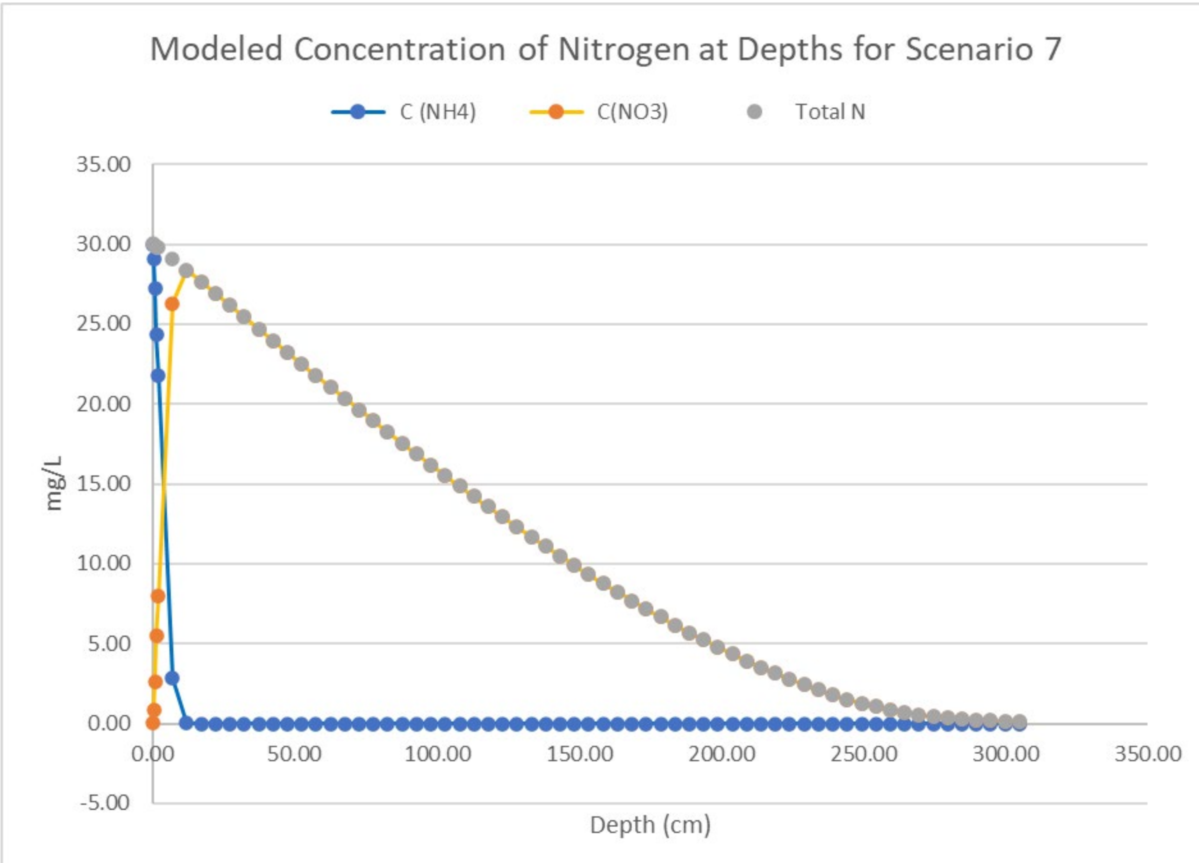


Figure 7- STUMOD-FL modeled septic leachate nitrogen concentrations as NH_4 and NO_3 under the drain field by depth for Scenario 7. Depth to groundwater of 10 feet, hydraulic conductivity of 10 ft/day, and septic system nitrogen loading of 30 mg/L.

TABLE

Table 9- STUMOD-FL modeled septic leachate nitrogen concentrations as NH_4 and NO_3 under the drain field by depth for Scenario 7. Depth to groundwater of 10 feet, hydraulic conductivity of 10 ft/day, and septic system nitrogen loading of 30 mg/L.

Depth (cm)	NH4 (mg/L)	NO3 (mg/L)	Total N (mg/L)
0.00	30.00	0.01	30.01
0.50	29.11	0.87	29.98
1.00	27.27	2.64	29.92
1.50	24.34	5.50	29.83
2.00	21.78	8.00	29.78
7.05	2.81	26.28	29.09
12.09	0.01	28.37	28.38
17.14	0.00	27.66	27.66
22.19	0.00	26.93	26.93
27.23	0.00	26.19	26.19
32.28	0.00	25.44	25.44
37.33	0.00	24.70	24.70
42.37	0.00	23.96	23.96
47.42	0.00	23.23	23.23
52.47	0.00	22.50	22.50
57.51	0.00	21.78	21.78
62.56	0.00	21.06	21.06
67.61	0.00	20.35	20.35
72.65	0.00	19.64	19.64
77.70	0.00	18.94	18.94
82.75	0.00	18.24	18.24
87.79	0.00	17.55	17.55
92.84	0.00	16.87	16.87
97.89	0.00	16.19	16.19
102.93	0.00	15.52	15.52
107.98	0.00	14.86	14.86
113.03	0.00	14.21	14.21
118.07	0.00	13.57	13.57
123.12	0.00	12.93	12.93
128.17	0.00	12.31	12.31

Depth (cm)	NH4 (mg/L)	NO3 (mg/L)	Total N (mg/L)
133.21	0.00	11.69	11.69
138.26	0.00	11.09	11.09
143.31	0.00	10.49	10.49
148.35	0.00	9.91	9.91
153.40	0.00	9.34	9.34
158.45	0.00	8.78	8.78
163.49	0.00	8.23	8.23
168.54	0.00	7.69	7.69
173.59	0.00	7.17	7.17
178.63	0.00	6.67	6.67
183.68	0.00	6.17	6.17
188.73	0.00	5.69	5.69
193.77	0.00	5.23	5.23
198.82	0.00	4.78	4.78
203.87	0.00	4.35	4.35
208.91	0.00	3.93	3.93
213.96	0.00	3.52	3.52
219.01	0.00	3.14	3.14
224.05	0.00	2.77	2.77
229.10	0.00	2.43	2.43
234.15	0.00	2.10	2.10
239.19	0.00	1.80	1.80
244.24	0.00	1.52	1.52
249.29	0.00	1.27	1.27
254.33	0.00	1.05	1.05
259.38	0.00	0.85	0.85
264.43	0.00	0.69	0.69
269.47	0.00	0.55	0.55
274.52	0.00	0.43	0.43
279.57	0.00	0.34	0.34
284.61	0.00	0.27	0.27
289.66	0.00	0.22	0.22
294.71	0.00	0.17	0.17
299.75	0.00	0.14	0.14
304.80	0.00	0.12	0.12

SCENARIO 8

GRAPH

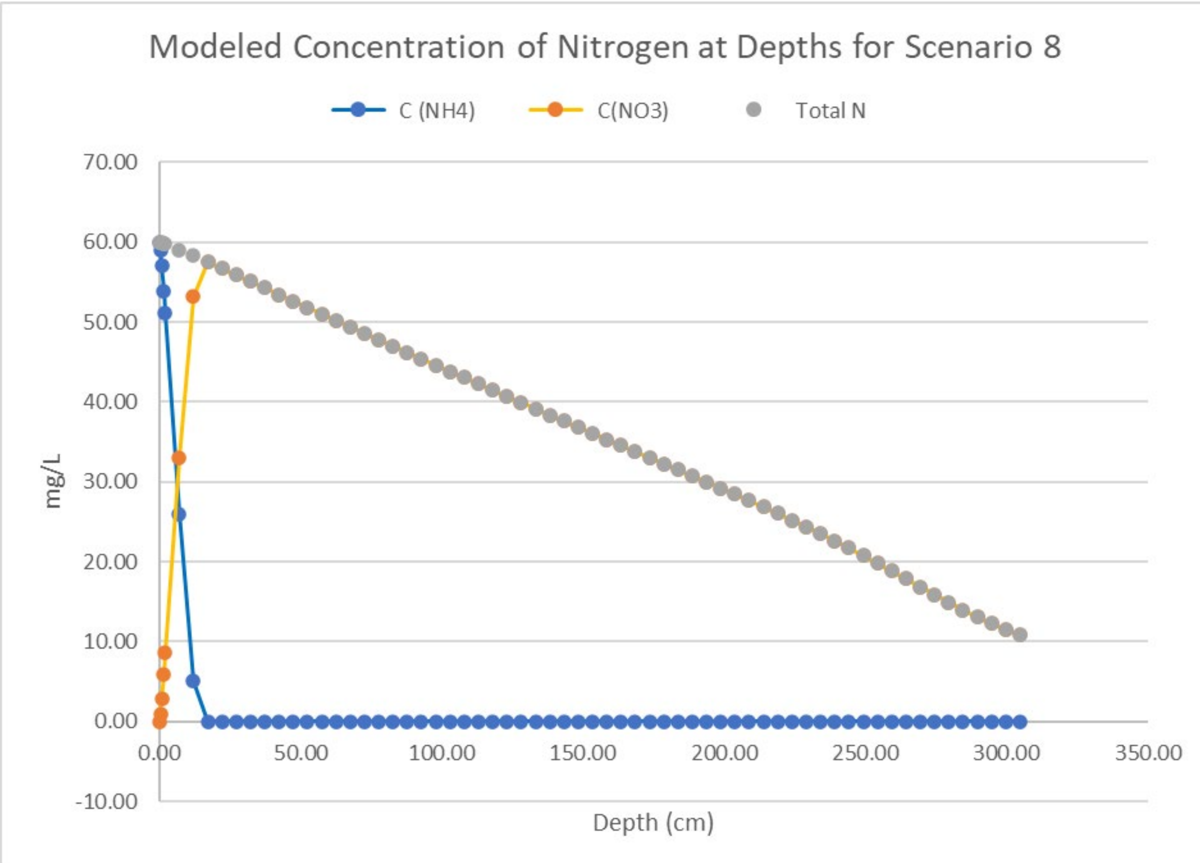


Figure 8- STUMOD-FL modeled septic leachate nitrogen concentrations as NH_4 and NO_3 under the drain field by depth for Scenario 8. Depth to groundwater of 10 feet, hydraulic conductivity of 10 ft/day, and septic system nitrogen loading of 60 mg/L.

TABLE

Table 10- STUMOD-FL modeled septic leachate nitrogen concentrations as NH_4 and NO_3 under the drain field by depth for Scenario 8. Depth to groundwater of 10 feet, hydraulic conductivity of 10 ft/day, and septic system nitrogen loading of 60 mg/L.

Depth (cm)	NH4 (mg/L)	NO3 (mg/L)	Total N (mg/L)
0.00	60.00	0.01	60.01
0.50	59.05	0.93	59.98
1.00	57.07	2.84	59.91
1.50	53.89	5.94	59.82
2.00	51.10	8.67	59.77
7.05	26.01	33.05	59.06
12.09	5.08	53.22	58.30
17.14	0.03	57.48	57.52
22.19	0.00	56.72	56.72
27.23	0.00	55.91	55.91
32.28	0.00	55.09	55.09
37.33	0.00	54.28	54.28
42.37	0.00	53.46	53.46
47.42	0.00	52.65	52.65
52.47	0.00	51.84	51.84
57.51	0.00	51.03	51.03
62.56	0.00	50.23	50.23
67.61	0.00	49.42	49.42
72.65	0.00	48.62	48.62
77.70	0.00	47.82	47.82
82.75	0.00	47.02	47.02
87.79	0.00	46.22	46.22
92.84	0.00	45.43	45.43
97.89	0.00	44.63	44.63
102.93	0.00	43.84	43.84
107.98	0.00	43.06	43.06
113.03	0.00	42.27	42.27
118.07	0.00	41.49	41.49
123.12	0.00	40.71	40.71
128.17	0.00	39.93	39.93

Depth (cm)	NH4 (mg/L)	NO3 (mg/L)	Total N (mg/L)
133.21	0.00	39.16	39.16
138.26	0.00	38.38	38.38
143.31	0.00	37.62	37.62
148.35	0.00	36.85	36.85
153.40	0.00	36.08	36.08
158.45	0.00	35.32	35.32
163.49	0.00	34.56	34.56
168.54	0.00	33.80	33.80
173.59	0.00	33.04	33.04
178.63	0.00	32.28	32.28
183.68	0.00	31.52	31.52
188.73	0.00	30.76	30.76
193.77	0.00	30.00	30.00
198.82	0.00	29.23	29.23
203.87	0.00	28.45	28.45
208.91	0.00	27.66	27.66
213.96	0.00	26.87	26.87
219.01	0.00	26.06	26.06
224.05	0.00	25.23	25.23
229.10	0.00	24.38	24.38
234.15	0.00	23.52	23.52
239.19	0.00	22.63	22.63
244.24	0.00	21.72	21.72
249.29	0.00	20.79	20.79
254.33	0.00	19.83	19.83
259.38	0.00	18.86	18.86
264.43	0.00	17.87	17.87
269.47	0.00	16.88	16.88
274.52	0.00	15.89	15.89
279.57	0.00	14.92	14.92
284.61	0.00	13.98	13.98
289.66	0.00	13.09	13.09
294.71	0.00	12.27	12.27
299.75	0.00	11.52	11.52
304.80	0.00	10.86	10.86

REFERENCES

Florida Department of Health (FDOH) (2015). Florida Onsite Sewage Nitrogen Reduction Strategies Study. Final Report. (https://www.floridahealth.gov/environmental-health/onsite-sewage/research/finalnitrogenlegislativereportsmall.pdf)

Geza, M., Lowe, K. S., & McCray, J. E. (2014). STUMOD—A tool for predicting fate and transport of nitrogen in soil treatment units. Environmental Modeling & Assessment, 19(3), 243-256.

Hazen and Sawyer. (2015). Task D Report and STUMOD-FL-HPS User's Guide – Draft Report June 2015. Report to the Florida Department of Health. http://www.floridahealth.gov/environmental-health/onsite-sewage/research/d16.pdf Tool: http://ww10.doh.state.fl.us/pub/bos/Nitrogen/STUMOD_FL_HPS.xlsm

Appendix G: Phase I PFAs – Subdivisions

Septic Subdivisions in Phase I Priority Focus Areas (PFAs) Rankings

Table 1-G. Priority Focus Area (PFA) Subdivisions Ranked from Highest to Lowest Priority for Intervention based on the Weighted Ranking System (Section 5 of Main Report).

SUBDIVISION NAME	SUBDIVISION PRIORITY RANK*	PFA NAME	CUMULATIVE PFA PRIORITY RANK	NORMALIZED PFA PRIORITY RANK
LITTLE LAKE GEORGIA TERRACE	1	Lake Georgia PFA	32	19
LAKE BARTON PARK	2	Lake Barton PFA	11	1
LAKE HAVEN	3	Lake Carlton PFA	47	40
ROYAL ESTS SEC 1	4	Little Econlockhatchee River PFA	5	45
HILLTOP MANOR	5	Little Econlockhatchee River PFA	5	45
OASIS AT GRANDE PINES	5	Lake Willis PFA	25	3
FAIRVIEW SPGS PARK	5	Lake Fairview PFA	3	22
WATERMILL SEC 1 REP	8	Lake Burkett PFA	13	30
HUDSON ISLES 1ST ADD	9	Lake Holden PFA	12	25
JOHN HEIST ESTATES	10	Lake Carlton PFA	47	40
LEES ESTS	11	Little Econlockhatchee River PFA	5	45
SUBURBAN HOMES	12	Lake Burkett PFA	13	30
PENNSY PARK	12	Lake Gear PFA	50	46
FLORENCE PARK	14	Lake Fairview PFA	3	22
ROYAL ESTS SEC 2	15	Little Econlockhatchee River PFA	5	45
LAKE BARTON VILLAGE	16	Lake Barton PFA	11	1
OXFORD PLACE	16	Lake Rouse PFA	41	9
KALINA REP	16	Lake Hourglass PFA	23	12
PONCE DE LEON	16	Lake Susannah PFA	45	47
LAKE SHORE ESTS	20	Lake Barton PFA	11	1
CIRCLE LAKE CO REP	21	Lake Barton PFA	11	1
FAIRBANKS SHORES	21	Lake Fairview PFA	3	22
WENTROP SHORES	21	Lake Fairview PFA	3	22
JAMAJO 2ND ADD	24	Lake Barton PFA	11	1
ORCHARD ACRES	24	Lake Gatlin PFA	9	29
ORLANDO ACRES 1ST ADD	24	Little Econlockhatchee River PFA	5	45
HUDSON ISLES	24	Lake Holden PFA	12	25
EDGEWATER PROF CTR CONDO	24	Lake Fairview PFA	3	22
GLENMOOR	24	Lake Burkett PFA	13	30
WARREN H T SUB	24	Lake Georgia PFA	32	19
FAIRVIEW SHORES	31	Lake Fairview PFA	3	22
HENDERSON SHORES	32	Lake Fairview PFA	3	22
LAKE WAUNATTA COVE	32	Lake Burkett PFA	13	30
OXFORD PLACE	34	Lake Rouse PFA	41	9
WATERMILL WEST	35	Lake Burkett PFA	13	30
INTERLAKEN 2ND ADD	36	Lake Fairview PFA	3	22
BILTMORE SHORES SEC 1	37	Lake Fairview PFA	3	22
LAKE GEORGIA SHORES	38	Lake Georgia PFA	32	19
PINE LOCH HGTS	38	Lake Gatlin PFA	9	29
WATERMILL SEC 5	38	Lake Georgia PFA	32	19
WATERMILL SEC 4	38	Lake Georgia PFA	32	19
WATERMILL SEC 2 REP	38	Lake Burkett PFA	13	30
WATERMILL SEC 1	43	Lake Burkett PFA	13	30
CARLSON PARK	43	Lake Fairview PFA	3	22
FAIRVIEW TERRACE	43	Lake Fairview PFA	3	22
LAKESIDE ESTS	43	Lake Barton PFA	11	1
LAKE MARSHA HIGHLANDS	47	Lake Cane PFA	26	16
FAIRVIEW SPGS	47	Lake Fairview PFA	3	22
FAIRBANKS SHORES 1ST ADD	47	Lake Fairview PFA	3	22
SEAWARD PLANTATION ESTS	47	Econlockhatchee River PFA	2	48
UNIVERSITY HGTS	47	Lake Fairview PFA	3	22
CRESTWOOD ESTS	52	Lake Fairview PFA	3	22
LAKE CANE VILLA	53	Lake Cane PFA	26	16
OLA BEACH	53	Lake Ola PFA	4	20
WATERMILL SEC 7	53	Lake Burkett PFA	13	30
MORNINGSIDE	53	Lake Rouse PFA	41	9
HASTINGS SUB	53	Lake Barton PFA	11	1
FAIRBANKS SHORES 1ST ADD	58	Lake Fairview PFA	3	22
RAYMAR MANOR ADD	58	Lake Holden PFA	12	25
FAIRVIEW SPGS REP 1ST ADD	60	Lake Fairview PFA	3	22
LAKEVIEW PARK	61	Lake Fairview PFA	3	22
BILTMORE SHORES SEC 2	61	Lake Fairview PFA	3	22
DUBSDREAD HGTS	61	Lake Fairview PFA	3	22
FAIRVIEW COURT	61	Lake Fairview PFA	3	22
ROBINSDALE	61	Lake Tennessee PFA	43	28
UNRECORED FLECKENSTEIN-GRIER	61	Lake Fairview PFA	3	22
JAMAJO	61	Lake Barton PFA	11	1
JOHNS LAKE HOMESITES	68	Johns Lake PFA	7	43
LAKE MARSHA HIGHLANDS 2ND ADD	68	Lake Cane PFA	26	16
TOURAINE ESTS	68	Bass Lake PFA	27	18
HUDSON SHORES	68	Lake Holden PFA	12	25
JAMAJO REP	68	Lake Barton PFA	11	1
LAKESIDE TERRACE	73	Lake Burkett PFA	13	30
LAKE BARTON SHORES SEC 1	74	Lake Barton PFA	11	1
GLENCOE SUB SEC 2	74	Lake Fairview PFA	3	22
GEORGEANN HOMES	76	Lake Burkett PFA	13	30
CONDEL GARDENS	77	Lake Tennessee PFA	43	28

SUBDIVISION NAME	SUBDIVISION PRIORITY RANK*	PFA NAME	CUMULATIVE PFA PRIORITY RANK	NORMALIZED PFA PRIORITY RANK
WATERFRONT ESTS 2ND ADD	77	Lake Conway PFA	6	38
WAUNATTA SHORES	77	Lake Burkett PFA	13	30
SEAWARD PLANTATION ESTS 1ST ADD	77	Econlockhatchee River PFA	2	48
DOWD PARK	81	Lake Fairview PFA	3	22
BROSCHE SUB	82	Lake Barton PFA	11	1
LAKE MARSHA HIGHLANDS 3RD ADD	83	Lake Cane PFA	26	16
ISLE OF PINES	83	Lake Mary Jane PFA	10	26
FRISCO BAY UT 2	83	Lake Hiawassee PFA	16	35
SKYCRESTS 1ST ADD	83	Lake Gatlin PFA	9	29
BROOKWOOD	83	Little Econlockhatchee River PFA	5	45
WATERMILL SEC 8	83	Lake Burkett PFA	13	30
ROBERTA PLACE	83	Lake Anderson PFA	33	6
LAKE LAGRANGE TERRACE	83	Bass Lake PFA	27	18
DOVER HGTS	83	Bass Lake PFA	27	18
ORLANDO ACRES 2ND ADD	83	Little Econlockhatchee River PFA	5	45
RIVERWOOD	83	Little Econlockhatchee River PFA	5	45
RICHMOND TERRACE 1ST ADD	83	Lake Hourglass PFA	23	12
MCLEISCH TERRACE	95	Lake Hourglass PFA	23	12
TWIN OAKS	96	Lake Fairview PFA	3	22
LAKE HIAWASSA TERRACE REP	96	Lake Hiawassee PFA	16	35
RICHMOND TERRACE	98	Lake Hourglass PFA	23	12
BAYOLA PARK	99	Lake Ola PFA	4	20
HULL J C SUB	100	Lake Hourglass PFA	23	12
WATERFRONT ESTS 4TH ADD	101	Lake Conway PFA	6	38
SHADOW BAY SPGS UT 5	101	Lake Marsha PFA	18	5
FAIRVIEW SPGS	101	Lake Fairview PFA	3	22
HOLDEN PARK	101	Lake Holden PFA	12	25
MERRITT PARK	101	Lakes Sue Rowena PFA	39	44
GREENBRIAR UT 5	101	Lake Gatlin PFA	9	29
SUMMERPORT BEACH	101	Butler Chain of Lakes PFA	1	27
SEAWARD PLANTATION ESTS 2ND ADD	101	Econlockhatchee River PFA	2	48
PINK & MONELLS SUB	109	Lake Gatlin PFA	9	29
RICHWOOD ESTS	110	Little Econlockhatchee River PFA	5	45
WYLDWOODE	111	Lake Conway PFA	6	38
LEPRECHAUN PARK	112	Lake Anderson PFA	33	6
WATERFRONT ESTS 1ST ADD	112	Lake Conway PFA	6	38
ARMSTRONG ACRES	112	Lake Holden PFA	12	25
SEAWARD PLANTATION ESTS	112	Econlockhatchee River PFA	2	48
FAIRVIEW SPGS	112	Lake Fairview PFA	3	22
PEMBER TERRACE	112	Lake Hourglass PFA	23	12
FAIRVIEW SPGS REP 1ST ADD	112	Lake Fairview PFA	3	22
WOFFORD PROPERTY	112	Lake Fairview PFA	3	22
LAKE CANE HILLS 1ST ADD	112	Lake Marsha PFA	18	5
LAKE CANE ESTS	121	Lake Cane PFA	26	16
LAKE WILLIS CAMPS	122	Lake Willis PFA	25	3
MEDALLION ESTS SEC 3	123	Lake Holden PFA	12	25
LAKEVIEW HGTS REP	123	Lake Rose PFA	19	4
HIDDEN SPRINGS UT 4	123	Lake Marsha PFA	18	5
HIDDEN SPRINGS UT 3	123	Lake Marsha PFA	18	5
PINELOCH TERRACE	123	Lake Gatlin PFA	9	29
LAKE HOLDEN GARDENS	123	Lake Holden PFA	12	25
ARBOR WOODS UT 3	123	Little Econlockhatchee River PFA	5	45
SEAWARD PLANTATION ESTS 5TH ADD	123	Econlockhatchee River PFA	2	48
DEAN ACRES	123	Little Econlockhatchee River PFA	5	45
RIVERS EDGE REP	123	Little Econlockhatchee River PFA	5	45
FAIRVIEW SPGS REP 1ST ADD	133	Lake Fairview PFA	3	22
BUCKEYE COURT REP	134	Lake Fairview PFA	3	22
HIWASSA PARK	135	Lake San Susan PFA	21	13
PARTIN OAKS	136	Econlockhatchee River PFA	2	48
WATERFRONT ESTS 3RD ADD	136	Lake Conway PFA	6	38
LAKE MARSHA 1ST ADD	136	Lake Marsha PFA	18	5
BAY LAKES AT GRANADA SEC 5	136	Butler Chain of Lakes PFA	1	27
BONNIE BELLE POINT	136	Lake Rose PFA	19	4
SKYCRESTS	136	Lake Gatlin PFA	9	29
CASTLE PLACE	136	Lake Conway PFA	6	38
LAKE MARGARET HGTS SEC 1	136	Bass Lake PFA	27	18
CARSON OAKS	136	Lake Conway PFA	6	38
LAKE MARGARET TERRACE 4TH ADD	145	Bass Lake PFA	27	18
LAKE MARGARET SHORES	146	Lake Conway PFA	6	38
CRITTENDEN CAMP SITES	147	Lake Anderson PFA	33	6
WILLIS AND BRUNDIDGE SUB	148	Lake Conway PFA	6	38
RESTS HAVEN	149	Bass Lake PFA	27	18
GREEN FIELDS	150	Bass Lake PFA	27	18
RIVER OAKS EAST CONDO	150	Little Econlockhatchee River PFA	5	45
SELLS TERRACE	150	Lake Fairview PFA	3	22
JOHNS LAKE HOMESITES 1ST ADD	150	Johns Lake PFA	7	43
WINDERMERE (BLK A-F)	150	Butler Chain of Lakes PFA	1	27
INTERLAKEN ADD	150	Lake Fairview PFA	3	22
WEISSINGER FAIRVILLA RESUB LOT 42	150	Lake Fairview PFA	3	22
WEISSINGER FAIRVILLA SUB	150	Lake Fairview PFA	3	22

SUBDIVISION NAME	SUBDIVISION PRIORITY RANK*	PFA NAME	CUMULATIVE PFA PRIORITY RANK	NORMALIZED PFA PRIORITY RANK
FRISCO BAY UT 1	150	Lake Hiawassee PFA	16	35
ORLO VISTA HGTS	150	Lake San Susan PFA	21	13
LAKE MARSHA	150	Lake Marsha PFA	18	5
VICTORIA	150	Lake Ola PFA	4	20
BETTY JO SUB	150	Lake Gatlin PFA	9	29
RAYMAR MANOR	150	Lake Holden PFA	12	25
MEDALLION ESTS SEC 5	150	Lake Holden PFA	12	25
PLAZA PARK	165	Lake Conway PFA	6	38
LAKE INWOOD SHORES	165	Lake Anderson PFA	33	6
GREENBRIAR	165	Lake Gatlin PFA	9	29
HOURGLASS HOMES	165	Lake Hourglass PFA	23	12
SUNSHINE GARDENS 2ND ADD	165	Lake Fairview PFA	3	22
MUNGERS WILLIS R LAND CO	165	Fish Lake PFA	14	8
HICKORY LAKE ESTS REP LOT 36	165	Hickorynut Lake PFA	34	41
CYPRESS SHORES 1ST ADD	165	Butler Chain of Lakes PFA	1	27
SHADOW BAY SPGS UT 2	165	Lake Marsha PFA	18	5
LAKE PINE LOCH HGTS	165	Lake Gatlin PFA	9	29
ALVIN SUB	165	Little Econlockhatchee River PFA	5	45
LAKE MARGARET HGTS SEC 2	176	Bass Lake PFA	27	18
WILLIS AND BRUNDIDGE REP ANNEX	177	Lake Conway PFA	6	38
GLASS GARDENS	178	Lake Conway PFA	6	38
VERADALE	179	Lake Anderson PFA	33	6
WILLIS AND BRUNDIDGE SUB	180	Lake Conway PFA	6	38
LAKE MARGARET MANOR SEC 2	180	Lake Conway PFA	6	38
ROBINSON OAKS	180	Lake Anderson PFA	33	6
WILLIS AND BRUNDIDGE REP	180	Lake Conway PFA	6	38
DOVER TERRACE	180	Bass Lake PFA	27	18
WALKER-ROUSE SUB	180	Little Econlockhatchee River PFA	5	45
FAIRBANKS SHORES	180	Lake Fairview PFA	3	22
INTERLAKEN	180	Lake Fairview PFA	3	22
IRMA SHORES REP	180	Lake Irma PFA	42	37
EAST COAST VILLA	180	Lake Gear PFA	50	46
LAKE CANE SHORES	180	Lake Cane PFA	26	16
OLA BEACH	180	Lake Ola PFA	4	20
DOWNS COVE CAMP SITES	180	Butler Chain of Lakes PFA	1	27
HENDERSON & MCDONALD SUB	193	Lake Fairview PFA	3	22
HOLDEN GROVE	194	Lake Holden PFA	12	25
CHICKASAW PINES	195	Little Econlockhatchee River PFA	5	45
SILVER BEACH SUB 1ST ADD	196	Lake Conway PFA	6	38
LAKE LAGRANGE HGTS 1ST ADD	197	Bass Lake PFA	27	18
WATERFRONT ESTS	198	Lake Conway PFA	6	38
PINEY WOODS POINT	199	Little Econlockhatchee River PFA	5	45
LORENA GARDENS	199	Lake Fairview PFA	3	22
LAKEWOOD PARK	199	Lake Irma PFA	42	37
ORLO VISTA TERRACE	199	Lake San Susan PFA	21	13
LAKE CANE HILLS	199	Lake Cane PFA	26	16
CONWAY TERRACE	199	Lake Hourglass PFA	23	12
SUMMER OAKS	199	Little Econlockhatchee River PFA	5	45
WILLIS AND BRUNDIDGE SUB	199	Lake Conway PFA	6	38
LAKE LAGRANGE MANOR	199	Bass Lake PFA	27	18
PELHAM PARK 2ND ADD REP	199	Bass Lake PFA	27	18
LAKE MARGARET COURT	209	Lake Conway PFA	6	38
HARRIET HGTS	210	Lake Tennessee PFA	43	28
ROSELLE PARK 2ND REP	211	Bass Lake PFA	27	18
PALM LAKE ESTS 4TH ADD	212	Lake Price PFA	44	34
BASS LAKE MANOR	213	Bass Lake PFA	27	18
SHERMAN FARMS	214	Econlockhatchee River PFA	2	48
RIVERS EDGE	215	Little Econlockhatchee River PFA	5	45
LAKE OLA TERRACE	215	Lake Ola PFA	4	20
BAY VISTA ESTS UT 3	217	Big Sand Lake PFA	17	42
WINDERLAKES	218	Phillips Pond PFA	29	7
FAN-SAN MANOR	218	Lake San Susan PFA	21	13
SAN SUSAN	218	Lake San Susan PFA	21	13
VINELAND OAKS	218	Lake Rose PFA	19	4
SUMMERPORT BEACH CORRECTIVE PLAT	218	Butler Chain of Lakes PFA	1	27
VALENCIA HILLS UT 1	218	Lake Hiawassee PFA	16	35
BIRR COURT	218	Lake Conway PFA	6	38
SILVER BEACH SUB	218	Lake Conway PFA	6	38
SILVER BEACH SUB 3RD ADD	218	Lake Mare Prairie PFA	52	53
CRITTENDEN CAMP SITES	218	Lake Anderson PFA	33	6
PERSIAN WOOD ESTS	218	Lake Conway PFA	6	38
WILDWOOD HOMES	218	Lake Conway PFA	6	38
LAKE MARGARET TERRACE 2ND ADD	218	Lake Conway PFA	6	38
BACKACHERS ESTS	218	Lake Conway PFA	6	38
EAST HIGHLANDS SUB	218	Little Econlockhatchee River PFA	5	45
LIVINGSTON J H LAND SUB	218	Lake Fairview PFA	3	22
BREWER COURT	218	Lake Fairview PFA	3	22
TANGERINE SHORES	218	Lake Ola PFA	4	20
LAKE WILLIS CAMPS 1ST ADD	218	Lake Willis PFA	25	3
LAKE ROSE RIDGE REP	218	Lake Rose PFA	19	4

SUBDIVISION NAME	SUBDIVISION PRIORITY RANK*	PFA NAME	CUMULATIVE PFA PRIORITY RANK	NORMALIZED PFA PRIORITY RANK
PINELOCH SHORES	238	Lake Gatlin PFA	9	29
HIDDEN SPRINGS UT 2	239	Lake Marsha PFA	18	5
LAKE JOHNS SHORES	240	Johns Lake PFA	7	43
PARK SPRINGS	241	Phillips Pond PFA	29	7
EDGEWATER BEACH 2ND REP	242	Johns Lake PFA	7	43
HARBOR HGTS PH 2	243	Lake Hiawassee PFA	16	35
ALL THE WAY SUB	243	Lake Marsha PFA	18	5
ROSEVIEW SUB	245	Lake Rose PFA	19	4
HIDDEN SPRINGS UT 5	245	Lake Marsha PFA	18	5
FORT GATLIN HGTS	245	Lake Gatlin PFA	9	29
JEWEL SHORES REP	245	Lake Gatlin PFA	9	29
GREEN MANOR	245	Lake Lawne PFA	53	52
WILLIAM GROVE	245	Lake Conway PFA	6	38
GREENBRIAR UT 3	245	Lake Gatlin PFA	9	29
LAKE MARGARET MANOR SEC 3	245	Lake Conway PFA	6	38
GREENBRIAR UT 2	245	Lake Gatlin PFA	9	29
FAIRBANKS SHORES	245	Lake Fairview PFA	3	22
COBBLESTONE WALK AT KALEY CONDO PHASE 2	245	Lake Hourglass PFA	23	12
ORLO VISTA HGTS ADD	245	Lake San Susan PFA	21	13
FOREST PINES	245	Lake Gatlin PFA	9	29
SUMMERPORT BEACH REP	258	Butler Chain of Lakes PFA	1	27
SUMMERPORT BEACH	259	Butler Chain of Lakes PFA	1	27
DOWN ACRES ESTS 1ST REP	260	Butler Chain of Lakes PFA	1	27
LAKE CANE ESTS 1ST ADD	261	Lake Cane PFA	26	16
FAIRVIEW SPGS PARK	261	Lake Fairview PFA	3	22
MEDALLION ESTS SEC 6	261	Lake Holden PFA	12	25
LAKE JEWELL HILLS	261	Lake Gatlin PFA	9	29
GREENBRIAR UT 6	261	Lake Gatlin PFA	9	29
WATSON RANCH ESTS	261	Bass Lake PFA	27	18
RIVER PINES	261	Little Econlockhatchee River PFA	5	45
FLOWERS MANOR	261	Lake Downey PFA	49	24
CARMEL PARK	261	Little Econlockhatchee River PFA	5	45
SEAWARD PLANTATION ESTS 3RD ADD	261	Econlockhatchee River PFA	2	48
BOONE TERRACE	261	Bass Lake PFA	27	18
CHENEY HIGHLANDS	261	Little Econlockhatchee River PFA	5	45
CHENEY HIGHLANDS 2ND ADD	261	Little Econlockhatchee River PFA	5	45
RIVER CRESTS	261	Little Econlockhatchee River PFA	5	45
STOKES SUB	261	Lake Fairview PFA	3	22
NELA ISLE	276	Lake Conway PFA	6	38
CLOVERLAWN	277	Lake Hourglass PFA	23	12
HICKORY LAKE ESTS	278	Hickorynut Lake PFA	34	41
SEAWARD PLANTATION ESTS 4TH ADD	278	Econlockhatchee River PFA	2	48
JOHNS COVE	278	Johns Lake PFA	7	43
LAKESIDE PLACE	278	Lake Floyd PFA	28	15
WAWA STORE AT AVALON ROAD	278	Lake Rexford PFA	31	10
KILLARNEY CIRCLE	278	Lake Killarney PFA	22	33
LAKE HOLDEN GROVE	278	Lake Holden PFA	12	25
FAIRBANKS SHORES 2ND ADD	278	Lake Fairview PFA	3	22
ORANGEWOOD ESTS	278	Lake Gatlin PFA	9	29
JEWEL OAKS	278	Lake Gatlin PFA	9	29
DE LOME ESTS	278	Lake Gatlin PFA	9	29
TRENTON TERRACE	278	Lake Holden PFA	12	25
PINK & MONELLS SUB	278	Lake Gatlin PFA	9	29
FERNWAY	278	Lake Gatlin PFA	9	29
ROSELLE PARK	278	Bass Lake PFA	27	18
LEWIS MANOR	293	Bass Lake PFA	27	18
SPENCES POINT	294	Lake Rose PFA	19	4
SANDY SHORES	295	Butler Chain of Lakes PFA	1	27
PINEY WOOD LAKES	296	Lake Anderson PFA	33	6
CLOVERDALE SUB	296	Lake Hourglass PFA	23	12
ADIRONDACK HGTS	296	Lake Hourglass PFA	23	12
KELSO ON LAKE BUTLER	296	Butler Chain of Lakes PFA	1	27
RIVERDALE FARMS	296	Little Econlockhatchee River PFA	5	45
LAKE AVALON HGTS	296	Johns Lake PFA	7	43
SUMMER LAKES	296	Lake Hiawassee PFA	16	35
HEWETT HGTS	296	Lake Barton PFA	11	1
JEWEL SHORES	296	Lake Gatlin PFA	9	29
LAKE MARSHA 1ST ADD REP	296	Lake Marsha PFA	18	5
LAKE AVALON ESTS	296	Johns Lake PFA	7	43
LAKE AVALON ESTS 2ND REP	296	Johns Lake PFA	7	43
WINDERLAKES 2	296	Phillips Pond PFA	29	7
LAKE HIAWASSA TERRACE REP	296	Lake Hiawassee PFA	16	35
PINEY OAK SHORES	296	Lake Cane PFA	26	16
HANSEL E W SUB	296	Lake Conway PFA	6	38
WERBER HGTS	296	Lake Anderson PFA	33	6
PALM LAKE ESTS 3RD ADD	296	Lake Price PFA	44	34
LAKE POINTE COVE	296	Lake Price PFA	44	34
LAKEVIEW HGTS	315	Lake Rose PFA	19	4
CHENEY HIGHLANDS 3RD ADD	316	Little Econlockhatchee River PFA	5	45
WATERFORD POINTE PH 2 REP	317	Lake Roberts PFA	24	17

SUBDIVISION NAME	SUBDIVISION PRIORITY RANK*	PFA NAME	CUMULATIVE PFA PRIORITY RANK	NORMALIZED PFA PRIORITY RANK
CYPRESS LANDING PH 1	318	Lake Floyd PFA	28	15
HENDERSON & MCDONALD SUB	319	Lake Fairview PFA	3	22
BAY PARK	320	Palm Lake PFA	30	2
RAINTREE PLACE PH 1	321	Lake Hiawassee PFA	16	35
KAROLINA ON KILLARNEY	322	Lake Killarney PFA	22	33
SUNSHINE GARDENS	322	Lake Fairview PFA	3	22
BARNUM LILLIAN SUB	322	Lake Gatlin PFA	9	29
LAKESIDE VILLAGE	322	Lake Conway PFA	6	38
MCCORMACK PLACE	322	Lake Conway PFA	6	38
LAKE MARGARET MANOR SEC 1	322	Lake Conway PFA	6	38
HOLIDAY HILL	322	Lake Anderson PFA	33	6
WYLDWOODE ESTS SUB	322	Lake Conway PFA	6	38
MUSICK MANOR	322	Lake Anderson PFA	33	6
LAKE LAGRANGE HGTS	322	Bass Lake PFA	27	18
WYLDWOODE MANOR	322	Lake Conway PFA	6	38
MERCERDEES GROVE	322	Lake Conway PFA	6	38
HARRELL HGTS REP	322	Little Econlockhatchee River PFA	5	45
AEIN SUB	322	Little Econlockhatchee River PFA	5	45
LAKEVIEW ACRES	322	Lake Irma PFA	42	37
HOLDEN SHORES	322	Lake Holden PFA	12	25
CLOVERDALE HGTS	338	Lake Hourglass PFA	23	12
HANDSONHURST PARK	339	Lake Hourglass PFA	23	12
WINDERMERE TOWN OF REP	340	Butler Chain of Lakes PFA	1	27
COBBLESTONE WALK AT KALEY CONDO PH 1	341	Lake Hourglass PFA	23	12
WEST WINTER PARK	342	Lake Killarney PFA	22	33
EDENBORO HGTS	342	Bass Lake PFA	27	18
ANGEBILT ADD	342	Lake Holden PFA	12	25
W E HUDSON	342	Lake Ola PFA	4	20
LAKE HIAWASSEE LANDINGS	342	Lake Hiawassee PFA	16	35
ISLE OF PINES 4TH ADD	342	Lake Mary Jane PFA	10	26
LAKE OLA FARMS GROVES	342	Lake Ola PFA	4	20
LAKE HIAWASSEE LANDINGS	342	Lake Hiawassee PFA	16	35
LAKE HOLDEN HILLS	342	Lake Holden PFA	12	25
BAY VISTA ESTS UT 2	342	Big Sand Lake PFA	17	42
FLAMINGO SHORES	342	Lake Killarney PFA	22	33
FAIRSHORES PLACE	342	Lake Fairview PFA	3	22
WATERWITCH CLUB	342	Lake Conway PFA	6	38
RANDOLPH PLAT	342	Lake Gatlin PFA	9	29
HOLDEN MANOR	342	Lake Holden PFA	12	25
LAKE MARGARET TERRACE 1ST ADD	357	Lake Conway PFA	6	38
ISLEWORTH 1ST AMND	358	Butler Chain of Lakes PFA	1	27
LAKE MARY JANE ESTS	359	Lake Mary Jane PFA	10	26
CLOVERDALE MANOR	360	Lake Hourglass PFA	23	12
UNION PARK ESTS	361	Little Econlockhatchee River PFA	5	45
LAKE HIAWASSA TERRACE	362	Lake Hiawassee PFA	16	35
BEEMAN PARK	363	Lakes Sue Rowena PFA	39	44
TANGERINE TERRACE ON LAKE OLA	363	Lake Ola PFA	4	20
CONWAY PARK	363	Lake Hourglass PFA	23	12
LAKESIDE PLACE ANNEX	363	Lake Floyd PFA	28	15
WEST LAKE BUTLER ESTS	363	Butler Chain of Lakes PFA	1	27
METCALF PARK REP	363	Butler Chain of Lakes PFA	1	27
ARROWHEAD LAKES	363	Lake Rexford PFA	31	10
OVERLAKE TERRACE	363	Lake Gatlin PFA	9	29
VLG F VLG CTR	363	Panther Lake PFA	48	51
LAKE HIAWASSA TERRACE REP	363	Lake Hiawassee PFA	16	35
NORTH BAY SEC 3	363	Butler Chain of Lakes PFA	1	27
LAKE MARY JESS SHORES	363	Lake Mary PFA	51	39
SCOTTS MOOR TERRACE	363	Lake Conway PFA	6	38
LIVE OAK MANOR	376	Lake Conway PFA	6	38
CONWAY ESTS REP	377	Lake Gatlin PFA	9	29
SAWYER SHORES SUB	378	Lake Sawyer PFA	38	31
SUNSET LAKES	379	Lake Roper PFA	20	11
EDGEWOOD SUB	380	Lakes Sue Rowena PFA	39	44
LAKEVIEW (CONWAY)	380	Lake Conway PFA	6	38
CYPRESS SHORES	380	Butler Chain of Lakes PFA	1	27
PALM LAKE MANOR 1ST ADD	380	Palm Lake PFA	30	2
MOUNTAIN PARK ORANGE GROVES	380	Lake Inghram PFA	40	32
SAND LAKE POINT UT 3	380	Big Sand Lake PFA	17	42
CYPRESS LANDING PH 2	380	Lake Floyd PFA	28	15
JUSTAMERE CAMP REP	380	Lake Killarney PFA	22	33
ISLEWORTH WEST	380	Butler Chain of Lakes PFA	1	27
HARRELL HGTS	380	Little Econlockhatchee River PFA	5	45
LAKE OLA ESTS	380	Lake Ola PFA	4	20
SLOEWOOD EAST UT 1	380	Lake Ola PFA	4	20
BUTLER BAY UT 3	380	Butler Chain of Lakes PFA	1	27
COOKS ESTS	380	Lake Rose PFA	19	4
LAKE ROSE POINTE PH 2	394	Lake Rose PFA	19	4
NORTH BAY SEC 1 REP	395	Butler Chain of Lakes PFA	1	27
FAIRBANKS SHORES 1ST ADD	396	Lake Fairview PFA	3	22
LAKE JENNIE JEWELL HGTS	397	Lake Gatlin PFA	9	29

SUBDIVISION NAME	SUBDIVISION PRIORITY RANK*	PFA NAME	CUMULATIVE PFA PRIORITY RANK	NORMALIZED PFA PRIORITY RANK
GATLIN WITH HOBBS	398	Lake Conway PFA	6	38
RANDOLPH LAND REP	399	Lake Gatlin PFA	9	29
SUE HARBOR	400	Lakes Sue Rowena PFA	39	44
LAKEWOOD PARK	400	Lake Irma PFA	42	37
PERSHING OAKS	402	Lake Conway PFA	6	38
LAKE MARY JANE ESTS REP	403	Lake Mary Jane PFA	10	26
NELAVIEW	403	Lake Conway PFA	6	38
HANDSONHURST PARK 1ST ADD	403	Lake Hourglass PFA	23	12
BUTLER BAY UT 1	403	Butler Chain of Lakes PFA	1	27
HARBOR HGTS	403	Lake Hiawassee PFA	16	35
SAND LAKE POINT UT 1	403	Big Sand Lake PFA	17	42
NORTH BAY SEC 2	403	Butler Chain of Lakes PFA	1	27
NORTH BAY SEC 1	403	Butler Chain of Lakes PFA	1	27
BAY VISTA ESTS UT 1	403	Big Sand Lake PFA	17	42
SAND PINES	403	Lake Marsha PFA	18	5
GATLIN WITH HOBBS	403	Lake Conway PFA	6	38
LAKE HIAWASSA TERRACE REP	403	Lake Hiawassee PFA	16	35
LAKE DOWN SHORES	403	Butler Chain of Lakes PFA	1	27
GEM MARY ESTS	403	Lake Gatlin PFA	9	29
RANDOLPH PLAT	403	Lake Gatlin PFA	9	29
CONWAY PLAZA	418	Lake Conway PFA	6	38
HOLDEN PARK 1ST ADD	419	Lake Holden PFA	12	25
ANGEBILT ADD 2	420	Lake Holden PFA	12	25
TRAYLOR TERRACE	421	Lake Conway PFA	6	38
EAST PINE ACRES	422	Econlockhatchee River PFA	2	48
BANANA BAY ESTS	423	Lake Roberts PFA	24	17
GHIO TERRACE 1ST SEC	423	Lakes Sue Rowena PFA	39	44
CHAMPIONS POINT OF ISLEWORTH	423	Butler Chain of Lakes PFA	1	27
WATERWITCH POINT	423	Lake Conway PFA	6	38
OLA BEACH ON LAKE OLA 2ND REP	423	Lake Ola PFA	4	20
LAKE DAVIS ESTS	423	Butler Chain of Lakes PFA	1	27
WINDERMERE	423	Butler Chain of Lakes PFA	1	27
EARLWOOD MANOR	423	Lake Carlton PFA	47	40
LAKE ROSE POINTE	423	Lake Rose PFA	19	4
LAKE FISCHER ESTS 2	423	Lake Fischer PFA	36	23
LAKEVIEW HGTS REP	423	Lake Rose PFA	19	4
MOHR COVE	423	Butler Chain of Lakes PFA	1	27
PINEY OAK SHORES 1ST ADD	423	Lake Cane PFA	26	16
LAKE CANE PLACE CONDO	423	Lake Cane PFA	26	16
NORTH BAY SEC 4-A	423	Butler Chain of Lakes PFA	1	27
GORE SUB	438	Lake Gatlin PFA	9	29
TUXEDO ESTS	439	Lake Conway PFA	6	38
GATLIN WITH HOBBS	440	Lake Conway PFA	6	38
MIDDLEBROOK OAKS	440	Lake Conway PFA	6	38
JENNY JEWEL POINT	442	Lake Gatlin PFA	9	29
INNISBROOK	443	Lake Drawdy PFA	35	21
LAKE MARY JANE SHORES	444	Lake Mary Jane PFA	10	26
LAKE DRAWDY TERRACE	445	Lake Drawdy PFA	35	21
PICKETTS COVE	446	Lake Pickett PFA	15	36
RESERVE AT WATERFORD POINTE PH 1	447	Lake Roberts PFA	24	17
ISLEWORTH 1ST AMND	448	Butler Chain of Lakes PFA	1	27
LAKE SUE PARK	448	Lakes Sue Rowena PFA	39	44
BRAEMAR PHASE 2	448	Lake Fischer PFA	36	23
DIAMONDHEAD	448	Butler Chain of Lakes PFA	1	27
LAKE HANCOCK SHORES	448	Lake Hancock PFA	37	49
RIDGEMOORE PH 1	448	Lake Hiawassee PFA	16	35
BAY LAKES AT GRANADA SEC 3	448	Butler Chain of Lakes PFA	1	27
SOUTH BAY VILLAS	448	Butler Chain of Lakes PFA	1	27
LIVINGSTON J H SUB	448	Lake Conway PFA	6	38
WILLIS R MUNGERS LAND SUB	448	Butler Chain of Lakes PFA	1	27
LAKE DRAWDY RESERVE	448	Lake Drawdy PFA	35	21
WATERFORD POINTE	448	Lake Roberts PFA	24	17
KEENES POINTE UT 10 FIRST REP	448	Butler Chain of Lakes PFA	1	27
CRESCENT LAKE ESTS	448	Butler Chain of Lakes PFA	1	27
ORANGE TERRACE	448	Lake Killarney PFA	22	33
RANDOLPH PLAT	448	Lake Gatlin PFA	9	29
BLISSFIELD HOMES SUB	464	Lake Gatlin PFA	9	29
SOUTHERNAIRE	465	Lake Gatlin PFA	9	29
MEDALLION ESTS SEC 2	466	Lake Gatlin PFA	9	29
ROCKINGHORSE RANCHES UT 2	467	Little Econlockhatchee River PFA	5	45
LUKAS ESTS	468	Lake Drawdy PFA	35	21
SCHOOL TERRACE	469	Lake Killarney PFA	22	33
MICHAEL TERRACE	470	Bass Lake PFA	27	18
ISLEWORTH 1ST AMND	470	Butler Chain of Lakes PFA	1	27
ISLEWORTH 1ST AMND	470	Butler Chain of Lakes PFA	1	27
HARBOUR ISLAND SUB	470	Lake Conway PFA	6	38
DEER ISLAND	470	Johns Lake PFA	7	43
GATLIN OAKS	470	Lake Conway PFA	6	38
ISLEWORTH 1ST AMND	470	Butler Chain of Lakes PFA	1	27
LAKE SHEEN ESTS	470	Butler Chain of Lakes PFA	1	27

SUBDIVISION NAME	SUBDIVISION PRIORITY RANK*	PFA NAME	CUMULATIVE PFA PRIORITY RANK	NORMALIZED PFA PRIORITY RANK
MAROTS ADD TO TANGERINE	470	Lake Ola PFA	4	20
BUCKWOOD SUB	479	Lake Gatlin PFA	9	29
SILVER WOODS PH 4	480	Butler Chain of Lakes PFA	1	27
LAKE BUYNAK ESTS	481	Butler Chain of Lakes PFA	1	27
BUTLER BAY UT 3 REP	482	Butler Chain of Lakes PFA	1	27
ISLEWORTH 2ND AMND	483	Butler Chain of Lakes PFA	1	27
ROBERTS LANDING	484	Lake Olivia PFA	8	14
LAKE DOWN HOLLOW	485	Butler Chain of Lakes PFA	1	27
PINE HARBOR POINT	486	Lake Gatlin PFA	9	29
WILK J A SUB	487	Lake Conway PFA	6	38
WINDERMERE POINTE AT LAKE ROPER	488	Lake Roper PFA	20	11
ISLEWORTH SIXTH AMND	489	Butler Chain of Lakes PFA	1	27
SUNSET BAY	490	Butler Chain of Lakes PFA	1	27
WAITS W H SUB	491	Lake Tennessee PFA	43	28
ISLES OF LAKE HANCOCK	491	Lake Hancock PFA	37	49
ISLEWORTH 5TH AMND	491	Butler Chain of Lakes PFA	1	27
BAY VISTA ESTS UT 4	491	Big Sand Lake PFA	17	42
LAKE OLA-CARLTON ESTS UT 1	491	Lake Ola PFA	4	20
RESERVE AT LAKE BUTLER SOUND	491	Butler Chain of Lakes PFA	1	27
LAKE FISCHER ESTS	491	Lake Fischer PFA	36	23
HARNEY HOMESTEAD	491	Lake Conway PFA	6	38
NORTH BAY SEC 1 REP	491	Butler Chain of Lakes PFA	1	27
LAURELS OF MOUNT DORA	491	Lake Ola PFA	4	20
WINGROVE ESTS	491	Lake Floyd PFA	28	15
SILLERS ADD TO GOTHA	491	Lake Olivia PFA	8	14
KEENES POINTE UT 4 (SEC 29)	491	Butler Chain of Lakes PFA	1	27
LAKE DOWN SHORES REP	504	Butler Chain of Lakes PFA	1	27
JOHNS REP	505	Lake Conway PFA	6	38
CRYSTAL LAKE OAKS	506	Lake Conway PFA	6	38
FOX DIVISION	507	Little Econlockhatchee River PFA	5	45
LAKE DRAWDY ESTS	508	Lake Pickett PFA	15	36
LAKE CLARICE PLANTATION	509	Lake Roper PFA	20	11
ESTATES AT LAKE CLARICE	510	Lake Roper PFA	20	11
EAST ORANGE PARK	511	Little Econlockhatchee River PFA	5	45
ISLEWORTH 1ST AMND	511	Butler Chain of Lakes PFA	1	27
CAPE ORL ESTS UT 11A	511	Econlockhatchee River PFA	2	48
DICKSON H H SUB OF LIVINGSTON SUB	511	Lake Conway PFA	6	38
NORTH BAY SEC 4	511	Butler Chain of Lakes PFA	1	27
ISLES OF LAKE HANCOCK PH 3	511	Lake Hancock PFA	37	49
ISLE OF PINES 5TH ADD	511	Lake Mary Jane PFA	10	26
RIDGEMOORE PH 2	511	Lake Hiawassee PFA	16	35
HUNTERS ESTS	511	Lake Floyd PFA	28	15
WATERFORD POINTE LOT 59 REP	511	Lake Roberts PFA	24	17
LAKE DAVIS RESERVE	511	Butler Chain of Lakes PFA	1	27
WEATHERSTONE ON LAKE OLIVIA	511	Lake Olivia PFA	8	14
ISLEWORTH 1ST AMND	511	Butler Chain of Lakes PFA	1	27
SOUTH BAY SEC 3	511	Butler Chain of Lakes PFA	1	27
GATLIN ESTS	525	Lake Gatlin PFA	9	29
MEDALLION ESTS SEC 4	526	Lake Holden PFA	12	25
WALKER-DEAN SUB UT 2	527	Little Econlockhatchee River PFA	5	45
GLENCOE SUB REP	528	Lake Killarney PFA	22	33
ISLE OF PINES 6TH ADD	529	Lake Mary Jane PFA	10	26
LAKE MARY JANE SHORES 1ST REP	529	Lake Mary Jane PFA	10	26
LAKE CYPRESS COVE	531	Butler Chain of Lakes PFA	1	27
CAROLINA TERRACE	532	Lake Fischer PFA	36	23
CHAINE DU LAC	532	Butler Chain of Lakes PFA	1	27
ISLEWORTH	532	Butler Chain of Lakes PFA	1	27
KEENES POINTE UT 3	532	Butler Chain of Lakes PFA	1	27
CAPE ORL ESTS UT 12A	532	Econlockhatchee River PFA	2	48
MARWOOD	532	Lake Gatlin PFA	9	29
TWIN OAKS MANOR	532	Little Econlockhatchee River PFA	5	45
LAKE CAWOOD ESTS PH 2	532	Lake Speer PFA	46	50
RANCHO BAY VILLA	532	Butler Chain of Lakes PFA	1	27
GLENCOE SUB	532	Lake Killarney PFA	22	33
BAY LAKES AT GRANADA SEC 4	532	Butler Chain of Lakes PFA	1	27
GLENMUIR UT 1	532	Lake Sawyer PFA	38	31
ISLE OF PINES 3RD ADD	532	Lake Mary Jane PFA	10	26
LAKE HIAWASSA TERRACE REP	532	Lake Hiawassee PFA	16	35
ROSE W W REP	532	Lake Rose PFA	19	4
CRESCENT LAKE ESTS EAST	532	Butler Chain of Lakes PFA	1	27
LAKE DOWN VILLAGE	532	Butler Chain of Lakes PFA	1	27
SUNDAY BLK	532	Lake Conway PFA	6	38
MEDALLION ESTS SEC 1	532	Lake Holden PFA	12	25
NORTHSHORE	532	Lake Conway PFA	6	38
PALM LAKE ESTS 2ND ADD	532	Lake Price PFA	44	34
BUTLER BAY UT 2	532	Butler Chain of Lakes PFA	1	27
LAKE ROPER POINTE	554	Lake Roper PFA	20	11
LANDINGS OF LAKE SAWYER	555	Lake Sawyer PFA	38	31
THOMPSON JOHN A SUB	556	Lake Gatlin PFA	9	29
LAKE CAWOOD ESTS REP	557	Lake Speer PFA	46	50

SUBDIVISION NAME	SUBDIVISION PRIORITY RANK*	PFA NAME	CUMULATIVE PFA PRIORITY RANK	NORMALIZED PFA PRIORITY RANK
ROBERTS ISLAND	558	Lake Mary Jane PFA	10	26
WINDERMERE HGTS 1ST SEC	558	Lake Floyd PFA	28	15
SOUTH BAY SEC 6	558	Butler Chain of Lakes PFA	1	27
ISLEWORTH SEVENTH AMENDMENT	558	Butler Chain of Lakes PFA	1	27
SWEETBRIAR	558	Lake Gatlin PFA	9	29
ISLEWORTH 1ST AMND	558	Butler Chain of Lakes PFA	1	27
WOODLAWN HGTS	558	Lake Ola PFA	4	20
BUTLER BAY UT 3 REP	558	Butler Chain of Lakes PFA	1	27
ISLEWORTH 1ST AMND	558	Butler Chain of Lakes PFA	1	27
GLENCOE SUB SEC 2	558	Lake Fairview PFA	3	22
PINE LOCH GROVE	558	Lake Gatlin PFA	9	29
BURKE JOHN W	569	Lake Gatlin PFA	9	29
OAK ESTS	570	Lake Gatlin PFA	9	29
BRAEMAR	571	Lake Fischer PFA	36	23
ISLES OF LAKE HANCOCK PH 2	572	Lake Hancock PFA	37	49
M & H CITRUS INC	573	Lake Pickett PFA	15	36
JOHNS LANDING PH 1	574	Johns Lake PFA	7	43
ISLEWORTH	575	Butler Chain of Lakes PFA	1	27
ISLEWORTH 1ST AMND	576	Butler Chain of Lakes PFA	1	27
PALM LAKE MANOR	577	Palm Lake PFA	30	2
LAKE ANGELINA ESTS	578	Lake Ola PFA	4	20
GAINES SUB	578	Lake Ola PFA	4	20
SOUTHERN ACRES SUB	578	Lake Speer PFA	46	50
LAKE OLIVIA RESERVE REP	578	Lake Olivia PFA	8	14
KEENES POINTE UT 2	578	Butler Chain of Lakes PFA	1	27
KEENE'S POINTE UT 10	578	Butler Chain of Lakes PFA	1	27
JOSEPH JEBAILEY SUB	578	Butler Chain of Lakes PFA	1	27
LAKES	578	Butler Chain of Lakes PFA	1	27
RANDOLPH PLAT	578	Lake Gatlin PFA	9	29
GATLIN WITH HOBBS	578	Lake Gatlin PFA	9	29
TILDENS GROVE PH 1	578	Butler Chain of Lakes PFA	1	27
TANGERINE	578	Lake Ola PFA	4	20
DEER ISLAND PH 2	578	Johns Lake PFA	7	43
ISLES OF WINDERMERE	591	Butler Chain of Lakes PFA	1	27
LAKE CYPRESS COVE PH 3	592	Butler Chain of Lakes PFA	1	27
CROSS STATE HWY HGTS	593	Little Econlockhatchee River PFA	5	45
PORTER PLACE	594	Lake Hourglass PFA	23	12
ISLEWORTH 1ST AMND	595	Butler Chain of Lakes PFA	1	27
INNISBROOK	595	Lake Drawdy PFA	35	21
PARK MANOR ESTS UT 11 C	595	Little Econlockhatchee River PFA	5	45
ISLEWORTH 1ST AMND	595	Butler Chain of Lakes PFA	1	27
SAND LAKE POINT UT 4	595	Big Sand Lake PFA	17	42
SOUTH BAY SEC 4	595	Butler Chain of Lakes PFA	1	27
ISLEWORTH 1ST AMND	595	Butler Chain of Lakes PFA	1	27
LAKE DOWN POINTE	595	Butler Chain of Lakes PFA	1	27
ROCKINGHORSE RANCHES UT 1	603	Little Econlockhatchee River PFA	5	45
WORTHINGTON PARK	604	Lake Olivia PFA	8	14
ESTATES AT LAKE PICKETT-PHASE 2	605	Lake Pickett PFA	15	36
GOTHA TOWN OF	606	Lake Olivia PFA	8	14
SOUTH BAY SEC 2	607	Butler Chain of Lakes PFA	1	27
TANGERINE WOODS	607	Lake Ola PFA	4	20
BUTLER BAY UT 3	607	Butler Chain of Lakes PFA	1	27
REAVES J J SUB	607	Lake Conway PFA	6	38
OAKWATER PROF PARK CONDO	607	Lake Gatlin PFA	9	29
EAST ORANGE PARK	607	Little Econlockhatchee River PFA	5	45
ISLEWORTH 3RD AMND	607	Butler Chain of Lakes PFA	1	27
SAND LAKE POINT UT 2	607	Big Sand Lake PFA	17	42
BONYNGES ED W 2ND ADD	607	Lake Ola PFA	4	20
WALKER-DEAN SUB	607	Little Econlockhatchee River PFA	5	45
ESTS AT LAKE PICKETT PH 1	617	Lake Pickett PFA	15	36
SUNSET PRESERVE PHASE 4	618	Lake Pickett PFA	15	36
BENTLEY PARK 2ND REP	619	Butler Chain of Lakes PFA	1	27
HARNEY W R SUB	619	Lake Conway PFA	6	38
GATLIN WITH HOBBS	619	Lake Gatlin PFA	9	29
WINDERMERE WYLDE	619	Lake Floyd PFA	28	15
WINDERMERE GRANDE	619	Butler Chain of Lakes PFA	1	27
PARK AVENUE WEST	624	Butler Chain of Lakes PFA	1	27
HARBOR ISLE	625	Butler Chain of Lakes PFA	1	27
LAKE DOWN WOODS	626	Butler Chain of Lakes PFA	1	27
ISLEWORTH 1ST AMND	627	Butler Chain of Lakes PFA	1	27
ISLE OF PINES 2ND ADD	628	Lake Mary Jane PFA	10	26
LAKE CYPRESS COVE PH 2	628	Butler Chain of Lakes PFA	1	27
ISLEWORTH 4TH AMND	628	Butler Chain of Lakes PFA	1	27
BELLA VITA ESTATES	628	Butler Chain of Lakes PFA	1	27
WILES CARL RESUB	628	Lake Ola PFA	4	20
FARMS	628	Lake Roper PFA	20	11
HANSEL E W ADD	628	Lake Conway PFA	6	38
LAKE MARY JANE ESTS REP	635	Lake Mary Jane PFA	10	26
GREATER COUNTRY ESTS PH 1	636	Lake Ola PFA	4	20
ISLEWORTH 1ST AMND	637	Butler Chain of Lakes PFA	1	27

SUBDIVISION NAME	SUBDIVISION PRIORITY RANK*	PFA NAME	CUMULATIVE PFA PRIORITY RANK	NORMALIZED PFA PRIORITY RANK
CRESCENT POINTE	637	Butler Chain of Lakes PFA	1	27
LES TERRACES	637	Butler Chain of Lakes PFA	1	27
LAKE MARY JANE ESTS REP	637	Lake Mary Jane PFA	10	26
OXFORD MOOR	637	Butler Chain of Lakes PFA	1	27
LAKE PICKETT RESERVE	642	Lake Pickett PFA	15	36
SOUTH SIDE	642	Lake Gatlin PFA	9	29
ISLE OF PINES 1ST ADD	642	Lake Mary Jane PFA	10	26
LIVE OAK ESTS PH 1	642	Lake Mary Jane PFA	10	26
GOTHA TOWN OF REP	642	Lake Olivia PFA	8	14
RANDOLPH PLAT	642	Lake Gatlin PFA	9	29
LAKE AVALON GROVES REP	642	Johns Lake PFA	7	43
CHAINE DU LAC	642	Butler Chain of Lakes PFA	1	27
KEENES POINTE UT 3	650	Butler Chain of Lakes PFA	1	27
ISLEWORTH 1ST AMND	650	Butler Chain of Lakes PFA	1	27
FOX DIVISION	652	Little Econlockhatchee River PFA	5	45
RESERVE AT LAKE BUTLER SOUND UT 2	653	Butler Chain of Lakes PFA	1	27
MARTINS PRESERVE	653	Lake Ola PFA	4	20
SOUTH BAY SEC 5	653	Butler Chain of Lakes PFA	1	27
MOORE CECIL D SUB	653	Lake Gatlin PFA	9	29
ECON PLACE 2 PD	653	Little Econlockhatchee River PFA	5	45
BELLARIA	653	Butler Chain of Lakes PFA	1	27
GREATER COUNTRY ESTATES PH III	653	Lake Ola PFA	4	20
DORA ESTS PH 2	660	Lake Ola PFA	4	20
WILLOWS AT LAKE RHEA PH 2	660	Butler Chain of Lakes PFA	1	27
CAPE ORL ESTS UT 8A	660	Econlockhatchee River PFA	2	48
KEENES POINTE UT 1	660	Butler Chain of Lakes PFA	1	27
WINDSOR HILL	660	Butler Chain of Lakes PFA	1	27
HARBOR ISLE UT 2	660	Butler Chain of Lakes PFA	1	27
LIVE OAK ESTS PH 2	666	Lake Mary Jane PFA	10	26
LAKE DOWN COVE	666	Butler Chain of Lakes PFA	1	27
WINDSOR HILL	668	Butler Chain of Lakes PFA	1	27
WINDSOR HILL RESERVE	669	Butler Chain of Lakes PFA	1	27
SUNSET PRESERVE PHASE 1	669	Lake Pickett PFA	15	36
LAKE DOWN CREST	669	Butler Chain of Lakes PFA	1	27

*Septic subdivisions within PFAs ranked by their Weighted Vulnerability Score. Subdivisions with the same Weighted Vulnerability Score were assigned the same ranking.